LINSCOTT LAW & GREENSPAN engineers

Appendix H

TRAFFIC IMPACT ANALYSIS ADDENDUM

RANCHO LA HABRA

La Habra, California
August 9, 2019
(Revision of July 22, 2019 Report)

Prepared for:

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TRAFFIC IMPACT ANALYSIS ADDENDUM

RANCHO LA HABRA

La Habra, California
August 9, 2019
(Revision of July 22, 2019 Report)

1.0 INTRODUCTION

This Traffic Impact Analysis Addendum report addresses the potential traffic impacts and circulation needs associated with the proposed Rancho La Habra Project (hereinafter referred to as Project) based on updated traffic information that has been prepared (developed) to address traffic-related comments received on the *Rancho La Habra Specific Plan Draft Environmental Impact Report (DEIR); Traffic and Circulation Section,* dated February 2018 (i.e. existing traffic counts, existing golf course trip generation credit and level of service calculations for intersections and freeway locations). Specifically, Year 2018 traffic count data has been collected and utilized for all key study intersections, key roadway segments and key freeway locations to establish existing baseline traffic conditions. Further, the trip generation credit for the existing golf course has been established based on current 2018 traffic counts, which was reviewed and approved by City of La Habra Engineering Division staff, and the 10th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2017], which is the most current trip generation manual, has been utilized for all trip generation forecasts. In addition, updated cumulative project research has also been conducted at the Cities of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada for use in assessing the Project's impacts within a cumulative traffic setting. Further, the most current analysis software (or version of software) has also been utilized for the analysis of all key study intersections, key roadway segments and key freeway locations, inclusive of key input parameters, where applicable (i.e. peak hour factors, truck percentages, etc.). Specifically, for this traffic addendum, the Caltrans intersection analyses utilized the intersection peak hour factors from the traffic counts for existing and existing plus project traffic conditions, a minimum peak hour factor of 0.95 for Year 2023 traffic conditions and a peak hour factor of 1.00 for Year 2035 buildout traffic conditions. The Caltrans freeway analysis (mainline and merge/diverge) utilized a peak hour factor of 0.95 for existing, existing plus project and Year 2023 traffic conditions, a peak hour factor of 1.00 for Year 2035 buildout traffic conditions and a truck percentage of 9.35% for the I-5 Freeway and 6.14% for the SR-57 Freeway. All of the aforementioned updates resulted in changes to the existing and future traffic volumes for the key study intersections/key roadway segments and changes in the respective level of service results for all analyzed traffic conditions. Section 19.0 of this TIA Addendum provides a brief comparison (i.e. development tabulation, trip generation characteristics and potential traffic impacts) of the proposed Project and Residential Option Project to those identified in the *Rancho La Habra Traffic Impact Analysis Report*, dated September 11, 2017 that was included in the Project's DEIR.

The project site, which is now developed with the Westridge Golf Club, is a 150± acre parcel of land that is generally located south of Imperial Highway and east of Beach Boulevard behind Westridge Plaza and in front of the Westridge Residential Community in the City of La Habra, California. The

project applicant, Lennar, proposes to redevelop the golf course site with 145 townhomes/condominiums, 277 single-family detached homes, a 12,000 square foot (SF) specialty grocery store, an 8,000 SF restaurant, convert the existing clubhouse to a 22,500 SF recreation community center and construct 42.1± acres of passive park/trails for the City.

This report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential impacts associated with the proposed Project. The traffic analysis evaluates the existing operating conditions at thirty-two (32) key study intersections and thirty-seven (37) key roadway segments within the project vicinity, estimates the trip generation potential of the proposed Project, and forecasts future near-term (Year 2023) and long-term (Year 2035) operating conditions without and with the proposed Project. Where necessary, intersection and/or roadway segment improvements/mitigation measures are identified. An alternative Project description (Residential Option) has also been evaluated.

This traffic report satisfies the traffic impact requirements of the City of La Habra and is consistent with the current *Congestion Management Program (CMP) for Orange County.* The Scope of Work for this traffic study, which is included in ***Appendix A***, was developed in conjunction with City of La Habra Engineering Division staff. Given that several of the key study intersections/roadway segments also reside within the Cities of La Mirada, Fullerton and Buena Park, this report was also prepared to ensure consistency with each jurisdiction's respective requirements. *Appendix A* also contains the traffic-related comment letters received on the Project's Notice of Preparation (NOP) and a response memorandum addressing each comment.

The project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing weekday traffic count information has been collected at thirty-two (32) key study intersections and thirty-seven (37) key roadway segments for use in the preparation of intersection and roadway segment level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the proposed Project has been researched at the Cities of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada. Based on our research, there are seven (7) cumulative projects in the City of La Habra, one (1) cumulative project in the City of La Habra Heights, two (2) cumulative projects in the City of Fullerton, twenty-four (24) cumulative projects in the City of Whittier, eight (8) cumulative projects in the City of Brea, eleven (11) cumulative projects in the City of Buena Park and ten (10) cumulative projects in the City of La Mirada within the vicinity of the subject site. These sixty-three (63) cumulative projects were considered in the cumulative traffic analysis for this project.

This traffic report analyzes existing and future weekday daily, AM peak hour and PM peak hour traffic conditions for a near-term (Year 2023) and long-term (Year 2035) traffic setting upon completion of the proposed Project. Daily and peak hour traffic forecasts for the Year 2023 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of 1.0% per year and adding traffic volumes generated by fifty-one (51) cumulative projects, which provides a conservative forecast. Long-term (Year 2035) daily and peak hour traffic forecasts were projected based on modeled traffic projections prepared by OCTA utilizing the OCTAM3.4 Year 2035 Model.

1.1 Study Area

Thirty-two (32) key study intersections and thirty-seven (37) key roadway segments have been identified for evaluation based on discussions with City of La Habra Engineering Division staff and in consideration of the 50 peak hour trip criterion. Of the thirty-two (32) identified intersections, fifteen (15) are located in the City of La Habra, six (6) are located in the City of La Mirada, four (4) are located in the City of Fullerton, six (6) are located in the City of Buena Park and one (1) is located jointly in the City of La Habra/City of Fullerton. Of the thirty-seven (37) identified roadway segments, twenty (20) are located within the City of La Habra, four (4) are located in the City of La Mirada, seven (7) are located in the City of Fullerton and six (6) are located in the City of Buena Park. The 32 intersections/37 roadway segments listed below provide regional and local access to the study area and define the extent of the boundaries for this traffic impact investigation. The jurisdiction where each key study intersection/roadway segment is located is also identified with the following nomenclature utilized; LH = La Habra, LM = La Mirada, F = Fullerton and BP = Buena Park.

Key Study Intersections

1. Beach Boulevard at Rosecrans Avenue (LM)
2. Gilbert Street at Rosecrans Avenue (F)
3. Euclid Street at Rosecrans Avenue (F)
4. Beach Boulevard at Hillsborough Drive (LM)
5. Beach Boulevard at Hillsborough Park Apt. (LH)
6. Idaho Street at Sandlewood Avenue (LH)
7. Euclid Street at Sandlewood Avenue (LH)
8. Santa Gertrudes Avenue at Imperial Highway (LM)
9. 1st Avenue at Imperial Highway (LM)
10. Beach Boulevard at Imperial Highway (LH)[2]
11. La Habra Hills Drive at Imperial Highway (LH)
12. Idaho Street at Imperial Highway (LH)
13. Euclid Street at Imperial Highway (LH)
14. Harbor Boulevard at Imperial Highway (LH/F)[3]
15. Beach Boulevard at Lambert Road (LH)
16. Idaho Street at Lambert Road (LH)
17. Euclid Street at Lambert Road (LH)
18. Harbor Boulevard at Lambert Road (LH)
19. La Mirada Boulevard at Imperial Highway (LM)[1]
20. Beach Blvd at La Mirada Blvd/ Malvern Ave (BP)
21. Beach Boulevard at La Habra Boulevard (LH)
22. Valley View Avenue at Imperial Highway (LM)
23. Beach Boulevard at Artesia Boulevard (BP)
24. Beach Boulevard at Commonwealth Avenue (BP)
25. I-5 NB Ramps at Auto Center Drive (BP)
26. Beach Boulevard at Auto Center Drive (BP)
27. I-5 SB Ramps at Beach Boulevard (BP)[3]
28. Beach Boulevard at Whittier Boulevard (LH)[3]
29. Hacienda Road at Whittier Boulevard (LH)
30. Walnut Street at Imperial Highway (LH)
31. Gilbert Street at Malvern Avenue (F)
32. Euclid Street at Malvern Avenue (F)

Key Roadway Segments

A. Lambert Road between Beach Boulevard and Idaho Street (LH)
B. Lambert Road between Idaho Street and Euclid Street (LH)
C. Lambert Road between Euclid Street and Harbor Boulevard (LH)

---

1 Los Angeles County Congestion Management Program (CMP) intersection.

2 Orange County Congestion Management Program (CMP) intersection.

3 Orange County Congestion Management Program (CMP) intersection.

D. Beach Boulevard between Lambert Road and Imperial Highway (LH)
E. Idaho Street between Lambert Road and Imperial Highway (LH)
F. Euclid Street between Lambert Road and Imperial Highway (LH)
G. Harbor Boulevard between Lambert Road and Imperial Highway (LH)
H. Imperial Highway between Santa Gertrudes Avenue and 1st Avenue (LM)
I. Imperial Highway between 1st Avenue and Beach Boulevard (LH)
J. Imperial Highway between Beach Boulevard and La Habra Hills Drive (LH)
K. Imperial Highway between La Habra Hills Drive and Idaho Street (LH)
L. Imperial Highway between Idaho Street and Euclid Street (LH)
M. Imperial Highway between Euclid Street and Harbor Boulevard (LH)
N. Idaho Street between Imperial Highway and Sandlewood Avenue (LH)
O. Euclid Street between Sandlewood Avenue and Imperial Highway (LH)
P. Gilbert Street between Sandlewood Avenue and Rosecrans Avenue (F)
Q. Euclid Street between Sandlewood Avenue and Rosecrans Avenue (F)
R. Beach Boulevard between Imperial Highway and Hillsborough Apt (LH)
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive (LH)
T. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue (LM)
U. Rosecrans Avenue between Beach Boulevard and Gilbert Street (F)
V. Rosecrans Avenue between Gilbert Street and Euclid Street (F)
W. Sandlewood Avenue between Idaho Street and Euclid Street (LH)
X. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard/Malvern Avenue (BP)
Y. Imperial Highway between La Mirada Boulevard and Santa Gertrudes Avenue (LM)
Z. Beach Boulevard between Lambert Road and La Habra Boulevard (LH)
AA. Imperial Highway between Valley View Avenue and La Mirada Boulevard (LM)
BB. Beach Boulevard between La Mirada Boulevard/Malvern Avenue and Artesia Boulevard (BP)
CC. Beach Boulevard between Artesia Boulevard and Commonwealth Avenue (BP)
DD. Beach Boulevard between Commonwealth Avenue and Auto Center Drive (BP)
EE. Auto Center Drive between Beach Boulevard and I-5 NB Ramps (BP)
FF. Beach Boulevard between Auto Center Drive and I-5 SB Ramps (BP)
GG. Beach Boulevard between La Habra Boulevard and Whittier Boulevard (LH)
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road (LH)
II. Gilbert Street between Rosecrans Avenue and Malvern Avenue (F)
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue (F)
KK. Malvern Avenue between Gilbert Street and Euclid Street (F)

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the proposed Project and depicts the study locations and surrounding street system. The Volume-Capacity (V/C) and Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic impacts associated with area growth, cumulative projects and the proposed Project. When necessary, this report recommends intersection and/or roadway improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service and/or mitigate the impact of the project.

Included in this Traffic Impact Analysis are:

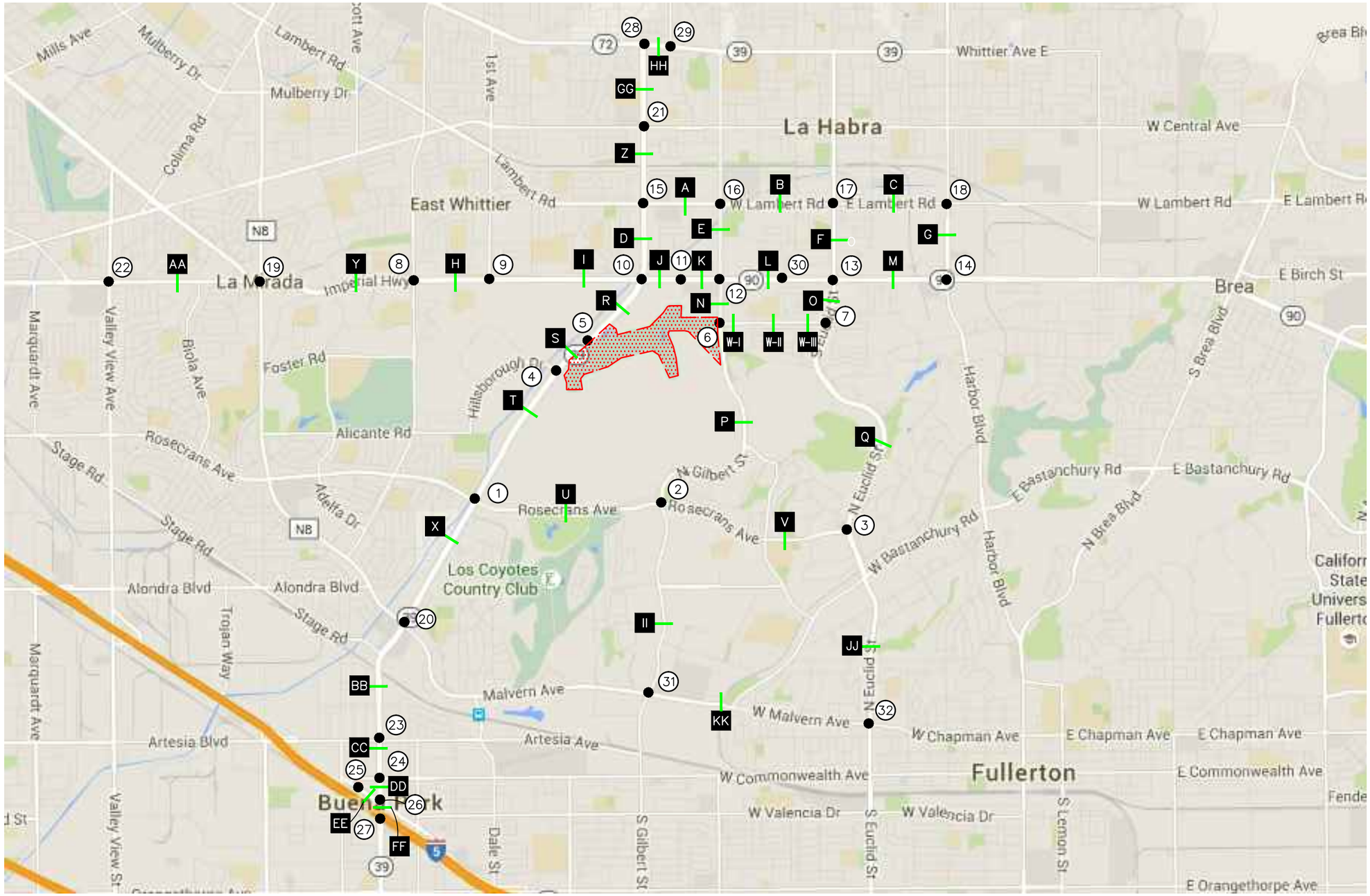
- Existing traffic counts,
- Estimated project traffic generation/distribution/assignment,
- Estimated cumulative project traffic generation/distribution/assignment,
- Daily, AM and PM peak hour capacity analyses for existing conditions,
- Daily, AM and PM peak hour capacity analyses for existing plus project conditions,
- Daily, AM and PM peak hour capacity analyses for future (Year 2023) conditions without and with project traffic,
- Daily, AM and PM peak hour capacity analyses for future (Year 2035) conditions without and with project traffic,
- Caltrans Analysis,
- Recommended Improvements,
- Site Access Evaluation,
- Congestion Management Program (CMP) Analysis,
- Caltrans Basic Freeway Segment Analysis,
- Construction Traffic Impacts
- Traffic Impact Mitigation Fee Program, and
- Project Alternative Analysis (Residential Option).

This analysis is also consistent with the traffic impact study requirements of the most current *Orange County Congestion Management Program* (CMP). The CMP specifies the following two thresholds for formulating the study scope of a CMP-based evaluation:

- **To determine whether a development project requires a CMP traffic impact analysis:** The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips (this threshold is reduced to 1,600 or more daily trips if the project will have direct access to a CMP link).
- **To identify which CMP intersections and/or roadway segments (i.e. arterials and freeway mainline segments) will need to be evaluated for project impacts:** The CMP-based traffic impact analysis should include any CMP intersections and/or roadway segments where the development project could add trips corresponding to 3% or more of existing capacity (i.e., LOS E).

It should be noted that the two thresholds described above are intended for establishing the CMP-based study scope and are not the CMP's criteria for determining significant traffic impacts of a development project. Per the CMP, a significant impact is identified if the project causes the CMP facility to operate worse than LOS E, and increases the ICU value by more than 0.10 if the CMP facility operates at LOS F without the project.

Based on the application of the CMP scoping requirements to the proposed Project, the CMP study thresholds were exceeded by the Project's trip making potential (project trip generation is further discussed in Section 5.0 of this report); therefore, CMP intersections were analyzed by applying the CMP methodology.



LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

(#) = STUDY INTERSECTION

A = STUDY ROADWAY SEGMENT

= PROJECT SITE

FIGURE 1–1

VICINITY MAP

RANCHO LA HABRA, CITY OF LA HABRA

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2.0 PROJECT DESCRIPTION

The proposed project site is a 150± acre parcel of land that is generally located south of Imperial Highway and east of Beach Boulevard behind Westridge Plaza and in front of the Westridge Residential Community in the City of La Habra, California. The subject property is now developed with the Westridge Golf Club, an existing privately owned 18-hole golf course with an employee base of 60 persons and amenities which include 22,500 SF of building floor area that houses the golf shop, club house and restaurants/events center, and a practice facility that has a driving range with 35 tees/driving positions and putting greens. ***Figure 2-1*** presents an aerial depiction of the site.

The proposed project, as now refined, includes the development of the golf course property with up to 422 residential dwelling units (DU), within four residential gated neighborhoods (Planning Areas) with various product types and lot sizes, a 12,000 SF specialty grocery store and an 8,000 SF restaurant. Planning Area (PA) #1 includes development of a residential condominium/townhome complex with up to 145 DU on the western portion of the site fronting Beach Boulevard. PA #2 and PA #3 consists of two single-family residential neighborhoods in the middle portion of the site with 118 DU and 77 DU, respectively. PA #4 consists of an 82 DU single-family detached neighborhood to be developed on the eastern portion of the site fronting Idaho Street. PA #5 includes the development of a 12,000 SF specialty grocery store and an 8,000 SF restaurant on the western portion of the site fronting Beach Boulevard. In addition, PA #6 of the proposed Project has been refined and includes the repurposing of the existing Club House/Pro Shop/Restaurant and a portion of the golf course to a 22,500 SF Recreation Community Center and Open Space/Park for a City Park that will be open to the public (the previously proposed 2,500 SF restaurant is no longer a part of the Project). The open space/parkland portion of PA #6 includes natural areas with trails, passive turf areas and neighborhood-serving play areas (e.g. tot lots). ***Table 2-1*** summarizes the proposed Project development totals for the site. ***Figure 2-2*** presents the site plan for the proposed Project. *Figure 2-2* also identifies the Planning Areas and the locations of the internal gates.

The Project is expected to be constructed over the next several years, but is dependent on several factors, including the project funding and market conditions. Hence, to provide a conservative assessment, Year 2023 will be utilized to assess the Project's potential opening year (full buildout/occupancy) traffic impacts within a near-term cumulative traffic setting.

2.1 Site Access

As shown in *Figure 2-2,* vehicular access to the proposed Project will continue to be provided via the existing access on La Habra Hills Drive, with an additional full signalized access driveway to be constructed opposite Hillsborough Park Apartments Drive at Beach Boulevard, a proposed left-turn in/right-turn in and right-turn out only unsignalized driveway along Beach Boulevard (serving the specialty grocery store and restaurant pads) and a proposed full access signalized driveway to be constructed opposite Sandlewood Avenue at Idaho Street. Internal gates are provided, which will prevent vehicular connectivity between the proposed Planning Areas and possible cut-through traffic between Beach Boulevard and Imperial Highway. The following describes the access assumptions for each Planning Area.



SOURCE: GOOGLE

KEY

= PROJECT SITE

N

NO SCALE

LINSCOTT LAW & GREENSPAN engineers

FIGURE 2-1

EXISTING AERIAL SITE PLAN

RANCHO LA HABRA, CITY OF LA HABRA

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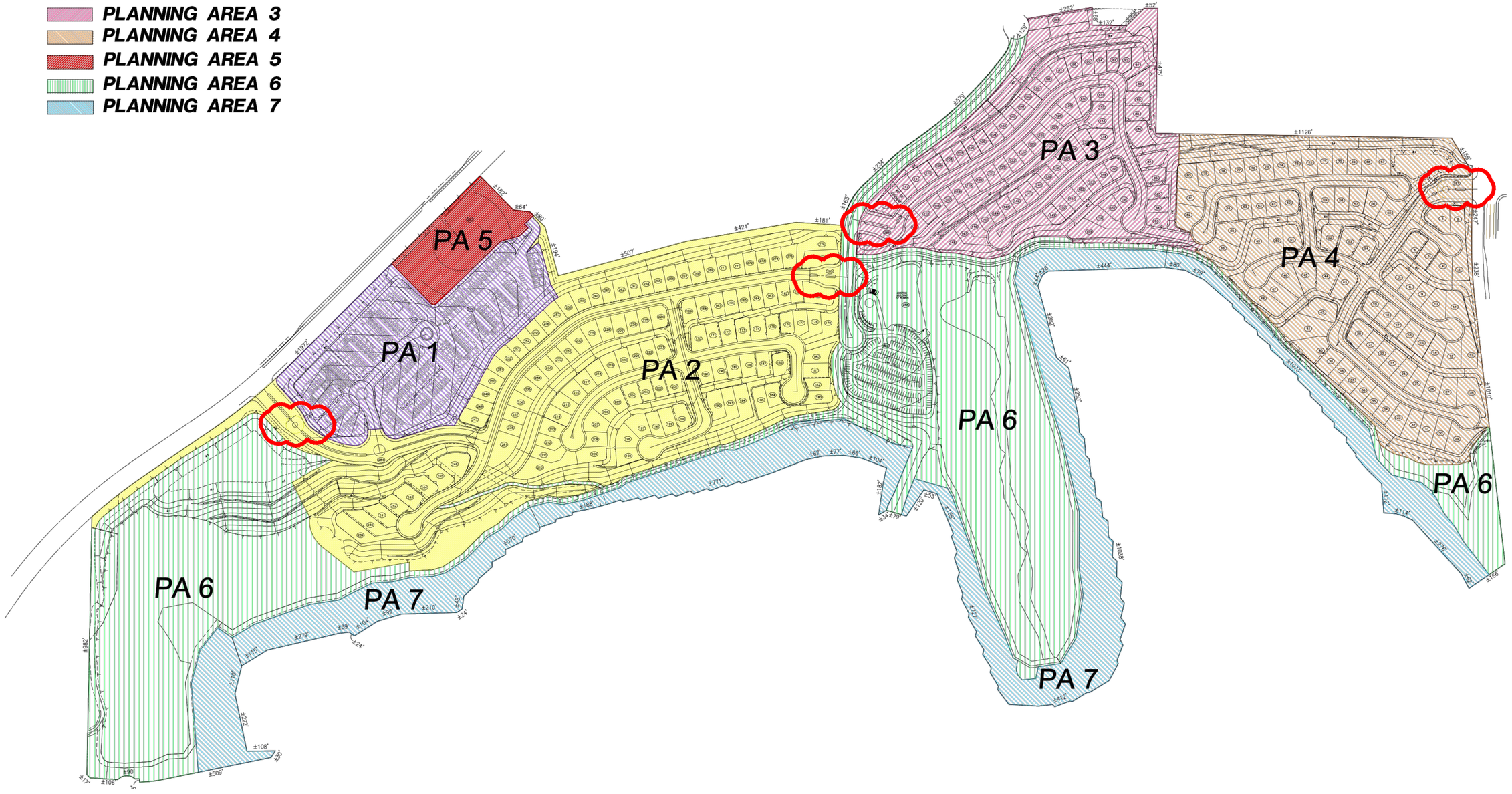
LEGEND

- PLANNING AREA 1
- PLANNING AREA 2
- PLANNING AREA 3
- PLANNING AREA 4
- PLANNING AREA 5
- PLANNING AREA 6
- PLANNING AREA 7



KEY

= GATE LOCATION

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 2–2

PROPOSED SITE PLAN

RANCHO LA HABRA, CITY OF LA HABRA

n:\3500\2143531 – westridge golf club residential project, la habra\3531–2 updated tia\dwg\3531f2–2.dwg LDP 11:05:04 01–22–2019 co

Access to PA #1 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive. Access to PA #2 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive and via La Habra Hills Drive. Access to PA #3 will be provided via La Habra Hills Drive. Access to PA #4 will be provided via the intersection of Sandlewood Avenue and Idaho Street. The proposed left-turn in/right-turn in and right-turn out only unsignalized driveway along Beach Boulevard will serve as access to the proposed specialty grocery store and restaurant pads located within PA #5. The current access on La Habra Hills Drive will serve as access to PA #6; it will also continue to serve as a secondary entry/exit to the Westridge Residential Community.

Intersection and signalization improvements of the Project site's signalized driveways on Beach Boulevard and Idaho Street will be completed as a part of the Project.

2.2 Project Specific Improvements

The following project design features that will be constructed by the proposed Project are recommended to ensure that adequate ingress and egress to the project site is provided:

- **No. 5 – Beach Boulevard at Hillsborough Park Apartments:** Construct the east leg of the intersection and provide two inbound lanes and two outbound lanes (i.e. one westbound left-turn lane and one shared through/right-turn lane). Modify the median on Beach Boulevard to provide one 150-foot southbound left-turn lane with a 90-foot transition. Modify the existing traffic signal for five phase operation with protected left-turn phasing in the north-south direction and permissive phasing in the east-west direction. The installation of these improvements is subject to the approval of the City of La Habra and Caltrans.

- **No. 6 – Idaho Street at Sandlewood Avenue:** Construct the west leg of the intersection and provide one inbound lane and two outbound lanes (i.e. one eastbound left-turn lane and one shared through/right-turn lane). Provide one 100-foot northbound left-turn lane with a 90-foot transition on Idaho Street. Modify the existing traffic signal for five phase operation with protected/permissive left-turn phasing in the north-south direction and permissive phasing in the east-west direction. The installation of these improvements is subject to the approval of the City of La Habra.

- **Beach Boulevard at Proposed Retail Driveway:** Construct the project driveway and provide one inbound lane and one outbound lane (i.e. one westbound right-turn lane). Modify the median on Beach Boulevard to provide one 100-foot southbound left-turn lane with a 90-foot transition. The installation of these improvements is subject to the approval of the City of La Habra and Caltrans.

2.3 Pedestrian Circulation

Pedestrian circulation would be provided via existing public sidewalks along Beach Boulevard, Imperial Highway, La Habra Hills Drive and Idaho Street within the vicinity of the project frontage, which will connect to the project's internal walkways. The Project will protect the existing sidewalk along project frontage and if necessary repair or reconstruct sidewalks along the project frontage per the City's request. The existing sidewalk system within the project vicinity provides direct connectivity to the adjacent existing residential community, commercial development, public transit along Beach Boulevard/Imperial Highway and major thoroughfares.

TABLE 2-1
PROJECT DEVELOPMENT SUMMARY

Land Use / Project Description	Project Development Totals
Existing Development	
❑ Westridge Golf Club	
o Club House/Restaurant/Pro Shop/Events facility	23,000 SF
o Number of Holes	18 Holes
o Maintenance Facility/Practice Facility/Driving Range	35 Tees/Driving Positions
o Number of Employees	60 employees
Proposed Project[4]	
❑ PA #1 – Townhomes/Condominiums	145 DU
❑ PA #2 – Single-Family Detached Homes (50 x 80)	118 DU
❑ PA #3 – Single-Family Detached Homes (47 x 70)	77 DU
❑ PA #4 – Single-Family Detached Homes (55 x 90)	82 DU
❑ PA #5 – Specialty Grocery Store and Restaurant	12,000 SF and 8,000 SF
Total Residential Units:	***422 DU***
Total Specialty Grocery Store/Restaurant SF:	***20,000 SF***
Proposed City Park and Recreation Community Center	
❑ PA #6 - Recreation Community Center	22,500 SF
❑ PA #6 - Passive Park/Trails	42.1± acres

Notes:
- SF = square-feet
- DU = Dwelling Units

[4] Source: Lennar. Note that PA#6 as now defined includes a 22,500 SF recreation community center; a 2,500 SF restaurant is no longer a part of the Project.

3.0 EXISTING CONDITIONS

3.1 Existing Street System

The principal local network of streets serving the proposed Project includes Imperial Highway, Beach Boulevard, La Habra Hills Drive and Idaho Street. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

Imperial Highway (State Route 90) is generally a six-lane, divided roadway oriented in the east-west direction. The posted speed limit along Imperial Highway is generally 45 miles per hour (mph) west of Beach Boulevard and generally 40 mph east of Beach Boulevard. Parking is generally not permitted along this roadway in the vicinity of the proposed project. Traffic signals control the study intersections of Imperial Highway at Valley View Avenue, La Mirada Boulevard, Santa Gertrudes Avenue, 1st Avenue, Beach Boulevard, La Habra Hills Drive, Idaho Street, Walnut Street, Euclid Street and Harbor Boulevard.

Beach Boulevard (State Route 39) is generally a six-lane, divided roadway oriented in the north-south direction. Beach Boulevard borders a portion of the project site to the west and will provide access to the project site via a proposed signalized driveway located directly opposite Hillsborough Park Apartments Drive and via a left-turn in/right-turn in and right-turn out only unsignalized driveway. The posted speed limit on Beach Boulevard is generally 45 mph north of Hillsborough Drive and generally 50 mph south of Hillsborough Drive. Parking is generally not permitted along this roadway in the vicinity of the proposed project. Traffic signals control the study intersections of Beach Boulevard at Whittier Boulevard, La Habra Boulevard, Lambert Road, Imperial Highway, Hillsborough Park Apartments Drive, Hillsborough Drive, Rosecrans Avenue, La Mirada Boulevard/Malvern Avenue, Artesia Boulevard, Commonwealth Avenue, Auto Center Drive and the I-5 SB Ramps.

La Habra Hills Drive is generally a two-lane, divided roadway oriented in the north-south direction. La Habra Hills Drive will serve as access to PA #2, PA #3 and PA #6. La Habra Hills Drive will also continue to serve as a secondary entry/exit to the Westridge Residential Community. Parking is not permitted along this roadway in the vicinity of the proposed project. The prima facie speed limit on La Habra Hills Drive is 25 mph. A traffic signal controls the study intersection of La Habra Hills Drive at Imperial Highway.

Idaho Street is generally a four-lane, divided roadway oriented in the north-south direction. Idaho Street borders a portion of the project site to the east and will provide access to PA #4 via the intersection of Sandlewood Avenue. Idaho Street becomes Gilbert Street as it traverses to the south into the City of Fullerton. The posted speed limit on Idaho Street is generally 40 mph north of Imperial Highway and 45 mph south of Imperial Highway. Parking is generally not permitted along this roadway in the vicinity of the proposed project. Traffic signals control the study intersections of Idaho Street at Lambert Road, Imperial Highway, Sandlewood Avenue, Rosecrans Avenue and Malvern Avenue.

Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. This figure identifies the number of travel lanes for key arterials, as well as intersection configurations and controls for the key area study intersections. Defacto right-turn lanes are also identified. To provide a conservative analysis, a defacto lane was only assumed if the curb lane measured to a minimum of 22 feet in width and there was no immediate on-street parking at the intersection. Please note that this figure, as well as all other subsequent figures contain an "A sheet" and a "B sheet".

3.1.1 *Public Transit*

Public transit bus service is provided in the project area by the Orange County Transportation Authority (OCTA), Foothill Transit and Norwalk Transit. Four (4) OCTA bus routes operate within the vicinity of the Project site on Beach Boulevard, Euclid Street and Harbor Boulevard with connections to Fullerton, Huntington Beach, Anaheim, and Santa Ana. ***Figure 3-2*** graphically illustrates the public transit bus service in the vicinity of the proposed Project. The following provides brief descriptions of each transit route serving the City:

- OCTA Route 29 provides service between Huntington Beach and La Habra via Beach Boulevard from 1st Street/Pacific Coast Highway to Beach Boulevard/La Habra. This bus route also provides a connection to the Metrolink in Buena Park. This route operates 7 days a week with an approximate headway of 20 minutes.

- OCTA Route 37 provides service between Fountain Valley and La Habra via Euclid Street from MacArthur Boulevard/Hyland Avenue to 1st Street/Main Street. This route operates 7 days a week with an approximate headway of 15 minutes.

- OCTA Route 129 provides service between La Habra and Anaheim via La Habra Boulevard, Brea Boulevard, Birch Street, and Kraemer Boulevard from Beach Boulevard/La Habra Boulevard and Kraemer Boulevard/La Palma Avenue. This route operates 7 days a week with an approximate headway of 50 minutes.

- OCTA Route 143 provides service between La Habra and Brea via Whittier Boulevard, Harbor Boulevard, and Brea Boulevard from Beach Boulevard/La Habra Boulevard to Brea Mall. This bus route also provides a connection to Amtrak and Metrolink in Fullerton. This route operates 7 days a week with an approximate headway of 75 minutes.

- Foothill Transit Route 285 provides a connection between La Habra and La Puente via Gale Avenue, Hacienda Boulevard, Colima Road, Whittier Boulevard, and Beach Boulevard. This route operates 7 days a week approximately every 60 minutes. The buses travel along Whittier Boulevard, between the west City Limit and Beach Boulevard, along Beach Boulevard between Whittier Boulevard and La Habra Boulevard, and along La Habra Boulevard between Idaho Street and Beach Boulevard.

- Norwalk Transit Route 4 provides service along Imperial Highway, from Imperial Highway/Idaho Street to the Norwalk Metro Green Line Station. This route operates 7 days a week with an approximate headway of 20 minutes.

The bus stops nearest to the Project site are located at the intersections of Beach Boulevard/Hillsborough Drive, Beach Boulevard/Hillsborough Park Apartments, Beach Boulevard/Westridge Plaza S., Beach Boulevard/Imperial Highway, Imperial Highway/La Habra Hills Drive, and Imperial Highway/Idaho Street. Residents of the proposed Project would be within walking distance of existing bus stops, which currently serve and would continue to serve the project site. ***Figure 3-3*** graphically illustrates the existing bus stops in the vicinity of the proposed Project.

3.2 Existing Traffic Volumes

Thirty-two (32) key study intersections and thirty-seven (37) key roadway segments have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential project-related traffic will pass through each of these intersections, and their analysis will reveal the expected relative impacts of the project. These key locations were selected for evaluation based on discussions with City of La Habra Engineering Division staff and in consideration of the 50 peak hour trip criterion.

Existing daily, AM peak hour and PM peak hour traffic volumes for the 32 study intersections and 37 roadway segments evaluated in this report were obtained from daily machine and manual peak hour turning movement counts conducted by Transportation Studies, Inc. in September 2018 to establish existing baseline conditions. ***Figures 3-4*** and ***3-5*** illustrate the existing AM and PM peak hour traffic volumes at the thirty-two (32) study intersections evaluated in this report, respectively. ***Figure 3-6*** presents the existing average daily traffic volumes for the thirty-seven (37) roadway segments in the vicinity of the proposed project. ***Appendix B*** contains the detailed peak hour and daily traffic count sheets for the intersections and roadway segments evaluated in this report.

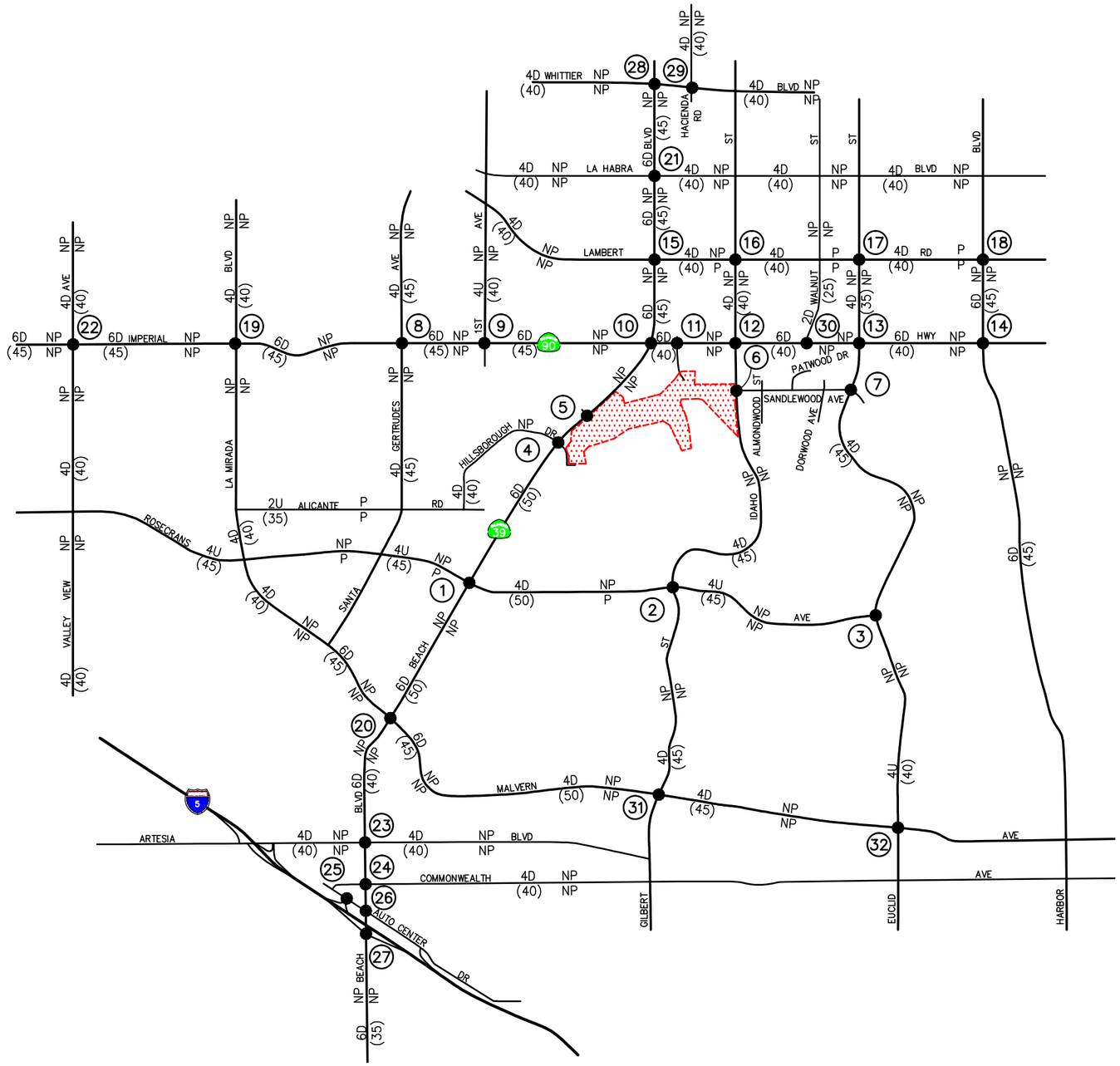
3.3 Existing Intersection Conditions

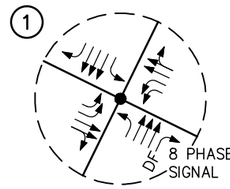
In conformance with each City's General Plan, existing AM and PM peak hour operating conditions for the signalized intersections were evaluated using the *Intersection Capacity Utilization* (ICU) methodology for intersections within the Cities of La Habra, La Mirada and Buena Park and the *Highway Capacity Manual* (HCM) Operations methodology for intersections in the City of Fullerton. All unsignalized intersections were evaluated using the *Highway Capacity Manual* (HCM) Operations methodology. It is noted that the HCM operations method of analysis is also utilized by Caltrans.

3.3.1 *Intersection Capacity Utilization (ICU) Method of Analysis (Signalized Intersections)*

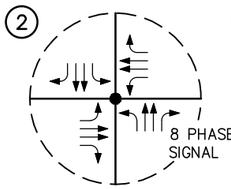
The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Per City of La Habra requirements, the ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each Level of Service calculation. For study intersections within the City of La Mirada, the ICU

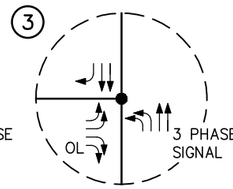




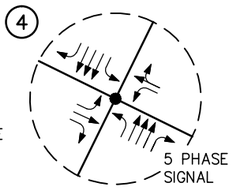
BEACH BLVD @ ROSECRANS AVE



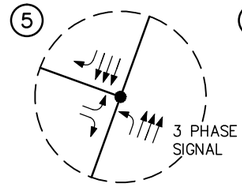
GILBERT ST @ ROSECRANS AVE



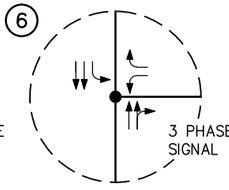
EUCLID ST @ ROSECRANS AVE



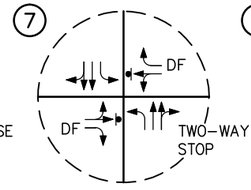
BEACH BLVD @ HILLSBOROUGH DR



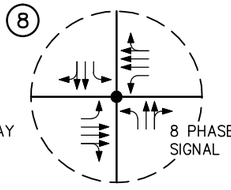
BEACH BLVD @ HILLSBOROUGH PARK APT



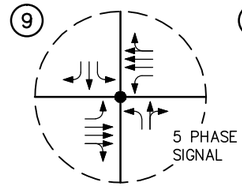
IDAHO ST @ SANDLEWOOD AVE



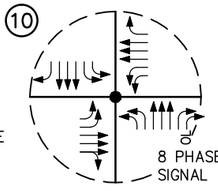
EUCLID ST @ SANDLEWOOD AVE



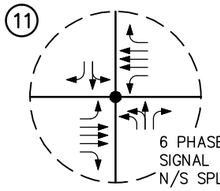
SANTA GERTRUDES AVE @ IMPERIAL HIGHWAY



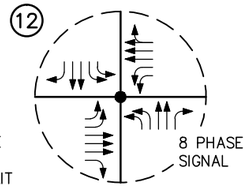
1ST AVE @ IMPERIAL HIGHWAY



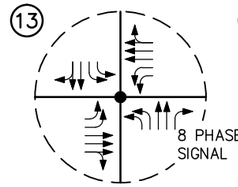
BEACH BLVD @ IMPERIAL HIGHWAY



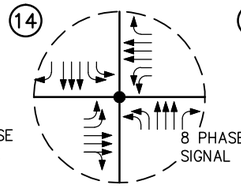
LA HABRA HILLS DR @ IMPERIAL HIGHWAY



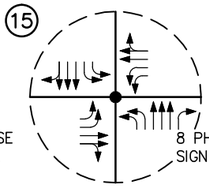
IDAHO ST @ IMPERIAL HIGHWAY



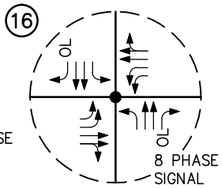
EUCLID ST @ IMPERIAL HIGHWAY



HARBOR BLVD @ IMPERIAL HIGHWAY



BEACH BLVD @ LAMBERT RD



IDAHO ST @ LAMBERT RD

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

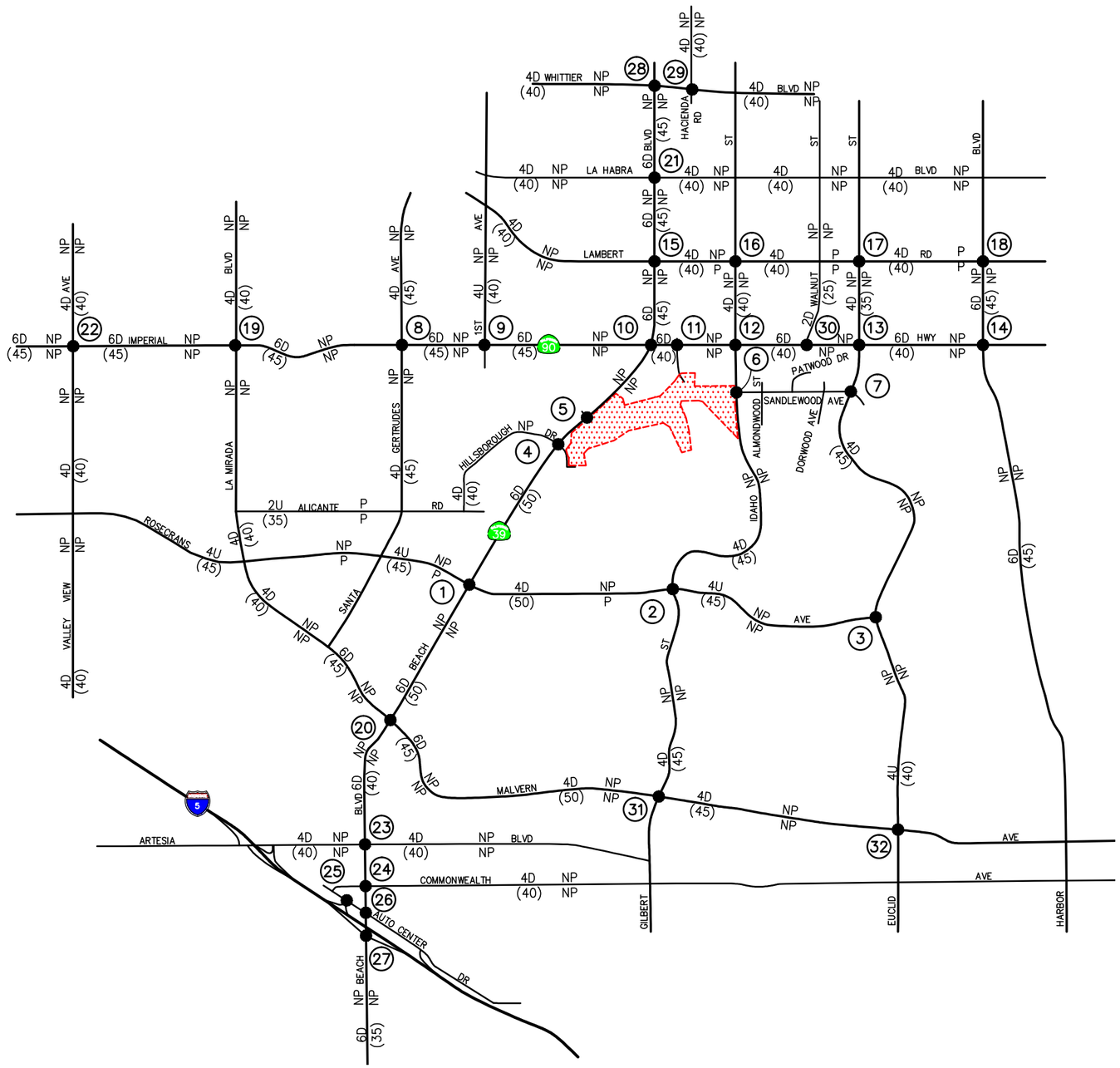
KEY

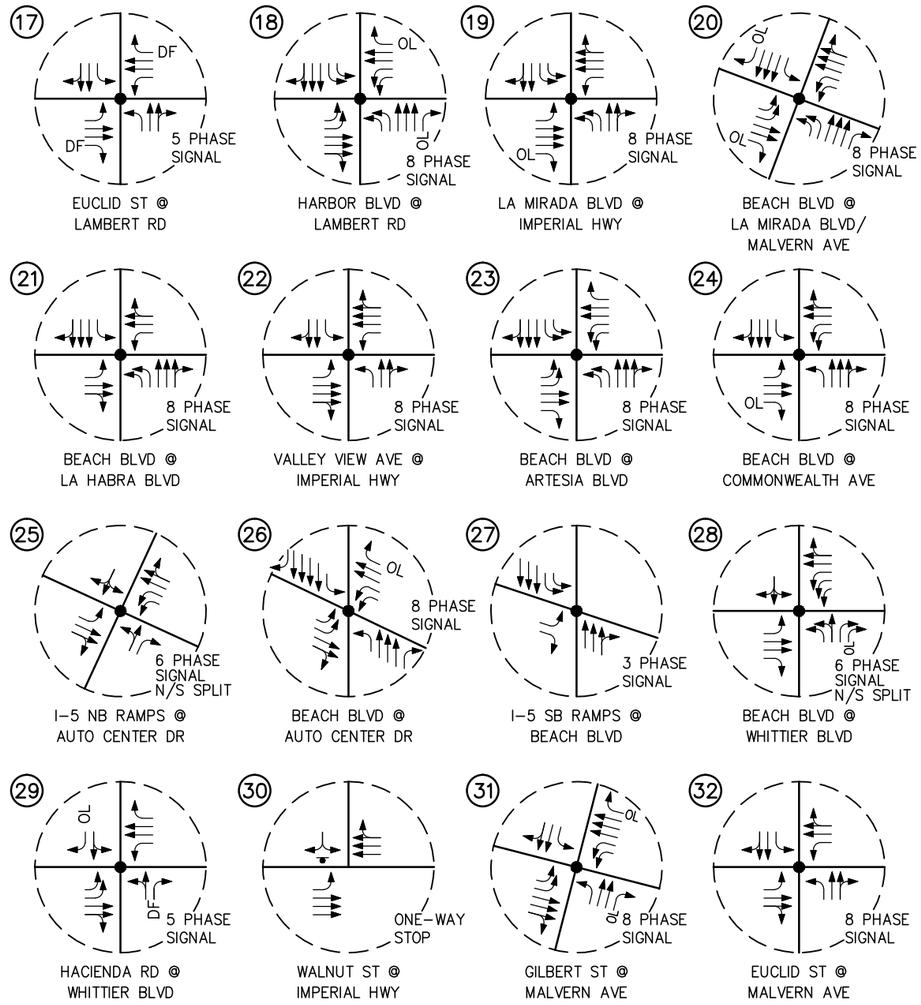
← = APPROACH LANE ASSIGNMENT
● = TRAFFIC SIGNAL, ☚ = STOP SIGN
P = PARKING, NP = NO PARKING
U = UNDIVIDED, D = DIVIDED
OL = OVERLAP
DF = DEFACTO RIGHT–TURN
2 = NUMBER OF TRAVEL LANES
(XX)= POSTED SPEED LIMIT (MPH)
F = FREE–RIGHT
▭ = PROJECT SITE

FIGURE 3–1A

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

- ← = APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL, ☚ = STOP SIGN
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- OL = OVERLAP
- DF = DEFACTO RIGHT-TURN
- 2 = NUMBER OF TRAVEL LANES
- (XX)= POSTED SPEED LIMIT (MPH)
- F = FREE-RIGHT
- = PROJECT SITE

FIGURE 3-1B

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

RANCHO LA HABRA, CITY OF LA HABRA

1 — Routes offering 15 minutes (or less) Weekday rush hour frequency

1 — Local Routes (1-99)

100 — Community Routes (100-199)

200 — Intracounty OC Express Routes (200-299)
Weekday Rush Hour Only

400 — Metrolink Stationlink Routes (400-499)
Weekday Rush Hour Only

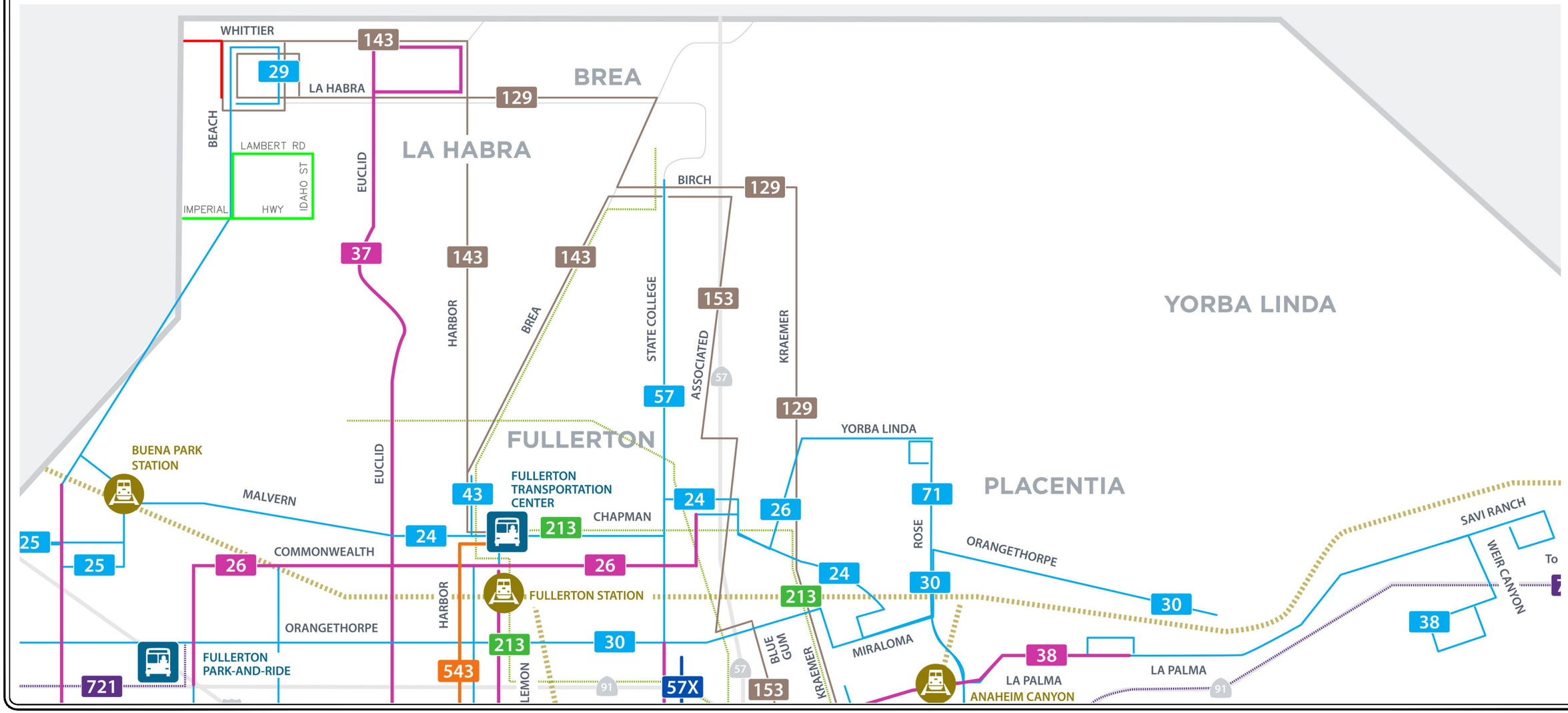
543, 560 — Bravo Limited Stop Service

53X, 57X, 64X — Xpress Stop Service

FOOTHILL TRANSIT 285

NORWALK TRANSIT 4

700 — Intercounty Express Service (700-799)
Weekday Rush Hour Only



SOURCE: OCTA

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 3–2

EXISTING TRANSIT MAP

RANCHO LA HABRA, CITY OF LA HABRA

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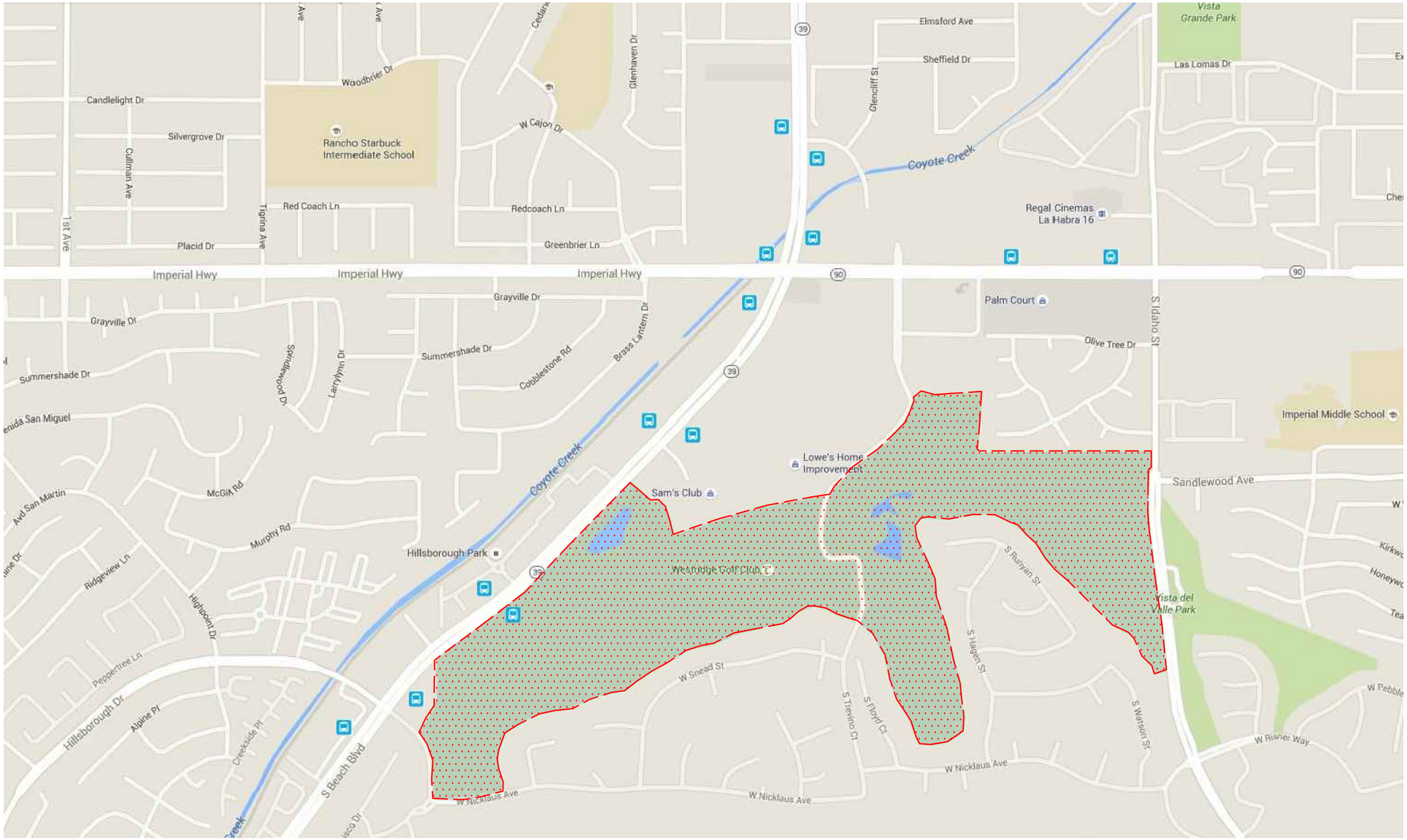

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

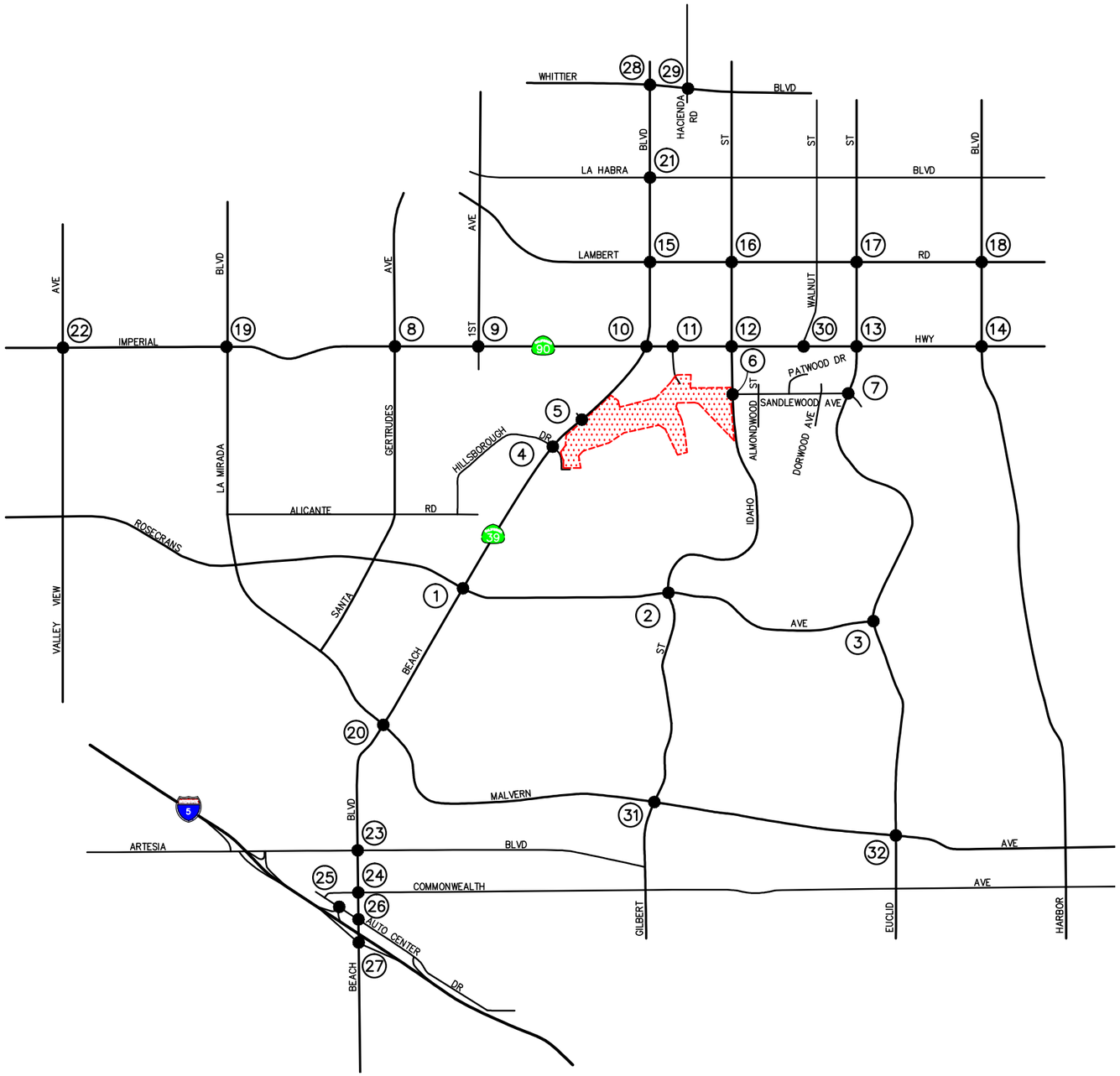
= PROJECT SITE

= EXISTING BUS STOP

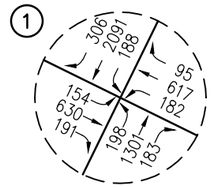
FIGURE 3–3

LOCATION OF EXISTING BUS STOPS ON BEACH BOULEVARD AND IMPERIAL HIGHWAY

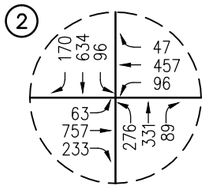
RANCHO LA HABRA, CITY OF LA HABRA



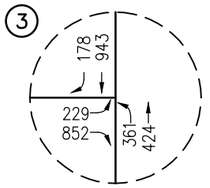
1 — BEACH BLVD @ ROSECRANS AVE



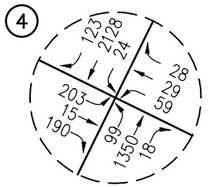
2 — GILBERT ST @ ROSECRANS AVE



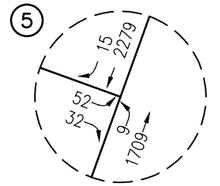
3 — EUCLID ST @ ROSECRANS AVE



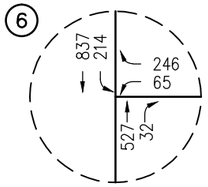
4 — BEACH BLVD @ HILLSBOROUGH DR



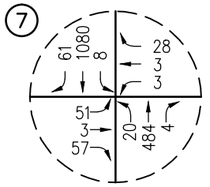
5 — BEACH BLVD @ HILLSBOROUGH PARK APT



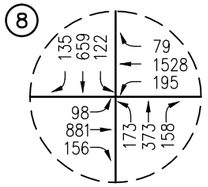
6 — IDAHO ST @ SANDLEWOOD AVE



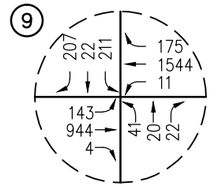
7 — EUCLID ST @ SANDLEWOOD AVE



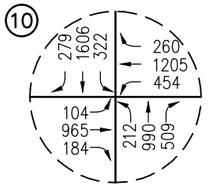
8 — SANTA GERTRUDES AVE @ IMPERIAL HIGHWAY



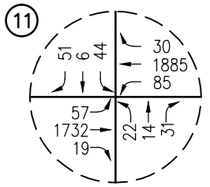
9 — 1ST AVE @ IMPERIAL HIGHWAY



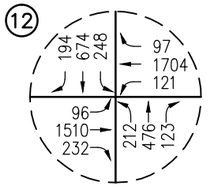
10 — BEACH BLVD @ IMPERIAL HIGHWAY



11 — LA HABRA HILLS DR @ IMPERIAL HIGHWAY



12 — IDAHO ST @ IMPERIAL HIGHWAY



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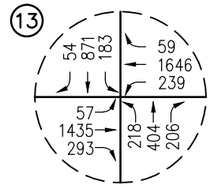
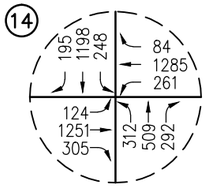
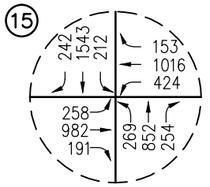


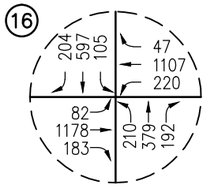
14 — HARBOR BLVD @ IMPERIAL HIGHWAY



15 — BEACH BLVD @ LAMBERT RD



16 — IDAHO ST @ LAMBERT RD



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N NO SCALE

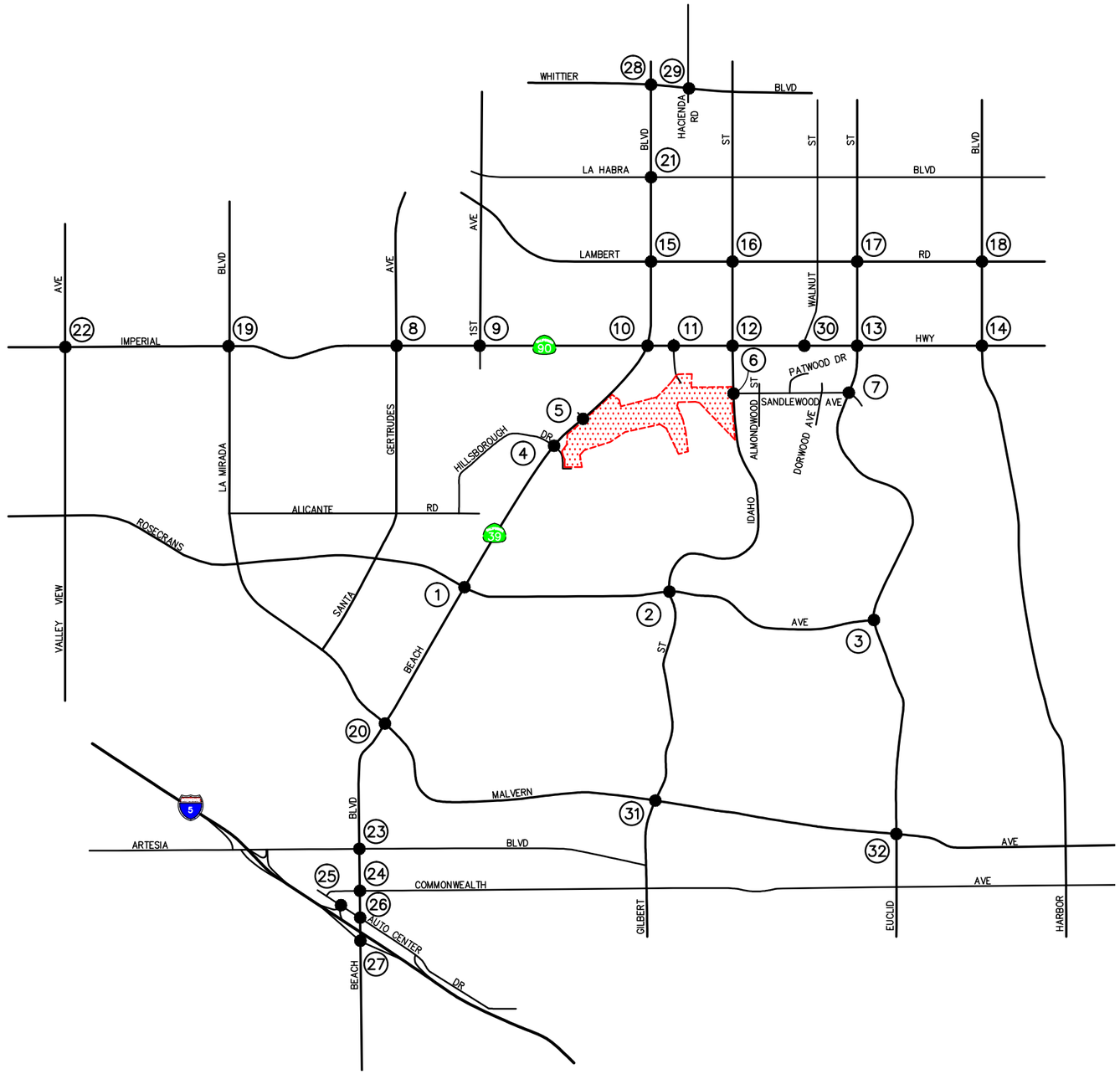
KEY

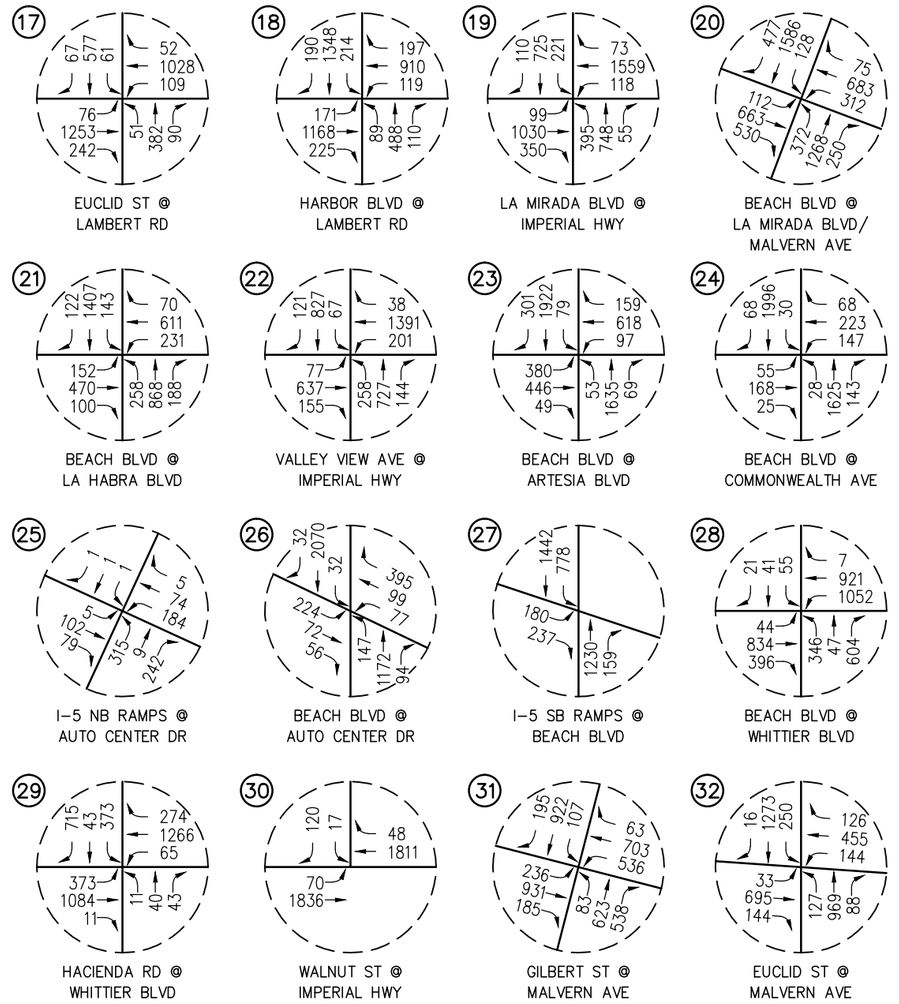
= PROJECT SITE

FIGURE 3-4A

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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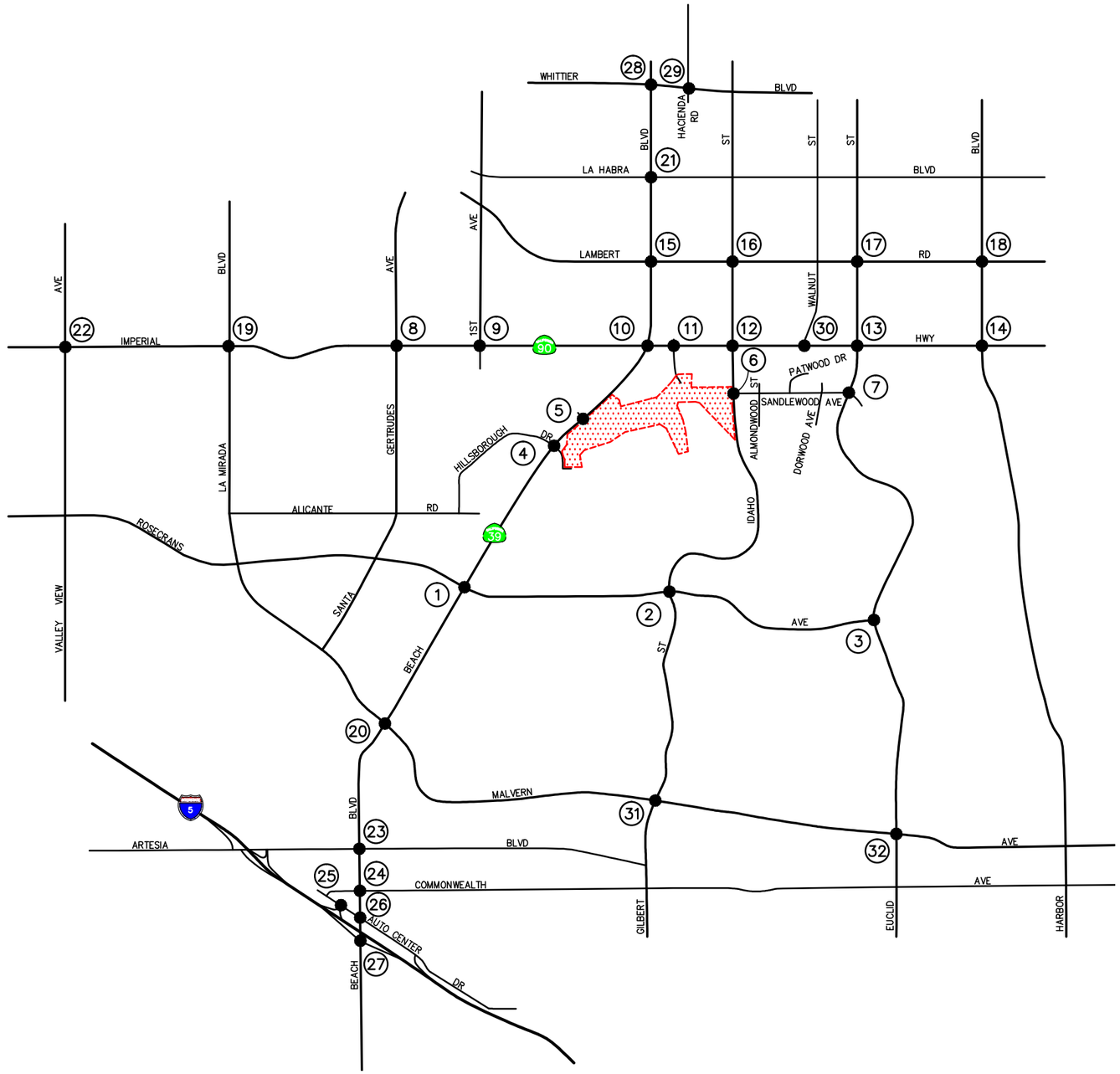
N NO SCALE

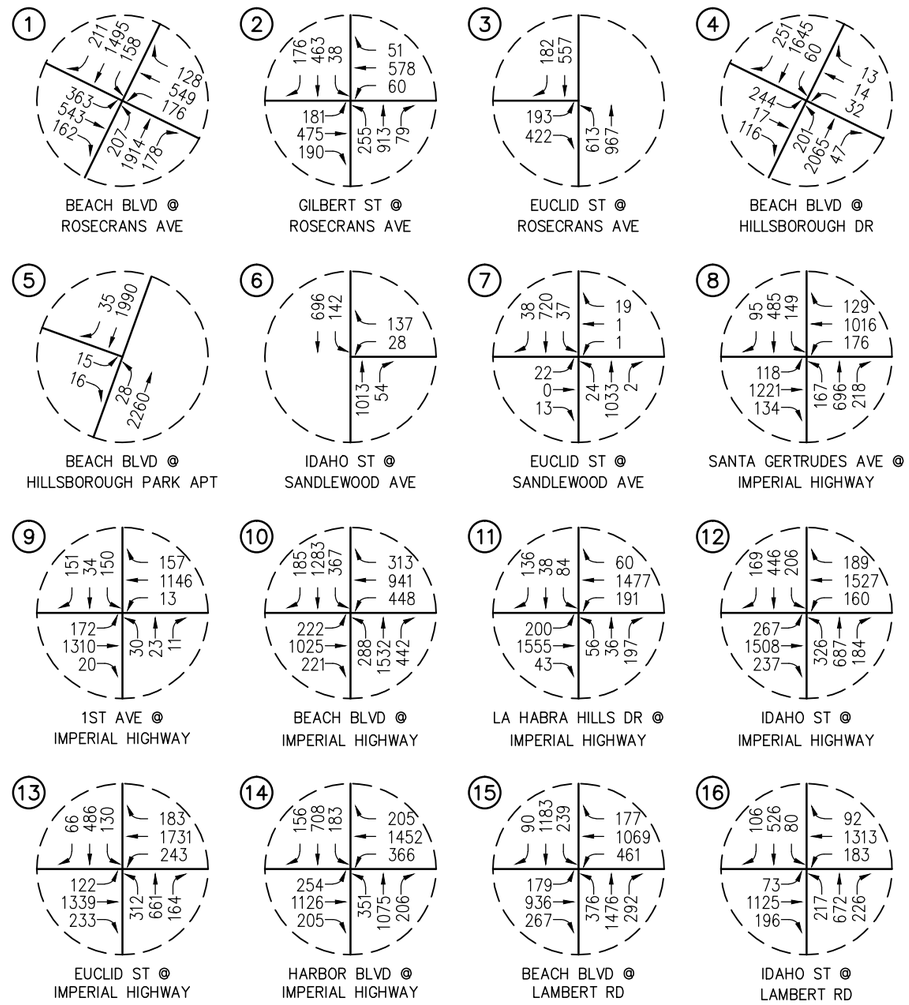
KEY
= PROJECT SITE

FIGURE 3-4B

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

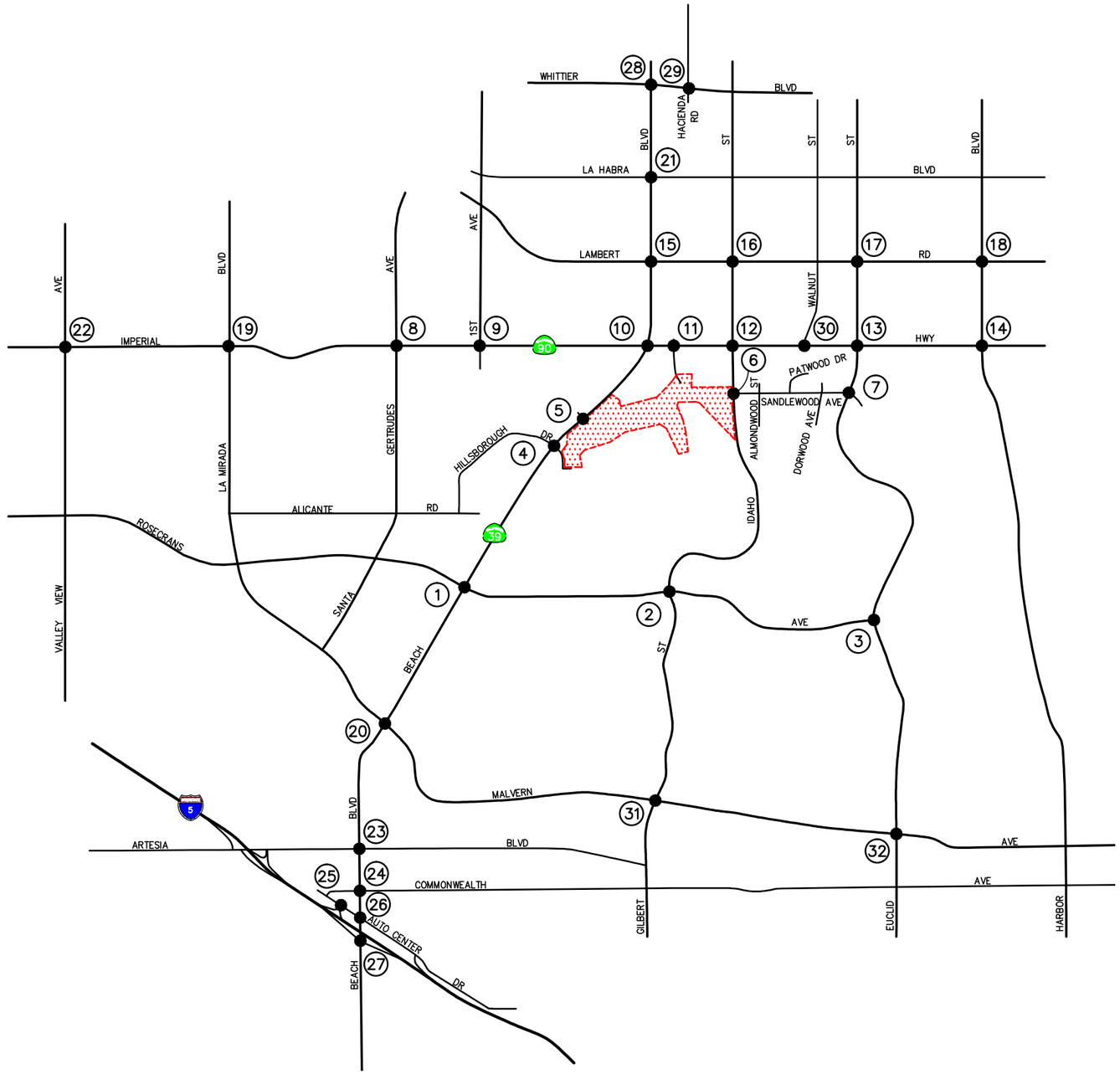
N NO SCALE

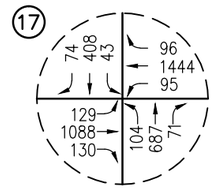
KEY
= PROJECT SITE

FIGURE 3-5A

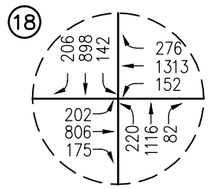
EXISTING PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA

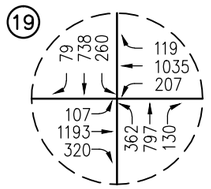




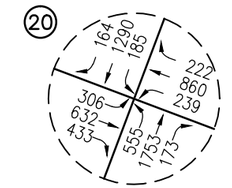
EUCLID ST @
LAMBERT RD



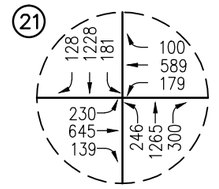
HARBOR BLVD @
LAMBERT RD



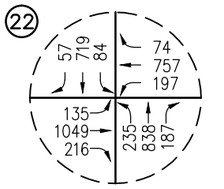
LA MIRADA BLVD @
IMPERIAL HWY



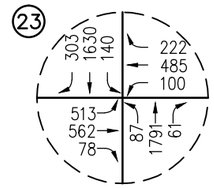
BEACH BLVD @
LA MIRADA BLVD/
MALVERN AVE



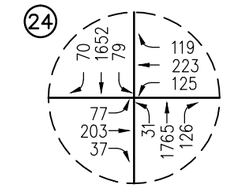
BEACH BLVD @
LA HABRA BLVD



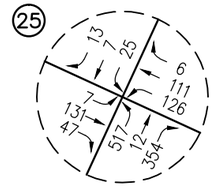
VALLEY VIEW AVE @
IMPERIAL HWY



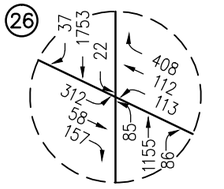
BEACH BLVD @
ARTESIA BLVD



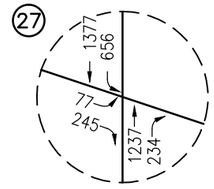
BEACH BLVD @
COMMONWEALTH AVE



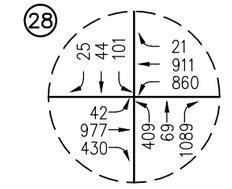
I-5 NB RAMPS @
AUTO CENTER DR



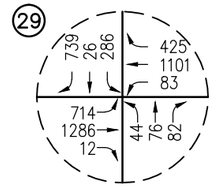
BEACH BLVD @
AUTO CENTER DR



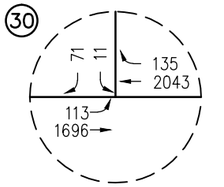
I-5 SB RAMPS @
BEACH BLVD



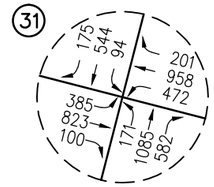
BEACH BLVD @
WHITTIER BLVD



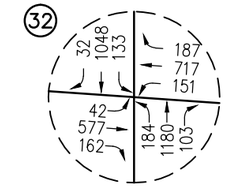
HACIENDA RD @
WHITTIER BLVD



WALNUT ST @
IMPERIAL HWY



GILBERT ST @
MALVERN AVE



EUCLID ST @
MALVERN AVE

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LINSCOTT LAW & GREENSPAN engineers

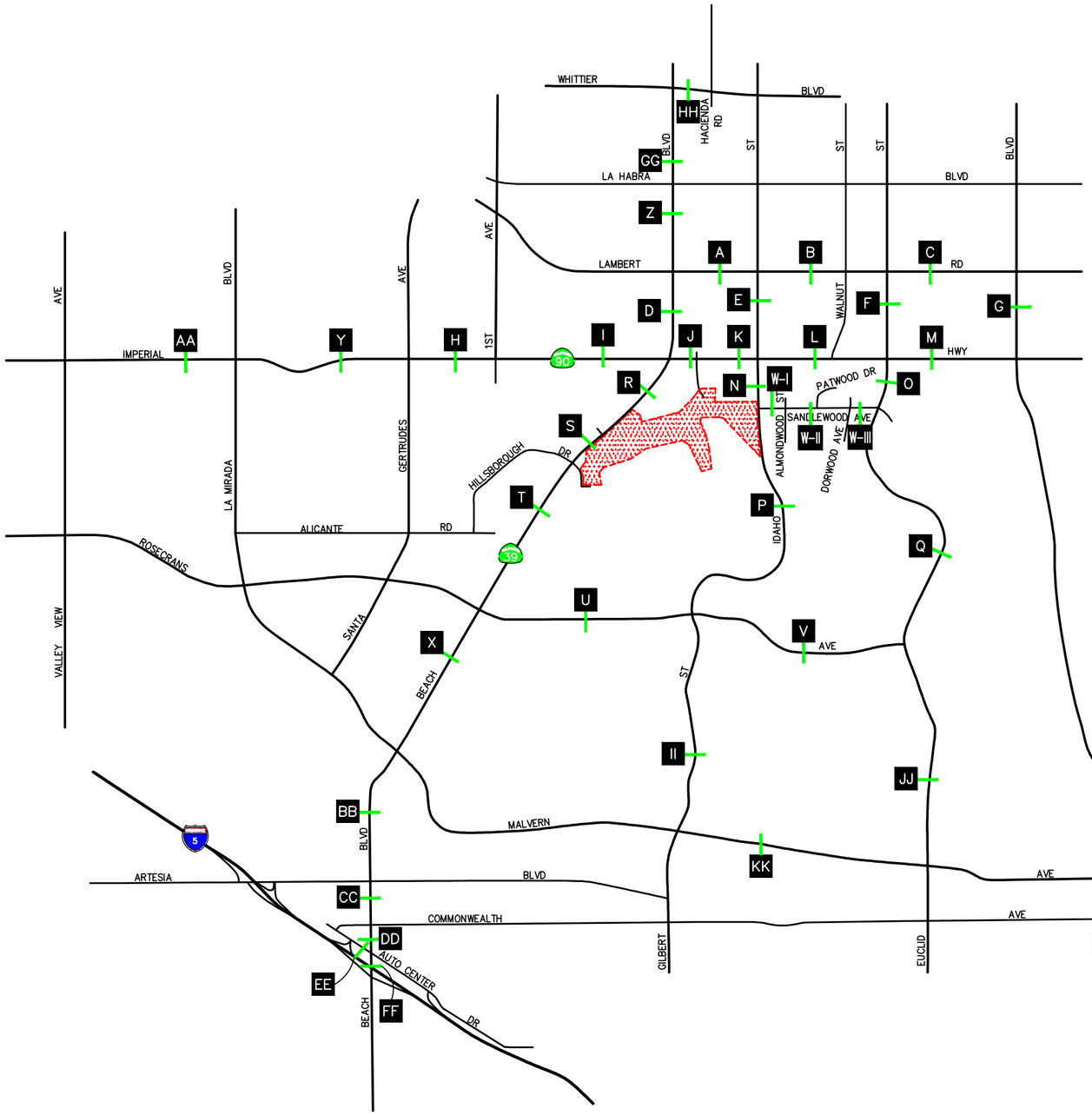
N NO SCALE

KEY
= PROJECT SITE

FIGURE 3-5B

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	35,387	U	20,815
B	37,387	V	15,137
C	36,014	W-I	3,600
D	51,446	W-II	1,931
E	23,702	W-III	1,296
F	17,898	X	44,047
G	35,083	Y	31,542
H	36,239	Z	42,893
I	36,310	AA	30,552
J	49,867	BB	71,766
K	50,687	CC	56,837
L	50,844	DD	58,783
M	52,284	EE	12,592
N	20,217	FF	61,904
O	21,596	GG	35,120
P	15,440	HH	47,059
Q	22,344	II	23,527
R	55,337	JJ	31,442
S	58,110	KK	23,982
T	53,636		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

A = STUDY ROADWAY SEGMENT

= PROJECT SITE

FIGURE 3-6

EXISTING DAILY TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA

calculations use a lane capacity of 1,600 vehicles per hour (vph) for left turn, through, and right-turn lanes, and dual left turn capacity of 2,880 vph. A clearance adjustment factor of 0.10 was added to each Level of Service calculation. For the study intersections within the City of Buena Park, the ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each Level of Service calculation. The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in ***Table 3-1***.

3.3.2 *Highway Capacity Manual 6 (HCM 6) Method of Analysis (Signalized Intersections)*

Based on the HCM operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents and when there are no other vehicles on the road.

In the HCM, only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay.* Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections are shown in ***Table 3-2***.

3.3.3 *Highway Capacity Manual 6 (HCM 6) Method of Analysis (Unsignalized Intersections)*

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay.

3.3.3.1 *Two-Way Stop-Controlled Intersections*

Two-way stop-controlled intersections are comprised of a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street through vehicles experience zero delay. The HCM control delay value range for two-way stop-controlled intersections is shown in ***Table 3-3***.

3.3.3.2 *All-Way Stop-Controlled Intersections*

All-way stop-controlled intersections require every vehicle to stop at the intersection before proceeding. Because each driver must stop, the decision to proceed into the intersection is a function of traffic conditions on the other approaches. The time between subsequent vehicle departures depends on the degree of conflict that results between the vehicles and vehicles on the other approaches. This methodology determines the control delay for each lane on the approach, computes a weighted average for the whole approach, and computes a weighted average for the intersection as a whole. Level of service (LOS) at the approach and intersection levels is based solely on control delay. The HCM control delay value range for all-way stop-controlled intersections is shown in *Table 3-3*.

3.4 Volumes to Capacity (V/C) Ratio Method of Analysis (Roadway Segments)

Daily operating conditions for the thirty-seven (37) key roadway segments (links) have been investigated according to the daily volume-to-capacity (V/C) of each link. The daily V/C relationship is used to estimate the LOS of the roadway segment with the volume based on 24-hour traffic count data and the capacity based on either the Orange County Master Plan of Arterial Highways (MPAH) street classifications or the Los Angeles County Roadway Capacities Guidelines, except for Roadway Segment W (i.e. Sandlewood Avenue). The daily and peak hour roadway link capacity of each street classification according to the Orange County MPAH is presented in ***Table 3-4***, along with the six corresponding service levels and associated V/C ratios. The daily and peak hour roadway link capacity of each street classification according to the Los Angeles County Roadway Capacities Guidelines is presented in ***Table 3-5***, along with the six corresponding service levels and associated V/C ratios. Given that the Orange County MPAH does not provide a daily capacity for a residential street, the daily capacity for Sandlewood Avenue was based on information contained within the *Orange County Highway Design Manual (HDM),* dated June 2005 (i.e. pages 100-3 and 100-4). The *Orange County Highway Design Manual* contains the following definitions for a Residential Collector Street and a Residential Local Street.

- **Residential Collector Street** – A non-arterial street, normally through a residential area, designed to collect traffic from local streets and distribute it onto arterials and with a planned capacity between 1,200 and 6,000 vehicle trips per day (vpd). Residential collectors shall not have residential frontage.
- **Residential Local Street –** A non-arterial street with direct residential frontage having a planned capacity of less than 1,200 vehicle trips per day (vpd).

Based on the aforementioned descriptions and a review of the residential network of streets within the Sandlewood neighborhood, Sandlewood Avenue between Idaho Street and Euclid Street functions as a Residential Collector Street, as several of the local residential streets within this neighborhood feed into this street, which then provides residents with direct access to either Idaho Street or Euclid Street. Therefore, a daily capacity of 6,000 vpd would be recommended for use in the daily analysis per the *Orange County HDM*. However, given that Sandlewood Avenue has residential frontage (i.e. on the northside of the street and on the easterly portion of the southside of the street), it is recommended that the daily capacity of 6,000 vpd be reduced by 10% and a capacity of 5,400 vpd be utilized for calculating the daily service level of Sandlewood Avenue.

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS[5]

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
A	≤ 0.60	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.61 – 0.70	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.71 – 0.80	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.81 – 0.90	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.91 – 1.00	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.00	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

[5] Source: *Transportation Research Board Circular 212 – Interim Materials on Highway Capacity*.

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM 6 METHODOLOGY)[6]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	$\leq$ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and $\leq$ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and $\leq$ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and $\leq$ 55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and $\leq$ 80.0	Very long traffic delays. This level is considered by many agencies (i.e. SANBAG) to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.
F	$\geq$ 80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

[6] Source: *Highway Capacity Manual 6*, Chapter 19: Signalized Intersections.

TABLE 3-3

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM 6 METHODOLOGY)[7,8]

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

7 Source: *Highway Capacity Manual 6*, Chapter 20: Two-Way Stop-Controlled Intersections. The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

8 Source: *Highway Capacity Manual 6*, Chapter 21: All-Way Stop-Controlled Intersections. For approaches and intersection-wide assessment, LOS is defined solely by control delay.

TABLE 3-4
ROADWAY LINK CAPACITIES – ORANGE COUNTY[9]

Facility Type	Number of Lanes	Level of Service Criteria With Associated Roadway Capacity						
		Daily Values (VPD)						Peak Hour Capacity (VPH)[10]
		Level of Service (LOS)						
		A	B	C	D	E	F	
Principal	8-lanes divided	45,000	52,500	60,000	67,500	75,000	--	7,500
Smart Street[11]	6-lanes divided	36,300	42,200	48,200	54,200	60,200	--	6,020
Major	6-lanes divided	33,900	39,400	45,000	50,600	56,300	--	5,630
Primary	4-lanes divided	22,500	26,300	30,000	33,800	37,500	--	3,750
Secondary	4-lanes undivided	15,000	17,500	20,000	22,500	25,000	--	2,500
Commuter	2-lanes undivided	7,500	8,800	10,000	11,300	12,500	--	1,250
V/C Ratio		≤ 0.600	0.601-0.700	0.701-0.800	0.801-0.900	0.901-1.000	≥ 1.01	

Notes:
- VPD = vehicles per day
- VPH = vehicles per hour

9 Source: Most current Orange County Master Plan of Arterial Highways.

10 Peak hour capacity based on 10% of the daily LOS "E" capacity.

11 The capacity of a Smart Street is seven percent higher than the capacity of a major arterial, due to traffic flow operation enhancements that are associated with the Smart Street facility designation.

TABLE 3-5
ROADWAY LINK CAPACITIES – LOS ANGELES COUNTY[12]

Facility Type	Level of Service Criteria With Associated Roadway Capacity						
	Daily Values (VPD)						Peak Hour Capacity (VPH)
	Level of Service (LOS)						
	A	B	C	D	E	F	
Smart Street[13]	5,780 per lane	6,740 per lane	7,700 per lane	8,670 per lane	9,630 per lane	--	1,070 per lane
Major	5,400 per lane	6,300 per lane	7,200 per lane	8,100 per lane	9,000 per lane	--	1,000 per lane
Secondary	4,800 per lane	5,600 per lane	6,400 per lane	7,200 per lane	8,000 per lane	--	850 per lane
Ltd. Secondary	4,200 per lane	4,900 per lane	5,600 per lane	6,300 per lane	7,000 per lane	--	750 per lane
Local	3,600 per lane	4,200 per lane	4,800 per lane	5,400 per lane	6,500 per lane	--	700 per lane
V/C Ratio	≤ 0.600	0.601-0.700	0.701-0.800	0.801-0.900	0.901-1.000	≥ 1.01	

Notes:
- VPD = vehicles per day
- VPH = vehicles per hour
- Ltd. = Limited

[12] Source: Los Angeles County Roadway Capacity Guidelines.

[13] The capacity of a Smart Street is seven percent higher than the capacity of a major arterial, due to traffic flow operation enhancements that are associated with the Smart Street facility designation.

3.5 Level of Service Criteria

3.5.1 *Intersections*

According to the City of La Habra General Plan[14], the City of La Habra has established LOS D as its criterion for an acceptable level of service at City jurisdiction intersections. LOS E is considered acceptable for State Highway intersections and Congestion Management Plan (CMP) intersections. Within the project study area (i.e. City of La Habra), Beach Boulevard, Imperial Highway and Whittier Boulevard (west of Beach Boulevard) are part of the CMPHS for Orange County and also under the jurisdiction of Caltrans. Based on the LOS criteria stated above, LOS E is considered acceptable for intersections located along the CMP network and/or also under the jurisdiction of Caltrans.

According to the City of La Mirada General Plan[15], LOS E is the acceptable condition that should be maintained, during the peak commute hours for nonresidential intersections and LOS D is the acceptable condition, for residential neighborhood intersections. The Cities of Fullerton[16] and Buena Park[17] consider LOS D to be the acceptable level of service that should be maintained during the peak commute hours. Based on the above, the following is the LOS required for each intersection:

LOS "D" Requirements – Key Study Intersections	
2. Gilbert Street at Rosecrans Avenue	20. Beach Blvd at La Mirada Blvd/Malvern Ave
3. Euclid Street at Rosecrans Avenue	23. Beach Boulevard at Artesia Boulevard
6. Idaho Street at Sandlewood Avenue	24. Beach Boulevard at Commonwealth Avenue
7. Euclid Street at Sandlewood Avenue	25. I-5 NB Ramps at Auto Center Drive
9. 1st Avenue at Imperial Highway	26. Beach Boulevard at Auto Center Drive
16. Idaho Street at Lambert Road	27. I-5 SB Ramps at Beach Boulevard
17. Euclid Street at Lambert Road	31. Gilbert Street at Malvern Avenue
18. Harbor Boulevard at Lambert Road	32. Euclid Street at Malvern Avenue
LOS "E" Requirements – Key Study Intersections	
1. Beach Boulevard at Rosecrans Avenue	14. Harbor Boulevard at Imperial Highway
4. Beach Boulevard at Hillsborough Drive	15. Beach Boulevard at Lambert Road
5. Beach Blvd at Hillsborough Park Apt. Dr	19. La Mirada Boulevard at Imperial Highway
8. Santa Gertrudes Ave at Imperial Highway	21. Beach Boulevard at La Habra Boulevard
10. Beach Boulevard at Imperial Highway	22. Valley View Avenue at Imperial Highway
11. La Habra Hills Dr at Imperial Highway	28. Beach Boulevard at Whittier Boulevard
12. Idaho Street at Imperial Highway	29. Hacienda Road at Whittier Boulevard
13. Euclid Street at Imperial Highway	30. Walnut Street at Imperial Highway

[14] Source: City of La Habra General Plan 2035 (adopted January 21, 2014); Chapter 3: Mobility/Circulation, page 3-8.

[15] Source: City of La Mirada General Plan (adopted March 25, 2003), Circulation Element, page C-11.

[16] Source: The Fullerton Plan (adopted May 1, 2012), Final Program EIR, Traffic and Circulation, page 5.4-13.

[17] Source: City of Buena Park 2035 General Plan (adopted December 2010), Chapter 3: Mobility Element, 3.5 Performance Criteria.

3.5.2 *Roadway Segments*

Consistent with the criteria for intersections, the City of La Habra considers LOS D to be the acceptable condition that should be maintained for all roadway segments within the City, except those on the CMPHS of Orange County, where LOS E is defined in the CMP for Orange County as the acceptable limit. Within the project study area, Beach Boulevard, Imperial Highway and Whittier Boulevard (west of Beach Boulevard) are part of the CMPHS for Orange County. Based on the LOS criteria stated above, LOS E is considered acceptable for roadway segments located along the CMP network.

Consistent with the criteria for intersections, the City of La Mirada considers LOS E to be the acceptable level of service that should be maintained for all nonresidential roadway segments and LOS D to be the acceptable level of service for all neighborhood residential roadway segments. Consistent with the criteria for intersections, the Cities of Fullerton and Buena Park consider LOS D to be the acceptable level of service that should be maintained for all roadway segments. Based on the above, the following summarizes the LOS required for each key roadway segment:

LOS "D" Requirements – Key Roadway Segments	
A.	Lambert Road between Beach Boulevard and Idaho Street
B.	Lambert Road between Idaho Street and Euclid Street
C.	Lambert Road between Euclid Street and Harbor Boulevard
E.	Idaho Street between Lambert Road and Imperial Highway
F.	Euclid Street between Lambert Road and Imperial Highway
G.	Harbor Boulevard between Lambert Road and Imperial Highway
H.	Imperial Highway between Santa Gertrudes Avenue and 1st Avenue
N.	Idaho Street between Imperial Highway and Sandlewood Avenue
O.	Euclid Street between Imperial Highway and Sandlewood Avenue
P.	Gilbert Street between Sandlewood Avenue and Rosecrans Avenue
Q.	Euclid Street between Sandlewood Avenue and Rosecrans Avenue
U.	Rosecrans Avenue between Beach Boulevard and Gilbert Street
V.	Rosecrans Avenue between Gilbert Street and Euclid Street
W.	Sandlewood Avenue between Idaho Street and Euclid Street
X.	Beach Boulevard between Rosecrans Ave and La Mirada Boulevard/Malvern Ave
BB.	Beach Boulevard between La Mirada Boulevard/Malvern Avenue and Artesia Boulevard
CC.	Beach Boulevard between Artesia Boulevard and Commonwealth Avenue
DD.	Beach Boulevard between Commonwealth Avenue and Auto Center Drive
EE.	Auto Center Drive between Beach Boulevard and I-5 NB Ramps
FF.	Beach Boulevard between Auto Center Drive and I-5 SB Ramps
HH.	Whittier Boulevard between Beach Boulevard and Hacienda Road
II.	Gilbert Street between Rosecrans Avenue and Malvern Avenue
JJ.	Euclid Street between Rosecrans Avenue and Malvern Avenue
KK.	Malvern Avenue between Gilbert Street and Euclid Street

LOS "E" Requirements – Key Roadway Segments	
D.	Beach Boulevard between Lambert Road and Imperial Highway
I.	Imperial Highway between 1st Avenue and Beach Boulevard
J.	Imperial Highway between Beach Boulevard and La Habra Hills Drive
K.	Imperial Highway between La Habra Hills Drive and Idaho Street
L.	Imperial Highway between Idaho Street and Euclid Street
M.	Imperial Highway between Euclid Street and Harbor Boulevard
R.	Beach Boulevard between Imperial Highway and Hillsborough Apt
S.	Beach Boulevard between Hillsborough Apt and Hillsborough Drive
T.	Beach Boulevard between Hillsborough Drive and Rosecrans Avenue
Y.	Imperial Highway between La Mirada Boulevard and Santa Gertrudes Avenue
Z.	Beach Boulevard between Lambert Road and La Habra Boulevard
AA.	Imperial Highway between Valley View Avenue and La Mirada Boulevard
GG.	Beach Boulevard between La Habra Boulevard and Whittier Boulevard

3.6 Existing Level of Service Results

3.6.1 *Intersections*

Table 3-6 summarizes the existing peak hour service level calculations for the thirty-two (32) key study intersections based on existing traffic volumes and current street geometry. Review of *Table 3-6* indicates that two (2) of the thirty-two (32) key study intersections currently operate at an unacceptable level of service during the AM and/or PM peak hours. The intersections of Euclid Street/Sandlewood Avenue and Walnut Street/Imperial Highway currently operate at unacceptable LOS E and/or LOS F during the AM and/or PM peak hours. The remaining thirty (30) key study intersections currently operate at an acceptable level of service during the AM and PM peak hours.

Appendix C presents the ICU/LOS and HCM/LOS calculations for the thirty-two (32) key study intersections for the AM peak hour and PM peak hour. *Appendix C* also contains the existing traffic signal warrant worksheets for the unsignalized key study intersections.

3.6.2 *Roadway Segments*

Table 3-7 summarizes the existing service level calculations for the thirty-seven (37) key roadway segments. The first column (1) shows the number of lanes, the second column (2) shows the arterial classification and the third column (3) shows the existing LOS "E" capacity. The fourth column (4) shows the daily volume, V/C ratio and resulting level of service for "Existing" traffic conditions.

Review of column 4 of *Table 3-7* indicates that eight of the thirty-seven (37) key roadway segments currently operate at unacceptable LOS E or F on a daily basis. The eight locations that currently operate at an adverse LOS are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	0.944	E
B. Lambert Road between Idaho Street and Euclid Street	La Habra	0.997	E
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	0.960	E
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.192	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Avenue	Buena Park	0.944	E
DD. Beach Blvd between Commonwealth Avenue and Auto Center Drive	Buena Park	0.976	E
FF. Beach Blvd between Auto Center Drive and I-5 SB Ramps	Buena Park	1.028	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.255	F

The remaining twenty-nine (29) key roadway segments currently operate at an acceptable level of service on a daily basis.

TABLE 3-6
EXISTING PEAK HOUR LEVELS OF SERVICE

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	Control Type	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	E	La Mirada/ Caltrans	AM PM	8∅ Traffic Signal	0.979 0.935	E E
2. Gilbert Street at Rosecrans Avenue	D	Fullerton	AM PM	8∅ Traffic Signal	39.3 s/v 37.1 s/v	D D
3. Euclid Street at Rosecrans Avenue	D	Fullerton	AM PM	3∅ Traffic Signal	29.4 s/v 19.5 s/v	C B
4. Beach Boulevard at Hillsborough Drive	E	La Mirada/ Caltrans	AM PM	5∅ Traffic Signal	0.768 0.738	C C
5. Beach Boulevard at Hillsborough Park Apt.	E	La Habra/ Caltrans	AM PM	3∅ Traffic Signal	0.533 0.503	A A
6. Idaho Street at Sandlewood Avenue	D	La Habra	AM PM	3∅ Traffic Signal	0.485 0.528	A A
7. Euclid Street at Sandlewood Avenue	D	La Habra	AM PM	Two-Way Stop	**69.4 s/v** **41.4 s/v**	**F** **E**
8. Santa Gertrudes Avenue at Imperial Highway	E	La Mirada	AM PM	8∅ Traffic Signal	0.852 0.871	D D
9. 1st Avenue at Imperial Highway	D	La Mirada	AM PM	5∅ Traffic Signal	0.706 0.594	C A
10. Beach Boulevard at Imperial Highway	E	La Habra/ Caltrans	AM PM	8∅ Traffic Signal	0.786 0.834	C D
11. La Habra Hills Drive at Imperial Highway	E	La Habra/ Caltrans	AM PM	6∅ Traffic Signal	0.501 0.653	A B
12. Idaho Street at Imperial Highway	E	La Habra/ Caltrans	AM PM	8∅ Traffic Signal	0.692 0.728	B C
13. Euclid Street at Imperial Highway	E	La Habra/ Caltrans	AM PM	8∅ Traffic Signal	0.795 0.715	C C
14. Harbor Boulevard at Imperial Highway	E	La Habra/ Fullerton/Caltrans	AM PM AM PM	8∅ Traffic Signal	0.759 0.683 43.1 s/v 44.4 s/v	C B D D

Notes:

- s/v = seconds per vehicle (delay)
- **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 3-6 (CONTINUED)
EXISTING PEAK HOUR LEVELS OF SERVICE

Key Intersections		Minimum Acceptable LOS	Jurisdiction	Time Period	Control Type	ICU/HCM	LOS
15.	Beach Boulevard at Lambert Road	E	La Habra/ Caltrans	AM PM	8∅ Traffic Signal	0.949 0.900	E D
16.	Idaho Street at Lambert Road	D	La Habra	AM PM	8∅ Traffic Signal	0.814 0.775	D C
17.	Euclid Street at Lambert Road	D	La Habra	AM PM	5∅ Traffic Signal	0.702 0.799	C C
18.	Harbor Boulevard at Lambert Road	D	La Habra	AM PM	8∅ Traffic Signal	0.696 0.777	B C
19.	La Mirada Boulevard at Imperial Highway	E	La Mirada	AM PM	8∅ Traffic Signal	0.900 0.859	D D
20.	Beach Boulevard at La Mirada Blvd/Malvern Ave	D	Buena Park/ Caltrans	AM PM	8∅ Traffic Signal	0.757 0.805	C D
21.	Beach Boulevard at La Habra Boulevard	E	La Habra/ Caltrans	AM PM	8∅ Traffic Signal	0.729 0.801	C D
22.	Valley View Avenue at Imperial Highway	E	La Mirada	AM PM	8∅ Traffic Signal	0.903 0.876	E D
23.	Beach Boulevard at Artesia Boulevard	D	Buena Park/ Caltrans	AM PM	8∅ Traffic Signal	0.795 0.748	C C
24.	Beach Boulevard at Commonwealth Avenue	D	Buena Park/ Caltrans	AM PM	8∅ Traffic Signal	0.589 0.613	A B
25.	I-5 NB Ramps at Auto Center Drive	D	Buena Park/ Caltrans	AM PM	6∅ Traffic Signal	0.350 0.477	A A
26.	Beach Boulevard at Auto Center Drive	D	Buena Park/ Caltrans	AM PM	8∅ Traffic Signal	0.720 0.677	C B
27.	Beach Boulevard at I-5 SB Ramps	D	Buena Park/ Caltrans	AM PM	3∅ Traffic Signal	0.691 0.675	B B
28.	Beach Boulevard at Whittier Boulevard	E	La Habra/ Caltrans	AM PM	6∅ Traffic Signal	0.686 0.758	B C

Notes:

- s/v = seconds per vehicle (delay)
- **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 3-6 (CONTINUED)
EXISTING PEAK HOUR LEVELS OF SERVICE

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	Control Type	ICU/HCM	LOS
29. Hacienda Road at Whittier Boulevard	E	La Habra/ Caltrans	AM PM	5∅ Traffic Signal	0.849 0.834	D D
30. Walnut Street at Imperial Highway	E	La Habra/ Caltrans	AM PM	One-Way Stop	**957.8 s/v** 44.6 s/v	**F** E
31. Gilbert Street at Malvern Avenue	D	Fullerton	AM PM	8∅ Traffic Signal	45.9 s/v 43.6 s/v	D D
32. Euclid Street at Malvern Avenue	D	Fullerton	AM PM	8∅ Traffic Signal	41.8 s/v 43.3 s/v	D D

Notes:

- s/v = seconds per vehicle (delay)
- **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 3-7
EXISTING ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Minimum Acceptable LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions		
						Daily Volume	V/C Ratio	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	D	La Habra	4	Primary	37,500	**35,387**	**0.944**	**E**
B. Lambert Road between Idaho Street and Euclid Street	D	La Habra	4	Primary	37,500	**37,387**	**0.997**	**E**
C. Lambert Road between Euclid Street and Harbor Boulevard	D	La Habra	4	Primary	37,500	**36,014**	**0.960**	**E**
D. Beach Boulevard between Lambert Road and Imperial Highway	E	La Habra	6	Major	56,300	51,446	0.914	E
E. Idaho Street between Lambert Road and Imperial Highway	D	La Habra	4	Primary	37,500	23,702	0.632	B
F. Euclid Street between Lambert Road and Imperial Highway	D	La Habra	4	Primary	37,500	17,898	0.477	A
G. Harbor Boulevard between Lambert Road and Imperial Highway	D	La Habra	6	Major	56,300	35,083	0.623	B
H. Imperial Highway between Santa Gertrudes Avenue and 1st Avenue	D	La Mirada	6	Major	54,000	36,239	0.671	B
I. Imperial Highway between 1st Avenue and Beach Boulevard	E	La Habra	6	Major	56,300	36,310	0.645	B
J. Imperial Highway between Beach Boulevard and La Habra Hills Drive	E	La Habra	6	Smart Street	60,200	49,867	0.828	D
K. Imperial Highway between La Habra Hills Drive and Idaho Street	E	La Habra	6	Smart Street	60,200	50,687	0.842	D

TABLE 3-7 (CONTINUED)
EXISTING ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment		Minimum Acceptable LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions		
							Daily Volume	V/C Ratio	LOS
L.	Imperial Highway between Idaho Street and Euclid Street	E	La Habra	6	Smart Street	60,200	50,844	0.845	D
M.	Imperial Highway between Euclid Street and Harbor Boulevard	E	La Habra	6	Smart Street	60,200	52,284	0.869	D
N.	Idaho Street between Imperial Highway and Sandlewood Avenue	D	La Habra	4	Primary	37,500	20,217	0.539	A
O.	Euclid Street between Sandlewood Avenue and Imperial Highway	D	La Habra	4	Primary	37,500	21,596	0.576	A
P.	Gilbert Street between Sandlewood Avenue and Rosecrans Avenue	D	Fullerton	4	Primary	37,500	15,440	0.412	A
Q.	Euclid Street between Sandlewood Avenue and Rosecrans Avenue	D	Fullerton	4	Primary	37,500	22,344	0.596	A
R.	Beach Boulevard between Imperial Highway and Hillsborough Apt.	E	La Habra	6	Smart Street	60,200	55,337	0.919	E
S.	Beach Boulevard between Hillsborough Apt. and Hillsborough Drive	E	La Habra	6	Smart Street	60,200	58,110	0.965	E
T.	Beach Boulevard between Hillsborough Drive and Rosecrans Avenue	E	La Mirada	6	Smart Street	57,780	53,636	0.928	E
U.	Rosecrans Avenue between Beach Boulevard and Gilbert Street	D	Fullerton	4	Primary	37,500	20,815	0.555	A
V.	Rosecrans Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Secondary	25,000	15,137	0.605	B

TABLE 3-7 (CONTINUED)
EXISTING ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment		Minimum Acceptable LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions		
							Daily Volume	V/C Ratio	LOS
W-I.	Sandlewood Avenue East of Idaho Street	D	La Habra	2	Commuter	5,400	3,600	0.667	B
W-II.	Sandlewood Avenue between Idaho Street and Euclid Street	D	La Habra	2	Commuter	5,400	1,931	0.358	A
W-III.	Sandlewood Avenue West of Euclid Street	D	La Habra	2	Commuter	5,400	1,296	0.240	A
X.	Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard	D	Buena Park	6	Smart Street	60,200	44,047	0.732	C
Y.	Imperial Highway between Santa Gertrudes Ave and La Mirada Blvd	E	La Mirada	6	Major	54,000	31,542	0.584	A
Z.	Beach Boulevard between Lambert Road and La Habra Boulevard.	E	La Habra	6	Major	56,300	42,893	0.762	C
AA.	Imperial Highway between Valley View Avenue and La Mirada Boulevard	E	La Mirada	6	Major	54,000	30,552	0.566	A
BB.	Beach Boulevard between La Mirada Blvd/Malvern Ave and Artesia Blvd	D	Buena Park	6	Smart Street	60,200	**71,766**	**1.192**	**F**
CC.	Beach Boulevard between Artesia Boulevard and Commonwealth Avenue	D	Buena Park	6	Smart Street	60,200	**56,837**	**0.944**	**E**
DD.	Beach Boulevard between Commonwealth Avenue and Auto Center Drive	D	Buena Park	6	Smart Street	60,200	**58,783**	**0.976**	**E**
EE.	Auto Center Drive between Beach Boulevard and I-5 NB Ramps	D	Buena Park	4	Primary	37,500	12,592	0.336	A

TABLE 3-7 (CONTINUED)
EXISTING ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment		Minimum Acceptable LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions		
							Daily Volume	V/C Ratio	LOS
FF.	Beach Boulevard between Auto Center Drive and I-5 SB Ramps	D	Buena Park	6	Smart Street	60,200	**61,904**	**1.028**	**F**
GG.	Beach Boulevard between La Habra Boulevard and Whittier Boulevard.	E	La Habra	6	Major	56,300	35,120	0.624	B
HH.	Whittier Boulevard between Beach Boulevard and Hacienda Road	D	La Habra	4	Primary	37,500	**47,059**	**1.255**	**F**
II.	Gilbert Street between Rosecrans Avenue and Malvern Avenue	D	Fullerton	4	Primary	37,500	23,527	0.627	B
JJ.	Euclid Street between Rosecrans Avenue and Malvern Avenue	D	Fullerton	4	Primary	37,500	31,442	0.838	D
KK.	Malvern Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Primary	37,500	23,982	0.640	B

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed Project, a multi-step process has been utilized. The first step is trip generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the proposed Project is isolated by comparing operational (LOS) conditions at selected key intersections/roadway segments using expected future traffic volumes with and without forecast project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the project's impacts identified.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the 10th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2017].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the Project. As shown, the trip generation potential of the residential component of the Project was estimated using trip rates for ITE Land Use 210: Single Family Detached Housing and ITE Land Use 230: Residential Condominiums/Townhomes. The trip generation for the retail component of the proposed Project was estimated using trip rates for ITE Land Use 850: Supermarket and ITE Land Use 932: High-Turnover (Sit-Down) Restaurant. It should be noted that the trip rates for ITE Land Use 820: Shopping Center and ITE Land Use 931: Quality Restaurant were considered for the retail component of the proposed Project; however these trip rates were not utilized as the trip rates for ITE Land Use 850: Supermarket and ITE Land Use 932: High-Turnover (Sit-Down) Restaurant provide a more conservative trip generation forecast. The trip generation potential of the community center component of the proposed Project was estimated using trip rates for ITE Land Use 495: Recreational Community Center. For the open space/parkland portion of the proposed Project, trips were developed using SANDAG Neighborhood Park (Undeveloped) trip rates, due to unavailable ITE data. For the existing Westridge Golf Club, existing traffic counts were collected at the site in in September 2018 and an average of the weekday data was taken to establish the site's existing trip credit. The weekday data collected and averaged consisted of six days that occurred on a Tuesday, Wednesday or Thursday and did not include traffic associated with the Westridge Residential Community. ***Appendix D*** contains a summary of the existing golf course data. *Appendix D* also contains a summary of the events that occurred at the Westridge Golf Club during the data collection. Based on information provided by Westridge Golf Club staff, the events shown in *Appendix D* are typical events that commonly occur on the site. The use of the above trip rates provides a conservative trip generation forecast.

Table 5-2 summarizes the Project's trip generation forecast for a typical weekday. Review of the top portion of *Table 5-2* indicates that the residential component (i.e. PA's #1, #2, #3 and #4) of the Project is forecast to generate 3,676 daily trips, with 272 trips (66 inbound, 206 outbound) produced in the AM peak hour and 355 trips (224 inbound, 131 outbound) produced in the PM peak hour.

Review of the middle portion of *Table 5-2* indicates that the retail components (i.e. PA #5) of the proposed Project are forecast to generate 2,178 daily trips, with 126 trips (72 inbound, 54 outbound) produced in the AM peak hour and 189 trips (105 inbound, 84 outbound) produced in the PM peak hour. Please note that the aforementioned trip generation does not include any adjustments for internal capture and pass-by as recommended by ITE, thus providing a more conservative trip generation forecast. Although not utilized in the trip generation forecast, it should be noted that the *Trip Generation Handbook, 3rd Edition*, published by ITE (2014) recommends a PM pass-by

percentage of 36% and 43% for supermarket and high-turnover restaurant land uses, respectively. Therefore, this traffic impact analysis report will overestimate the trips generated by the proposed Project.

The recreation component (i.e. PA #6) of the proposed Project is forecast to generate 859 daily trips, with 67 trips (39 inbound, 28 outbound) produced in the AM peak hour and 71 trips (34 inbound, 37 outbound) produced in the PM peak hour.

Review of the lower portion of *Table 5-2* shows that overall, the proposed Project is forecast to generate 6,713 daily trips, with 465 trips (177 inbound, 288 outbound) produced in the AM peak hour and 615 trips (363 inbound, 252 outbound) produced in the PM peak hour on a "typical" weekday.

For the existing land use, a review of the lower portion of *Table 5-2* shows that the existing trip generation potential of the Westridge Golf Club based on existing counts totals 547 weekday daily trips, with 32 trips (14 inbound, 18 outbound) produced in the AM peak hour and 34 trips (12 inbound, 22 outbound) produced in the PM peak hour.

As shown at the bottom of *Table 5-2,* comparison of the trips generated by the proposed Project to the trip generation potential of the Existing Land Use shows that the proposed Project would result in an additional 6,166 weekday daily trips, 433 more AM peak hour trips and 581 more PM peak hour trips. Given that no reductions for internal capture and pass-by were utilized in the proposed project's trip generation forecast, this traffic impact analysis report will overestimate the trips generated by the proposed Project.

5.2 Project Traffic Distribution and Assignment

Figures 5-1, 5-2, 5-3, 5-4, 5-5 and ***5-6*** illustrate the general, directional traffic distribution patterns for PA #1, PA #2, PA #3, PA #4, PA #5 and PA#6 (recreation and park component) of the proposed Project, respectively. Project traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the following considerations:

- the site's proximity to major traffic carriers (i.e. Beach Blvd, Imperial Highway, Idaho St, etc.),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- project select zone model runs,
- ingress/egress availability at the project site (including the proposed project gates), and
- input from City staff.

The anticipated AM and PM peak hour traffic volumes associated with the proposed Project are presented in ***Figures 5-7*** and ***5-8***, respectively. ***Figure 5-9*** presents the daily project traffic volumes for the thirty-seven (37) key roadway segments. The traffic volume assignments presented in *Figures 5-7, 5-8* and *5-9* reflect the traffic distribution characteristics shown in *Figures 5-1* through *5-6* and the net traffic generation forecast presented at the bottom of *Table 5-2.* It should be noted

that the golf course trip credit on La Habra Hills Drive was only applied to the applicable Planning Areas (i.e. PA #2, PA #3 and PA #6).

5.3 Existing Plus Project Traffic Conditions

The existing plus project traffic conditions have been generated based upon existing conditions and the estimated project traffic. These forecast traffic conditions have been prepared pursuant to the California Environmental Quality Act (CEQA) guidelines, which require that the potential impacts of a Project be evaluated upon the circulation system as it currently exists. This traffic volume scenario and the related intersection capacity analyses will identify the roadway improvements necessary to mitigate the direct traffic impacts of the Project, if any.

Figures 5-10 and ***5-11*** present projected AM and PM peak hour traffic volumes at the thirty-two (32) key study intersections with the addition of the trips generated by the proposed Project to existing traffic volumes, respectively. ***Figure 5-12*** presents the existing plus project daily traffic volumes for the thirty-seven (37) key roadway segments.

TABLE 5-1

PROJECT TRAFFIC GENERATION RATES[18]

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Rates:							
▪ 210: Single-Family Detached Housing (TE/DU)	9.44	25%	75%	0.74	63%	37%	0.99
▪ 220: Multifamily Housing Low Rise (TE/DU)	7.32	23%	77%	0.46	63%	37%	0.56
▪ Neighborhood Park (TE/Acre)[19]	5.00	50%	50%	0.65	50%	50%	0.45
▪ 495: Recreational Community Center (TE/1000 SF)	28.82	66%	34%	1.76	47%	53%	2.31
▪ 820: Shopping Center (TE/1000 SF)	37.75	62%	38%	0.94	48%	52%	3.81
▪ 850: Supermarket (TE/1000 SF)	106.78	60%	40%	3.82	51%	49%	9.24
▪ 931: Quality Restaurant (TE/1000 SF)	83.84	50%	50%	0.73	67%	33%	7.80
▪ 932: High-Turnover (Sit-Down) Restaurant (TE/1000 SF)	112.18	55%	45%	9.94	62%	38%	9.77

[18] Source*: Trip Generation, 10th Edition*, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2017)].

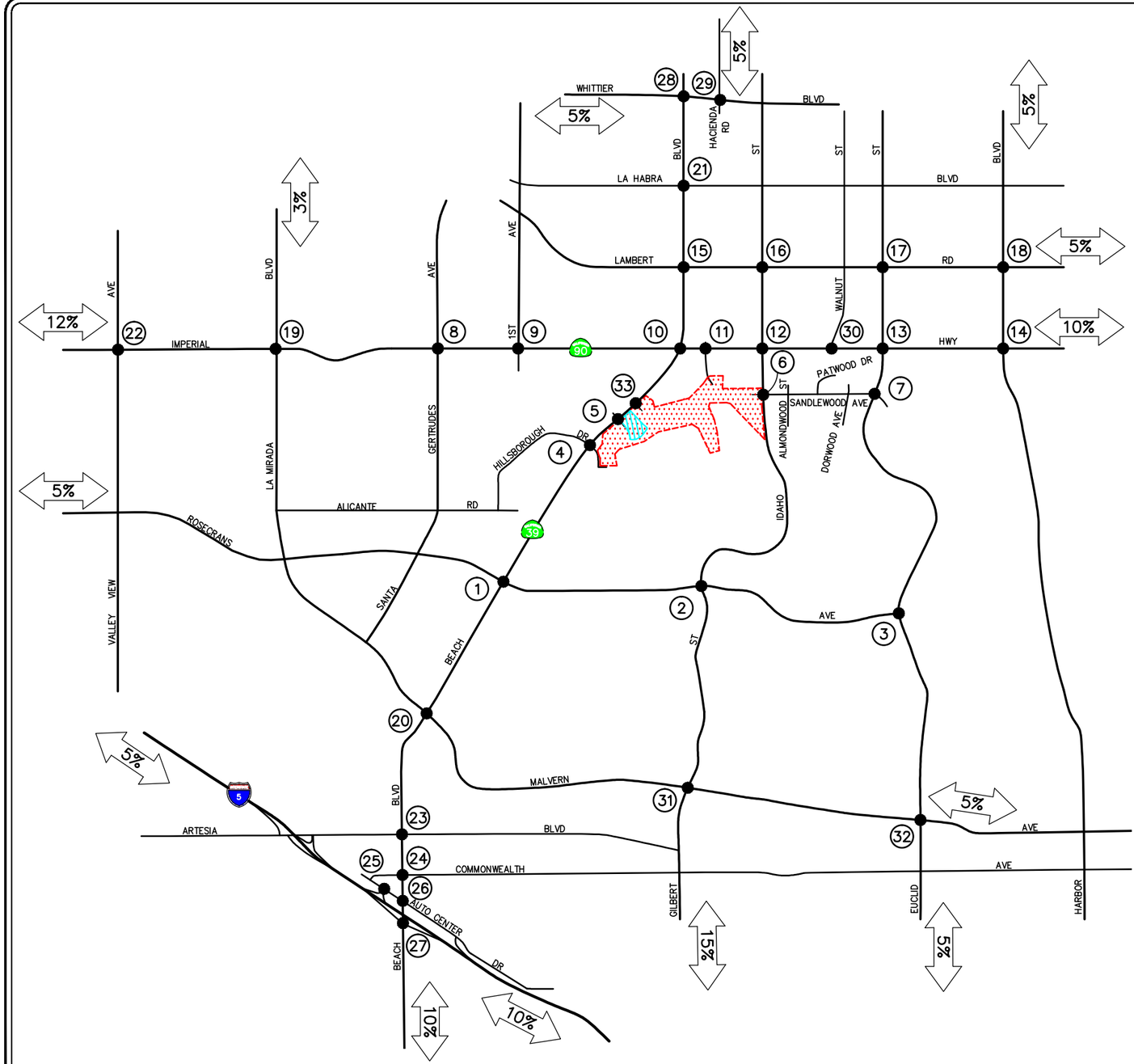
[19] Source: *(Not So) Brief Guide of Vehicle Traffic Generation Rates for the San Diego Area* published by SANDAG (April 2002).

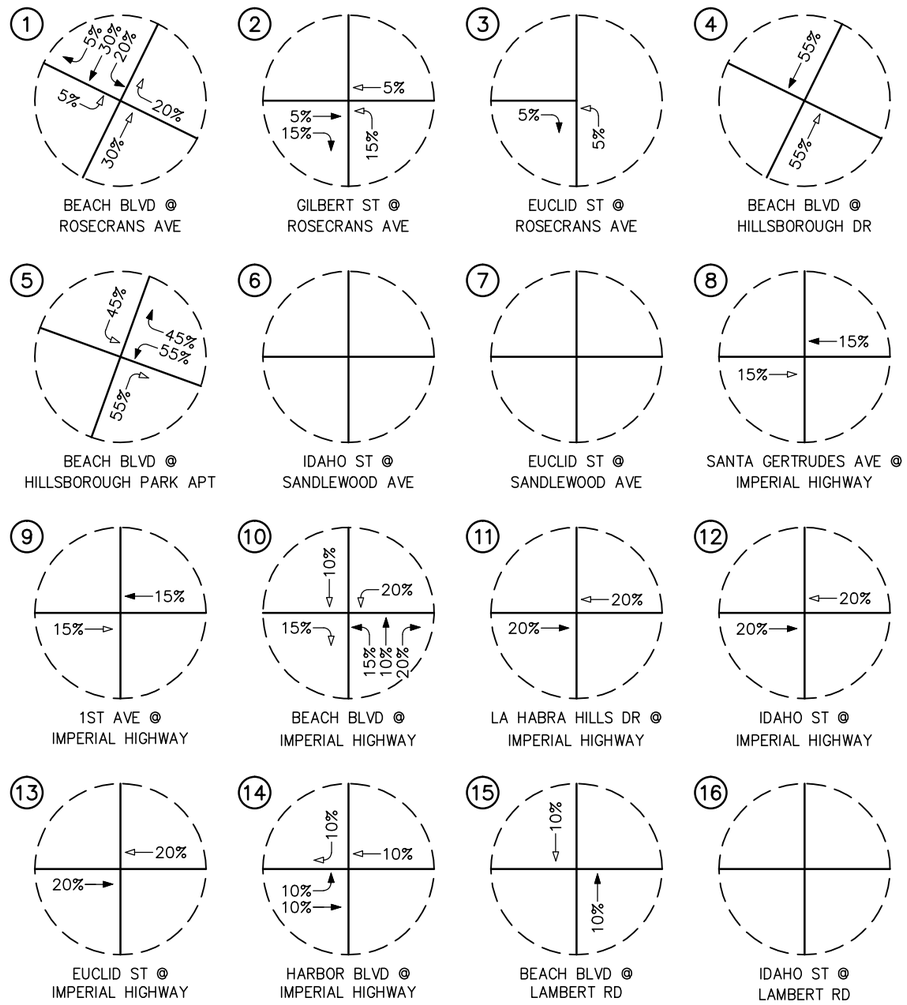
TABLE 5-2
PROJECT TRAFFIC GENERATION FORECAST

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project – Residential Components							
❑ PA#1 - Townhomes/Condominiums (145 DU)	1,061	15	52	67	51	30	81
❑ PA#2 - Single-Family Homes – 50 x 80 Lots (118 DU)	1,114	22	65	87	74	43	117
❑ PA#3 - Single-Family Homes – 47 x 70 Lots (77 DU)	727	14	43	57	48	28	76
❑ PA#4 - Single-Family Homes – 55 x 90 Lots (82 DU)	774	15	46	61	51	30	81
Subtotal Residential Components	***3,676***	***66***	***206***	***272***	***224***	***131***	***355***
Proposed Project – Retail Components							
❑ PA#5 – Specialty Grocery Store (12,000 SF)	1,281	28	18	46	57	54	111
❑ PA#5 – High-Turnover Restaurant (8,000 SF)	897	44	36	80	48	30	78
Subtotal Retail Components	***2,178***	***72***	***54***	***126***	***105***	***84***	***189***
Proposed Project – Recreation Components							
❑ PA#6 – Recreation Community Center (22,500 SF)	648	26	14	40	24	28	52
❑ PA#6 – Passive Park (42.1 ± Acres)	211	13	14	27	10	9	19
Subtotal Recreation Components	***859***	***39***	***28***	***67***	***34***	***37***	***71***
Total Project Trip Generation	**6,713**	**177**	**288**	**465**	**363**	**252**	**615**
Existing Land Use							
▪ Westridge Golf Club Driveway Counts[20]	547	14	18	32	12	22	34
Net Difference Trip Generation Forecast Proposed Project vs. Existing Land Use	**6,166**	**163**	**270**	**433**	**351**	**230**	**581**

Notes:
- TE/DU = Trip end per dwelling unit
- TE/1000 SF = Trip end per 1000 square-feet of development

[20] Source: Traffic counts conducted at the site by TSI in September 2018. The values shown in *Table 5-2* are an average of all the weekday data collected (i.e. data consisted of six total days that occurred on a Tuesday, Wednesday and Thursday).





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LINSCOTT LAW & GREENSPAN engineers

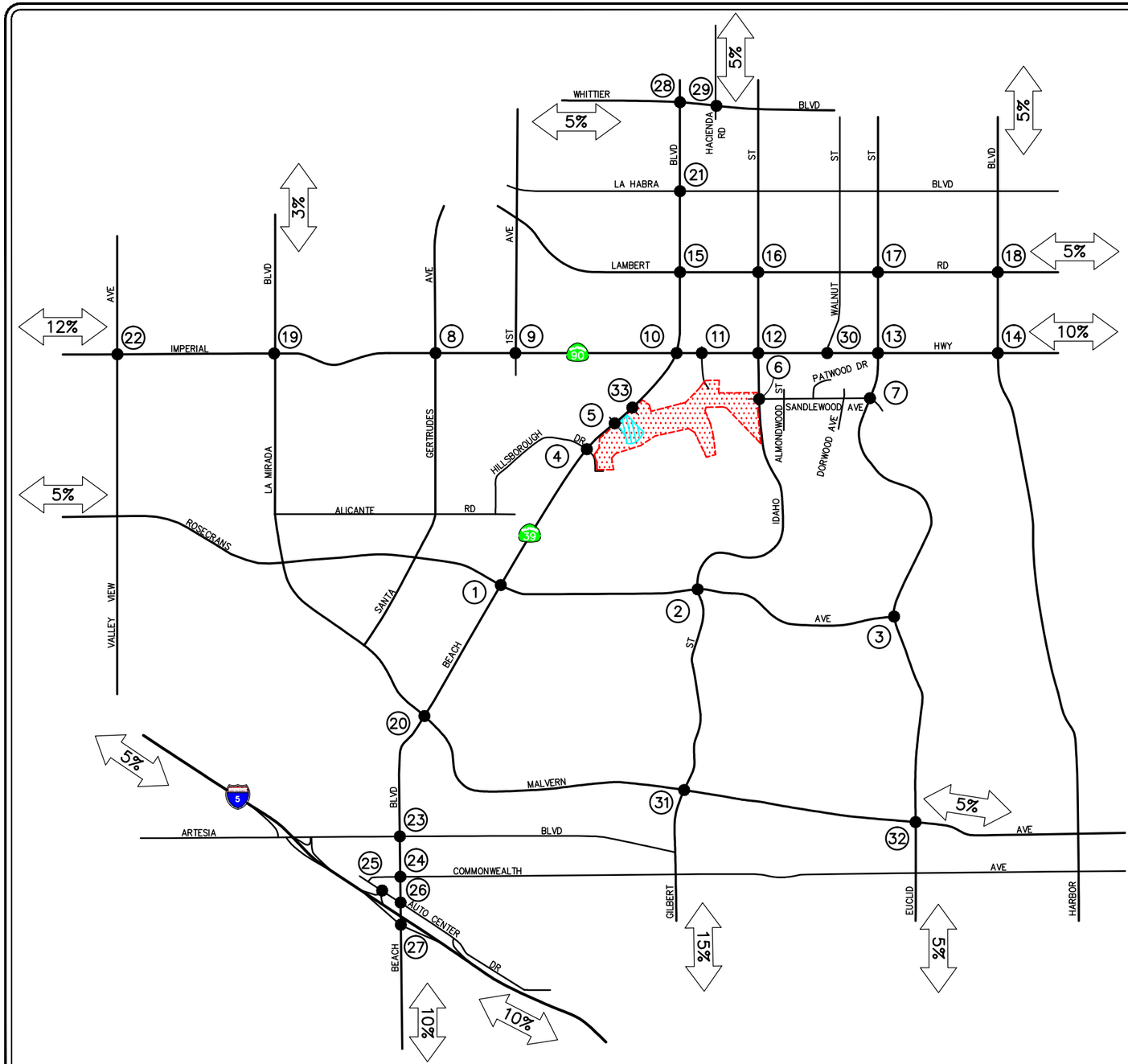
N NO SCALE

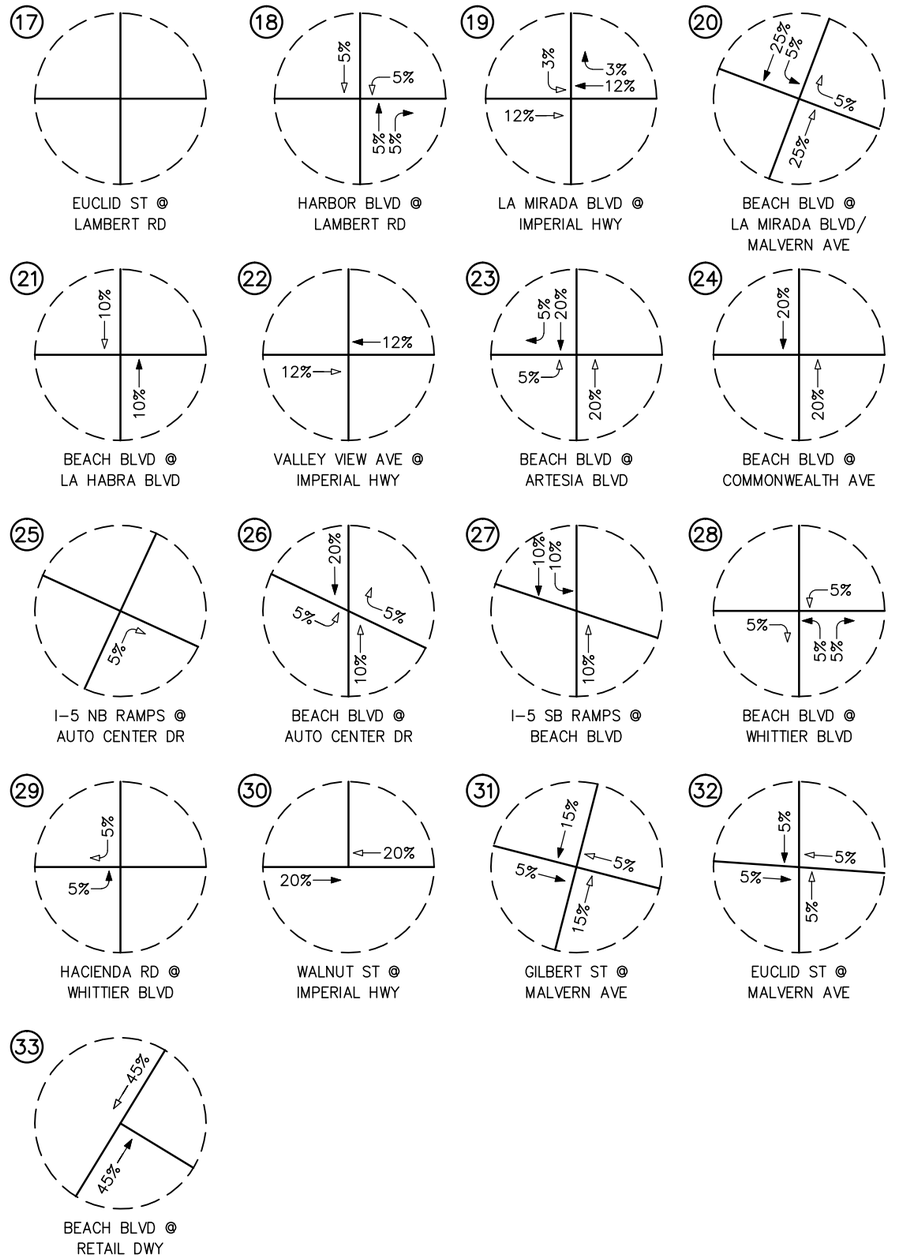
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#1 (145 DU)
= PROJECT SITE

FIGURE 5-1A

PA#1 PROJECT TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (145 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

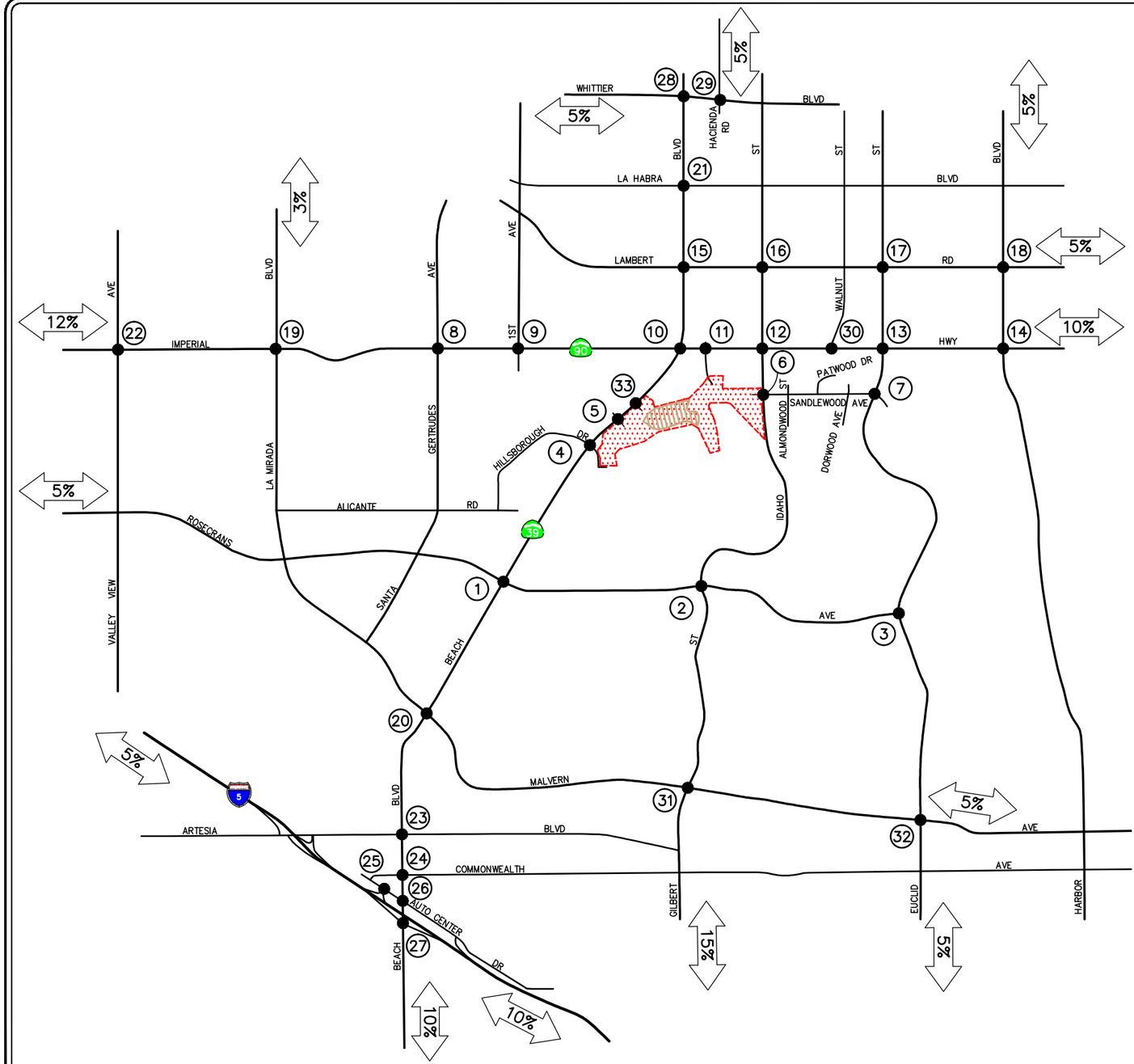
N NO SCALE

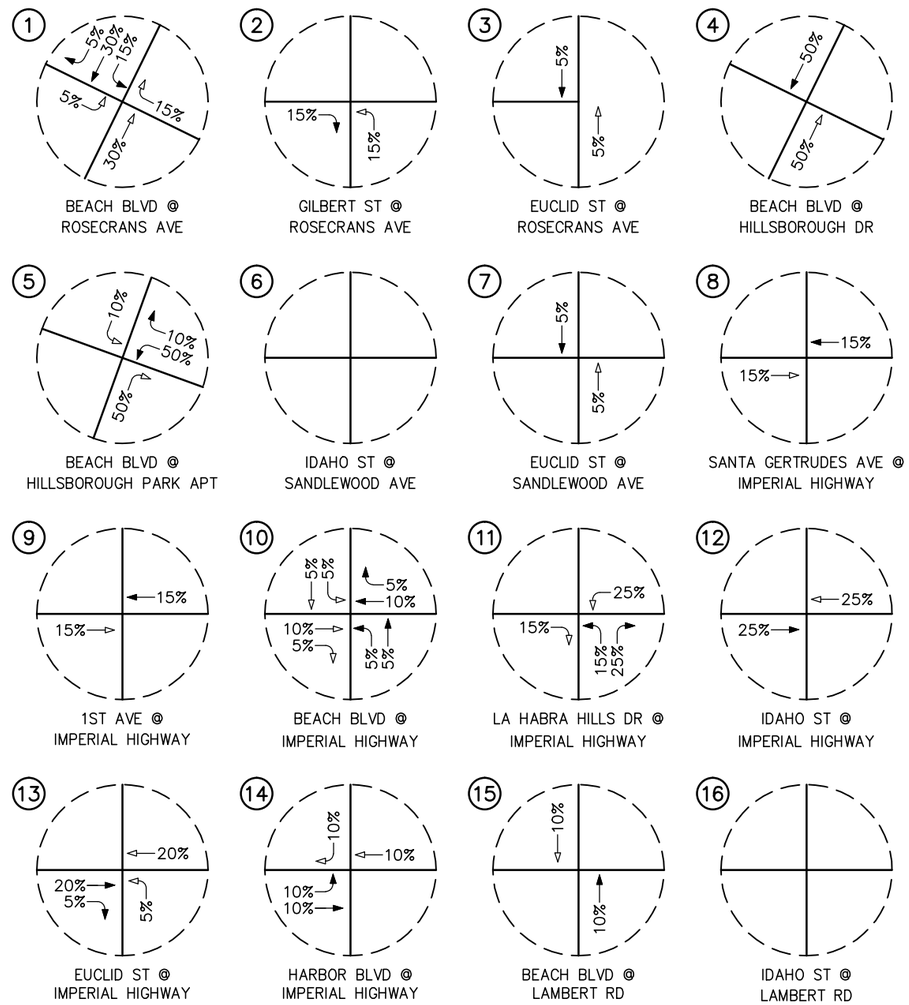
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#1 (145 DU)
= PROJECT SITE

FIGURE 5-1B

PA#1 PROJECT TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (145 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY
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= OUTBOUND PERCENTAGE
= PA#2 (118 DU)
= PROJECT SITE

FIGURE 5-2A

PA#2 PROJECT TRAFFIC DISTRIBUTION PATTERN - RESIDENTIAL (118 DU)

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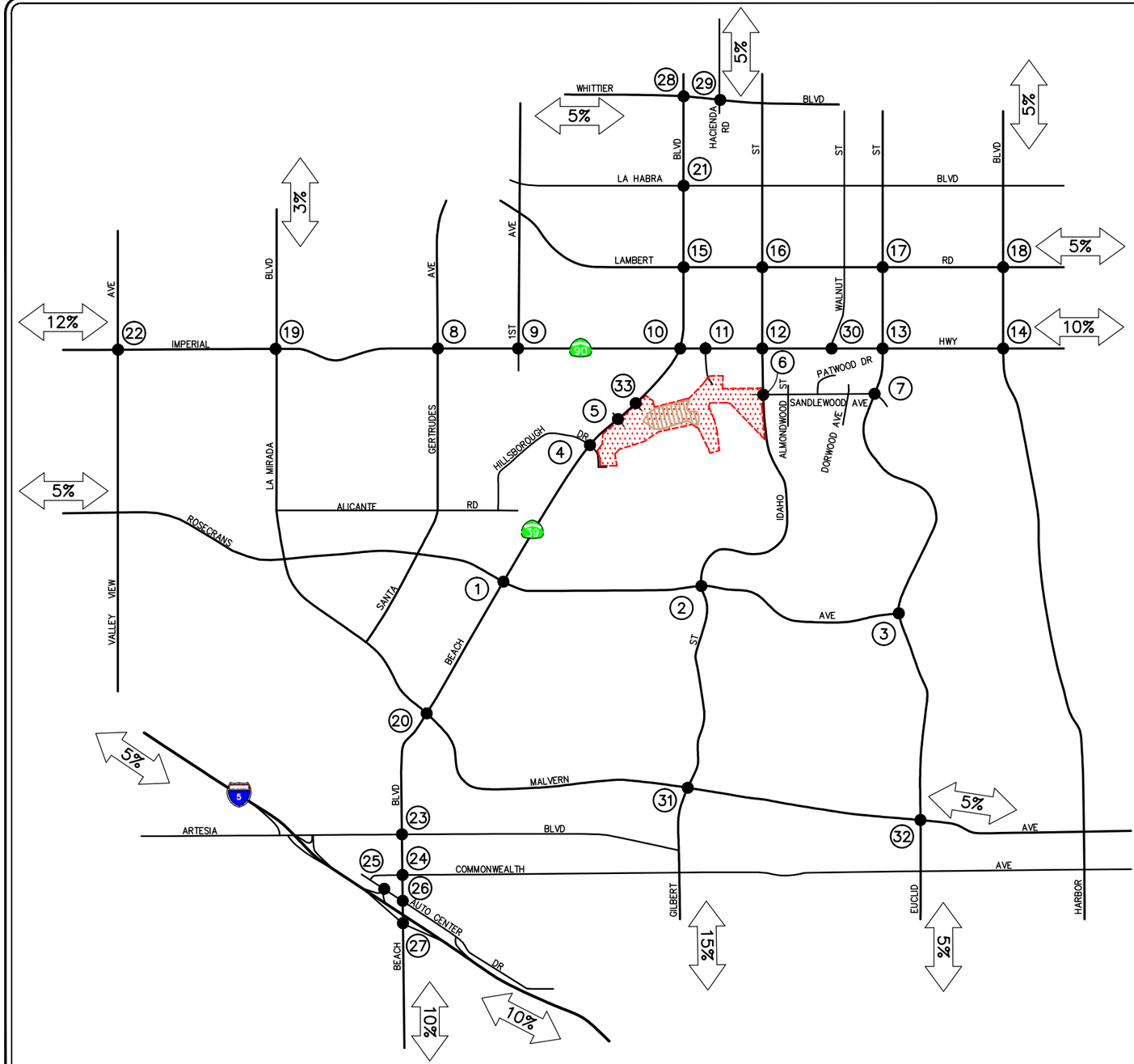

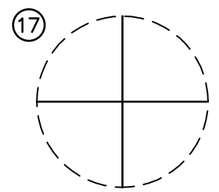

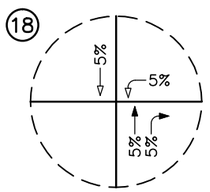

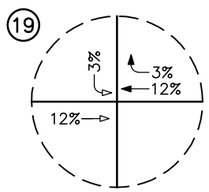

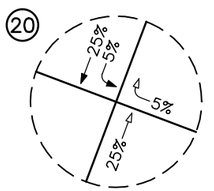

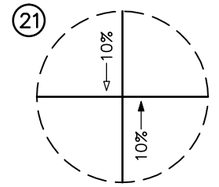

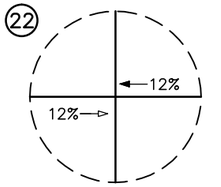

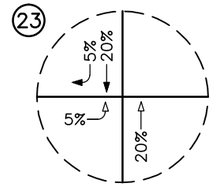

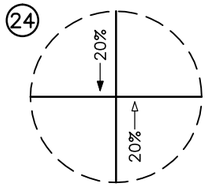

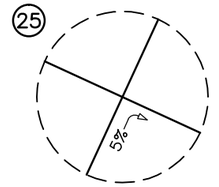

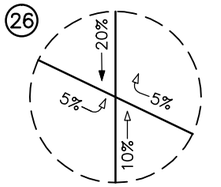

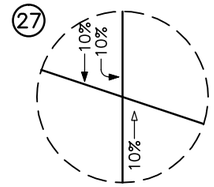

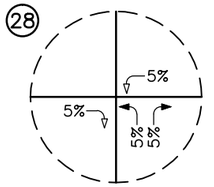

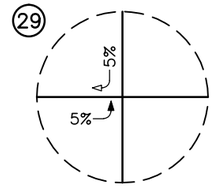

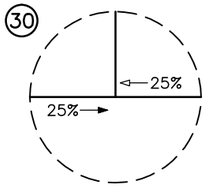

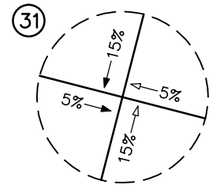

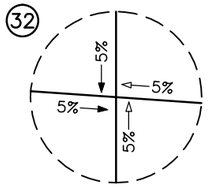

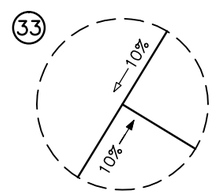

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LINSCOTT LAW & GREENSPAN engineers

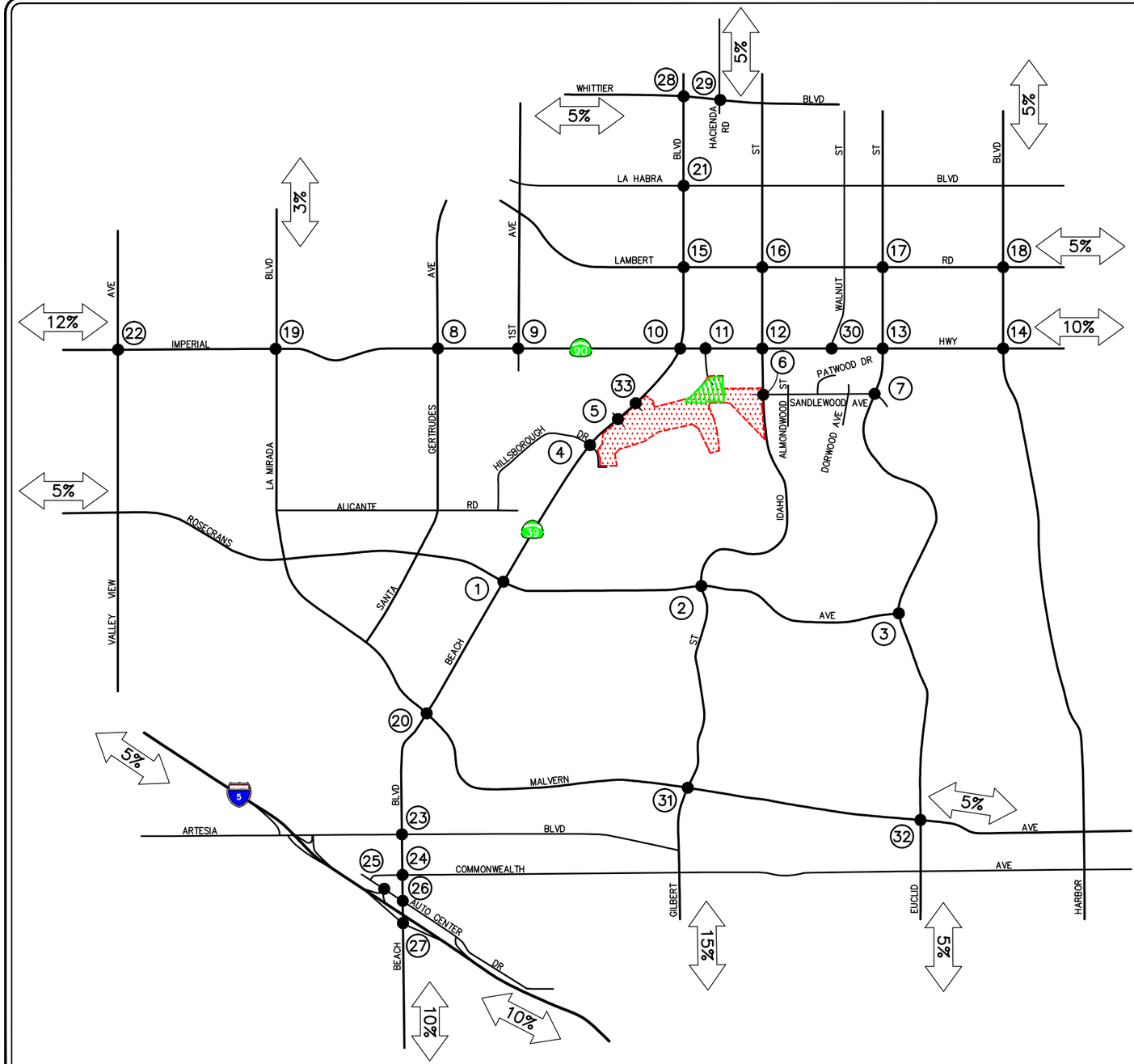
N NO SCALE

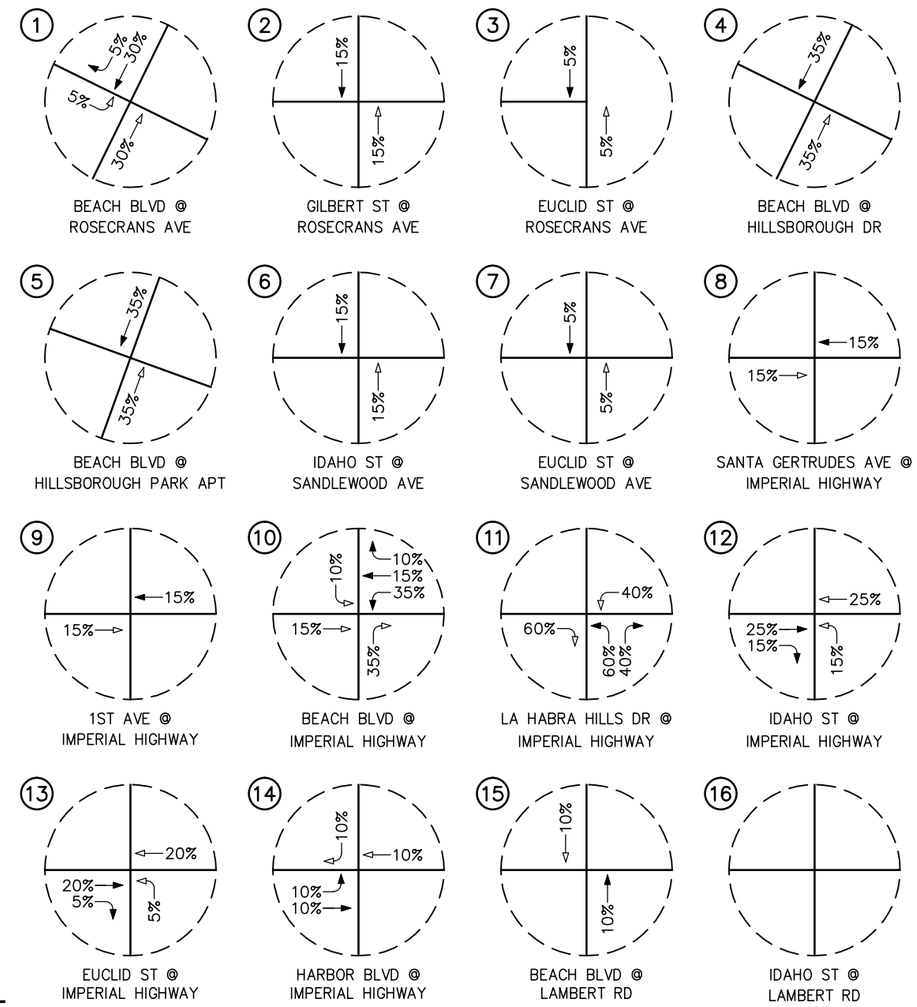
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#2 (118 DU)
= PROJECT SITE

FIGURE 5-2B

PA#2 PROJECT TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (118 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

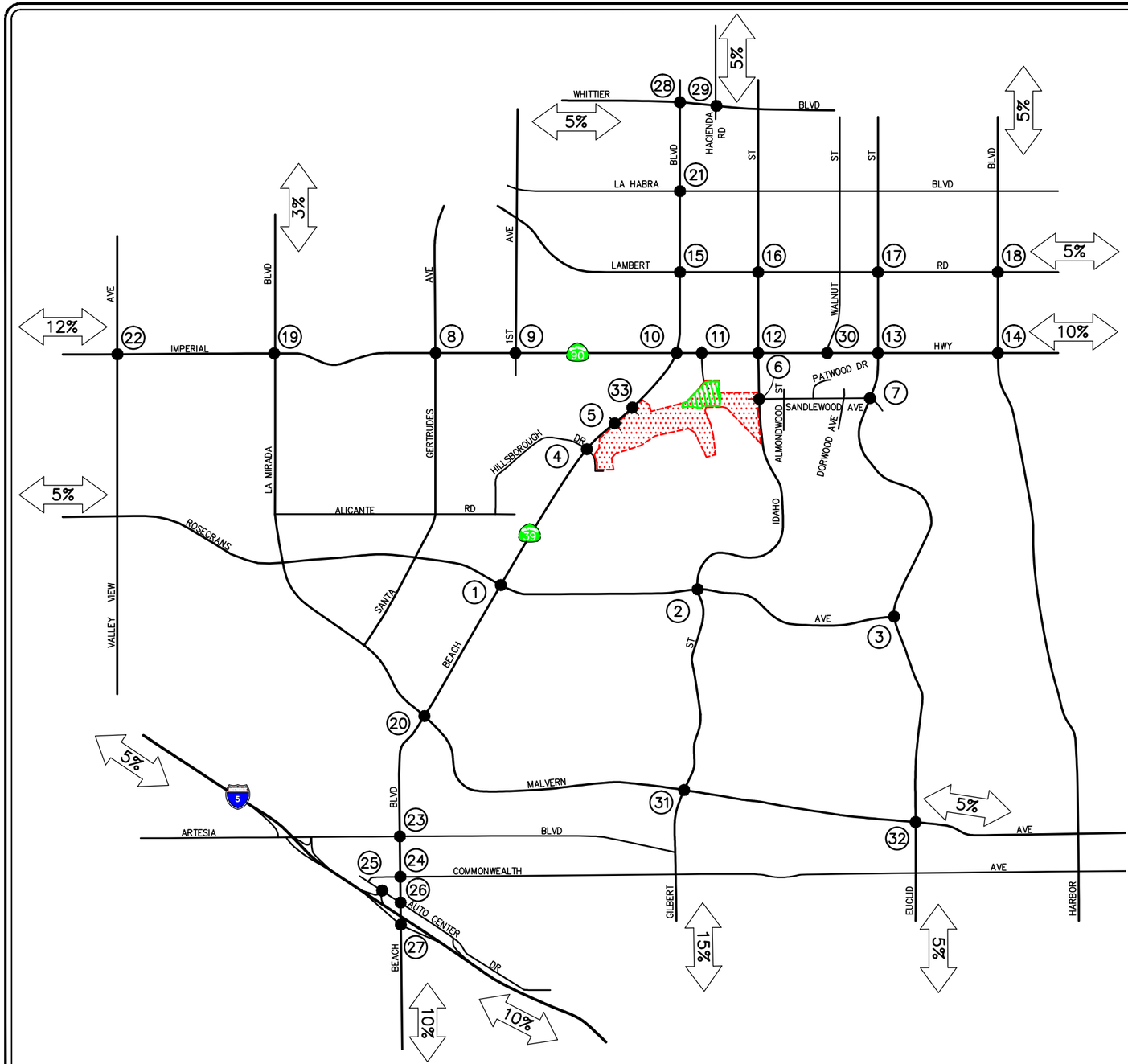
N NO SCALE

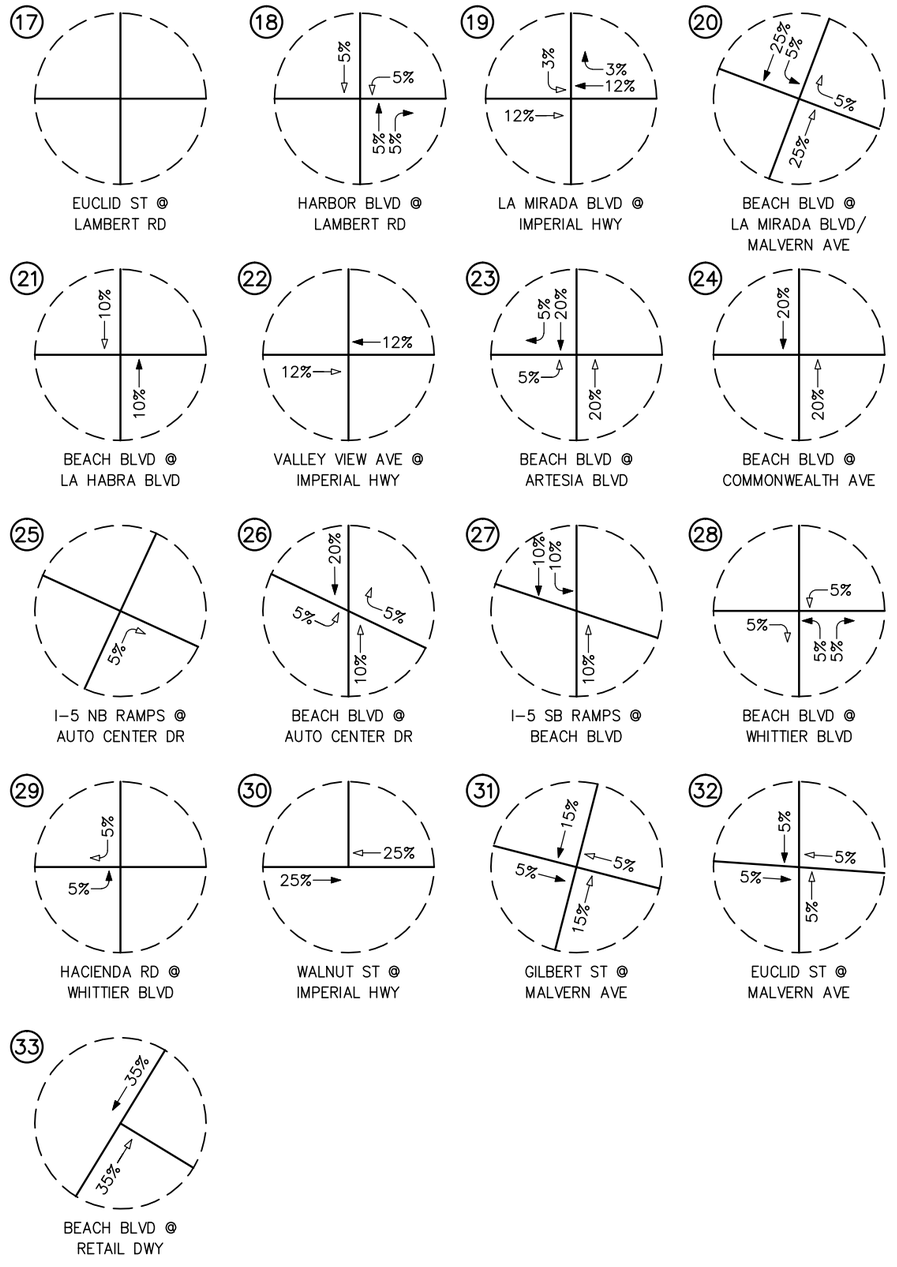
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#3 (77 DU)
= PROJECT SITE

FIGURE 5-3A

PA#3 PROJECT TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (77 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

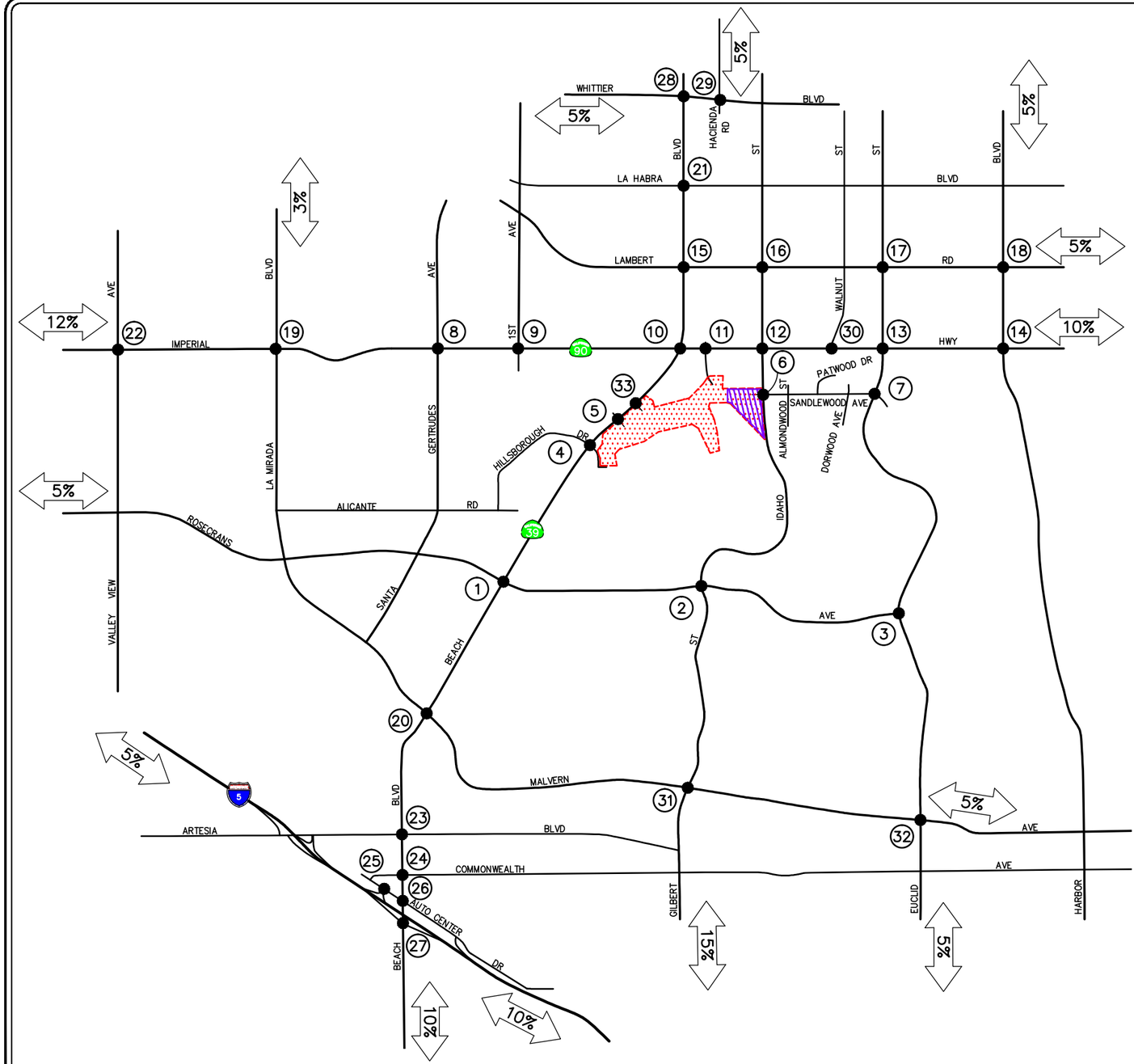
N NO SCALE

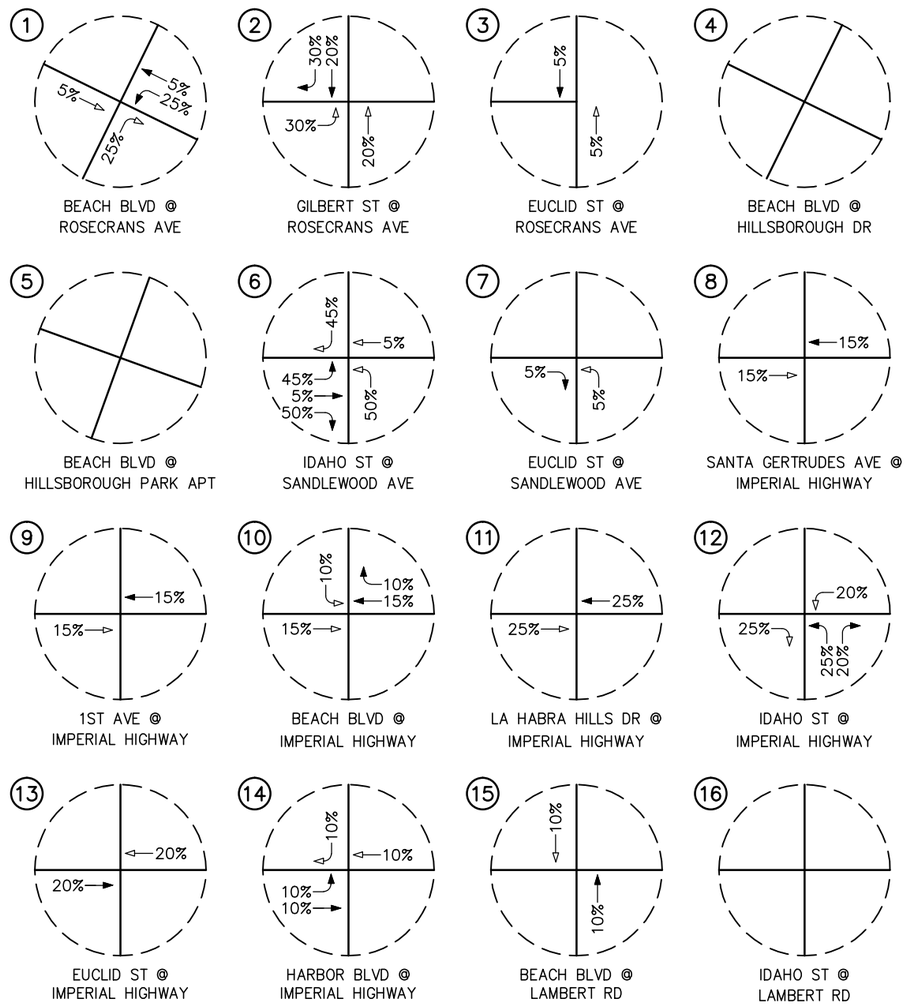
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#3 (77 DU)
= PROJECT SITE

FIGURE 5-3B

PA#3 PROJECT TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (77 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

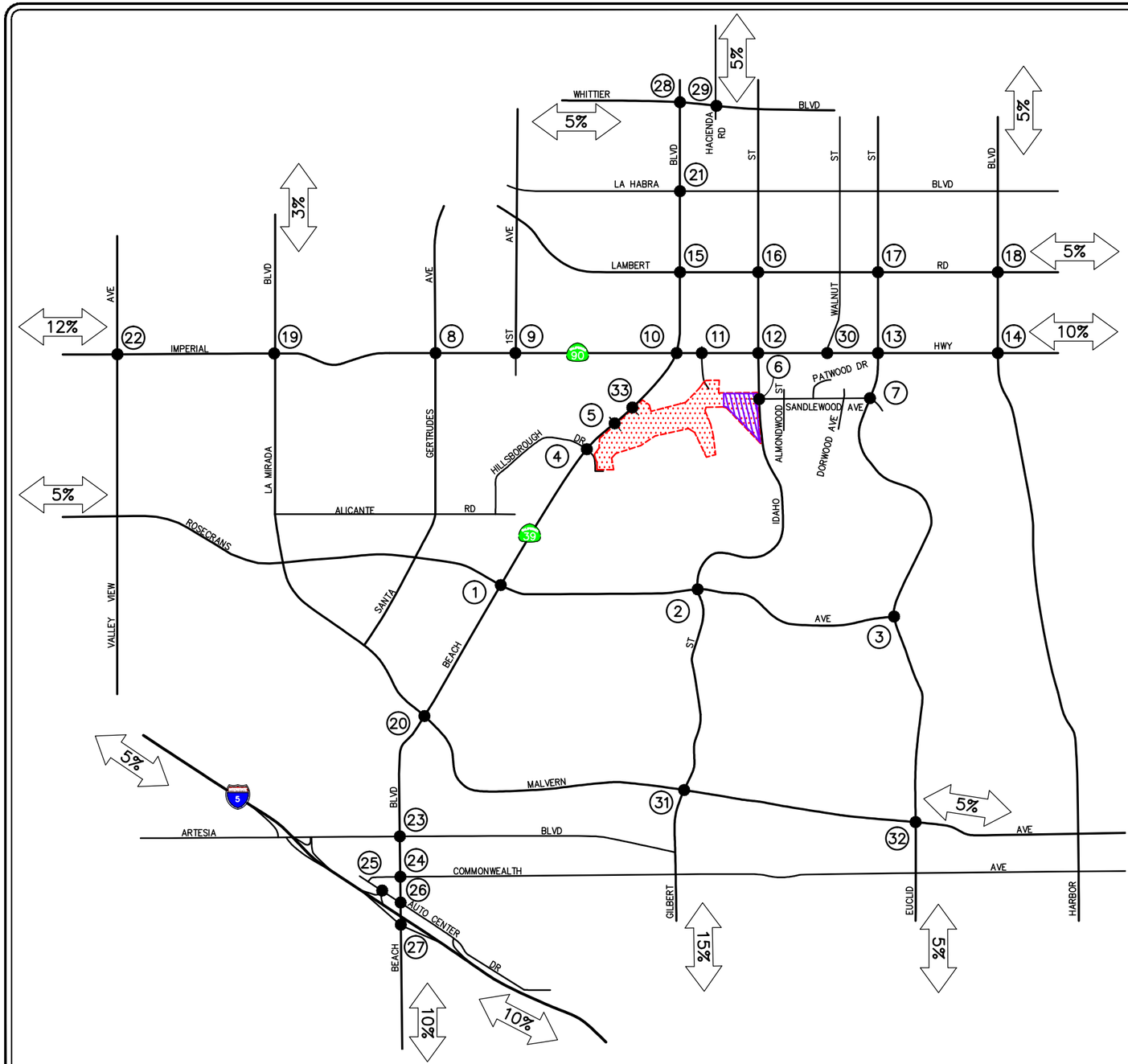
N NO SCALE

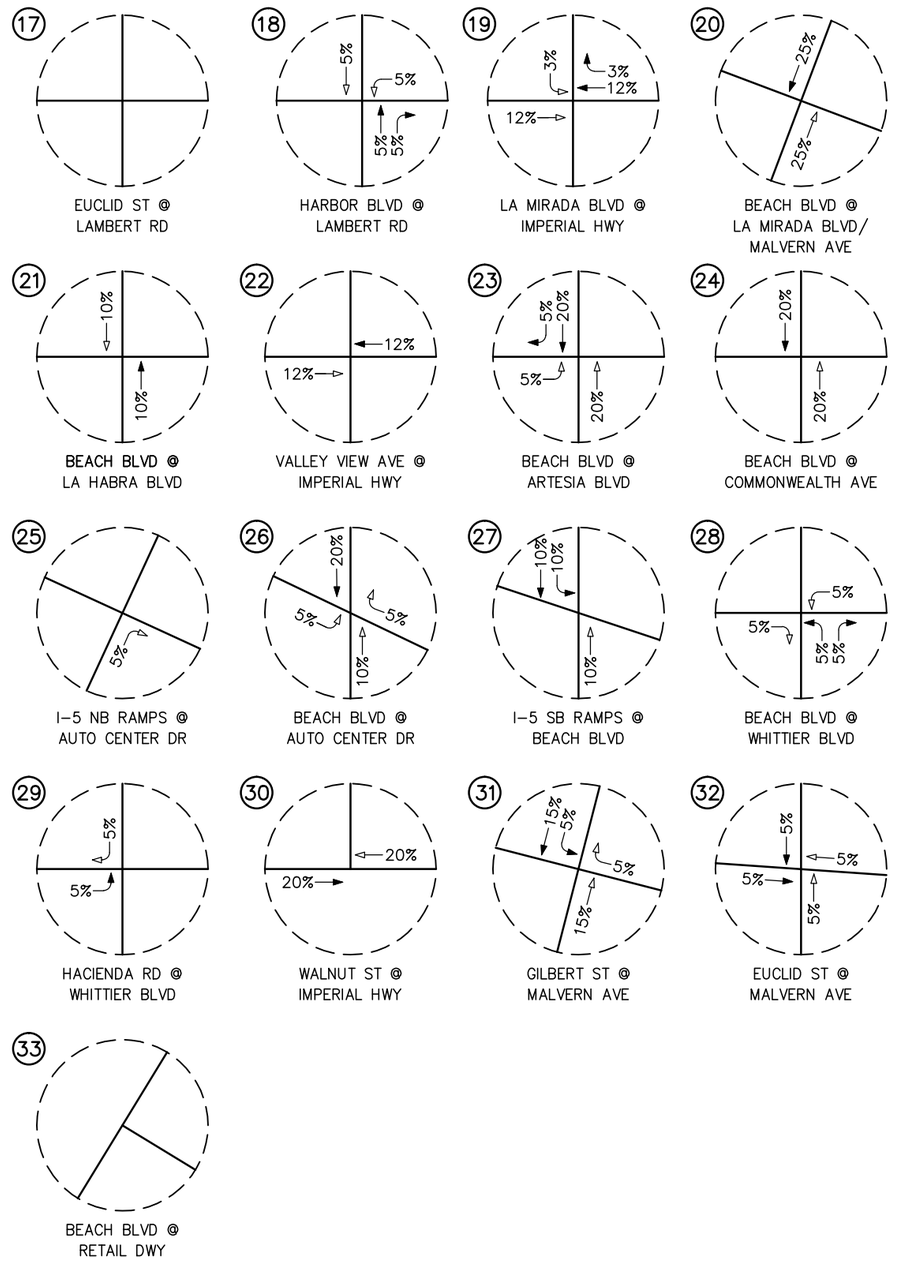
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#4 (82 DU)
= PROJECT SITE

FIGURE 5-4A

PA#4 PROJECT TRAFFIC DISTRIBUTION PATTERN - RESIDENTIAL (82 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

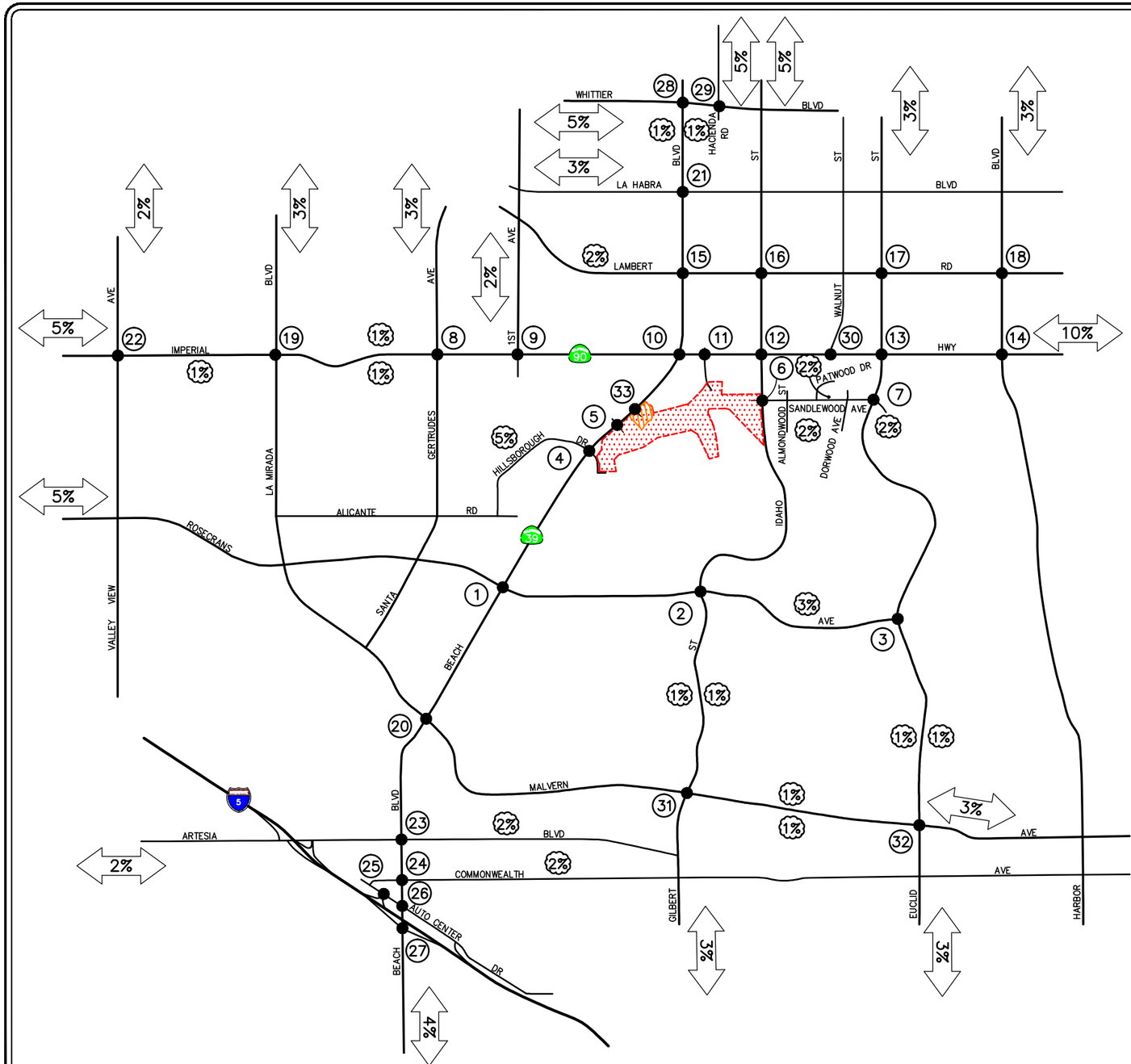
N NO SCALE

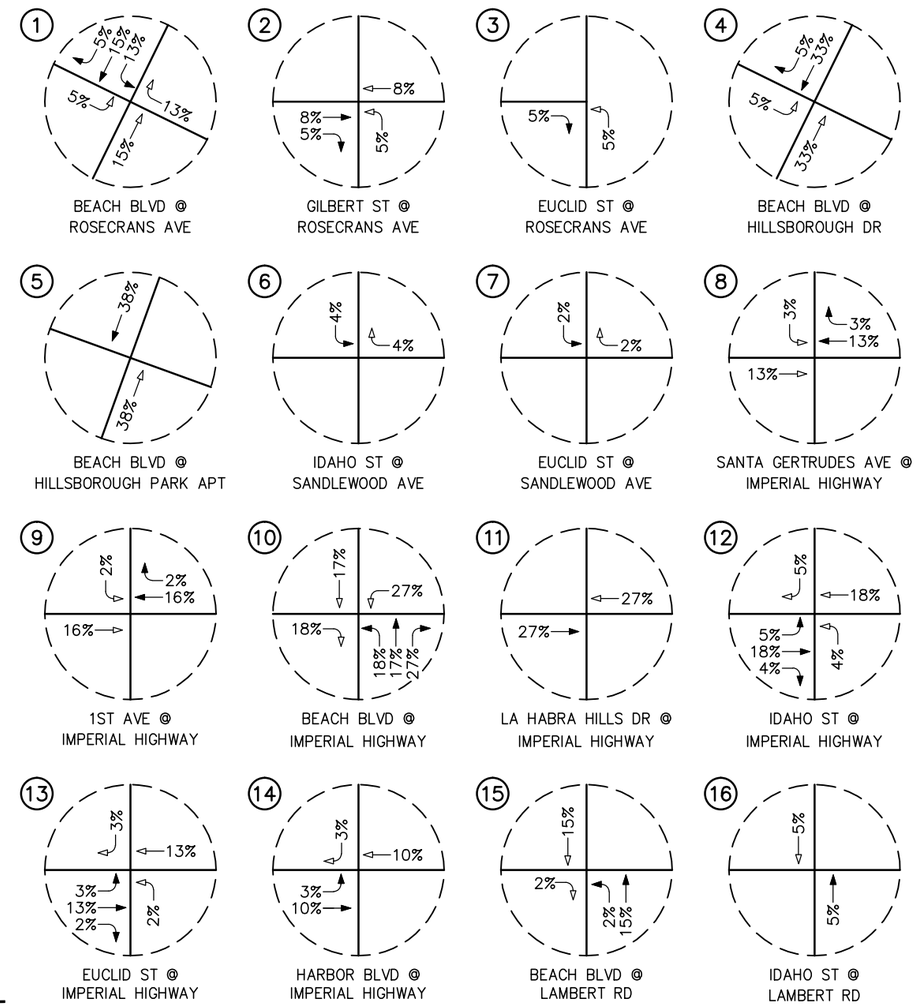
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#4 (82 DU)
= PROJECT SITE

FIGURE 5-4B

PA#4 PROJECT TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (82 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

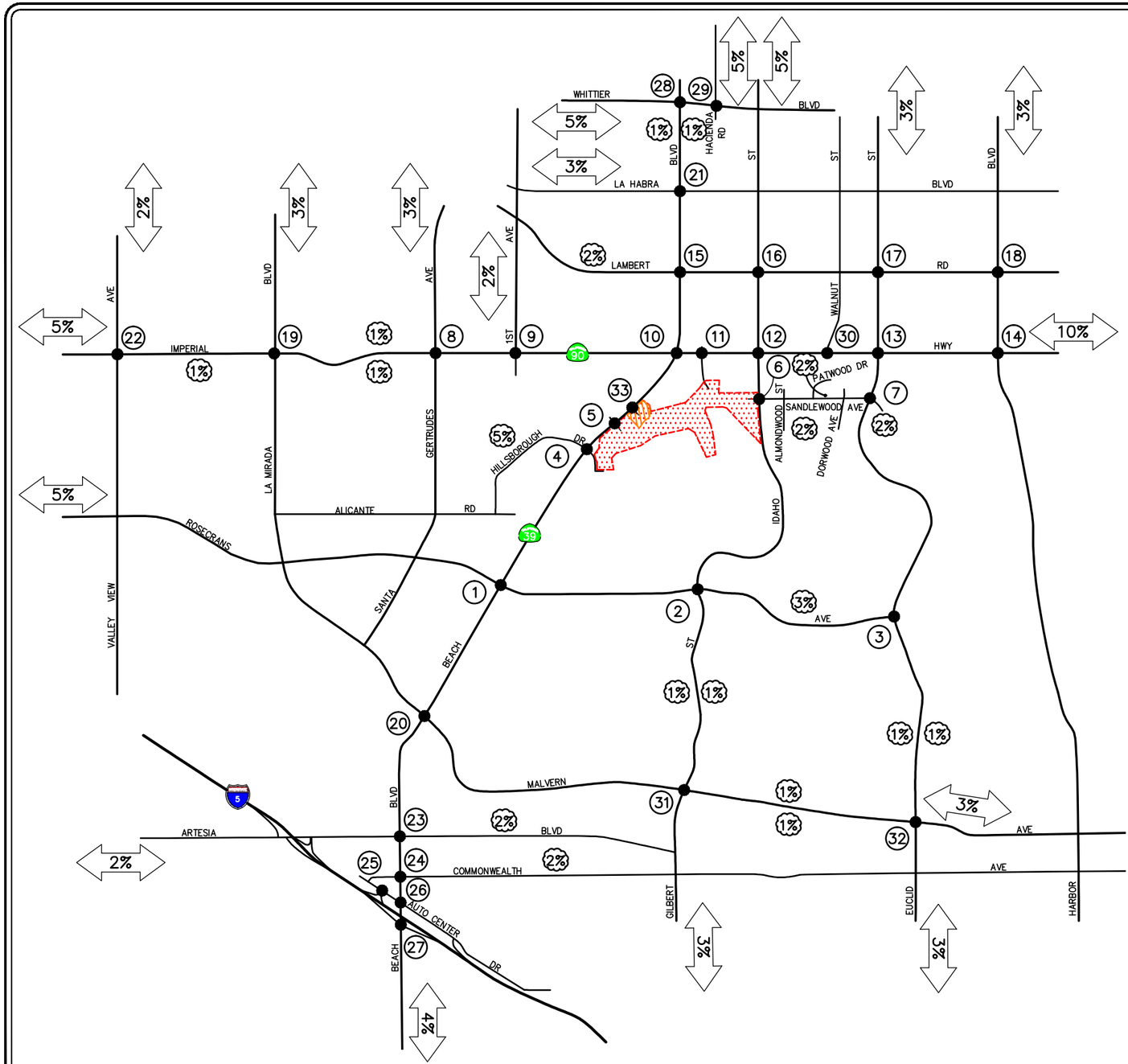
N NO SCALE

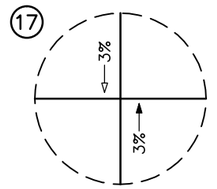
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#5
= PROJECT SITE

FIGURE 5–5A

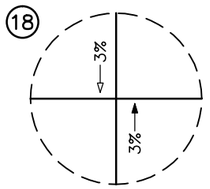
PA#5 PROJECT TRAFFIC DISTRIBUTION PATTERN – RETAIL/RESTAURANT

RANCHO LA HABRA, CITY OF LA HABRA

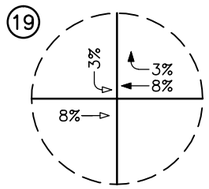




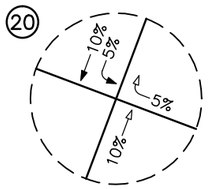
EUCLID ST @
LAMBERT RD



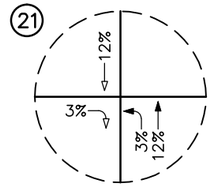
HARBOR BLVD @
LAMBERT RD



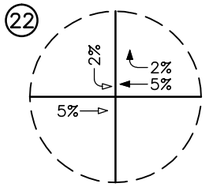
LA MIRADA BLVD @
IMPERIAL HWY



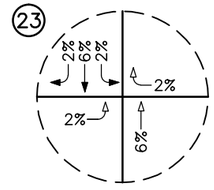
BEACH BLVD @
LA MIRADA BLVD/
MALVERN AVE



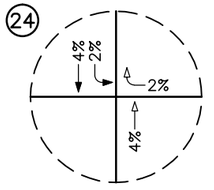
BEACH BLVD @
LA HABRA BLVD



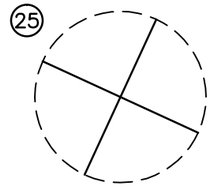
VALLEY VIEW AVE @
IMPERIAL HWY



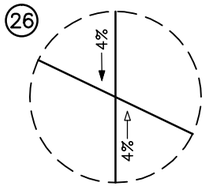
BEACH BLVD @
ARTESIA BLVD



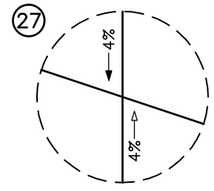
BEACH BLVD @
COMMONWEALTH AVE



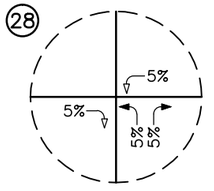
I-5 NB RAMPS @
AUTO CENTER DR



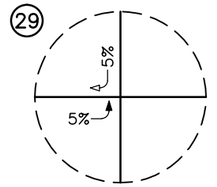
BEACH BLVD @
AUTO CENTER DR



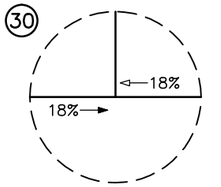
I-5 SB RAMPS @
BEACH BLVD



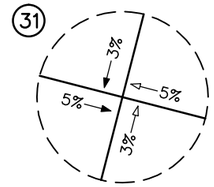
BEACH BLVD @
WHITTIER BLVD



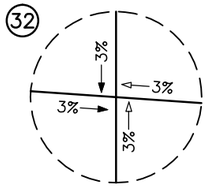
HACIENDA RD @
WHITTIER BLVD



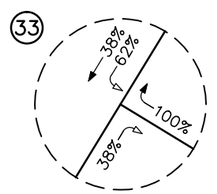
WALNUT ST @
IMPERIAL HWY



GILBERT ST @
MALVERN AVE



EUCLID ST @
MALVERN AVE



BEACH BLVD @
RETAIL DWY

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LINSCOTT LAW & GREENSPAN engineers

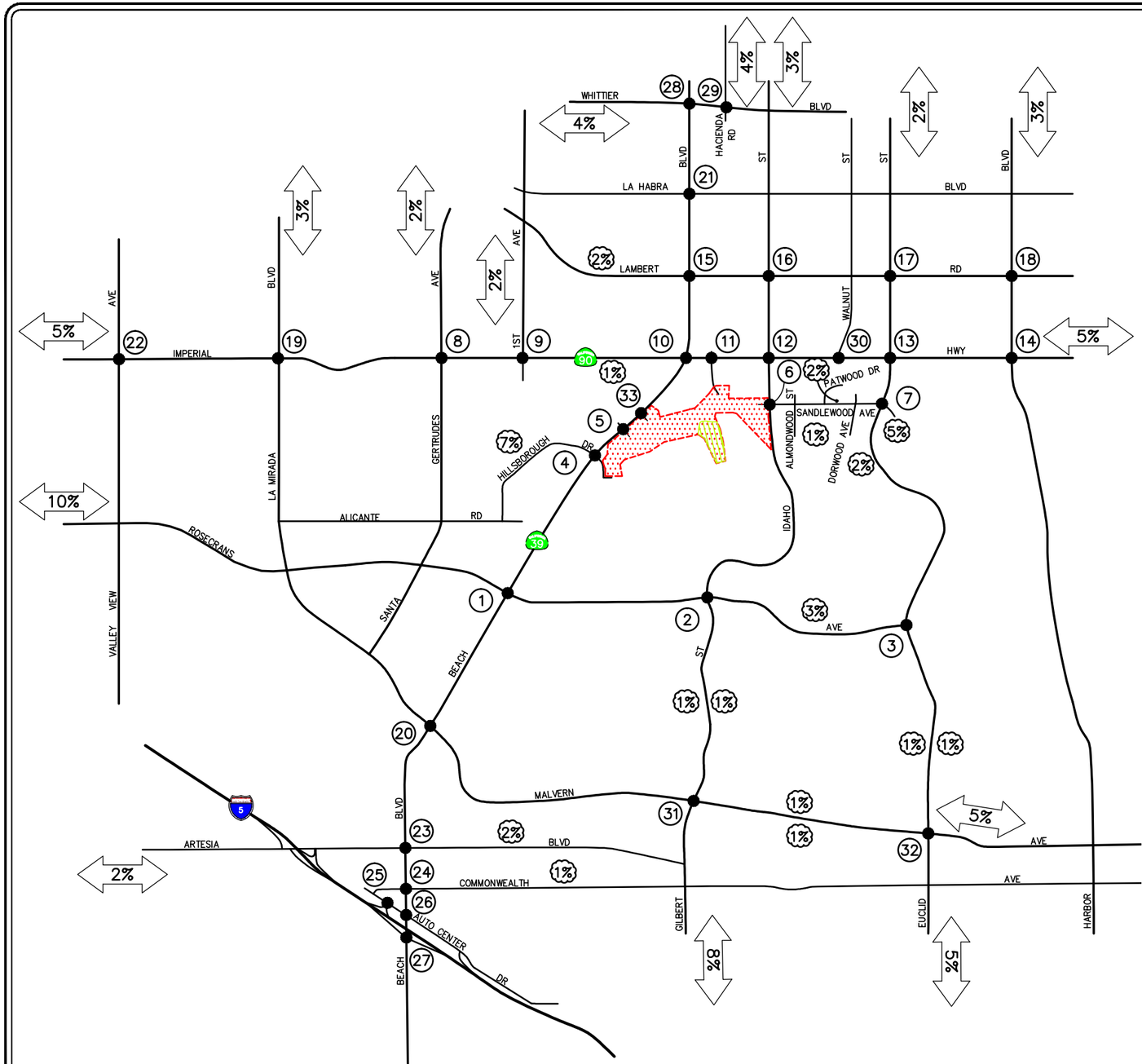
N NO SCALE

KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#5
= PROJECT SITE

FIGURE 5-5B

PA#5 PROJECT TRAFFIC DISTRIBUTION PATTERN – RETAIL/RESTAURANT

RANCHO LA HABRA, CITY OF LA HABRA


WHITTIER BLVD
4%
3%
2%
3%
HACIENDA RD
LA HABRA BLVD
LAMBERT RD
WALNUT ST
HWY
IMPERIAL AVE
5%
3%
2%
2%
2%
1%
7%
10%
ROSECRANS AVE
ALICANTE RD
LA MIRADA BLVD
GERTRUDES AVE
1ST AVE
HILLSBOROUGH DR
PATWOOD DR
SANDLEWOOD AVE
ALMONDWOOD ST
DORWOOD AVE
IDAHO ST
3%
AVE
BEACH BLVD
SANTA FE
VALLEY VIEW AVE
MALVERN AVE
ARTESIA BLVD
COMMONWEALTH AVE
AUTO CENTER DR
GILBERT ST
EUCLID ST
HARBOR BLVD
8%
5%
5%
2%
1%
1%
1%
1%
1%
1%
1%
1%
1%
2%
2%
1%
1%
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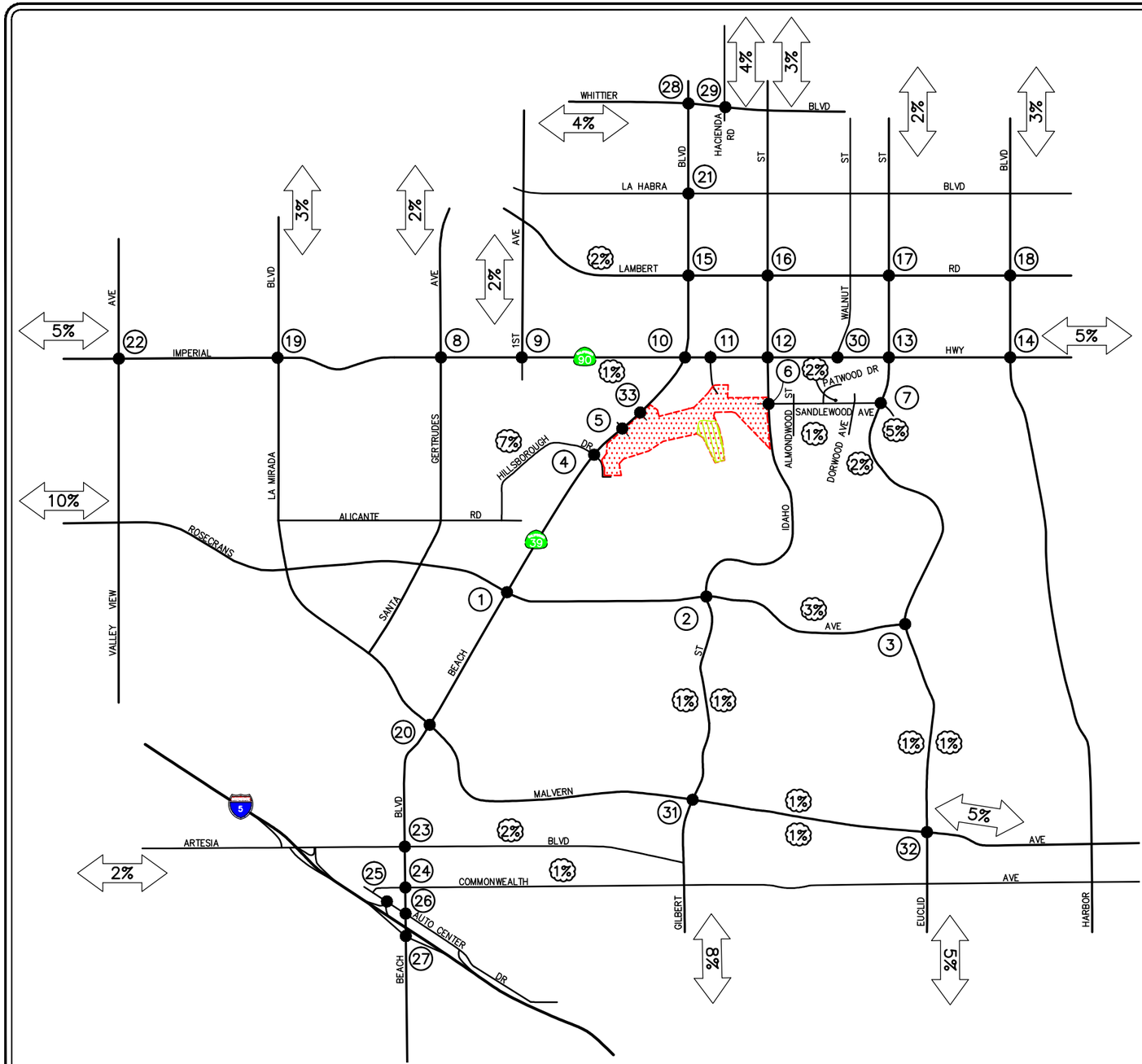
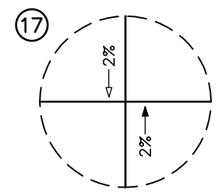
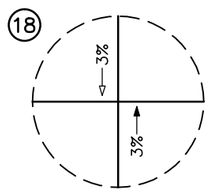
1

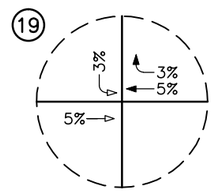




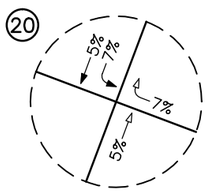
EUCLID ST @
LAMBERT RD



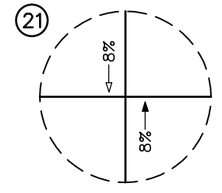
HARBOR BLVD @
LAMBERT RD



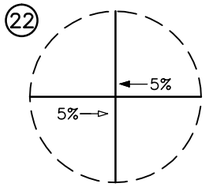
LA MIRADA BLVD @
IMPERIAL HWY



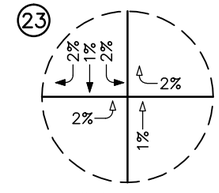
BEACH BLVD @
LA MIRADA BLVD/
MALVERN AVE



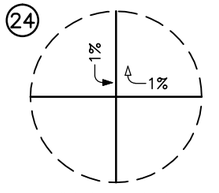
BEACH BLVD @
LA HABRA BLVD



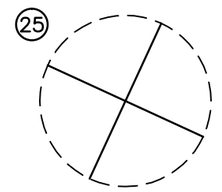
VALLEY VIEW AVE @
IMPERIAL HWY



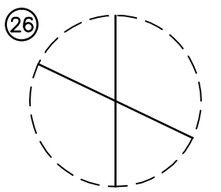
BEACH BLVD @
ARTESIA BLVD



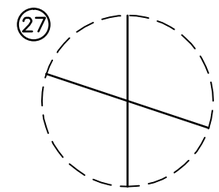
BEACH BLVD @
COMMONWEALTH AVE



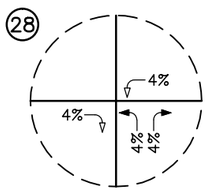
I-5 NB RAMPS @
AUTO CENTER DR



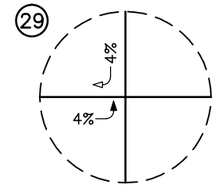
BEACH BLVD @
AUTO CENTER DR



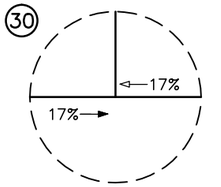
I-5 SB RAMPS @
BEACH BLVD



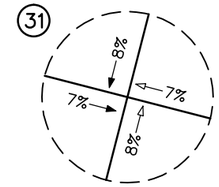
BEACH BLVD @
WHITTIER BLVD



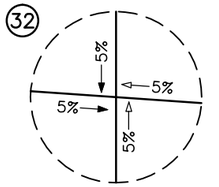
HACIENDA RD @
WHITTIER BLVD



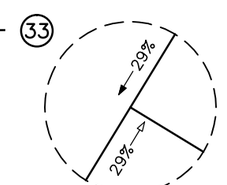
WALNUT ST @
IMPERIAL HWY



GILBERT ST @
MALVERN AVE



EUCLID ST @
MALVERN AVE



BEACH BLVD @
RETAIL DWY

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= INBOUND PERCENTAGE

= OUTBOUND PERCENTAGE

= PA#6

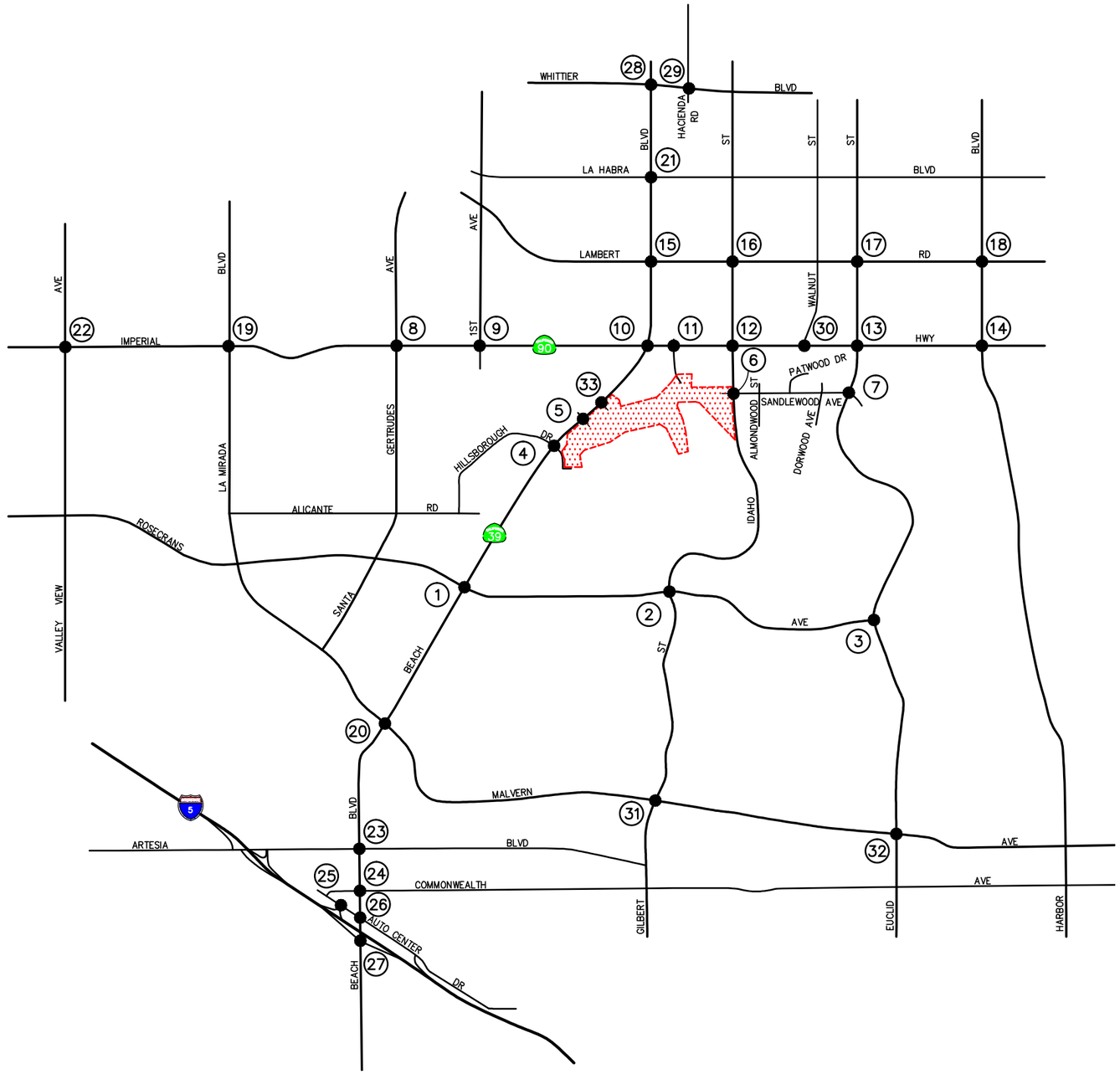
= PROJECT SITE

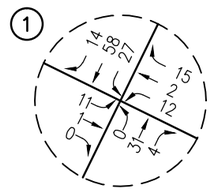
NOTE: 5% INTERNAL TO THE ENTIRE PROJECT SITE

FIGURE 5-6B

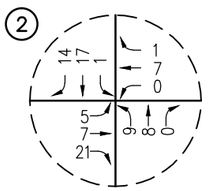
PA#6 PROJECT TRAFFIC DISTRIBUTION PATTERN – RECREATION COMMUNITY CENTER AND PASSIVE PARK

RANCHO LA HABRA, CITY OF LA HABRA

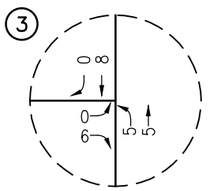




BEACH BLVD @
ROSECRANS AVE



GILBERT ST @
ROSECRANS AVE



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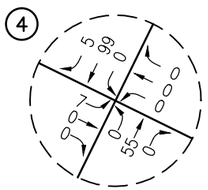
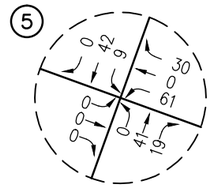
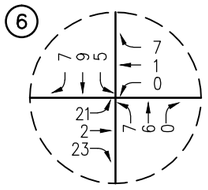
ROSECRANS AVE



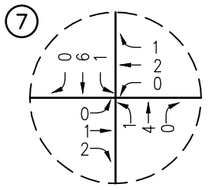
BEACH BLVD @
HILLSBOROUGH DR



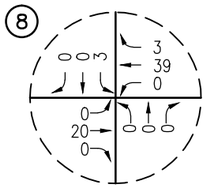
BEACH BLVD @
HILLSBOROUGH PARK APT



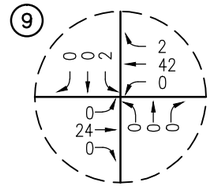
IDAHO ST @
SANDLEWOOD AVE



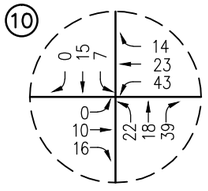
EUCLID ST @
SANDLEWOOD AVE



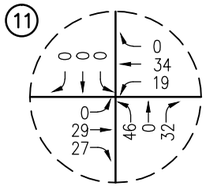
SANTA GERTRUDES AVE @
IMPERIAL HIGHWAY



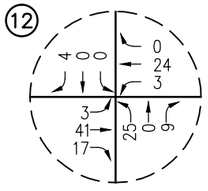
1ST AVE @
IMPERIAL HIGHWAY



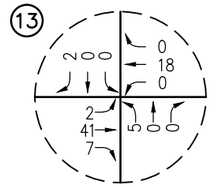
BEACH BLVD @
IMPERIAL HIGHWAY



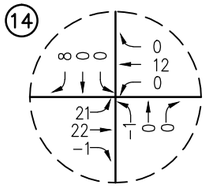
LA HABRA HILLS DR @
IMPERIAL HIGHWAY



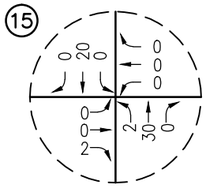
IDAHO ST @
IMPERIAL HIGHWAY



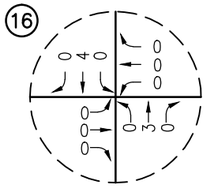
EUCLID ST @
IMPERIAL HIGHWAY



HARBOR BLVD @
IMPERIAL HIGHWAY



BEACH BLVD @
LAMBERT RD



IDAHO ST @
LAMBERT RD

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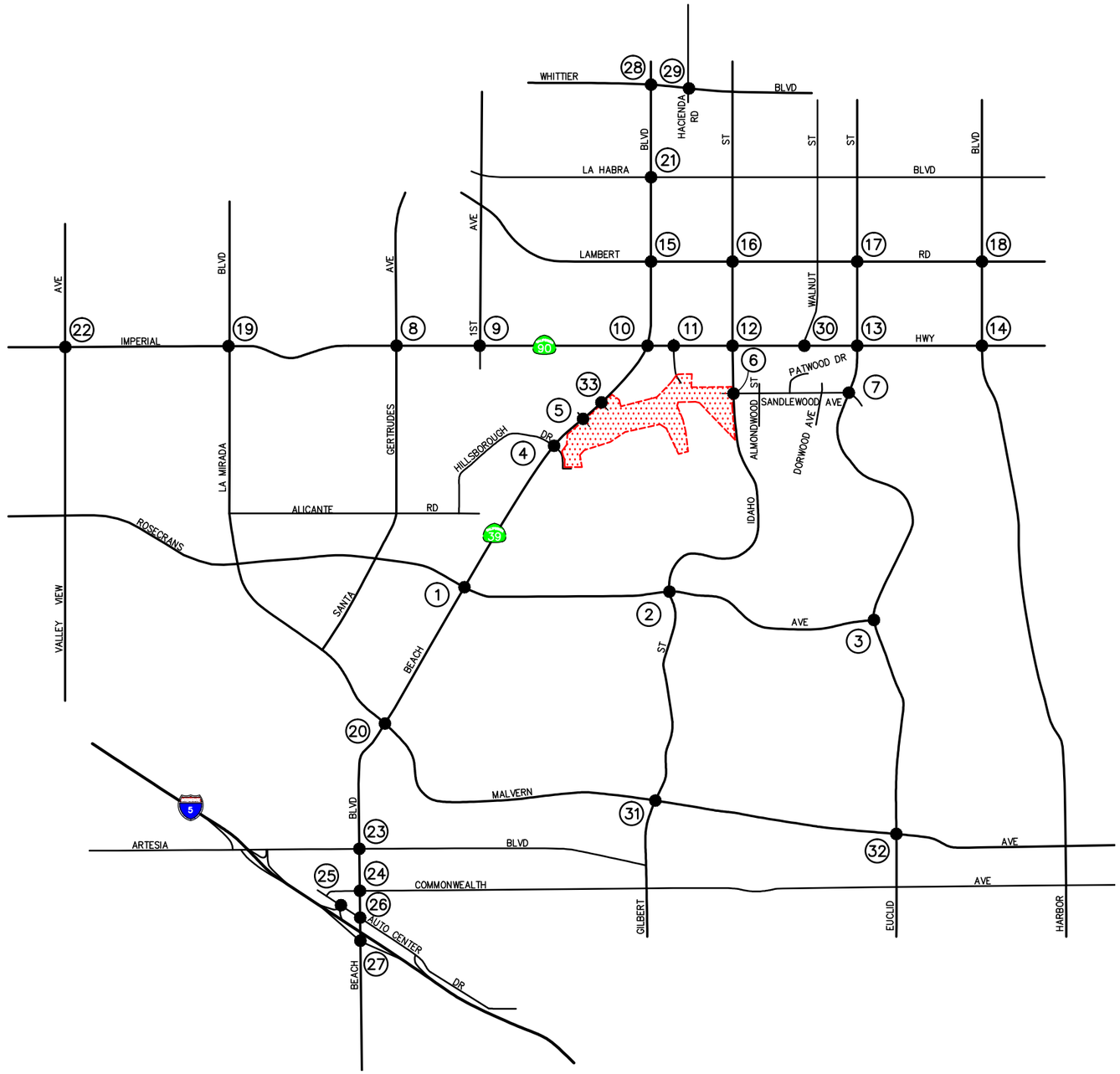
N NO SCALE

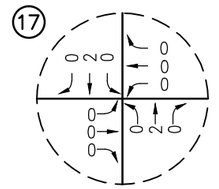
KEY
= PROJECT SITE

FIGURE 5-7A

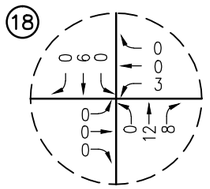
AM PEAK HOUR PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA

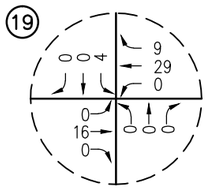




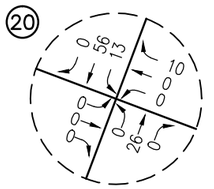
EUCLID ST @
LAMBERT RD



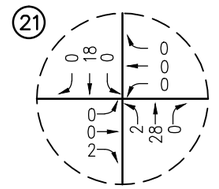
HARBOR BLVD @
LAMBERT RD



LA MIRADA BLVD @
IMPERIAL HWY



BEACH BLVD @
LA MIRADA BLVD/
MALVERN AVE



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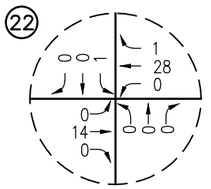
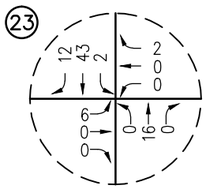
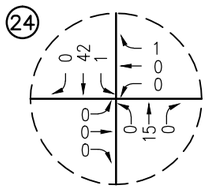
LA HABRA BLVD



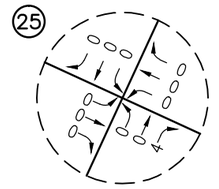
VALLEY VIEW AVE @
IMPERIAL HWY



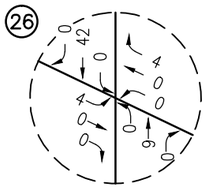
BEACH BLVD @
ARTESIA BLVD



BEACH BLVD @
COMMONWEALTH AVE



I-5 NB RAMPS @
AUTO CENTER DR



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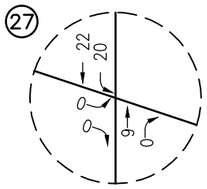
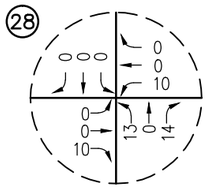
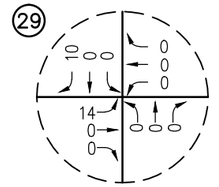
AUTO CENTER DR



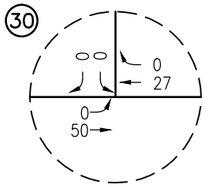
I-5 SB RAMPS @
BEACH BLVD



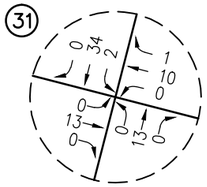
BEACH BLVD @
WHITTIER BLVD



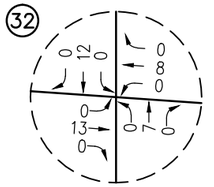
HACIENDA RD @
WHITTIER BLVD



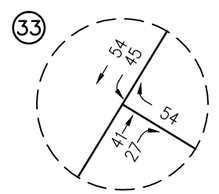
WALNUT ST @
IMPERIAL HWY



GILBERT ST @
MALVERN AVE



EUCLID ST @
MALVERN AVE



BEACH BLVD @
RETAIL DWY

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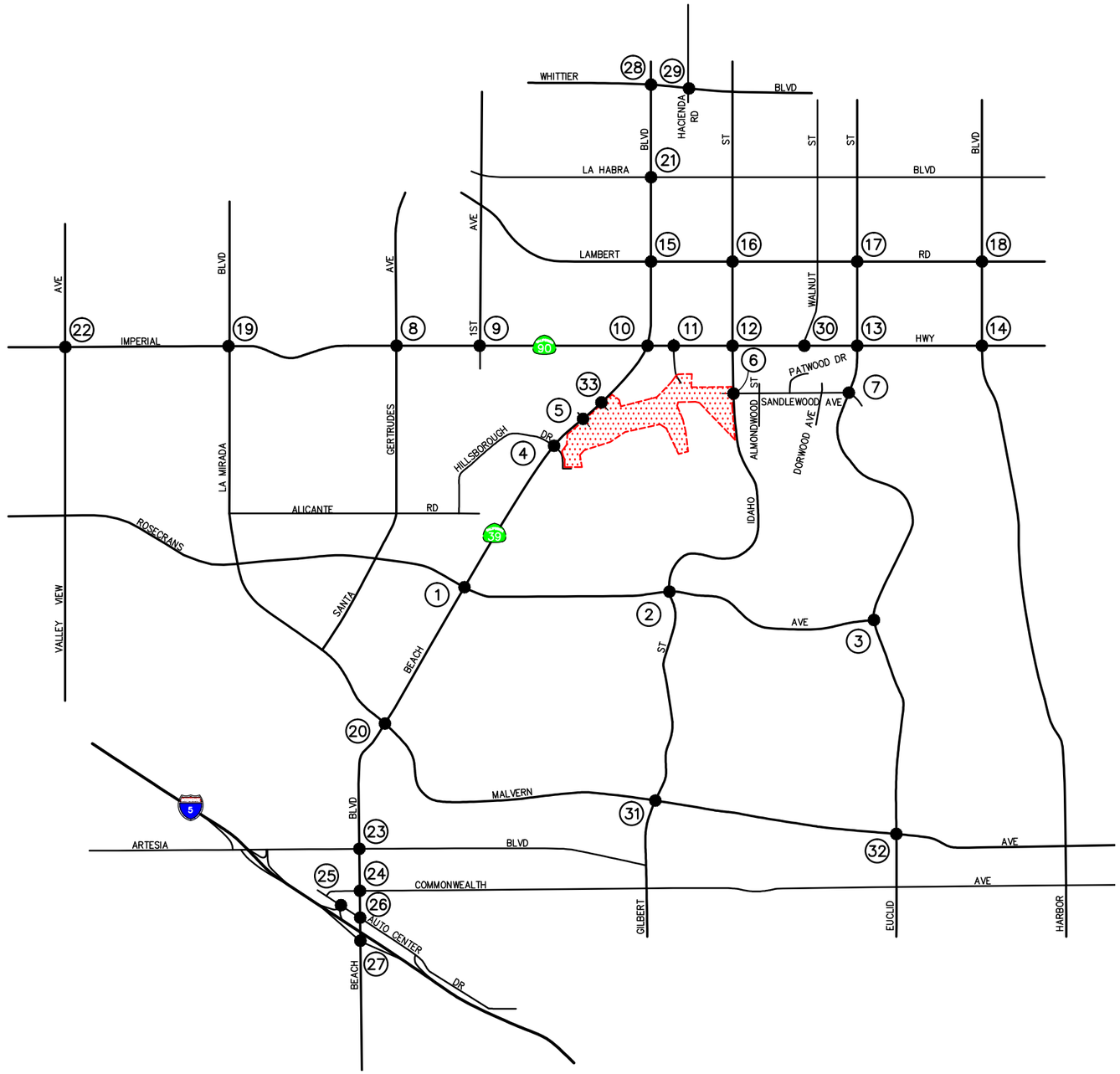
N NO SCALE

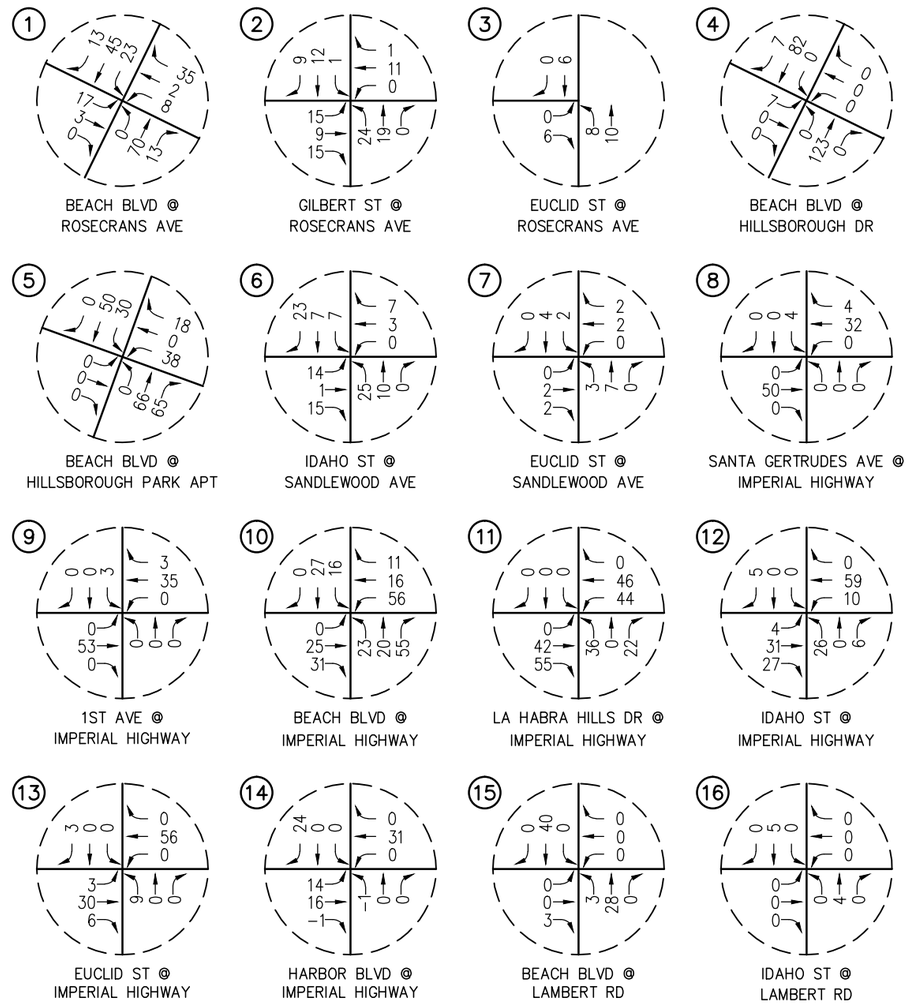
KEY
= PROJECT SITE

FIGURE 5-7B

AM PEAK HOUR PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

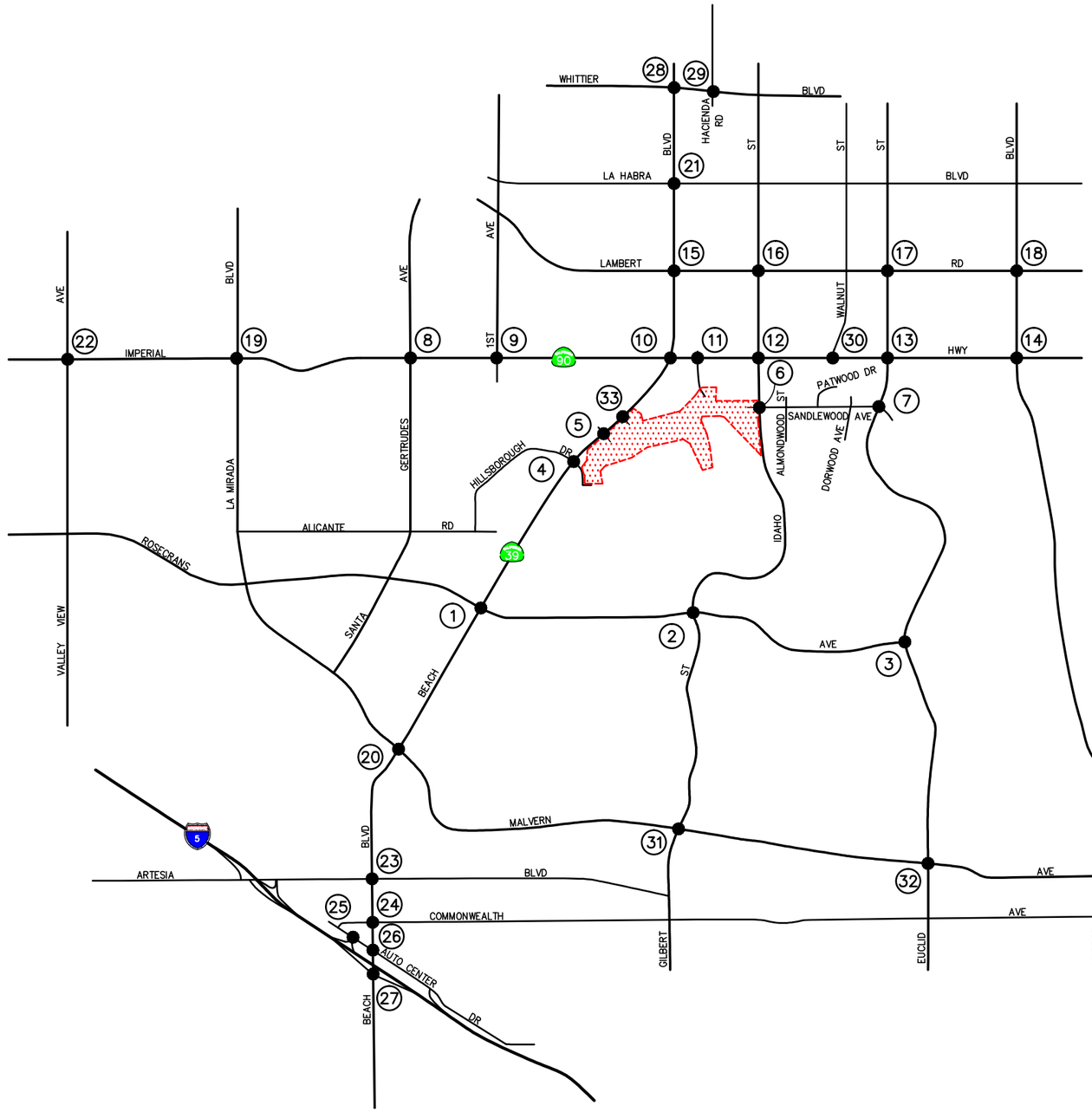
N NO SCALE

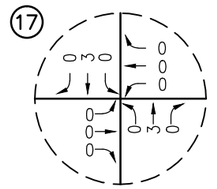
KEY
= PROJECT SITE

FIGURE 5-8A

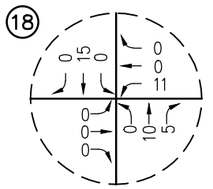
PM PEAK HOUR PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA

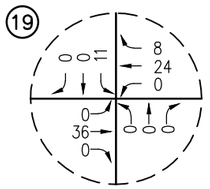




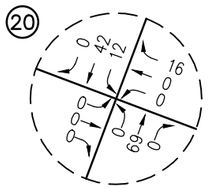
17 EUCLID ST @ LAMBERT RD



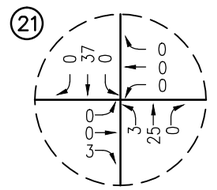
18 HARBOR BLVD @ LAMBERT RD



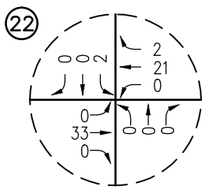
19 LA MIRADA BLVD @ IMPERIAL HWY



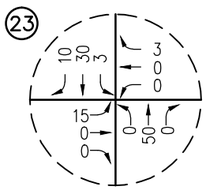
20 BEACH BLVD @ LA MIRADA BLVD/ MALVERN AVE



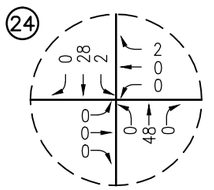
21 BEACH BLVD @ LA HABRA BLVD



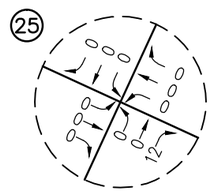
22 VALLEY VIEW AVE @ IMPERIAL HWY



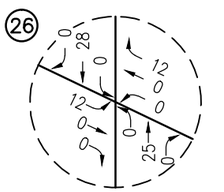
23 BEACH BLVD @ ARTESIA BLVD



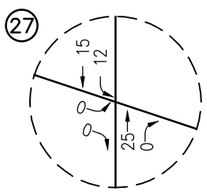
24 BEACH BLVD @ COMMONWEALTH AVE



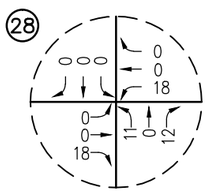
25 I-5 NB RAMPS @ AUTO CENTER DR



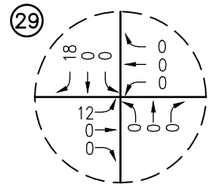
26 BEACH BLVD @ AUTO CENTER DR



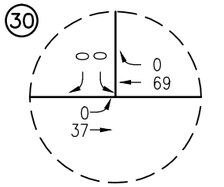
27 I-5 SB RAMPS @ BEACH BLVD



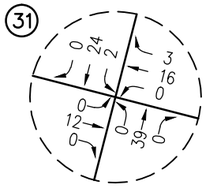
28 BEACH BLVD @ WHITTIER BLVD



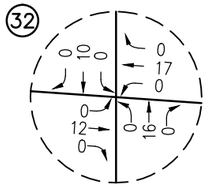
29 HACIENDA RD @ WHITTIER BLVD



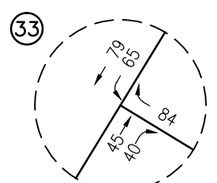
30 WALNUT ST @ IMPERIAL HWY



31 GILBERT ST @ MALVERN AVE



32 EUCLID ST @ MALVERN AVE



33 BEACH BLVD @ RETAIL DWY

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LINSCOTT LAW & GREENSPAN engineers

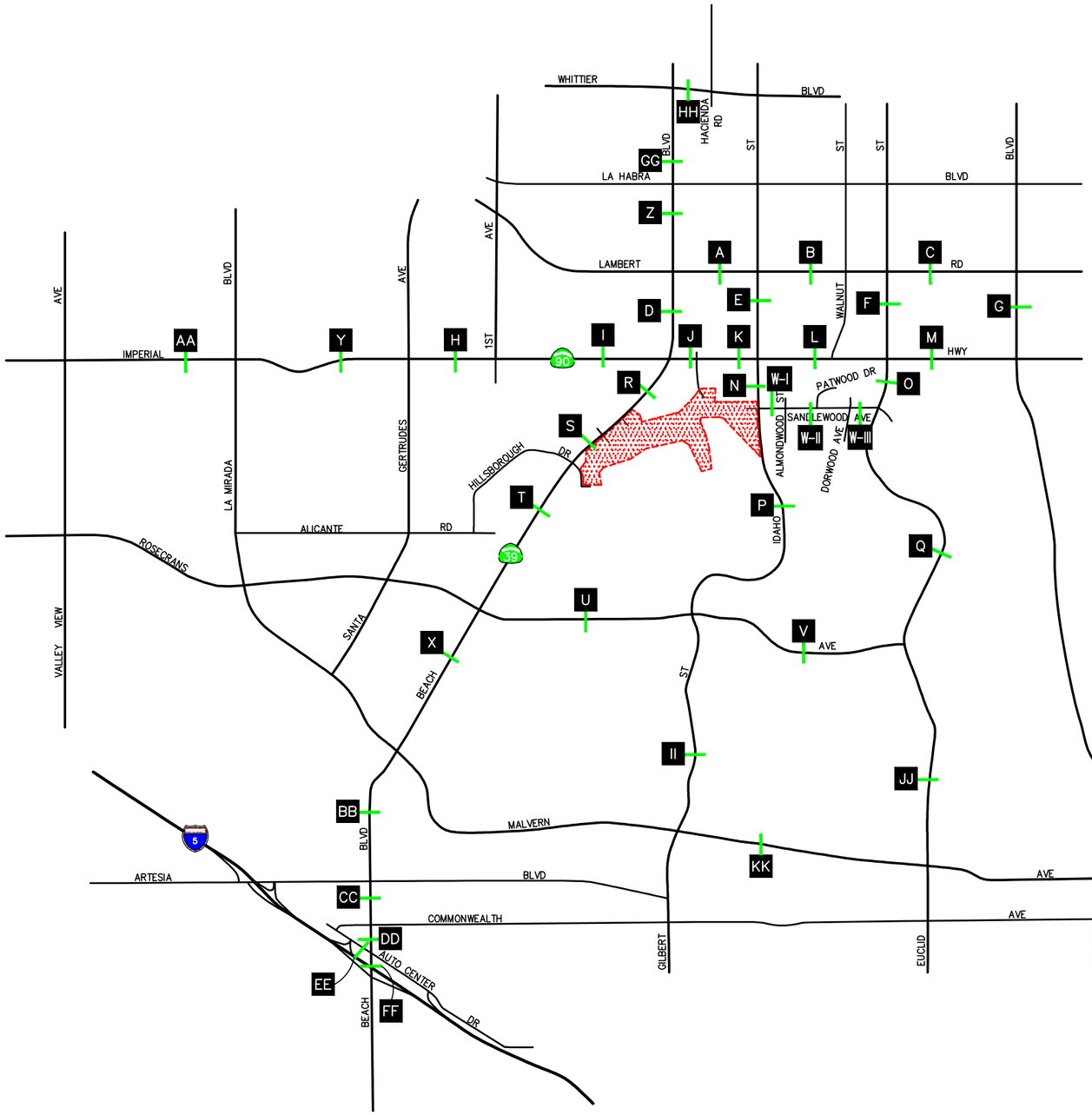
N NO SCALE

KEY
= PROJECT SITE

FIGURE 5-8B

PM PEAK HOUR PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	0	U	894
B	0	V	253
C	0	W-I	212
D	796	W-II	212
E	108	W-III	212
F	55	X	1,439
G	376	Y	865
H	947	Z	736
I	1,011	AA	631
J	1,907	BB	1,126
K	1,523	CC	831
L	1,027	DD	778
M	813	EE	89
N	698	FF	611
O	158	GG	670
P	564	HH	316
Q	153	II	741
R	3,203	JJ	315
S	2,406	KK	353
T	2,237		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

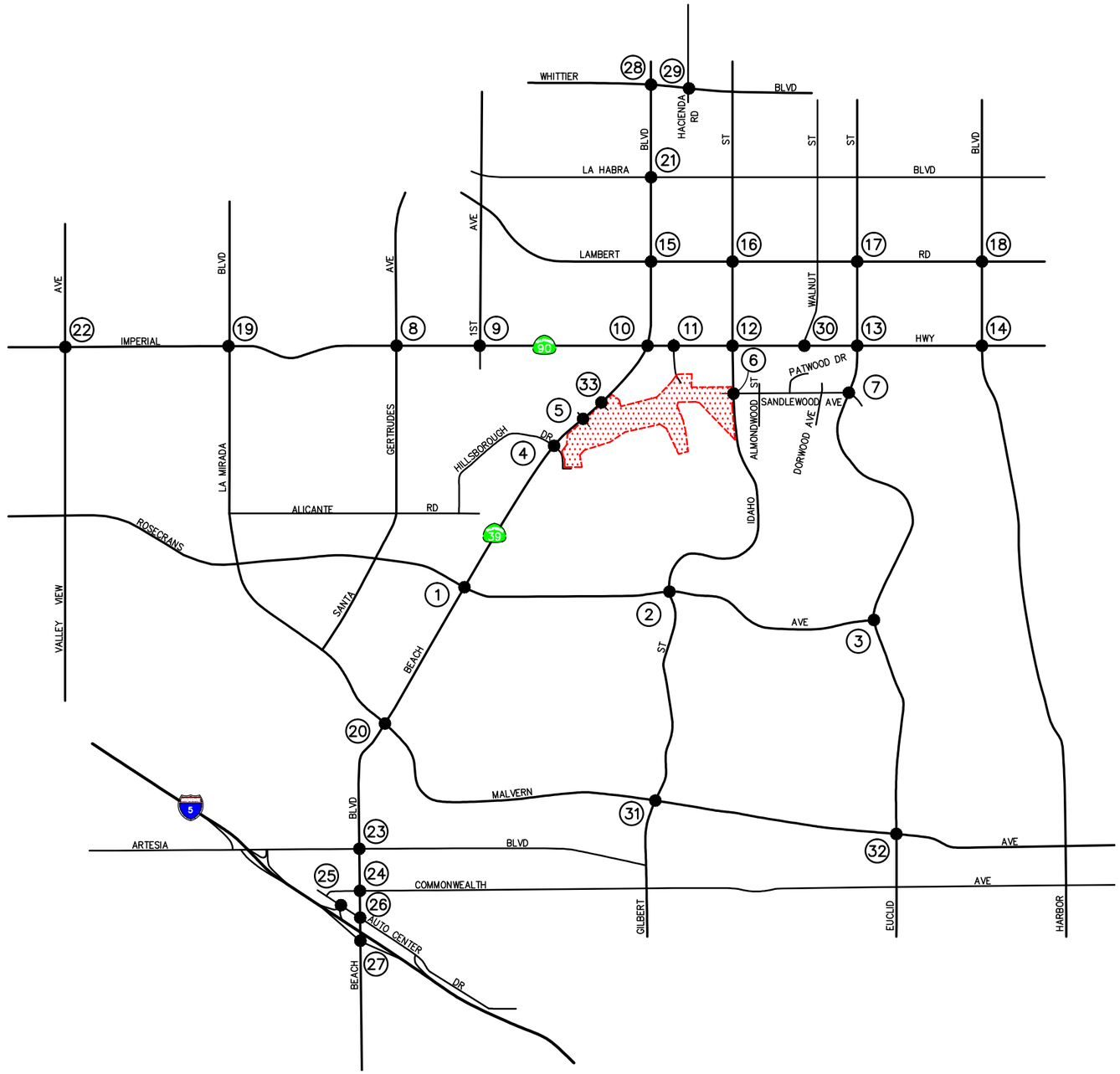
A = STUDY ROADWAY SEGMENT

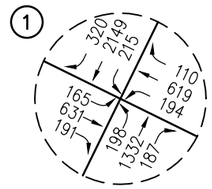
= PROJECT SITE

FIGURE 5-9

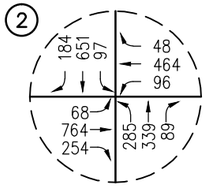
DAILY PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA

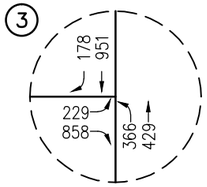




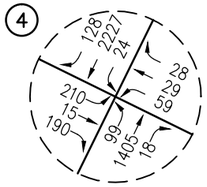
BEACH BLVD @
ROSECRANS AVE



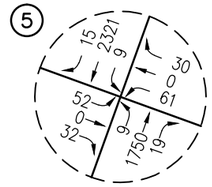
GILBERT ST @
ROSECRANS AVE



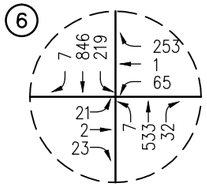
EUCLID ST @
ROSECRANS AVE



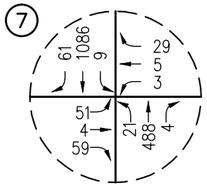
BEACH BLVD @
HILLSBOROUGH DR



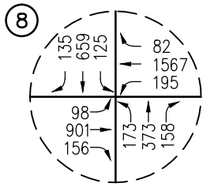
BEACH BLVD @
HILLSBOROUGH PARK APT



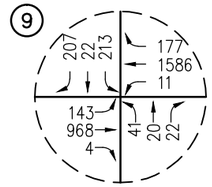
IDAHO ST @
SANDLEWOOD AVE



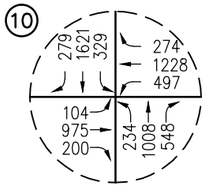
EUCLID ST @
SANDLEWOOD AVE



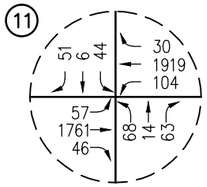
SANTA GERTRUDES AVE @
IMPERIAL HIGHWAY



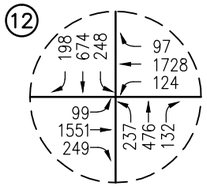
1ST AVE @
IMPERIAL HIGHWAY



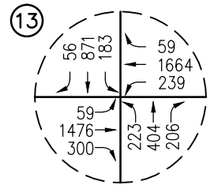
BEACH BLVD @
IMPERIAL HIGHWAY



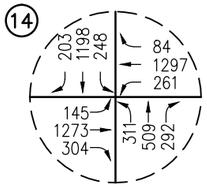
LA HABRA HILLS DR @
IMPERIAL HIGHWAY



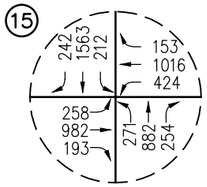
IDAHO ST @
IMPERIAL HIGHWAY



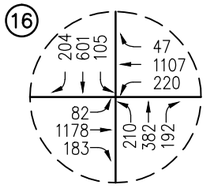
EUCLID ST @
IMPERIAL HIGHWAY



HARBOR BLVD @
IMPERIAL HIGHWAY



BEACH BLVD @
LAMBERT RD



IDAHO ST @
LAMBERT RD

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LINSCOTT LAW & GREENSPAN engineers

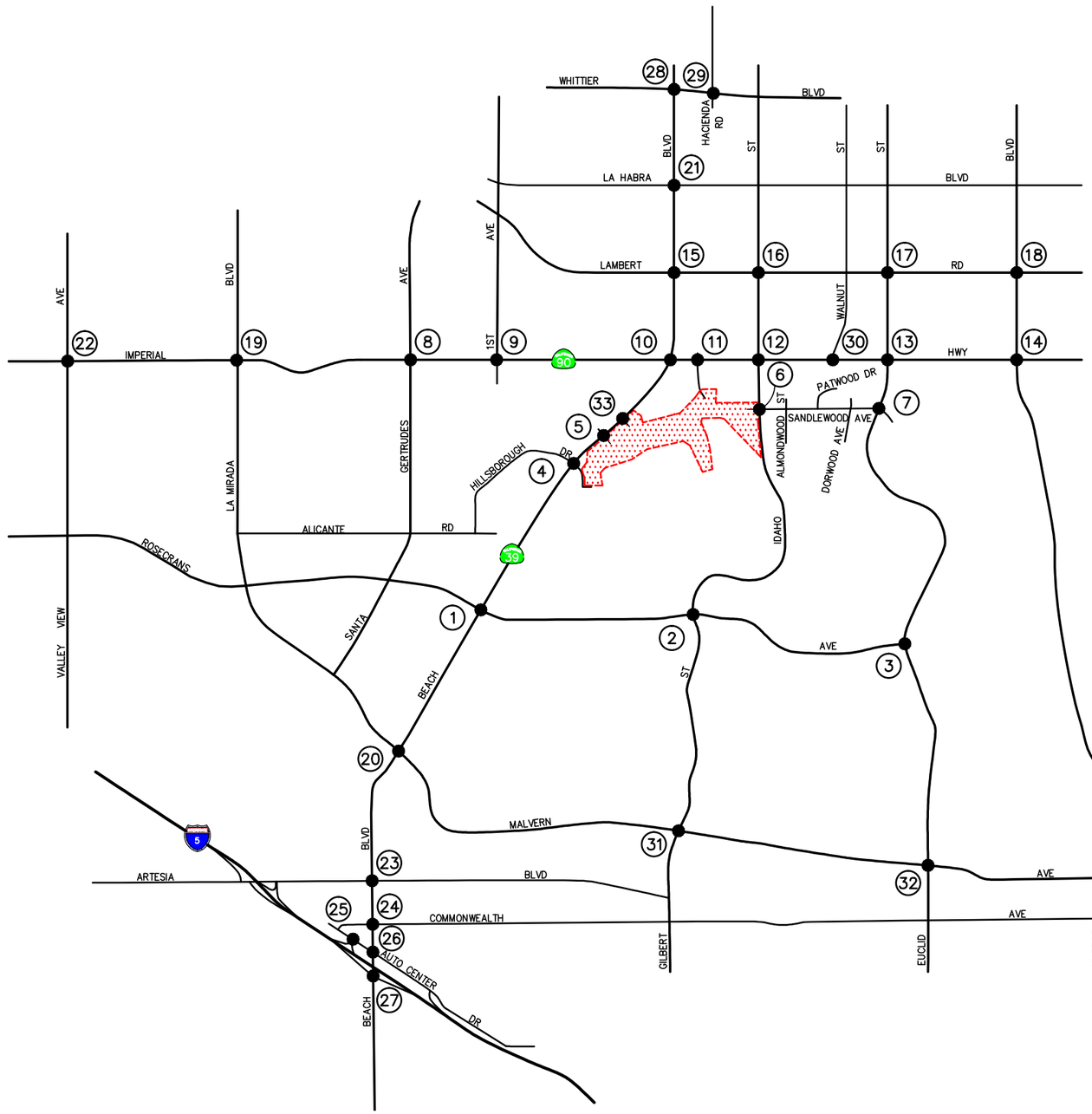
N NO SCALE

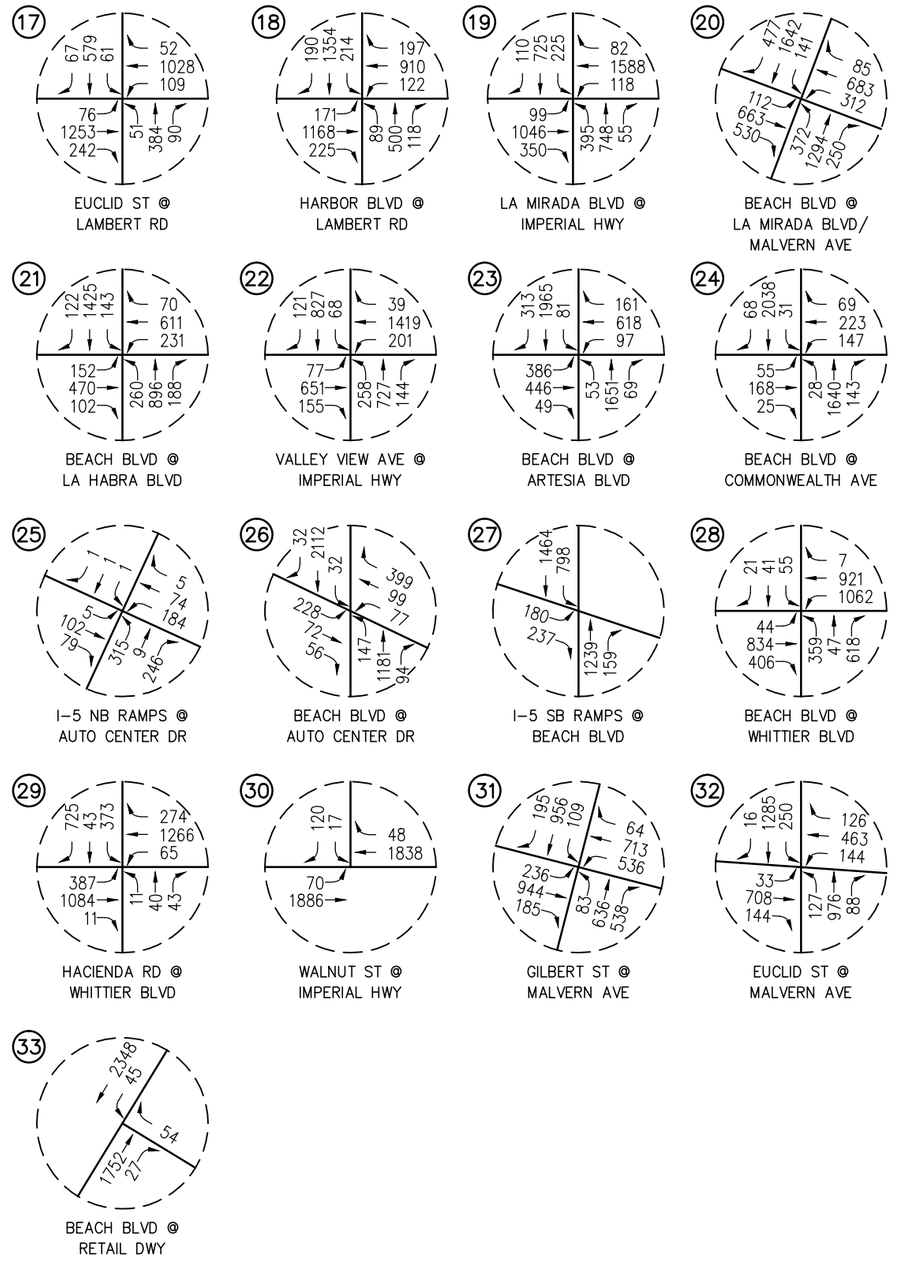
KEY
= PROJECT SITE

FIGURE 5-10A

EXISTING PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

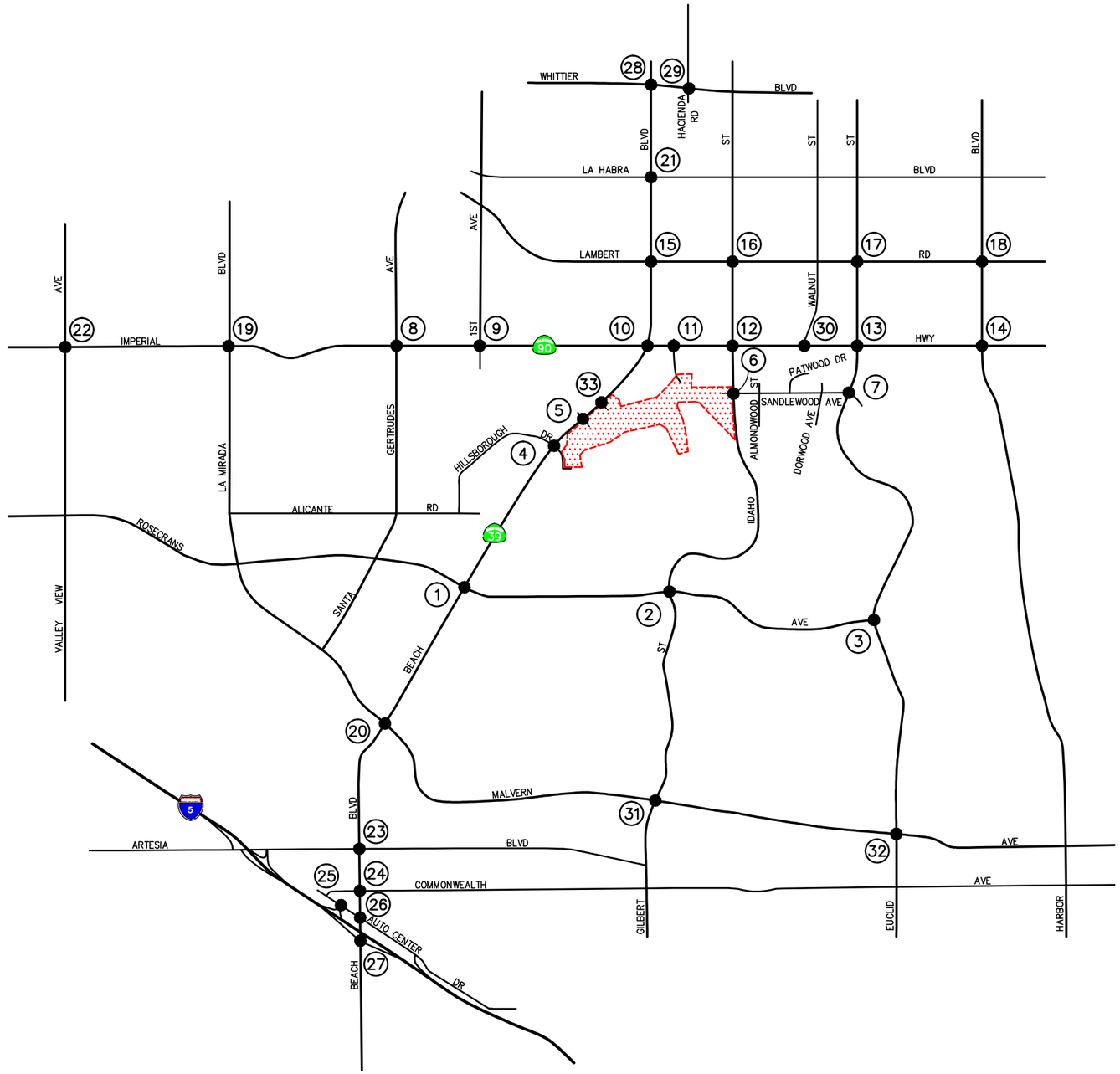
N NO SCALE

KEY
= PROJECT SITE

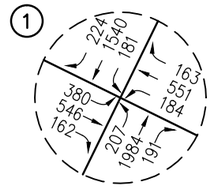
FIGURE 5-10B

EXISTING PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

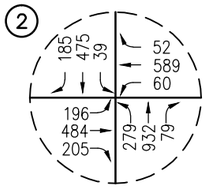
RANCHO LA HABRA, CITY OF LA HABRA



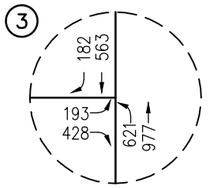
1 — BEACH BLVD @ ROSECRANS AVE



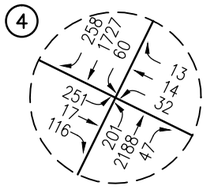
2 — GILBERT ST @ ROSECRANS AVE



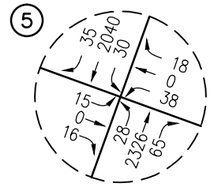
3 — EUCLID ST @ ROSECRANS AVE



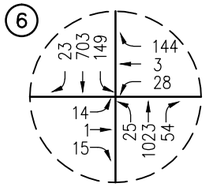
4 — BEACH BLVD @ HILLSBOROUGH DR



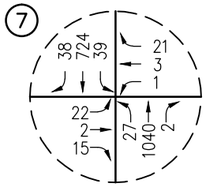
5 — BEACH BLVD @ HILLSBOROUGH PARK APT



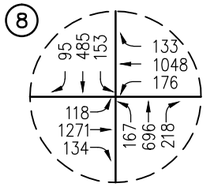
6 — IDAHO ST @ SANDLEWOOD AVE



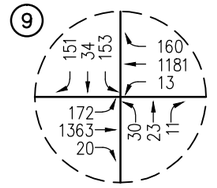
7 — EUCLID ST @ SANDLEWOOD AVE



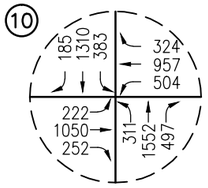
8 — SANTA GERTRUDES AVE @ IMPERIAL HIGHWAY



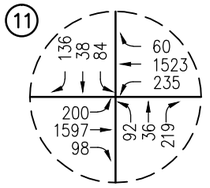
9 — 1ST AVE @ IMPERIAL HIGHWAY



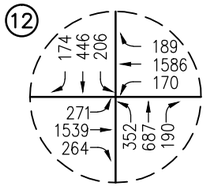
10 — BEACH BLVD @ IMPERIAL HIGHWAY



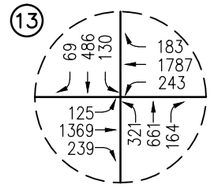
11 — LA HABRA HILLS DR @ IMPERIAL HIGHWAY



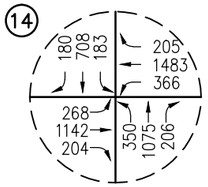
12 — IDAHO ST @ IMPERIAL HIGHWAY



13 — EUCLID ST @ IMPERIAL HIGHWAY



14 — HARBOR BLVD @ IMPERIAL HIGHWAY



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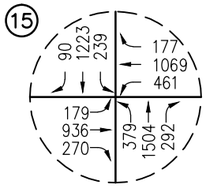

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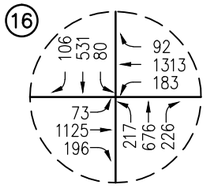

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

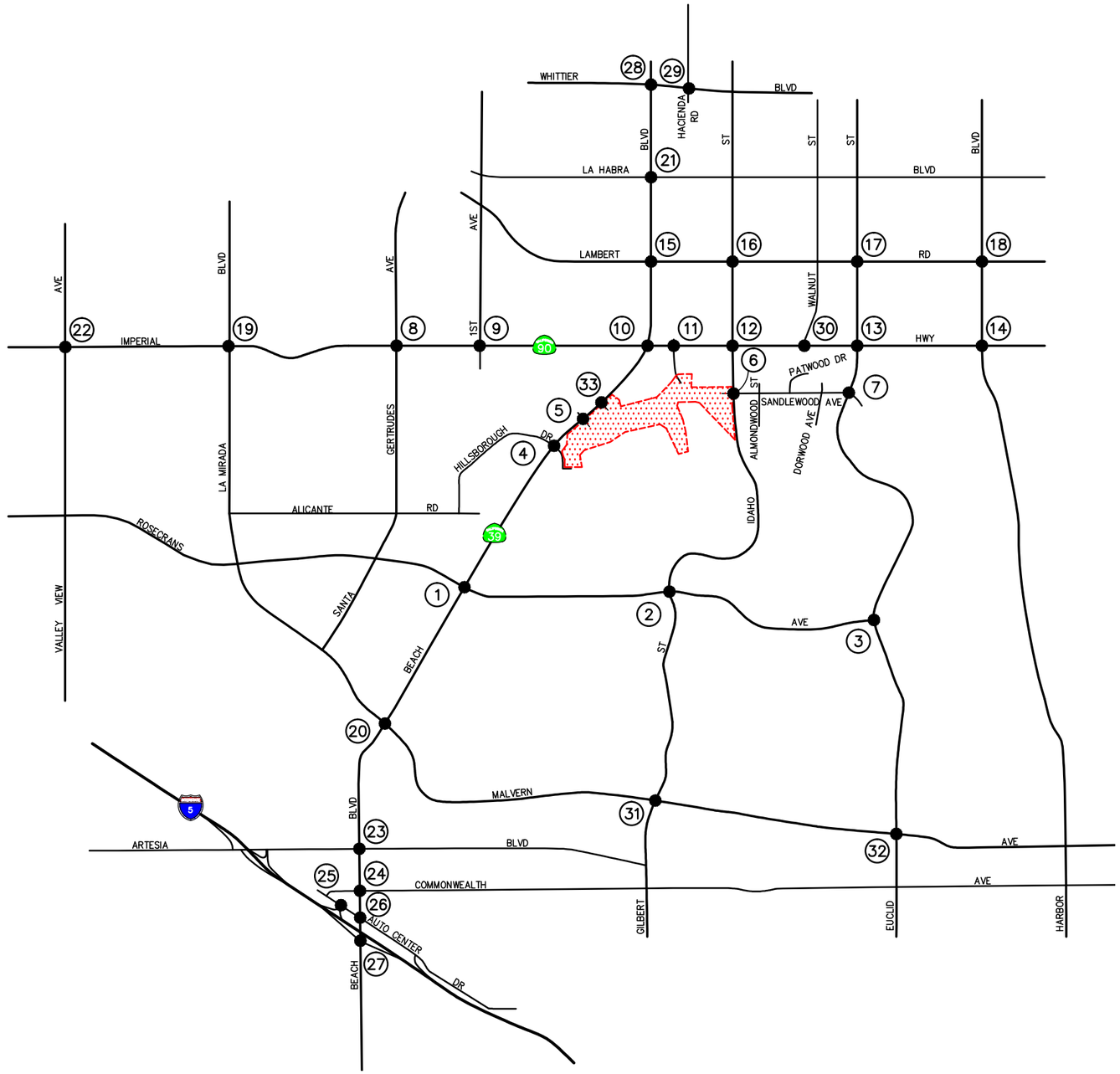
KEY

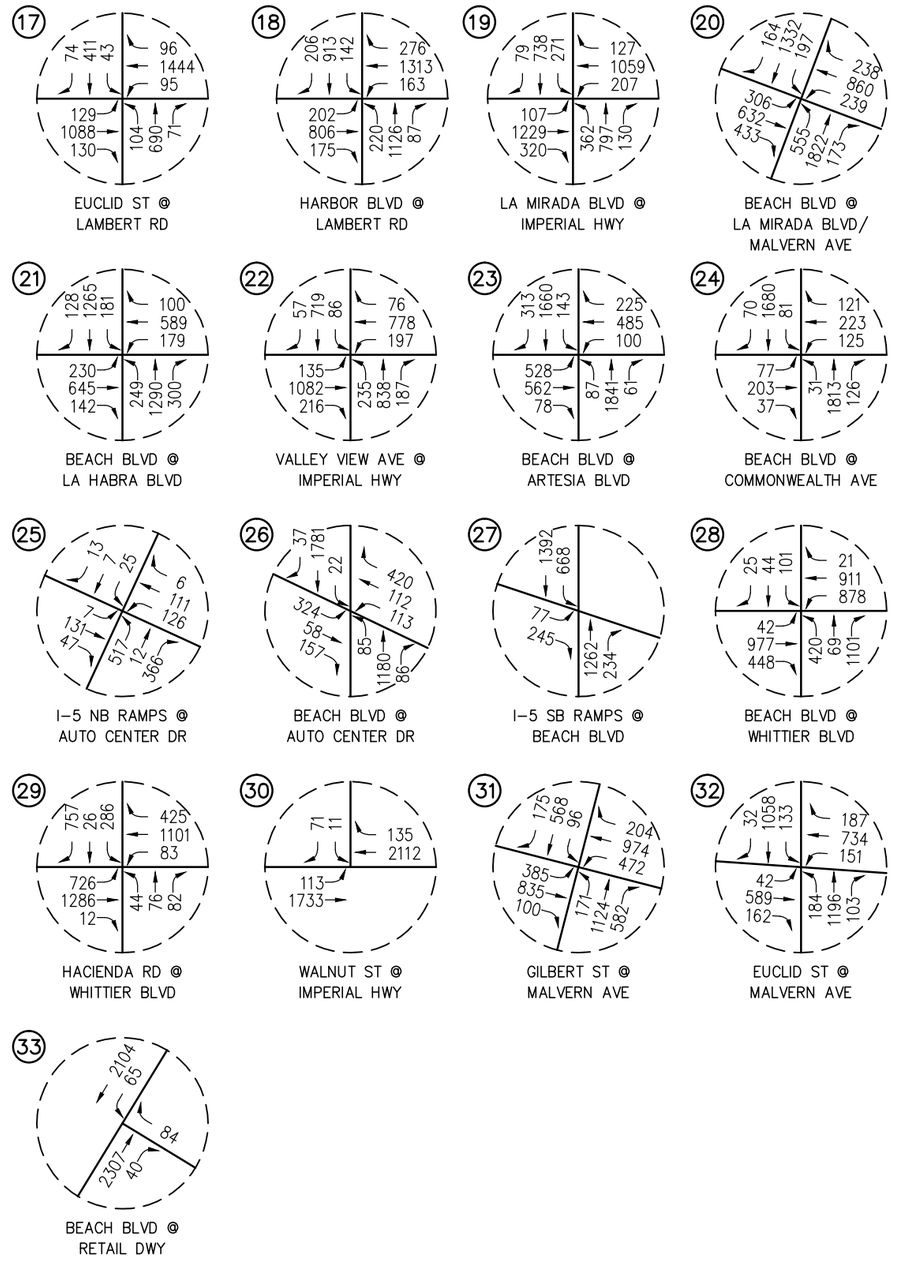
= PROJECT SITE

FIGURE 5-11A

EXISTING PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

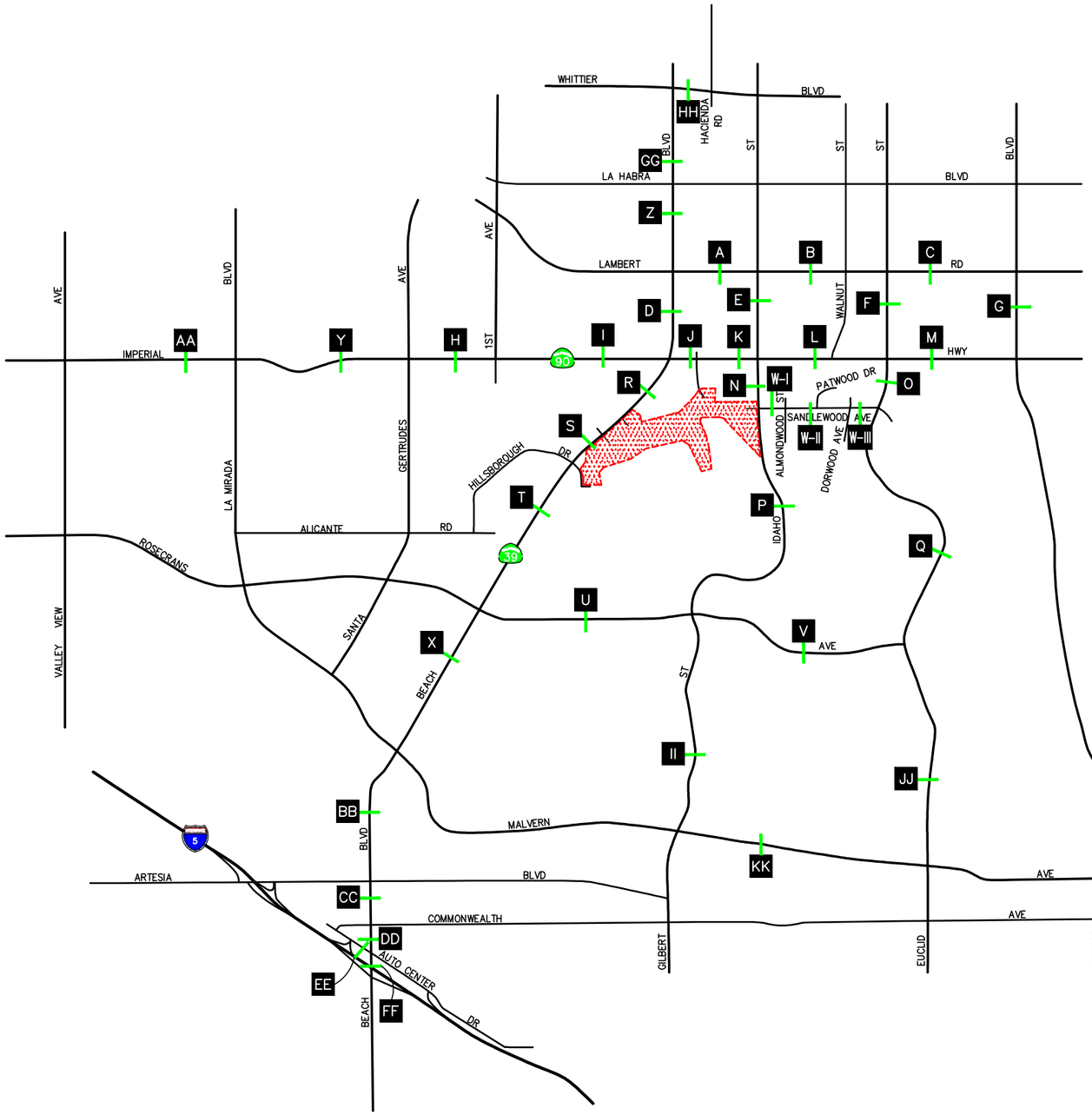
N NO SCALE

KEY
= PROJECT SITE

FIGURE 5-11B

EXISTING PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	35,387	U	21,709
B	37,387	V	15,390
C	36,014	W-I	3,812
D	52,242	W-II	2,143
E	23,810	W-III	1,508
F	17,953	X	45,486
G	35,459	Y	32,407
H	37,186	Z	43,629
I	37,321	AA	31,183
J	51,774	BB	72,892
K	52,210	CC	57,668
L	51,871	DD	59,561
M	53,097	EE	12,681
N	20,915	FF	62,515
O	21,754	GG	35,790
P	16,004	HH	47,375
Q	22,497	II	24,268
R	58,540	JJ	31,757
S	60,516	KK	24,335
T	55,873		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

A = STUDY ROADWAY SEGMENT

= PROJECT SITE

FIGURE 5-12

EXISTING PLUS PROJECT DAILY TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Year 2023 Traffic Conditions

6.1.1 *Ambient Traffic Growth*

Horizon year, background traffic growth estimates have been calculated using an ambient traffic growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at one percent (1.0%) per year. Applied to the Year 2018 existing traffic volumes, this factor results in a 5.0% growth in existing volumes to the near-term horizon year 2023.

6.1.2 *Cumulative Projects Traffic Characteristics*

In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed Project, the status of other known development projects (cumulative projects) in the vicinity of the proposed Project has been researched at the Cities of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development.

Based on our research, there are seven (7) cumulative projects in the City of La Habra, one (1) cumulative project in the City of La Habra Heights, two (2) cumulative projects in the City of Fullerton, twenty-four (24) cumulative projects in the City of Whittier, eight (8) cumulative projects in the City of Brea, eleven (11) cumulative projects in the City of Buena Park and ten (10) cumulative projects in the City of La Mirada within the vicinity of the subject site that have either been built, but not yet fully occupied, or are being processed for approval. These sixty-three (63) cumulative projects have been included as part of the cumulative background setting in addition to the inclusion of an ambient traffic growth factor, which provides a conservative forecast.

Table 6-1 provides the location and a brief description for each of the sixty-three (63) cumulative projects. ***Figure 6-1*** graphically illustrates the location of the cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections and/or key roadway segments.

6.1.3 *Cumulative Projects Trip Generation and Assignment*

Table 6-2 summarizes the trip generation potential for all sixty-three (63) cumulative projects on a daily and peak hour basis for a typical weekday. As shown, the cumulative projects are expected to generate 92,801 daily trips, with 6,387 trips (2,900 inbound, 3,487 outbound) anticipated during the AM peak hour and 7,649 trips (4,166 inbound, 3,483 outbound) produced during the PM peak hour.

Distribution patterns for each of the cumulative projects were developed based on the location of the trip attractors, type of land use, the site's proximity to major traffic carriers and freeways and previously completed traffic studies. The AM and PM peak hour traffic volumes associated with the sixty-three (63) cumulative projects in the Year 2023 are presented in ***Figures 6-2*** and ***6-3***, respectively. ***Figure 6-4*** presents the daily cumulative project traffic volumes.

6.1.4 *Year 2023 Cumulative Traffic Volumes*

Figures 6-5 and ***6-6*** present the Year 2023 AM and PM peak hour cumulative traffic volumes at the thirty-two (32) key study intersections, respectively. ***Figure 6-7*** presents the Year 2023 daily cumulative traffic volumes. Please note that the cumulative traffic volumes represent the accumulation of existing traffic, ambient growth traffic and cumulative projects traffic.

Figures 6-8 and ***6-9*** illustrate the Year 2023 forecast AM and PM peak hour traffic volumes with the inclusion of the trips generated by the proposed Project, respectively. ***Figure 6-10*** presents the Year 2023 daily cumulative plus project traffic volumes.

6.2 Year 2035 Traffic Conditions

The Year 2035 buildout without project traffic volume forecasts were obtained through utilization of the OCTAM3.4 Year 2035 traffic model provided by OCTA. Specifically, daily, AM peak period and PM peak period link traffic volumes were provided by OCTA for the existing base year (i.e. Year 2010) and for the buildout year (i.e. Year 2035). The AM peak period corresponds to a three-hour morning commute period while the PM peak period corresponds to a four-hour afternoon commute period. Using the peak period model runs and the OCTA approved peak hour factors (i.e. AM = 0.3566 and PM = 0.2662), the one-hour peak hour link traffic volumes were determined. These future year 2035 link traffic volumes were post-processed based on the relationship of the base year validation model run output to the base year ground traffic counts resulting in Year 2035 buildout without project daily volumes for the key roadway segments and Year 2035 buildout without project AM peak hour/PM peak hour turning movements for the key study intersections. It should be noted that each projected volume was reviewed carefully for reasonableness and adjustments were applied as warranted based on local conditions and professional judgment.

Copies of the model post-processing worksheets are contained in ***Appendix E***.

6.2.1 *Year 2035 Traffic Volumes*

Figures 6-11 and ***6-12*** present the Year 2035 AM and PM peak hour buildout traffic volumes at the thirty-two (32) key study intersections, respectively. ***Figure 6-13*** presents the Year 2035 daily buildout traffic volumes. ***Figures 6-14*** and ***6-15*** illustrate the Year 2035 forecast buildout AM and PM peak hour traffic volumes, with the inclusion of the trips generated by the proposed Project, respectively. ***Figure 6-16*** also presents the Year 2035 daily buildout plus project traffic volumes.

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[21]

No.	Description	Location/Address	Size
City of La Habra			
1.	City Hall Relocation/Residential	Northeast corner of Euclid Street and La Habra Boulevard	9 DU SFDR 62 DU Condominiums
2.	Skylark	1220-1240 W. La Habra Boulevard	32 DU Condominiums
3.	701 E. Imperial Highway Mixed-Use Development	North of Imperial Highway at Village Drive, east of Leslie Street	105 Room Hotel, 2,250 SF Fast-Food with Drive-Thru, 2,250 SF Fast Food with Frive-thru,10,000 SF Day Care Center
4.	Pinnacle Residential	1101 N. Harbor Boulevard	7 DU SFDR
5.	Olson Co.	1801 West La Habra Boulevard	50 DU Condominiums
6.	Mountain View Apartments	320-330 South Monte Vista Street	30 DU Apartments
7.	Bonanni Development	104-118 East Electric Avenue	65 DU Condominiums
City of La Habra Heights			
8.	Sempra Oil Field Phase 3	NW Part of the City of La Habra Heights	18 Acre Oil Field
City of Fullerton			
9.	West Coyote Hills	Generally north of Rosecrans Avenue between Beach Boulevard and Euclid Avenue	556 DU SFDR 204 DU Condominiums 68,000 SF Retail/Office
10.	Demolition of Beckman Coulter Facility and Construction of Beckman Business Center	4300 North Harbor Boulevard	978,665 SF of Warehouse, Manufacturing and Industrial Floor Area
City of Whittier			
11.	Morningstar Christian Chapel	16233 Leffingwell Road	10,000 SF Church Expansion
12.	Park Place	14640-14660 Whittier Boulevard	50 DU Condominiums
13.	Amesbury	12423-12425 Whittier Boulevard	55 DU Condominiums
14.	S. Chen Condos Project	7941 Greenleaf Avenue	12 DU Condominiums
15.	Lincoln Specific Plan (former Fred C. Nelles Youth Correctional Facility)	11850 Whittier Boulevard (at Whittier Boulevard and Sorensen Avenue)	750 residential DU consisting of 187 DU single family, 296 DU apartments, 267 DU condos, with up to 208,350 SF of retail/comm. consisting of 8,000 SF medical office, 127,850 SF shopping center, 38,000 SF supermarket, 4,500 SF drive-in bank, 9,000 SF quality restaurant, 14,000 SF high-turnover rest. and 7,000 SF fast-food restaurant with drive-thru

[21] Source: City of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada Planning Departments.

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[22]

No.	Description	Location/Address	Size
16.	Catalina Apartments	14339 Whittier Boulevard	76 DU Multi-Family
17.	Cambridge Place	11757 Hadley Street	32 DU Townhomes
18.	Former ICC	5360 Workman Mill Road	32 DU SFDR
19.	New Apartments	14021 Whittier Boulevard	24 DU Apartments
20.	G & M Gas Station	12559 Lambert Road	1,960 SF Gas Station
21.	Xtreme Tint	13443 Lambert Road	11,705 SF Commercial
22.	Enchanted Flowers Site	15807 Whittier Boulevard	1,032 SF Tire Store
23.	US Bank	13525 Whittier Boulevard	4,120 SF Bank
24.	Whittier Blvd Apartments	14021 Whittier Boulevard	22 DU Apartments
25.	Five Points	8016 Santa Fe Springs Road	60 DU Apartments 4,561 SF Express Car Wash
26.	King Taco Office Replacement	11533 Whittier Boulevard	4,420 SF Office Building
27.	Washington Blvd Apartments	12428 Washington Boulevard	14 DU Apartments
28.	Road Runner Towing	12087 Whittier Boulevard	4,700 SF Office
29.	Poet Gardens	13002 Philadelphia Street	14,000 SF Brewery Restaurant
30.	Lambert Road Car Wash	13001 Lambert Road	4,000 SF Automated Car Wash
31.	Whittier Boulevard Motel	14116-14128 Whittier Boulevard	41 Room Motel
32.	College Avenue Apartments	8343 College Avenue	30 DU Apartments
33.	WACC	8100 Colima Road	25,960 SF Church
34.	ABS Properties	12100 Hadley Street	28,757 SF Manufacturing
City of Brea			
35.	Central Park Village	340-420 W. Central Avenue	83 DU townhomes, 369 DU apartments, 31,000 SF retail, and 35,000 SF MOB
36.	La Floresta	Northeast corner of Valencia Avenue and Imperial Highway	1,220 DU Single-Family 156,000 SF Commercial *(90% Complete)*
37.	CVS	390 N. Brea Boulevard	13,000 SF CVS 1,700 SF Coffee Shop with Drive-Thru
38.	Brea Place	State College Boulevard and Birch Street	790 DU Apartments 150 Room Hotel 5,000 SF Office

[22] Source: City of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada Planning Departments.

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[23]

No.	Description	Location/Address	Size
39.	Brea Imperial Center	311-391 S. State College Boulevard 1130-1160 E. Imperial Highway	45,283 SF Commercial
40.	Downtown Hotel	220 S. Brea Boulevard	116 Room Hotel
41.	Mercury Apartments	Southeast corner of Berry Street and Mercury Lane	120 DU Apartments
42.	Brea 265	Brea 265 Specific Plan	301 DU Low Density Residential 273 DU Med. Density Residential 526 DU High Density Residential
City of Buena Park			
43.	Los Coyotes Country Club Development Plan	Los Coyotes Country Club (8888 Los Coyotes Drive)	80 DU Condominiums 4,000 SF Office
44.	The Source, Beach/Orangethorpe Mixed-Use Development	6940 Beach Boulevard	319 DU Condominiums *(Phase 1 Complete)*
45.	7301 Artesia Blvd/Nabisco Site	7301 Artesia Blvd	149 DU Condominiums *(10% Remain to be Constructed)* 102 RM Hotel *(Complete But Not Yet Open)* 31,800 SF Automobile Sales *(Complete)*
46.	Olson IndigoWalk	8281 Page Street	54 DU Condominiums
47.	Arte Home	7411 Artesia Boulevard	21 DU Apartments
48.	Aloft Hotel	7851 Beach Boulevard	149 Room Hotel
49.	Stanford Hotel	7860 Beach Boulevard	150 Room Hotel
50.	Org/Mag Townhomes	8925 Orangethorpe Avenue	108 DU Condominiums
51.	6555 Beach	6555 Beach Boulevard	34 DU Apartments 1,418 SF Commercial
52.	Exbon	8422 Commonwealth Avenue	24,237 SF Contractor Yard
53.	Butterfly Palladium	7711 Beach Boulevard	57,300 SF Entertainment Attraction
City of La Mirada			
54.	Apartments	11628 La Mirada Boulevard	28 DU Apartments
55.	Single Family Homes	13400 Biola Avenue	6 DU SFDR
56.	Multi-Family Residential	13811 Valley View Avenue	52 Condominiums
57.	Commercial	14447 Firestone Boulevard	28,000 SF Commercial

[23] Source: City of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada Planning Departments.

TABLE 6-1 (CONTINUED)

LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[24]

No.	Description	Location/Address	Size
58.	Valley View Ave Multi-Family	12841 Valley View Avenue	39 Condominiums
59.	Firestone Blvd Restaurant	14303 Firestone Boulevard	5,132 SF Fast-Food with Drive-Thru
60.	UPS Parcel Hub	16301 Trojan Way	498,000 SF Parcel Hub
61.	Movie Theater	15296 Rosecrans Avenue	24,900 SF Movie Theater
62.	Imperial Highway Restaurant	15809 Imperial Highway	2,260 SF Fast-Food with Drive-Thru
63.	Imperial Highway Retail	15745 Imperial Highway	30,720 SF Retail Space

[24] Source: City of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada Planning Departments.

TABLE 6-2
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[25]

No.	Cumulative Project Description	Daily Two-Way	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
1.	City Hall Relocation/Residential[26]	673	10	42	52	42	21	63
2.	Skylark	234	3	12	15	11	7	18
3.	701 E. Imperial Highway Mixed-Use[27]	3,273	152	130	282	128	130	258
4.	Pinnacle Residential	66	1	4	5	4	3	7
5.	Olson Co.	366	5	18	23	18	10	28
6.	Mountain View Apartments	220	3	11	14	11	6	17
7.	Bonanni Development	476	7	23	30	23	13	36
8.	Sempra Oil Field Phase 3[28]	31	10	1	11	0	5	5
9.	West Coyote Hills[29]	7,814	139	366	505	466	307	773
10.	Beckman Business Center[30]	5,767	651	145	796	191	586	777
11.	Morningstar Christian Chapel	70	2	1	3	2	3	5
12.	Park Place	366	5	18	23	18	10	28
13.	Amesbury	403	6	19	25	20	11	31
14.	S. Chen Condos Project	88	1	5	6	4	3	7
15.	Lincoln Specific Plan[31]	20,330	557	723	1,280	729	581	1,310
16.	Catalina Apartments	556	8	27	35	27	16	43
17.	Cambridge Place	234	3	12	15	11	7	18
18.	Former ICC	302	6	18	24	20	12	32
19.	New Apartments	176	3	8	11	8	5	13
20.	G & M Gas Station	924	16	15	31	25	24	49
21.	Xtreme Tint	398	6	4	10	15	15	30
22.	Enchanted Flowers Site	26	2	1	3	1	2	3
23.	US Bank	375	16	19	35	14	18	32
24.	Whittier Blvd Apartments	161	2	8	10	8	4	12
25.	Five Points	899	21	32	53	46	37	83
26.	King Taco Office Replacement	43	4	1	5	1	4	5
27.	Washington Blvd Apartments	102	1	5	6	5	3	8

25 Unless otherwise noted, Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

26 Source: *Traffic Impact Study City Ventures La Habra Civic Center Project,* prepared by Kimley-Horn and Associates, dated December 2014.

27 Source: *Revised Traffic Impact Analysis 701 E. Imperial Highway Mixed Use Development,* prepared by LLG Engineers, dated May 19, 2016.

28 Source: *Traffic Impact Analysis Sempra Oil Field Development,* prepared by LLG Engineers, dated October 14, 2013.

29 Source: *West Coyote Hills Specific Plan Amendment Traffic Impact Analysis,* prepared by Kunzman Associates, dated March 9, 2006. Per direction from City of Fullerton staff, the fire station and elementary school land uses have been excluded from the trip generation estimates.

30 Source: *Traffic Impact Analysis Beckman Business Center,* prepared by LLG Engineers, dated November 10, 2016.

31 Source: *Lincoln Specific Plan Traffic Impact Analysis,* prepared by RBF Consulting, dated October 2014.

TABLE 6-2 (CONTINUED)
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[32]

No.	Cumulative Project Description	Daily Two-Way	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
28.	Road Runner Towing	46	4	1	5	1	4	5
29.	Poet Gardens	1,590	0	0	0	105	54	159
30.	Lambert Road Car Wash	404	13	9	22	22	21	43
31.	Whittier Boulevard Motel	137	6	10	16	9	7	16
32.	College Avenue Apartments	220	3	11	14	11	6	17
33.	WACC	180	5	4	9	6	7	13
34.	ABS Properties	113	14	4	18	6	13	19
35.	Central Park Village[33]	4,179	76	227	303	262	154	416
36.	La Floresta[34]	1,298	10	61	71	80	37	117
37.	CVS	2,323	62	58	120	62	61	123
38.	Brea Place	7,086	130	310	440	325	213	538
39.	Brea Imperial Center	1,538	24	15	39	55	59	114
40.	Downtown Hotel[35]	1,202	45	34	79	44	38	82
41.	Mercury Apartments[36]	653	11	32	43	32	21	53
42.	Brea 265	8,689	141	450	591	470	276	746
43.	Los Coyotes Country Club Development	625	13	29	42	29	21	50
44.	The Source Mixed-Use Development[37]	1,333	19	89	108	77	44	121
45.	7301 Artesia Blvd/Nabisco Site	963	30	25	55	36	33	69
46.	Olson IndigoWalk	395	6	19	25	19	11	30
47.	Arte Home	154	2	8	10	8	4	12
48.	Aloft Hotel	1,246	41	29	70	45	44	89
49.	Stanford Hotel	1,254	42	29	71	46	44	90
50.	Org/Mag Townhomes	791	12	38	50	38	22	60
51.	6555 Beach	298	5	12	17	13	9	22
52.	Exbon	82	8	2	10	2	8	10
53.	Butterfly Palladium[38]	1,688	241	0	241	79	161	240
54.	Apartments	205	3	10	13	10	6	16
55.	Single Family Homes	57	1	3	4	4	2	6

[32] Unless otherwise noted, Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

[33] Source: *Central Park Village Traffic Study,* prepared by Austin-Foust Associates, Inc., dated May 2010.

[34] Source: *La Floresta Traffic Study,* prepared by Austin-Foust Associates, Inc., dated November 2006. Per direction from City of Brea staff, only 10% is remaining to be constructed and occupied.

[35] Source: *Traffic Impact Analysis Scope of Work for Downtown Brea Boutique Hotel,* prepared by LLG Engineers, dated August 2, 2018.

[36] Source: *Traffic Impact Analysis Mercury Apartments,* prepared by LLG Engineers, dated August 31, 2018.

[37] Source: *Beach and Orangethorpe Mixed-Use Specific Plan Draft Program EIR Section 4.11,* prepared by BonTerra Consulting, dated Aug. 2008.

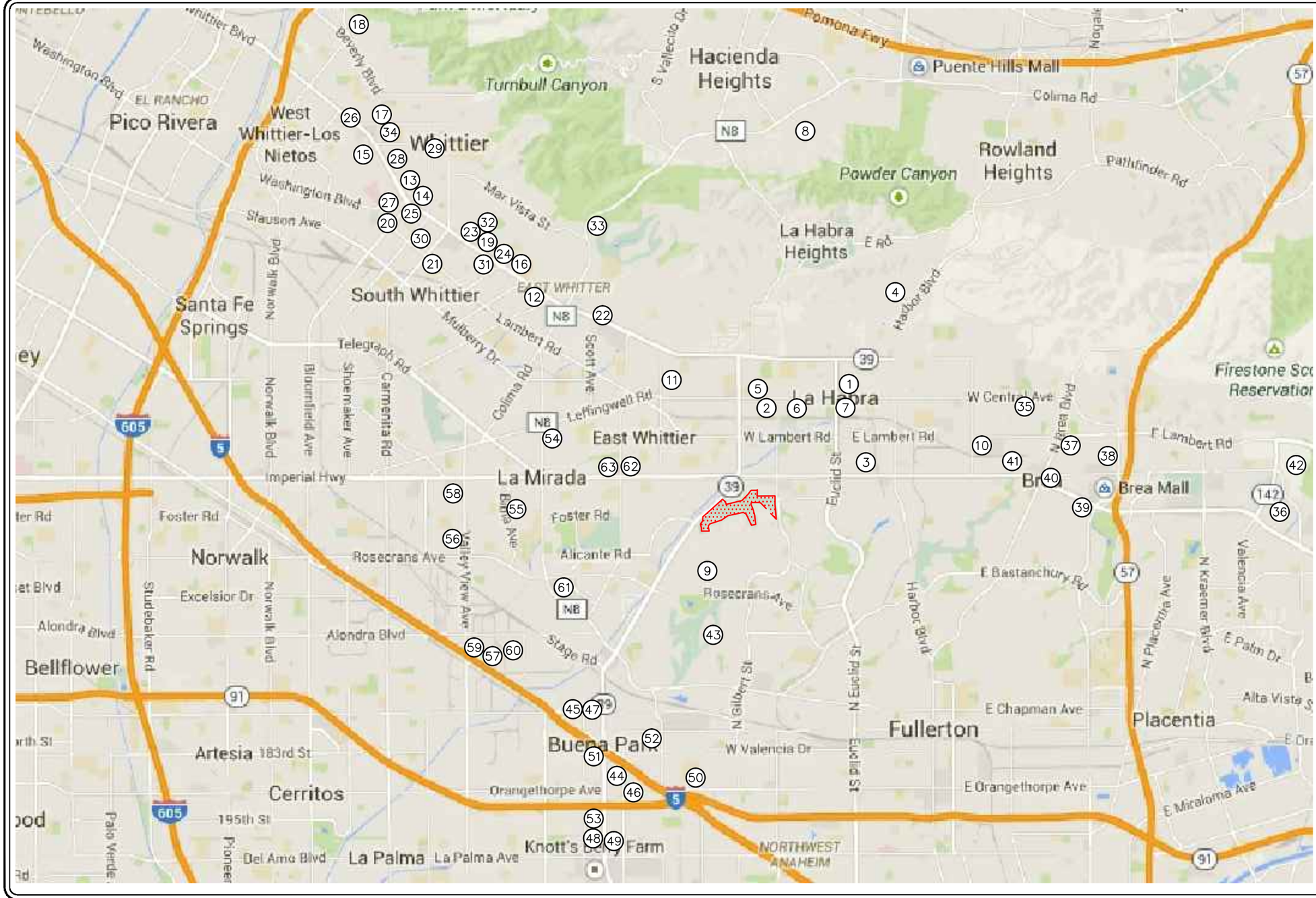
[38] Source: *Site Access, Internal Circulation, and Parking Study for Butterfly Palladium,* prepared by LLG Engineers, dated July 29, 2016.

TABLE 6-2 (CONTINUED)

CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[39]

No.	Cumulative Project Description	Daily Two-Way	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
56.	Multi-Family Residential	381	6	18	24	18	11	29
57.	Commercial	951	14	9	23	34	37	71
58.	Valley View Ave Multi-Family	285	4	14	18	14	8	22
59.	Firestone Blvd Restaurant	1,813	54	51	105	43	41	84
60.	UPS Parcel Hub	3,860	175	174	349	217	102	319
61.	Movie Theater	547	1	1	2	40	3	43
62.	Imperial Highway Restaurant	798	23	23	46	19	18	37
63.	Imperial Highway Retail	1,044	16	10	26	37	40	77
Total Cumulative Projects Trip Generation Potential		**92,801**	**2,900**	**3,487**	**6,387**	**4,166**	**3,483**	**7,649**

[39] Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).



KEY

1. CITY HALL RELOCATION/RESIDENTIAL
2. SKYLARK
3. 701 E. IMPERIAL HIGHWAY MIXED–USE
4. PINNACLE RESIDENTIAL
5. OLSON CO.
6. MOUNTAIN VIEW APARTMENTS
7. BONANNI DEVELOPEMT
8. SEMPRA OIL FIELD PHASE 3
9. WEST COYOTE HILLS
10. BECKMAN BUSINESS CENTER
11. MORNINGSTAR CHRISTIAN CHAPEL
12. PARK PLACE
13. AMESBURY
14. S. CHEN CONDOS PROJECT
15. LINCOLN SPECIFIC PLAN
16. CATALINA APARTMENTS
17. CAMBRIDGE PLACE
18. FORMER ICC
19. NEW APARTMENTS
20. G & M GAS STATION
21. XTREME TINT
22. ENCHANTED FLOWERS SITE
23. US BANK
24. WHITTIER BLVD APARTMENTS
25. FIVE POINTS
26. KING TACO OFFICE REPLACEMENT
27. WASHINGTON BLVD APARTMENTS
28. ROAD RUNNER TOWING
29. POET GARDENS
30. LAMBERT ROAD CAR WASH
31. WHITTIER BOULEVARD MOTEL
32. COLLEGE AVENUE APARTMENTS
33. WACC
34. ABS PROPERTIES
35. CENTRAL PARK VILLAGE
36. LA FLORESTA
37. CVS
38. BREA PLACE
39. BREA IMPERIAL CENTER
40. DOWNTOWN HOTEL
41. MERCURY APARTMENTS
42. BREA 265
43. LOS COYOTES COUNTRY CLUB DEVELOPMENT
44. THE SOURCE MIXED–USE DEVELOPMENT
45. 7301 ARTESIA BLVD/NABISCO SITE
46. OLSON INDIGO WALK
47. ARTE HOME
48. ALOFT HOTEL
49. STANFORD HOTEL
50. ORG/MAG TOWNHOMES
51. 6555 BEACH
52. EXBON
53. BUTTERFLY PALLADIUM
54. APARTMENTS
55. SINGLE FAMILY HOMES
56. MULTI–FAMILY RESIDENTIAL
57. COMMERCIAL
58. VALLEY VIEW AVE MULTI–FAMILY
59. FIRESTONE BLVD RESTAURANT
60. UPS PARCEL HUB
61. MOVIE THEATER
62. IMPERIAL HIGHWAY RESTAURANT
63. IMPERIAL HIGHWAY RETAIL

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

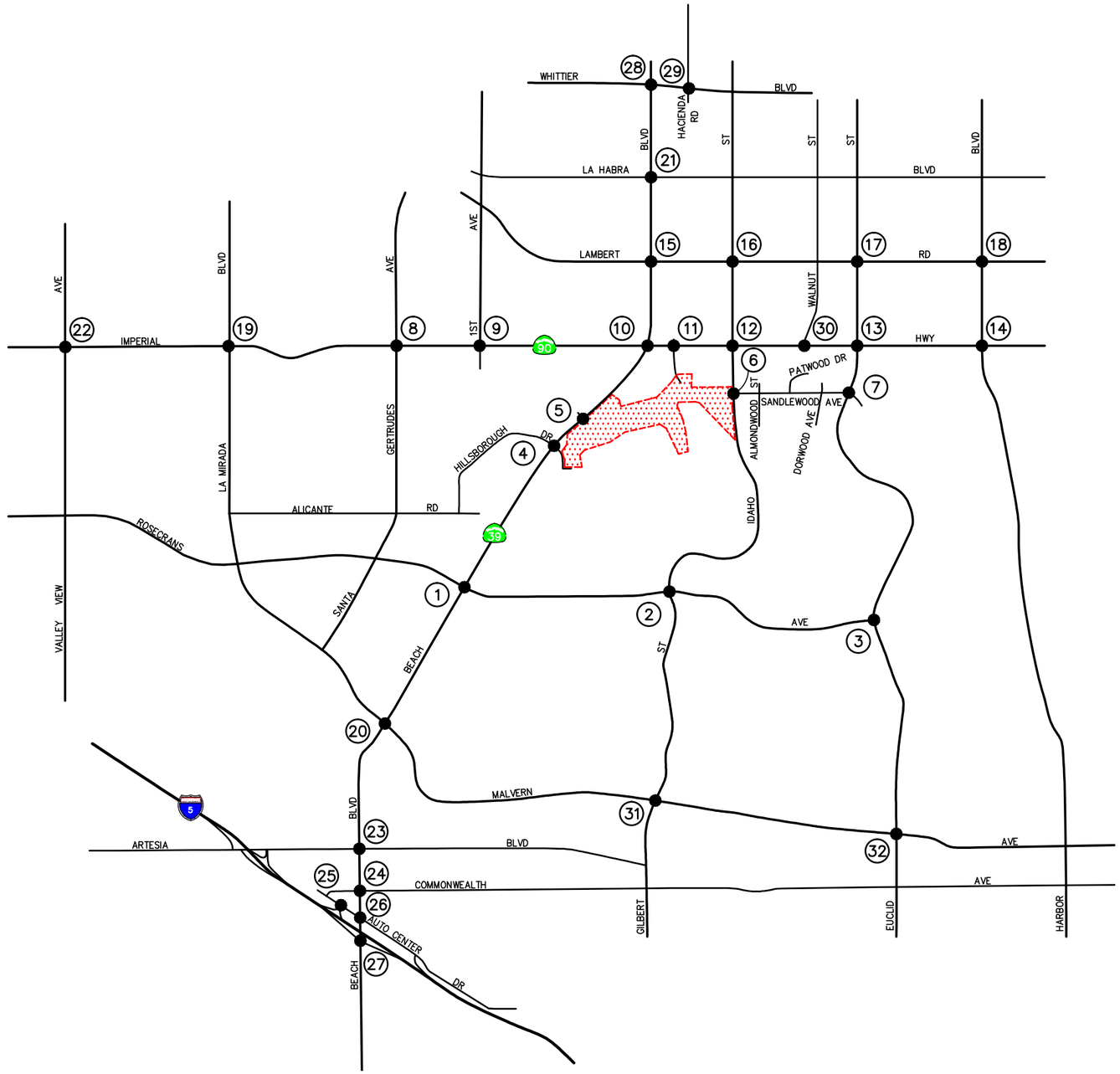
(#) = CUMULATIVE PROJECT LOCATION

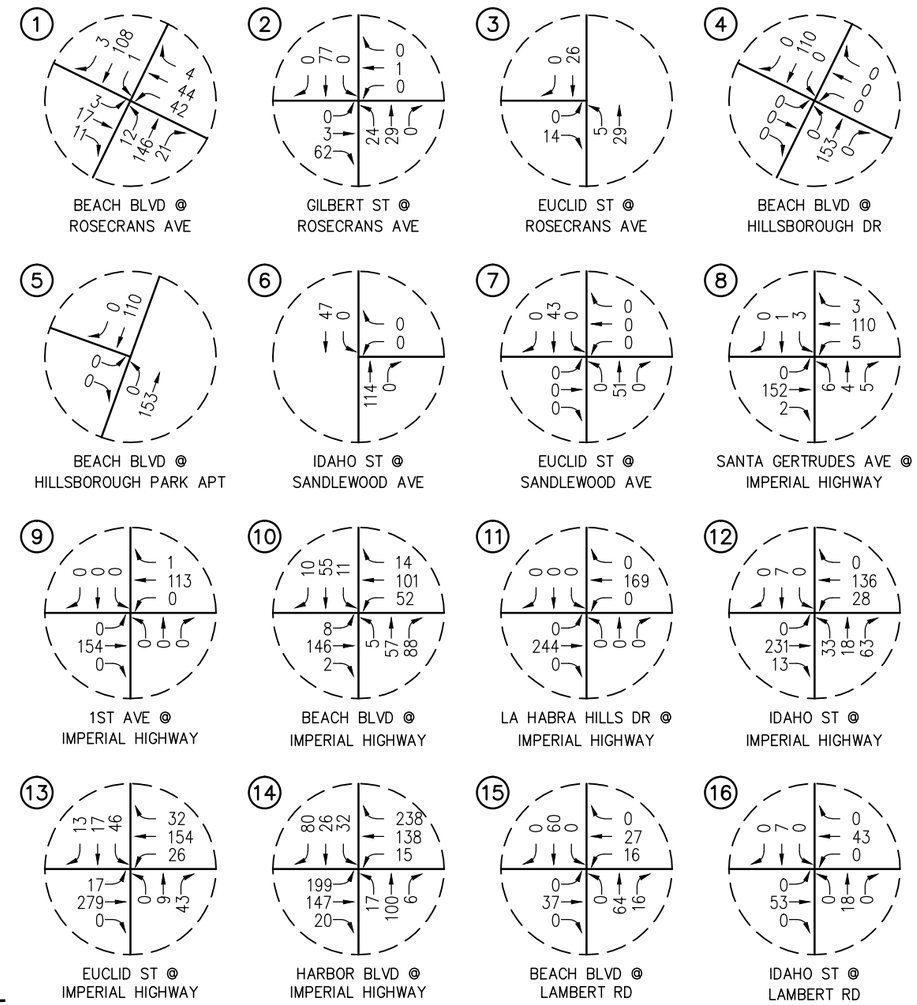
= PROJECT SITE

FIGURE 6–1

CUMULATIVE PROJECT LOCATION MAP

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

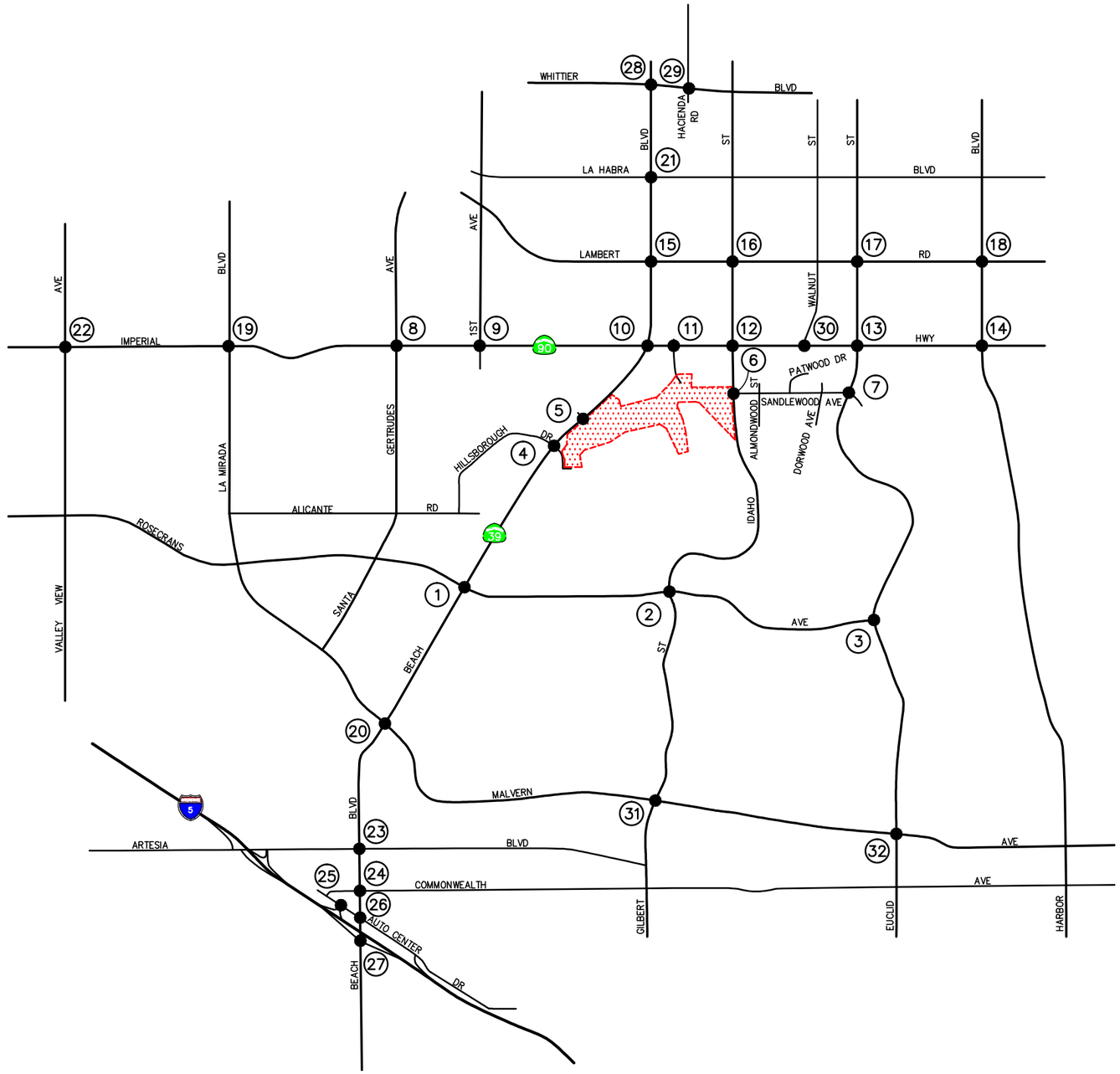
N NO SCALE

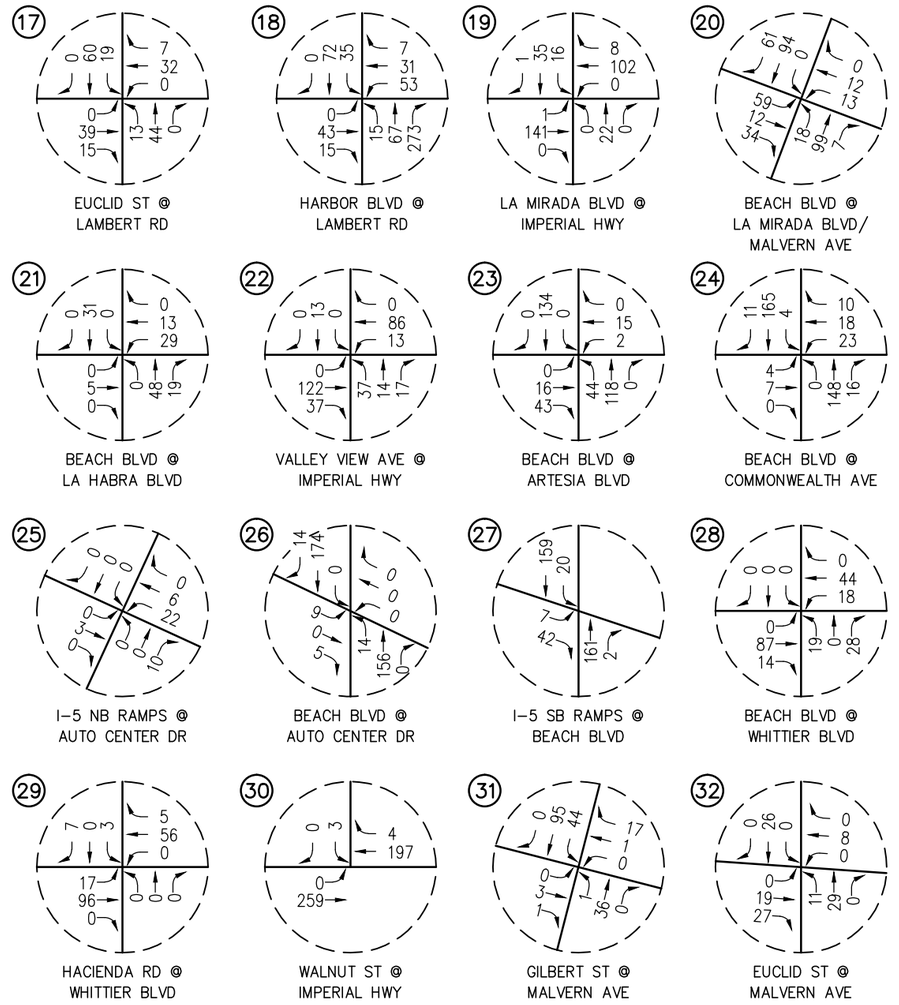
KEY
= PROJECT SITE

FIGURE 6-2A

AM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

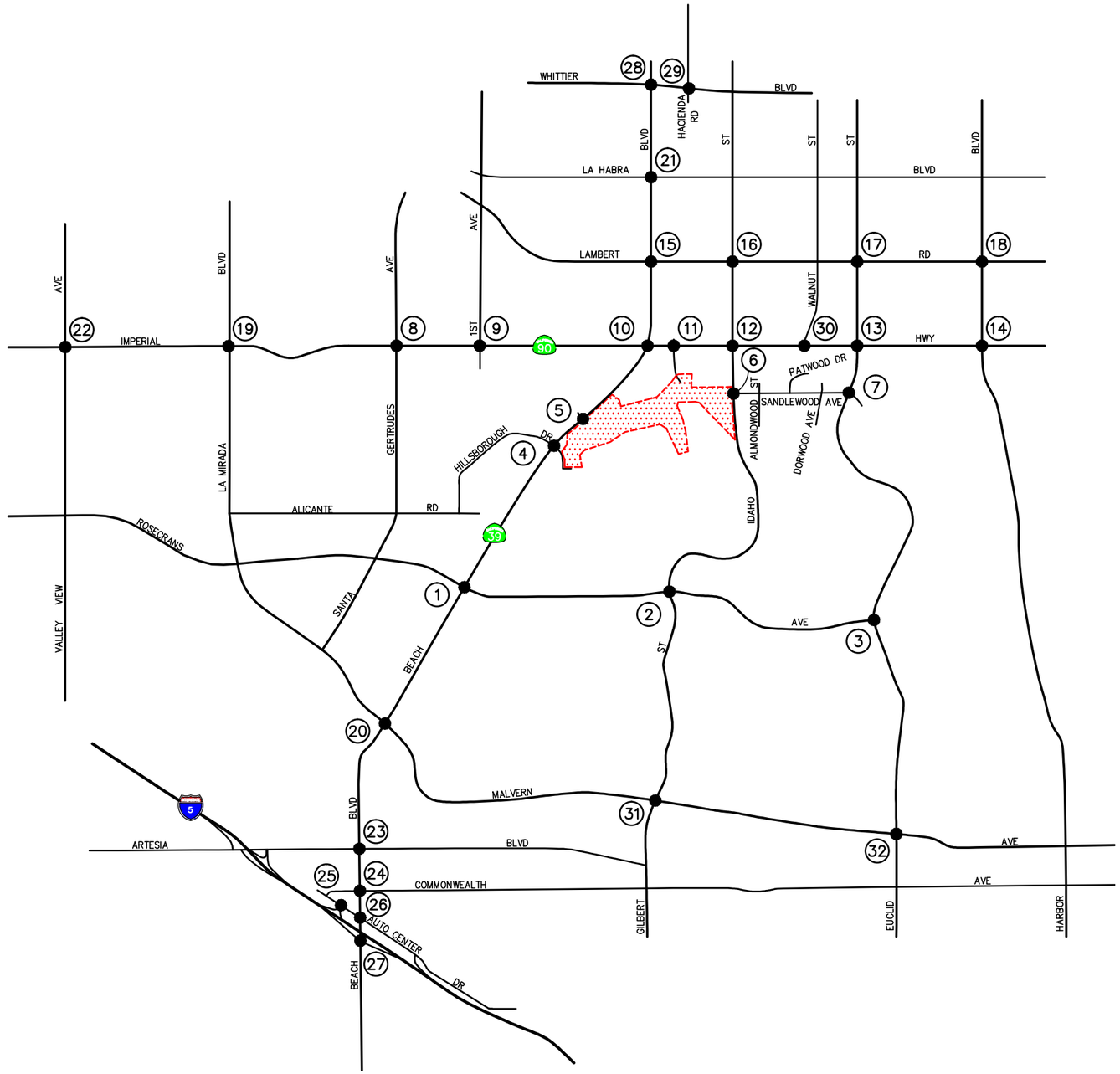
N NO SCALE

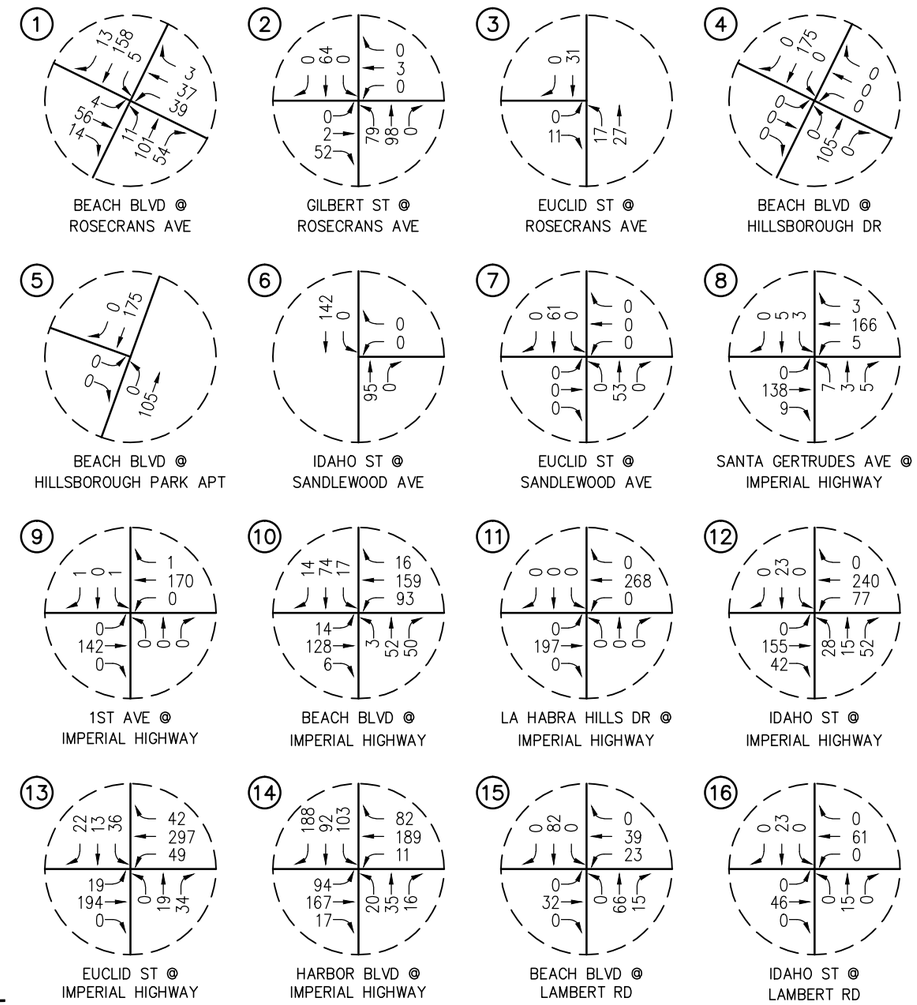
KEY
= PROJECT SITE

FIGURE 6-2B

AM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

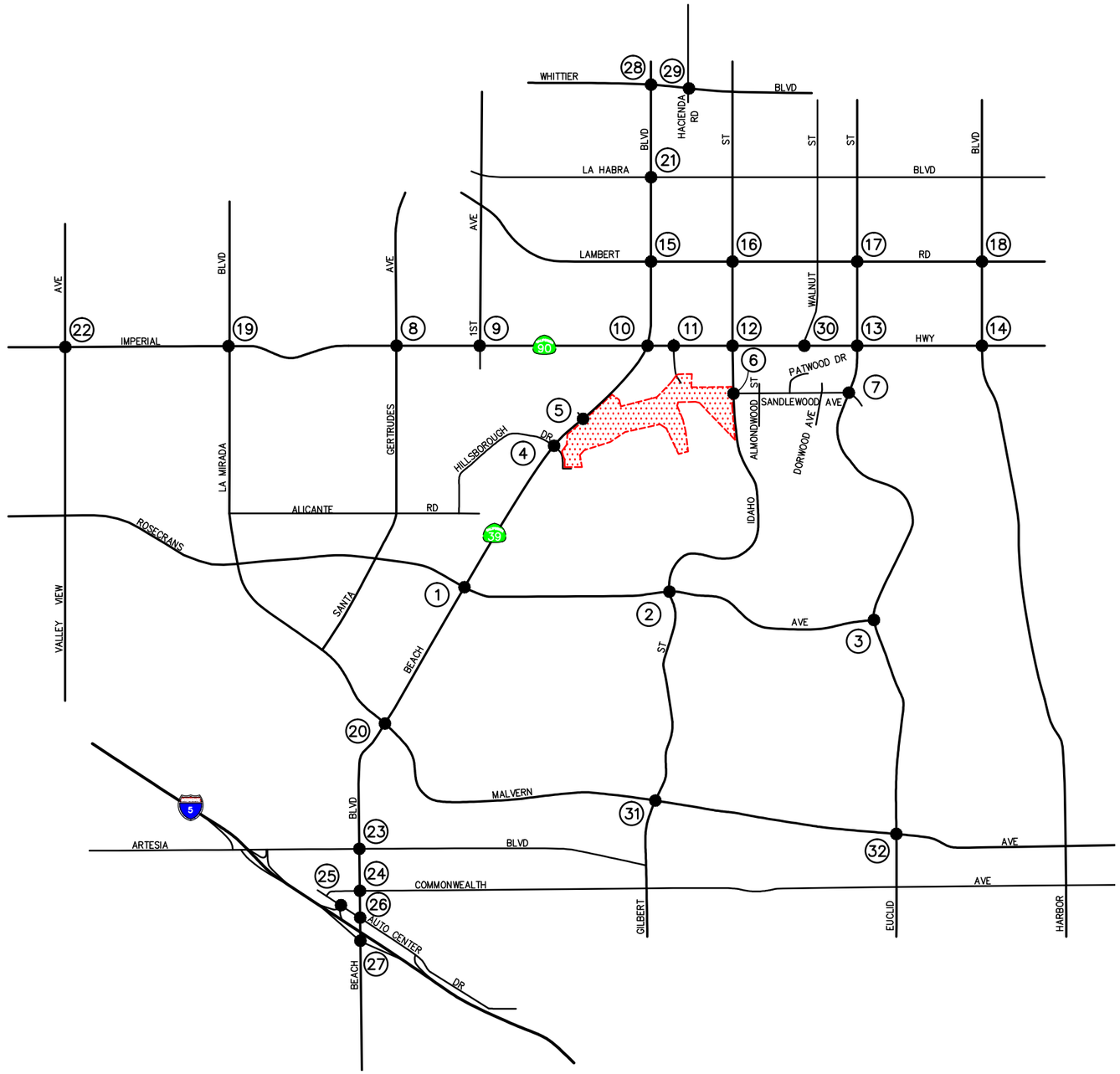
N NO SCALE

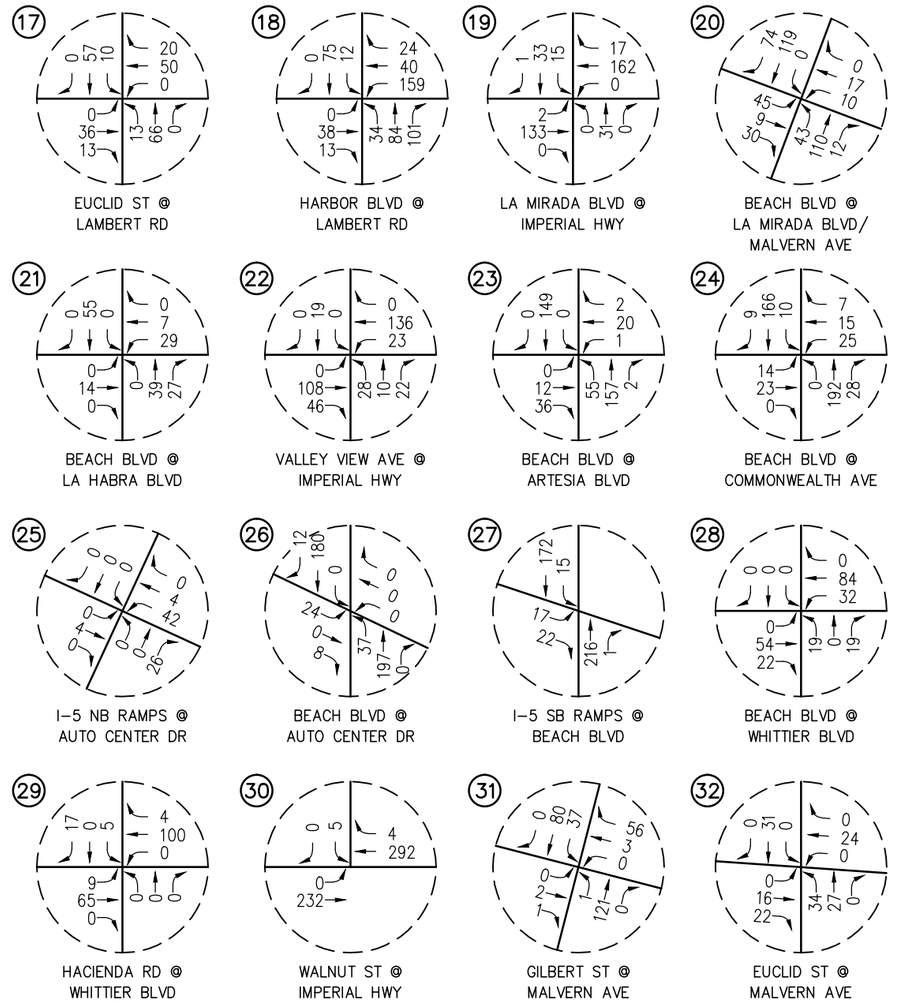
KEY
= PROJECT SITE

FIGURE 6-3A

PM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

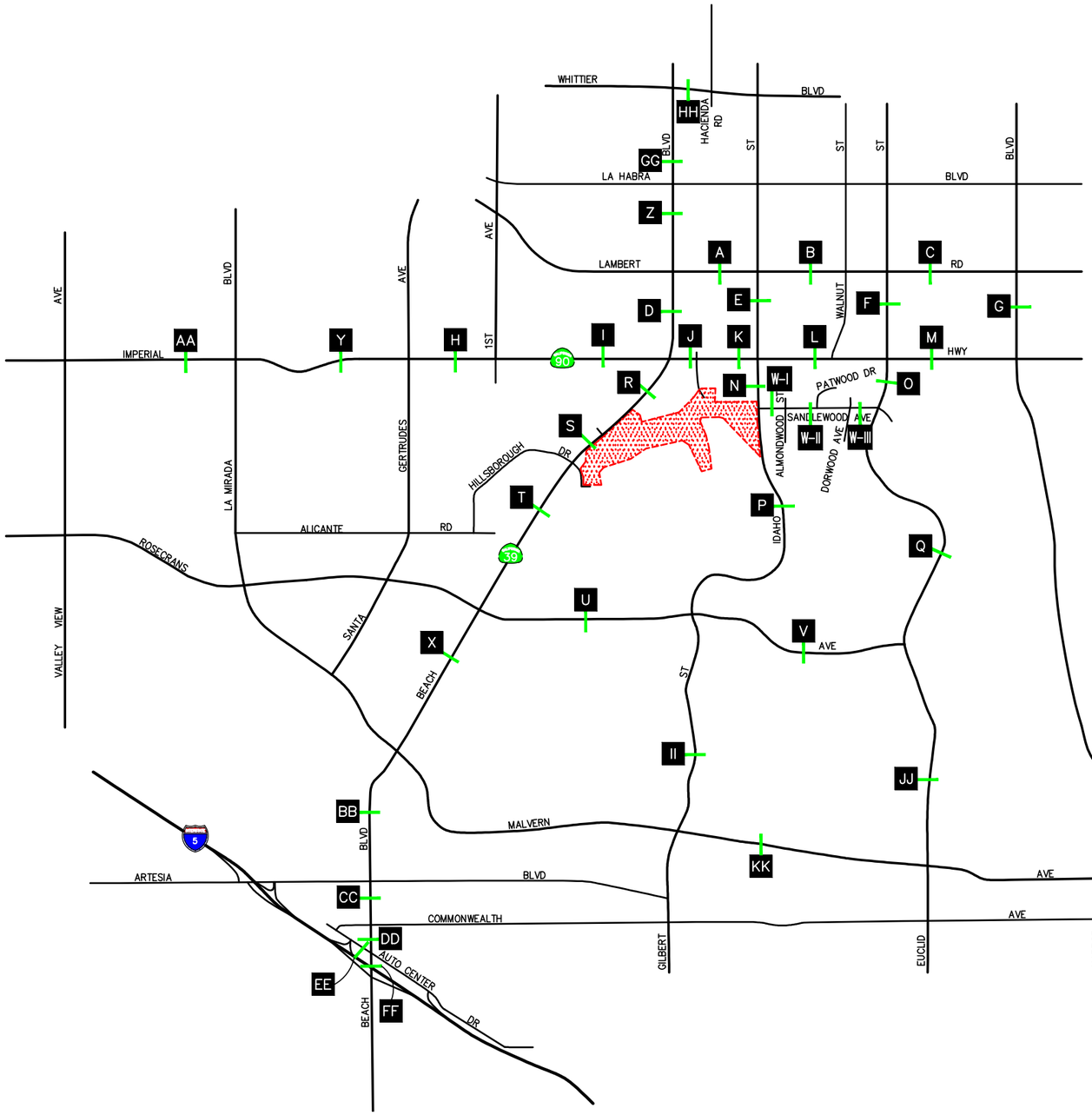
N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-3B

PM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	1,285	U	3,236
B	1,285	V	234
C	1,259	W-I	0
D	2,503	W-II	0
E	391	W-III	0
F	1,777	X	4,109
G	4,989	Y	4,291
H	3,987	Z	1,992
I	3,563	AA	3,270
J	5,044	BB	3,527
K	5,044	CC	4,561
L	5,677	DD	4,492
M	9,093	EE	604
N	2,430	FF	4,895
O	1,250	GG	1,237
P	1,641	HH	2,158
Q	859	II	2,969
R	3,379	JJ	928
S	3,379	KK	1,001
T	3,396		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

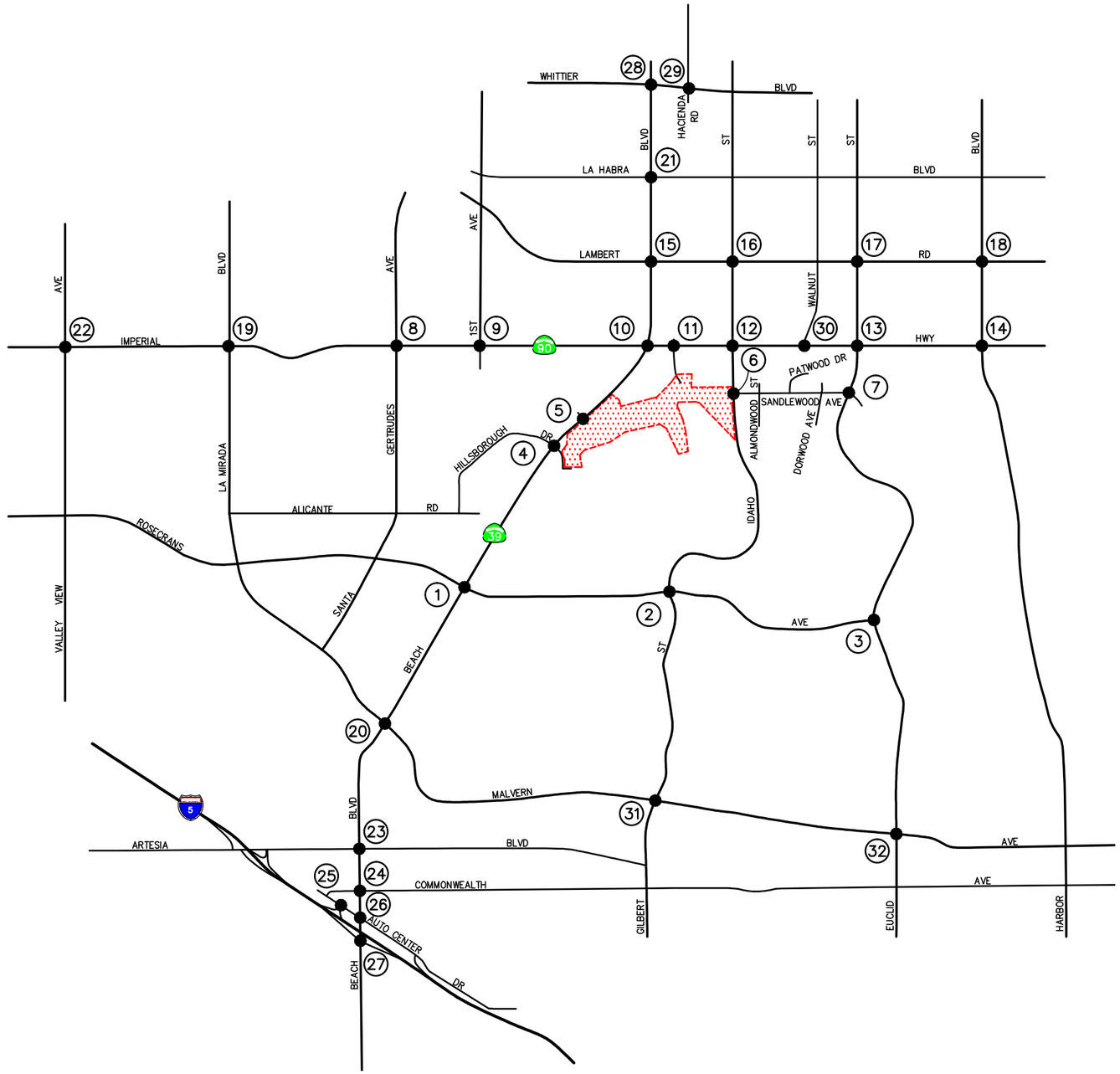
A = STUDY ROADWAY SEGMENT

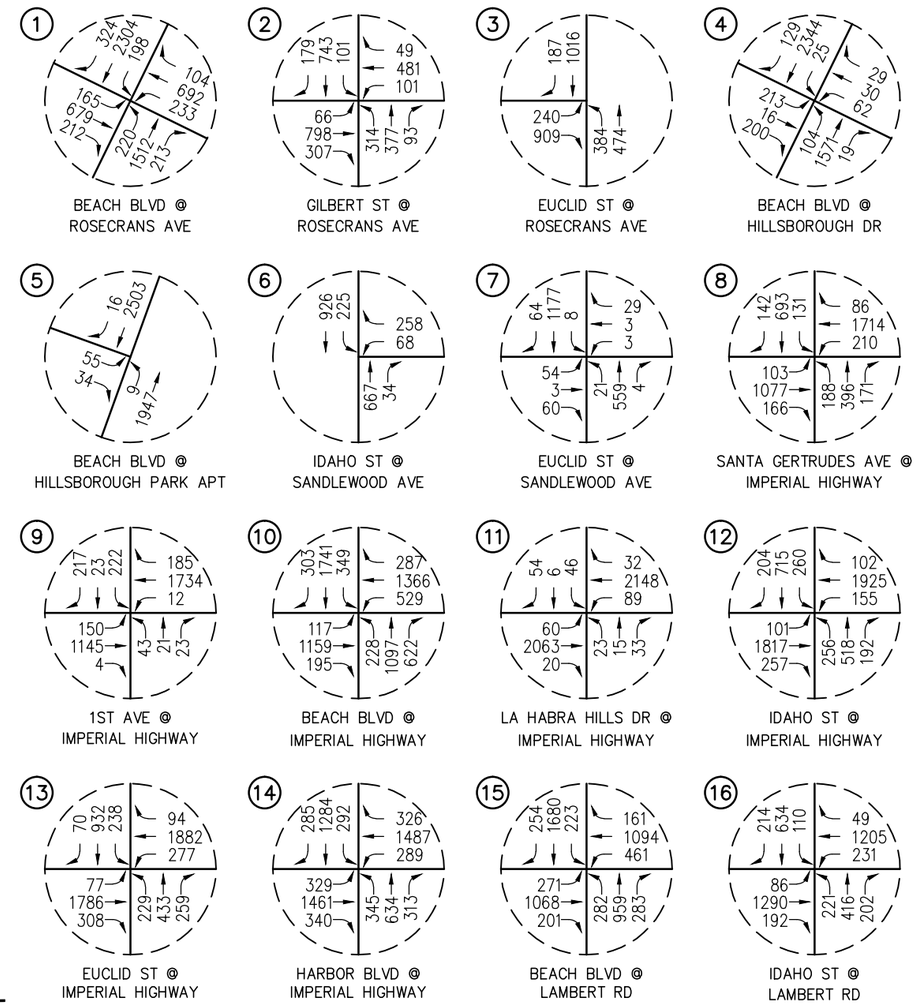
= PROJECT SITE

FIGURE 6-4

DAILY CUMULATIVE PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

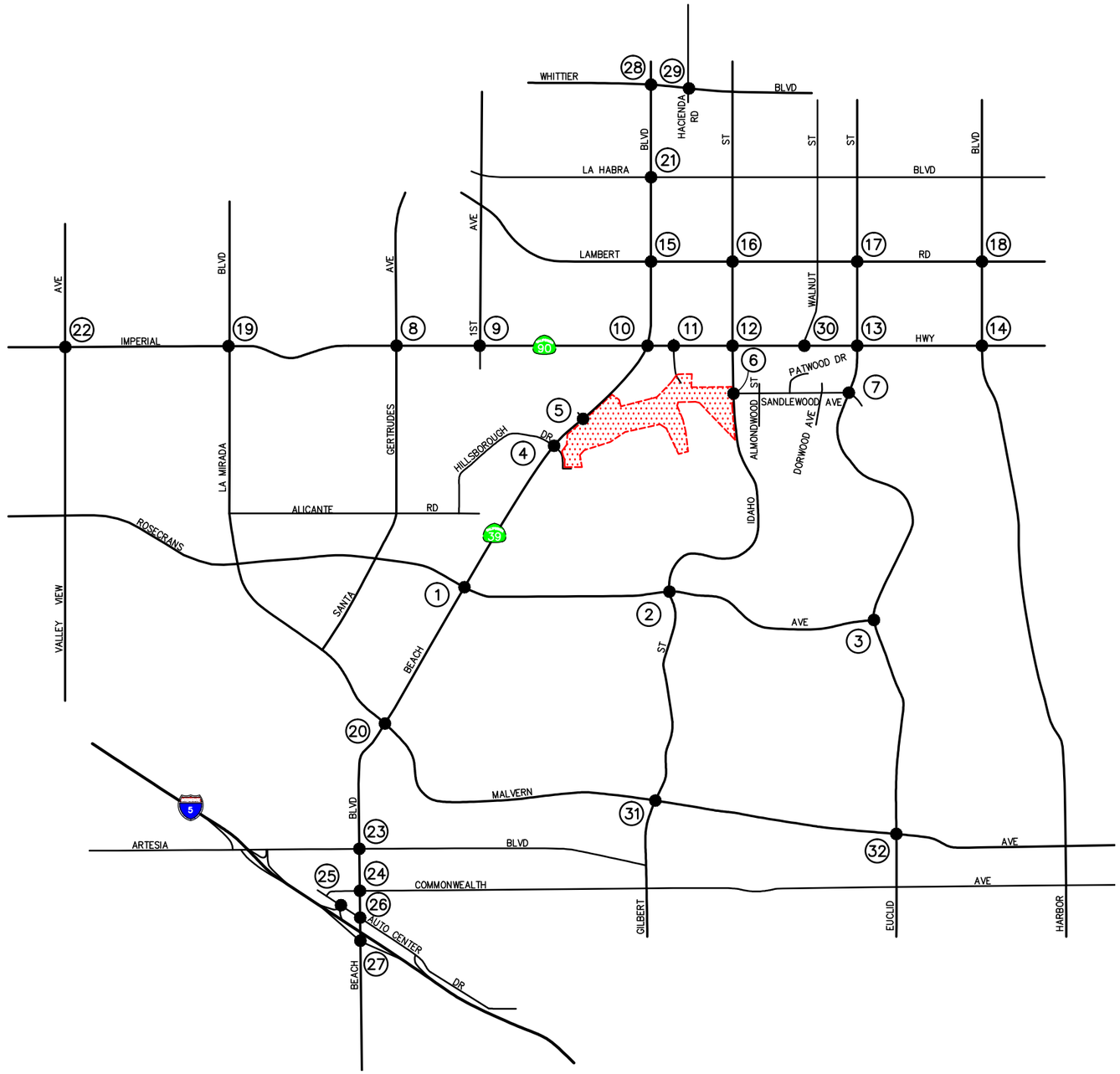
N NO SCALE

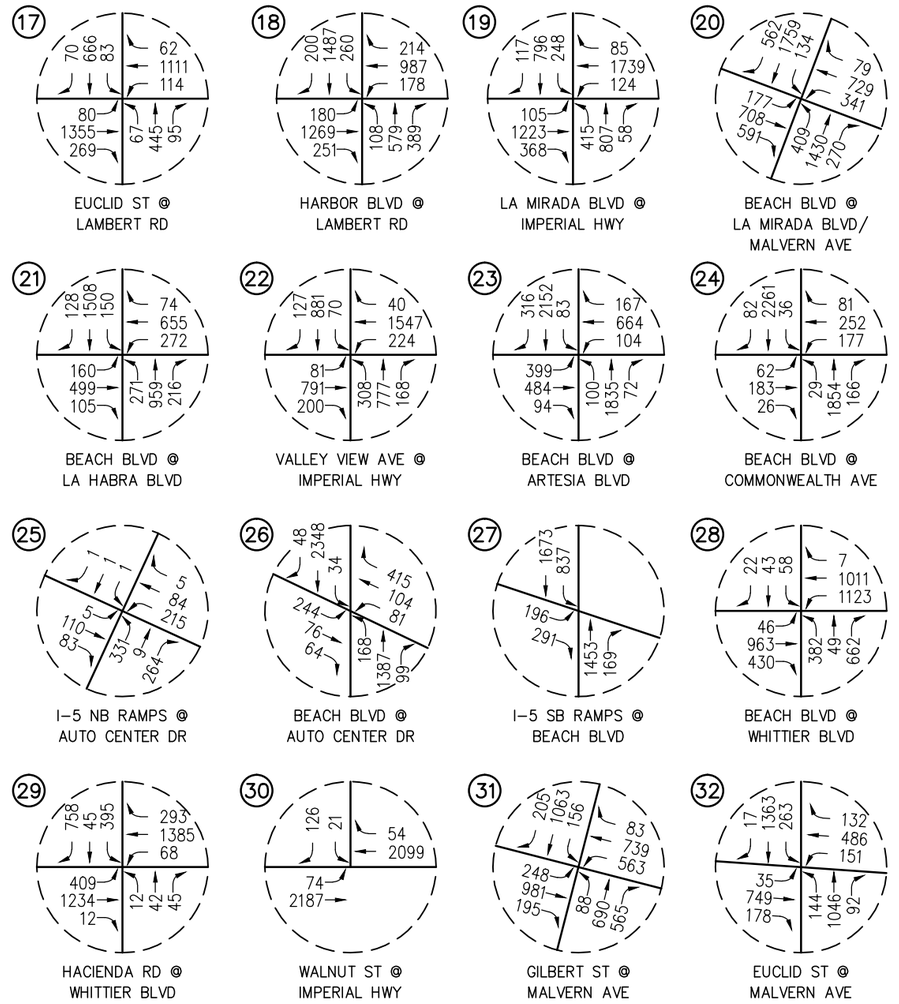
KEY
= PROJECT SITE

FIGURE 6-5A

YEAR 2023 CUMULATIVE AM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

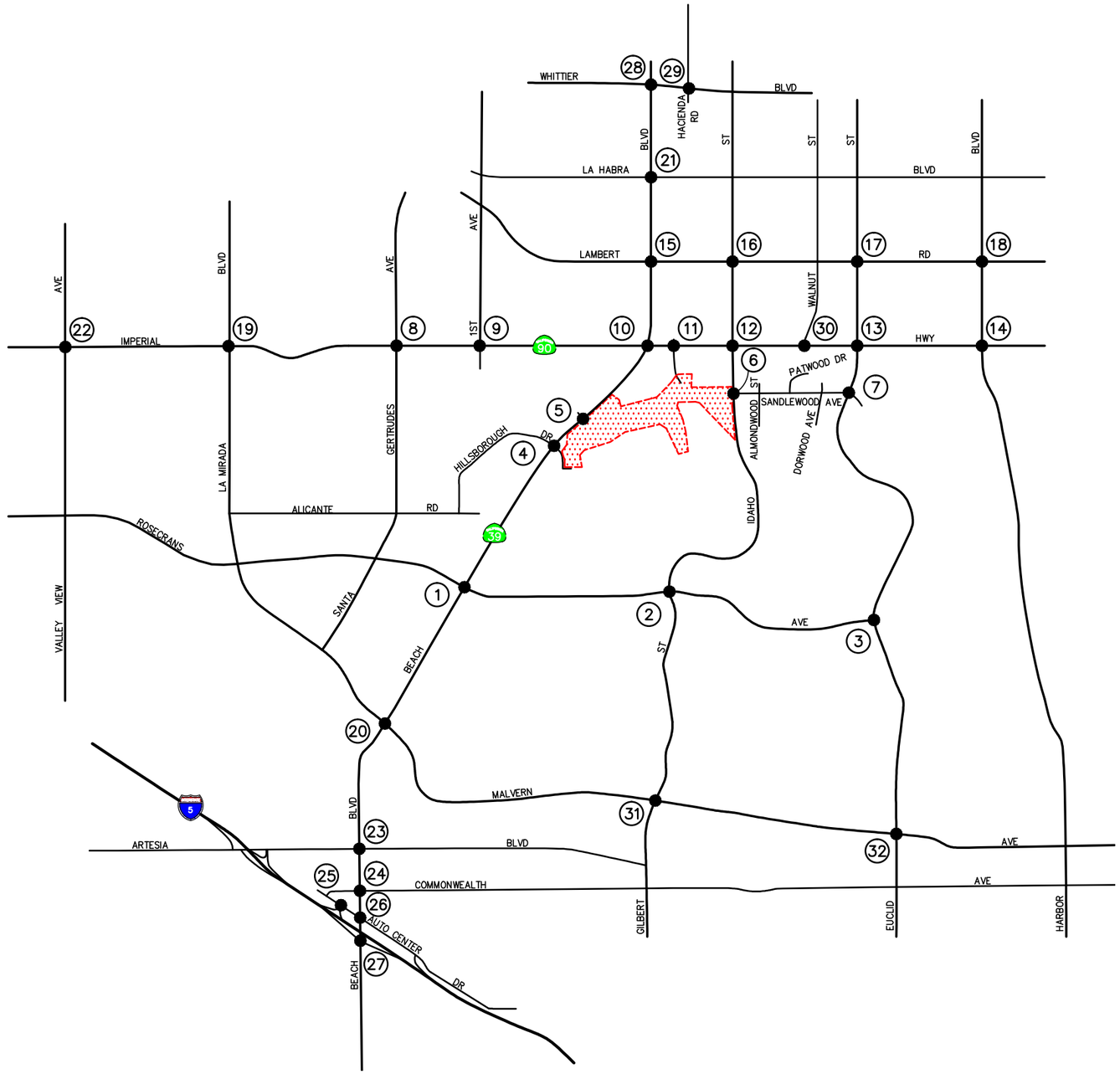
N NO SCALE

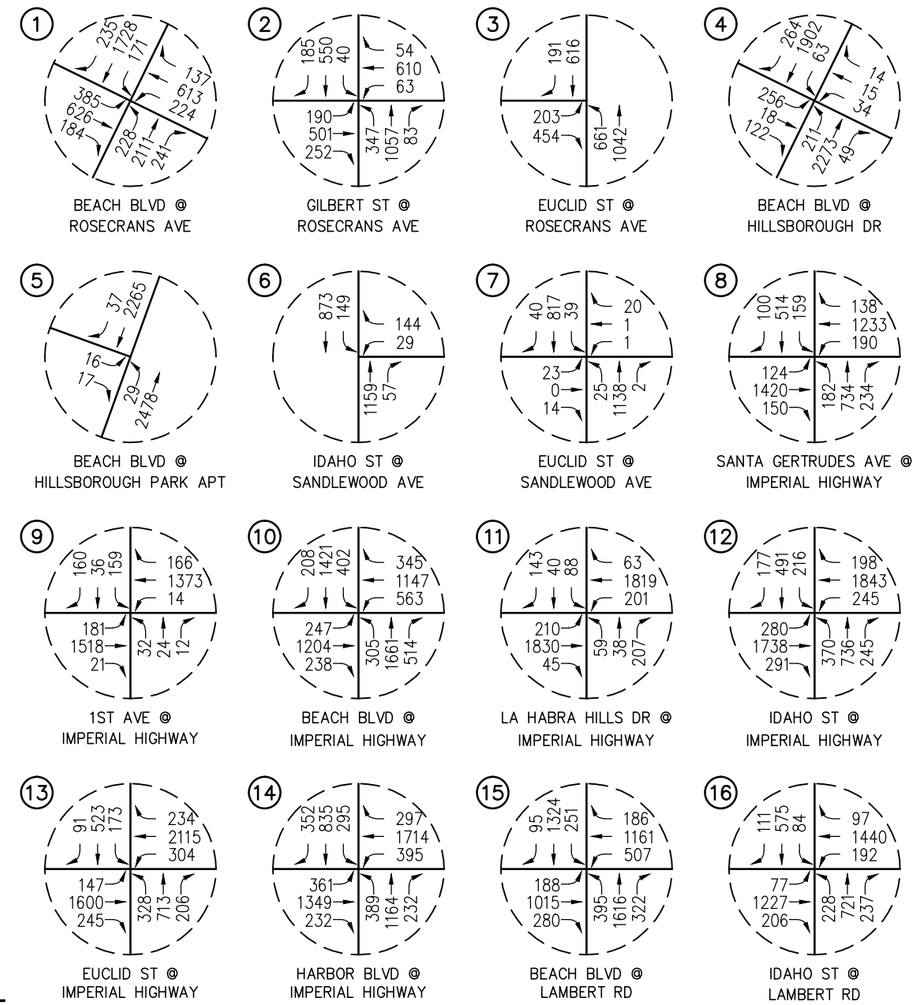
KEY
= PROJECT SITE

FIGURE 6-5B

YEAR 2023 CUMULATIVE AM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

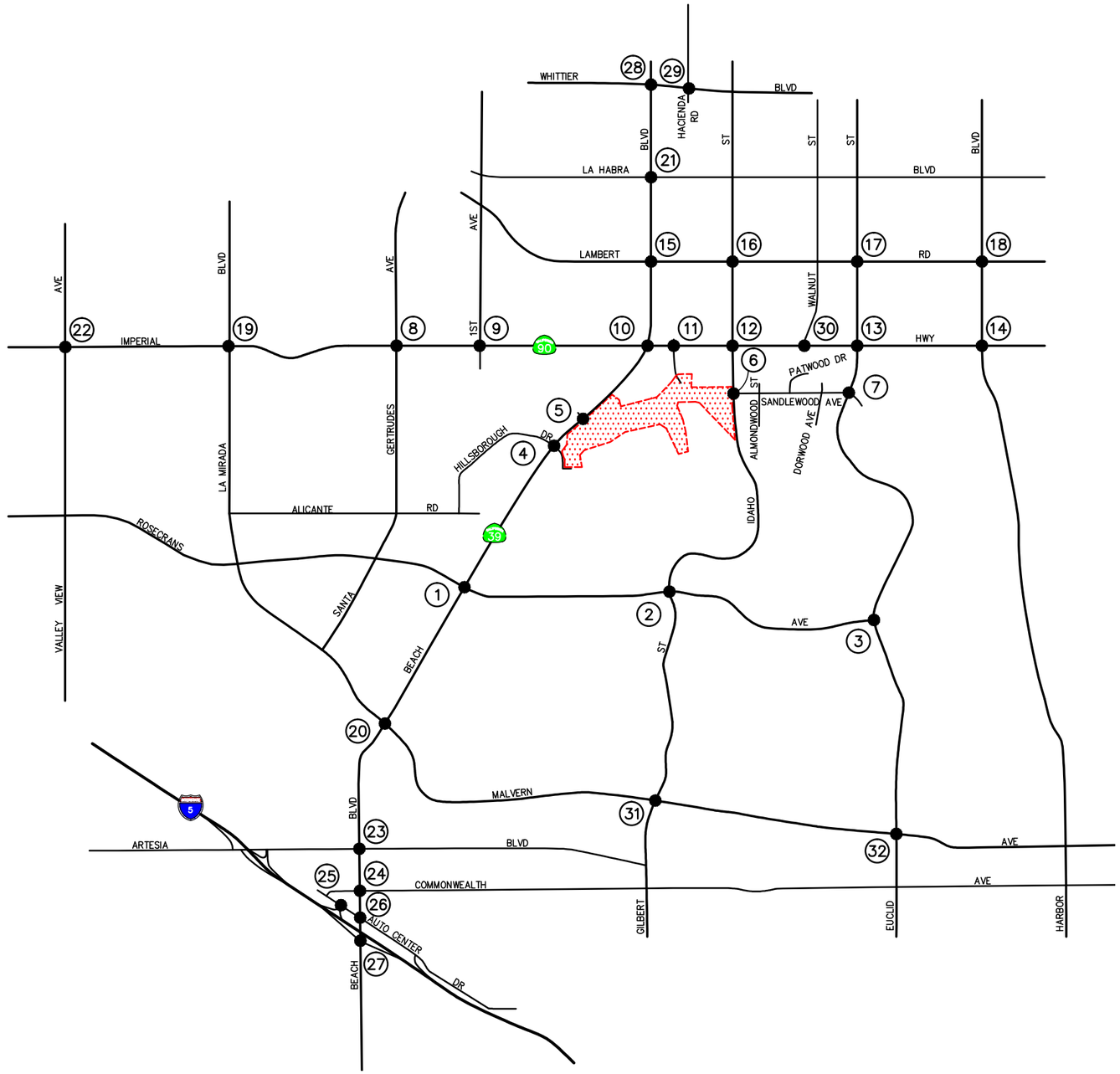
N NO SCALE

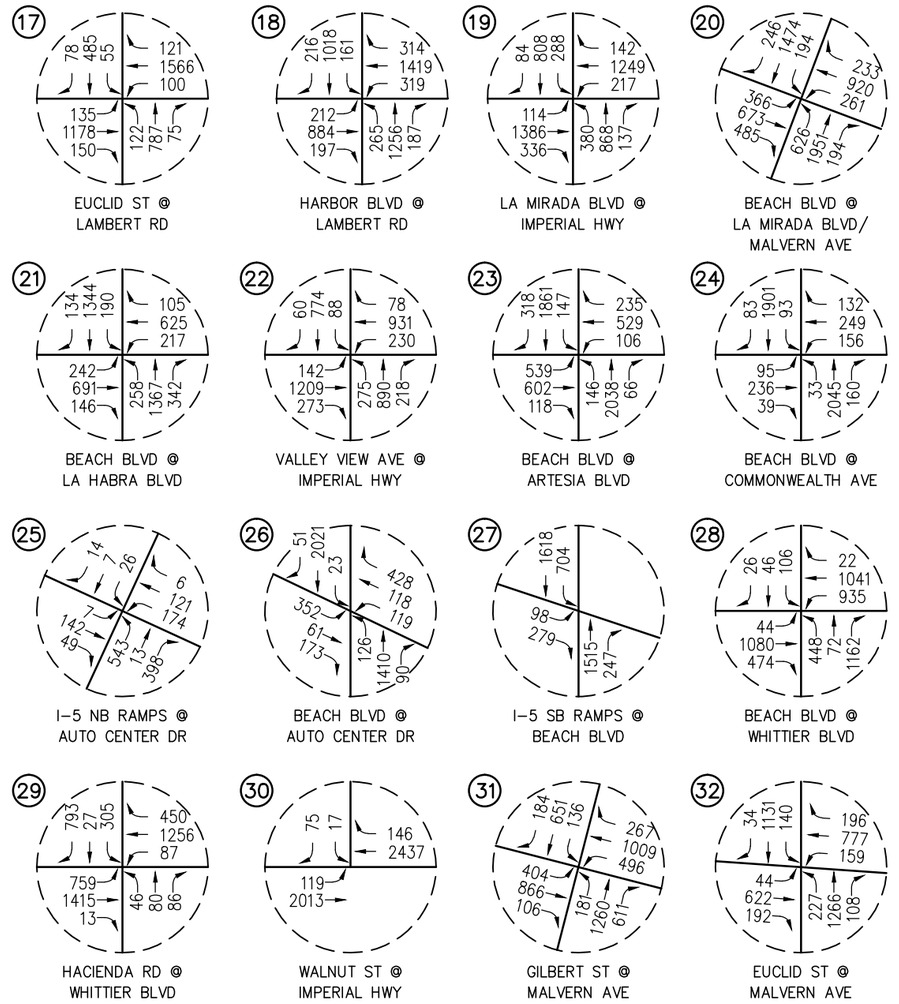
KEY
= PROJECT SITE

FIGURE 6-6A

YEAR 2023 CUMULATIVE PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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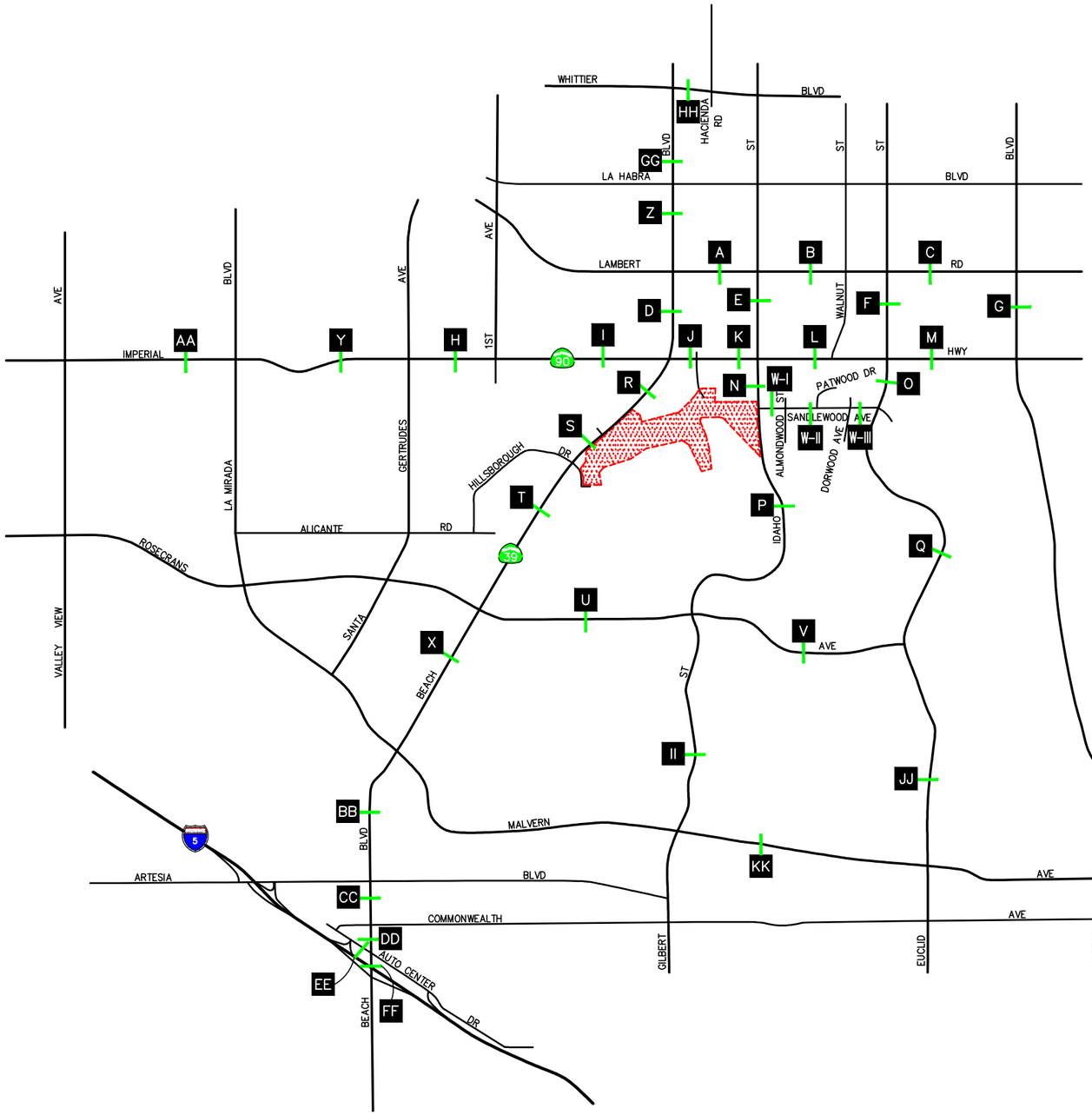
N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-6B

YEAR 2023 CUMULATIVE PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	38,441	U	25,092
B	40,541	V	16,128
C	39,074	W-I	3,780
D	56,521	W-II	2,028
E	25,278	W-III	1,361
F	20,570	X	50,358
G	41,826	Y	37,410
H	42,038	Z	47,030
I	41,689	AA	35,350
J	57,404	BB	78,881
K	58,265	CC	64,240
L	59,063	DD	66,214
M	63,991	EE	13,826
N	23,658	FF	69,894
O	23,926	GG	38,113
P	17,853	HH	51,570
Q	24,320	II	27,672
R	61,483	JJ	33,942
S	64,395	KK	26,182
T	59,714		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

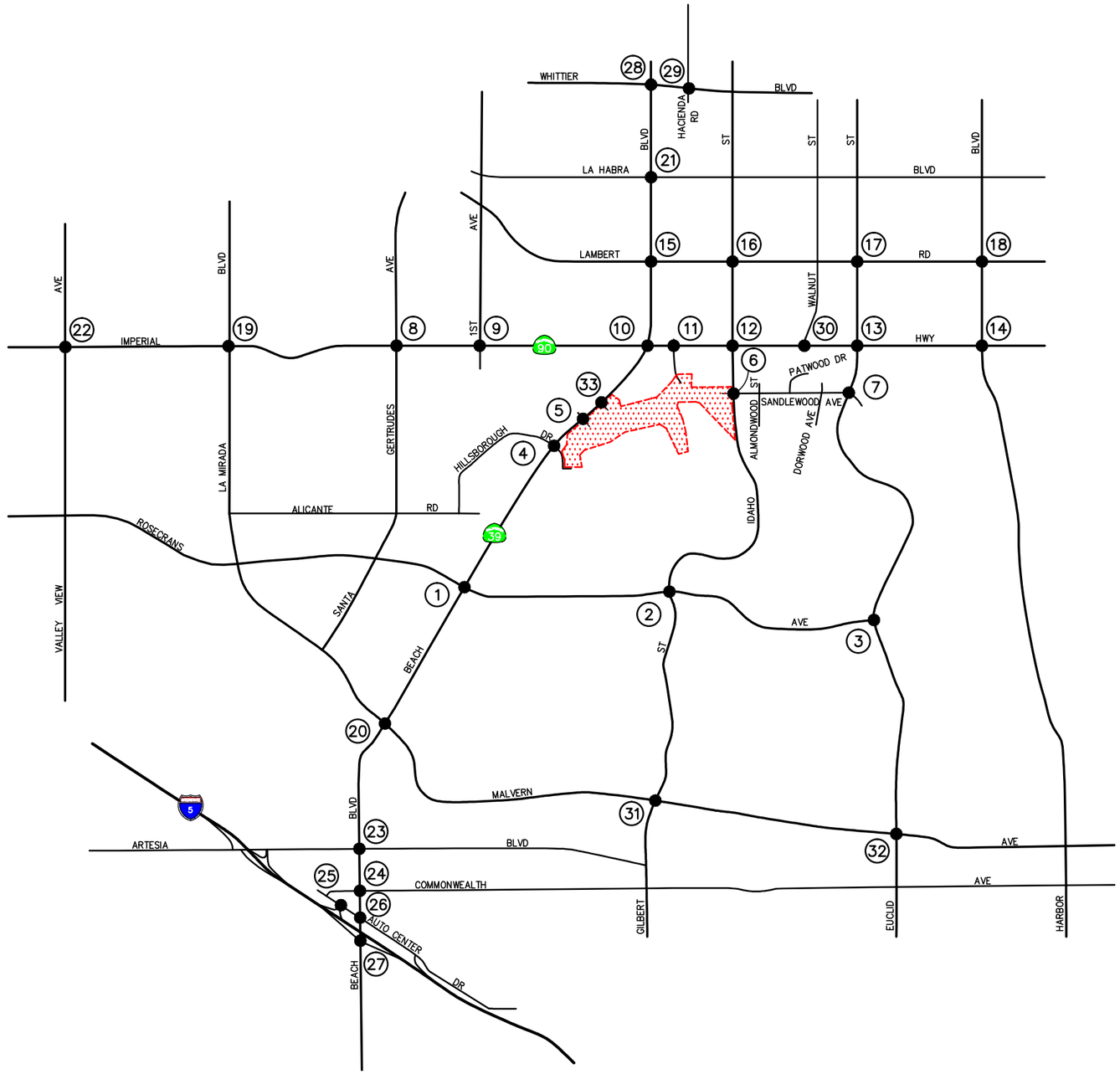
A = STUDY ROADWAY SEGMENT

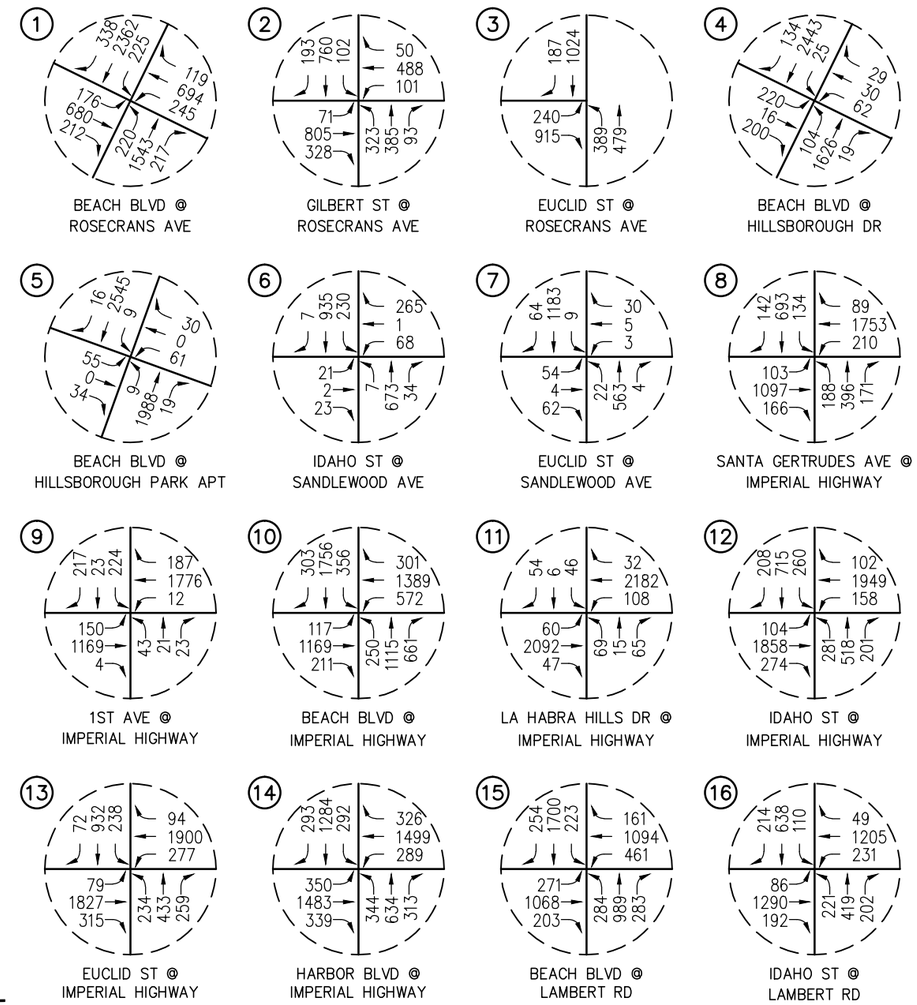
= PROJECT SITE

FIGURE 6-7

YEAR 2023 DAILY CUMULATIVE TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

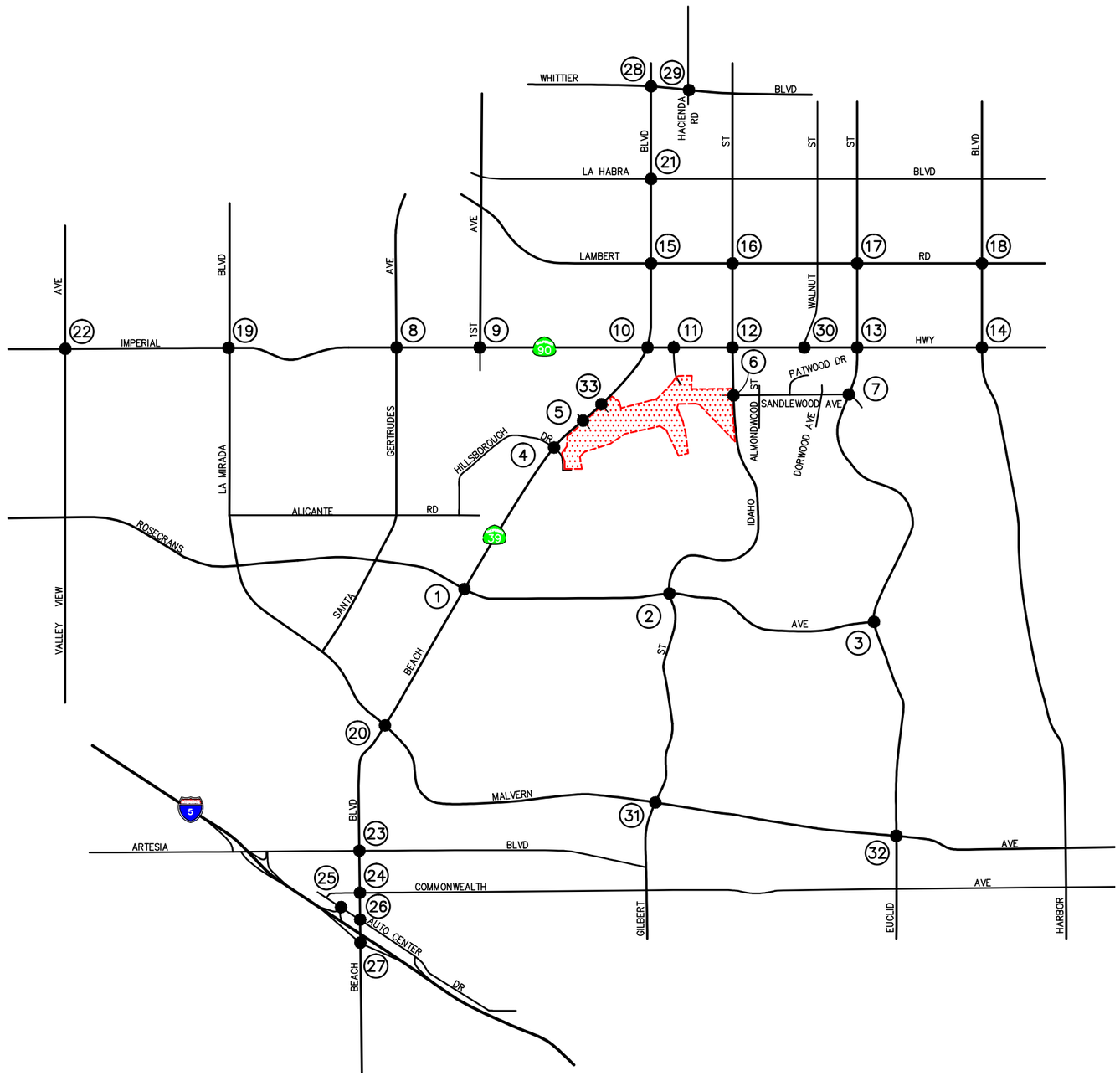
N NO SCALE

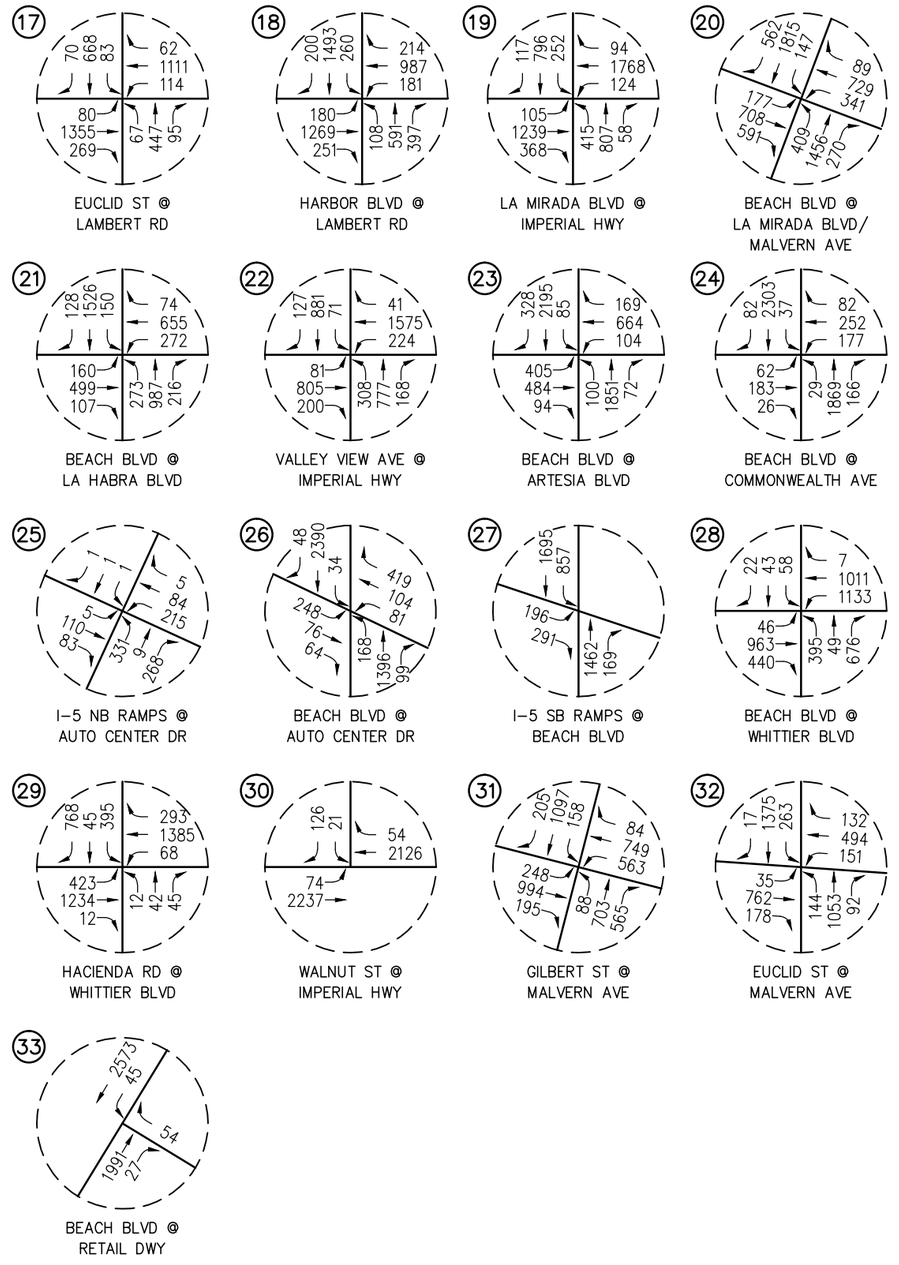
KEY
= PROJECT SITE

FIGURE 6-8A

YEAR 2023 CUMULATIVE PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

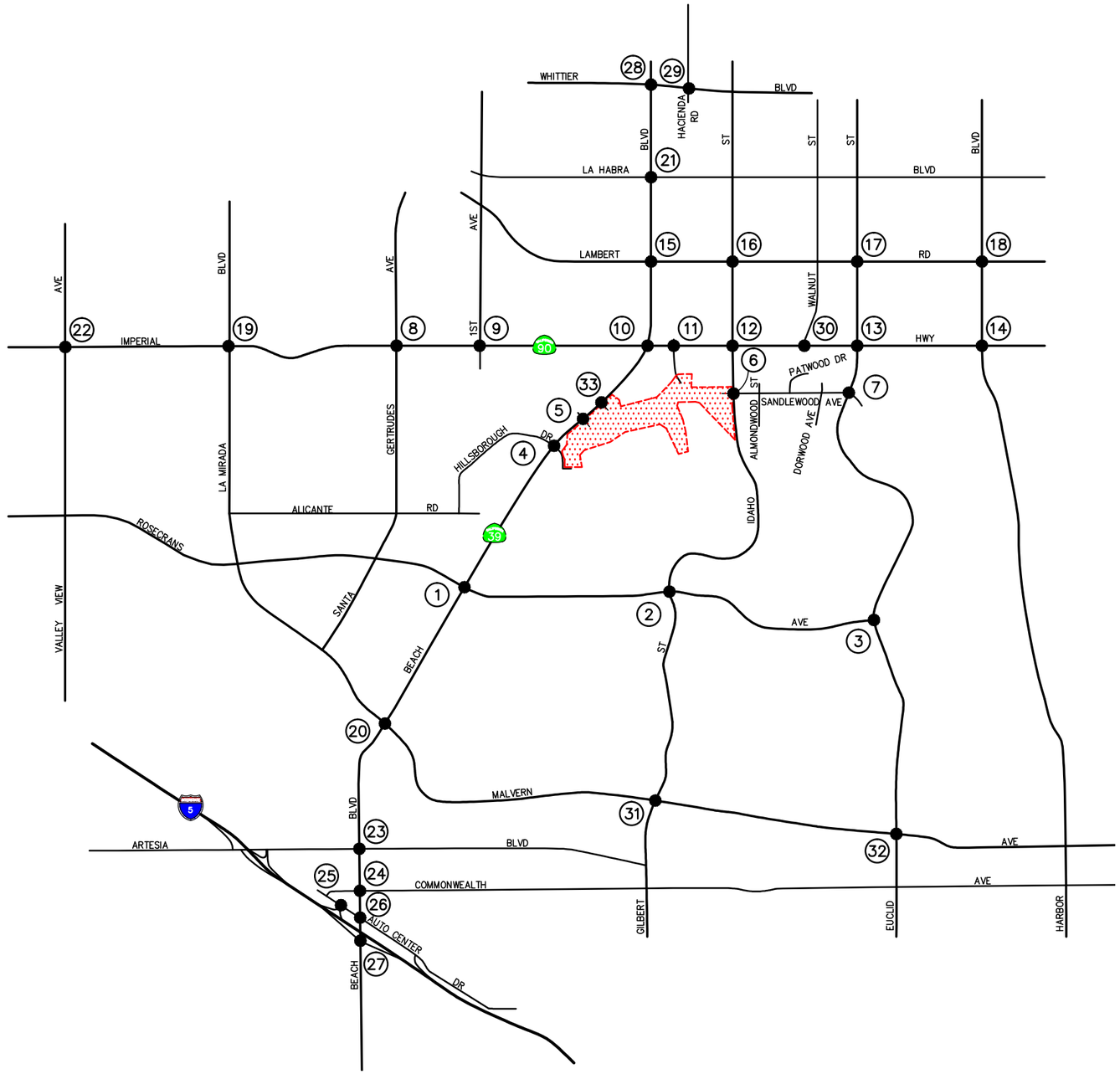
N NO SCALE

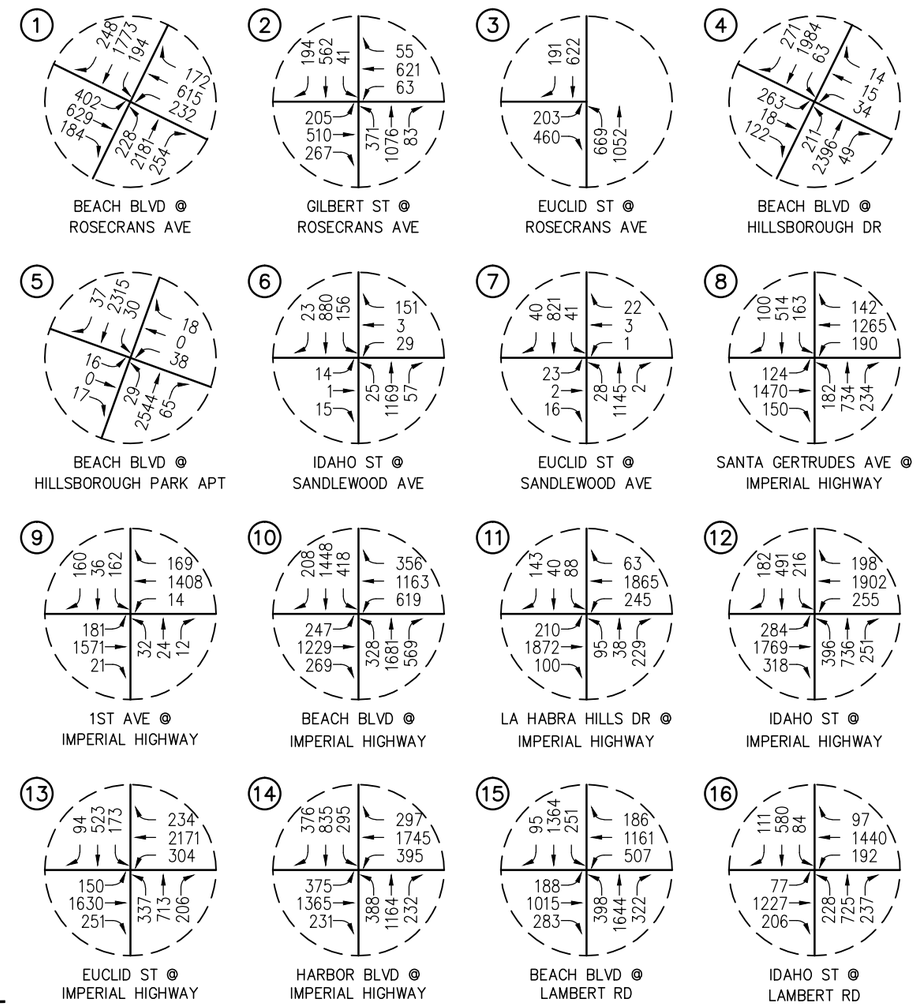
KEY
= PROJECT SITE

FIGURE 6-8B

YEAR 2023 CUMULATIVE PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

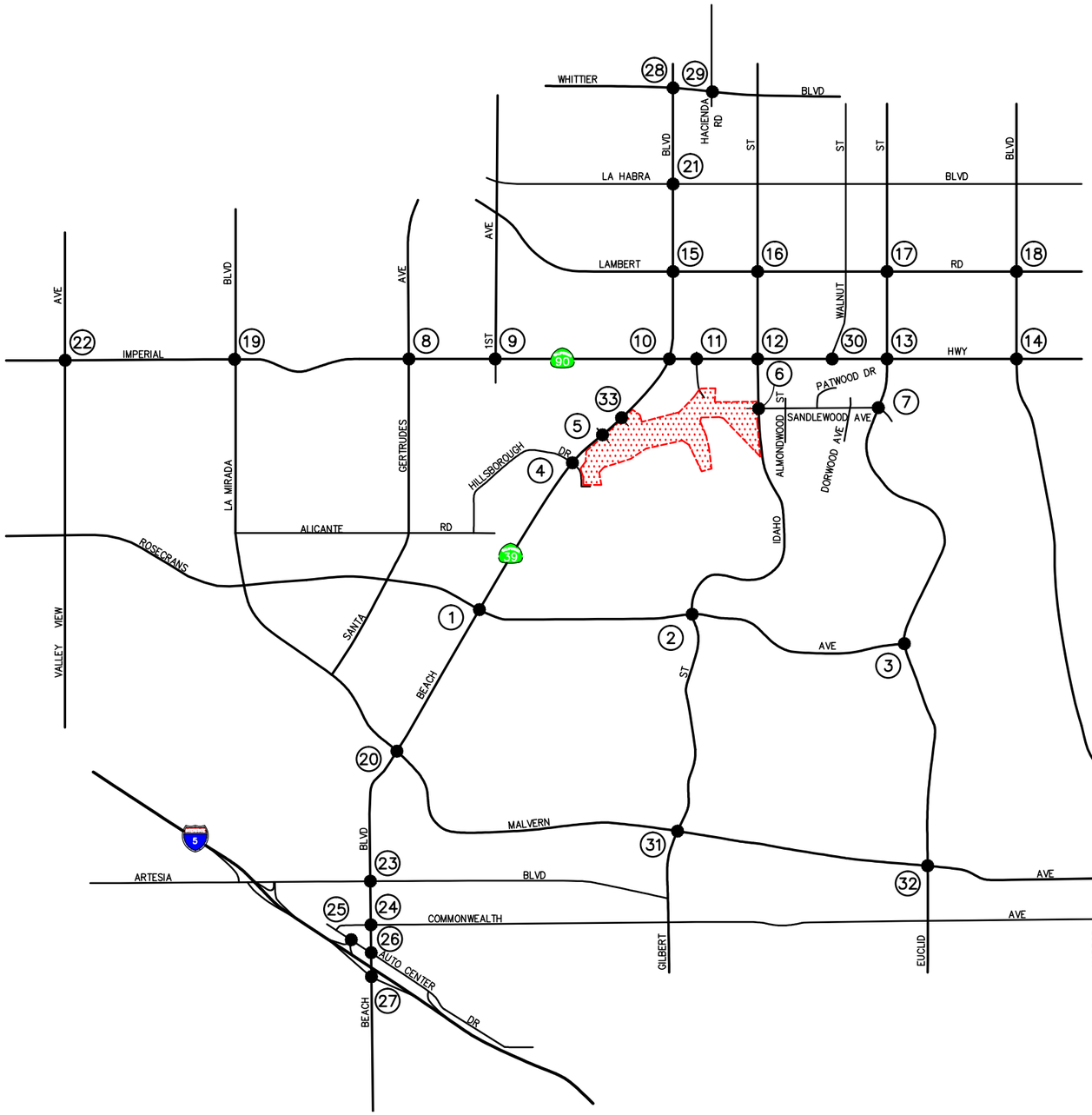
N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-9A

YEAR 2023 CUMULATIVE PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA



(17) EUCLID ST @ LAMBERT RD
78 488 55 | 121 1566 100 | 135 1178 150 | 122 790 75

(18) HARBOR BLVD @ LAMBERT RD
216 1033 161 | 314 1419 330 | 212 884 197 | 265 1266 192

(19) LA MIRADA BLVD @ IMPERIAL HWY
84 808 299 | 150 1273 217 | 114 1422 336 | 380 868 137

(20) BEACH BLVD @ LA MIRADA BLVD/ MALVERN AVE
246 1516 206 | 249 920 261 | 366 673 485 | 626 2020 194

(21) BEACH BLVD @ LA HABRA BLVD
134 1381 190 | 105 625 217 | 242 691 149 | 261 1392 342

(22) VALLEY VIEW AVE @ IMPERIAL HWY
60 774 90 | 80 952 230 | 142 1242 273 | 275 890 218

(23) BEACH BLVD @ ARTESIA BLVD
328 1891 150 | 238 529 106 | 554 602 118 | 146 2088 66

(24) BEACH BLVD @ COMMONWEALTH AVE
83 1929 95 | 134 249 156 | 95 236 39 | 33 2093 160

(25) I-5 NB RAMPS @ AUTO CENTER DR
14 7 26 | 6 121 174 | 7 142 49 | 543 13 410

(26) BEACH BLVD @ AUTO CENTER DR
51 2049 23 | 440 118 119 | 364 61 173 | 126 1435 90

(27) I-5 SB RAMPS @ BEACH BLVD
1633 716 | 98 279 | 1540 247

(28) BEACH BLVD @ WHITTIER BLVD
26 46 106 | 22 1041 953 | 44 1080 492 | 459 72 1174

(29) HACIENDA RD @ WHITTIER BLVD
811 27 305 | 450 1256 87 | 771 1415 13 | 46 80 86

(30) WALNUT ST @ IMPERIAL HWY
75 17 | 146 2506 | 119 2050

(31) GILBERT ST @ MALVERN AVE
184 675 138 | 270 1025 496 | 404 878 106 | 181 1299 617

(32) EUCLID ST @ MALVERN AVE
34 1141 140 | 196 794 159 | 44 634 192 | 227 1282 108

(33) BEACH BLVD @ RETAIL DWY
2380 65 | 84 | 2525 40

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LINSCOTT LAW & GREENSPAN engineers

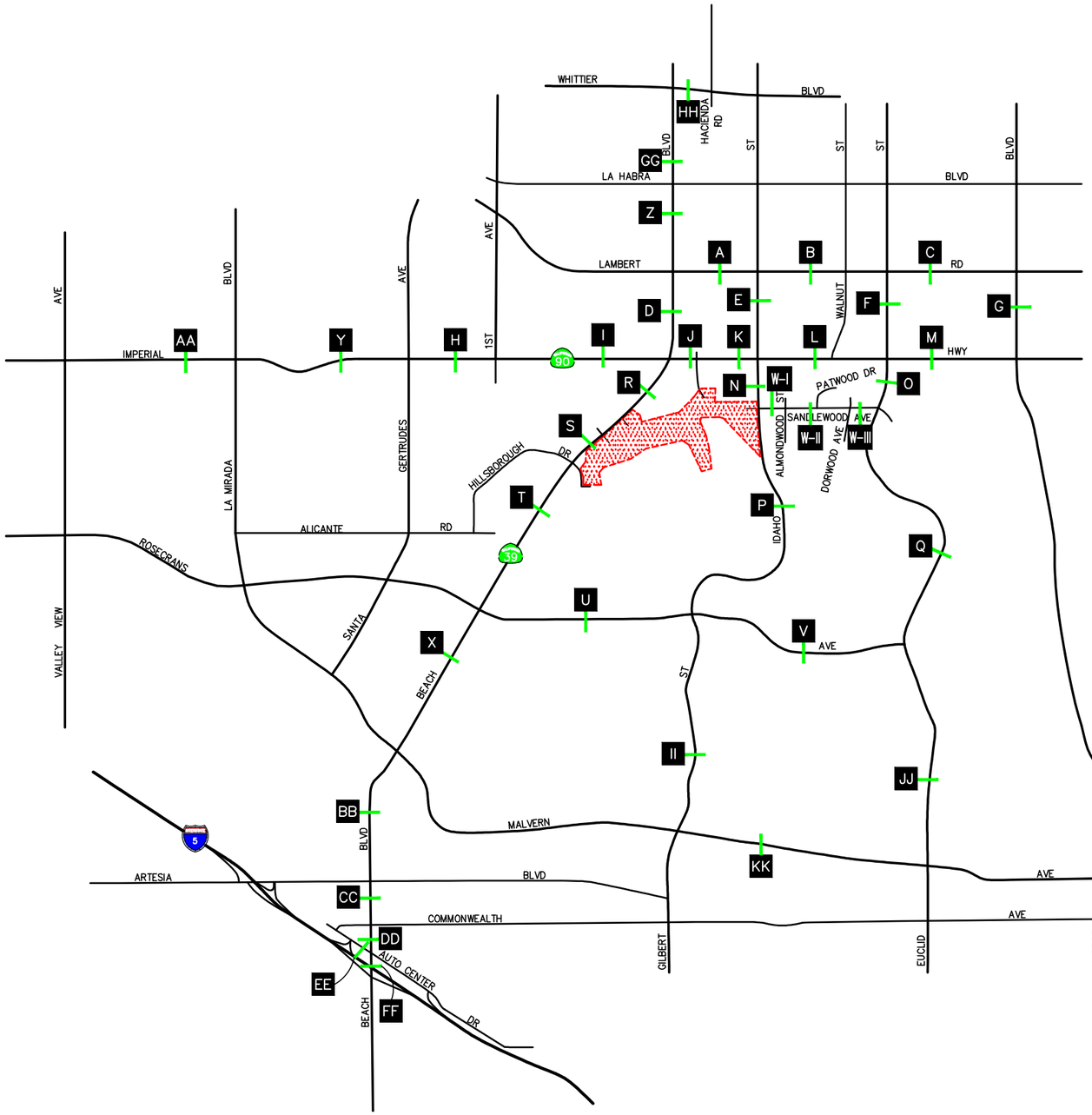
N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-9B

YEAR 2023 CUMULATIVE PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	38,441	U	25,986
B	40,541	V	16,381
C	39,074	W-I	3,992
D	57,317	W-II	2,240
E	25,386	W-III	1,573
F	20,625	X	51,797
G	42,202	Y	38,275
H	42,985	Z	47,766
I	42,700	AA	35,981
J	59,311	BB	80,007
K	59,788	CC	65,071
L	60,090	DD	66,992
M	64,804	EE	13,915
N	24,356	FF	70,505
O	24,084	GG	38,783
P	18,417	HH	51,886
Q	24,473	II	28,413
R	64,686	JJ	34,257
S	66,801	KK	26,535
T	61,951		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

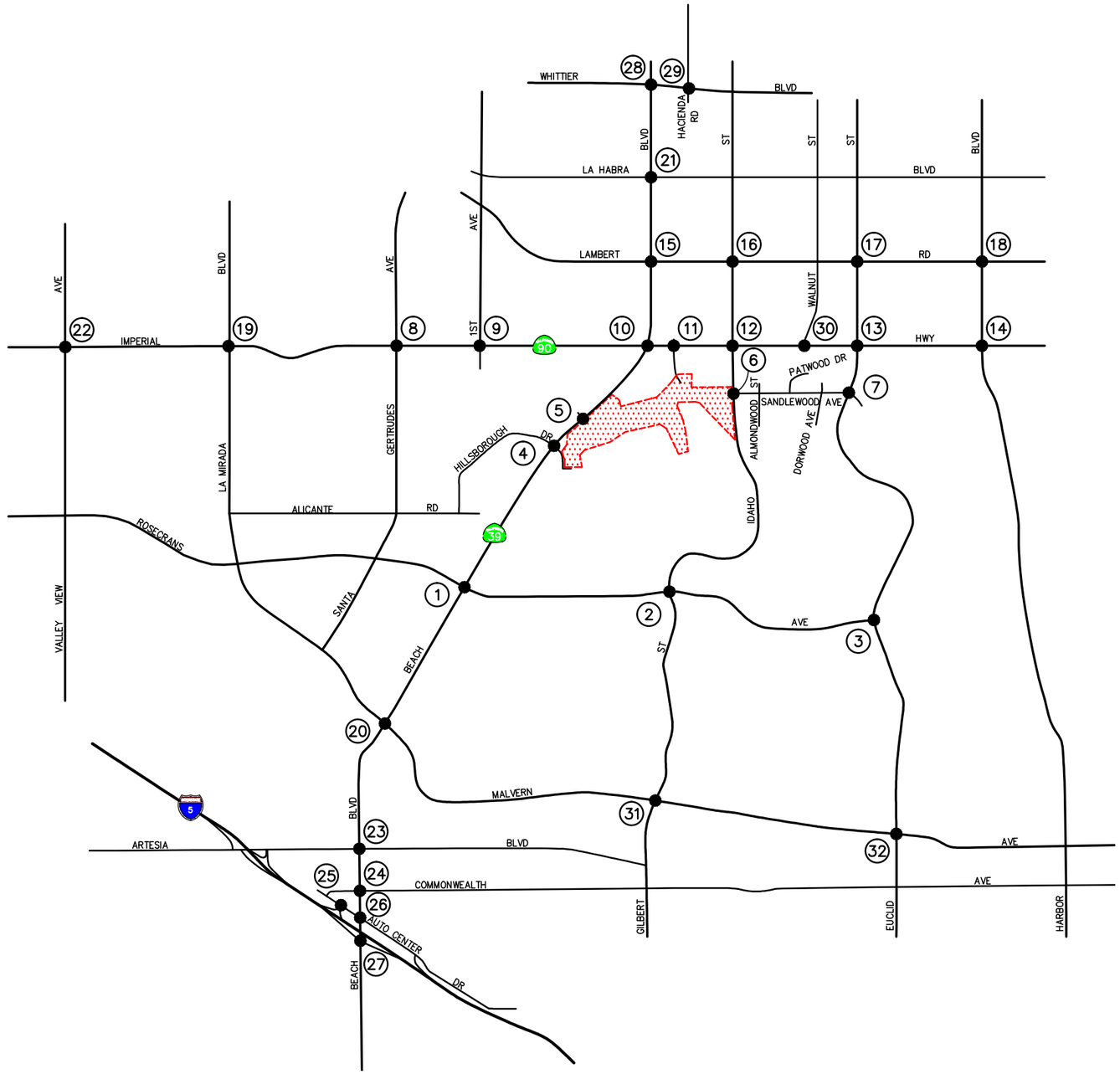
A = STUDY ROADWAY SEGMENT

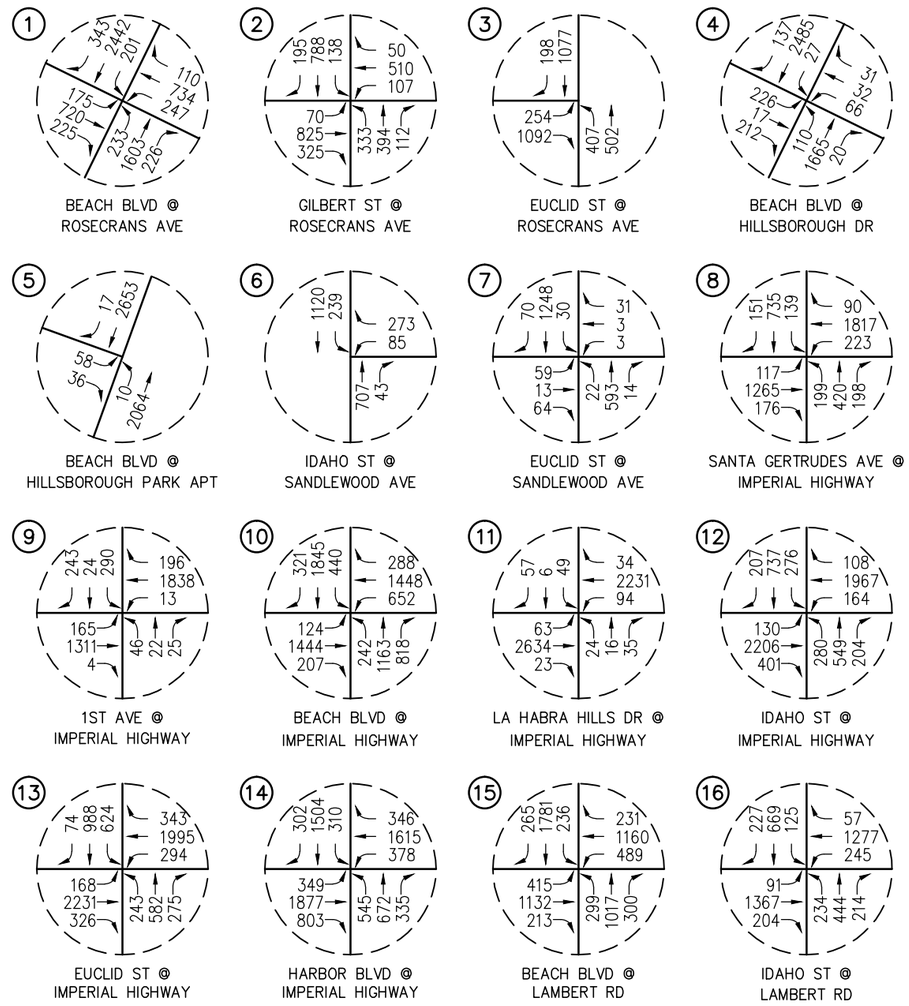
= PROJECT SITE

FIGURE 6-10

YEAR 2023 DAILY CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

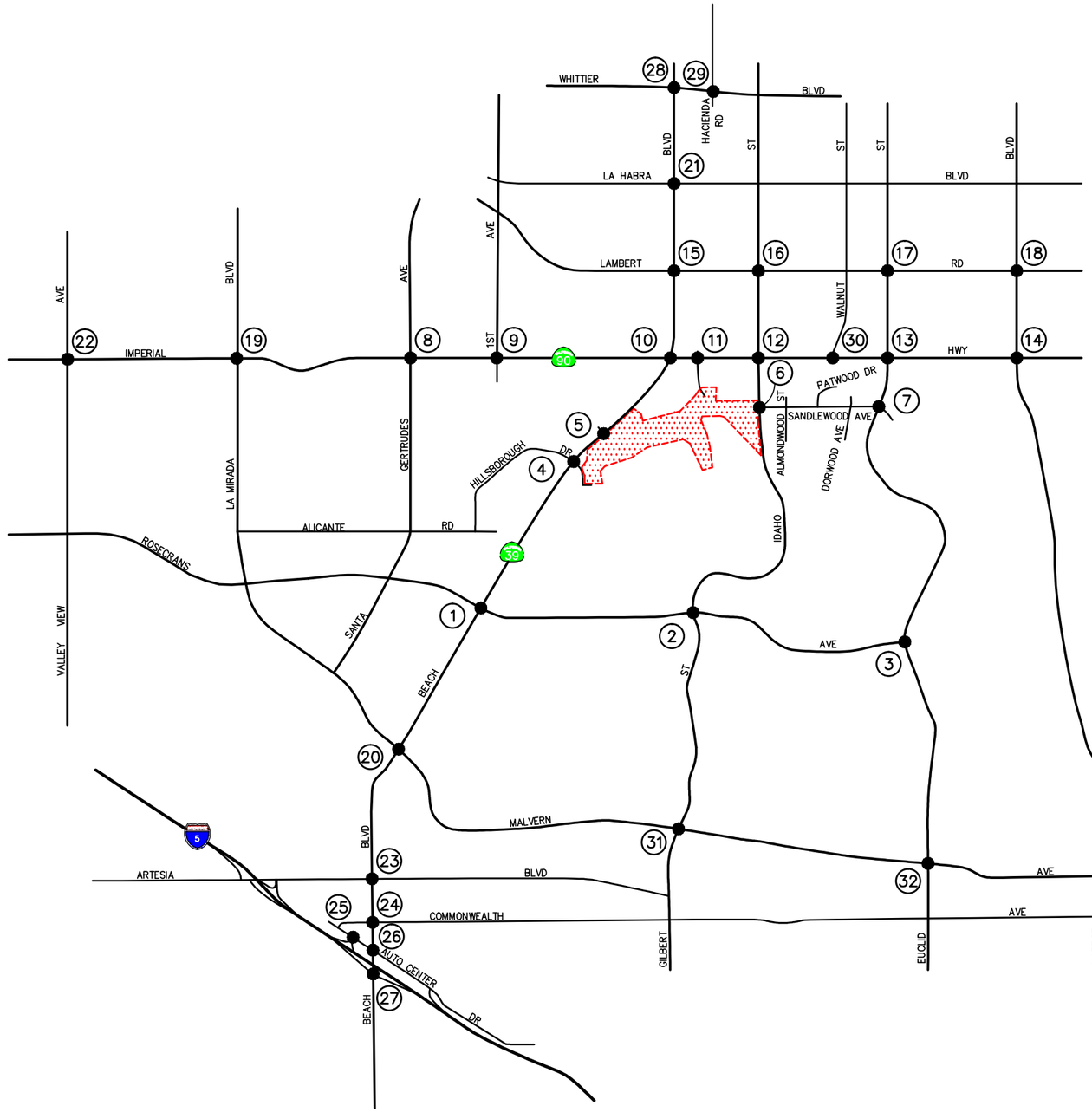
N NO SCALE

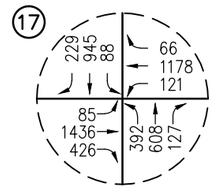
KEY
= PROJECT SITE

FIGURE 6-11A

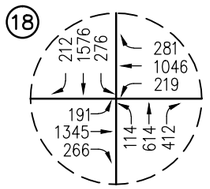
YEAR 2035 BUILDOUT AM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA

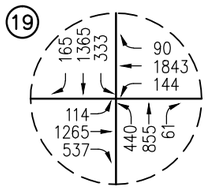




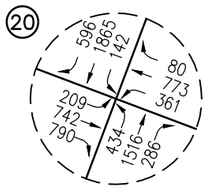
EUCLID ST @
LAMBERT RD



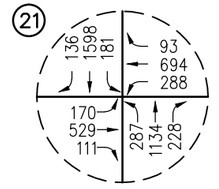
HARBOR BLVD @
LAMBERT RD



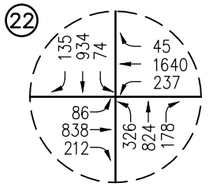
LA MIRADA BLVD @
IMPERIAL HWY



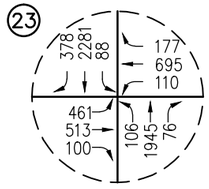
BEACH BLVD @
LA MIRADA BLVD/
MALVERN AVE



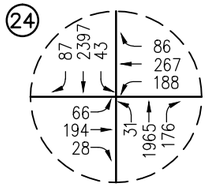
BEACH BLVD @
LA HABRA BLVD



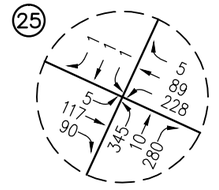
VALLEY VIEW AVE @
IMPERIAL HWY



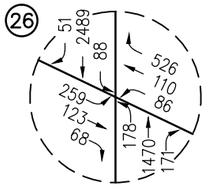
BEACH BLVD @
ARTESIA BLVD



BEACH BLVD @
COMMONWEALTH AVE



I-5 NB RAMPS @
AUTO CENTER DR



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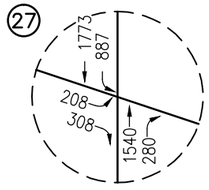
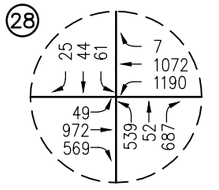
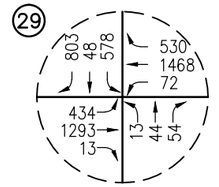


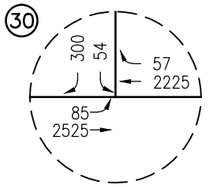
I-5 SB RAMPS @
BEACH BLVD



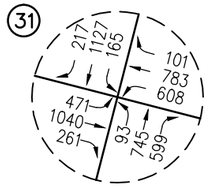
BEACH BLVD @
WHITTIER BLVD



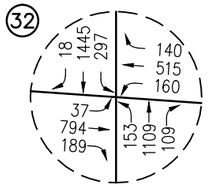
HACIENDA RD @
WHITTIER BLVD



WALNUT ST @
IMPERIAL HWY



GILBERT ST @
MALVERN AVE



EUCLID ST @
MALVERN AVE

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LINSCOTT LAW & GREENSPAN engineers

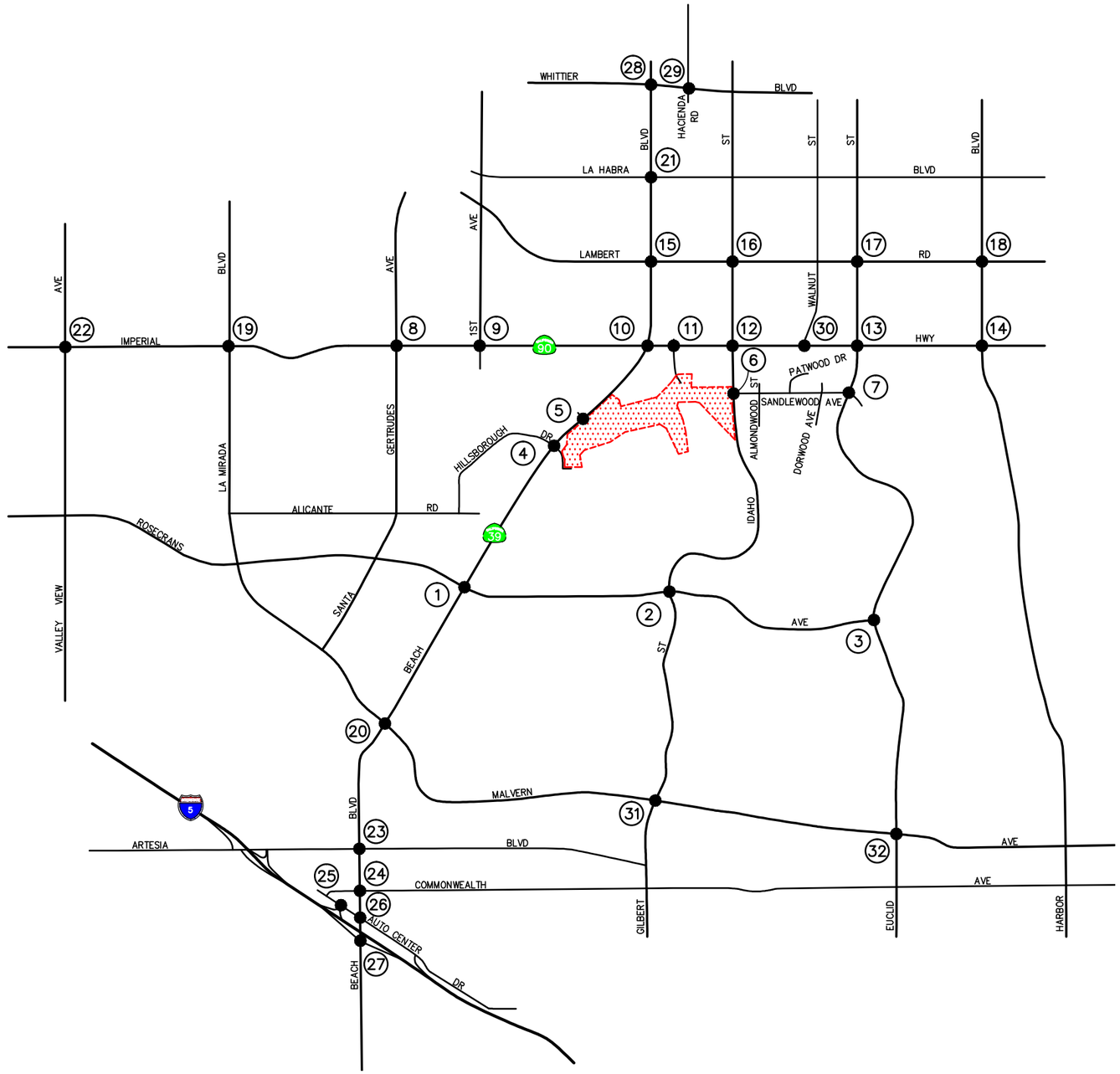
N NO SCALE

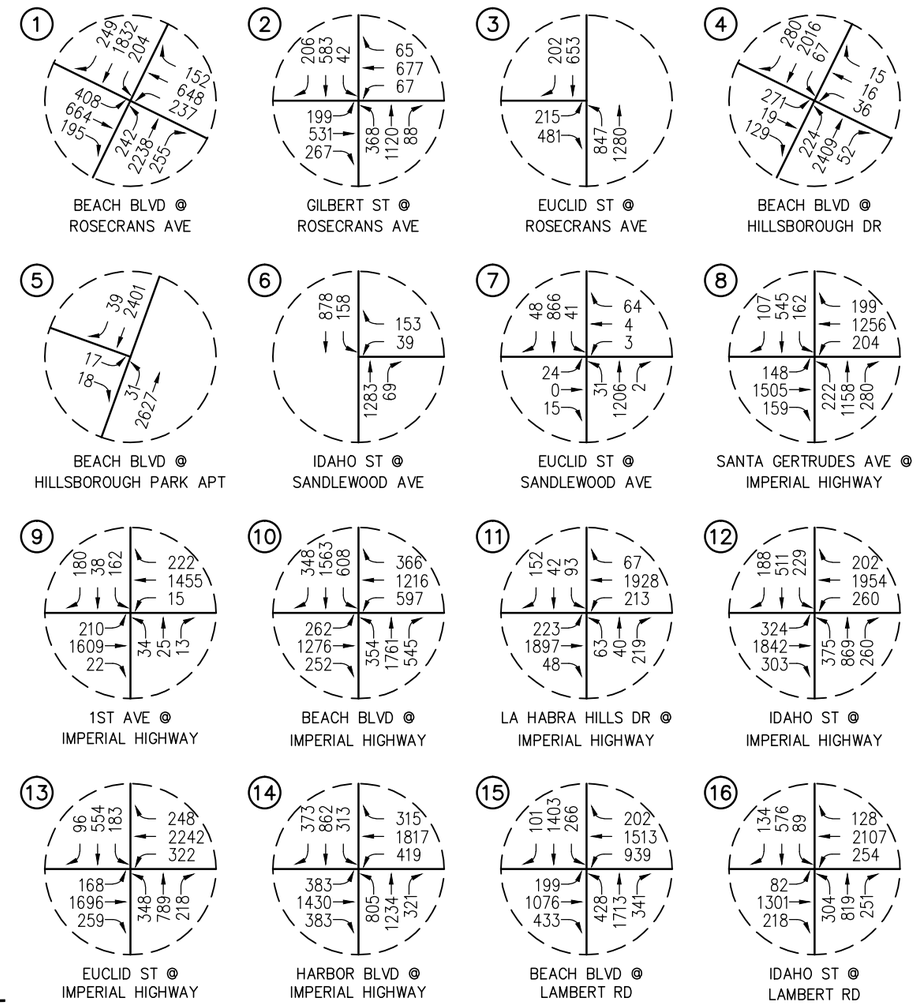
KEY
= PROJECT SITE

FIGURE 6-11B

YEAR 2035 BUILDOUT AM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

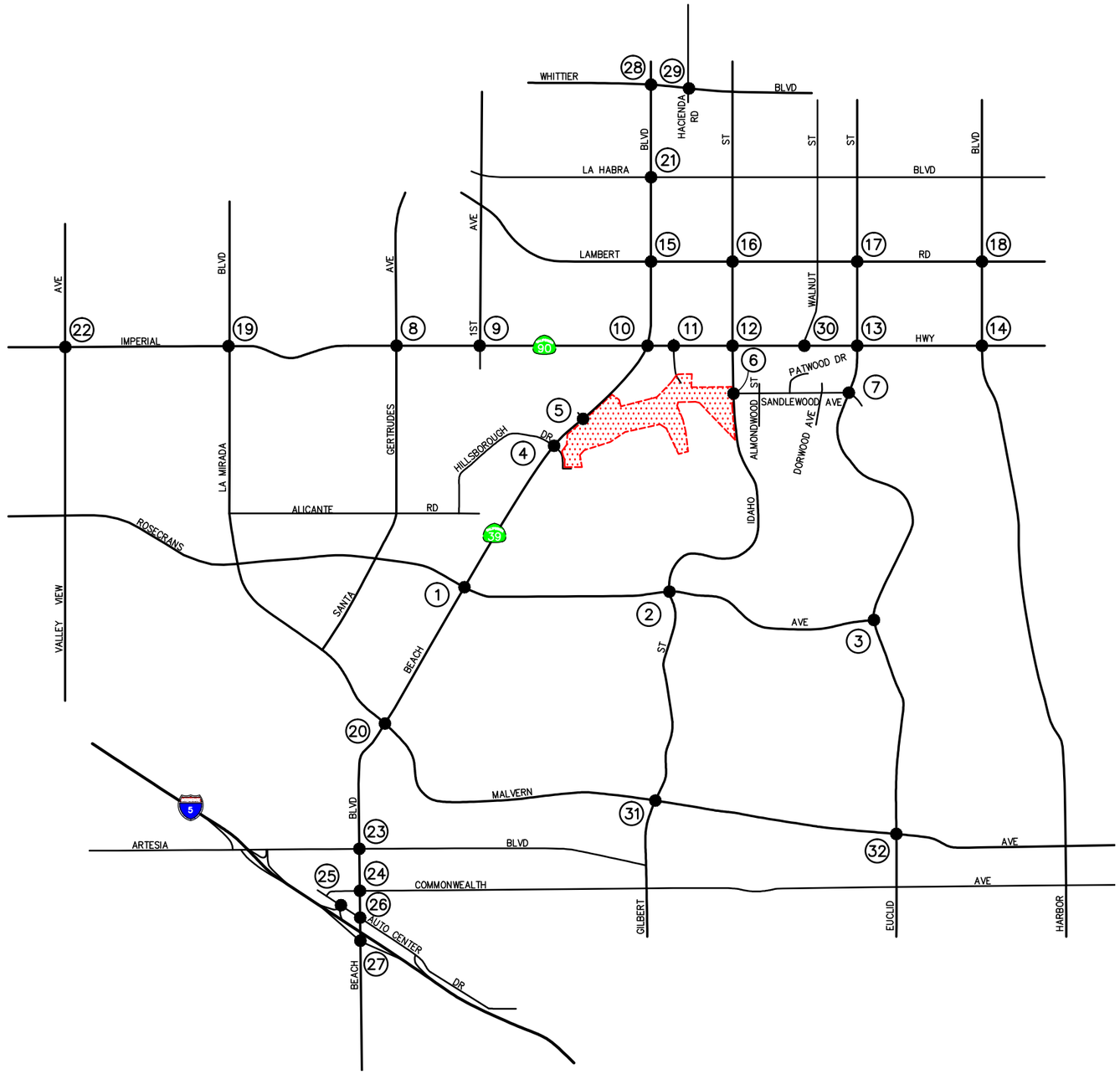
N NO SCALE

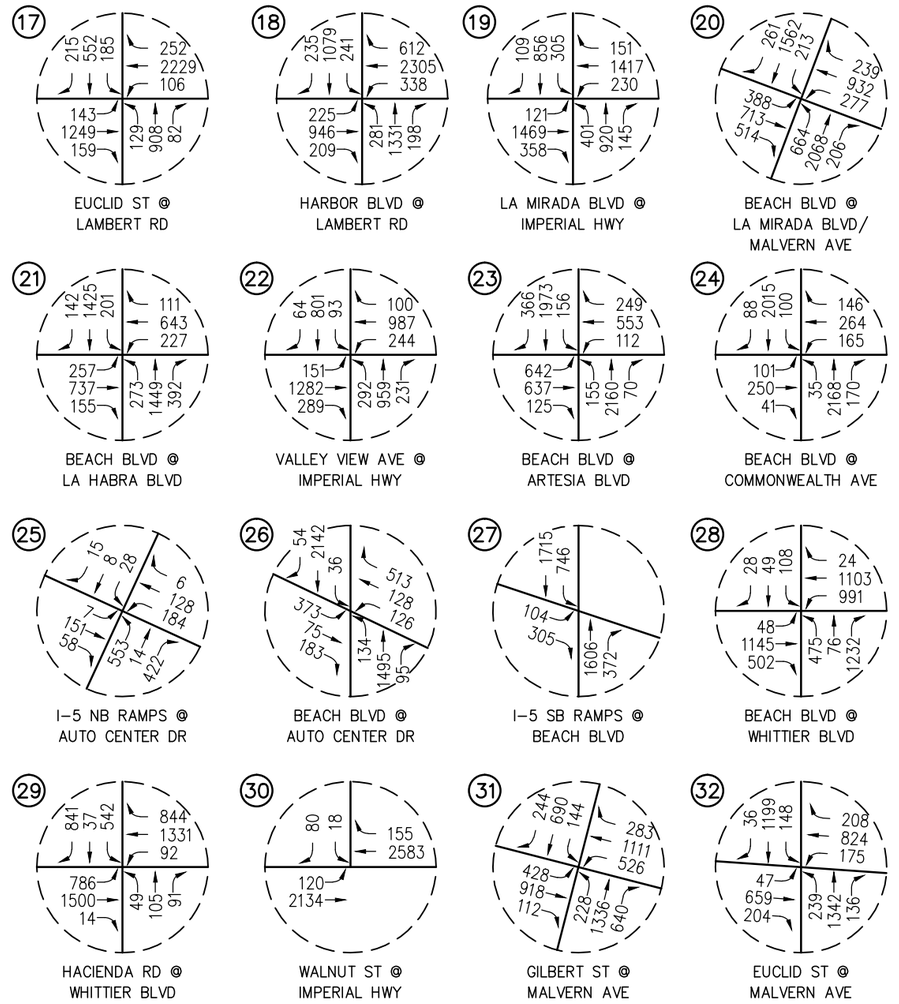
KEY
= PROJECT SITE

FIGURE 6-12A

YEAR 2035 BUILDOUT PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

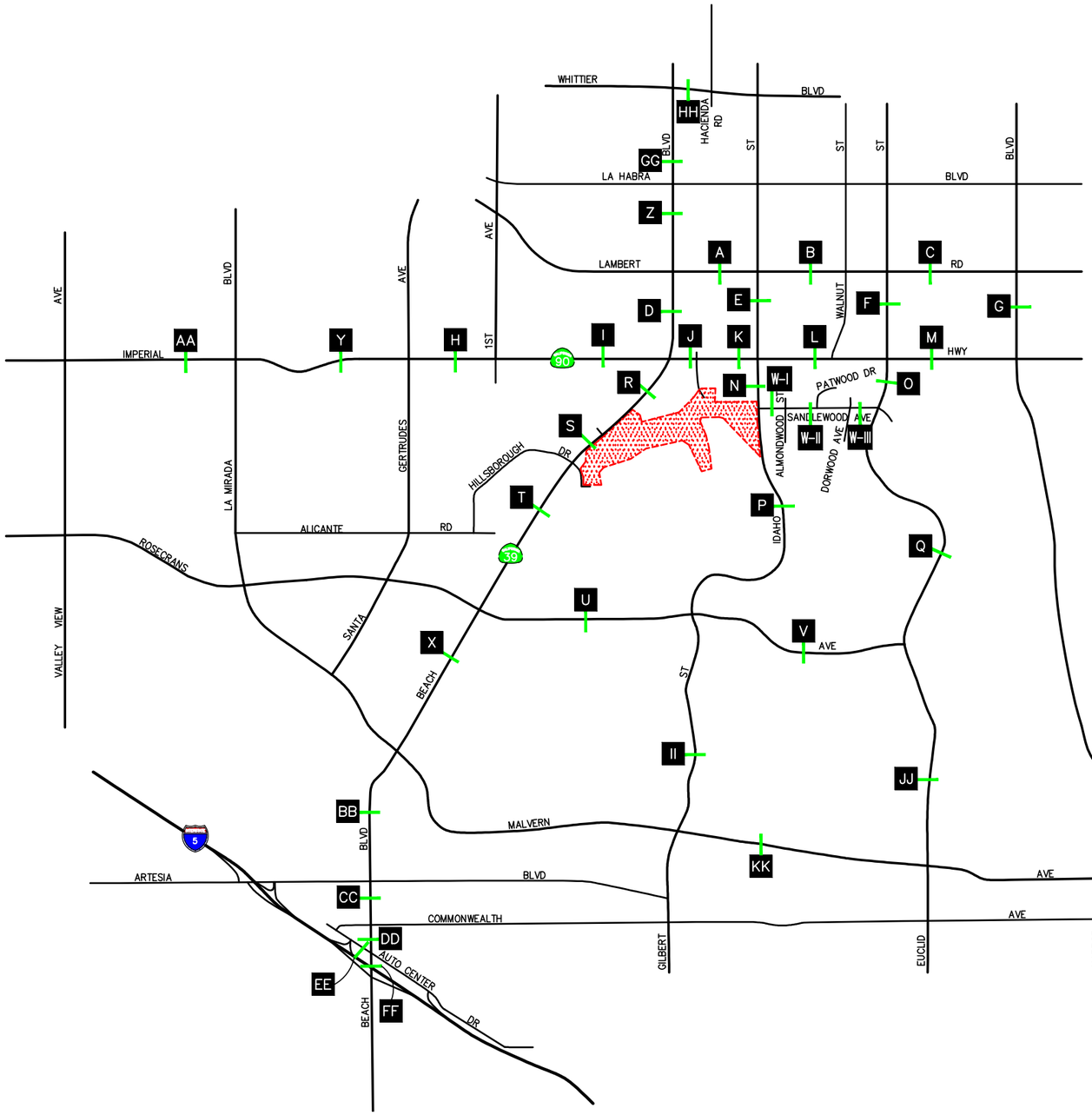
N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-12B

YEAR 2035 BUILDOUT PM PEAK HOUR TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	40,747	U	26,598
B	42,973	V	16,868
C	41,418	W-I	4,007
D	57,988	W-II	2,065
E	26,412	W-III	1,430
F	21,804	X	53,379
G	44,336	Y	39,655
H	44,560	Z	49,852
I	44,190	AA	37,471
J	61,645	BB	83,614
K	62,434	CC	68,094
L	62,478	DD	70,187
M	67,830	EE	14,656
N	24,051	FF	74,088
O	25,362	GG	40,400
P	20,018	HH	54,664
Q	25,779	II	29,332
R	65,172	JJ	34,944
S	68,259	KK	27,753
T	63,297		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

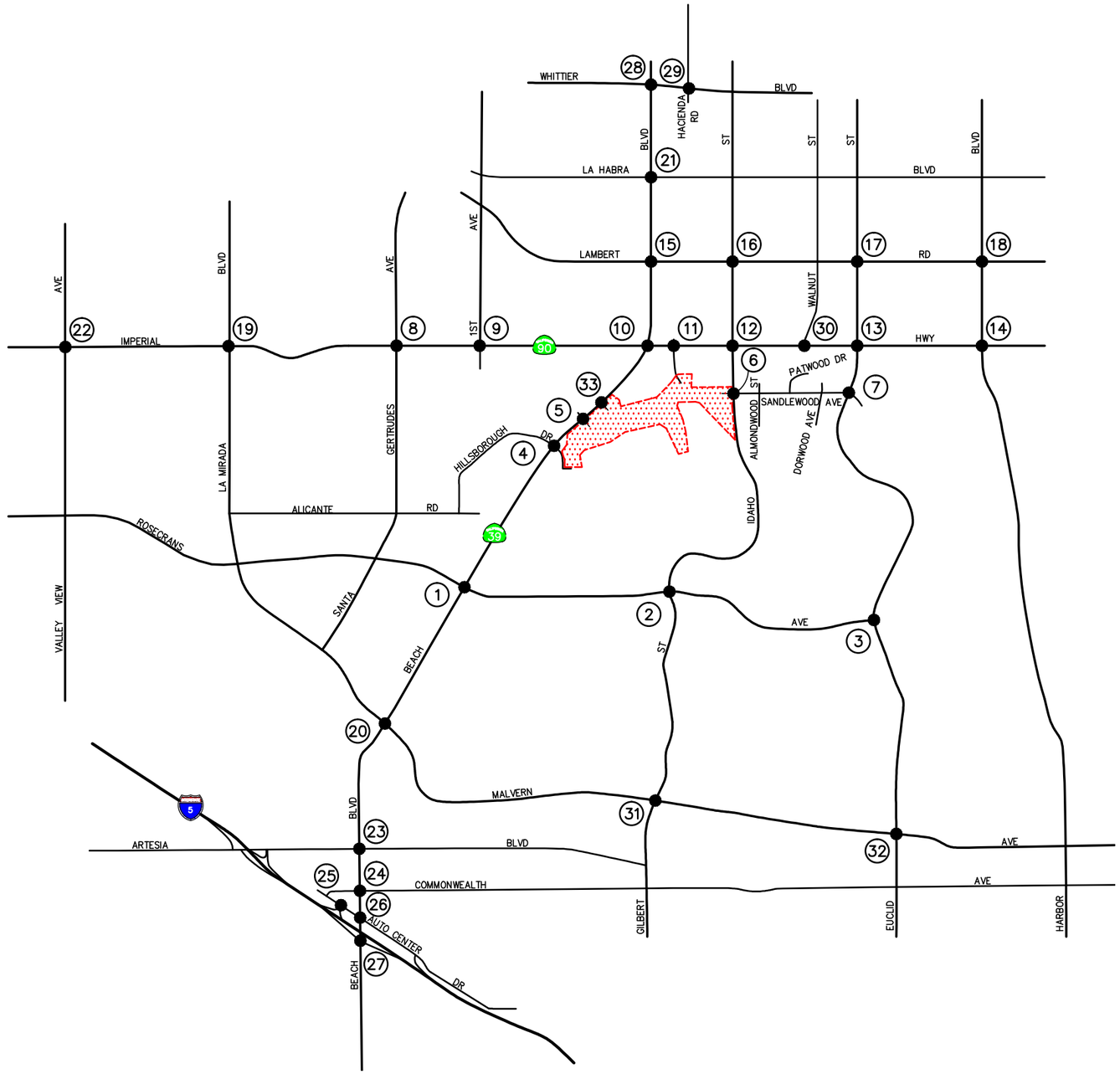
A = STUDY ROADWAY SEGMENT

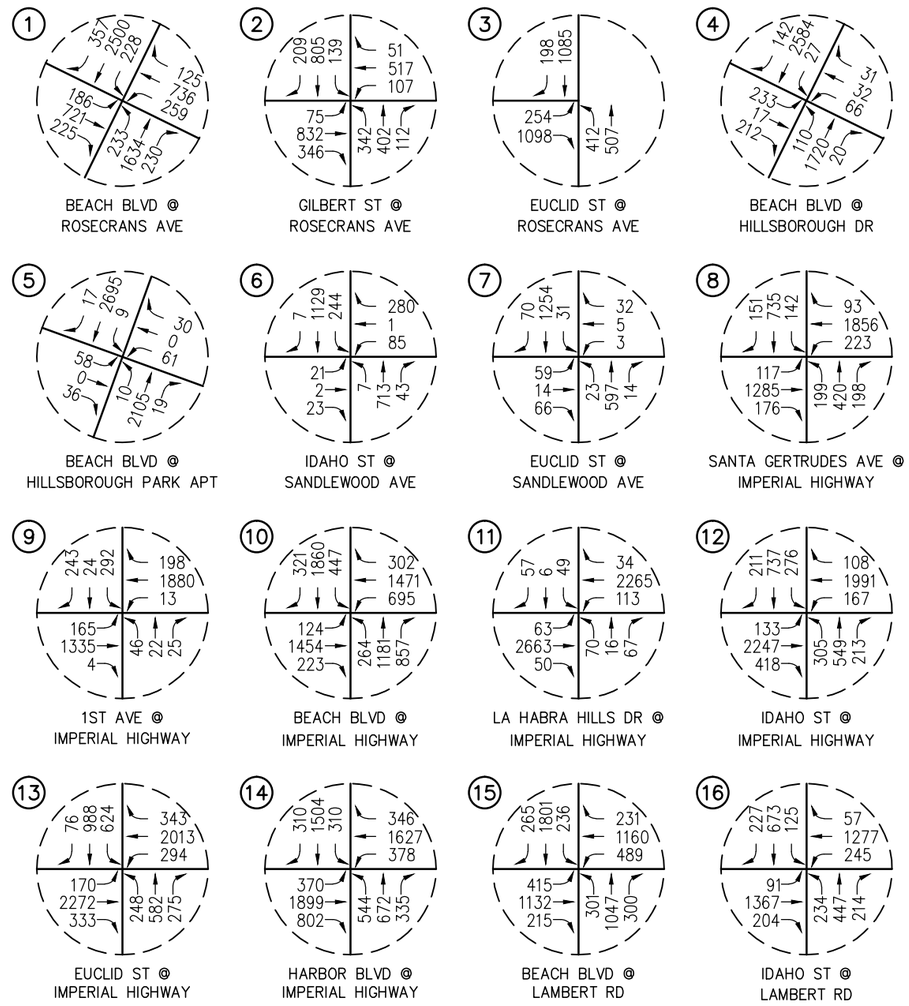
= PROJECT SITE

FIGURE 6-13

YEAR 2035 DAILY BUILDOUT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA





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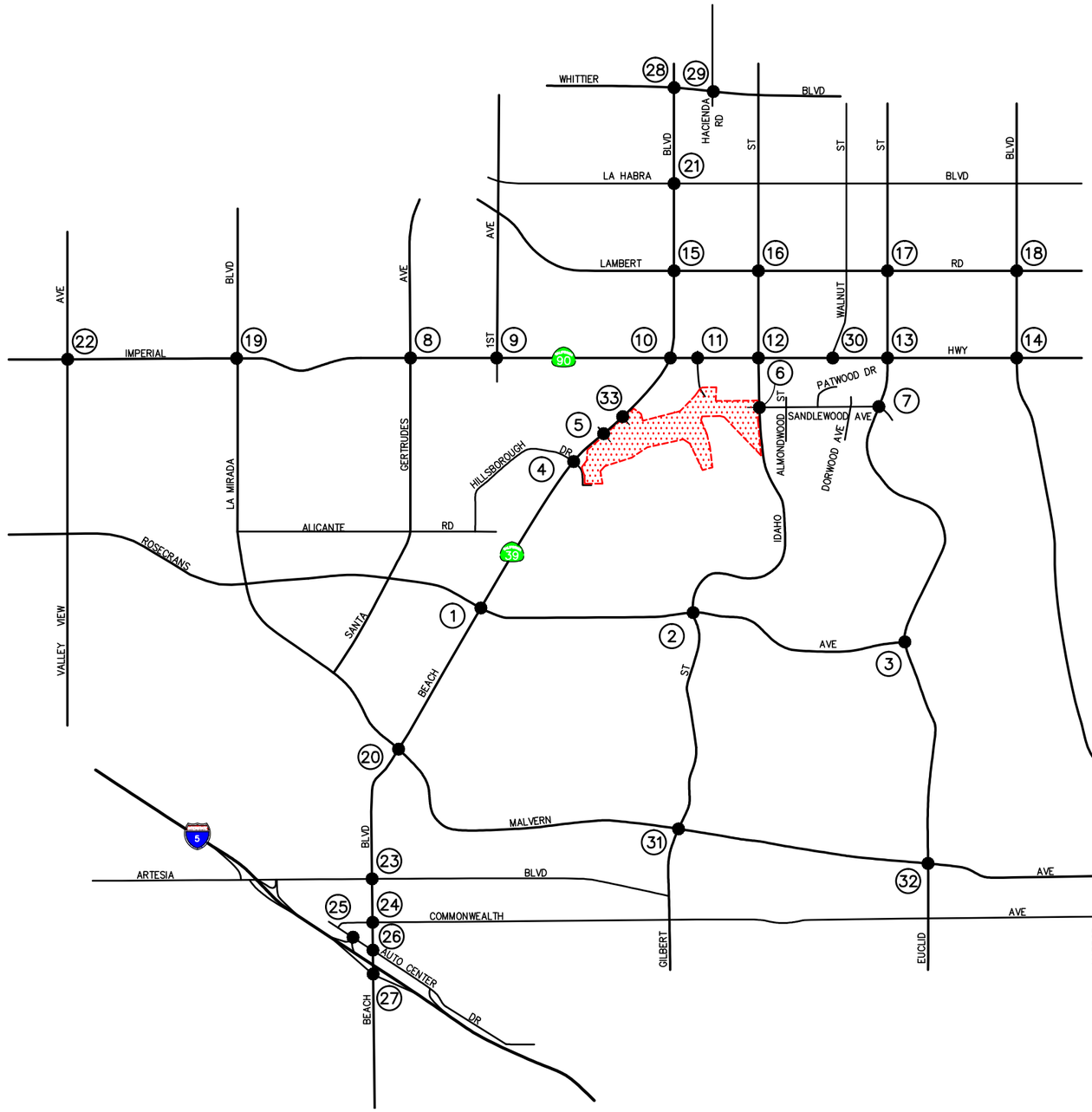
LINSCOTT LAW & GREENSPAN engineers

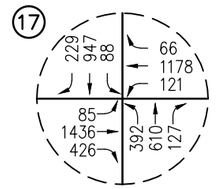
N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-14A

YEAR 2035 BUILDOUT PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES
RANCHO LA HABRA, CITY OF LA HABRA





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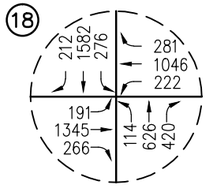
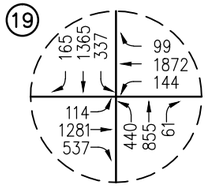
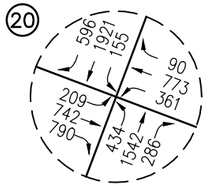
LAMBERT RD



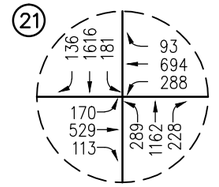
HARBOR BLVD @
LAMBERT RD



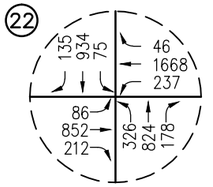
LA MIRADA BLVD @
IMPERIAL HWY



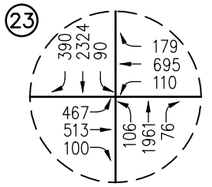
BEACH BLVD @
LA MIRADA BLVD/
MALVERN AVE



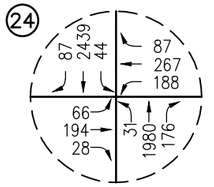
BEACH BLVD @
LA HABRA BLVD



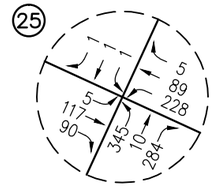
VALLEY VIEW AVE @
IMPERIAL HWY



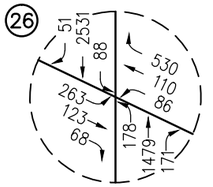
BEACH BLVD @
ARTESIA BLVD



BEACH BLVD @
COMMONWEALTH AVE



I-5 NB RAMPS @
AUTO CENTER DR



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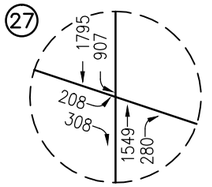
AUTO CENTER DR



I-5 SB RAMPS @
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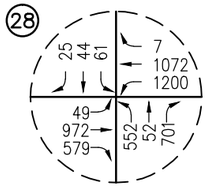
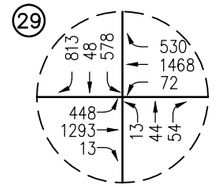
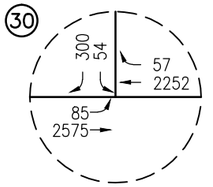


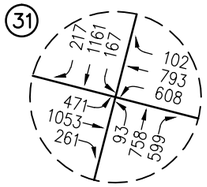
BEACH BLVD @
WHITTIER BLVD



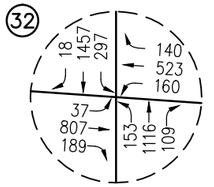
HACIENDA RD @
WHITTIER BLVD



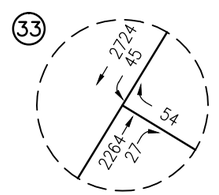
WALNUT ST @
IMPERIAL HWY



GILBERT ST @
MALVERN AVE



EUCLID ST @
MALVERN AVE



BEACH BLVD @
RETAIL DWY

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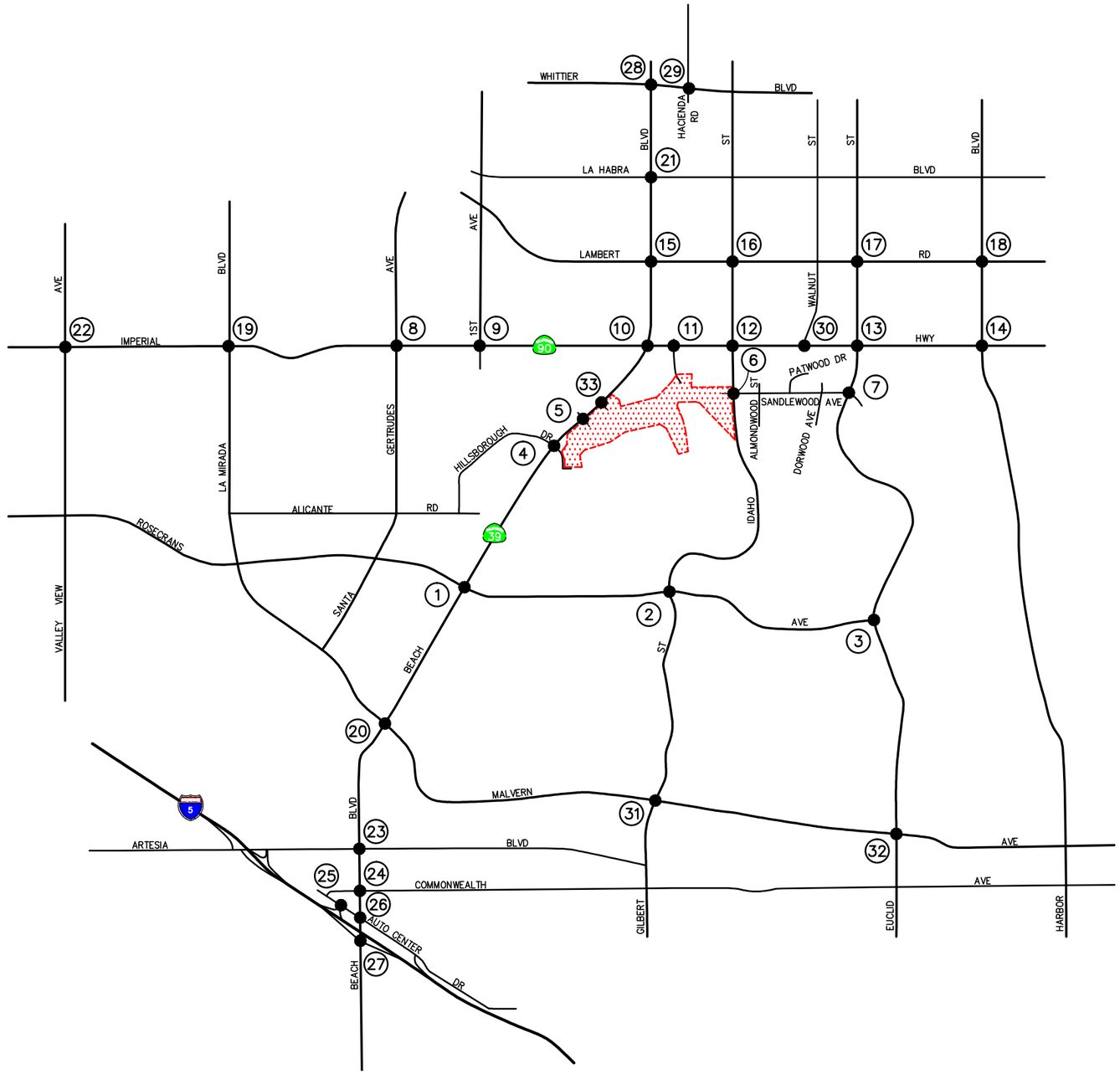
LINSCOTT LAW & GREENSPAN engineers

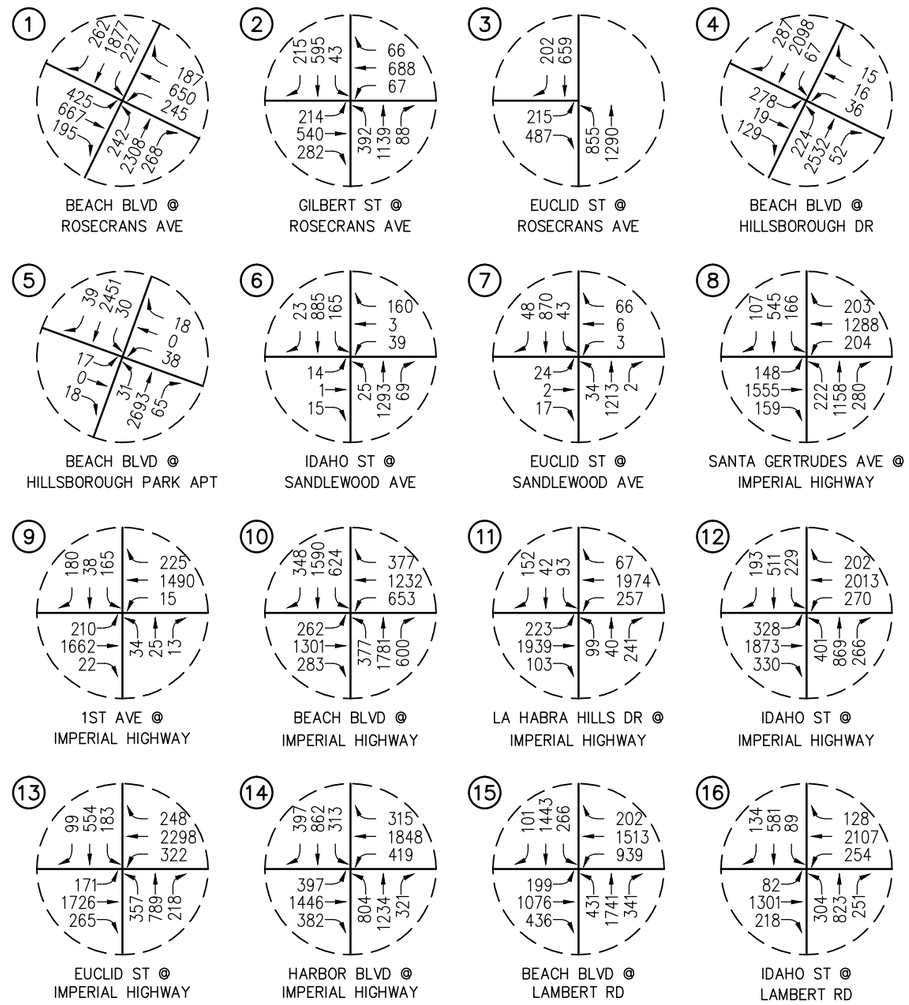
N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-14B

YEAR 2035 BUILDOUT PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES
RANCHO LA HABRA, CITY OF LA HABRA





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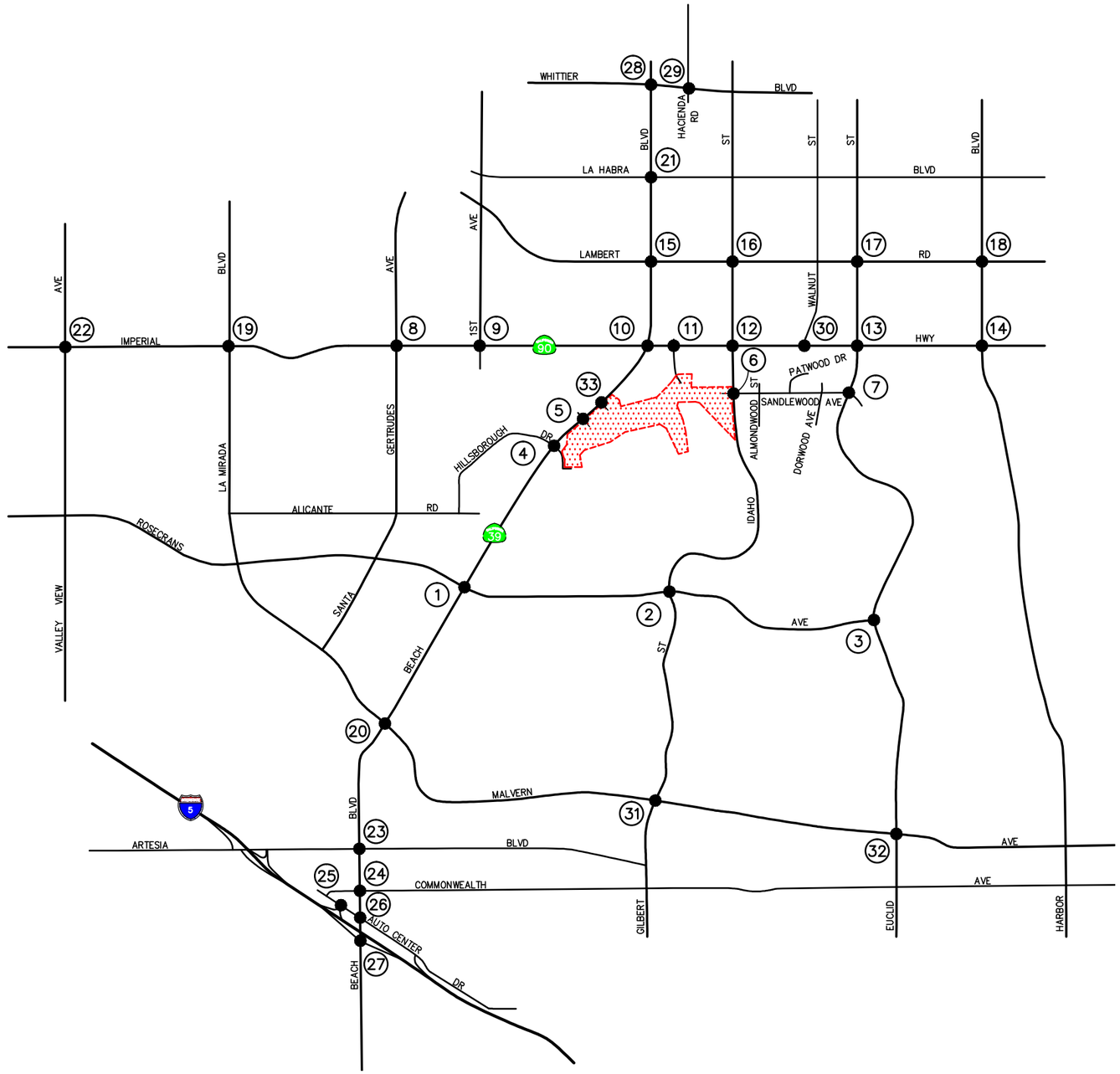
LINSCOTT LAW & GREENSPAN engineers

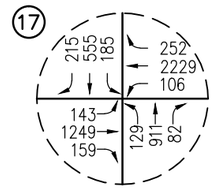
N NO SCALE

KEY
= PROJECT SITE

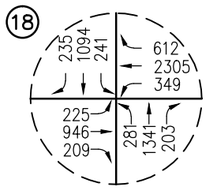
FIGURE 6-15A

YEAR 2035 BUILDOUT PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES
RANCHO LA HABRA, CITY OF LA HABRA

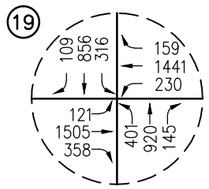




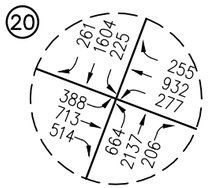
EUCLID ST @
LAMBERT RD



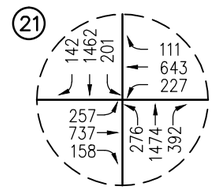
HARBOR BLVD @
LAMBERT RD



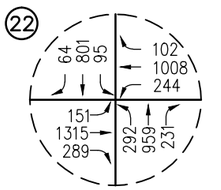
LA MIRADA BLVD @
IMPERIAL HWY



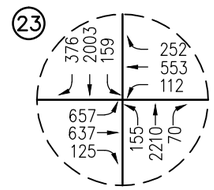
BEACH BLVD @
LA MIRADA BLVD/
MALVERN AVE



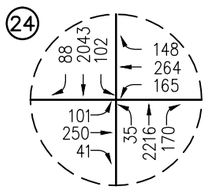
BEACH BLVD @
LA HABRA BLVD



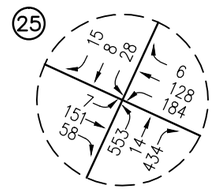
VALLEY VIEW AVE @
IMPERIAL HWY



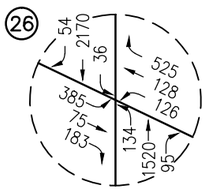
BEACH BLVD @
ARTESIA BLVD



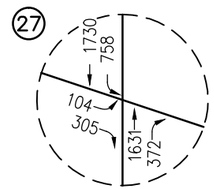
BEACH BLVD @
COMMONWEALTH AVE



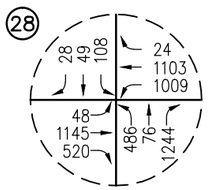
I-5 NB RAMPS @
AUTO CENTER DR



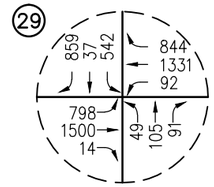
BEACH BLVD @
AUTO CENTER DR



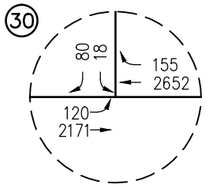
I-5 SB RAMPS @
BEACH BLVD



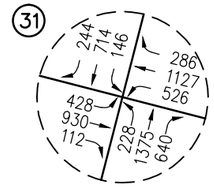
BEACH BLVD @
WHITTIER BLVD



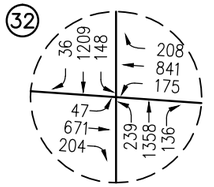
HACIENDA RD @
WHITTIER BLVD



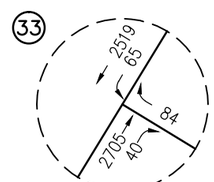
WALNUT ST @
IMPERIAL HWY



GILBERT ST @
MALVERN AVE



EUCLID ST @
MALVERN AVE



BEACH BLVD @
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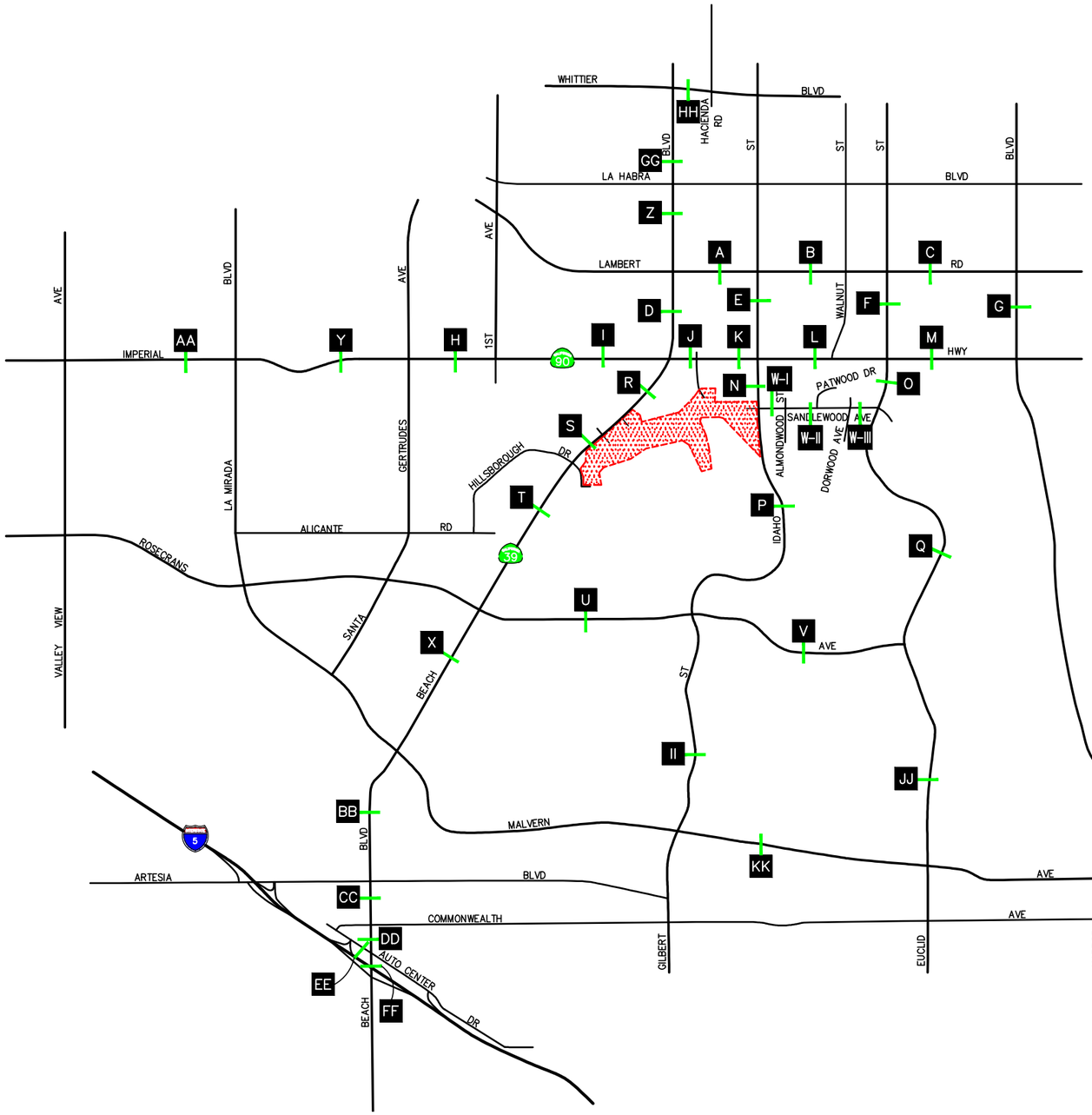
LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY
= PROJECT SITE

FIGURE 6-15B

YEAR 2035 BUILDOUT PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES
RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	40,747	U	27,492
B	42,973	V	17,121
C	41,418	W-I	4,219
D	58,784	W-II	2,277
E	26,520	W-III	1,642
F	21,859	X	54,818
G	44,712	Y	40,520
H	45,507	Z	50,588
I	45,201	AA	38,102
J	63,552	BB	84,740
K	63,957	CC	68,925
L	63,505	DD	70,965
M	68,643	EE	14,745
N	24,749	FF	74,699
O	25,520	GG	41,070
P	20,582	HH	54,980
Q	25,932	II	30,073
R	68,375	JJ	35,259
S	70,665	KK	28,106
T	65,534		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

A = STUDY ROADWAY SEGMENT

= PROJECT SITE

FIGURE 6-16

YEAR 2035 DAILY BUILDOUT PLUS PROJECT TRAFFIC VOLUMES

RANCHO LA HABRA, CITY OF LA HABRA

7.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

The relative impact of the proposed Project during the AM peak hour/PM peak hour and on a daily basis was evaluated based on analysis of future operating conditions at the thirty-two (32) key study intersections and thirty-seven (37) key roadway segments, without, then with the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the Project at each key intersection and key roadway segment was then evaluated using the following traffic impact criteria.

7.1 Impact Criteria and Thresholds

7.1.1 *City of La Habra*

Intersections:

For those study intersections within the jurisdiction of the City of La Habra (i.e. 5-7, 10-18, 21 and 28-30), impacts to local and regional transportation systems are considered significant if:

- An undesirable peak hour Level of Service (LOS) at any of the key signalized intersections is projected. LOS D is the acceptable condition that should be maintained during the morning and evening peak commute hours on all intersections within the City of La Habra, except those on the CMPHS of Orange County, where LOS E is defined in the CMP for Orange County as the acceptable limit and is acceptable for State Highway intersections.[40] Based on the above, the following summarizes the LOS required for each City of La Habra key study intersection:

LOS "D" Requirements – Key Study Intersections	
6. Idaho Street at Sandlewood Avenue	17. Euclid Street at Lambert Road
7. Euclid Street at Sandlewood Avenue	18. Harbor Boulevard at Lambert Road
16. Idaho Street at Lambert Road	
LOS "E" Requirements – Key Study Intersections	
5. Beach Blvd at Hillsborough Park Apt. Dr	15. Beach Boulevard at Lambert Road
10. Beach Boulevard at Imperial Highway	21. Beach Boulevard at La Habra Boulevard
11. La Habra Hills Dr at Imperial Highway	28. Beach Boulevard at Whittier Boulevard
12. Idaho Street at Imperial Highway	29. Hacienda Road at Whittier Boulevard
13. Euclid Street at Imperial Highway	30. Walnut Street at Imperial Highway
14. Harbor Boulevard at Imperial Highway	

- The Project increases traffic demand at a key signalized study intersection by 0.010 or greater, where the final (future) LOS is unacceptable.[41]

- An unsignalized intersection impact is considered to be significant if the project causes an intersection at LOS D or better to degrade to LOS E or LOS F, and the traffic signal warrant analysis determines that a traffic signal is justified.

[40] Source: City of La Habra General Plan 2035 (adopted January 21, 2014); Chapter 3: Mobility/Circulation, page 3-8.

[41] Source: County of Orange "Measurable Impact Criteria". The County of Orange defines a measurable impact as a project ICU increase of one percent (1.0%) or greater over existing traffic conditions.

Note, any incremental traffic impact (ICU increase) at intersections that are a part of the planned Citywide Improvements within the City of La Habra are considered and addressed through the City's Citywide Fee and Phasing Ordinances[42]. "Fair Share" contributions can be required, even if the impacts are less than significant (0.010). These fair share contributions are based on the recommended methodology contained in the Orange County CMP TIA procedures.

Roadway Segments

Consistent with the criteria for intersections, the following summarizes the LOS required for each City of La Habra key roadway segment (i.e. A-G, I-O, R-S, W, Z, GG and HH):

LOS "D" Requirements – Key Roadway Segments	
A.	Lambert Road between Beach Boulevard and Idaho Street
B.	Lambert Road between Idaho Street and Euclid Street
C.	Lambert Road between Euclid Street and Harbor Boulevard
E.	Idaho Street between Lambert Road and Imperial Highway
F.	Euclid Street between Lambert Road and Imperial Highway
G.	Harbor Boulevard between Lambert Road and Imperial Highway
N.	Idaho Street between Imperial Highway and Sandlewood Avenue
O.	Euclid Street between Imperial Highway and Sandlewood Avenue
W.	Sandlewood Avenue between Idaho Street and Euclid Street
HH.	Whittier Boulevard between Beach Boulevard and Hacienda Road
LOS "E" Requirements – Key Roadway Segments	
D.	Beach Boulevard between Lambert Road and Imperial Highway
I.	Imperial Highway between 1st Avenue and Beach Boulevard
J.	Imperial Highway between Beach Boulevard and La Habra Hills Drive
K.	Imperial Highway between La Habra Hills Drive and Idaho Street
L.	Imperial Highway between Idaho Street and Euclid Street
M.	Imperial Highway between Euclid Street and Harbor Boulevard
R.	Beach Boulevard between Imperial Highway and Hillsborough Apt
S.	Beach Boulevard between Hillsborough Apt and Hillsborough Drive
Z.	Beach Boulevard between Lambert Road and La Habra Boulevard
GG.	Beach Boulevard between La Habra Boulevard and Whittier Boulevard

The following steps are utilized to determine whether or not the proposed Project will have a significant impact at key roadway segments located within the City of La Habra:

- If the roadway segment is operating on a daily basis at an unacceptable level of service and the project traffic increase is 0.010 or greater, a peak hour evaluation will be conducted to determine if the roadway segment operates at a satisfactory service level in the critical peak hour. In order

[42] Source: City of La Habra Traffic Improvement Fee Resolution No. 4193, passed, approved, and adopted on June 3, 1993, City of La Habra Traffic Improvement Fee Ordinance No. 1452, and Traffic Phasing Plan Ordinance No. 1453 passed, approved and adopted on June 17, 1993.

for a significant impact to occur, the key roadway segment must operate at an unacceptable LOS during the AM and/or PM peak hours and the project traffic increase must be 0.010 or greater.

7.1.2 *City of La Mirada*

Intersections:

For those study intersections within the jurisdiction of the City of La Mirada (i.e. 1, 4, 8, 9, 19 and 22), impacts to local and regional transportation systems are considered significant if:

- An unacceptable peak hour Level of Service (LOS) at any of the key intersections is projected. According to the City of La Mirada General Plan[43], LOS E is the acceptable condition that should be maintained during the peak commute hours for nonresidential intersections and LOS D is the acceptable condition for residential neighborhood intersections. Based on the above, the following summarizes the LOS required for each City of La Mirada key study intersection:

LOS "D" Requirements – Key Study Intersections	
9. 1st Avenue at Imperial Highway	
LOS "E" Requirements – Key Study Intersections	
1. Beach Boulevard at Rosecrans Avenue	19. La Mirada Boulevard at Imperial Highway
4. Beach Boulevard at Hillsborough Drive	22. Valley View Avenue at Imperial Highway
8. Santa Gertrudes Ave at Imperial Highway	

- The project increases traffic demand at the study intersection by 2% of capacity (ICU increase ≥ 0.020) at a location operating at an unacceptable LOS.[44]

Roadway Segments

Consistent with the criteria for intersections, the following summarizes the LOS required for each City of La Mirada key roadway segment (i.e. H, T, Y and AA):

LOS "D" Requirements – Key Roadway Segments	
H.	Imperial Highway between Santa Gertrudes Avenue and 1st Avenue
LOS "E" Requirements – Key Roadway Segments	
T.	Beach Boulevard between Hillsborough Drive and Rosecrans Avenue
Y.	Imperial Highway between La Mirada Boulevard and Santa Gertrudes Avenue
AA.	Imperial Highway between Valley View Avenue and La Mirada Boulevard

The following steps are utilized to determine whether or not the proposed Project will have a significant impact at key roadway segments located within the City of La Mirada:

- If the roadway segment is operating on a daily basis at an unacceptable level of service and the project traffic increase is 0.020 or greater, a peak hour evaluation will be conducted to determine if the roadway segment operates at a satisfactory service level in the critical peak hour. In order

[43] Source: City of La Mirada General Plan (adopted March 25, 2003), Circulation Element, page C-11.

[44] Source: Los Angeles County Congestion Management Program.

for a significant impact to occur, the key roadway segment must operate at an unacceptable LOS during the AM and/or PM peak hours and the project traffic increase must be 0.020 or greater.

7.1.3 *City of Fullerton*

Intersections:[45]

The City of Fullerton utilizes the HCM Operations methodology to evaluate all key study intersections. For those study intersections within the jurisdiction of the City of Fullerton (i.e. 2, 3, 31 and 32), impacts to local and regional transportation systems are considered significant if:

- For signalized intersections, an impact is considered to be significant if the project causes an intersection at LOS D or better to degrade to LOS E or F.
- For unsignalized intersections an impact is considered to be significant if the project causes an intersection at LOS D or better to degrade to LOS E or F. However, unsignalized intersection LOS is based on the control delay, but delay is only assessed for those traffic movements that are stopped or must yield to through traffic. Some movements, including cross traffic on the minor street or left turns onto the major street are acceptable with long delays, provided through traffic and right turns from a major street do not experience any delays at stopped intersections. When delay for cross traffic is severe (LOS F), the intersection should be further evaluated for possible improvement with traffic signals. In some cases, this analysis determines that the delay is being experienced by a very low number of vehicles and traffic signals are not warranted. For this condition, the intersection does not need to be considered impacted, but measures to reduce delay may be considered, if appropriate. In other cases, the number of stopped vehicles is substantial and traffic signals may be justified as a mitigation measure. Therefore, the following significance criteria for unsignalized intersection are used:
- An unsignalized intersection impact is considered to be significant if the project causes an intersection at LOS D or better to degrade to LOS E or F, and the traffic signal warrant analysis determines that a traffic signal is justified.

Roadway Segments

For those roadway segments within the jurisdiction of the City of Fullerton (i.e. P, Q, U, V, II, JJ and KK), impacts to local and regional transportation systems are considered significant if:

- Consistent with the criteria for intersections, the City of Fullerton considers LOS D to be the acceptable level of service that should be maintained for all roadway segments.
- Consistent with the criteria for intersections, an impact is considered to be significant if the project causes a roadway segment at LOS D or better to degrade to LOS E or F.

7.1.4 *City of Buena Park*

Intersections:[46]

For those study intersections within the jurisdiction of the City of Buena Park (i.e. 20, 23, 24, 25, 26 and 27), impacts to local and regional transportation systems are considered significant if:

[45] Source: The Fullerton Plan (adopted May 1, 2012), Final Program EIR, Traffic and Circulation, page 5.4-13.

[46] Source: City of Buena Park 2035 General Plan (adopted December 2010), Chapter 3: Mobility Element, 3.5 Performance Criteria.

- ICU Analysis
  - An unacceptable peak hour Level of Service (LOS) at any of the key intersections is projected. The City of Buena Park considers LOS D to be the acceptable LOS for all intersections.
  - The project increases traffic demand at the study intersection by 2% of capacity (ICU increase ≥ 0.020) at an intersection operating at LOS E or F.
- HCM Analysis
  - An unacceptable peak hour Level of Service (LOS) at any of the key intersections is projected. The City of Buena Park considers LOS D to be the acceptable LOS for all intersections.
  - The project increases the delay at the study intersection by at least 2.0 seconds at an intersection already operating at an unacceptable level of service (LOS E or F).

Roadway Segments

Consistent with the criteria for intersections, the City of Buena Park considers LOS D to be the acceptable level of service that should be maintained for all roadway segments (i.e. X, BB, CC, DD, EE and FF). The following steps are utilized to determine whether or not the proposed Project will have a significant impact at key roadway segments located within the City of Buena Park:

- If the roadway segment is operating on a daily basis at an unacceptable level of service and the project traffic increase is 0.020 or greater, a peak hour evaluation will be conducted to determine if the roadway segment operates at a satisfactory service level in the critical peak hour. In order for a significant impact to occur, the key roadway segment must operate at an unacceptable LOS during the AM and/or PM peak hours and the project traffic increase must be 0.020 or greater.

7.2 Traffic Impact Analysis Scenarios

The following scenarios are those for which volume/capacity calculations have been performed at the thirty-two (32) key study intersections and thirty-seven (37) key roadway segments for existing plus project, near-term (Year 2023) and long-term (Year 2035) traffic conditions:

A. Existing Traffic Conditions;
B. Existing Plus Project Traffic Conditions;
C. Scenario (B) with Improvements, if necessary;
D. Near-Term (Year 2023) Cumulative Traffic Conditions,
E. Near-Term (Year 2023) Cumulative plus Project Traffic Conditions;
F. Scenario (E) with Improvements, if necessary;
G. Long-Term (Year 2035) Future Traffic Conditions;
H. Long-Term (Year 2035) Future Traffic Conditions plus Project Traffic; and
I. Scenario (H) with Improvements, if necessary.

8.0 EXISTING PLUS PROJECT ANALYSIS

The following summarizes the "Existing Plus Project" level of service results for the thirty-two (32) key study intersections and thirty-seven (37) key roadway segments.

8.1 Intersections

Table 8-1 summarizes the peak hour level of service results at the thirty-two (32) key study intersections for Existing plus Project traffic conditions. The first column (1) of ICU/LOS and HCM/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-6*). The second column (2) lists existing plus project traffic conditions. The third column (3) shows the increase in ICU value and/or Delay value due to the added peak hour project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report. The fourth column (4) indicates the anticipated level of service with planned and/or recommended improvements.

8.1.1 *Existing Plus Project Traffic Conditions*

Review of Columns 2 and 3 of *Table 8-1* indicates that traffic associated with the proposed Project will significantly impact one (1) of the thirty-two (32) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Euclid Street/Sandlewood Avenue is forecast to operate at unacceptable LOS F during the AM peak hour and unacceptable LOS E during the PM peak hour, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied. The remaining thirty (30) key study intersections currently operate and are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of Project generated traffic to existing traffic. The intersection operating at an adverse level of service under existing plus project traffic conditions consists of the following:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
30. Walnut Street at Imperial Highway	La Habra	1260.8 s/v	F	--	--

As shown in column 4, the implementation of improvements at the one (1) impacted key study intersection completely offsets the impact of project traffic and the one (1) impacted key study intersection is forecast to operate at an acceptable LOS during the AM and PM peak hours with implementation of improvements. Refer to Section 12.3 for details on the recommended improvements. Although not impacted by the proposed Project, AM and PM peak hour LOS results are shown in column 4 for the intersection of Hacienda Road/Whittier Boulevard with the improvements planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project.

Appendix F presents the existing plus project ICU/LOS and HCM/LOS calculations for the thirty-two (32) key study intersections as well as the traffic signal warrant worksheets for the intersection of Euclid Street/Sandlewood Avenue.

8.2 Roadway Segments

Table 8-2 summarizes the results of the Existing Plus Project daily analysis for the thirty-seven (37) key roadway segments. The first column (1) shows the number of lanes, the second column (2) shows the arterial classification and the third column (3) shows the existing LOS "E" capacity. The fourth column (4) shows the daily volume, V/C ratio and resulting level of service for "Existing" traffic conditions. The fifth column (5) shows the daily volume, V/C ratio and resulting level of service for "Existing Plus Project" traffic conditions and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards defined in this report.

8.2.1 *Existing Plus Project Traffic Conditions*

Review of Column 5 of *Table 8-2* indicates that nine (9) of the thirty-seven (37) key roadway segments are forecast to operate at an unacceptable level of service on a daily basis with the proposed Project. The nine (9) locations that operate at an adverse LOS are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	0.944	E
B. Lambert Road between Idaho Street and Euclid Street	La Habra	0.997	E
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	0.960	E
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.005	F
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.211	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Avenue	Buena Park	0.958	E
DD. Beach Blvd between Commonwealth Avenue and Auto Center Drive	Buena Park	0.989	E
FF. Beach Blvd between Auto Center Drive and I-5 SB Ramps	Buena Park	1.038	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.263	F

Of the nine (9) locations operating at an unacceptable level of service, only Roadway Segment S (i.e. Beach Boulevard between Hillsborough Apt. and Hillsborough Drive) require a peak hour link assessment to determine whether or not they will be impacted by the proposed Project. The other eight (8) locations (i.e. Roadway Segments A, B, C, BB, CC, DD, FF and HH) do not exceed the thresholds defined in this report requiring a peak hour link assessment and thus are not impacted by the proposed Project under Existing plus Project Traffic Conditions.

As shown in *Table 8-2*, Roadway Segment S currently operates at acceptable LOS C or better during the critical weekday AM and PM peak commute hours. Further, Roadway Segment S is forecast to continue to operate at LOS D or better under Existing Plus Project Traffic Conditions during the weekday AM and PM peak commute hours. Therefore, Roadway Segment S ***will not*** be significantly impacted by the Project.

The remaining twenty-eight (28) key roadway segments are forecast to continue to operate at an acceptable service level on a daily basis with the addition of project generated traffic to existing traffic.

TABLE 8-1
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections		Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Project Significant Impact		(4) With Improvements	
					ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
1.	Beach Boulevard at Rosecrans Avenue	E	La Mirada/ Caltrans	AM	0.979	E	0.996	E	0.017	No	--	--
				PM	0.935	E	0.982	E	0.047	No	--	--
2.	Gilbert Street at Rosecrans Avenue	D	Fullerton	AM	39.3 s/v	D	39.7 s/v	D	--	No	--	--
				PM	37.1 s/v	D	38.3 s/v	D	--	No	--	--
3.	Euclid Street at Rosecrans Avenue	D	Fullerton	AM	29.4 s/v	C	29.4 s/v	C	--	No	--	--
				PM	19.5 s/v	B	19.6 s/v	B	--	No	--	--
4.	Beach Boulevard at Hillsborough Drive	E	La Mirada/ Caltrans	AM	0.768	C	0.793	C	0.025	No	--	--
				PM	0.738	C	0.767	C	0.029	No	--	--
5.	Beach Boulevard at Hillsborough Park Apt.	E	La Habra/ Caltrans	AM	0.533	A	0.565	A	0.032	No	--	--
				PM	0.503	A	0.568	A	0.065	No	--	--
6.	Idaho Street at Sandlewood Avenue	D	La Habra	AM	0.485	A	0.507	A	0.022	No	--	--
				PM	0.528	A	0.549	A	0.021	No	--	--
7.	Euclid Street at Sandlewood Avenue	D	La Habra	AM	**69.4 s/v**	**F**	**75.3 s/v**	**F**	--	No [a]	--	--
				PM	**41.4 s/v**	**E**	**47.2 s/v**	**E**	--	No [a]	--	--
8.	Santa Gertrudes Avenue at Imperial Highway	E	La Mirada	AM	0.852	D	0.861	D	0.009	No	--	--
				PM	0.871	D	0.884	D	0.013	No	--	--
9.	1st Avenue at Imperial Highway	D	La Mirada	AM	0.706	C	0.716	C	0.010	No	--	--
				PM	0.594	A	0.604	B	0.010	No	--	--
10.	Beach Boulevard at Imperial Highway	E	La Habra/ Caltrans	AM	0.786	C	0.813	D	0.027	No	--	--
				PM	0.834	D	0.870	D	0.036	No	--	--
11.	La Habra Hills Drive at Imperial Highway	E	La Habra/ Caltrans	AM	0.501	A	0.527	A	0.026	No	--	--
				PM	0.653	B	0.710	C	0.057	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level
- [a] = Although this intersection is forecast to operate at an unacceptable LOS, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied (refer to Section 7.1.1).

TABLE 8-1 (CONTINUED)
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Project Significant Impact		(4) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
12. Idaho Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.692	B	0.705	C	0.013	No	--	--
			PM	0.728	C	0.740	C	0.012	No	--	--
13. Euclid Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.795	C	0.807	D	0.012	No	--	--
			PM	0.715	C	0.731	C	0.016	No	--	--
14. Harbor Boulevard at Imperial Highway	E	La Habra/ Fullerton/Caltrans	AM	0.759	C	0.762	C	0.003	No	--	--
			PM	0.683	B	0.686	B	0.003	No	--	--
			AM	43.1 s/v	D	47.2 s/v	D	--	No	--	--
			PM	44.4 s/v	D	45.5 s/v	D	--	No	--	--
15. Beach Boulevard at Lambert Road	E	La Habra/ Caltrans	AM	0.949	E	0.954	E	0.005	No	--	--
			PM	0.900	D	0.909	E	0.009	No	--	--
16. Idaho Street at Lambert Road	D	La Habra	AM	0.814	D	0.815	D	0.001	No	--	--
			PM	0.775	C	0.776	C	0.001	No	--	--
17. Euclid Street at Lambert Road	D	La Habra	AM	0.702	C	0.703	C	0.001	No	--	--
			PM	0.799	C	0.800	C	0.001	No	--	--
18. Harbor Boulevard at Lambert Road	D	La Habra	AM	0.696	B	0.697	B	0.001	No	--	--
			PM	0.777	C	0.780	C	0.003	No	--	--
19. La Mirada Boulevard at Imperial Highway	E	La Mirada	AM	0.900	D	0.908	E	0.008	No	--	--
			PM	0.859	D	0.866	D	0.007	No	--	--
20. Beach Boulevard at La Mirada Blvd/Malvern Ave	D	Buena Park/ Caltrans	AM	0.757	C	0.768	C	0.011	No	--	--
			PM	0.805	D	0.828	D	0.023	No	--	--
21. Beach Boulevard at La Habra Boulevard	E	La Habra/ Caltrans	AM	0.729	C	0.734	C	0.005	No	--	--
			PM	0.801	D	0.806	D	0.005	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 8-1 (CONTINUED)
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Project Significant Impact		(4) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
22. Valley View Avenue at Imperial Highway	E	La Mirada	AM	0.903	E	0.909	E	0.006	No	--	--
			PM	0.876	D	0.883	D	0.007	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	Buena Park/ Caltrans	AM	0.795	C	0.808	D	0.013	No	--	--
			PM	0.748	C	0.760	C	0.012	No	--	--
24. Beach Boulevard at Commonwealth Avenue	D	Buena Park/ Caltrans	AM	0.589	A	0.598	A	0.009	No	--	--
			PM	0.613	B	0.624	B	0.011	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.350	A	0.350	A	0.000	No	--	--
			PM	0.477	A	0.477	A	0.000	No	--	--
26. Beach Boulevard at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.720	C	0.730	C	0.010	No	--	--
			PM	0.677	B	0.691	B	0.014	No	--	--
27. Beach Boulevard at I-5 SB Ramps	D	Buena Park/ Caltrans	AM	0.691	B	0.698	B	0.007	No	--	--
			PM	0.675	B	0.684	B	0.009	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.686	B	0.692	B	0.006	No	--	--
			PM	0.758	C	0.761	C	0.003	No	--	--
29. Hacienda Road at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.849	D	0.855	D	0.006	No	0.707	C
			PM	0.834	D	0.845	D	0.011	No	0.772	C
30. Walnut Street at Imperial Highway	E	La Habra/ Caltrans	AM	**957.8 s/v**	**F**	**1,260.8 s/v**	**F**	--	**Yes**	0.542	A
			PM	44.6 s/v	E	48.7 s/v	E	--	No	0.605	B
31. Gilbert Street at Malvern Avenue	D	Fullerton	AM	45.9 s/v	D	46.7 s/v	D	--	No	--	--
			PM	43.6 s/v	D	44.8 s/v	D	--	No	--	--
32. Euclid Street at Malvern Avenue	D	Fullerton	AM	41.8 s/v	D	42.6 s/v	D	--	No	--	--
			PM	43.3 s/v	D	43.5 s/v	D	--	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 8-2
EXISTING PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions			(5) Existing Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
A. Lambert Road between Beach Blvd and Idaho Street	D	La Habra	4	Primary	37,500	**35,387**	**0.944**	**E**	**35,387**	**0.944**	**E**	0.000	No
B. Lambert Road between Idaho Street and Euclid Street	D	La Habra	4	Primary	37,500	**37,387**	**0.997**	**E**	**37,387**	**0.997**	**E**	0.000	No
C. Lambert Road between Euclid Street and Harbor Blvd	D	La Habra	4	Primary	37,500	**36,014**	**0.960**	**E**	**36,014**	**0.960**	**E**	0.000	No
D. Beach Boulevard between Lambert Road and Imperial Hwy	E	La Habra	6	Major	56,300	51,446	0.914	E	52,242	0.928	E	0.014	No
E. Idaho Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	23,702	0.632	B	23,810	0.635	B	0.003	No
F. Euclid Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	17,898	0.477	A	17,953	0.479	A	0.002	No
G. Harbor Boulevard between Lambert Road and Imperial Hwy	D	La Habra	6	Major	56,300	35,083	0.623	B	35,459	0.630	B	0.007	No
H. Imperial Highway between Santa Gertrudes Ave and 1st Ave	D	La Mirada	6	Major	54,000	36,239	0.671	B	37,186	0.689	B	0.018	No
I. Imperial Highway between 1st Avenue and Beach Boulevard	E	La Habra	6	Major	56,300	36,310	0.645	B	37,321	0.663	B	0.018	No
J. Imperial Highway between Beach Blvd and La Habra Hills Dr	E	La Habra	6	Smart Street	60,200	49,867	0.828	D	51,774	0.860	D	0.032	No
K. Imperial Highway between La Habra Hills Drive and Idaho St	E	La Habra	6	Smart Street	60,200	50,687	0.842	D	52,210	0.867	D	0.025	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 8-2 (CONTINUED)
EXISTING PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions			(5) Existing Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
L. Imperial Highway between Idaho Street and Euclid Street	E	La Habra	6	Smart Street	60,200	50,844	0.845	D	51,871	0.862	D	0.017	No
M. Imperial Highway between Euclid Street and Harbor Boulevard	E	La Habra	6	Smart Street	60,200	52,284	0.869	D	53,097	0.882	D	0.013	No
N. Idaho Street between Imperial Hwy and Sandlewood Ave	D	La Habra	4	Primary	37,500	20,217	0.539	A	20,915	0.558	A	0.019	No
O. Euclid Street between Sandlewood Ave and Imperial Hwy	D	La Habra	4	Primary	37,500	21,596	0.576	A	21,754	0.580	A	0.004	No
P. Gilbert Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	15,440	0.412	A	16,004	0.427	A	0.015	No
Q. Euclid Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	22,344	0.596	A	22,497	0.600	B	0.004	No
R. Beach Boulevard between Imperial Hwy and Hillsborough Apt.	E	La Habra	6	Smart Street	60,200	55,337	0.919	E	58,540	0.972	E	0.053	No
S. Beach Boulevard between Hillsborough Apt. and Hillsborough Dr	E	La Habra	6	Smart Street	60,200	58,110	0.965	E	**60,516**	**1.005**	**F**	**0.040**	
➢ *Peak Hour Assessment*			*AM*	*NB*	*3,010*	*1,718*	*0.571*	*A*	*1,778*	*0.591*	*A*	*0.020*	*No*
				SB	*3,010*	*2,311*	*0.768*	*C*	*2,414*	*0.802*	*D*	*0.034*	*No*
			PM	*NB*	*3,010*	*2,288*	*0.760*	*C*	*2,419*	*0.804*	*D*	*0.044*	*No*
				SB	3,010	*2,006*	*0.666*	*B*	*2,094*	*0.696*	*B*	*0.030*	*No*
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	E	La Mirada	6	Smart Street	57,780	53,636	0.928	E	55,873	0.967	E	0.039	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 8-2 (CONTINUED)
EXISTING PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment		Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions			(5) Existing Plus Project Traffic Conditions				
							Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
U.	Rosecrans Avenue between Beach Boulevard and Gilbert Street	D	Fullerton	4	Primary	37,500	20,815	0.555	A	21,709	0.579	A	0.024	No
V.	Rosecrans Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Secondary	25,000	15,137	0.605	B	15,390	0.616	B	0.011	No
W-I.	Sandlewood Avenue East of Idaho Street	D	La Habra	2	Commuter	5,400	3,600	0.667	B	3,812	0.706	C	0.039	No
W-II.	Sandlewood Avenue between Idaho Street and Euclid Street	D	La Habra	2	Commuter	5,400	1,931	0.358	A	2,143	0.397	A	0.039	No
W-III.	Sandlewood Avenue West of Euclid Street	D	La Habra	2	Commuter	5,400	1,296	0.240	A	1,508	0.279	A	0.039	No
X.	Beach Boulevard between Rosecrans Ave and La Mirada Blvd	D	Buena Park	6	Smart Street	60,200	44,047	0.732	C	45,486	0.756	C	0.024	No
Y.	Imperial Highway between Santa Gertrudes and La Mirada Blvd	E	La Mirada	6	Major	54,000	31,542	0.584	A	32,407	0.600	B	0.016	No
Z.	Beach Boulevard between Lambert Road and La Habra Blvd	E	La Habra	6	Major	56,300	42,893	0.762	C	43,629	0.775	C	0.013	No
AA.	Imperial Highway between Valley View Ave and La Mirada Blvd	E	La Mirada	6	Major	54,000	30,552	0.566	A	31,183	0.577	A	0.011	No
BB.	Beach Boulevard between La Mirada Blvd/Malvern Ave and Artesia Blvd	D	Buena Park	6	Smart Street	60,200	**71,766**	**1.192**	**F**	**72,892**	**1.211**	**F**	0.019	No
CC.	Beach Boulevard between Artesia Blvd and Commonwealth Ave	D	Buena Park	6	Smart Street	60,200	**56,837**	**0.944**	**E**	**57,668**	**0.958**	**E**	0.014	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 8-2 (CONTINUED)
EXISTING PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment		Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions			(5) Existing Plus Project Traffic Conditions				
							Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
DD.	Beach Boulevard between Commonwealth and Auto Center Dr	D	Buena Park	6	Smart Street	60,200	**58,783**	**0.976**	**E**	**59,561**	**0.989**	**E**	0.013	No
EE.	Auto Center Drive between Beach Boulevard and I-5 NB Ramps	D	Buena Park	4	Primary	37,500	12,592	0.336	A	12,681	0.338	A	0.002	No
FF.	Beach Boulevard between Auto Center Drive and I-5 SB Ramps	D	Buena Park	6	Smart Street	60,200	**61,904**	**1.028**	**F**	**62,515**	**1.038**	**F**	0.010	No
GG	Beach Boulevard between La Habra Blvd and Whittier Blvd	E	La Habra	6	Major	56,300	35,120	0.624	B	35,790	0.636	B	0.012	No
HH.	Whittier Boulevard between Beach Blvd and Hacienda Rd	D	La Habra	4	Primary	37,500	**47,059**	**1.255**	**F**	**47,375**	**1.263**	**F**	0.008	No
II.	Gilbert Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	23,527	0.627	B	24,268	0.647	B	0.020	No
JJ.	Euclid Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	31,442	0.838	D	31,757	0.847	D	0.009	No
KK.	Malvern Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Primary	37,500	23,982	0.640	B	24,335	0.649	B	0.009	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

9.0 YEAR 2023 PLUS PROJECT ANALYSIS

The following summarizes the "Year 2023 Plus Project" level of service results for the thirty-two (32) key study intersections and thirty-seven (37) key roadway segments. Please note that the level of service analyses for the intersections and roadway segments are based on existing lane geometrics.

9.1 Intersections

Table 9-1 summarizes the peak hour level of service results at the thirty-two (32) key study intersections for the Year 2023. The first column (1) of ICU/LOS and HCM/LOS values in *Table 9-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-6*). The second column (2) lists forecast 2023 cumulative conditions (existing traffic plus ambient growth traffic plus cumulative project traffic) based on existing intersection geometry, but without any traffic generated from the proposed Project. The third column (3) presents future forecast traffic conditions with the addition of traffic generated by the proposed Project. The fourth column (4) shows the increase in ICU value and/or Delay value due to the added peak hour project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report. The fifth column (5) indicates the anticipated level of service with planned and/or recommended improvements.

9.1.1 *Year 2023 Cumulative (Without Project) Traffic Conditions*

An analysis of future (Year 2023) cumulative traffic conditions indicates that the addition of ambient traffic growth and cumulative projects traffic will adversely impact four (4) of the thirty-two (32) key study intersections. The remaining twenty-eight (28) key study intersections are forecast to continue to operate at acceptable levels of service during the AM and PM peak hours with the addition of ambient traffic growth and cumulative projects traffic. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada	1.077	F	1.015	F
7. Euclid Street at Sandlewood Avenue	La Habra	123.4 s/v	F	59.6 s/v	F
15. Beach Boulevard at Lambert Road	La Habra	1.021	F	--	--
30. Walnut Street at Imperial Highway	La Habra	5,473.9 s/v	F	94.2 s/v	F

9.1.2 *Year 2023 Cumulative Plus Project Traffic Conditions*

Review of Columns 3 and 4 of *Table 9-1* indicates that traffic associated with the proposed Project will significantly impact three (3) of the thirty-two (32) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Beach Boulevard/Lambert Road is forecast to operate at unacceptable LOS F during the AM peak hour with the addition of project traffic, the proposed Project is expected to add less than the

allowable threshold to the ICU value. Also, although the intersection of Euclid Street/Sandlewood Avenue is forecast to operate at unacceptable LOS F during the AM and PM peak hours, the intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied. The remaining twenty-seven (27) key study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2023. The three (3) locations significantly impacted by the proposed Project in the Year 2023 are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada	1.093	F	1.061	F
20. Beach Blvd at La Mirada Blvd/Malvern Ave	Buena Park	--	--	0.904	E
30. Walnut Street at Imperial Highway	La Habra	5,473.9 s/v	F	107.4 s/v	F

As shown in column 5, the implementation of improvements at the impacted key study intersections of Beach Boulevard/Rosecrans Avenue, Beach Boulevard/La Mirada Boulevard-Malvern Avenue and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours. Refer to Section 12.4 for details on the recommended improvements. Although not impacted by the proposed Project, AM and PM peak hour LOS results are shown in column 5 for the intersection of Hacienda Road/Whittier Boulevard with the improvements planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project.

Appendix G presents the Year 2023 plus project ICU/LOS and HCM/LOS calculations for the thirty-two (32) key study intersections as well as the traffic signal warrant worksheets for the intersection of Euclid Street/Sandlewood Avenue.

9.2 Roadway Segments

Table 9-2 summarizes the results of the Year 2023 Plus Project daily analysis for the thirty-seven (37) key roadway segments. The first column (1) shows the number of lanes, the second column (2) shows the arterial classification and the third column (3) shows the existing LOS "E" capacity. The fourth column (4) shows the daily volume, V/C ratio and resulting level of service for "Year 2023 Cumulative" traffic conditions. The fifth column (5) shows the daily volume, V/C ratio and resulting level of service for "Year 2023 Cumulative Plus Project" traffic conditions and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards defined in this report.

9.2.1 *Year 2023 Cumulative (Without Project) Traffic Conditions*

An analysis of future (Year 2023) cumulative traffic conditions indicates that with the addition of ambient traffic growth and cumulative project traffic, fourteen (14) of the thirty-seven (37) key roadway segments are forecast to operate at an adverse level of service. The fourteen (14) locations that are forecast in the Year 2023 to operate at an adverse LOS are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	1.025	F
B. Lambert Road between Idaho Street and Euclid Street	La Habra	1.081	F
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	1.042	F
D. Beach Boulevard between Lambert Road and Imperial Highway	La Habra	1.004	F
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	1.063	F
R. Beach Boulevard between Imperial Highway and Hillsborough Apt	La Habra	1.021	F
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.070	F
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	La Mirada	1.033	F
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.310	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Ave	Buena Park	1.067	F
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	Buena Park	1.100	F
FF. Beach Blvd between Auto Center Dr and I-5 SB Ramps	Buena Park	1.161	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.375	F
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue	Fullerton	0.905	E

The remaining twenty-three (23) key roadway segments are forecast to continue to operate at acceptable levels of service on a daily basis with the addition of ambient traffic growth and cumulative projects traffic.

9.2.2 *Year 2023 Cumulative Plus Project Traffic Conditions*

Review of Column 5 of *Table 9-2* indicates that fourteen (14) of the thirty-seven (37) key roadway segments are forecast to operate at an unacceptable level of service on a daily basis in the Year 2023 with the proposed Project. The fourteen (14) locations that are forecast to operate at an adverse LOS in the Year 2023 with project traffic are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	1.025	F
B. Lambert Road between Idaho Street and Euclid Street	La Habra	1.081	F
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	1.042	F
D. Beach Boulevard between Lambert Road and Imperial Highway	La Habra	1.018	F
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	1.076	F
R. Beach Boulevard between Imperial Highway and Hillsborough Apt	La Habra	1.075	F
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.110	F
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	La Mirada	1.072	F
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.329	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Ave	Buena Park	1.081	F
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	Buena Park	1.113	F

FF. Beach Blvd between Auto Center Dr and I-5 SB Ramps	Buena Park	1.171	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.384	F
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue	Fullerton	0.914	E

Of the fourteen (14) locations operating at an unacceptable level of service, only Roadway Segment D (i.e. Beach Boulevard between Lambert Road and Imperial Highway), Roadway Segment M (i.e. Imperial Highway between Euclid Street and Harbor Boulevard), Roadway Segment R (i.e. Beach Boulevard between Imperial Highway and Hillsborough Apt.), Roadway Segment S (i.e. Beach Boulevard between Hillsborough Apt. and Hillsborough Drive) and Roadway Segment T (i.e. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue) require a peak hour link assessment to determine whether or not they will be impacted by the proposed Project in the Year 2023. The other nine (9) locations (i.e. Roadway Segments A, B, C, BB, CC, DD, FF, HH and JJ) do not exceed the thresholds defined in this report requiring a peak hour link assessment and thus are not impacted by the proposed Project under Year 2023 plus Project Traffic Conditions.

As shown in *Table 9-2*, Roadway Segments D, M, R, S and T are forecast to operate at acceptable LOS D or better during the critical weekday AM and PM peak commute hours without and with the proposed Project in the Year 2023. Therefore, Roadway Segments D, M, R, S and T ***will not*** be significantly impacted by the Project in the Year 2023.

The remaining twenty-three (23) key roadway segments are forecast to continue to operate at an acceptable service level on a daily basis with the addition of project generated traffic in the Year 2023 traffic condition.

TABLE 9-1
YEAR 2023 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Min. Acc. LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2023 Cumulative Traffic Conditions		(3) Year 2023 Cumulative Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	E	La Mirada/ Caltrans	AM	0.979	E	**1.077**	**F**	**1.093**	**F**	0.016	No	0.970	E
			PM	0.935	E	**1.015**	**F**	**1.061**	**F**	**0.046**	**Yes**	0.894	D
2. Gilbert Street at Rosecrans Avenue	D	Fullerton	AM	39.3 s/v	D	41.9 s/v	D	42.6 s/v	D	--	No	--	--
			PM	37.1 s/v	D	39.5 s/v	D	40.4 s/v	D	--	No	--	--
3. Euclid Street at Rosecrans Avenue	D	Fullerton	AM	29.4 s/v	C	30.8 s/v	C	30.9 s/v	C	--	No	--	--
			PM	19.5 s/v	B	20.0 s/v	B	20.0 s/v	C	--	No	--	--
4. Beach Boulevard at Hillsborough Drive	E	La Mirada/ Caltrans	AM	0.768	C	0.823	D	0.848	D	0.025	No	--	--
			PM	0.738	C	0.806	D	0.828	D	0.022	No	--	--
5. Beach Boulevard at Hillsborough Park Apt.	E	La Habra/ Caltrans	AM	0.533	A	0.578	A	0.610	B	0.032	No	--	--
			PM	0.503	A	0.546	A	0.612	B	0.066	No	--	--
6. Idaho Street at Sandlewood Avenue	D	La Habra	AM	0.485	A	0.540	A	0.562	A	0.022	No	--	--
			PM	0.528	A	0.580	A	0.601	B	0.021	No	--	--
7. Euclid Street at Sandlewood Avenue	D	La Habra	AM	**69.4 s/v**	**F**	**123.4 s/v**	**F**	**137.7 s/v**	**F**	--	No [a]	--	--
			PM	**41.4 s/v**	**E**	**59.6 s/v**	**F**	**70.9 s/v**	**F**	--	No [a]	--	--
8. Santa Gertrudes Ave at Imperial Highway	E	La Mirada	AM	0.852	D	0.918	E	0.927	E	0.009	No	--	--
			PM	0.871	D	0.948	E	0.961	E	0.013	No	--	--
9. 1st Avenue at Imperial Highway	D	La Mirada	AM	0.706	C	0.760	C	0.770	C	0.010	No	--	--
			PM	0.594	A	0.656	B	0.665	B	0.009	No	--	--
10. Beach Boulevard at Imperial Highway	E	La Habra/ Caltrans	AM	0.786	C	0.880	D	0.907	E	0.027	No	--	--
			PM	0.834	D	0.942	E	0.978	E	0.036	No	--	--
11. La Habra Hills Drive at Imperial Highway	E	La Habra/ Caltrans	AM	0.501	A	0.558	A	0.594	A	0.036	No	--	--
			PM	0.653	B	0.736	C	0.780	C	0.044	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level
- [a] = Although this intersection is forecast to operate at an unacceptable LOS, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied (refer to Section 7.1.1)

TABLE 9-1 (CONTINUED)
YEAR 2023 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Min. Acc. LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2023 Cumulative Traffic Conditions		(3) Year 2023 Cumulative Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
12. Idaho Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.692	B	0.763	C	0.776	C	0.013	No	--	--
			PM	0.728	C	0.813	D	0.825	D	0.012	No	--	--
13. Euclid Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.795	C	0.904	E	0.916	E	0.012	No	--	--
			PM	0.715	C	0.831	D	0.846	D	0.015	No	--	--
14. Harbor Boulevard at Imperial Highway	E	La Habra/ Fullerton/Caltrans	AM	0.759	C	0.841	D	0.845	D	0.004	No	--	--
			PM	0.683	B	0.814	D	0.838	D	0.024	No	--	--
			AM	43.1 s/v	D	55.1 s/v	E	56.0 s/v	E	--	No	--	--
			PM	44.4 s/v	D	54.0 s/v	D	54.6 s/v	D	--	No	--	--
15. Beach Boulevard at Lambert Road	E	La Habra/ Caltrans	AM	0.949	E	**1.021**	**F**	**1.026**	**F**	0.005	No	--	--
			PM	0.900	D	0.974	E	0.984	E	0.010	No	--	--
16. Idaho Street at Lambert Road	D	La Habra	AM	0.814	D	0.870	D	0.871	D	0.001	No	--	--
			PM	0.775	C	0.831	D	0.833	D	0.002	No	--	--
17. Euclid Street at Lambert Road	D	La Habra	AM	0.702	C	0.771	C	0.772	C	0.001	No	--	--
			PM	0.799	C	0.876	D	0.877	D	0.001	No	--	--
18. Harbor Boulevard at Lambert Road	D	La Habra	AM	0.696	B	0.763	C	0.765	C	0.002	No	--	--
			PM	0.777	C	0.850	D	0.853	D	0.003	No	--	--
19. La Mirada Boulevard at Imperial Highway	E	La Mirada	AM	0.900	D	0.975	E	0.983	E	0.008	No	--	--
			PM	0.859	D	0.935	E	0.943	E	0.008	No	--	--
20. Beach Boulevard at La Mirada Blvd/Malvern	D	Buena Park/ Caltrans	AM	0.757	C	0.843	D	0.854	D	0.011	No	0.776	C
			PM	0.805	D	0.880	D	**0.904**	**E**	**0.024**	**Yes**	0.805	D
21. Beach Boulevard at La Habra Boulevard	E	La Habra/ Caltrans	AM	0.729	C	0.788	C	0.793	C	0.005	No	--	--
			PM	0.801	D	0.871	D	0.876	D	0.005	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/**LOS values indicate unacceptable service level

TABLE 9-1 (CONTINUED)
YEAR 2023 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Min. Acc. LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2023 Cumulative Traffic Conditions		(3) Year 2023 Cumulative Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
22. Valley View Avenue at Imperial Highway	E	La Mirada	AM	0.903	E	0.989	E	0.995	E	0.006	No	--	--
			PM	0.876	D	0.985	E	0.992	E	0.007	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	Buena Park/ Caltrans	AM	0.795	C	0.876	D	0.889	D	0.013	No	--	--
			PM	0.748	C	0.834	D	0.847	D	0.013	No	--	--
24. Beach Boulevard at Commonwealth Avenue	D	Buena Park/ Caltrans	AM	0.589	A	0.661	B	0.669	B	0.008	No	--	--
			PM	0.613	B	0.705	C	0.716	C	0.011	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.350	A	0.372	A	0.372	A	0.000	No	--	--
			PM	0.477	A	0.512	A	0.512	A	0.000	No	--	--
26. Beach Boulevard at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.720	C	0.790	C	0.800	C	0.010	No	--	--
			PM	0.677	B	0.763	C	0.778	C	0.015	No	--	--
27. Beach Boulevard at I-5 SB Ramps	D	Buena Park/ Caltrans	AM	0.691	B	0.785	C	0.793	C	0.008	No	--	--
			PM	0.675	B	0.767	C	0.775	C	0.008	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.686	B	0.753	C	0.758	C	0.005	No	--	--
			PM	0.758	C	0.814	D	0.818	D	0.004	No	--	--
29. Hacienda Road at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.849	D	0.910	E	0.916	E	0.006	No	0.762	C
			PM	0.834	D	0.913	E	0.924	E	0.011	No	0.841	D
30. Walnut Street at Imperial Highway	E	La Habra/ Caltrans	AM	**957.8 s/v**	**F**	**5,473.9 s/v**	**F**	**5,473.9 s/v**	**F**	--	**Yes**	0.607	B
			PM	44.6 s/v	E	**94.2 s/v**	**F**	**107.4 s/v**	**F**	--	**Yes**	0.694	B
31. Gilbert Street at Malvern Avenue	D	Fullerton	AM	45.9 s/v	D	44.5 s/v	D	44.6 s/v	D	--	No	--	--
			PM	43.6 s/v	D	49.8 s/v	D	50.7 s/v	D	--	No	--	--
32. Euclid Street at Malvern Avenue	D	Fullerton	AM	41.8 s/v	D	47.9 s/v	D	49.0 s/v	D	--	No	--	--
			PM	43.3 s/v	D	48.2 s/v	D	48.3 s/v	D	--	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 9-2
YEAR 2023 CUMULATIVE PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
A. Lambert Road between Beach Blvd and Idaho Street	D	La Habra	4	Primary	37,500	**38,441**	**1.025**	**F**	**38,441**	**1.025**	**F**	0.000	No
B. Lambert Road between Idaho Street and Euclid Street	D	La Habra	4	Primary	37,500	**40,541**	**1.081**	**F**	**40,541**	**1.081**	**F**	0.000	No
C. Lambert Road between Euclid Street and Harbor Blvd	D	La Habra	4	Primary	37,500	**39,074**	**1.042**	**F**	**39,074**	**1.042**	**F**	0.000	No
D. Beach Boulevard between Lambert Road and Imperial Hwy	E	La Habra	6	Major	56,300	**56,521**	**1.004**	**F**	**57,317**	**1.018**	**F**	**0.014**	
➢ *Peak Hour Assessment*			*AM*	*NB*	*2,815*	*1,501*	*0.533*	*A*	*1,533*	*0.545*	*A*	*0.012*	*No*
				SB	*2,815*	*2,393*	*0.850*	*D*	*2,415*	*0.858*	*D*	*0.008*	*No*
			PM	*NB*	*2,815*	*2,253*	*0.800*	*D*	*2,284*	*0.811*	*D*	*0.011*	*No*
				SB	*2,815*	*2,031*	*0.721*	*C*	*2,074*	*0.737*	*C*	*0.016*	*No*
E. Idaho Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	25,278	0.674	B	25,386	0.677	B	0.003	No
F. Euclid Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	20,570	0.549	A	20,625	0.550	A	0.001	No
G. Harbor Boulevard between Lambert Road and Imperial Hwy	D	La Habra	6	Major	56,300	41,826	0.743	C	42,202	0.750	C	0.007	No
H Imperial Highway between Santa Gertrudes Ave and 1st Ave	D	La Mirada	6	Major	54,000	42,038	0.778	C	42,985	0.796	C	0.018	No
I. Imperial Highway between 1st Avenue and Beach Boulevard	E	La Habra	6	Major	56,300	41,689	0.740	C	42,700	0.758	C	0.018	No
J. Imperial Highway between Beach Blvd and La Habra Hills Dr	E	La Habra	6	Smart Street	60,200	57,404	0.954	E	59,311	0.985	E	0.031	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 9-2 (CONTINUED)
YEAR 2023 CUMULATIVE PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
K. Imperial Highway between La Habra Hills Dr and Idaho Street	E	La Habra	6	Smart Street	60,200	58,265	0.968	E	59,788	0.993	E	0.025	No
L. Imperial Highway between Idaho Street and Euclid Street	E	La Habra	6	Smart Street	60,200	59,063	0.981	E	60,090	0.998	E	0.017	No
M. Imperial Highway between Euclid Street and Harbor Boulevard	E	La Habra	6	Smart Street	60,200	**63,991**	**1.063**	**F**	**64,804**	**1.076**	**F**	**0.013**	
➢ *Peak Hour Assessment*			*AM*	*EB*	*3,010*	*2,130*	*0.708*	*C*	*2,172*	*0.722*	*C*	*0.014*	*No*
				WB	*3,010*	*2,117*	*0.703*	*C*	*2,136*	*0.710*	*C*	*0.007*	*No*
			PM	*EB*	*3,010*	*1,942*	*0.645*	*B*	*1,971*	*0.655*	*B*	*0.010*	*No*
				WB	*3,010*	*2,455*	*0.816*	*D*	*2,509*	*0.834*	*D*	*0.018*	*No*
N. Idaho Street between Imperial Hwy and Sandlewood Ave	D	La Habra	4	Primary	37,500	23,658	0.631	B	24,356	0.649	B	0.018	No
O. Euclid Street between Sandlewood Ave and Imperial Hwy	D	La Habra	4	Primary	37,500	23,926	0.638	B	24,084	0.642	B	0.004	No
P Gilbert Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	17,853	0.476	A	18,417	0.491	A	0.015	No
Q. Euclid Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	24,320	0.649	B	24,473	0.653	B	0.004	No
R. Beach Boulevard between Imperial Hwy and Hillsborough Apt.	E	La Habra	6	Smart Street	60,200	**61,483**	**1.021**	**F**	**64,686**	**1.075**	**F**	**0.054**	
➢ *Peak Hour Assessment*			*AM*	*NB*	*3,010*	*2,002*	*0.665*	*B*	*2,073*	*0.689*	*B*	*0.024*	*No*
				SB	*3,010*	*2,519*	*0.837*	*D*	*2,570*	*0.854*	*D*	*0.017*	*No*
			PM	*NB*	*3,010*	*2,494*	*0.829*	*D*	*2,578*	*0.856*	*D*	*0.027*	*No*
				SB	*3,010*	*2,302*	*0.765*	*C*	*2,382*	*0.791*	*C*	*0.026*	*No*

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 9-2 (CONTINUED)
YEAR 2023 CUMULATIVE PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
S. Beach Boulevard between Hillsborough Apt. and Hillsborough Dr	E	La Habra	6	Smart Street	60,200	**64,395**	**1.070**	**F**	**66,801**	**1.110**	**F**	**0.040**	
➢ *Peak Hour Assessment*			*AM*	*NB*	*3,010*	*1,956*	*0.650*	*B*	*2,016*	*0.670*	*B*	*0.020*	*No*
				SB	*3,010*	*2,537*	*0.843*	*D*	*2,640*	*0.877*	*D*	*0.034*	*No*
			PM	*NB*	*3,010*	*2,507*	*0.833*	*D*	*2,638*	*0.876*	*D*	*0.043*	*No*
				SB	*3,010*	*2,282*	*0.758*	*C*	*2,370*	*0.787*	*C*	*0.029*	*No*
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	E	La Mirada	6	Smart Street	57,780	**59,714**	**1.033**	**F**	**61,951**	**1.072**	**F**	**0.039**	
➢ *Peak Hour Assessment*			*AM*	*NB*	*3,210*	*1,694*	*0.528*	*A*	*1,749*	*0.545*	*A*	*0.017*	*No*
				SB	*3,210*	*2,606*	*0.812*	*D*	*2,705*	*0.843*	*D*	*0.031*	*No*
			PM	*NB*	*3,210*	*2,533*	*0.789*	*C*	*2,656*	*0.827*	*D*	*0.038*	*No*
				SB	*3,210*	*2,058*	*0.641*	*B*	*2,140*	*0.667*	*B*	*0.026*	*No*
U. Rosecrans Avenue between Beach Boulevard and Gilbert Street	D	Fullerton	4	Primary	37,500	25,092	0.669	B	25,986	0.693	B	0.024	No
V. Rosecrans Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Secondary	25,000	16,128	0.645	B	16,381	0.655	B	0.010	No
W-I. Sandlewood Avenue East of Idaho Street	D	La Habra	2	Commuter	5,400	3,780	0.700	C	3,992	0.739	C	0.039	No
W-II. Sandlewood Avenue between Idaho Street and Euclid Street	D	La Habra	2	Commuter	5,400	2,028	0.376	A	2,240	0.415	A	0.039	No
W-III. Sandlewood Avenue between West of Euclid Street	D	La Habra	2	Commuter	5,400	1,361	0.252	A	1,573	0.291	A	0.039	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 9-2 (CONTINUED)
YEAR 2023 CUMULATIVE PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
X. Beach Boulevard between Rosecrans Ave and La Mirada Blvd	D	Buena Park	6	Smart Street	60,200	50,358	0.837	D	51,797	0.860	D	0.023	No
Y. Imperial Highway between Santa Gertrudes and La Mirada Blvd	E	La Mirada	6	Major	54,000	37,410	0.693	B	38,275	0.709	C	0.016	No
Z. Beach Boulevard between Lambert Rd and La Habra Boulevard.	E	La Habra	6	Major	56,300	47,030	0.835	D	47,766	0.848	D	0.013	No
AA. Imperial Highway between Valley View Ave and La Mirada Blvd	E	La Mirada	6	Major	54,000	35,350	0.655	B	35,981	0.666	B	0.011	No
BB. Beach Boulevard between La Mirada Blvd/Malvern Ave and Artesia Blvd	D	Buena Park	6	Smart Street	60,200	**78,881**	**1.310**	**F**	**80,007**	**1.329**	**F**	0.019	No
CC. Beach Boulevard between Artesia Blvd and Commonwealth Ave	D	Buena Park	6	Smart Street	60,200	**64,240**	**1.067**	**F**	**65,071**	**1.081**	**F**	0.014	No
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	D	Buena Park	6	Smart Street	60,200	**66,214**	**1.100**	**F**	**66,992**	**1.113**	**F**	0.013	No
EE. Auto Center Drive between Beach Boulevard and I-5 NB Ramps	D	Buena Park	4	Primary	37,500	13,826	0.369	A	13,915	0.371	A	0.002	No
FF. Beach Boulevard between Auto Center Drive and I-5 SB Ramps	D	Buena Park	6	Smart Street	60,200	**69,894**	**1.161**	**F**	**70,505**	**1.171**	**F**	0.010	No
GG Beach Boulevard between La Habra Blvd and Whittier Blvd	E	La Habra	6	Major	56,300	38,113	0.677	B	38,783	0.689	B	0.012	No
HH. Whittier Boulevard between Beach Blvd and Hacienda Rd	D	La Habra	4	Primary	37,500	**51,570**	**1.375**	**F**	**51,886**	**1.384**	**F**	0.009	No
II. Gilbert Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	27,672	0.738	C	28,413	0.758	C	0.020	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 9-2 (CONTINUED)
YEAR 2023 CUMULATIVE PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
JJ. Euclid Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	**33,942**	**0.905**	**E**	**34,257**	**0.914**	**E**	0.009	No
KK. Malvern Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Primary	37,500	26,182	0.698	B	26,535	0.708	C	0.010	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

10.0 YEAR 2035 TRAFFIC CONDITIONS

The following summarizes the "Year 2035 Plus Project" level of service results for the thirty-two (32) key study intersections and thirty-seven (37) key roadway segments. Please note that the level of service analyses for the intersections and roadway segments are based on existing lane geometrics.

10.1 Intersections

Table 10-1 summarizes the peak hour Level of Service results at the thirty-two (32) key study intersections for the Year 2035. The structure of this table is similar to the near-term (Year 2023) capacity analysis summary presented in *Table 9-1.*

10.1.1 *Year 2035 Buildout (Without Project) Traffic Conditions*

Review of column 2 of *Table 10-1* shows that projected Year 2035 buildout without project traffic will adversely impact eighteen (18) of the thirty-two (32) key study intersections. The remaining fourteen (14) key study intersections are forecast to operate at an acceptable LOS under Year 2035 buildout without project traffic conditions. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada	1.135	F	1.085	F
7. Euclid Street at Sandlewood Avenue	La Habra	198.0 s/v	F	93.1 s/v	F
8. Santa Gertrudes Avenue at Imperial Highway	La Mirada	--	--	1.125	F
10. Beach Boulevard at Imperial Highway	La Habra	--	--	1.049	F
13. Euclid Street at Imperial Highway	La Habra	1.022	F	--	--
14. Harbor Boulevard at Imperial Highway	La Habra / Fullerton	1.142 110.1 s/v	F F	-- 89.7 s/v	-- F
15. Beach Boulevard at Lambert Road	La Habra	1.079	F	1.184	F
16. Idaho Street at Lambert Road	La Habra	0.919	E	1.080	F
17. Euclid Street at Lambert Road	La Habra	1.119	F	1.190	F
18. Harbor Boulevard at Lambert Road	La Habra	--	--	1.134	F
19. La Mirada Boulevard at Imperial Highway	La Mirada	1.205	F	--	--
20. Beach Blvd at La Mirada Blvd/Malvern Ave	Buena Park	0.987	E	0.925	E
22. Valley View Avenue at Imperial Highway	La Mirada	1.043	F	1.033	F
23. Beach Boulevard at Artesia Boulevard	Buena Park	0.943	E	0.906	E
29. Hacienda Road at Whittier Boulevard	La Habra	--	--	1.187	F
30. Walnut Street at Imperial Highway	La Habra	27,301.7 s/v	F	113.0 s/v	F
31. Gilbert Street at Malvern Avenue	Fullerton	--	--	56.0 s/v	E
32. Euclid Street at Malvern Avenue	Fullerton	59.6 s/v	E	56.9 s/v	E

10.1.2 *Year 2035 Buildout Plus Project Traffic Conditions*

Review of Columns 3 and 4 of *Table 10-1* indicates that traffic associated with the proposed Project will significantly impact six (6) of the thirty-two (32) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of Santa Gertrudes Avenue/Imperial Highway, Harbor Boulevard/Imperial Highway, Idaho Street/Lambert Road, Euclid Street/Lambert Road, Harbor Boulevard/Lambert Road, La Mirada Boulevard/Imperial Highway, Valley View Avenue/Imperial Highway, Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard, Gilbert Street/Malvern Avenue and Euclid Street/Malvern Avenue are forecast to operate at unacceptable LOS E and/or LOS F during the AM and/or PM peak hour with the addition of project traffic, the Project is expected to add less than the allowable threshold to the ICU and/or Delay value. Also, although the intersection of Euclid Street/Sandlewood Avenue is forecast to operate at unacceptable LOS F during the AM and PM peak hours, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied. The remaining fourteen (14) key study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2035. The six (6) locations significantly impacted by the proposed Project in the Year 2035 are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada	1.152	F	1.132	F
10. Beach Boulevard at Imperial Highway	La Habra	1.026	F	1.085	F
13. Euclid Street at Imperial Highway	La Habra	1.033	F	--	--
15. Beach Boulevard at Lambert Road	La Habra	1.084	F	1.200	F
20. Beach Blvd at La Mirada Blvd/Malvern Ave	Buena Park	0.998	E	0.948	E
30. Walnut Street at Imperial Highway	La Habra	27,301.7 s/v	F	127.6 s/v	F

As shown in column 5, the implementation of improvements at the impacted key study intersections of Beach Boulevard/Rosecrans Avenue, Euclid Street/Imperial Highway, Beach Boulevard/Lambert Road and Beach Boulevard/La Mirada Boulevard-Malvern Avenue offsets the impact of project traffic; however these locations are still forecast to operate at unacceptable LOS E and/or LOS F during the AM and/or PM peak hours. The implementation of improvements at the impacted key study intersections of Beach Boulevard/Imperial Highway and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours. Refer to Section 12.5 for details on the recommended improvements. Although not impacted by the proposed Project, AM and PM peak hour LOS results are shown in column 5 for the intersection of Hacienda Road/Whittier Boulevard with the improvements planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project.

Appendix H presents the Year 2035 plus project ICU/LOS and HCM/LOS calculations for the thirty-two (32) key study intersections as well as the traffic signal warrant worksheets for the intersection of Euclid Street/Sandlewood Avenue.

10.2 Roadway Segments

Table 10-2 summarizes the results of the Year 2035 Buildout plus Project daily analysis for the thirty-seven (37) key roadway segments. The structure of this table is similar to the Year 2023 daily capacity analysis summary presented in *Table 9-2.*

10.2.1 *Year 2035 Buildout (Without Project) Traffic Conditions*

An analysis of future (Year 2035) buildout traffic conditions indicates that seventeen (17) of the thirty-seven (37) key roadway segments are forecast to operate at an adverse level of service. The seventeen (17) locations that are forecast in the Year 2035 to operate at an adverse LOS are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	1.087	F
B. Lambert Road between Idaho Street and Euclid Street	La Habra	1.146	F
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	1.104	F
D. Beach Boulevard between Lambert Road and Imperial Highway	La Habra	1.030	F
J. Imperial Highway between Beach Blvd and La Habra Hills Dr	La Habra	1.024	F
K. Imperial Highway between La Habra Hills Dr and Idaho Street	La Habra	1.037	F
L. Imperial Highway between Idaho Street and Euclid Street	La Habra	1.038	F
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	1.127	F
R. Beach Boulevard between Imperial Highway and Hillsborough Apt	La Habra	1.083	F
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.134	F
T. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue	La Mirada	1.095	F
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.389	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Ave	Buena Park	1.131	F
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	Buena Park	1.166	F
FF. Beach Blvd between Auto Center Dr and I-5 SB Ramps	Buena Park	1.231	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.458	F
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue	Fullerton	0.932	E

The remaining twenty (20) key roadway segments are forecast to continue to operate at acceptable levels of service on a daily basis in the Year 2035.

10.2.2 *Year 2035 Buildout Plus Project Traffic Conditions*

Review of Column 5 of *Table 10-2* indicates that eighteen of the thirty-seven (37) key roadway segments are forecast to operate at an unacceptable level of service on a daily basis in the Year 2035 with the proposed Project. The eighteen locations that are forecast to operate at an adverse LOS in the Year 2035 with project traffic are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	1.087	F
B. Lambert Road between Idaho Street and Euclid Street	La Habra	1.146	F
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	1.104	F
D. Beach Boulevard between Lambert Road and Imperial Highway	La Habra	1.044	F
J. Imperial Highway between Beach Blvd and La Habra Hills Dr	La Habra	1.056	F
K. Imperial Highway between La Habra Hills Dr and Idaho Street	La Habra	1.062	F
L. Imperial Highway between Idaho Street and Euclid Street	La Habra	1.055	F
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	1.140	F
R. Beach Boulevard between Imperial Highway and Hillsborough Apt	La Habra	1.136	F
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.174	F
T. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue	La Mirada	1.134	F
X. Beach Boulevard between Rosecrans Ave and La Mirada Blvd	Buena Park	0.911	E
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.408	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Ave	Buena Park	1.145	F
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	Buena Park	1.179	F
FF. Beach Blvd between Auto Center Dr and I-5 SB Ramps	Buena Park	1.241	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.466	F
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue	Fullerton	0.940	E

Of the eighteen locations operating at an unacceptable level of service, only Roadway Segment D (i.e. Beach Boulevard between Lambert Road and Imperial Highway), Roadway Segment J (i.e. Imperial Highway between Beach Boulevard and La Habra Hills Drive), Roadway Segment K (i.e. Imperial Highway between La Habra Hills Drive and Idaho Street, Roadway Segment L (i.e. Imperial Highway between Idaho Street and Euclid Street, Roadway Segment M (i.e. Imperial Highway between Euclid Street and Harbor Boulevard), Roadway Segment R (i.e. Beach Boulevard between Imperial Highway and Hillsborough Apt.), Roadway Segment S (i.e. Beach Boulevard between Hillsborough Apt. and Hillsborough Drive), Roadway Segment T (i.e. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue), and Roadway Segment X (i.e. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard) require a peak hour link assessment to determine whether or not they will be impacted by the proposed Project in the Year 2035. The other nine (9) locations (i.e. Roadway Segments A, B, C, BB, CC, DD, FF, HH and JJ) do not exceed the thresholds defined in this report requiring a peak hour link assessment and thus are not impacted by the proposed Project under Year 2035 plus Project Traffic Conditions.

As shown in *Table 10-2*, the proposed Project will have a cumulative impact at Roadway Segment M, as this location is forecast to operate in the Year 2035 at unacceptable LOS F in the eastbound direction during the critical weekday AM peak hour and at unacceptable LOS F in the westbound direction during the critical weekday PM peak hour with the proposed Project. As further shown in *Table 10-2*, the proposed Project will also have a cumulative impact at Roadway Segment X, as this

location is forecast to operate in the Year 2035 at unacceptable LOS E in the southbound direction during the critical weekday AM peak hour and at unacceptable LOS E in the northbound direction during the critical weekday PM peak hour with the proposed Project. The remaining seven (7) key roadway segments (i.e. Roadway Segment D, Roadway Segment J, Roadway Segment K, Roadway Segment L, Roadway Segment R, Roadway Segment S and Roadway Segment T) ***will not*** be significantly impacted by the proposed Project as these seven (7) locations are forecast to operate in the Year 2035 at an acceptable LOS without and with the proposed Project during the weekday AM and PM peak commute hours.

As shown in *Table 10-2*, with implementation of recommended improvements, Roadway Segment M (i.e. Imperial Highway between Euclid Street and Harbor Boulevard) is forecast to operate at acceptable LOS D or better with the addition of Project generated traffic in the Year 2035 traffic condition.

As shown in *Table 10-2*, with implementation of recommended improvements, Roadway Segment X (i.e. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard) is forecast to operate at acceptable LOS D or better with the addition of Project generated traffic in the Year 2035 traffic condition.

The remaining nineteen (19) key roadway segments are forecast to continue to operate at an acceptable service level on a daily basis with the addition of project generated traffic in the Year 2035 traffic condition.

TABLE 10-1

YEAR 2035 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2035 Buildout Traffic Conditions		(3) Year 2035 Buildout Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	E	La Mirada/ Caltrans	AM	0.979	E	**1.135**	**F**	**1.152**	**F**	0.017	No	**1.022**	**F**
			PM	0.935	E	**1.085**	**F**	**1.132**	**F**	**0.047**	**Yes**	0.957	E
2. Gilbert Street at Rosecrans Avenue	D	Fullerton	AM	39.3 s/v	D	43.4 s/v	D	44.9 s/v	D	--	No	--	--
			PM	37.1 s/v	D	40.0 s/v	D	41.1 s/v	D	--	No	--	--
3. Euclid Street at Rosecrans Avenue	D	Fullerton	AM	29.4 s/v	C	41.5 s/v	D	41.7 s/v	D	--	No	--	--
			PM	19.5 s/v	B	20.1 s/v	C	20.1 s/v	C	--	No	--	--
4. Beach Boulevard at Hillsborough Drive	E	La Mirada/ Caltrans	AM	0.768	C	0.867	D	0.892	D	0.025	No	--	--
			PM	0.738	C	0.849	D	0.870	D	0.021	No	--	--
5. Beach Boulevard at Hillsborough Park Apt.	E	La Habra/ Caltrans	AM	0.533	A	0.610	B	0.641	B	0.031	No	--	--
			PM	0.503	A	0.576	A	0.641	B	0.065	No	--	--
6. Idaho Street at Sandlewood Avenue	D	La Habra	AM	0.485	A	0.572	A	0.594	A	0.022	No	--	--
			PM	0.528	A	0.631	B	0.652	B	0.021	No	--	--
7. Euclid Street at Sandlewood Avenue	D	La Habra	AM	**69.4 s/v**	**F**	**198.0 s/v**	**F**	**221.1 s/v**	**F**	--	No [a]	--	--
			PM	**41.4 s/v**	**E**	**93.1 s/v**	**F**	**114.5 s/v**	**F**	--	No [a]	--	--
8. Santa Gertrudes Avenue at Imperial Highway	E	La Mirada	AM	0.852	D	0.972	E	0.980	E	0.008	No	--	--
			PM	0.871	D	**1.125**	**F**	**1.138**	**F**	0.013	No	--	--
9. 1st Avenue at Imperial Highway	D	La Mirada	AM	0.706	C	0.837	D	0.848	D	0.011	No	--	--
			PM	0.594	A	0.714	C	0.722	C	0.008	No	--	--
10. Beach Boulevard at Imperial Highway	E	La Habra/ Caltrans	AM	0.786	C	0.998	E	**1.026**	**F**	**0.028**	**Yes**	0.934	E
			PM	0.834	D	**1.049**	**F**	**1.085**	**F**	**0.036**	**Yes**	0.998	E
11. La Habra Hills Drive at Imperial Highway	E	La Habra/ Caltrans	AM	0.501	A	0.676	B	0.712	C	0.036	No	--	--
			PM	0.653	B	0.777	C	0.813	D	0.036	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level
- [a] = Although this intersection is forecast to operate at an unacceptable LOS, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied (refer to Section 7.1.1).

TABLE 10-1 (CONTINUED)
YEAR 2035 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2035 Buildout Traffic Conditions		(3) Year 2035 Buildout Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
12. Idaho Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.692	B	0.830	D	0.846	D	0.016	No	--	--
			PM	0.728	C	0.891	D	0.904	E	0.013	No	--	--
13. Euclid Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.795	C	**1.022**	**F**	**1.033**	**F**	**0.011**	**Yes**	**1.011**	**F**
			PM	0.715	C	0.881	D	0.897	D	0.016	No	0.885	D
14. Harbor Boulevard at Imperial Highway	E	La Habra/ Fullerton/Caltrans	AM	0.759	C	**1.142**	**F**	**1.146**	**F**	0.004	No	--	--
			PM	0.683	B	0.985	E	0.999	E	0.014	No	--	--
			AM	43.1 s/v	D	**110.1 s/v**	**F**	**111.8 s/v**	**F**	--	No	--	--
			PM	44.4 s/v	D	**89.7 s/v**	**F**	**90.4 s/v**	**F**	--	No	--	--
15. Beach Boulevard at Lambert Road	E	La Habra/ Caltrans	AM	0.949	E	**1.079**	**F**	**1.084**	**F**	0.005	No	**1.075**	**F**
			PM	0.900	D	**1.184**	**F**	**1.200**	**F**	**0.016**	**Yes**	**1.072**	**F**
16. Idaho Street at Lambert Road	D	La Habra	AM	0.814	D	**0.919**	**E**	**0.920**	**E**	0.001	No	--	--
			PM	0.775	C	**1.080**	**F**	**1.081**	**F**	0.001	No	--	--
17. Euclid Street at Lambert Road	D	La Habra	AM	0.702	C	**1.119**	**F**	**1.120**	**F**	0.001	No	--	--
			PM	0.799	C	**1.190**	**F**	**1.191**	**F**	0.001	No	--	--
18. Harbor Boulevard at Lambert Road	D	La Habra	AM	0.696	B	0.814	D	0.816	D	0.002	No	--	--
			PM	0.777	C	**1.134**	**F**	**1.137**	**F**	0.003	No	--	--
19. La Mirada Boulevard at Imperial Highway	E	La Mirada	AM	0.900	D	**1.205**	**F**	**1.213**	**F**	0.008	No	--	--
			PM	0.859	D	0.991	E	0.998	E	0.007	No	--	--
20. Beach Boulevard at La Mirada/Malvern Ave	D	Buena Park/ Caltrans	AM	0.757	C	**0.987**	**E**	**0.998**	**E**	0.011	No	**0.910**	**E**
			PM	0.805	D	**0.925**	**E**	**0.948**	**E**	**0.023**	**Yes**	0.828	D
21. Beach Boulevard at La Habra Boulevard	E	La Habra/ Caltrans	AM	0.729	C	0.832	D	0.837	D	0.005	No	--	--
			PM	0.801	D	0.925	E	0.931	E	0.006	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 10-1 (CONTINUED)
YEAR 2035 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2035 Buildout Traffic Conditions		(3) Year 2035 Buildout Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
22. Valley View Avenue at Imperial Highway	E	La Mirada	AM	0.903	E	**1.043**	**F**	**1.049**	**F**	0.006	No	--	--
			PM	0.876	D	**1.033**	**F**	**1.039**	**F**	0.006	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	Buena Park/ Caltrans	AM	0.795	C	**0.943**	**E**	**0.955**	**E**	0.012	No	--	--
			PM	0.748	C	**0.906**	**E**	**0.918**	**E**	0.012	No	--	--
24. Beach Boulevard at Commonwealth Avenue	D	Buena Park/ Caltrans	AM	0.589	A	0.698	B	0.706	C	0.008	No	--	--
			PM	0.613	B	0.747	C	0.758	C	0.011	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.350	A	0.389	A	0.389	A	0.000	No	--	--
			PM	0.477	A	0.529	A	0.529	A	0.000	No	--	--
26. Beach Boulevard at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.720	C	0.855	D	0.864	D	0.009	No	--	--
			PM	0.677	B	0.834	D	0.849	D	0.015	No	--	--
27. Beach Boulevard at I-5 SB Ramps	D	Buena Park/ Caltrans	AM	0.691	B	0.849	D	0.857	D	0.008	No	--	--
			PM	0.675	B	0.837	D	0.845	D	0.008	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.686	B	0.868	D	0.880	D	0.012	No	--	--
			PM	0.758	C	0.858	D	0.861	D	0.003	No	--	--
29. Hacienda Road at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.849	D	0.985	E	0.989	E	0.004	No	0.855	D
			PM	0.834	D	**1.187**	**F**	**1.191**	**F**	0.004	No	**1.067**	**F**
30. Walnut Street at Imperial Highway	E	La Habra/ Caltrans	AM	**957.8 s/v**	**F**	**27,301.7 s/v**	**F**	**27,301.7 s/v**	**F**	--	**Yes**	0.761	C
			PM	44.6 s/v	E	**113.0 s/v**	**F**	**127.6 s/v**	**F**	--	**Yes**	0.729	C
31. Gilbert Street at Malvern Avenue	D	Fullerton	AM	45.9 s/v	D	49.4 s/v	D	52.5 s/v	D	--	No	--	--
			PM	43.6 s/v	D	**56.0 s/v**	**E**	**59.6 s/v**	**E**	--	No	--	--
32. Euclid Street at Malvern Avenue	D	Fullerton	AM	41.8 s/v	D	**59.6 s/v**	**E**	**61.0 s/v**	**E**	--	No	--	--
			PM	43.3 s/v	D	**56.9 s/v**	**E**	**59.0 s/v**	**E**	--	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 10-2
YEAR 2035 BUILDOUT PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
A. Lambert Road between Beach Boulevard and Idaho Street	D	La Habra	4	Primary	37,500	**40,747**	**1.087**	**F**	**40,747**	**1.087**	**F**	0.000	No
B. Lambert Road between Idaho Street and Euclid Street	D	La Habra	4	Primary	37,500	**42,973**	**1.146**	**F**	**42,973**	**1.146**	**F**	0.000	No
C. Lambert Road between Euclid Street and Harbor Blvd	D	La Habra	4	Primary	37,500	**41,418**	**1.104**	**F**	**41,418**	**1.104**	**F**	0.000	No
D. Beach Boulevard between Lambert Road and Imperial Hwy	E	La Habra	6	Major	56,300	**57,988**	**1.030**	**F**	**58,784**	**1.044**	**F**	**0.014**	
➢ *Peak Hour Assessment*			*AM*	*NB*	*2,815*	*1,575*	*0.560*	*A*	*1,607*	*0.571*	*A*	*0.011*	*No*
				SB	*2,815*	*2,606*	*0.926*	*E*	*2,628*	*0.934*	*E*	*0.008*	*No*
			PM	*NB*	*2,815*	*2,389*	*0.849*	*D*	*2,420*	*0.860*	*D*	*0.011*	*No*
				SB	*2,815*	*2,519*	*0.895*	*D*	*2,562*	*0.910*	*E*	*0.015*	*No*
E. Idaho Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	26,412	0.704	C	26,520	0.707	C	0.003	No
F. Euclid Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	21,804	0.581	A	21,859	0.583	A	0.002	No
G. Harbor Boulevard between Lambert Road and Imperial Hwy	D	La Habra	6	Major	56,300	44,336	0.787	C	44,712	0.794	C	0.007	No
H Imperial Highway between Santa Gertrudes Ave and 1st Ave	D	La Mirada	6	Major	54,000	44,560	0.825	D	45,507	0.843	D	0.018	No
I. Imperial Highway between 1st Avenue and Beach Boulevard	E	La Habra	6	Major	56,300	44,190	0.785	C	45,201	0.803	D	0.018	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 10-2 (CONTINUED)
YEAR 2035 BUILDOUT PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
J. Imperial Highway between Beach Blvd and La Habra Hills Dr	E	La Habra	6	Smart Street	60,200	**61,645**	**1.024**	**F**	**63,552**	**1.056**	**F**	**0.032**	
➢ *Peak Hour Assessment*													
AM				*EB*	*3,010*	*2,720*	*0.904*	*E*	*2,776*	*0.922*	*E*	*0.018*	*No*
				WB	*3,010*	*2,312*	*0.768*	*C*	*2,392*	*0.795*	*C*	*0.027*	*No*
PM				*EB*	*3,010*	*2,168*	*0.720*	*C*	*2,265*	*0.752*	*C*	*0.032*	*No*
				WB	*3,010*	*2,143*	*0.712*	*C*	*2,225*	*0.739*	*C*	*0.027*	*No*
K. Imperial Highway between La Habra Hills Drive and Idaho Street	E	La Habra	6	Smart Street	60,200	**62,434**	**1.037**	**F**	**63,957**	**1.062**	**F**	**0.025**	
➢ *Peak Hour Assessment*													
AM				*EB*	*3,010*	*2,718*	*0.903*	*E*	*2,779*	*0.923*	*E*	*0.020*	*No*
				WB	*3,010*	*2,359*	*0.784*	*C*	*2,412*	*0.801*	*D*	*0.017*	*No*
PM				*EB*	*3,010*	*2,209*	*0.734*	*C*	*2,273*	*0.755*	*C*	*0.021*	*No*
				WB	*3,010*	*2,208*	*0.734*	*C*	*2,298*	*0.763*	*C*	*0.029*	*No*
L. Imperial Highway between Idaho Street and Euclid Street	E	La Habra	6	Smart Street	60,200	**62,478**	**1.038**	**F**	**63,505**	**1.055**	**F**	**0.017**	
➢ *Peak Hour Assessment*													
AM				*EB*	*3,010*	*2,686*	*0.892*	*D*	*2,736*	*0.909*	*E*	*0.017*	*No*
				WB	*3,010*	*2,239*	*0.744*	*C*	*2,266*	*0.753*	*C*	*0.009*	*No*
PM				*EB*	*3,010*	*2,331*	*0.774*	*C*	*2,368*	*0.787*	*C*	*0.013*	*No*
				WB	*3,010*	*2,416*	*0.803*	*D*	*2,485*	*0.826*	*D*	*0.023*	*No*

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 10-2 (CONTINUED)
YEAR 2035 BUILDOUT PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
M. Imperial Highway between Euclid Street and Harbor Boulevard	E	La Habra	6	Smart Street	60,200	**67,830**	**1.127**	**F**	**68,643**	**1.140**	**F**	**0.013**	
			AM	*EB*	*3,010*	***3,029***	***1.006***	***F***	***3,071***	***1.020***	***F***	***0.014***	***Yes***
➢ *Peak Hour Assessment*				*WB*	*3,010*	*2,462*	*0.818*	*D*	*2,481*	*0.824*	*D*	*0.006*	*No*
			PM	*EB*	*3,010*	*2,196*	*0.730*	*C*	*2,225*	*0.739*	*C*	*0.009*	*No*
				WB	*3,010*	***2,995***	***0.995***	***E***	***3,049***	***1.013***	***F***	***0.018***	***Yes***
			AM	*EB*	*3,750*	*3,029*	*0.808*	*D*	*3,071*	*0.819*	*D*	*0.011*	*No*
➢ *Peak Hour Assessment* (With Improvements) [a]				*WB*	*3,750*	*2,462*	*0.657*	*B*	*2,481*	*0.662*	*B*	*0.005*	*No*
			PM	*EB*	*3,750*	*2,196*	*0.586*	*A*	*2,225*	*0.593*	*A*	*0.007*	*No*
				WB	*3,750*	*2,995*	*0.799*	*C*	*3,049*	*0.813*	*D*	*0.014*	*No*
N. Idaho Street between Imperial Hwy and Sandlewood Ave	D	La Habra	4	Primary	37,500	24,051	0.641	B	24,749	0.660	B	0.019	No
O. Euclid Street between Sandlewood Ave and Imperial Hwy	D	La Habra	4	Primary	37,500	25,362	0.676	B	25,520	0.681	B	0.005	No
P. Gilbert Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	20,018	0.534	A	20,582	0.549	A	0.015	No
Q. Euclid Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	25,779	0.687	B	25,932	0.692	B	0.005	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

[a] = Improvements at this location include the installation of a 4th eastbound through lane and a 4th westbound through lane.

TABLE 10-2 (CONTINUED)
YEAR 2035 BUILDOUT PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
R. Beach Boulevard between Imperial Hwy and Hillsborough Apt.	E	La Habra	6	Smart Street	60,200	**65,172**	**1.083**	**F**	**68,375**	**1.136**	**F**	**0.053**	
➢ *Peak Hour Assessment*													
AM				*NB*	*3,010*	*2,122*	*0.705*	*C*	*2,193*	*0.729*	*C*	*0.024*	*No*
				SB	*3,010*	*2,670*	*0.887*	*D*	*2,721*	*0.904*	*E*	*0.017*	*No*
PM				*NB*	*3,010*	*2,644*	*0.878*	*D*	*2,728*	*0.906*	*E*	*0.028*	*No*
				SB	*3,010*	*2,440*	*0.811*	*D*	*2,520*	*0.837*	*D*	*0.026*	*No*
S. Beach Boulevard between Hillsborough Apt. and Hillsborough Dr	E	La Habra	6	Smart Street	60,200	**68,259**	**1.134**	**F**	**70,665**	**1.174**	**F**	**0.040**	
➢ *Peak Hour Assessment*													
AM				*NB*	*3,010*	*2,074*	*0.689*	*B*	*2,134*	*0.709*	*C*	*0.020*	*No*
				SB	*3,010*	*2,689*	*0.893*	*D*	*2,792*	*0.928*	*E*	*0.035*	*No*
PM				*NB*	*3,010*	*2,658*	*0.883*	*D*	*2,789*	*0.927*	*E*	*0.044*	*No*
				SB	*3,010*	*2,419*	*0.804*	*D*	*2,507*	*0.833*	*D*	*0.029*	*No*
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	E	La Mirada	6	Smart Street	57,780	**63,297**	**1.095**	**F**	**65,534**	**1.134**	**F**	**0.039**	
➢ *Peak Hour Assessment*													
AM				*NB*	*3,210*	*1,795*	*0.559*	*A*	*1,850*	*0.576*	*A*	*0.017*	*No*
				SB	*3,210*	*2,763*	*0.861*	*D*	*2,862*	*0.892*	*D*	*0.031*	*No*
PM				*NB*	*3,210*	*2,685*	*0.836*	*D*	*2,808*	*0.875*	*D*	*0.039*	*No*
				SB	*3,210*	*2,181*	*0.679*	*B*	*2,263*	*0.705*	*C*	*0.026*	*No*
U. Rosecrans Avenue between Beach Boulevard and Gilbert Street	D	Fullerton	4	Primary	37,500	26,598	0.709	C	27,492	0.733	C	0.024	No
V. Rosecrans Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Secondary	25,000	16,868	0.675	B	17,121	0.685	B	0.010	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 10-2 (CONTINUED)
YEAR 2035 BUILDOUT PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
W-I. Sandlewood Avenue East of Idaho Street	D	La Habra	2	Commuter	5,400	4,007	0.742	C	4,219	0.781	C	0.039	No
W-II. Sandlewood Avenue between Idaho Street and Euclid Street	D	La Habra	2	Commuter	5,400	2,065	0.382	A	2,277	0.422	A	0.040	No
W-III. Sandlewood Avenue West of Euclid Street	D	La Habra	2	Commuter	5,400	1,430	0.265	A	1,642	0.304	A	0.039	No
X. Beach Boulevard between Rosecrans Ave and La Mirada Blvd	D	Buena Park	6	Smart Street	60,200	53,379	0.887	D	**54,818**	**0.911**	**E**	**0.024**	
➢ *Peak Hour Assessment*			*AM*	*NB*	*3,010*	*2,062*	*0.685*	*B*	*2,097*	*0.697*	*B*	*0.012*	*No*
				SB	*3,010*	***2,914***	***0.968***	***E***	***2,984***	***0.991***	***E***	***0.023***	***Yes***
			PM	*NB*	*3,010*	***2,735***	***0.909***	***E***	***2,818***	***0.936***	***E***	***0.027***	***Yes***
				SB	*3,010*	*2,264*	*0.752*	*C*	*2,317*	*0.770*	*C*	*0.018*	*No*
➢ *Peak Hour Assessment* (With Improvements) [a]			*AM*	*NB*	*3,750*	*2,062*	*0.550*	*A*	*2,097*	*0.559*	*A*	*0.009*	*No*
				SB	*3,750*	*2,914*	*0.777*	*C*	*2,984*	*0.796*	*C*	*0.019*	*No*
			PM	*NB*	*3,750*	*2,735*	*0.729*	*C*	*2,818*	*0.751*	*C*	*0.022*	*No*
				SB	*3,750*	*2,264*	*0.604*	*B*	*2,317*	*0.618*	*B*	*0.014*	*No*
Y. Imperial Highway between Santa Gertrudes and La Mirada Blvd	E	La Mirada	6	Major	54,000	39,655	0.734	C	40,520	0.750	C	0.016	No
Z. Beach Boulevard between Lambert Rd and La Habra Boulevard	E	La Habra	6	Major	56,300	49,852	0.885	D	50,588	0.899	D	0.014	No
AA. Imperial Highway between Valley View Ave and La Mirada Blvd	E	La Mirada	6	Major	54,000	37,471	0.694	B	38,102	0.706	C	0.012	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

[a] = Improvements at this location include the installation of a 4th northbound through lane and a 4th southbound through lane.

TABLE 10-2 (CONTINUED)
YEAR 2035 BUILDOUT PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment		Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
							Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
BB.	Beach Boulevard between La Mirada Blvd/Malvern Ave and Artesia Blvd	D	Buena Park	6	Smart Street	60,200	**83,614**	**1.389**	**F**	**84,740**	**1.408**	**F**	0.019	No
CC.	Beach Boulevard between Artesia Blvd and Commonwealth Ave	D	Buena Park	6	Smart Street	60,200	**68,094**	**1.131**	**F**	**68,925**	**1.145**	**F**	0.014	No
DD.	Beach Blvd between Commonwealth Ave and Auto Center Dr	D	Buena Park	6	Smart Street	60,200	**70,187**	**1.166**	**F**	**70,965**	**1.179**	**F**	0.013	No
EE.	Auto Center Drive between Beach Boulevard and I-5 NB Ramps	D	Buena Park	4	Primary	37,500	14,656	0.391	A	14,745	0.393	A	0.002	No
FF.	Beach Boulevard between Auto Center Drive and I-5 SB Ramps	D	Buena Park	6	Smart Street	60,200	**74,088**	**1.231**	**F**	**74,699**	**1.241**	**F**	0.010	No
GG	Beach Boulevard between La Habra Blvd and Whittier Blvd	E	La Habra	6	Major	56,300	40,400	0.718	C	41,070	0.729	C	0.011	No
HH.	Whittier Boulevard between Beach Blvd and Hacienda Rd	D	La Habra	4	Primary	37,500	**54,664**	**1.458**	**F**	**54,980**	**1.466**	**F**	0.008	No
II.	Gilbert Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	29,332	0.782	C	30,073	0.802	D	0.020	No
JJ.	Euclid Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	**34,944**	**0.932**	**E**	**35,259**	**0.940**	**E**	0.008	No
KK.	Malvern Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Primary	37,500	27,753	0.740	C	28,106	0.749	C	0.009	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

11.0 STATE OF CALIFORNIA (CALTRANS) METHODOLOGY

In conformance with the current Caltrans *Guide for the Preparation of Traffic Impact Studies*, existing and projected peak hour operating conditions at the nineteen (19) state-controlled study intersections within the study area have been evaluated using the *Highway Capacity Manual* operations method of analysis. These state-controlled locations include the following nineteen of thirty-two key study intersections:

1. Beach Boulevard at Rosecrans Avenue
4. Beach Boulevard at Hillsborough Drive
5. Beach Boulevard at Hillsborough Park Apt.
10. Beach Boulevard at Imperial Highway
11. La Habra Hills Drive at Imperial Highway
12. Idaho Street at Imperial Highway
13. Euclid Street at Imperial Highway
14. Harbor Boulevard at Imperial Highway
15. Beach Boulevard at Lambert Road
20. Beach Blvd at La Mirada Blvd/Malvern Ave
21. Beach Boulevard at La Habra Boulevard
23. Beach Boulevard at Artesia Boulevard
24. Beach Blvd at Commonwealth Avenue
25. I-5 NB Ramps at Auto Center Drive
26. Beach Boulevard at Auto Center Drive
27. Beach Boulevard at I-5 SB Ramps
28. Beach Boulevard at Whittier Boulevard
29. Hacienda Road at Whittier Boulevard
30. Walnut Street at Imperial Highway

Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Since the intersections within Caltrans right-of-way are under the jurisdiction of the City of La Habra (except for #1 and #4 which are in the City of La Mirada and #20, #23, #24, #25, #26 and #27, which are in the City of Buena Park), the Cities are the lead agency and the City's level of service standard should be used. It should be noted that intersection #14 is under the jurisdiction of both the City of La Habra and City of Fullerton. The Cities acknowledge that it may be difficult and expensive to maintain LOS "D" on State facilities, such as Imperial Highway, Beach Boulevard and Whittier Boulevard, since their primary function is to serve regional traffic due to the lack of nearby freeways.

According to City of La Habra criteria, LOS D is the acceptable condition that should be maintained during the morning and evening peak commute hours on all City intersections, except those on the Congestion Management Program Highway System (CMPHS) of Orange County, where LOS E is defined in the CMP for Orange County as the acceptable limit and is acceptable for State Highway intersections. Within the project study area, Imperial Highway, Beach Boulevard and Whittier Boulevard (west of Beach Boulevard) are part of the CMPHS for Orange County. The City of La Mirada also considers LOS E acceptable for the State Highway intersections located within the project study area. Based on the above-stated LOS standard, LOS E is considered acceptable at all of the state-controlled intersections, except for the intersections located in the City of Buena Park (i.e. #20, #23, #24, #25, #26 and #27), where LOS D is the LOS standard per the City of Buena Park.

11.1 Existing Plus Project Traffic Conditions

Table 11-1 summarizes the peak hour *HCM* level of service results at the nineteen state-controlled study intersections within the study area for Existing plus Project traffic conditions. The first column (1) of HCM/LOS values in *Table 11-1* presents a summary of existing traffic conditions. The second column (2) presents existing plus project traffic conditions based on existing intersection geometry. The third column (3) indicates whether added peak hour Project trips will have a significant impact based on the significant impact criteria defined in this report. The fourth column (4) indicates the anticipated level of service with planned and/or recommended improvements.

11.1.1 *Existing Traffic Conditions*

All nineteen (19) state-controlled study intersections currently operate at an acceptable LOS during the AM and PM peak hours except for the intersections of Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway which currently operate at unacceptable LOS E or F during the AM and/or PM peak hours.

11.1.2 *Existing Plus Project Traffic Conditions*

Review of Columns 2 and 3 of *Table 11-1* indicates that traffic associated with the Project will significantly impact three of the nineteen (19) state-controlled study intersections, when compared to the LOS standards specified in this report. The remaining sixteen (16) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic to existing traffic. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	55.4 s/v	E	72.0 s/v	E
29. Hacienda Rd at Whittier Blvd	La Habra/Caltrans	254.7 s/v	F	167.9 s/v	F
30. Walnut St at Imperial Hwy	La Habra/Caltrans	1,260.8 s/v	F	--	--

As shown in column 4, the implementation of improvements at the impacted key study intersections of Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

11.2 Year 2023 Plus Project Traffic Conditions

Table 11-2 summarizes the peak hour *HCM* level of service results at the nineteen state-controlled study intersections within the study area for the 2023 horizon year. The first column (1) of HCM/LOS values in *Table 11-2* presents Year 2023 cumulative traffic conditions based on existing intersection geometry, but without any Project generated traffic. The second column (2) presents future forecast traffic conditions with the addition of project traffic. The third column (3) indicates whether added peak hour Project trips will have a significant impact based on the significant impact criteria defined in this report. The fourth column (4) indicates the anticipated level of service with planned and/or recommended improvements.

11.2.1 *Year 2023 Cumulative (Without Project) Traffic Conditions*

An analysis of future (Year 2023) cumulative traffic conditions indicates that the addition of ambient traffic growth and cumulative projects traffic will adversely impact four (4) of the nineteen (19) state-controlled study intersections. The remaining fifteen (15) state-controlled study intersections are forecast to continue to operate at an acceptable LOS during the AM and PM peak hours with the addition of ambient traffic growth and cumulative projects traffic. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
20. Beach Blvd at La Mirada/Malvern Ave	Buena Park/Caltrans	--	--	65.5 s/v	E
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	68.2 s/v	E	67.8 s/v	E
29. Hacienda Rd at Whittier Blvd	La Habra/Caltrans	272.2 s/v	F	154.9 s/v	F
30. Walnut Street at Imperial Hwy	La Habra/Caltrans	5,473.9 s/v	F	94.2 s/v	F

11.2.2 *Year 2023 Cumulative Plus Project Traffic Conditions*

Review of Columns 2 and 3 of *Table 11-2* indicates that traffic associated with the proposed Project will significantly impact five (5) of the nineteen (19) state-controlled study intersections, when compared to the LOS standards specified in this report. The remaining fourteen (14) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2023. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
10. Beach Blvd at Imperial Hwy	La Habra/Caltrans	84.5 s/v	F	81.7 s/v	F
20. Beach Blvd at La Mirada/Malvern Ave	Buena Park/Caltrans	--	--	68.7 s/v	E
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	72.2 s/v	E	72.5 s/v	E
29. Hacienda Rd at Whittier Blvd	La Habra/Caltrans	273.1 s/v	F	156.3 s/v	F
30. Walnut Street at Imperial Hwy	La Habra/Caltrans	5,473.9 s/v	F	107.4 s/v	F

As shown in column 4, the implementation of improvements at the impacted key study intersection of Beach Boulevard/La Mirada Boulevard-Malvern Avenue offsets the impact of project traffic; however this location is still forecast to operate at unacceptable LOS E during the PM peak hour. The implementation of improvements at the impacted key study intersections of Beach Boulevard/Imperial Highway, Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

TABLE 11-1

EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Min. Acc. LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
				HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
1.	Beach Boulevard at Rosecrans Avenue	E	AM	49.2 s/v	D	51.6 s/v	D	No	--	--
			PM	56.1 s/v	E	57.2 s/v	E	No	--	--
4.	Beach Boulevard at Hillsborough Drive	E	AM	14.0 s/v	B	14.1 s/v	B	No	--	--
			PM	20.0 s/v	B	20.3 s/v	C	No	--	--
5.	Beach Boulevard at Hillsborough Park Apt.	E	AM	14.5 s/v	B	17.1 s/v	B	No	--	--
			PM	10.4 s/v	B	13.4 s/v	B	No	--	--
10.	Beach Boulevard at Imperial Highway	E	AM	64.4 s/v	E	69.0 s/v	E	No	--	--
			PM	61.5 s/v	E	68.7 s/v	E	No	--	--
11.	La Habra Hills Drive at Imperial Highway	E	AM	38.5 s/v	D	38.8 s/v	D	No	--	--
			PM	49.1 s/v	D	53.9 s/v	D	No	--	--
12.	Idaho Street at Imperial Highway	E	AM	39.6 s/v	D	40.7 s/v	D	No	--	--
			PM	45.2 s/v	D	49.8 s/v	D	No	--	--
13.	Euclid Street at Imperial Highway	E	AM	49.3 s/v	D	51.0 s/v	D	No	--	--
			PM	48.7 s/v	D	50.9 s/v	D	No	--	--
14.	Harbor Boulevard at Imperial Highway	E	AM	43.1 s/v	D	47.2 s/v	D	No	--	--
			PM	44.4 s/v	D	45.5 s/v	D	No	--	--
15.	Beach Boulevard at Lambert Road	E	AM	55.2 s/v	E	55.2 s/v	E	No	--	--
			PM	51.9 s/v	D	51.9 s/v	D	No	--	--
20.	Beach Boulevard at La Mirada Blvd/Malvern Ave	D	AM	48.4 s/v	D	51.4 s/v	D	No	--	--
			PM	48.3 s/v	D	51.0 s/v	D	No	--	--

TABLE 11-1 (CONTINUED)
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Min. Acc. LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
				HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
21.	Beach Boulevard at La Habra Boulevard	E	AM	53.7 s/v	D	54.4 s/v	D	No	--	--
			PM	56.3 s/v	E	57.2 s/v	E	No	--	--
23.	Beach Boulevard at Artesia Boulevard	D	AM	52.6 s/v	D	**55.4 s/v**	**E**	**Yes**	41.6 s/v	D
			PM	**66.5 s/v**	**E**	**72.0 s/v**	**E**	**Yes**	41.0 s/v	D
24.	Beach Boulevard at Commonwealth Avenue	D	AM	38.2 s/v	D	39.2 s/v	D	No	--	--
			PM	36.6 s/v	D	37.3 s/v	D	No	--	--
25.	I-5 NB Ramps at Auto Center Drive	D	AM	40.6 s/v	D	40.6 s/v	D	No	--	--
			PM	38.4 s/v	D	38.6 s/v	D	No	--	--
26.	Beach Boulevard at Auto Center Drive	D	AM	41.5 s/v	D	42.7 s/v	D	No	--	--
			PM	39.7 s/v	D	40.0 s/v	D	No	--	--
27.	Beach Boulevard at I-5 SB Ramps	D	AM	28.7 s/v	C	29.0 s/v	C	No	--	--
			PM	26.2 s/v	C	26.5 s/v	C	No	--	--
28.	Beach Boulevard at Whittier Boulevard	E	AM	45.4 s/v	D	46.4 s/v	D	No	--	--
			PM	55.6 s/v	E	58.5 s/v	E	No	--	--
29.	Hacienda Road at Whittier Boulevard	E	AM	**254.2 s/v**	**F**	**254.7 s/v**	**F**	**Yes**	31.3 s/v	C
			PM	**135.7 s/v**	**F**	**167.9 s/v**	**F**	**Yes**	42.2 s/v	D
30.	Walnut Street at Imperial Highway	E	AM	**957.8 s/v**	**F**	**1,260.8 s/v**	**F**	**Yes**	23.3 s/v	C
			PM	44.6 s/v	E	48.7 s/v	E	No	24.0 s/v	C

TABLE 11-2

YEAR 2023 PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Min. Acc. LOS	Time Period	(1) Year 2023 Cumulative Traffic Conditions		(2) Year 2023 Cumulative Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
				HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
1.	Beach Boulevard at Rosecrans Avenue	E	AM	47.0 s/v	D	49.0 s/v	D	No	--	--
			PM	61.4 s/v	E	73.2 s/v	E	No	--	--
4.	Beach Boulevard at Hillsborough Drive	E	AM	14.8 s/v	B	16.5 s/v	B	No	--	--
			PM	20.5 s/v	C	21.2 s/v	C	No	--	--
5.	Beach Boulevard at Hillsborough Park Apt.	E	AM	16.1 s/v	B	19.3 s/v	B	No	--	--
			PM	11.8 s/v	B	15.0 s/v	B	No	--	--
10.	Beach Boulevard at Imperial Highway	E	AM	76.3 s/v	E	**84.5 s/v**	**F**	**Yes**	71.6 s/v	E
			PM	76.1 s/v	E	**81.7 s/v**	**F**	**Yes**	68.2 s/v	E
11.	La Habra Hills Drive at Imperial Highway	E	AM	42.6 s/v	D	45.4 s/v	D	No	--	--
			PM	55.9 s/v	E	63.5 s/v	E	No	--	--
12.	Idaho Street at Imperial Highway	E	AM	45.8 s/v	D	47.4 s/v	D	No	--	--
			PM	71.7 s/v	E	77.6 s/v	E	No	--	--
13.	Euclid Street at Imperial Highway	E	AM	55.4 s/v	E	58.7 s/v	E	No	--	--
			PM	70.0 s/v	E	75.5 s/v	E	No	--	--
14.	Harbor Boulevard at Imperial Highway	E	AM	55.1 s/v	E	56.0 s/v	E	No	--	--
			PM	54.0 s/v	D	54.6 s/v	D	No	--	--
15.	Beach Boulevard at Lambert Road	E	AM	68.1 s/v	E	68.3 s/v	E	No	--	--
			PM	69.6 s/v	E	69.6 s/v	E	No	--	--
20.	Beach Boulevard at La Mirada Blvd/Malvern Ave	D	AM	39.5 s/v	D	39.5 s/v	D	No	35.7 s/v	D
			PM	**65.5 s/v**	**E**	**68.7 s/v**	**E**	**Yes**	**63.8 s/v**	**E**

TABLE 11-2 (CONTINUED)
YEAR 2023 PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections	Min. Acc. LOS	Time Period	(1) Year 2023 Cumulative Traffic Conditions		(2) Year 2023 Cumulative Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
			HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
21. Beach Boulevard at La Habra Boulevard	E	AM	55.6 s/v	E	56.1 s/v	E	No	--	--
		PM	68.2 s/v	E	69.8 s/v	E	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	AM	**68.2 s/v**	**E**	**72.2 s/v**	**E**	**Yes**	53.3 s/v	D
		PM	**67.8 s/v**	**E**	**72.5 s/v**	**E**	**Yes**	54.2 s/v	D
24. Beach Boulevard at Commonwealth Avenue	D	AM	45.9 s/v	D	47.8 s/v	D	No	--	--
		PM	43.2 s/v	D	44.9 s/v	D	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	AM	41.2 s/v	D	41.3 s/v	D	No	--	--
		PM	45.0 s/v	D	45.2 s/v	D	No	--	--
26. Beach Boulevard at Auto Center Drive	D	AM	32.6 s/v	C	33.0 s/v	C	No	**--**	**--**
		PM	44.8 s/v	D	46.1 s/v	D	No	**--**	**--**
27. Beach Boulevard at I-5 SB Ramps	D	AM	30.8 s/v	C	32.7 s/v	C	No	--	--
		PM	30.6 s/v	C	31.0 s/v	C	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	AM	52.2 s/v	D	53.5 s/v	D	No	--	--
		PM	41.8 s/v	D	42.1 s/v	D	No	--	--
29. Hacienda Road at Whittier Boulevard	E	AM	**272.2 s/v**	**F**	**273.1 s/v**	**F**	**Yes**	31.3 s/v	C
		PM	**154.9 s/v**	**F**	**156.3 s/v**	**F**	**Yes**	34.8 s/v	C
30. Walnut Street at Imperial Highway	E	AM	**5,473.9 s/v**	**F**	**5,473.9 s/v**	**F**	**Yes**	23.9 s/v	C
		PM	**94.2 s/v**	**F**	**107.4 s/v**	**F**	**Yes**	36.5 s/v	D

11.3 Year 2035 Traffic Conditions

Table 11-3 summarizes the peak hour Level of Service results at the nineteen (19) state-controlled study intersections for the Year 2035. The first column (1) of HCM/LOS values presents Year 2035 buildout traffic conditions based on existing intersection geometry, but without any Project generated traffic. The second column (2) presents Year 2035 buildout traffic conditions with the addition of project traffic. The third column (3) indicates whether added peak hour Project trips will have a significant impact based on the significant impact criteria defined in this report. The fourth column (4) indicates the anticipated level of service with recommended improvements.

11.3.1 *Year 2035 Buildout (Without Project) Traffic Conditions*

Review of column 1 of *Table 11-3* shows that projected long-term (Year 2035) without project traffic will adversely impact eight (8) of the nineteen (19) state-controlled study intersections. The remaining eleven (11) state-controlled intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
10. Beach Boulevard at Imperial Highway	La Habra/Caltrans	88.3 s/v	F	103.2 s/v	F
13. Euclid Street at Imperial Highway	La Habra/Caltrans	117.4 s/v	F	84.3 s/v	F
14. Harbor Boulevard at Imperial Hwy	La Habra / Fullerton / Caltrans	110.1 s/v	F	89.7 s/v	F
15. Beach Boulevard at Lambert Road	La Habra/Caltrans	90.7 s/v	F	139.5 s/v	F
20. Beach Blvd at La Mirada/Malvern Ave	Buena Park/Caltrans	--	--	72.1 s/v	E
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	76.3 s/v	E	93.6 s/v	F
29. Hacienda Road at Whittier Blvd	La Habra/Caltrans	447.3 s/v	F	408.1 s/v	F
30. Walnut Street at Imperial Highway	La Habra/Caltrans	27,301.7 s/v	F	113.0 s/v	F

11.3.2 *Year 2035 Buildout Plus Project Traffic Conditions*

Review of Columns 2 and 3 of *Table 11-3* indicates that traffic associated with the Project will significantly impact nine (9) of the nineteen (19) state-controlled study intersections, when compared to the LOS standards specified in this report. The remaining ten (10) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2035. The locations projected to operate at an adverse LOS are shown on the following page:

Key Intersection	Jurisdiction	AM Peak Hour HCM	AM Peak Hour LOS	PM Peak Hour HCM	PM Peak Hour LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada/Caltrans	--	--	85.5 s/v	F
10. Beach Boulevard at Imperial Highway	La Habra/Caltrans	96.9 s/v	F	116.5 s/v	F
13. Euclid Street at Imperial Highway	La Habra/Caltrans	118.6 s/v	F	90.4 s/v	F
14. Harbor Boulevard at Imperial Hwy	La Habra / Fullerton / Caltrans	111.8 s/v	F	90.4 s/v	F
15. Beach Boulevard at Lambert Road	La Habra/Caltrans	90.9 s/v	F	140.9 s/v	F
20. Beach Blvd at La Mirada/Malvern Ave	Buena Park/Caltrans	--	--	74.1 s/v	E
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	80.6 s/v	F	98.9 s/v	F
29. Hacienda Road at Whittier Blvd	La Habra/Caltrans	448.6 s/v	F	408.7 s/v	F
30. Walnut Street at Imperial Highway	La Habra/Caltrans	27,301.7 s/v	F	127.6 s/v	F

As shown in column 4, the implementation of improvements at the impacted key study intersections of Beach Boulevard/Imperial Highway, Euclid Street/Imperial Highway, Harbor Boulevard/Imperial Highway, Beach Boulevard/Lambert Road, Beach Boulevard/La Mirada Boulevard-Malvern Avenue and Beach Boulevard/Artesia Boulevard offsets the impact of project traffic; however these locations are still forecast to operate at unacceptable LOS E or F during the AM and/or PM peak hours. The implementation of improvements at the impacted key study intersections of Beach Boulevard/Rosecrans Avenue, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

Appendix I presents the Caltrans level of service calculation worksheets for the nineteen (19) state-controlled study intersections.

.

TABLE 11-3
YEAR 2035 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections	Min. Acc. LOS	Time Period	(1) Year 2035 Buildout Traffic Conditions		(2) Year 2035 Buildout Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
			HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	E	AM	73.3 s/v	E	75.4 s/v	E	No	50.3 s/v	D
		PM	79.7 s/v	E	**85.5 s/v**	**F**	**Yes**	54.7 s/v	D
4. Beach Boulevard at Hillsborough Drive	E	AM	15.0 s/v	B	17.3 s/v	B	No	--	--
		PM	21.3 s/v	C	22.2 s/v	C	No	--	--
5. Beach Boulevard at Hillsborough Park Apt.	E	AM	16.6 s/v	B	19.9 s/v	B	No	--	--
		PM	12.1 s/v	B	15.4 s/v	B	No	--	--
10. Beach Boulevard at Imperial Highway	E	AM	**88.3 s/v**	**F**	**96.9 s/v**	**F**	**Yes**	**84.7 s/v**	**F**
		PM	**103.2 s/v**	**F**	**116.5 s/v**	**F**	**Yes**	**101.2 s/v**	**F**
11. La Habra Hills Drive at Imperial Highway	E	AM	65.4 s/v	E	70.4 s/v	E	No	--	--
		PM	59.8 s/v	E	68.6 s/v	E	No	--	--
12. Idaho Street at Imperial Highway	E	AM	53.7 s/v	D	58.4 s/v	E	No	--	--
		PM	79.6 s/v	E	79.9 s/v	E	No	--	--
13. Euclid Street at Imperial Highway	E	AM	**117.4 s/v**	**F**	**118.6 s/v**	**F**	**Yes**	**116.2 s/v**	**F**
		PM	**84.3 s/v**	**F**	**90.4 s/v**	**F**	**Yes**	80.0 s/v	E
14. Harbor Boulevard at Imperial Highway	E	AM	**110.1 s/v**	**F**	**111.8 s/v**	**F**	**Yes**	**108.0 s/v**	**F**
		PM	**89.7 s/v**	**F**	**90.4 s/v**	**F**	**Yes**	**85.9 s/v**	**F**
15. Beach Boulevard at Lambert Road	E	AM	**90.7 s/v**	**F**	**90.9 s/v**	**F**	**Yes**	75.7 s/v	E
		PM	**139.5 s/v**	**F**	**140.9 s/v**	**F**	**Yes**	**99.4 s/v**	**F**
20. Beach Boulevard at La Mirada Blvd/Malvern Ave	D	AM	44.8 s/v	D	45.0 s/v	D	No	42.8 s/v	D
		PM	**72.1 s/v**	**E**	**74.1 s/v**	**E**	**Yes**	**69.7 s/v**	**E**

TABLE 11-3 (CONTINUED)
YEAR 2035 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections	Min. Acc. LOS	Time Period	(1) Year 2035 Buildout Traffic Conditions		(2) Year 2035 Buildout Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
			HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
21. Beach Boulevard at La Habra Boulevard	E	AM	57.1 s/v	E	57.7 s/v	E	No	--	--
		PM	71.0 s/v	E	71.2 s/v	E	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	AM	**76.3 s/v**	**E**	**80.6 s/v**	**F**	**Yes**	**63.1 s/v**	**E**
		PM	**93.6 s/v**	**F**	**98.9 s/v**	**F**	**Yes**	**60.0 s/v**	**E**
24. Beach Boulevard at Commonwealth Avenue	D	AM	46.8 s/v	D	48.8 s/v	D	No	--	--
		PM	43.9 s/v	D	45.6 s/v	D	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	AM	41.3 s/v	D	41.3 s/v	D	No	--	--
		PM	45.2 s/v	D	45.4 s/v	D	No	--	--
26. Beach Boulevard at Auto Center Drive	D	AM	34.1 s/v	C	34.4 s/v	C	No	--	--
		PM	46.6 s/v	D	47.5 s/v	D	No	--	--
27. Beach Boulevard at I-5 SB Ramps	D	AM	36.6 s/v	D	37.2 s/v	D	No	--	--
		PM	34.8 s/v	C	35.3 s/v	D	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	AM	53.4 s/v	D	54.8 s/v	D	No	--	--
		PM	45.5 s/v	D	46.0 s/v	D	No	--	--
29. Hacienda Road at Whittier Boulevard	E	AM	**447.3 s/v**	**F**	**448.6 s/v**	**F**	**Yes**	36.9 s/v	D
		PM	**408.1 s/v**	**F**	**408.7 s/v**	**F**	**Yes**	43.9 s/v	D
30. Walnut Street at Imperial Highway	E	AM	**27,301.7 s/v**	**F**	**27,301.7 s/v**	**F**	**Yes**	49.9 s/v	D
		PM	**113.0 s/v**	**F**	**127.6 s/v**	**F**	**Yes**	39.7 s/v	D

12.0 AREA-WIDE TRAFFIC IMPROVEMENTS

For those intersections and/or roadway segments where projected Project traffic volumes are expected to result in unacceptable operating conditions, this report recommends (identifies) improvement measures that change the intersection and/or roadway segment geometry to increase capacity. These capacity improvements involve roadway widening and/or re-striping to reconfigure (add lanes) to specific approaches of a key intersection. The identified improvements are expected to:

- mitigate the impact of existing traffic, Project traffic and future non-project (ambient traffic growth and cumulative project) traffic and
- improve Levels of Service to an acceptable range and/or to pre-project conditions.

12.1 Project Specific Improvements

The following project design features that will be constructed by the proposed Project are recommended to ensure that adequate ingress and egress to the project site is provided:

- **No. 5 – Beach Boulevard at Hillsborough Park Apartments:** Construct the east leg of the intersection and provide two inbound lanes and two outbound lanes (i.e. one westbound left-turn lane and one shared through/right-turn lane). Modify the median on Beach Boulevard to provide one 150-foot southbound left-turn lane with a 90-foot transition. Modify the existing traffic signal for five phase operation with protected left-turn phasing in the north-south direction and permissive phasing in the east-west direction. The installation of these improvements is subject to the approval of the City of La Habra and Caltrans.

- **No. 6 – Idaho Street at Sandlewood Avenue:** Construct the west leg of the intersection and provide one inbound lane and two outbound lanes (i.e. one eastbound left-turn lane and one shared through/right-turn lane). Provide one 100-foot northbound left-turn lane with a 90-foot transition on Idaho Street. Modify the existing traffic signal for five phase operation with protected/permissive left-turn phasing in the north-south direction and permissive phasing in the east-west direction. The installation of these improvements is subject to the approval of the City of La Habra.

- **Beach Boulevard at Proposed Retail Driveway:** Construct the project driveway and provide one inbound lane and one outbound lane (i.e. one westbound right-turn lane). Modify the median on Beach Boulevard to provide one 100-foot southbound left-turn lane with a 90-foot transition. The installation of these improvements is subject to the approval of the City of La Habra and Caltrans.

12.2 Planned Improvements

The following improvements are planned by the City of La Habra and consist of the following:

- **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared

left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra. These improvements are funded by OCTA and the City of La Habra.

12.3 Existing Plus Project Recommended Improvements

12.3.1 *Intersection Improvements*

The results of the intersection capacity analysis presented previously in *Table 8-1* shows that the proposed Project will significantly impact one (1) of the thirty-two (32) key study intersections under the "Existing Plus Project" traffic scenario. The following are improvements recommended to mitigate the existing plus project traffic impacts:

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

12.3.2 *Roadway Segment Improvements*

The results of the "Existing Plus Project" daily roadway segment analysis presented previously in *Table 8-2* indicates that the proposed Project will not significantly impact any of the thirty-seven (37) key roadway segments. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

12.4 Year 2023 Plus Project Recommended Improvements

12.4.1 *Intersection Improvements*

The results of the intersection capacity analysis presented previously in *Table 9-1* shows that the proposed Project will significantly impact three (3) of the thirty-two (32) key study intersections under the "Year 2023 Plus Project" traffic scenario. The following are improvements recommended to mitigate the Year 2023 plus project traffic impacts:

- **No. 1 – Beach Boulevard at Rosecrans Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Widen and/or restripe the westbound approach of Rosecrans Avenue by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs

these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Mirada. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Mirada and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

12.4.2 *Roadway Segment Improvements*

The results of the "Year 2023 Plus Project" daily roadway segment analysis presented previously in *Table 9-2* indicates that the proposed Project will not significantly impact any of the thirty-seven (37) key roadway segments. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

12.5 Year 2035 Plus Project Recommended Improvements

12.5.1 *Intersection Improvements*

The results of the intersection capacity analysis presented previously in *Table 10-1* shows that the proposed Project will significantly impact six (6) of the thirty-two (32) key study intersections under the "Year 2035 Plus Project" traffic scenario. The following are improvements recommended to mitigate the Year 2035 plus project traffic impacts:

- **No. 1 – Beach Boulevard at Rosecrans Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th

southbound through lane. Widen and/or restripe the westbound approach of Rosecrans Avenue by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Mirada. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Mirada and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 10 – Beach Boulevard at Imperial Highway:** Consistent with the City of La Habra General Plan, widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Consistent with the City of La Habra General Plan, widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 13 – Euclid Street at Imperial Highway:** Widen and/or restripe the southbound approach of Imperial Highway by up to 12-feet to provide an exclusive southbound right-turn lane. Modify the existing traffic signal. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 15 – Beach Boulevard at Lambert Road:** Widen and/or restripe the eastbound approach of Lambert Road by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the

jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

12.5.2 *Roadway Segment Improvements*

The results of the "Year 2035 Plus Project" daily roadway segment analysis presented previously in *Table 10-2* indicates that the proposed Project will significantly impact two (2) of the thirty-seven (37) key roadway segments. The following are improvements recommended to mitigate the Year 2035 plus project traffic impacts:

- **Roadway Segment M – Imperial Highway between Euclid Street and Harbor Boulevard:** Widen and restripe Imperial Highway to provide a 4th eastbound through lane and a 4th westbound through lane. The installation of these improvements will require additional right-of-way and may be further constrained due to the existing channel located south of Imperial Highway that runs parallel to Imperial Highway, from west of Euclid Avenue, east to Village Drive. In addition, this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **Roadway Segment X – Beach Blvd between Rosecrans Ave and La Mirada Blvd:** Widen and restripe Beach Boulevard to provide a 4th northbound through lane and a 4th southbound through lane. The installation of these improvements will require additional right-of-way and is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

12.6 Recommended Improvements – Caltrans Methodology

12.6.1 *Existing Plus Project Recommended Improvements*

The following improvements listed below have been identified to mitigate the existing plus project traffic impacts (Caltrans methodology) at the following intersections:

- **No. 23 – Beach Boulevard at Artesia Boulevard:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary and install a westbound right-turn overlap phase. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra.

- **No. 30 – Walnut Street at Imperial Highway:** *Same as those identified in Section 12.3.1.* Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

12.6.2 *Year 2023 Plus Project Recommended Improvements*

The following improvements listed below have been identified to mitigate the Year 2023 plus project traffic impacts (Caltrans methodology) at the following intersections:

- **No. 10 – Beach Boulevard at Imperial Highway:** Consistent with the City of La Habra General Plan, widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Consistent with the City of La Habra General Plan, widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 23 – Beach Boulevard at Artesia Boulevard:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary and install a westbound right-turn overlap phase. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra.

- **No. 30 – Walnut Street at Imperial Highway:** *Same as those identified in Section 12.4.1.* Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

12.6.3 *Year 2035 Plus Project Recommended Improvements*

The following improvements listed below have been identified to mitigate the Year 2035 plus project traffic impacts (Caltrans methodology) at the following intersections:

- **No. 1 – Beach Boulevard at Rosecrans Avenue:** *Same as those identified in Section 12.5.1.* Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a

4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Widen and/or restripe the westbound approach of Rosecrans Avenue by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Mirada. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Mirada and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 10 – Beach Boulevard at Imperial Highway:** *Same as those identified in Section 12.5.1.* Consistent with the City of La Habra General Plan, widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Consistent with the City of La Habra General Plan, widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 13 – Euclid Street at Imperial Highway:** *Same as those identified in Section 12.5.1.* Widen and/or restripe the southbound approach of Imperial Highway by up to 12-feet to provide an exclusive southbound right-turn lane. Modify the existing traffic signal. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 14 – Harbor Boulevard at Imperial Highway:** Modify the existing traffic signal and install a southbound right-turn overlap phase. The installation of this improvement is subject to the approval of Caltrans, the City of La Habra and the City of Fullerton. Since the proposed Project cannot guarantee that these improvements that are located in the Cities of La Habra/Fullerton and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 15 – Beach Boulevard at Lambert Road:** *Same as those identified in Section 12.5.1.* Widen and/or restripe the eastbound approach of Lambert Road by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 23 – Beach Boulevard at Artesia Boulevard:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary and install a westbound right-turn overlap phase. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra.

- **No. 30 – Walnut Street at Imperial Highway:** *Same as those identified in Section 12.5.1.* Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

Table 12-1 identifies the incremental intersection improvements, which are summarized above, needed by the relevant study years (i.e. existing plus project, Year 2023 plus project and Year 2035 plus project) to maintain, where possible, acceptable service levels based on the LOS standards defined in this report. ***Figure 12-1*** graphically illustrates all of the recommended improvements. This figure also illustrates the project-specific improvements.

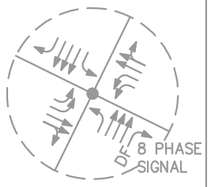
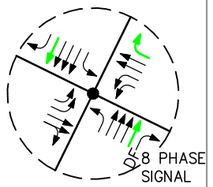
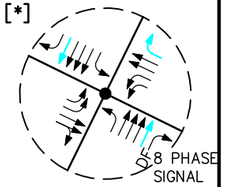
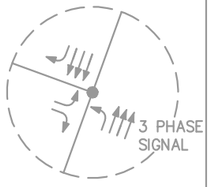
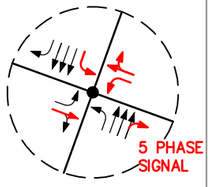
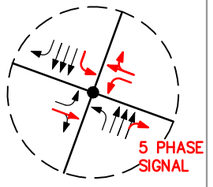
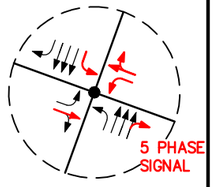
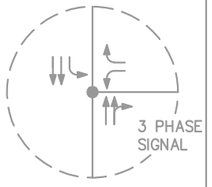
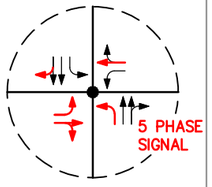
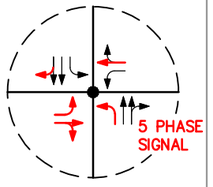
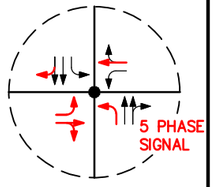
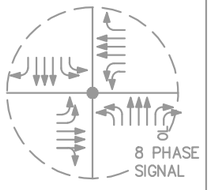
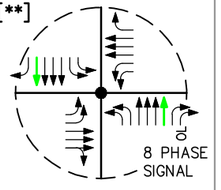
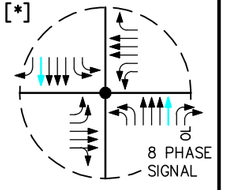
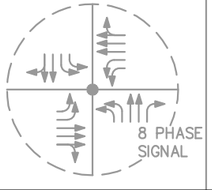
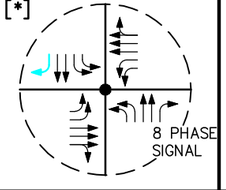
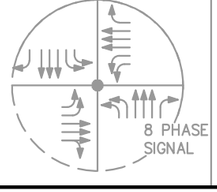
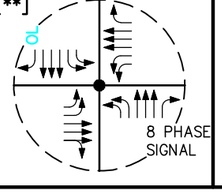
TABLE 12-1
RECOMMENDED IMPROVEMENTS

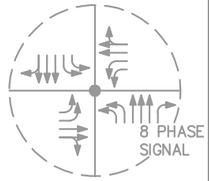
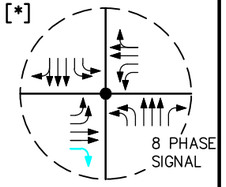
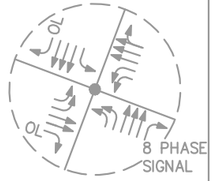
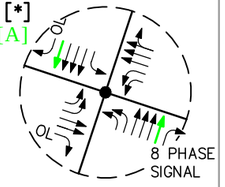
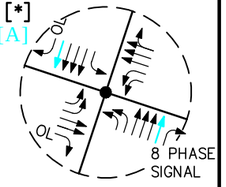
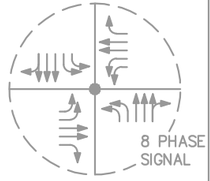
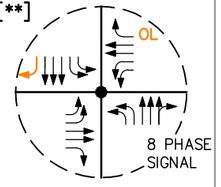
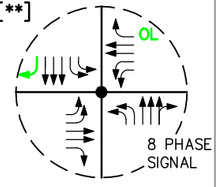
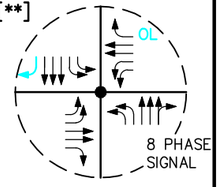
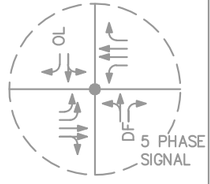
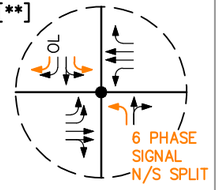
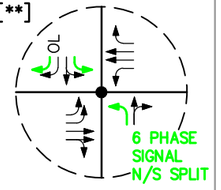
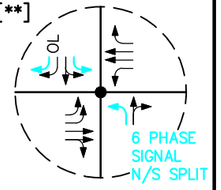
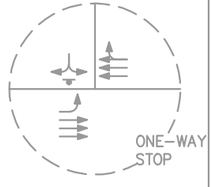
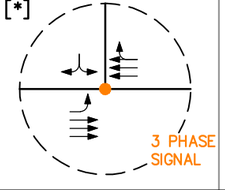
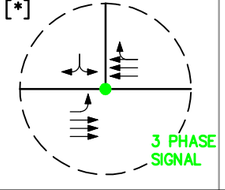
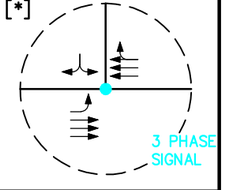
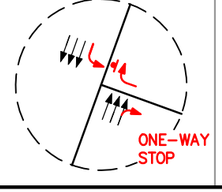
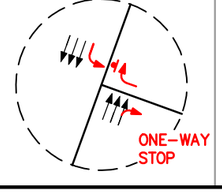
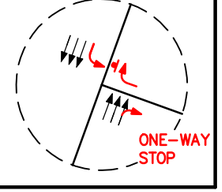
Key Location	Jurisdiction	Improvement Description	Improvements by Scenario		
			(1) Existing Plus Project	(2) Year 2023	(3) Year 2035
1. Beach Boulevard at Rosecrans Avenue	La Mirada / Caltrans	▪ Construct 4th NB through lane. ▪ Construct 4th SB through lane. ▪ Construct an exclusive WB right-turn lane. ▪ Modify existing traffic signal.	-- -- -- --	X X X X	X X X X
10. Beach Boulevard at Imperial Highway	La Habra / Caltrans	▪ Construct 4th NB through lane. ▪ Construct 4th SB through lane. ▪ Modify existing traffic signal.	-- -- --	X X X	X X X
13. Euclid Street at Imperial Highway	La Habra / Caltrans	▪ Construct an exclusive SB right-turn lane. ▪ Modify existing traffic signal.	-- --	-- --	X X
14. Harbor Boulevard at Imperial Highway	La Habra / Fullerton / Caltrans	▪ Modify existing traffic signal and provide a SB right-turn overlap phase.	--	--	X
15. Beach Boulevard at Lambert Road	La Habra / Caltrans	▪ Construct an exclusive EB right-turn lane. ▪ Modify existing traffic signal.	-- --	-- --	X X
20. Beach Boulevard at La Mirada Boulevard/Malvern Avenue	Buena Park / Caltrans	▪ Construct 4th NB through lane. ▪ Construct 4th SB through lane. ▪ Modify existing traffic signal.	-- -- --	X[47] X X	X[47] X X
23. Beach Boulevard at Artesia Boulevard	Buena Park / Caltrans	▪ Construct an exclusive SB right-turn lane. ▪ Modify existing traffic signal and provide a WB right-turn overlap phase.	X X	X X	X X
29. Hacienda Road at Whittier Boulevard	La Habra / Caltrans	▪ Construct an exclusive NB left-turn lane. ▪ Construct an exclusive SB left-turn lane. ▪ Construct a 2nd SB right-turn lane. ▪ Modify existing traffic signal for north-south split-phase operation.	X X X X	X X X X	X X X X
30. Walnut Street at Imperial Highway	La Habra / Caltrans	▪ Install three-phase traffic signal.	X	X	X

[47] The 4th northbound through lane is only required under the ICU methodology and not required under the Caltrans methodology.

TABLE 12-1 (CONTINUED)
RECOMMENDED IMPROVEMENTS

Key Location	Jurisdiction	Improvement Description	Improvements by Scenario		
			(1) Existing Plus Project	(2) Year 2023	(3) Year 2035
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra / Caltrans	▪ Construct 4th EB through lane on Imperial Highway between Euclid Street and Harbor Boulevard. ▪ Construct 4th WB through lane on Imperial Highway between Euclid Street and Harbor Boulevard.	-- --	-- --	X X
X. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard	Buena Park / Caltrans	▪ Construct 4th NB through lane on Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard. ▪ Construct 4th SB through lane on Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard.	-- --	-- --	X X

INTERSECTION	EXISTING	EXISTING PLUS PROJECT	YEAR 2023 PLUS PROJECT	YEAR 2035 PLUS PROJECT
① BEACH BLVD @ ROSECRANS AVE		NO CHANGE		[*] 
⑤ BEACH BLVD @ HILLSBOROUGH PARK APT				
⑥ IDAHO ST @ SANDLEWOOD AVE				
⑩ BEACH BLVD @ IMPERIAL HIGHWAY		NO CHANGE	[**] 	[*] 
⑬ EUCLID ST @ IMPERIAL HIGHWAY		NO CHANGE	NO CHANGE	[*] 
⑭ HARBOR BLVD @ IMPERIAL HIGHWAY		NO CHANGE	NO CHANGE	[**] 

INTERSECTION	EXISTING	EXISTING PLUS PROJECT	YEAR 2023 PLUS PROJECT	YEAR 2035 PLUS PROJECT
⑮ BEACH BLVD @ LAMBERT RD		NO CHANGE	NO CHANGE	[*] 
⑳ BEACH BLVD @ LA MIRADA BLVD/ MALVERN AVE		NO CHANGE	[*] [A] 	[*] [A] 
㉓ BEACH BLVD @ ARTESIA BLVD		[**] 	[**] 	[**] 
㉙ HACIENDA RD @ WHITTIER BLVD		[**] 	[**] 	[**] 
㉚ WALNUT ST @ IMPERIAL HWY		[*] 	[*] 	[*] 
㉝ BEACH BLVD @ RETAIL PROJECT DWY	DOES NOT EXIST			

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LINSCOTT LAW & GREENSPAN engineers

KEY

= APPROACH LANE ASSIGNMENT
= EXISTING PLUS PROJECT RECOMMENDED IMPROVEMENTS
= YEAR 2023 RECOMMENDED IMPROVEMENTS
= YEAR 2035 RECOMMENDED IMPROVEMENTS
= PROJECT SPECIFIC IMPROVEMENTS
● = TRAFFIC SIGNAL, ▾ = STOP SIGN
DF = DEFACTO RIGHT-TURN

[*] = THIS LOCATION IS ALSO A CALTRANS INTERSECTION. THE RECOMMENDED IMPROVEMENTS SHOWN APPLY TO CALTRANS MITIGATION AS WELL.

[**] = THIS LOCATION IS A CALTRANS INTERSECTION AND IS ONLY IMPACTED UNDER THE CALTRANS METHODOLOGY.

[A] = THE 4TH NB THROUGH LANE IS ONLY REQUIRED UNDER ICU METHODOLOGY AND NOT REQUQIRED UNDER CALTRANS METHODOLOGY.

FIGURE 12-1

RECOMMENDED IMPROVEMENTS

RANCHO LA HABRA, CITY OF LA HABRA

13.0 SITE ACCESS EVALUATION

13.1 Level of Service Analysis For Project Access Locations

As previously shown in *Figure 2-2,* vehicular access to the proposed Project will continue to be provided via the existing access on La Habra Hills Drive, with an additional full signalized access driveway to be constructed opposite Hillsborough Park Apartments Drive at Beach Boulevard, a proposed left-turn in/right-turn in and right-turn out only unsignalized driveway along Beach Boulevard (serving the specialty grocery store and restaurant pads) and a proposed full access signalized driveway to be constructed opposite Sandlewood Avenue at Idaho Street. Internal gates are provided, which will prevent vehicular connectivity between the proposed Planning Areas and possible cut-through traffic between Beach Boulevard and Imperial Highway. The following describes the access assumptions for each Planning Area.

Access to PA #1 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive. Access to PA #2 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive and via La Habra Hills Drive. Access to PA #3 will be provided via La Habra Hills Drive. Access to PA #4 will be provided via the intersection of Sandlewood Avenue and Idaho Street. The proposed left-turn in/right-turn in and right-turn out only unsignalized driveway along Beach Boulevard will serve as access to the proposed specialty grocery store and restaurant pads located within PA #5. The current access on La Habra Hills Drive will serve as access to PA #6; it will also continue to serve as a secondary entry/exit to the Westridge Residential Community. Intersection and signalization improvements of the Project site's signalized driveways on Beach Boulevard and Idaho Street will be completed as a part of the Project.

As previously presented in *Tables 9-1* and *10-1,* the intersection of Beach Boulevard/Hillsborough Park Apartments (key study intersection #5), the intersection of Idaho Street/Sandlewood Avenue (key study intersection #6) and the intersection of La Habra Hills Drive/Imperial Highway (key study intersection #11) are forecast to operate at acceptable LOS D or better with the proposed Project in the Year 2023 and the Year 2035. As such, project access will be adequate.

Existing plus project, Year 2023 plus project and Year 2035 plus project LOS calculations were also prepared for the proposed retail driveway located along Beach Boulevard. ***Table 13-1*** summarizes the intersection operations for exiting traffic at the proposed retail project driveway located along Beach Boulevard for existing plus project, near-term (Year 2023) and long-term (Year 2035) traffic conditions at completion and full occupancy of the proposed Project. Review of *Table 13-1* shows that the proposed retail project driveway is forecast to operate at an acceptable LOS during the AM and PM peak hours for existing plus project, Year 2023 plus project and Year 2035 plus project traffic conditions. As such, project access to the retail project component will be adequate.

TABLE 13-1
RETAIL PROJECT DRIVEWAY PEAK HOUR LEVELS OF SERVICE SUMMARY

Project Driveway	Time Period	Intersection Control	(1) Existing Plus Project Traffic Conditions		(2) Year 2023 Plus Project Traffic Conditions		(3) Year 2035 Plus Project Traffic Conditions	
			HCM	LOS	HCM	LOS	HCM	LOS
▪ Beach Boulevard at Retail Project Dwy	AM	One – Way Stop	14.1 sec/veh	B	15.4 sec/veh	C	17.2 sec/veh	C
	PM		19.1 sec/veh	C	21.4 sec/veh	C	23.6 sec/veh	C

It should be noted that if a southbound left-turn lane at the proposed retail project driveway is not permitted/approved by Caltrans, project patrons travelling south on Beach Boulevard wanting to access the retail parcel would need to travel to the intersection of Beach Boulevard/Hillsborough Park Apartments, make a u-turn at the intersection and travel north on Beach Boulevard and make a northbound right-turn into the retail parcel. Based on the LOS results presented previously in Sections 8.0, 9.0 and 10.0, the intersection of Beach Boulevard/Hillsborough Park Apartments (i.e. key study intersection #5) has available capacity to accommodate the u-turns, as this location is forecast to operate at acceptable LOS B or better during the AM and PM peak hours under existing plus project, Year 2023 plus project and Year 2035 plus project traffic conditions.

13.2 Queuing Analysis For Project Access Locations and Selected Intersections

This section of the report addresses City of La Habra staff concerns regarding peak hour left-turn stacking/storage lengths for the three primary project access points, the proposed retail driveway and the intersection of Beach Boulevard/Imperial Highway. Specifically, City of La Habra staff has concerns with the following left-turn pocket storage capabilities:

- No. 5 – Beach Boulevard at Hillsborough Park Apartments (southbound left-turn)
- No. 6 – Idaho Street at Sandlewood Avenue (northbound left-turn)
- No. 10 – Beach Boulevard at Imperial Highway (dual westbound left-turns)
- No. 11 – La Habra Hills Drive at Imperial Highway (westbound left-turn)
- Beach Boulevard at Proposed Retail Driveway (southbound left-turn)

A queuing evaluation was prepared for the identified left turn pockets at the five aforementioned intersections. The queuing evaluation was conducted based on projected existing plus project, Year 2023 plus project and Year 2035 plus project peak hour traffic volumes and the Highway Capacity Manual (HCM) methodology. ***Table 13-2*** presents the 95th percentile queuing analysis results for the aforementioned five left-turn pockets. Column one (1) presents existing plus project traffic conditions, column two (2) presents Year 2023 plus project traffic conditions and column three (3) presents Year 2035 plus project traffic conditions.

Review of column one (1) of *Table 13-2* indicates that adequate storage is provided at all five locations under exiting plus project traffic conditions, except for the dual westbound left-turn lanes at the intersection of Beach Boulevard/Imperial Highway. As shown, westbound left-turning vehicles are forecast to queue into the Imperial Highway through lane causing vehicles to queue back to the La Habra Hills Drive/Imperial Highway intersection during the AM peak hour. It should be noted that the proposed Project is forecast to add approximately 50 feet (i.e. 3 vehicles) to the queue.

Review of column two (2) indicates that adequate storage is provided at all five locations under Year 2023 plus project traffic conditions, except for the dual westbound left-turn lanes at the intersection of Beach Boulevard/Imperial Highway. As shown, westbound left-turning vehicles are forecast to queue into the Imperial Highway through lane causing vehicles to queue back to the La Habra Hills

Drive/Imperial Highway intersection during both the AM and PM peak hours. It should be noted that the proposed Project is forecast to add approximately 50 feet (i.e. 3 vehicles) to the queue.

Review of column three (3) indicates that adequate storage is provided at all five locations under Year 2035 plus project traffic conditions, except for the dual westbound left-turn lanes at the intersection of Beach Boulevard/Imperial Highway. As shown, westbound left-turning vehicles are forecast to queue into the Imperial Highway through lane causing vehicles to queue back to the La Habra Hills Drive/Imperial Highway intersection during both the AM and PM peak hours. It should be noted that the proposed Project is forecast to add approximately 50 feet (i.e. 3 vehicles) to the queue.

It should be noted that the queue for the dual westbound left-turn lanes at the intersection of Beach Boulevard at Imperial Highway exceeds the turn pocket storage under existing traffic conditions. The proposed Project is forecast to contribute only 50 feet (i.e. 3 vehicles) to the already deficient storage for the dual westbound left-turn lanes. Improvements to improve the existing deficient storage may consist of reallocating more green time to the westbound left-turn lanes. However, this improvement would be subject to the approval of the City of La Habra and Caltrans.

Appendix J presents the LOS/queuing calculations.

13.3 Internal Circulation Evaluation

The on-site circulation layout of the proposed Project as illustrated in *Figure 2-2* on an overall basis is adequate. Curb return radii have been confirmed and are generally adequate for small service/delivery (FedEx, UPS) trucks and trash trucks, as well as fire trucks. Nonetheless, prior to finalization of the Project site plan, conduct an internal circulation analysis using the vehicle turning templates for a fire truck, service/delivery/trash truck and large truck to confirm curb return radii at the project driveways and internal drive aisle widths, etc.

TABLE 13-2

PEAK HOUR INTERSECTION LEFT-TURN QUEUING ANALYSIS

Key Study Intersection	Estimated/ Proposed Storage Provided (feet)	(1) Existing Plus Project Traffic Conditions				(2) Year 2023 Plus Project Traffic Conditions				(3) Year 2035 Plus Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required[48]	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required[33]	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required[33]	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required[33]	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required[33]	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required[33]	Adequate Storage (Yes/No)
5. Beach Boulevard at Hillsborough Park Apt.													
Southbound Left -Turn	150’	11’	Yes	36’	Yes	10’	Yes	33’	Yes	10’	Yes	30’	Yes
6. Idaho Street at Sandlewood Avenue													
Northbound Left -Turn	100’	6’	Yes	13’	Yes	6’	Yes	13’	Yes	6’	Yes	13’	Yes
10. Beach Boulevard at Imperial Highway													
Westbound Left -Turn	390’	366’ (407’)	Yes (No)	352’ (390’)	Yes (Yes)	432’ (473’)	No (No)	443’ (492’)	No (No)	517’ (555’)	No (No)	491’ (541’)	No (No)
11. La Habra Hills Drive at Imperial Highway													
Westbound Left-Turn	415’	175’	Yes	353’	Yes	220’	Yes	398’	Yes	244’	Yes	404’	Yes
-- Beach Boulevard at Retail Driveway													
Southbound Left -Turn	100’	22’	Yes	44’	Yes	22’	Yes	44’	Yes	22’	Yes	44’	Yes

[48] Queue is based on the *95th Percentile Queue* and is reported in total queue length (feet) for signalized intersections.
- xxx(xxx) = without project (with project)

14.0 CONGESTION MANAGEMENT PROGRAM (CMP)

This analysis is consistent with the requirements and procedures outlined in the current *Orange County Congestion Management Program (CMP).* The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System (HS). The proposed Project has access driveways to Imperial Highway and Beach Boulevard, which are part of the CMPHS. As noted in Section 5.0 of this traffic study, the proposed Project is forecast to generate approximately 6,166 daily trip-ends and thus meets the criteria requiring a CMP TIA.

The CMPHS includes specific roadways, which include State Highways and Super Streets, which are now known as Smart Streets. Therefore, the CMP TIA analysis requirements relate to the potential impacts only on the specified CMPHS. As described in the "Radius of Development Influence" section of the CMP TIA, the study area (i.e. CMP intersections) is recommended to be defined by the CMP links which have a project impact of three percent, or more, of their daily LOS "E" capacity.

Table 14-1 summarizes the Project percentage impact CMP analysis for thirty-seven (37) key roadway segments in the vicinity of the proposed Project. Column one (1) of *Table 14-1* shows the CMP LOS "E" Capacity for each roadway segment, column two (2) shows the Project ADT for each roadway segment, column three (3) shows the Project ADT LOS "E" capacity percentages for each roadway segment and column (4) shows whether or not added project traffic meets or exceeds the "three percent" limit.

Review of *Table 14-1* shows that the three percent limit is exceeded on four (4) of the thirty-seven (37) key roadway segments (i.e. Roadway Segment J, Roadway Segment R, Roadway Segment S and Roadway Segment T), thus requiring a CMP analysis. There are four (4) CMP intersections in close proximity to the site which are as follows:

Study Intersection	Location
10	Beach Boulevard at Imperial Highway
14	Harbor Boulevard at Imperial Highway
27	I-5 SB Ramps at Beach Boulevard
28	Beach Boulevard at Whittier Boulevard

Tables 14-2, 14-3 and ***14-4*** present the existing plus project, Year 2023 plus project and Year 2035 plus project level of service results based on the CMP thresholds, respectively. As stated previously, a project causes a significant impact if it causes the CMP facility to operate worse than a LOS E and increases the ICU value by more than 0.10 if the CMP facility operates at LOS F without the project. Review of *Tables 14-2* and *14-3* shows that the Project will not impact any of the CMP locations under existing plus project and Year 2023 plus project traffic conditions. Review of *Table 14-4* shows that the Project will impact the intersection of Beach Boulevard/Imperial Highway under Year 2035 plus project traffic conditions. It should be noted that this impact is consistent with the

Year 2035 impacts discussed previously in Section 10.1.2. Consistent with the findings presented in Section 10.1.2 for this location, with implementation of recommended improvements, the impact of the proposed Project will be offset (refer to Section 12.5.1 for the recommended improvements).

TABLE 14-1
PROJECT PERCENTAGE RADIUS OF INFLUENCE CMP ANALYSIS

Roadway Segment		(1) CMP LOS "E" Capacity	(2) Project ADT	(3) Percentage (3) = (2) ÷ (1)	(4) Radius of Influence (Yes/No)
A.	Lambert Road between Beach Boulevard and Idaho Street	37,500	0	0.0%	No
B.	Lambert Road between Idaho Street and Euclid Street	37,500	0	0.0%	No
C.	Lambert Road between Euclid Street and Harbor Boulevard	37,500	0	0.0%	No
D.	Beach Boulevard between Lambert Road and Imperial Highway	56,300	796	1.4%	No
E.	Idaho Street between Lambert Road and Imperial Highway	37,500	108	0.3%	No
F.	Euclid Street between Lambert Road and Imperial Highway	37,500	55	0.1%	No
G.	Harbor Boulevard between Lambert Road and Imperial Highway	56,300	376	0.7%	No
H.	Imperial Highway between Santa Gertrudes Ave and 1st Ave	54,000	947	1.8%	No
I.	Imperial Highway between 1st Avenue and Beach Boulevard	56,300	1,011	1.8%	No
J.	Imperial Highway between Beach Blvd and La Habra Hills Dr	60,200	**1,907**	**3.2%**	**Yes**
K.	Imperial Highway between La Habra Hills Drive and Idaho Street	60,200	1,523	2.5%	No
L.	Imperial Highway between Idaho Street and Euclid Street	60,200	1,027	1.7%	No
M.	Imperial Highway between Euclid Street and Harbor Boulevard	60,200	813	1.4%	No
N.	Idaho Street between Imperial Hwy and Sandlewood Ave	37,500	698	1.9%	No
O.	Euclid Street between Sandlewood Ave and Imperial Hwy	37,500	158	0.4%	No
P.	Gilbert Street between Sandlewood Ave and Rosecrans Ave	37,500	564	1.5%	No

TABLE 14-1 (CONTINUED)
PROJECT PERCENTAGE RADIUS OF INFLUENCE CMP ANALYSIS

Roadway Segment		(1) CMP LOS "E" Capacity	(2) Project ADT	(3) Percentage (3) = (2) ÷ (1)	(4) Radius of Influence (Yes/No)
Q.	Euclid Street between Sandlewood Ave and Rosecrans Ave	37,500	153	0.4%	No
R.	Beach Boulevard between Imperial Hwy and Hillsborough Apt.	60,200	**3,203**	**5.3%**	**Yes**
S.	Beach Boulevard between Hillsborough Apt. and Hillsborough Dr	60,200	**2,406**	**4.0%**	**Yes**
T.	Beach Boulevard between Hillsborough Dr and Rosecrans Ave	57,780	**2,237**	**3.9%**	**Yes**
U.	Rosecrans Avenue between Beach Boulevard and Gilbert Street	37,500	894	2.4%	No
V.	Rosecrans Avenue between Gilbert Street and Euclid Street	25,000	253	1.0%	No
W-I.	Sandlewood Avenue East of Idaho Street	12,500	212	1.7%	No
W-II.	Sandlewood Avenue between Idaho Street and Euclid Street	12,500	212	1.7%	No
W-III.	Sandlewood Avenue West of Euclid Street	12,500	212	1.7%	No
X.	Beach Boulevard between Rosecrans Ave and La Mirada Blvd	60,200	1,439	2.4%	No
Y.	Imperial Highway between Santa Gertrudes and La Mirada Blvd	54,000	865	1.6%	No
Z.	Beach Boulevard between Lambert Rd and La Habra Boulevard.	56,300	736	1.3%	No
AA.	Imperial Highway between Valley View Ave and La Mirada Blvd	54,000	631	1.2%	No
BB.	Beach Boulevard between La Mirada Blvd/Malvern Ave and Artesia Blvd	60,200	1,126	1.9%	No
CC.	Beach Boulevard between Artesia Blvd and Commonwealth Ave	60,200	831	1.4%	No
DD.	Beach Blvd between Commonwealth Ave and Auto Center Dr	60,200	778	1.3%	No
EE.	Auto Center Drive between Beach Boulevard and I-5 NB Ramps	37,500	89	0.2%	No

TABLE 14-1 (CONTINUED)
PROJECT PERCENTAGE RADIUS OF INFLUENCE CMP ANALYSIS

Roadway Segment		(1) CMP LOS "E" Capacity	(2) Project ADT	(3) Percentage (3) = (2) ÷ (1)	(4) Radius of Influence (Yes/No)
FF.	Beach Boulevard between Auto Center Drive and I-5 SB Ramps	60,200	611	1.0%	No
GG.	Beach Boulevard between La Habra Boulevard and Whittier Boulevard.	56,300	670	1.2%	No
HH.	Whittier Boulevard between Beach Boulevard and Hacienda Road	37,500	316	0.8%	No
II.	Gilbert Street between Rosecrans Avenue and Malvern Avenue	37,500	741	2.0%	No
JJ.	Euclid Street between Rosecrans Avenue and Malvern Avenue	37,500	315	0.8%	No
KK.	Malvern Avenue between Gilbert Street and Euclid Street	37,500	353	0.9%	No

TABLE 14-2
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CMP

Key Intersections		Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) CMP Impact		(4) With Improvements	
				ICU	LOS	ICU	LOS	ICU Increase	Yes/No	ICU	LOS
10.	Beach Boulevard at Imperial Highway	E	AM	0.786	C	0.813	D	0.027	No	--	--
			PM	0.834	D	0.870	D	0.036	No	--	--
14.	Harbor Boulevard at Imperial Highway	E	AM	0.759	C	0.762	C	0.003	No	--	--
			PM	0.683	B	0.686	B	0.003	No	--	--
27.	I-5 SB Ramps at Beach Boulevard	E	AM	0.691	B	0.698	B	0.007	No	--	--
			PM	0.675	B	0.684	B	0.009	No	--	--
28.	Beach Boulevard at Whittier Boulevard	E	AM	0.686	B	0.692	B	0.006	No	--	--
			PM	0.758	C	0.761	C	0.003	No	--	--

Notes:
- **BOLD ICU/LOS** values indicate unacceptable service level

TABLE 14-3
YEAR 2023 PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CMP

Key Intersections		Minimum Acceptable LOS	Time Period	(1) Year 2023 Cumulative Traffic Conditions		(2) Year 2023 Cumulative Plus Project Traffic Conditions		(3) CMP Impact		(4) With Improvements	
				ICU	LOS	ICU	LOS	ICU Increase	Yes/No	ICU	LOS
10.	Beach Boulevard at Imperial Highway	E	AM	0.880	D	0.907	E	0.027	No	--	--
			PM	0.942	E	0.978	E	0.036	No	--	--
14.	Harbor Boulevard at Imperial Highway	E	AM	0.841	D	0.845	D	0.004	No	--	--
			PM	0.814	D	0.838	D	0.024	No	--	--
27.	I-5 SB Ramps at Beach Boulevard	E	AM	0.785	C	0.793	C	0.008	No	--	--
			PM	0.767	C	0.775	C	0.008	No	--	--
28.	Beach Boulevard at Whittier Boulevard	E	AM	0.753	C	0.758	C	0.005	No	--	--
			PM	0.814	D	0.818	D	0.004	No	--	--

Notes:
- **BOLD ICU/LOS** values indicate unacceptable service level

TABLE 14-4
YEAR 2035 PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CMP

Key Intersections	Minimum Acceptable LOS	Time Period	(1) Year 2035 Buildout Traffic Conditions		(2) Year 2035 Buildout Plus Project Traffic Conditions		(3) CMP Impact		(4) With Improvements	
			ICU	LOS	ICU	LOS	ICU Increase	Yes/No	ICU	LOS
10. Beach Boulevard at Imperial Highway	E	AM	0.998	E	**1.026**	**F**	**0.028**	**Yes**	0.934	E
		PM	**1.049**	**F**	**1.085**	**F**	0.036	No	0.998	E
14. Harbor Boulevard at Imperial Highway	E	AM	**1.142**	**F**	**1.146**	**F**	0.004	No	--	--
		PM	0.985	E	0.999	E	0.014	No	--	--
27. I-5 SB Ramps at Beach Boulevard	E	AM	0.849	D	0.857	D	0.008	No	--	--
		PM	0.837	D	0.845	D	0.008	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	AM	0.868	D	0.880	D	0.012	No	--	--
		PM	0.858	D	0.861	D	0.003	No	--	--

Notes:
- **BOLD ICU/LOS** values indicate unacceptable service level

15.0 CALTRANS BASIC FREEWAY SEGMENT ANALYSIS

Neither the City of La Habra nor the neighboring Cities have devised methods to measure congestion and project impacts on freeways. Therefore, methods used by Caltrans have been used. Caltrans requires the use of analysis methods provided in the Highway Capacity Manual (*HCM)* for the analysis of basic freeway segments. Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of service standard and will be utilized to assess project impacts at the key study freeway segments. Based on Caltrans criteria, a Project's impact is considered significant if the Project causes the LOS to change from an acceptable LOS (i.e. LOS D or better) to a deficient LOS (i.e. LOS E or F) or increase the density on a facility operating at an unacceptable level.

Basic Freeway Segment Analysis for freeway segments was conducted for the following eight (8) Caltrans freeway segments in the vicinity of the proposed Project:

1. I-5 northbound, north of Beach Boulevard
2. I-5 northbound, south of Beach Boulevard
3. I-5 southbound, north of Beach Boulevard
4. I-5 southbound, south of Beach Boulevard
5. SR-57 northbound, north of Imperial Highway
6. SR-57 northbound, south of Imperial Highway
7. SR-57 southbound, north of Imperial Highway
8. SR-57 southbound, south of Imperial Highway

15.1 Existing Plus Project Basic Freeway Segment Capacity Analysis

15.1.1 *Existing Traffic Conditions*

Table 15-1 summarizes the peak hour level of service results at the aforementioned eight (8) key freeway segments for Existing (Year 2018) traffic conditions. Review of *Table 15-1* indicates that six of the eight key freeway segments currently operate at LOS D or better during the AM and/or PM peak hours (i.e. key freeway segments #1, #2, #3 and #4 located on the I-5 Freeway and key freeway segments #5 and #6 on the SR-57 Freeway). The remaining two key freeway segments currently operate at unacceptable LOS E during the PM peak hour (i.e. key freeway segments #7 and #8 located on the SR-57 Freeway).

Per Caltrans guidelines, the following is stated in the *Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002*:

> *"The following criterion is a starting point in determining when a TIS is needed. When a project:*
>
> *1. Generates over 100 peak hour trips assigned to a State highway facility…..*

2. *Generates 50 to 100 peak hour trips assigned to a State highway facility and noticeable delay approaching LOS C or D…..*
3. *Generates 1 to 49 peak hour trips assigned to a State highway facility and noticeable delay approaching LOS E or F…..”*

Based on the Caltrans criteria above and the results of the basic freeway segment analysis for Existing traffic conditions as presented in *Table 15-1,* it is determined that no additional analysis is needed for the key freeway segments located along the I-5 Freeway (i.e. key freeway segments #1, #2, #3 and #4) since the Project does not generate 50 to 100 peak hour trips assigned to a state highway facility and the four (4) I-5 Freeway segments are forecast to operate at an acceptable LOS C or better during the AM and PM peak hours under Existing traffic conditions.

Further review of *Table 15-1* indicates that additional traffic analysis is required for the two key freeway segments located along the SR-57 (i.e. key freeway segments #7 and #8) as these locations currently operate at unacceptable LOS E during the PM peak hour under Existing traffic conditions and the project generates between 1 to 50 peak hour trips. Although key freeway segment #7 results in zero project trips due to the existing land use trip credit, the key freeway segment is still evaluated to show its density value.

Appendix K contains the Basic Freeway Segment Analysis calculation worksheets for the eight (8) freeway segments for Existing traffic conditions.

15.1.2 *Existing Plus Project Traffic Conditions*

Table 15-2 summarizes the peak hour level of service results at the two (2) key freeway segments located along the SR-57 Freeway for Existing plus Project traffic conditions. The first column (1) presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) presents Existing plus Project traffic conditions and the third column (3) indicates whether the traffic associated with the proposed project will have an impact based on the LOS standards defined in this report.

Review of columns (2) and (3) of *Table 15-2* indicates that with the addition of Project traffic, the two (2) freeway segments located along the SR-57 Freeway are forecast to continue to operate at an unacceptable level of service during the PM peak hour when compared to the LOS standards defined in this report, however the density values remain unchanged without and with the project. Therefore, the proposed Project will not significantly impact key freeway segments #7 and #8 under existing plus project traffic conditions.

Appendix K contains the Basic Freeway Segment Analysis calculation worksheets for the two (2) SR-57 freeway segments for Existing Plus Project traffic conditions.

TABLE 15-1
EXISTING PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

	Key Basic Freeway Segment	Time Period	Lanes	Project Trips	(1) Existing Traffic Conditions		
					Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS
1.	I-5 northbound *north of* Beach Boulevard	AM	6	0	981	15.1	B
		PM		0	930	14.3	B
2.	I-5 northbound *south of* Beach Boulevard	AM	5	4	1,247	19.2	C
		PM		12	1,277	19.6	C
3.	I-5 southbound *north of* Beach Boulevard	AM	5	0	1,102	17.0	B
		PM		0	1,196	18.4	C
4.	I-5 southbound *south of* Beach Boulevard	AM	5	20	1,222	18.8	C
		PM		12	1,327	20.4	C
5.	SR-57 northbound *north of* Imperial Highway	AM	6	0	1,194	18.4	C
		PM		0	1,368	21.0	C
6.	SR-57 northbound *south of* Imperial Highway	AM	5	4	1,575	24.4	C
		PM		17	1,788	28.4	D
7.	SR-57 southbound *north of* Imperial Highway	AM	4	0	1,704	26.8	D
		PM		0	**2,123**	**36.9**	**E**
8.	SR-57 southbound *south of* Imperial Highway	AM	4	14	1,615	25.1	C
		PM		7	**2,155**	**37.9**	**E**

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

TABLE 15-2

EXISTING PLUS PROJECT PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

Key Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Existing Plus Project Traffic Conditions			(3) Significant Impact
		Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Yes/No
7. SR-57 southbound *north of* Imperial Highway	AM	1,704	26.8	D	1,704	26.8	D	No
	PM	**2,123**	**36.9**	**E**	**2,123**	**36.9**	**E**	No
8. SR-57 southbound *south of* Imperial Highway	AM	1,615	25.1	C	1,620	25.2	C	No
	PM	**2,155**	**37.9**	**E**	**2,157**	**37.9**	**E**	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

15.2 Year 2023 Cumulative Plus Project Basic Freeway Segment Capacity Analysis

Table 15-3 summarizes the peak hour level of service results at the two (2) key freeway segments located along the SR-57 Freeway for Year 2023 Cumulative traffic conditions. The first column (1) presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) presents Year 2023 Cumulative traffic conditions and the third column (3) presents Year 2023 Cumulative plus Project traffic conditions. The fourth (4) column indicates whether the traffic associated with the proposed project will have an impact based on the LOS standards defined in this report.

15.2.1 *Year 2023 Cumulative Traffic Conditions*

Review of column (2) of *Table 15-3* indicates that the two (2) freeway segments located along the SR-57 Freeway are forecast to operate at an unacceptable level of service during the PM peak hour when compared to the LOS standards defined in this report.

15.2.2 *Year 2023 Cumulative Plus Project Traffic Conditions*

Review of columns (3) and (4) of *Table 15-3* indicates that with the addition of Project traffic, the two (2) freeway segments located along the SR-57 Freeway are forecast to continue to operate at an unacceptable level of service during the PM peak hour when compared to the LOS standards defined in this report. The Project's contribution to the freeway system can be considered cumulatively significant at one (1) of the two freeway segments under this traffic impact analysis scenario (i.e. key freeway segment #8). Although cumulatively impacted, it should be noted that the density increase at key freeway segment #8 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal.

Appendix K contains the Basic Freeway Segment Analysis calculation worksheets for the two (2) SR-57 freeway segments for Year 2023 Cumulative Plus Project traffic conditions.

TABLE 15-3

YEAR 2023 CUMULATIVE PLUS PROJECT PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

Key Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Year 2023 Cumulative Traffic Conditions			(3) Year 2023 Cumulative Plus Project Traffic Conditions			(4) Significant Impact
		Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Yes/No
7. SR-57 southbound *north of*	AM	1,704	26.8	D	1,838	29.5	D	1,838	29.5	D	No
Imperial Highway	PM	**2,123**	**36.9**	**E**	**2,305**	**43.2**	**E**	**2,305**	**43.2**	**E**	No
8. SR-57 southbound *south of*	AM	1,615	25.1	C	1,756	27.8	D	1,761	27.9	D	No
Imperial Highway	PM	**2,155**	**37.9**	**E**	**2,350**	**45.0**	**E**	**2,352**	**45.1 [a]**	**F**	**Yes**

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria
- [a] = *HCS 7* software does not report a density value for mainline segments operating at LOS F. The density value reported in the table is estimated based on the peak hour volume increase.

15.3 Year 2035 Buildout Plus Project Basic Freeway Segment Capacity Analysis

Table 15-4 summarizes the peak hour level of service results at the two (2) key freeway segments located along the SR-57 Freeway for Year 2035 Buildout traffic conditions. The first column (1) presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) presents Year 2035 Buildout traffic conditions and the third column (3) presents Year 2035 Buildout plus Project traffic conditions. The fourth (4) column indicates whether the traffic associated with the proposed project will have an impact based on the LOS standards defined in this report.

15.3.1 *Year 2035 Buildout Traffic Conditions*

Review of column (2) of *Table 15-4* indicates that the two (2) freeway segments located along the SR-57 Freeway are forecast to operate at an unacceptable level of service during the PM peak hour when compared to the LOS standards defined in this report.

15.3.2 *Year 2035 Buildout Plus Project Traffic Conditions*

Review of columns (3) and (4) of *Table 15-4* indicates that with the addition of Project traffic, the two (2) freeway segments located along the SR-57 Freeway are forecast to continue to operate at an unacceptable level of service during the PM peak hour when compared to the LOS standards defined in this report, however the density values remain unchanged without and with the project. Therefore, the proposed Project will not significantly impact key freeway segments #7 and #8 under Year 2035 buildout plus project traffic conditions.

Appendix K contains the Basic Freeway Segment Analysis calculation worksheets for the four (4) SR-57 freeway segments for Year 2035 Buildout Plus Project traffic conditions.

15.4 Freeway Segment Traffic Improvements

A review of the level of service calculations summarized in *Tables 15-2* through *15-4* indicates that the development of the Project in combination with cumulative development and ambient traffic growth is anticipated to cumulatively impact one (1) of the two SR-57 mainline freeway segments assessed in the report under Year 2023 cumulative plus project traffic conditions. Although cumulatively impacted, it should be noted that the density increase at key freeway segment #8 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal. However, the SR-57 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of La Habra) can construct or guarantee the construction of any improvements to these freeways segments. Therefore, the proposed Project's incremental impacts (i.e. approximately less than 1.0% density increase) on key freeway study segments assessed in the report are considered unmitigatable as there are no feasible mitigation measures that will reduce cumulative mainline impacts to below significance thresholds or achieve acceptable service level goals.

TABLE 15-4

YEAR 2035 BUILDOUT PLUS PROJECT PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

Key Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Year 2035 Buildout Traffic Conditions			(3) Year 2035 Buildout Plus Project Traffic Conditions			(4) Significant Impact
		Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Yes/No
7. SR-57 southbound *north of* Imperial Highway	AM	1,704	26.8	D	1,851	29.8	D	1,851	29.8	D	No
	PM	**2,123**	**36.9**	**E**	**2,258**	**41.4**	**E**	**2,258**	**41.4**	**E**	No
8. SR-57 southbound *south of* Imperial Highway	AM	1,615	25.1	C	1,735	27.4	D	1,739	27.4	D	No
	PM	**2,155**	**37.9**	**E**	**2,276**	**42.1**	**E**	**2,279**	**42.1**	**E**	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

15.5 Freeway Merge/Diverge Ramp Junction Analysis

This section of the report presents a Freeway Ramp (Merge/Diverge) Analysis for the SR-57 Interchanges at Imperial Highway. The analysis is consistent with Caltrans requirements and has been prepared using the methods provided in the *Highway Capacity Manual (HCM).*

15.5.1 *Existing Plus Project Ramp Junction Analysis*

Table 15-5 summarizes the peak hour Level of Service results at the three (3) freeway ramp junctions for Existing Plus Project traffic conditions. The first column (1) presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) presents Existing Plus Project traffic conditions and the third column (3) indicates whether the traffic associated with the Project will have an impact based on the LOS standards defined in this report.

15.5.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 15-5* indicates that all three (3) freeway ramps currently operate at an acceptable LOS D or better during the AM and PM peak hours.

15.5.1.2 *Existing Plus Project Traffic Conditions*

Review of columns (2) and (3) of *Table 15-5* indicates that the proposed Project will not significantly impact the three (3) freeway ramps. The three (3) freeway ramps are projected to continue to operate at acceptable LOS D or better with the addition of project generated traffic to existing traffic.

Appendix L contains the Freeway Merge/Diverge Ramp Junction Analysis calculation worksheets.

TABLE 15-5

EXISTING PLUS PROJECT PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Existing Traffic Conditions				(2) Existing Plus Project Traffic Conditions				(3) Significant Impact
			Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1. SR-57 Southbound Off-Ramp *to* Imperial Highway	Diverge Analysis	AM	6,100	1,104	19.7	B	6,100	1,104	19.7	B	No
		PM	7,600	1,244	24.2	C	7,600	1,244	24.2	C	No
2. SR-57 Southbound On-Ramp (WB) *from* Imperial Highway	Merge Analysis	AM	4,996	208	19.2	B	4,996	208	19.2	B	No
		PM	6,356	469	26.0	C	6,356	469	26.0	C	No
3. SR-57 Southbound On-Ramp (EB) *from* Imperial Highway	Merge Analysis	AM	5,204	577	23.8	C	5,204	593	24.0	C	No
		PM	6,825	888	32.0	D	6,825	897	32.1	D	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

15.5.2 *Year 2023 Cumulative Ramp Junction Analysis*

Table 15-6 summarizes the peak hour Level of Service results at the three (3) freeway ramps for Year 2023 Cumulative traffic conditions. The first column (1) lists forecast Year 2023 Cumulative traffic conditions and the second column (2) lists forecast Year 2023 Cumulative Plus Project traffic conditions. The third column (3) indicates whether the traffic associated with the Project will have an impact based on the LOS standards defined in this report.

15.5.2.1 *Year 2023 Cumulative Traffic Conditions*

Review of column (1) of *Table 15-6* indicates that one (1) of the three (3) freeway ramps is forecast to operate at an unacceptable level of service in the Year 2023 during the PM peak hour. The remaining two (2) freeway ramps (i.e. key freeway ramps #1 and #2) are forecast to operate at an acceptable LOS D or better in the Year 2023 during the AM and PM peak hours.

15.5.2.2 *Year 2023 Plus Project Traffic Conditions*

Review of column (2) of *Table 15-6* indicates that one (1) of the three (3) freeway ramps is forecast to continue to operate at an unacceptable level of service in the Year 2023 with project traffic during the PM peak hour, when compared to the LOS standards defined in this report. The remaining two (2) freeway ramps (i.e. key freeway ramps #1 and #2) are forecast to operate at an acceptable LOS D or better in the Year 2023 with project traffic during the AM and PM peak hours. The Project's contribution to the freeway system can be considered significantly impacted at one (1) of the three ramp junctions under this traffic scenario. Although cumulatively impacted, it should be noted that the density increase at key freeway ramp #3 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal.

Appendix L contains the Freeway Merge/Diverge Ramp Junction Analysis calculation worksheets.

TABLE 15-6

YEAR 2023 CUMULATIVE PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

	Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Year 2023 Cumulative Traffic Conditions				(2) Year 2023 Cumulative Plus Project Traffic Conditions				(3) Significant Impact
				Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1.	SR-57 Southbound Off-Ramp *to* Imperial Highway	Diverge Analysis	AM	6,580	1,262	20.9	C	6,580	1,262	20.9	C	No
			PM	8,251	1,454	27.5	C	8,251	1,454	27.5	C	No
2.	SR-57 Southbound On-Ramp (WB) *from* Imperial Highway	Merge Analysis	AM	5,318	230	20.5	C	5,318	230	20.5	C	No
			PM	6,797	499	27.8	C	6,797	499	27.8	C	No
3.	SR-57 Southbound On-Ramp (EB) *from* Imperial Highway	Merge Analysis	AM	5,548	740	26.4	C	5,548	756	26.5	C	No
			PM	**7,296**	**1,114**	**35.5**	**E**	**7,296**	**1,123**	**35.6**	**E**	**Yes**

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

15.5.3 *Year 2035 Buildout Ramp Junction Analysis*

Table 15-7 summarizes the peak hour Level of Service results for the three (3) freeway ramps for Year 2035 Buildout traffic conditions. The first column (1) lists forecast Year 2035 Buildout traffic conditions. The second column (2) lists forecast Year 2035 Buildout plus Project traffic conditions. The third column (3) indicates whether the traffic associated with the Project will have an impact based on the LOS standards defined in this report.

15.5.3.1 *Year 2035 Buildout Traffic Conditions*

Review of column (1) of *Table 15-7* indicates that all three (3) freeway ramps are forecast to operate at an acceptable LOS D or better under Year 2035 Buildout traffic conditions during the AM and PM peak hours.

15.5.3.2 *Year 2035 Buildout Plus Project Traffic Conditions*

Review of columns (2) and (3) of *Table 15-7* indicates that the proposed Project will not significantly impact the three (3) freeway ramps. The three (3) freeway ramps are forecast to continue to operate at acceptable LOS D or better during the AM and PM peak hours under Year 2035 Buildout plus Project traffic conditions.

Appendix L contains the Freeway Merge/Diverge Ramp Junction Analysis calculation worksheets.

15.5.4 *Freeway Ramp Junction Traffic Improvements*

A review of the level of service calculations summarized in *Tables 15-5* through *15-7* indicates that the development of the Project in combination with cumulative development and ambient traffic growth is anticipated to significantly impact one (1) of the three (3) freeway ramp junctions assessed in the report under Year 2023 cumulative plus project traffic conditions. Although cumulatively impacted, it should be noted that the density increase at key freeway ramp #3 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal. However, the SR-57 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of La Habra) can construct or guarantee the construction of any improvements to these ramp junctions. Therefore, the proposed Project's incremental impacts (i.e. approximately less than 1.0% density increase) on freeway ramp junctions assessed in the report are considered unmitigatable as there are no feasible mitigation measures that will reduce cumulative impacts to below significance thresholds or achieve acceptable service level goals.

TABLE 15-7

YEAR 2035 BUILDOUT PLUS PROJECT PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

	Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Year 2035 Buildout Traffic Conditions				(2) Year 2035 Buildout Plus Project Plus Project Traffic Conditions				(3) Significant Impact
				Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1.	SR-57 Southbound Off-Ramp *to* Imperial Highway	Diverge Analysis	AM	6,975	1,466	21.8	C	6,975	1,466	21.8	C	No
			PM	8,508	1,641	27.6	C	8,508	1,641	27.6	C	No
2.	SR-57 Southbound On-Ramp (WB) *from* Imperial Highway	Merge Analysis	AM	5,509	244	20.2	C	5,509	244	20.2	C	No
			PM	6,867	529	26.9	C	6,867	529	26.9	C	No
3.	SR-57 Southbound On-Ramp (EB) *from* Imperial Highway	Merge Analysis	AM	5,753	784	26.1	C	5,753	800	26.3	C	No
			PM	7,396	1,181	34.7	D	7,396	1,190	34.7	D	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

16.0 CONSTRUCTION TRAFFIC IMPACTS

This section of the report summarizes the potential traffic impacts due to construction activities at the project site. The construction activities associated with the proposed Project include 1) demolition/crushing, 2) grading/excavation, 3) site preparation/installation of infrastructure and 4) building construction. The following section describes the potential construction related trips associated with each construction activity and provides a qualitative assessment as to whether or not the forecast construction trips will have an impact on the existing street system.

16.1 Construction Traffic Trip Generation

In order to forecast the potential construction related trips associated with the construction activities at the project site, the following assumptions, as provided by Carlson Strategic Land Solutions and the applicant, have been utilized for the four aforementioned construction components.

Demolition/Crushing

- A six-day work week (Monday through Saturday, eight-hour workday)[49] was assumed.
- The demolition/crushing construction phase is anticipated to last approximately 60 days.
- Maximum of 25 daily truck trips (i.e. 12 trucks) for export of any unusable material found.
- A total of 25 workers will be on the site.

Grading/Excavation

- A six-day work week (Monday through Saturday, eight-hour workday)[38] was assumed.
- The grading/excavation construction phase is anticipated to last approximately 220 days.
- Approximately 15,000 cubic yards of imported fill will require hauling as follows:
    - 15 cubic yard truck carrying capacity.
    - Maximum of 200 daily truck trips (i.e. 100 trucks).
    - Approximately 10 days for the import.
- A total of 25 workers will be on the site.

Site Preparation/Installation of Infrastructure

- A six-day work week (Monday through Saturday, eight-hour workday)[38] was assumed.
- The site preparation/installation of infrastructure construction phase is anticipated to last approximately 120 days.
- A total of 25 workers will be on the site.

Building Construction

- A six-day work week (Monday through Saturday, eight-hour workday)[38] was assumed.
- The building construction phase is anticipated to last approximately four years.
- A total of 200 workers will be on the site.

[49] Note that the City of La Habra's General Plan Noise Ordinance permits construction to occur Monday through Saturday, excluding federal holidays, between the hours of 7 AM and 8 PM. However, the majority of construction activities are anticipated to conclude by 5:00 PM.

In addition to the aforementioned assumptions for each construction component, the following assumptions were utilized for truck trips and employee trips.

- Each truckload requires an inbound trip and an outbound trip.
- The daily number of truck trips was averaged over the eight-hour workday to obtain the number of peak hour truck trips (50% entering and 50% exiting).
- All truck trips were converted to passenger car equivalents (P.C.E.'s) using a P.C.E. factor of 3.0.
- Each worker would make 2 trips per day (one during the AM peak hour and one during the PM peak hour).

Using the aforementioned assumptions, ***Table 16-1*** provides a summary of the forecast construction peak hour and daily traffic volumes for each of the four construction components. Review of the first row of *Table 16-1* shows that the demolition/crushing construction component is expected to generate 125 daily trips with 34 trips produced during the AM peak hour and 34 trips produced during the PM peak hour. Review of the second row of *Table 16-1* shows that the grading/excavation construction component is expected to generate 650 daily trips with 103 trips produced during the AM peak hour and 103 trips produced during the PM peak hour. Review of the third row of *Table 16-1* shows that the site preparation/installation of infrastructure construction component is expected to generate 50 daily trips with 25 trips produced during the AM peak hour and 25 trips produced during the PM peak hour. Review of the last row of *Table 16-1* shows that the building construction component is expected to generate 400 daily trips with 200 trips produced during the AM peak hour and 200 trips produced during the PM peak hour.

16.2 Construction Traffic Assessment

Construction related trips associated with trucks and employees traveling to and from the site in the morning and afternoon may result in some minor traffic delays; however, potential traffic interference caused by construction vehicles would create a temporary/short-term impact to vehicles using Beach Boulevard and Imperial Highway in the morning and afternoon hours and the number of construction workers will vary depending on the specific construction activities over time. Based on the location of the site, and the proximity of the I-5 Freeway and SR-57 Freeway, it is anticipated that a majority of the construction-related traffic will utilize the freeway to gain regional access to the site.

Traffic impacts to the adjacent roadway network will be minimal and **not** long-term. Further, since the construction-related trip generation potential of the proposed Project (i.e. all four construction components) is less than that of the proposed Project, no significant impacts resulting from construction traffic are anticipated, aside from the nuisance traffic that will occur as a result of construction-related traffic (e.g., construction materials, construction workers, etc.).

Nevertheless, to reduce the impact of construction-related traffic, the implementation of a construction management plan is recommended to minimize traffic impacts upon the local circulation system in the area.

TABLE 16-1
PROJECT CONSTRUCTION–RELATED TRAFFIC GENERATION

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Demolition/Crushing Generation Forecast:							
• Truck Traffic (12 Trucks)	25	2	1	3	1	2	3
Passenger Car Equivalent Factor[50]	3	3	3	3	3	3	3
Subtotal	75	6	3	9	3	6	9
• Employees (25 Workers)	50	25	0	25	0	25	25
Total Demolition/Crushing Construction Related Traffic Trip Generation Potential	**125**	**31**	**3**	**34**	**3**	**31**	**34**
Grading/Excavation Generation Forecast:							
• Truck Traffic (100 Trucks)	200	13	13	26	13	13	26
Passenger Car Equivalent Factor[49]	3	3	3	3	3	3	3
Subtotal	600	39	39	78	39	39	78
• Employees (25 Workers)	50	25	0	25	0	25	25
Total Grading/Excavation Construction Related Traffic Trip Generation Potential	**650**	**64**	**39**	**103**	**39**	**64**	**103**
Site Preparation/Installation of Infrastructure Generation Forecast:							
• Employees (25 Workers)	50	25	0	25	0	25	25
Total Site Preparation/Installation of Infrastructure Related Traffic Trip Generation Potential	**50**	**25**	**0**	**25**	**0**	**25**	**25**
Building Construction Generation Forecast:							
• Employees (200 Workers)	400	200	0	200	0	200	200
Total Building Construction Related Traffic Trip Generation Potential	**400**	**200**	**0**	**200**	**0**	**200**	**200**

[50] A passenger car equivalent factor of 3.0 was applied to the truck trips to convert them into passenger car trips.

16.3 Construction Management Plan

To ensure impacts to the surrounding street system are kept a minimum, it is recommended that a Construction Management Plan for the proposed Project be developed. The Construction Management Plan should be developed in coordination with the City of La Habra and at a minimum, address the following:

- Traffic control for any street closure, detour, or other disruption to traffic circulation.
- Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e. lumber, tiles, piping, windows, etc.), to access the site, traffic controls and detours, and proposed construction phasing plan for the project.
- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
- Require the Applicant to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material which may have been spilled, tracked, or blown onto adjacent streets or areas.
- Hauling or transport of oversize loads will be allowed between the hours of 9:00 AM and 3:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport will be allowed during nighttime hours, weekends or Federal holidays.
- Use of local streets shall be prohibited.
- Haul trucks entering or exiting public streets shall at all times yield to public traffic.
- If hauling operations cause any damage to existing pavement, street, curb, and/or gutter along the haul route, the applicant will be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer.
- All construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur on-site.
- This Plan shall meet standards established in the current *California Manual on Uniform Traffic Control Device (MUTCD)* as well as City of La Habra requirements.
- The applicant shall coordinate with Caltrans staff regarding project-related work that will occur along Beach Boulevard as required..

17.0 TRAFFIC IMPACT MITIGATION FEE PROGRAM

17.1 City of La Habra Traffic Improvement Fee and Traffic Phasing Plan

Pursuant to Chapter 14.48 and Chapter 10.52 of the City's Municipal Code, the project applicant shall participate in the payment of Citywide Traffic Impact Fees. The purpose of the traffic impact mitigation fee is to implement the goals and objectives of the City's general plan growth management element, to mitigate the traffic impacts caused by new development within the City through construction of certain improvements, and to ensure that future development pays its fair share of improvements to maintain level of service standards and develop/implement the City's future transportation system as identified in the general plan circulation element.

The payment of Citywide Traffic Impact Fees shall be submitted to the City of La Habra Public Works Department/Engineering Division for the mitigation of off-site traffic impacts generated by the Project. These fees will be calculated by City staff.

With respect to project impacts at intersections under the jurisdiction of the City of Fullerton, City of Buena Park, La Mirada and Caltrans, it should also be noted that under CEQA, a fair share monetary contribution to a mitigation fund is adequate mitigation if the fund is tied to a reasonable plan that the relevant agency is committed to implementing. However, these cities and Caltrans do not have mitigation fund programs in place for these improvements to which a development project in the City of La Habra can contribute.

17.2 Project-Related Fair Share Contribution

The transportation impacts associated with the development of the proposed Project were determined based on the near-term (Year 2023) and long-term (Year 2035) analysis. As summarized in *Tables 9-1, 9-2* and *11-2*, the development of the proposed Project is anticipated to create significant impacts at six (6) key study intersections in the Year 2023. As summarized in *Tables 10-1, 10-2* and *11-3*, the development of the proposed Project is anticipated to create significant impacts at nine (9) key study intersections and two (2) key roadway segment in the Year 2035. As such, the proposed Project can be expected to pay a proportional "fair-share" of the improvement costs of the impacted intersections/roadway segments to mitigate the project's traffic impacts.

17.2.1 *Year 2023 Project-Related Fair Share Contribution*

Table 17-1 presents the percentage of net traffic impact at the study intersections impacted by the proposed Project for Year 2023 traffic conditions. As presented in this table, the first column (1) presents a total of all movements for existing conditions. The second column (2) presents future Year 2023 cumulative traffic conditions. The third column (3) presents future Year 2023 traffic conditions with project traffic. The fourth column (4) presents the project ICU impact and the fifth column (5) presents the ICU benefit of improvement. The sixth column (6) represents the project fair share percentage.

Review of *Table 17-1* shows that the Project's fair share contribution to offset all Year 2023 intersection project impacts ranges between 6.3% and 22.3%.

17.2.2 *Year 2035 Project-Related Fair Share Contribution*

Table 17-2 presents the percentage of net traffic impact at the study intersections/roadway segments impacted by the proposed Project for Year 2035 traffic conditions. The structure of this table is similar to the near-term (Year 2023) fair-share summary presented in *Table 17-1.*

Review of *Table 17-2* shows that the Project's fair share contribution to offset all Year 2035 intersection project impacts ranges between 2.2% and 50.0%. The Project's fair share contribution to offset all Year 2035 roadway segment project impacts ranges between 5.0% and 13.4%.

TABLE 17-1
YEAR 2023 PROJECT FAIR SHARE CONTRIBUTION

Key Location		Jurisdiction	Impacted Time Period	(1) Existing Traffic	(2) Year 2023 Cumulative Traffic	(3) Year 2023 Cumulative Plus Project Traffic	(4) Project ICU Impact	(5) ICU Benefit of Improvement	(6) Project Percentage Share
1.	Beach Boulevard at Rosecrans Avenue	La Mirada/ Caltrans	PM	**6,084**	**6,883**	**7,112**	--	--	**22.3%**
10.	Beach Boulevard at Imperial Highway[51]	La Habra/ Caltrans	AM PM	7,090 **7,267**	7,993 **8,255**	8,200 **8,535**	-- --	-- --	18.6% **22.1%**
20.	Beach Blvd at La Mirada Blvd/Malvern Ave	Buena Park/ Caltrans	PM	**6,812**	**7,623**	**7,762**	**--**	**--**	**14.6%**
23.	Beach Boulevard at Artesia Boulevard	Buena Park/ Caltrans	AM PM	5,808 **5,972**	6,470 **6,705**	6,551 **6,816**	**--** **--**	**--** **--**	10.9% **13.2%**
29.	Hacienda Road at Whittier Boulevard[51]	La Habra/ Caltrans	AM PM	4,298 **4,874**	4,698 **5,317**	4,722 **5,347**	**--** **--**	**--** **--**	5.7% **6.3%**
30.	Walnut Street at Imperial Highway	La Habra/ Caltrans	AM PM	3,902 **4,069**	4,561 **4,807**	4,638 **4,913**	-- --	-- --	10.5% **12.6%**

Notes:
La Habra Signalized Intersections: Project Percentage Share (6) = [Column (4)] / [Column (5)]
La Habra Unsignalized Locations and Locations in Other Jurisdictions: Project Percentage Share (6) = [Column (3) – Column (2)] / [Column (3) – Column (1)]

[51] This intersection is impacted under Caltrans analysis only. However, the fair share percentage at this location may be subject to La Habra criteria.

TABLE 17-2
YEAR 2035 PROJECT FAIR SHARE CONTRIBUTION

Key Location		Jurisdiction	Impacted Time Period	(1) Existing Traffic	(2) Year 2035 Buildout Traffic	(3) Year 2035 Buildout Plus Project Traffic	(4) Project ICU Impact	(5) ICU Benefit of Improvement	(6) Project Percentage Share
1.	Beach Boulevard at Rosecrans Avenue	La Mirada/ Caltrans	PM	**6,084**	**7,324**	**7,553**	--	--	**15.6%**
10.	Beach Boulevard at Imperial Highway	La Habra/ Caltrans	AM PM	**--** **--**	**--** **--**	**--** **--**	0.028 **0.036**	0.092 **0.087**	30.4% **41.4%**
13.	Euclid Street at Imperial Highway	La Habra/ Caltrans	AM PM[52]	-- 5,670	-- 7,123	-- 7,230	**0.011** **--**	**0.022** **--**	**50.0%** 6.9%
14.	Harbor Boulevard at Imperial Highway[52]	La Habra/ Fullerton/Caltrans	AM PM	6,064 **6,287**	9,036 **8,655**	9,097 **8,738**	-- --	-- --	2.0% **3.4%**
15.	Beach Boulevard at Lambert Road	La Habra/ Caltrans	AM[52] PM	6,396 --	7,538 --	7,592 --	**--** **0.016**	**--** **0.128**	4.5% **12.5%**
20.	Beach Blvd at La Mirada Blvd/Malvern Ave	Buena Park/ Caltrans	PM	**6,812**	**8,037**	**8,176**	--	--	**10.2%**
23.	Beach Boulevard at Artesia Boulevard	Buena Park/ Caltrans	AM PM	5,808 **5,972**	6,930 **7,198**	7,011 **7,309**	-- --	-- --	6.7% **8.3%**
29.	Hacienda Road at Whittier Boulevard[52]	La Habra/ Caltrans	AM PM	**4,298** 4,874	**5,350** 6,232	**5,374** 6,262	-- --	-- --	**2.2%** 2.2%
30.	Walnut Street at Imperial Highway	La Habra/ Caltrans	AM PM	3,902 **4,069**	5,246 **5,090**	5,323 **5,196**	-- --	-- --	5.4% **9.4%**

Notes:
La Habra Signalized Intersections: Project Percentage Share (6) = [Column (4)] / [Column (5)]
La Habra Unsignalized Locations and Locations in Other Jurisdictions: Project Percentage Share (6) = [Column (3) – Column (2)] / [Column (3) – Column (1)]

[52] This intersection is impacted under Caltrans analysis only. However, the fair share percentage at this location may be subject to La Habra criteria.

TABLE 17-2 (CONTINUED)
YEAR 2035 PROJECT FAIR SHARE CONTRIBUTION

Key Location		Jurisdiction	Impacted Time Period	(1) Existing Traffic	(2) Year 2035 Cumulative Traffic	(3) Year 2035 Cumulative Plus Project Traffic	(4) Project ICU Impact	(5) ICU Benefit of Improvement	(6) Project Percentage Share
M.	Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	Daily	**52,284**	**67,830**	**68,643**	--	--	**5.0%**
X.	Beach Blvd between Rosecrans Ave and La Mirada Blvd	Buena Park	Daily	**44,047**	**53,379**	**54,818**	--	--	**13.4%**

Notes:
La Habra Signalized Intersections: Project Percentage Share (6) = [Column (4)] / [Column (5)]
La Habra Unsignalized Locations and Locations in Other Jurisdictions: Project Percentage Share (6) = [Column (3) – Column (2)] / [Column (3) – Column (1)]

18.0 RESIDENTIAL OPTION PROJECT ANALYSIS

18.1 Residential Option Project Description

The Residential Option Project includes the development of 49 townhomes/condominiums in place of the 12,000 SF specialty grocery store and the 8,000 SF restaurant. The following bullets describe the development totals for each Planning Area for the Residential Option Project.

- Planning Area #1 = 145 DU Townhomes/Condominiums
- Planning Area #2 = 118 DU Single-Family Homes
- Planning Area #3 = 77 DU Single-Family Homes
- Planning Area #4 = 82 DU Single-Family Homes
- Planning Area #5 = 49 DU Townhomes/Condominiums
- Planning Area #6 = 22,500 SF Recreation Community Center and 42.1 Acres Passive Park

Access to PA #1 and PA#5 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive. Access to PA #2 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive and via La Habra Hills Drive. Access to PA #3 will be provided via La Habra Hills Drive. Access to PA #4 will be provided via the intersection of Sandlewood Avenue and Idaho Street. The current access on La Habra Hills Drive will serve as access to PA #6; it will also continue to serve as a secondary entry/exit to the Westridge Residential Community.

18.2 Residential Option Project Traffic Generation

Table 18-1 summarizes the trip generation forecast for the Residential Option Project, which consists of up to 49 townhomes/condominiums in place of the 12,000 SF specialty grocery store/8,000 SF restaurant within Planning Area #5. Review of the lower portion of *Table 5-3* shows that overall, the proposed Residential Option Project is forecast to generate 4,347 daily trips, with 330 trips (96 inbound, 234 outbound) produced in the AM peak hour and 419 trips (263 inbound, 156 outbound) produced in the PM peak hour on a "typical" weekday.

18.3 Residential Option Project Traffic Distribution and Assignment

Figures 18-1, 18-2, 18-3, 18-4, 18-5 and ***18-6*** illustrate the general, directional traffic distribution patterns for PA #1, PA #2, PA #3, PA #4, PA #5 and PA#6 (recreation and park component) of the proposed Residential Option Project, respectively.

The anticipated AM and PM peak hour traffic volumes associated with the proposed Residential Option Project are presented in ***Figures 18-7*** and ***18-8***, respectively. ***Figure 18-9*** presents the daily project traffic volumes for the thirty-seven (37) key roadway segments. The traffic volume assignments presented in *Figures 18-7, 18-8* and *18-9* reflect the traffic distribution characteristics shown in *Figures 18-1* through *18-6* and the net traffic generation forecast presented at the bottom of *Table 18-1.* It should be noted that the golf course trip credit on La Habra Hills Drive was only applied to the applicable Planning Areas (i.e. PA #2, PA #3 and PA #6).

TABLE 18-1

RESIDENTIAL OPTION PROJECT TRAFFIC GENERATION FORECAST

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project – Residential Components							
❑ PA#1 - Townhomes/Condominiums (145 DU)	1,061	15	52	67	51	30	81
❑ PA#2 - Single-Family Homes – 50 x 80 Lots (118 DU)	1,114	22	65	87	74	43	117
❑ PA#3 - Single-Family Homes – 47 x 70 Lots (77 DU)	727	14	43	57	48	28	76
❑ PA#4 - Single-Family Homes – 55 x 90 Lots (82 DU)	774	15	46	61	51	30	81
Subtotal Residential Components	***3,676***	***66***	***206***	***272***	***224***	***131***	***355***
Proposed Project – Residential Option							
❑ PA#5 – Townhomes/Condominiums (49 DU)	359	5	18	23	17	10	27
Proposed Project – Recreation Components							
❑ PA#6 – Recreation Community Center (22,500 SF)	648	26	14	40	24	28	52
❑ PA#6 – Passive Park (42.1 ± Acres)	211	13	14	27	10	9	19
Subtotal Recreation Components	***859***	***39***	***28***	***67***	***34***	***37***	***71***
Total Project Trip Generation	**4,894**	**110**	**252**	**362**	**275**	**178**	**453**
Existing Land Use							
▪ Westridge Golf Club Driveway Counts[53]	547	14	18	32	12	22	34
Net Difference Trip Generation Forecast Proposed Project vs. Existing Land Use	**4,347**	**96**	**234**	**330**	**263**	**156**	**419**

Notes:

- TE/DU = Trip end per dwelling unit
- TE/1000 SF = Trip end per 1000 square-feet of development

[53] Source: Traffic counts conducted at the site by TSI in September 2018. The values shown in *Table 18-1* are an average of all the weekday data collected (i.e. data consisted of six total days that occurred on a Tuesday, Wednesday and Thursday).

18.4 Future Traffic Conditions

18.4.1 *Existing Plus Residential Option Project Traffic Conditions*

Figures 18-10 and ***18-11*** present projected AM and PM peak hour traffic volumes at the thirty-two (32) key study intersections with the addition of the trips generated by the proposed Project (Residential Option) to existing traffic volumes, respectively. ***Figure 18-12*** presents the existing plus project (Residential Option) daily traffic volumes for the thirty-seven (37) key roadway segments.

18.4.2 *Year 2023 Plus Residential Option Project Traffic Volumes*

Figures 18-13 and ***18-14*** illustrate the Year 2023 forecast AM and PM peak hour traffic volumes, with the inclusion of the trips generated by the proposed Project (Residential Option), respectively. ***Figure 18-15*** presents the Year 2023 daily cumulative plus project (Residential Option) traffic volumes.

18.4.3 *Year 2035 Buildout Plus Residential Option Project Traffic Volumes*

Figures 18-16 and ***18-17*** illustrate the forecast Year 2035 buildout AM and PM peak hour traffic volumes, with the inclusion of the trips generated by the proposed Project (Residential Option), respectively. ***Figure 18-18*** presents the daily Year 2035 buildout plus project (Residential Option) traffic volumes.

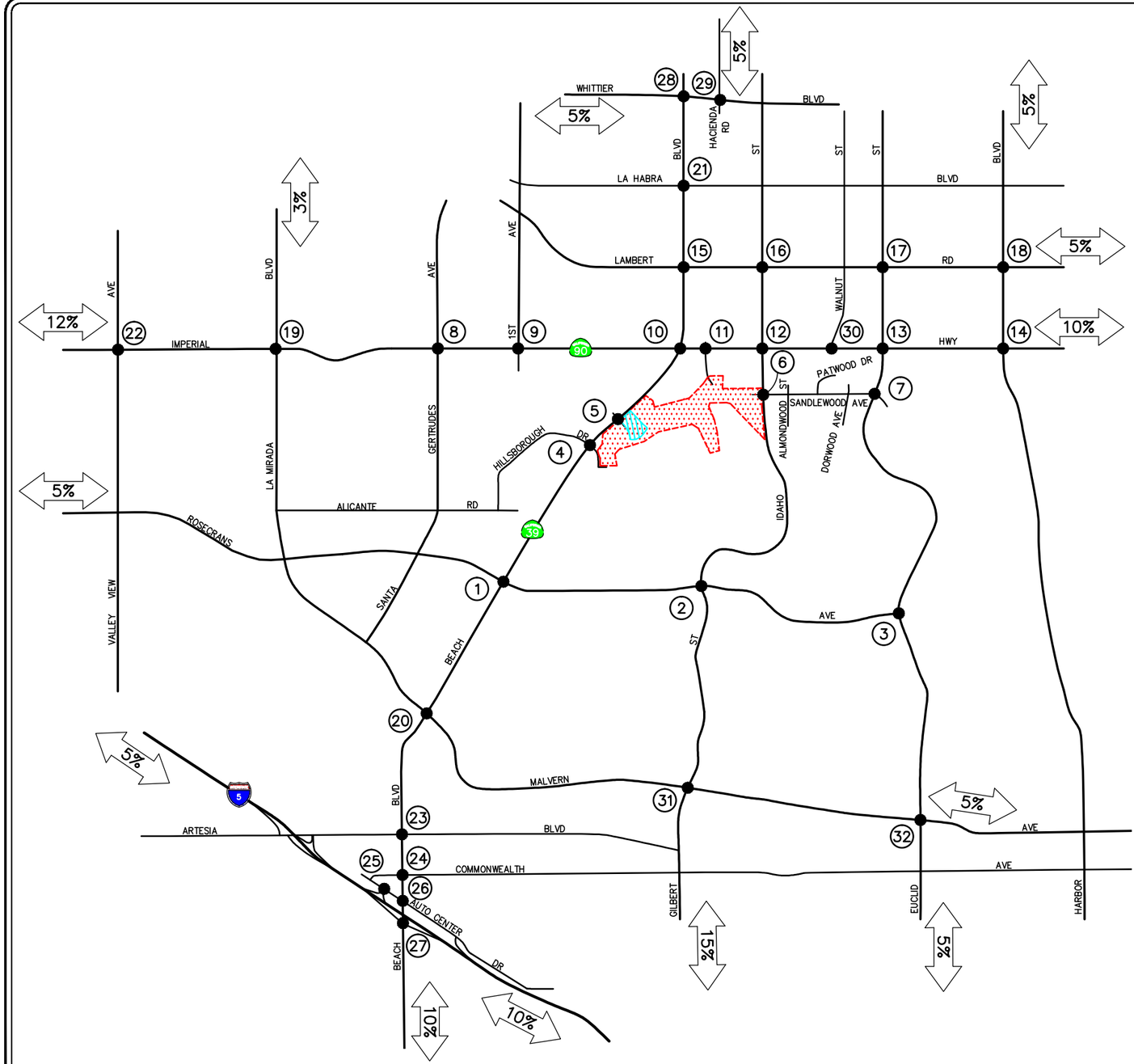
18.5 Residential Option Project Peak Hour Intersection Capacity Analysis

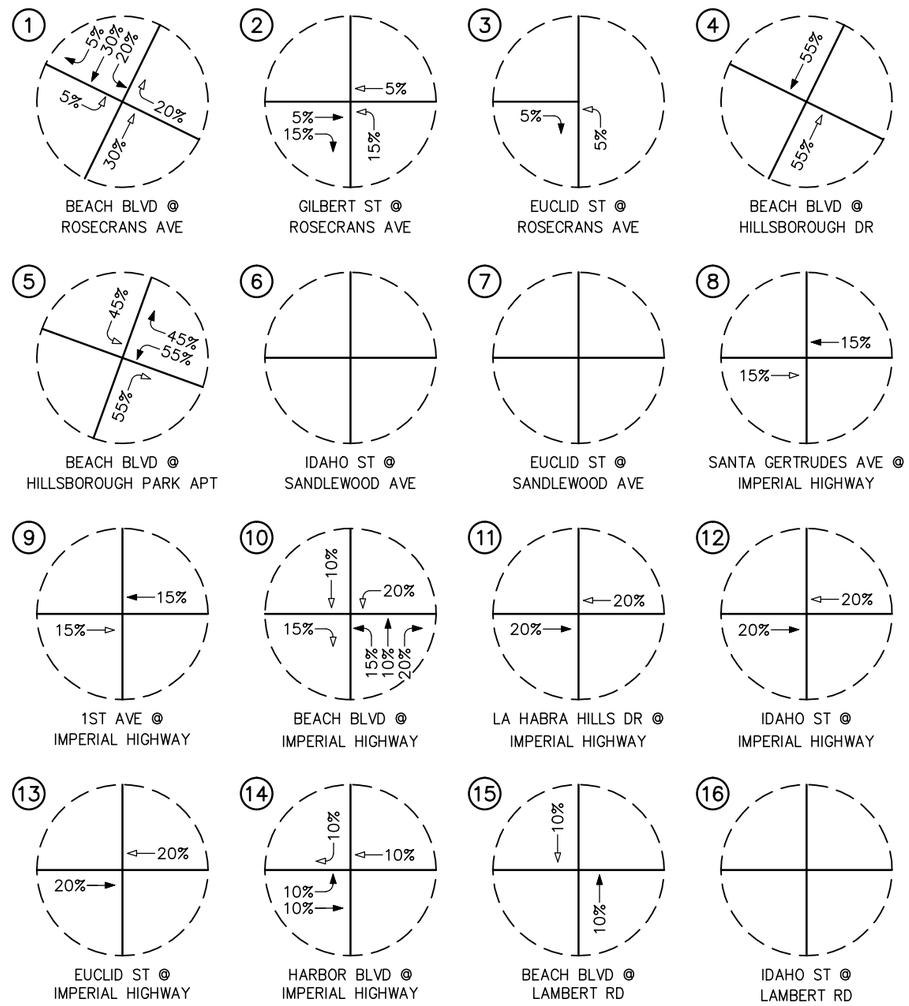
18.5.1 *Existing Plus Project (Residential Option) Traffic Conditions – Intersections*

Table 18-2 summarizes the peak hour Level of Service results at the thirty-two (32) key study intersections for Existing plus Project (Residential Option) traffic conditions. Review of Columns 2 and 3 of *Table 18-2* indicates that traffic associated with the proposed Project (Residential Option) will significantly impact one (1) of the thirty-two (32) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Euclid Street/Sandlewood Avenue is forecast to operate at unacceptable LOS F during the AM peak hour and unacceptable LOS E during the PM peak hour, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied. The remaining thirty (30) key study intersections currently operate and are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of Project (Residential Option) generated traffic to existing traffic. The intersection operating at an adverse level of service under existing plus project traffic conditions consists of the following:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
30. Walnut Street at Imperial Highway	La Habra	1,094.0 s/v	F	--	--

As shown in column 4, the implementation of improvements at the one (1) impacted key study intersection completely offsets the impact of project traffic and the one (1) impacted key study





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LINSCOTT LAW & GREENSPAN engineers

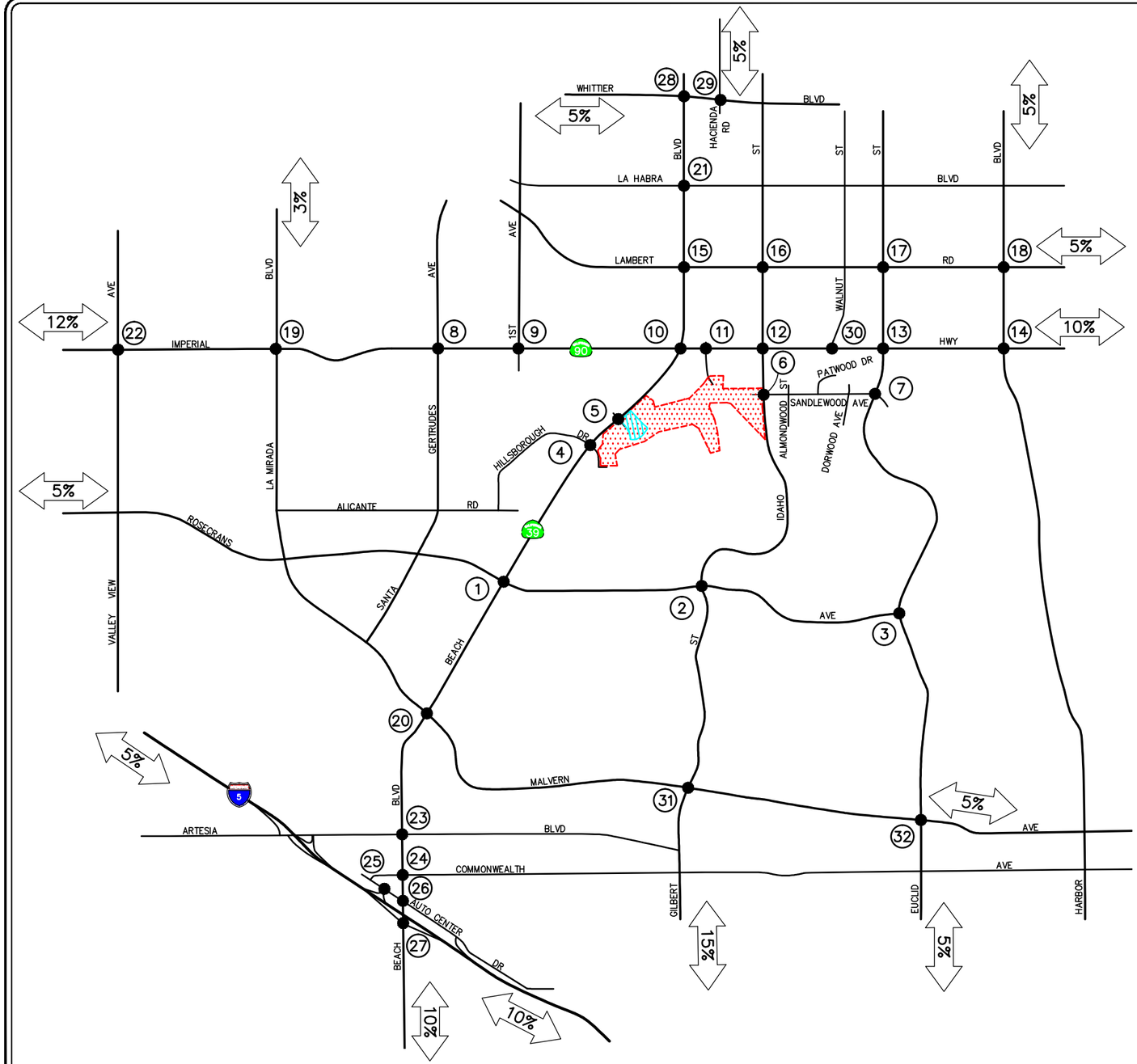
N NO SCALE

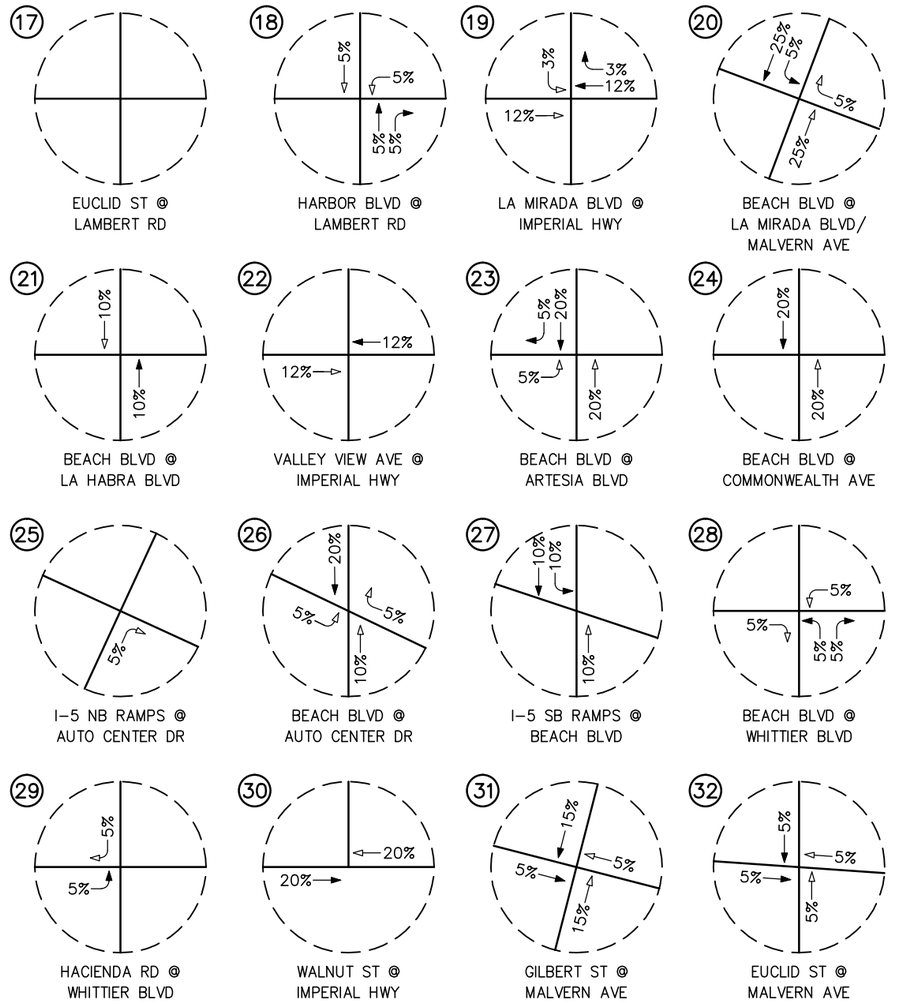
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#1 (145 DU)
= PROJECT SITE

FIGURE 18-1A

PA#1 PROJECT (RESIDENTIAL OPTION)
TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (145 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

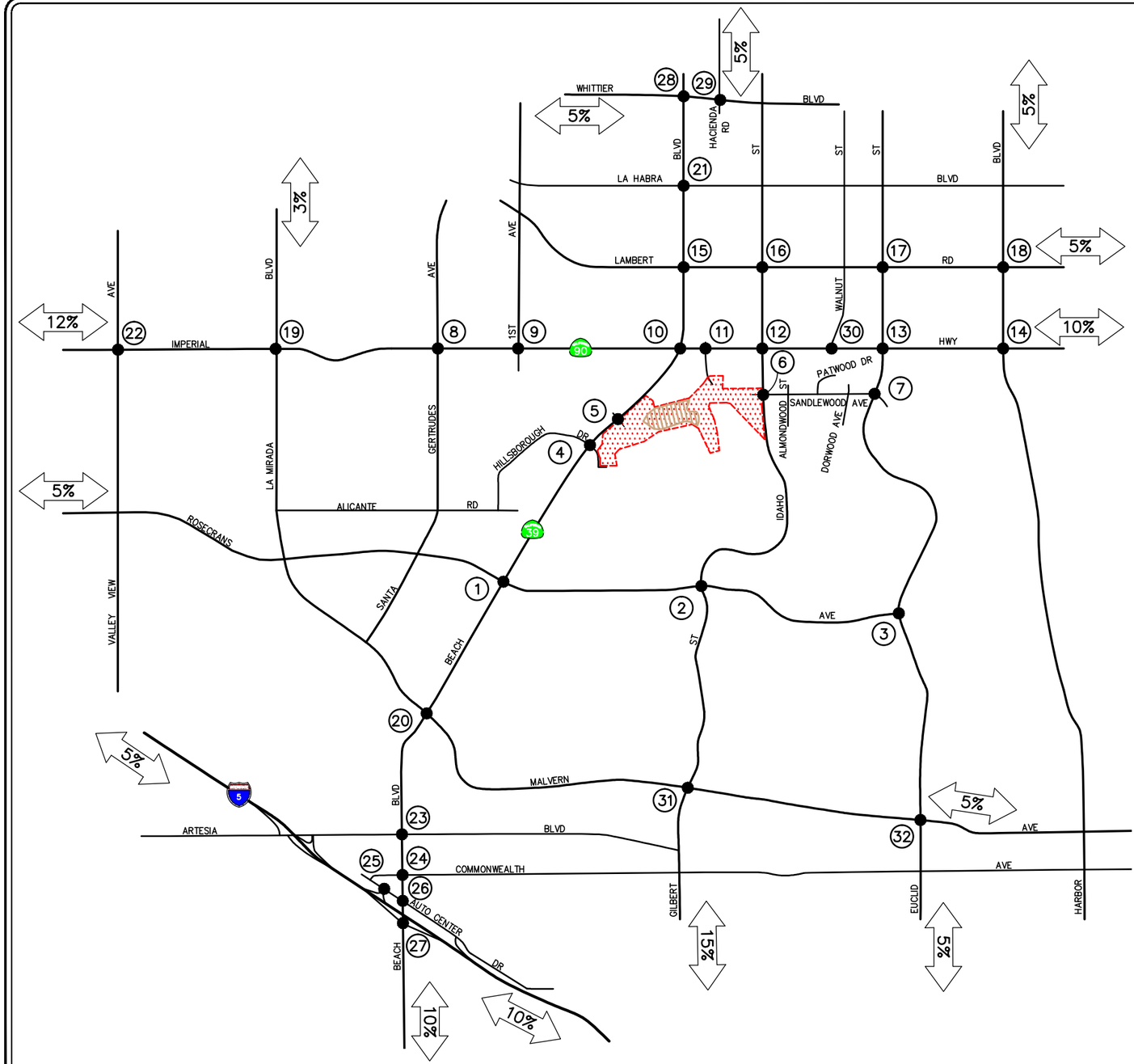
N NO SCALE

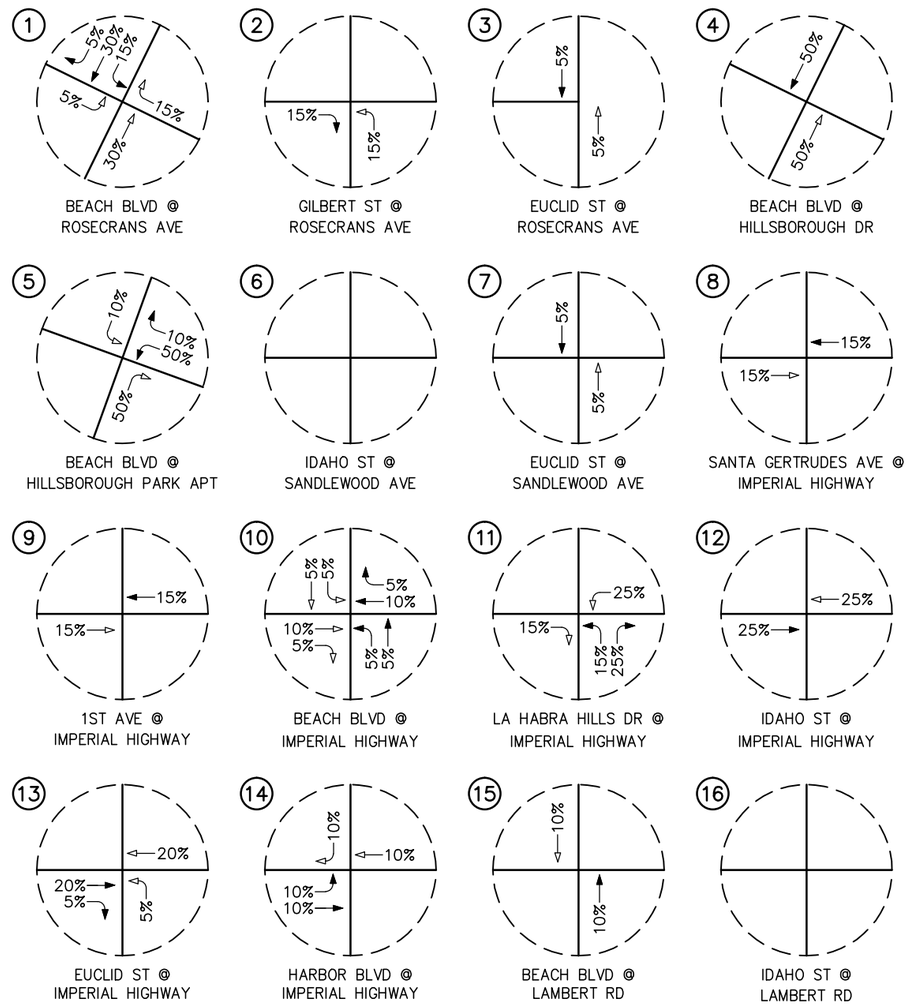
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#1 (145 DU)
= PROJECT SITE

FIGURE 18-1B

PA#1 PROJECT (RESIDENTIAL OPTION)
TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (145 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

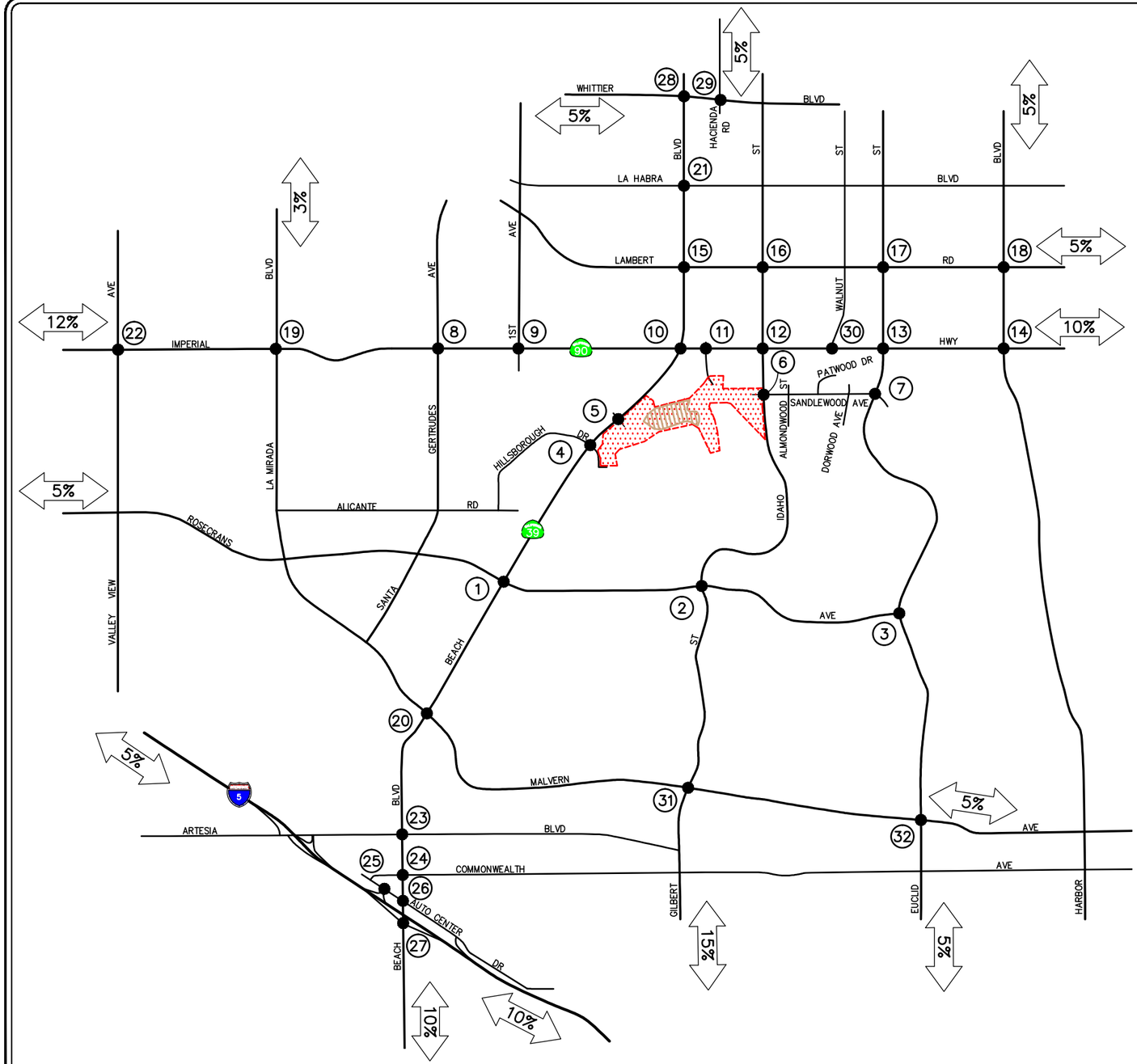
N NO SCALE

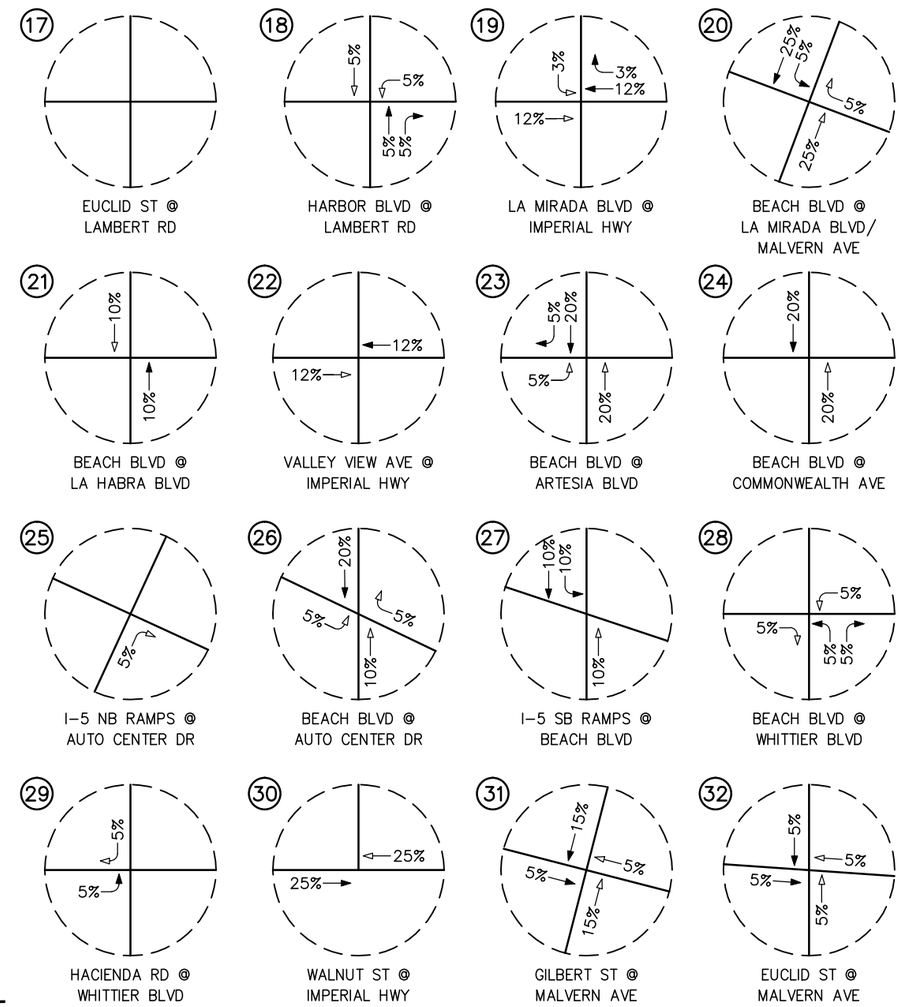
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#2 (118 DU)
= PROJECT SITE

FIGURE 18-2A

PA#2 PROJECT (RESIDENTIAL OPTION)
TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (118 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

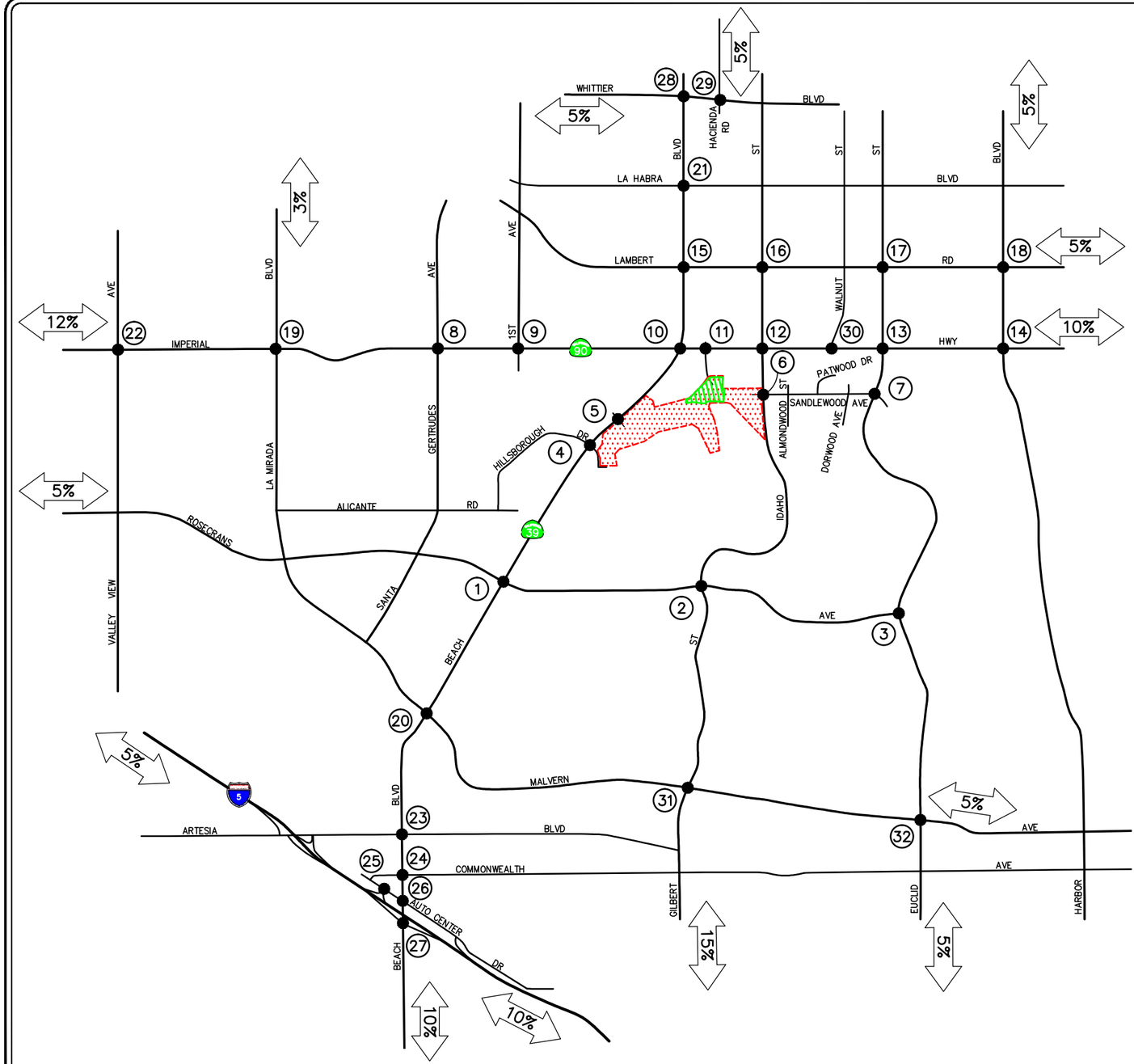
N NO SCALE

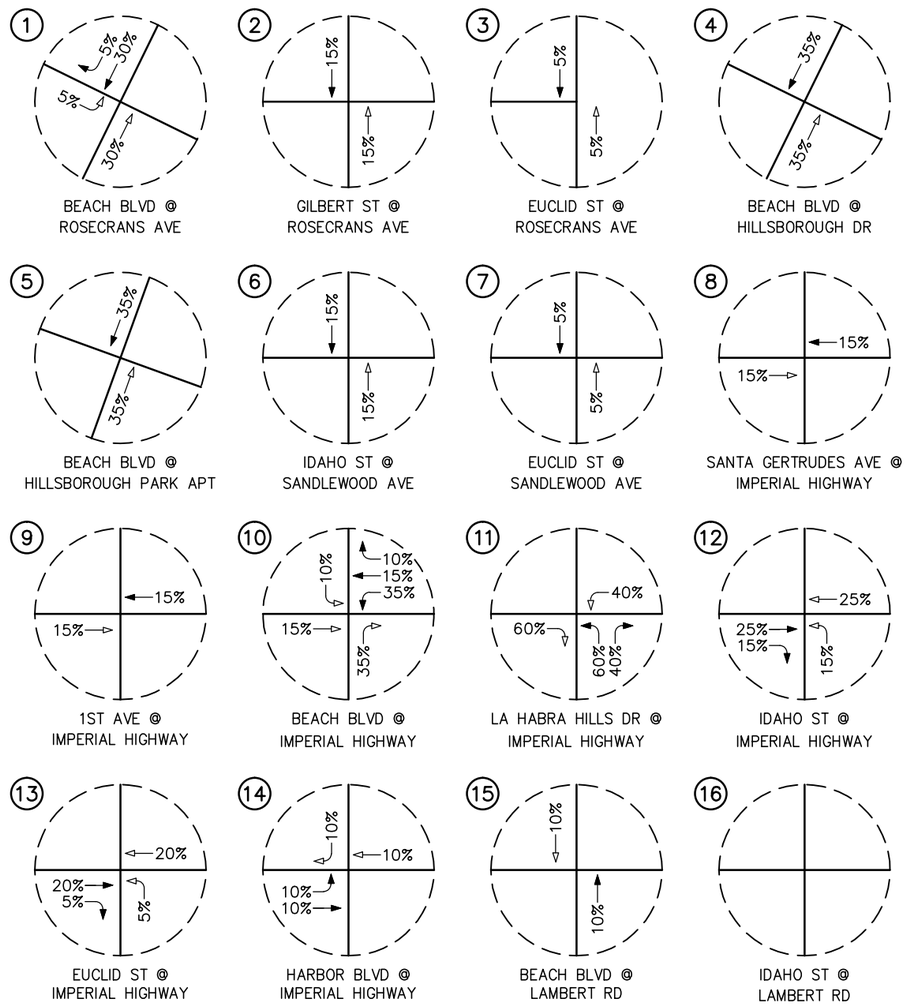
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#2 (118 DU)
= PROJECT SITE

FIGURE 18-2B

PA#2 PROJECT (RESIDENTIAL OPTION)
TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (118 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

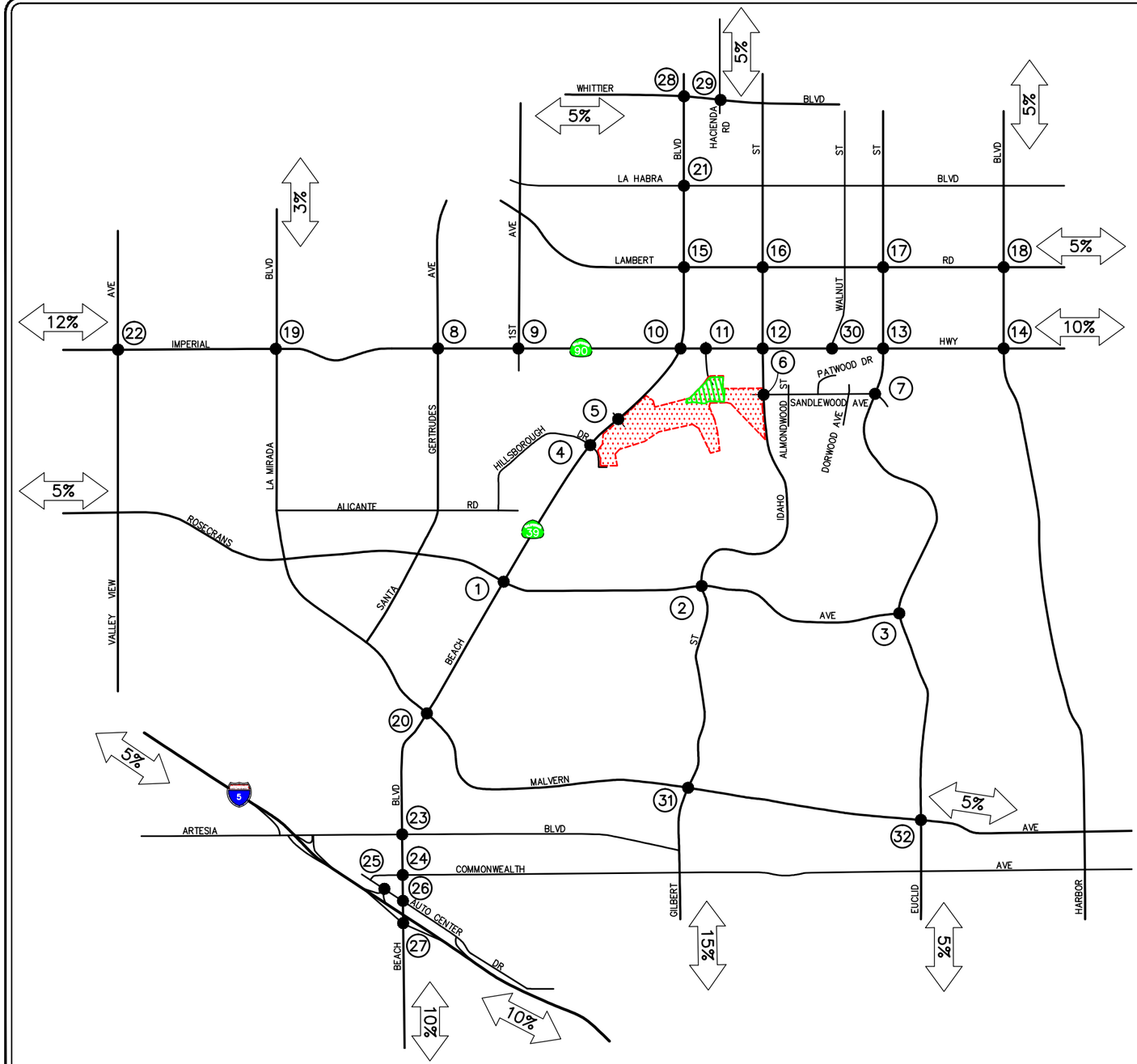
N NO SCALE

KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#3 (77 DU)
= PROJECT SITE

FIGURE 18–3A

PA#3 PROJECT (RESIDENTIAL OPTION)
TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (77 DU)

RANCHO LA HABRA, CITY OF LA HABRA


WHITTIER
BLVD
HACIENDA RD
LA HABRA
BLVD
LAMBERT
RD
IMPERIAL
HWY
ALICANTE
RD
ROSECRANS
AVE
VALLEY VIEW
AVE
LA MIRADA
BLVD
GERTRUDES
AVE
1ST
ST
AVE
WALNUT
ST
ST
BLVD
HILLSBOROUGH
DR
SANDLEWOOD AVE
PATWOOD DR
ALMONDWOOD
ST
DORWOOD AVE
IDAHO
ST
AVE
SANTA
BEACH
BLVD
MALVERN
AVE
ARTESIA
BLVD
COMMONWEALTH
AVE
AUTO CENTER
DR
GILBERT
EUCLID
HARBOR
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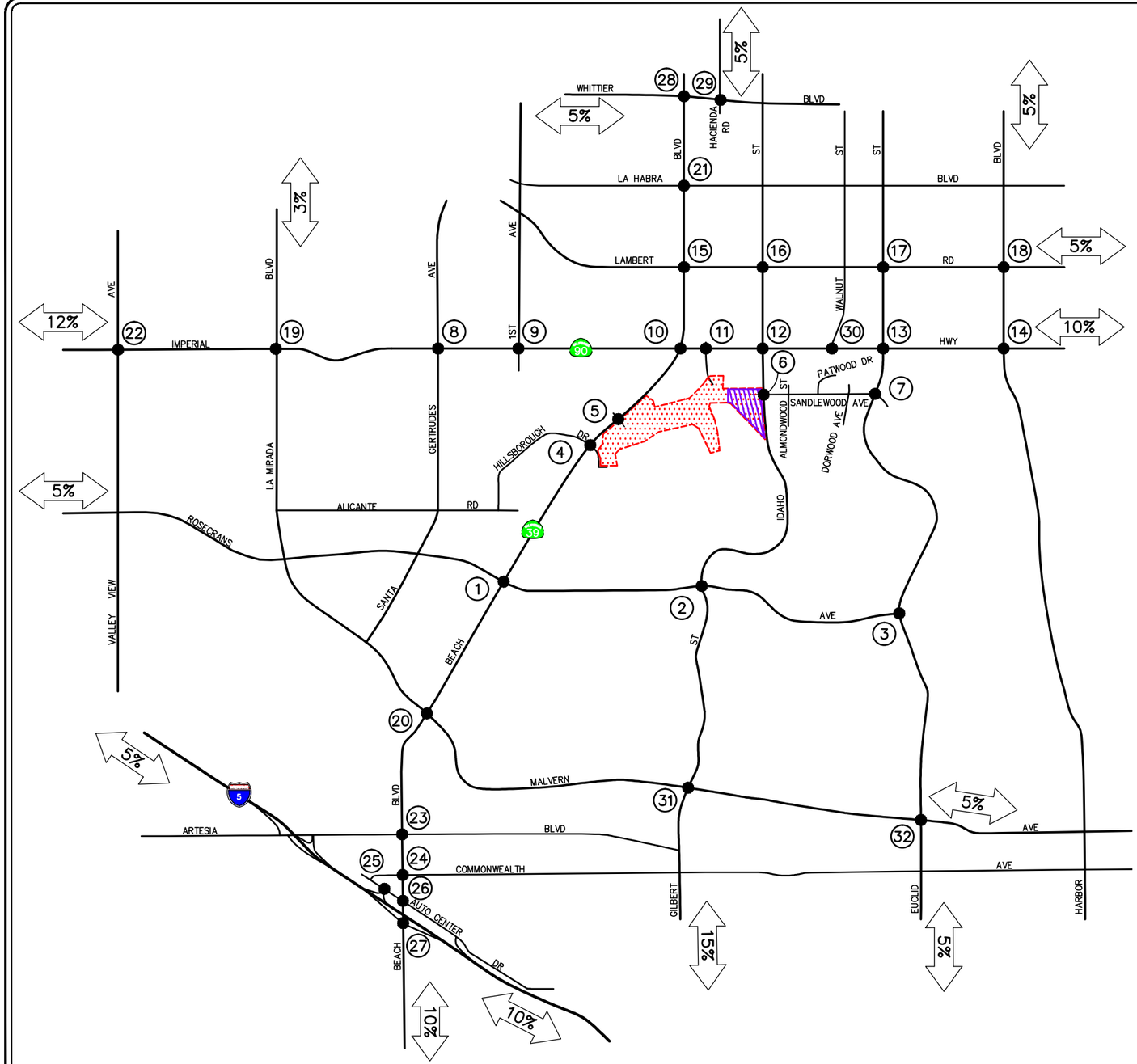
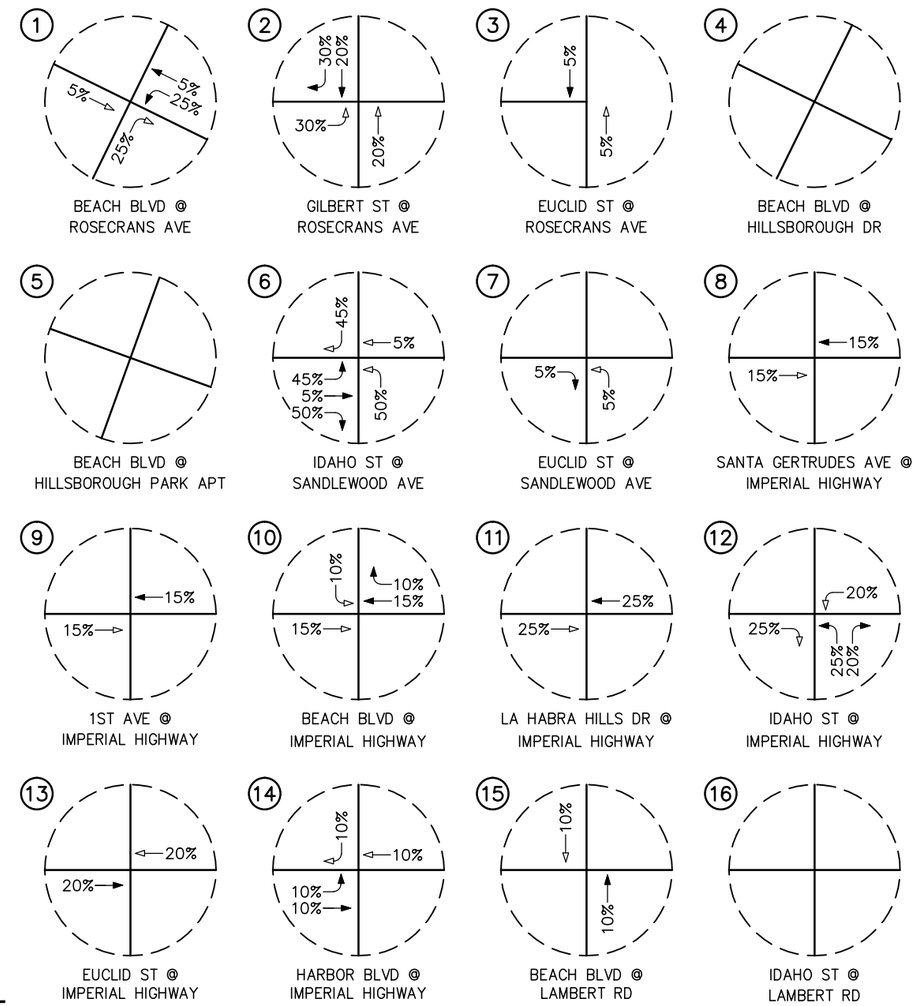
3%
12%
10%
15%
5%
5%
5%
10%
10%
5%
5%
5





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LINSCOTT LAW & GREENSPAN engineers

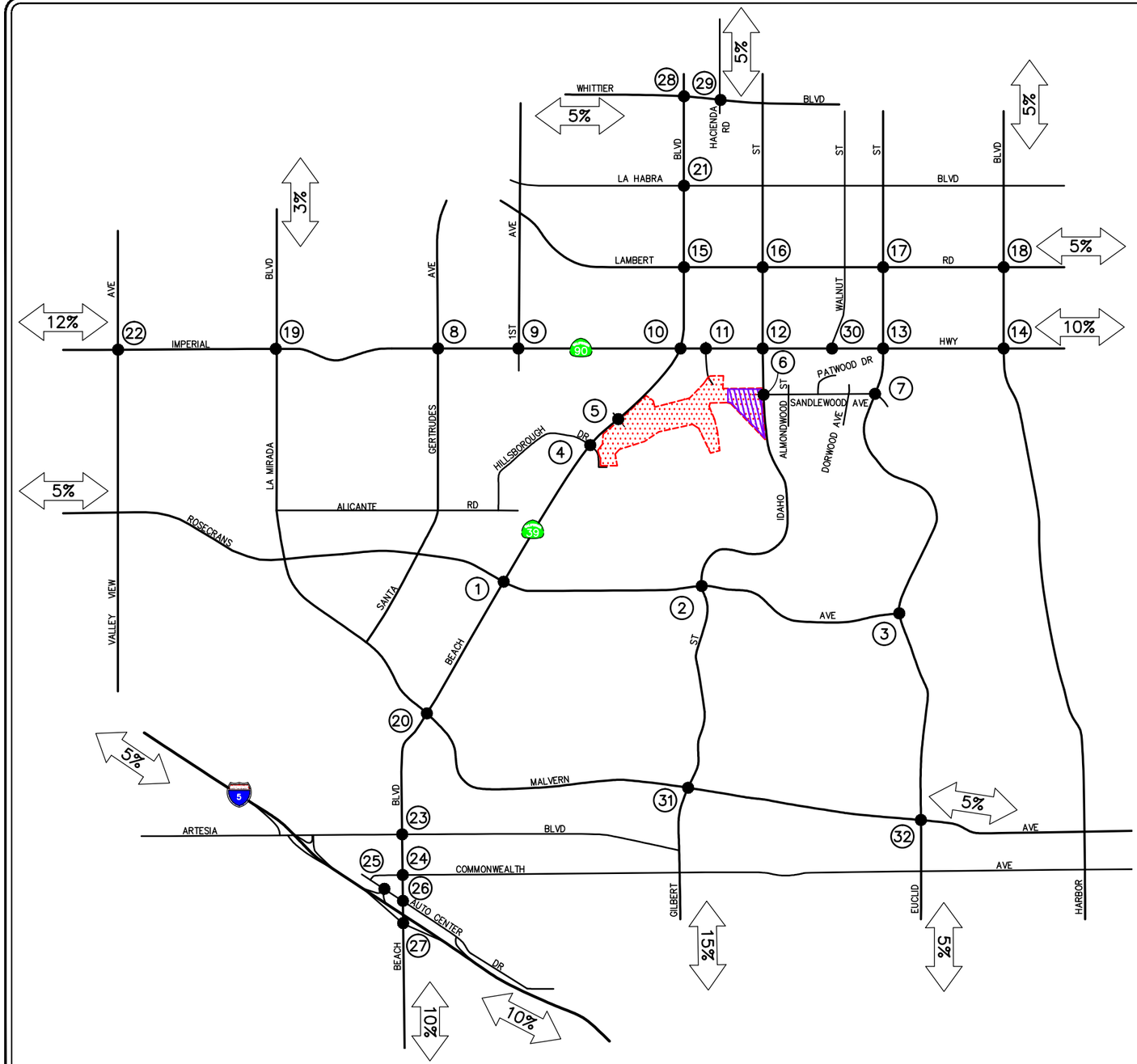
N NO SCALE

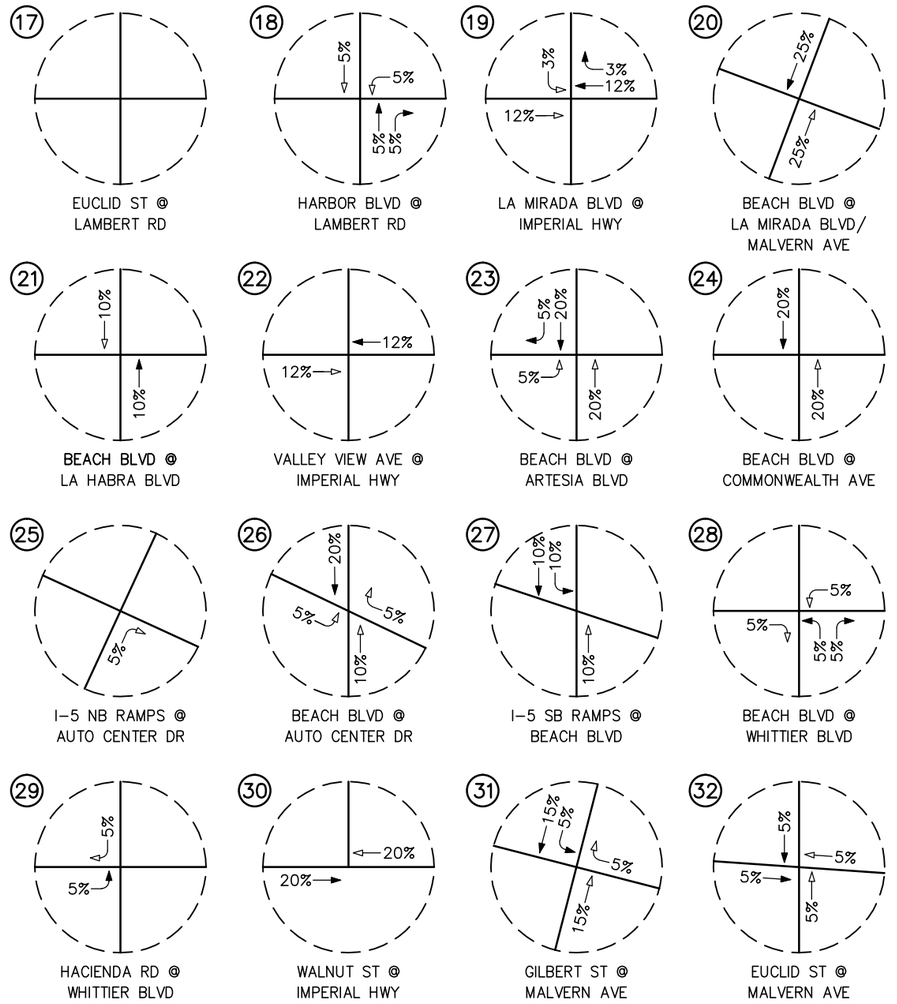
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#4 (82 DU)
= PROJECT SITE

FIGURE 18-4A

PA#4 PROJECT (RESIDENTIAL OPTION)
TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (82 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

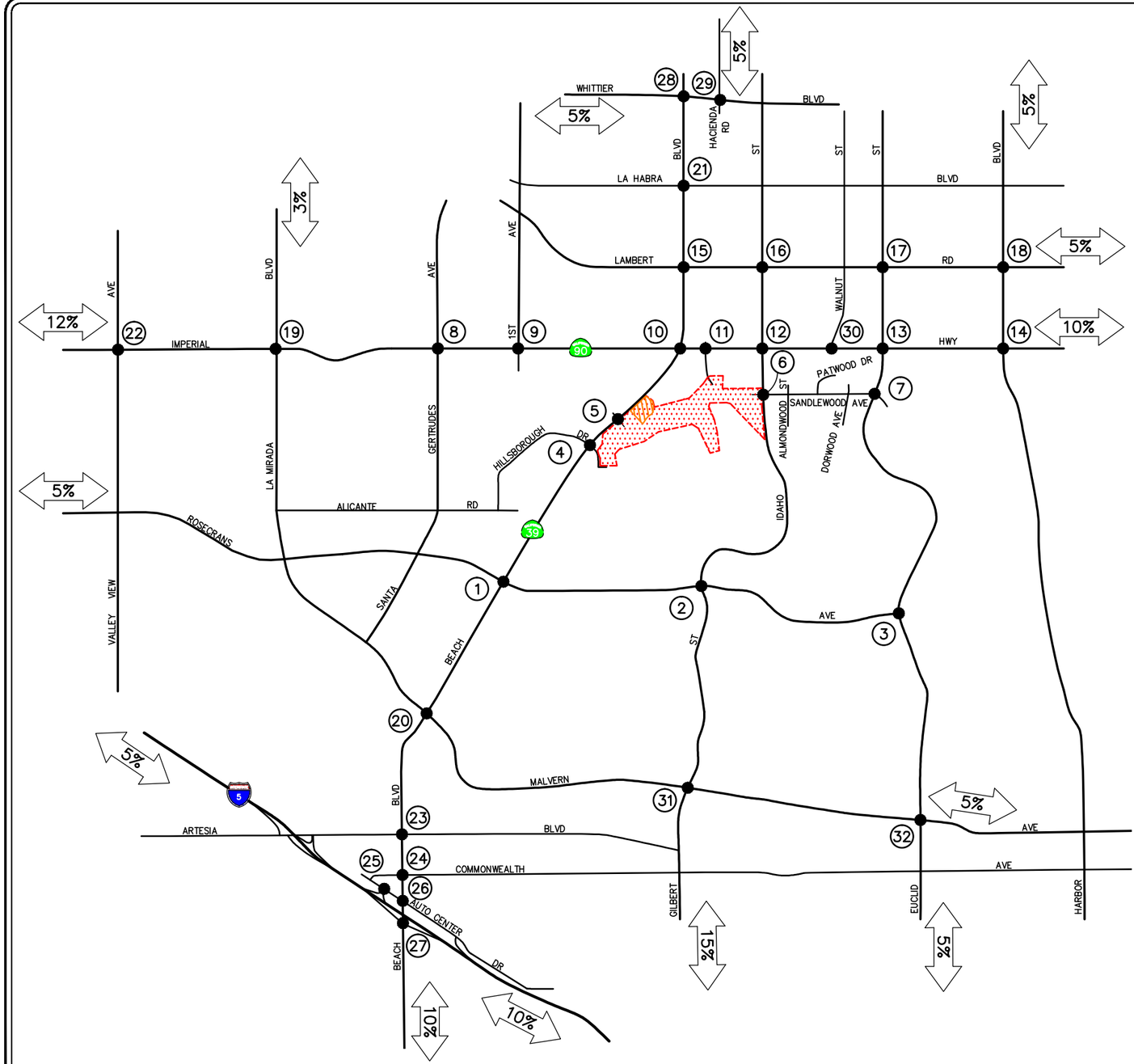
N NO SCALE

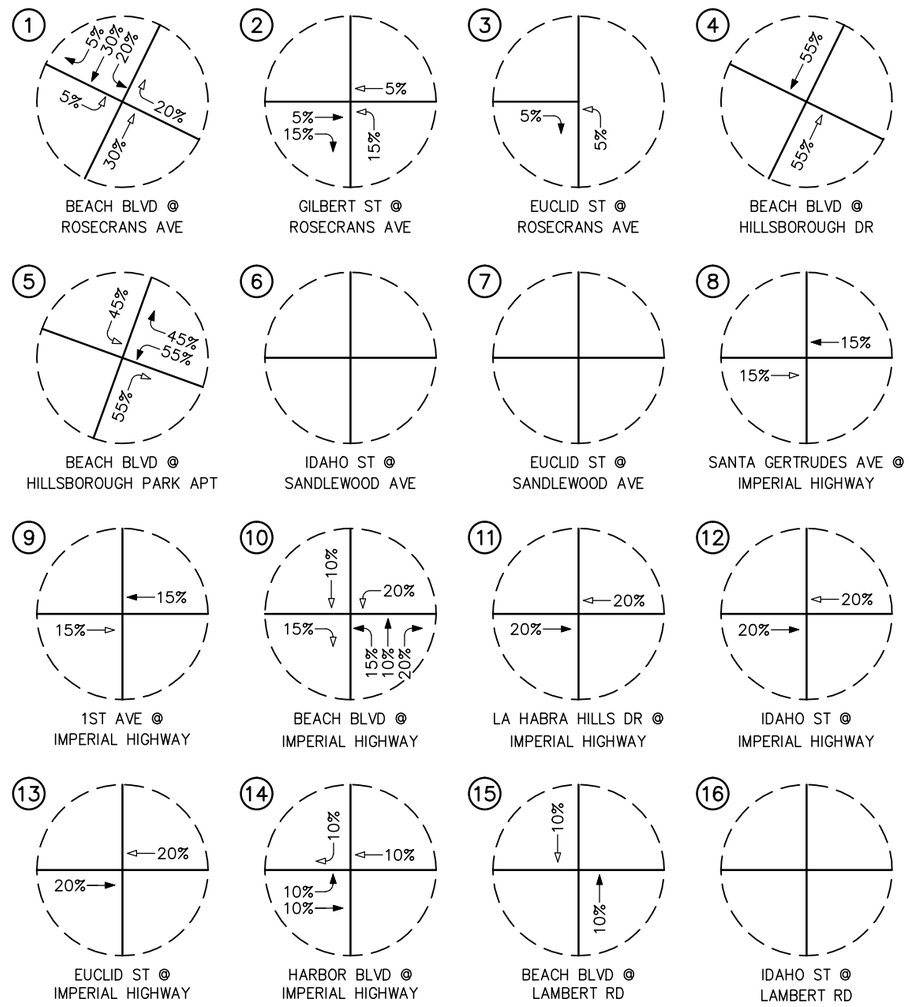
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#4 (82 DU)
= PROJECT SITE

FIGURE 18-4B

PA#4 PROJECT (RESIDENTIAL OPTION)
TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (82 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

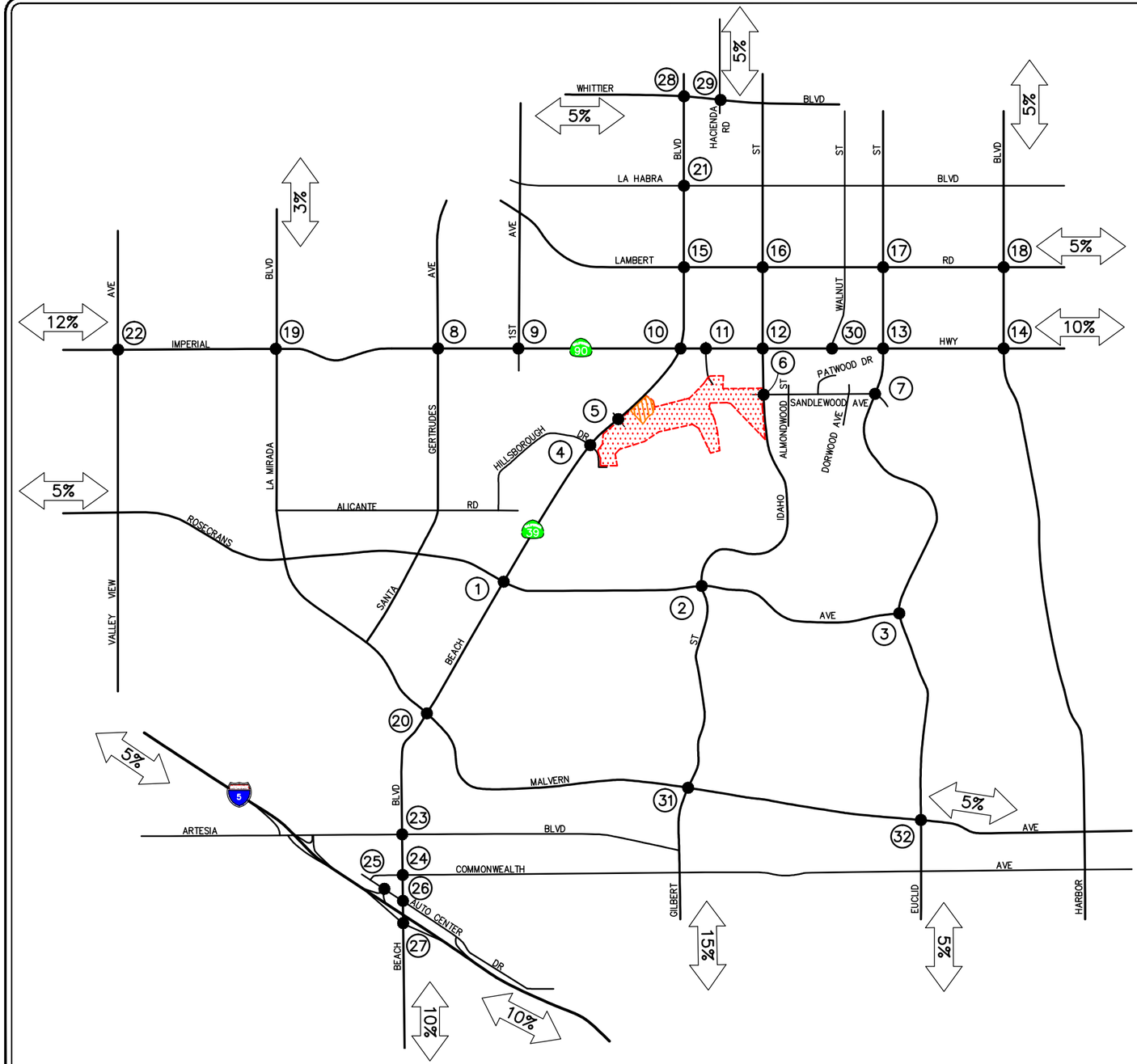
N NO SCALE

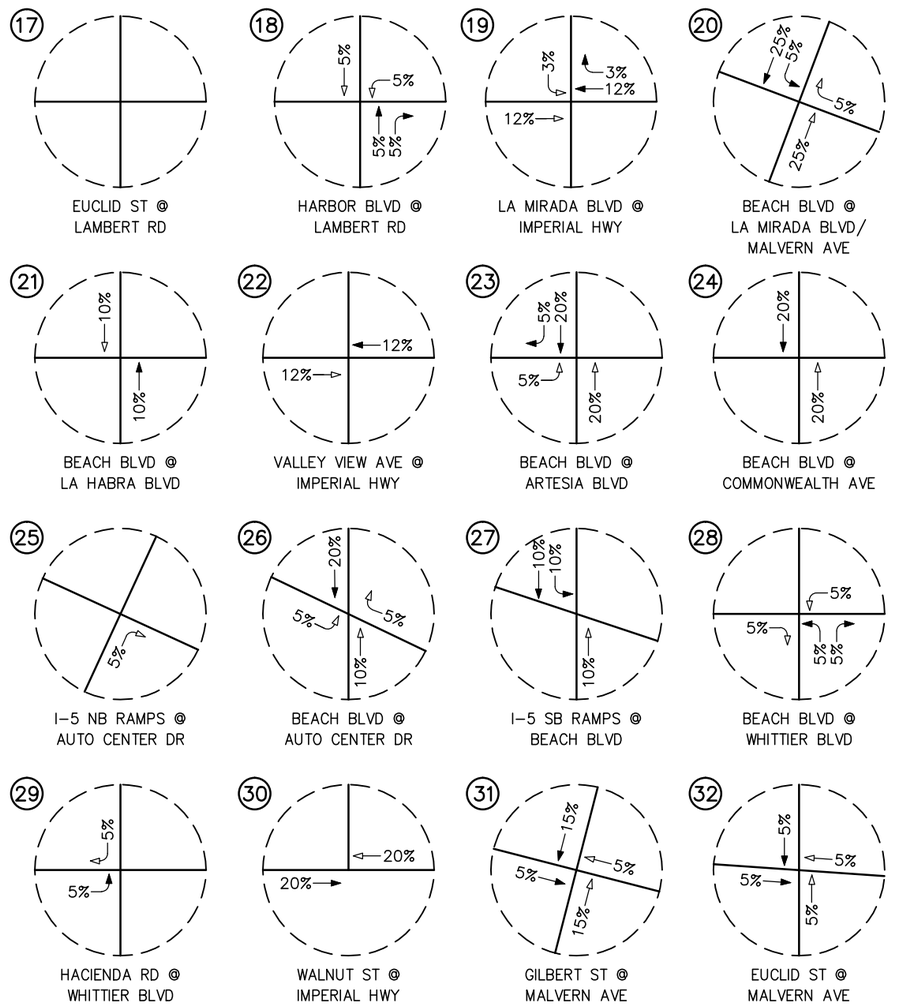
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#5 (49 DU)
= PROJECT SITE

FIGURE 18-5A

PA#5 PROJECT (RESIDENTIAL OPTION)
TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (49 DU)

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

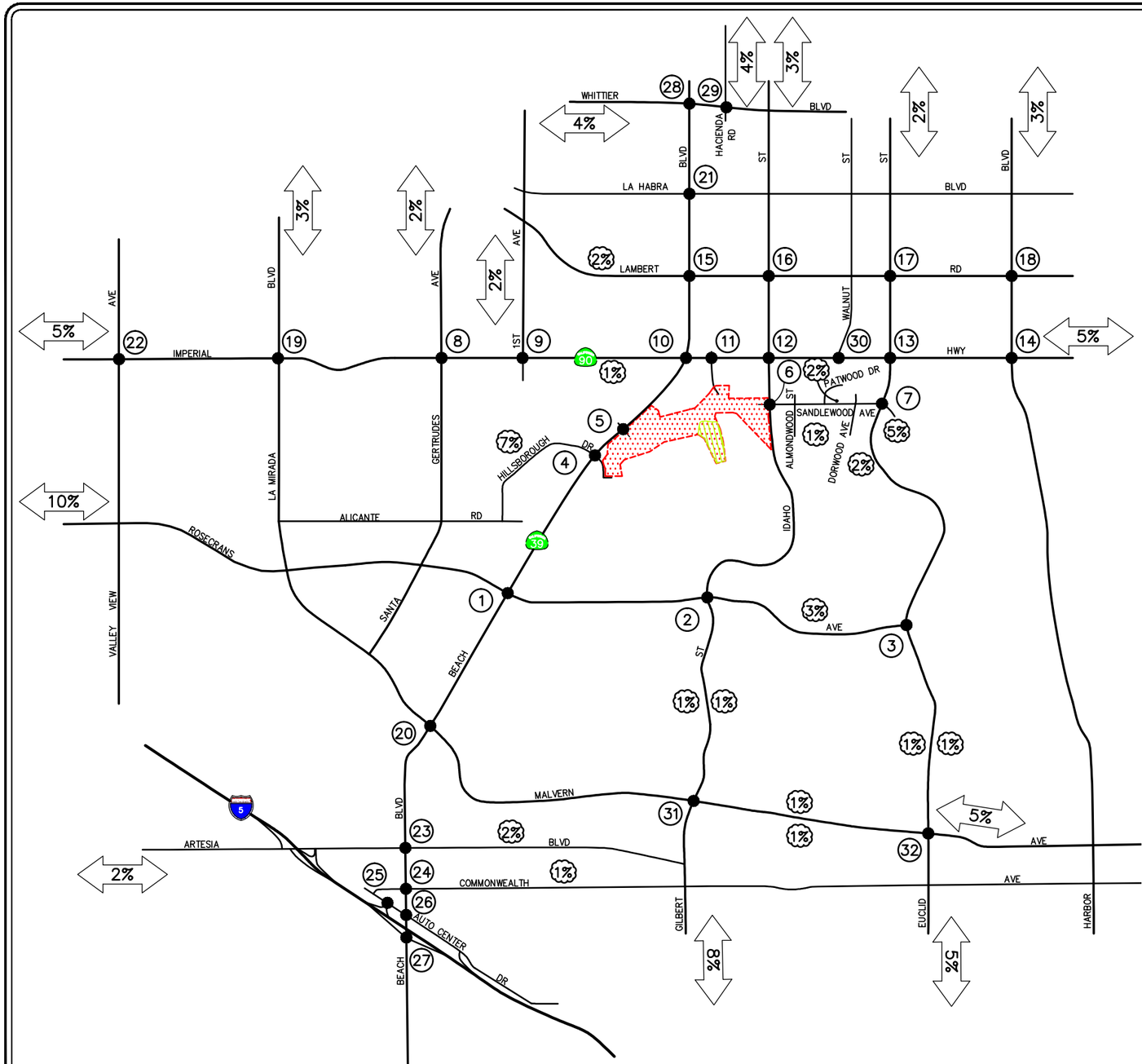
N NO SCALE

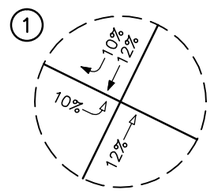
KEY
- = INBOUND PERCENTAGE
- = OUTBOUND PERCENTAGE
- = PA#5 (49 DU)
- = PROJECT SITE

FIGURE 18-5B

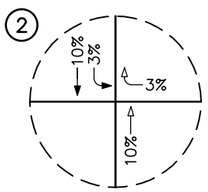
PA#5 PROJECT (RESIDENTIAL OPTION)
TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL (49 DU)

RANCHO LA HABRA, CITY OF LA HABRA

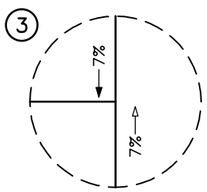




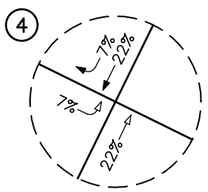
BEACH BLVD @
ROSECRANS AVE



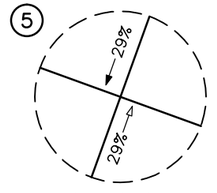
GILBERT ST @
ROSECRANS AVE



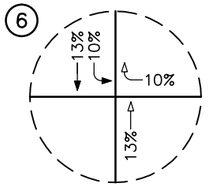
EUCLID ST @
ROSECRANS AVE



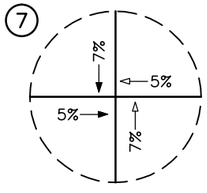
BEACH BLVD @
HILLSBOROUGH DR



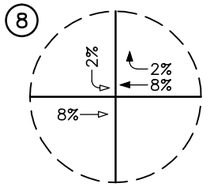
BEACH BLVD @
HILLSBOROUGH PARK APT



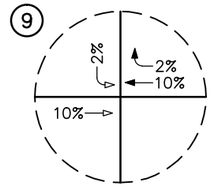
IDAHO ST @
SANDLEWOOD AVE



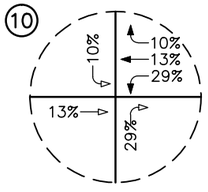
EUCLID ST @
SANDLEWOOD AVE



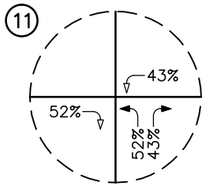
SANTA GERTRUDES AVE @
IMPERIAL HIGHWAY



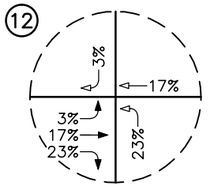
1ST AVE @
IMPERIAL HIGHWAY



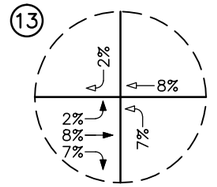
BEACH BLVD @
IMPERIAL HIGHWAY



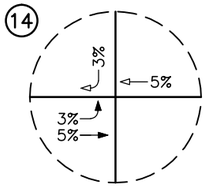
LA HABRA HILLS DR @
IMPERIAL HIGHWAY



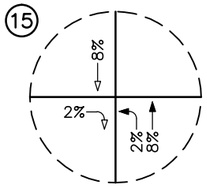
IDAHO ST @
IMPERIAL HIGHWAY



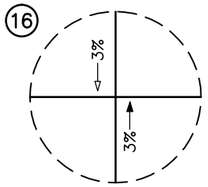
EUCLID ST @
IMPERIAL HIGHWAY



HARBOR BLVD @
IMPERIAL HIGHWAY



BEACH BLVD @
LAMBERT RD



IDAHO ST @
LAMBERT RD

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= INBOUND PERCENTAGE

= OUTBOUND PERCENTAGE

= PA#6

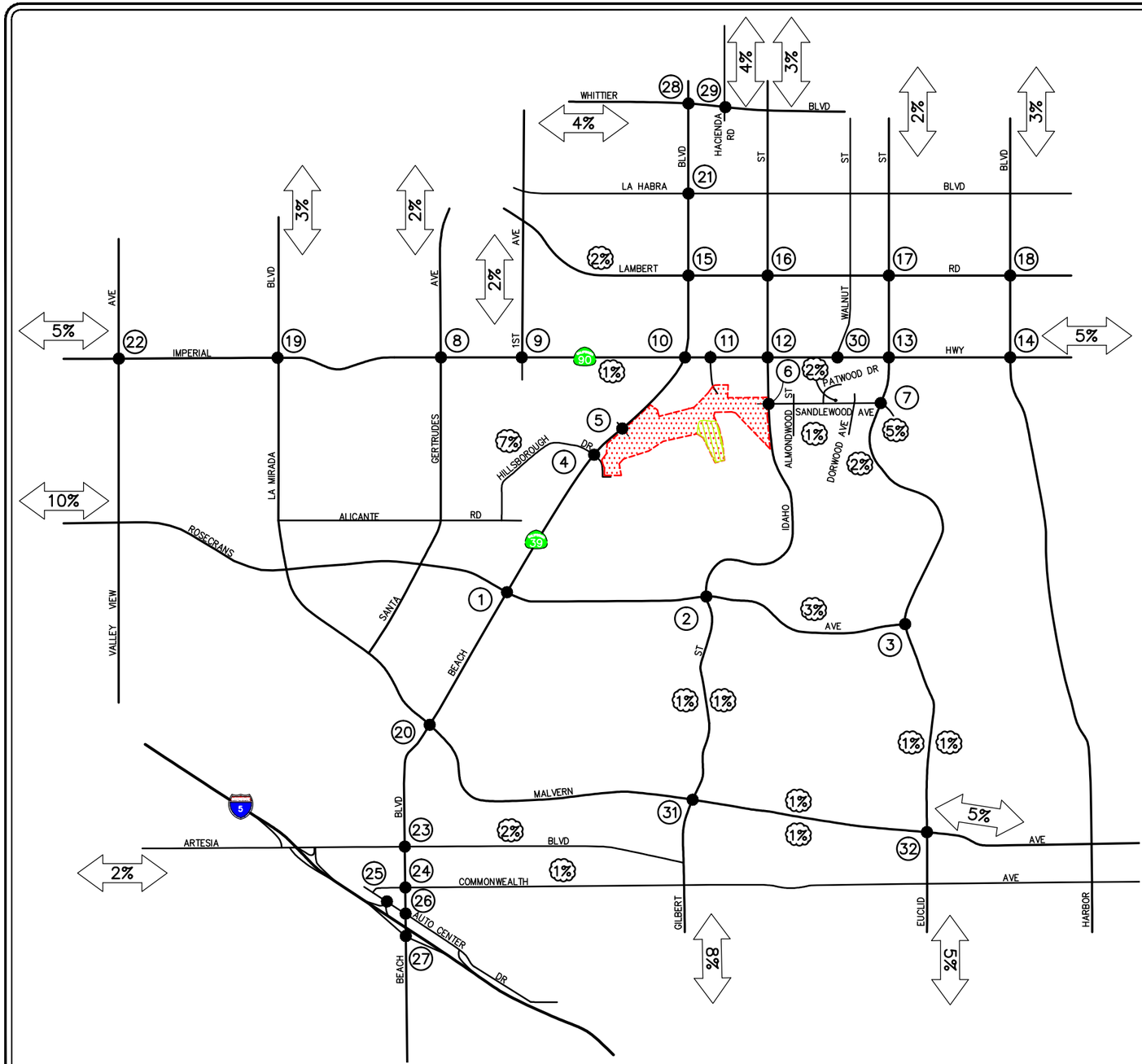
= PROJECT SITE

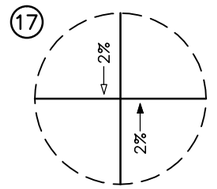
NOTE: 5% INTERNAL TO THE ENTIRE PROJECT SITE

FIGURE 18-6A

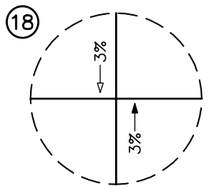
PA#6 PROJECT (RESIDENTIAL OPTION) TRAFFIC DISTRIBUTION PATTERN – RECREATION COMMUNITY CENTER AND PASSIVE PARK

RANCHO LA HABRA, CITY OF LA HABRA

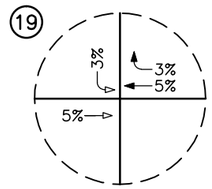




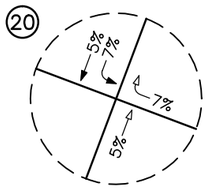
EUCLID ST @
LAMBERT RD



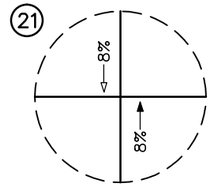
HARBOR BLVD @
LAMBERT RD



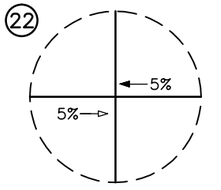
LA MIRADA BLVD @
IMPERIAL HWY



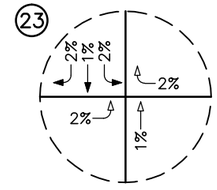
BEACH BLVD @
LA MIRADA BLVD/
MALVERN AVE



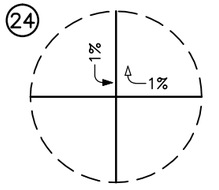
BEACH BLVD @
LA HABRA BLVD



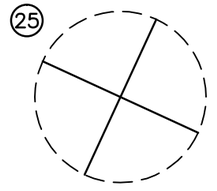
VALLEY VIEW AVE @
IMPERIAL HWY



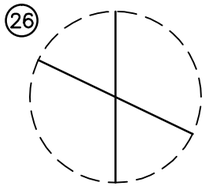
BEACH BLVD @
ARTESIA BLVD



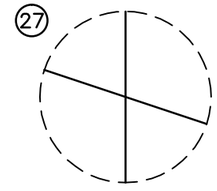
BEACH BLVD @
COMMONWEALTH AVE



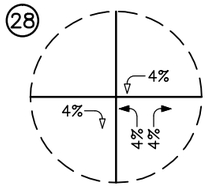
I-5 NB RAMPS @
AUTO CENTER DR



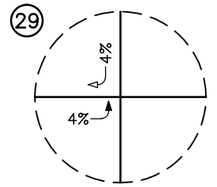
BEACH BLVD @
AUTO CENTER DR



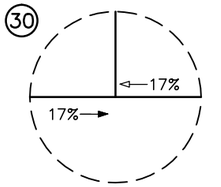
I-5 SB RAMPS @
BEACH BLVD



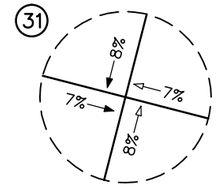
BEACH BLVD @
WHITTIER BLVD



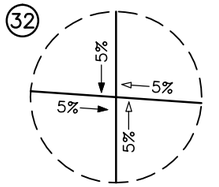
HACIENDA RD @
WHITTIER BLVD



WALNUT ST @
IMPERIAL HWY



GILBERT ST @
MALVERN AVE



EUCLID ST @
MALVERN AVE

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

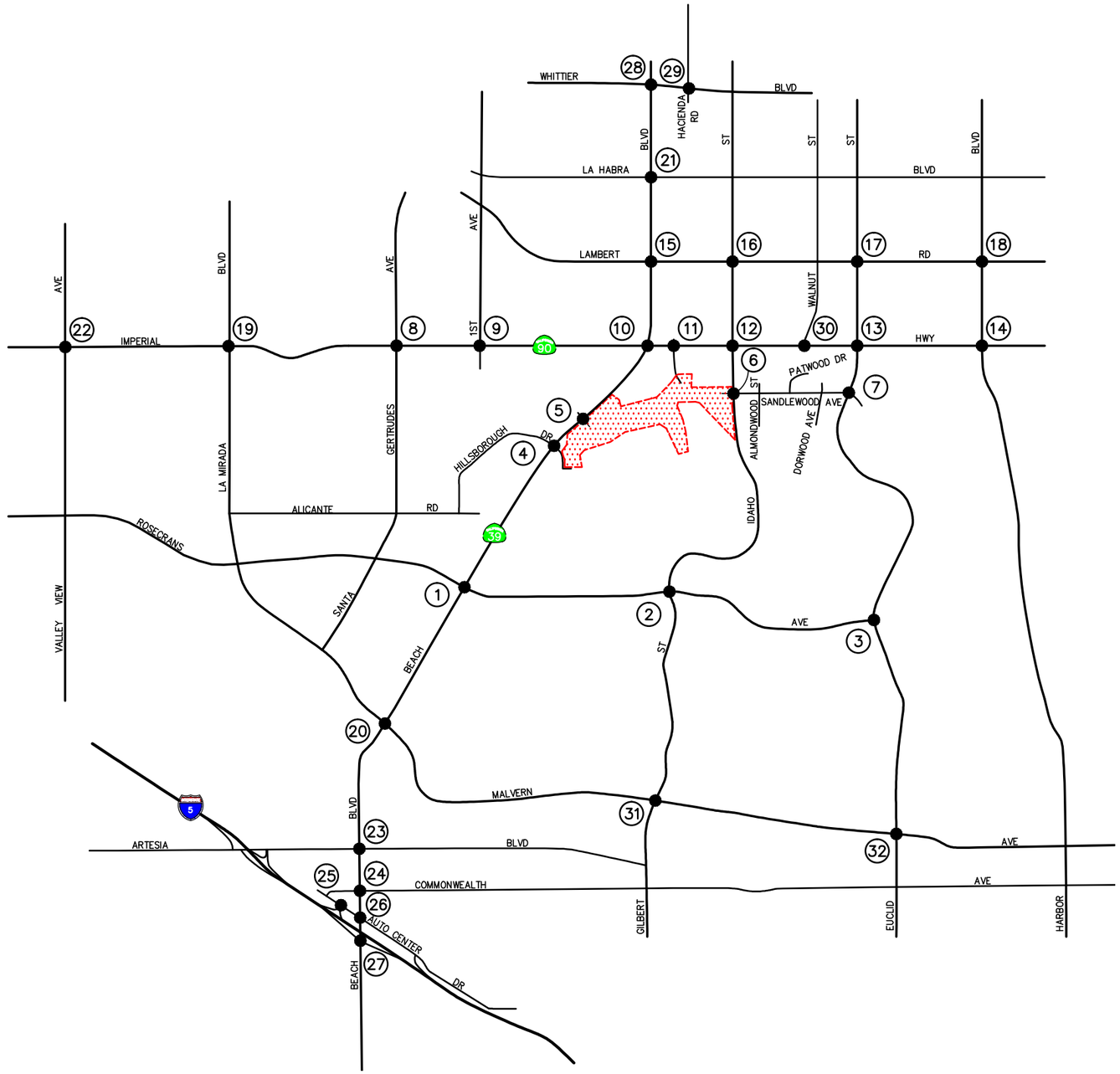
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#6
= PROJECT SITE

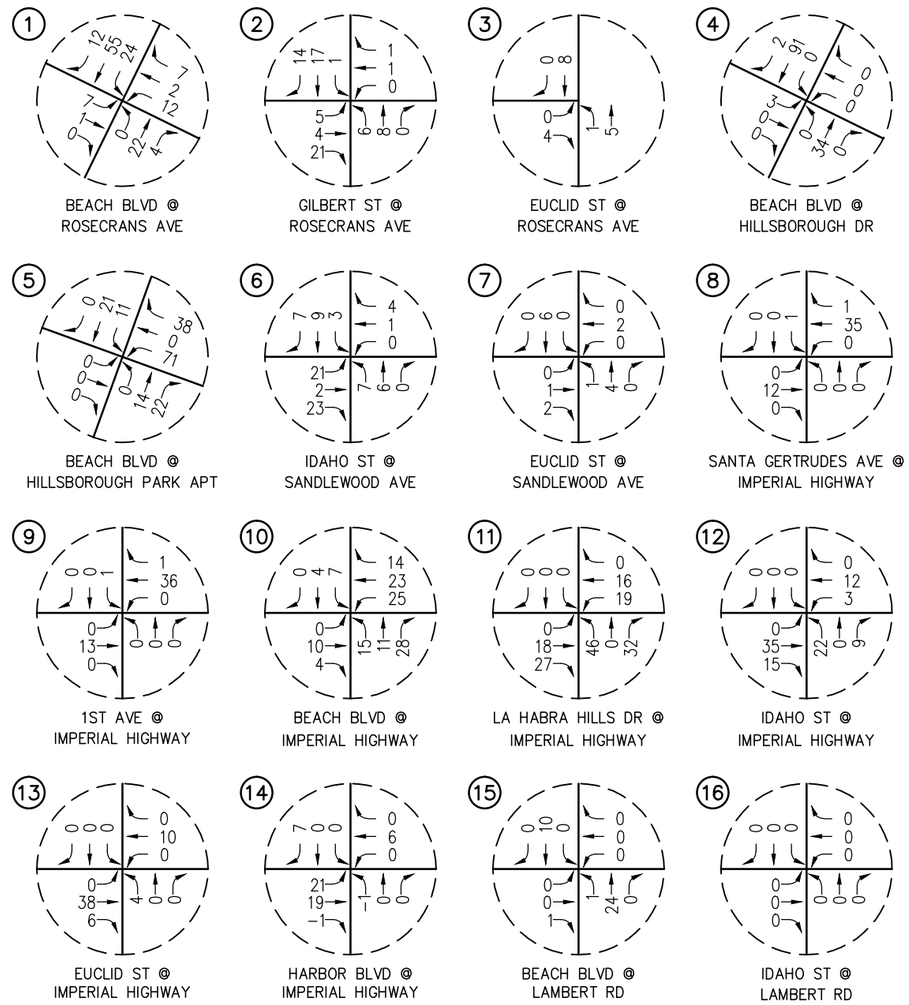
NOTE: 5% INTERNAL TO THE ENTIRE PROJECT SITE

FIGURE 18-6B

PA#6 PROJECT (RESIDENTIAL OPTION) TRAFFIC DISTRIBUTION PATTERN – RECREATION COMMUNITY CENTER AND PASSIVE PARK

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

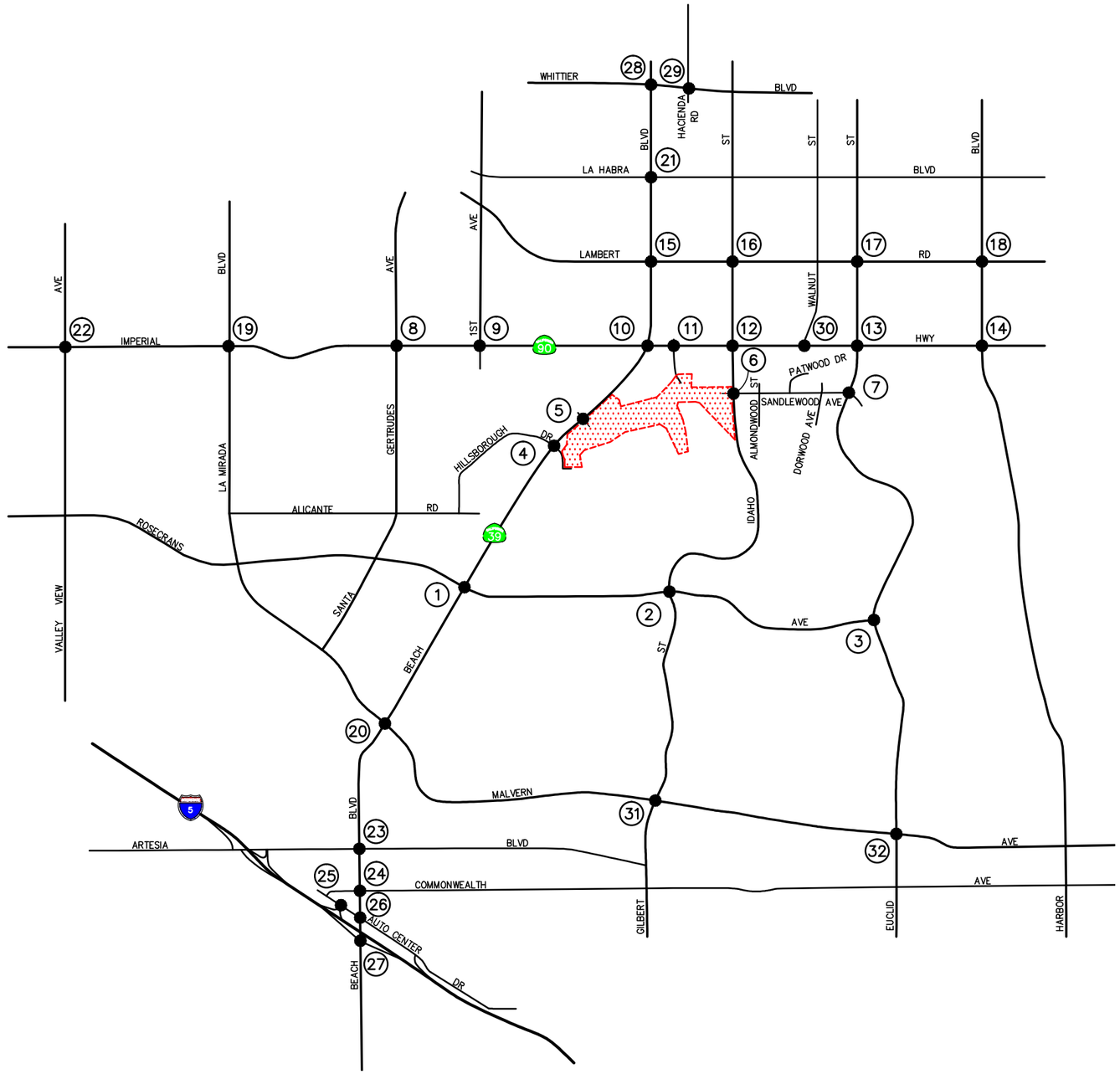
N NO SCALE

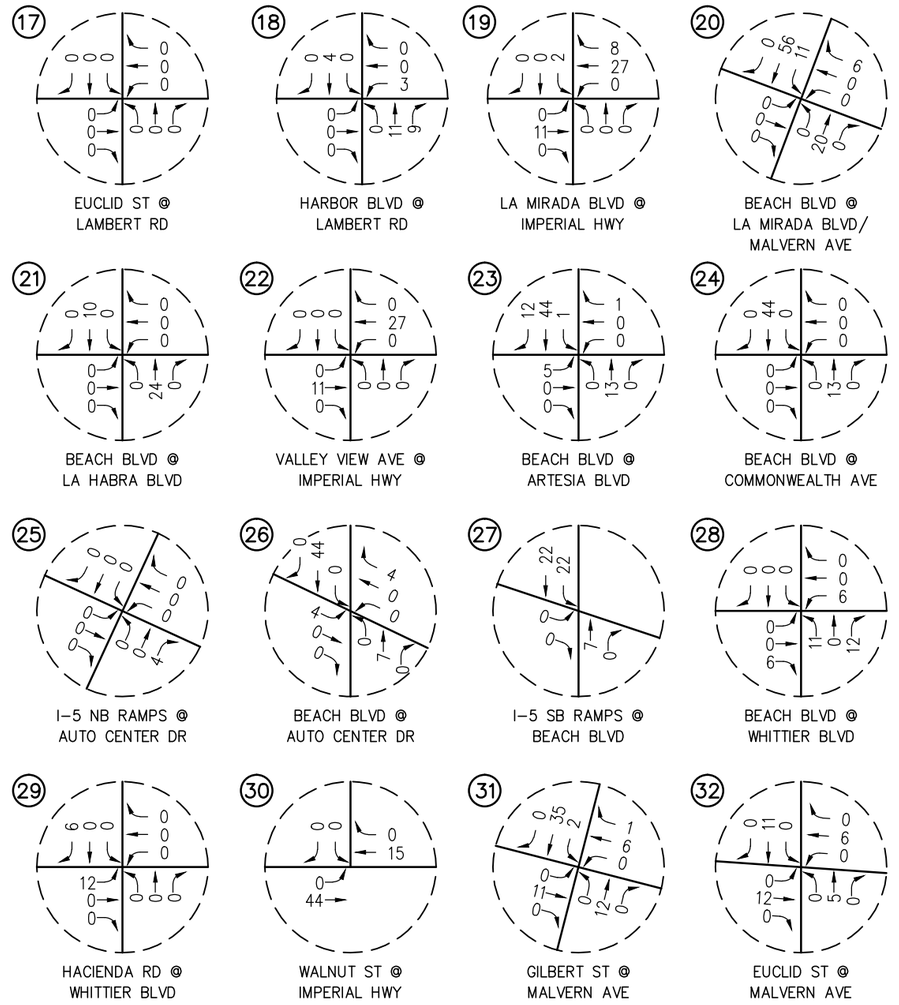
KEY
= PROJECT SITE

FIGURE 18-7A

AM PEAK HOUR PROJECT TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

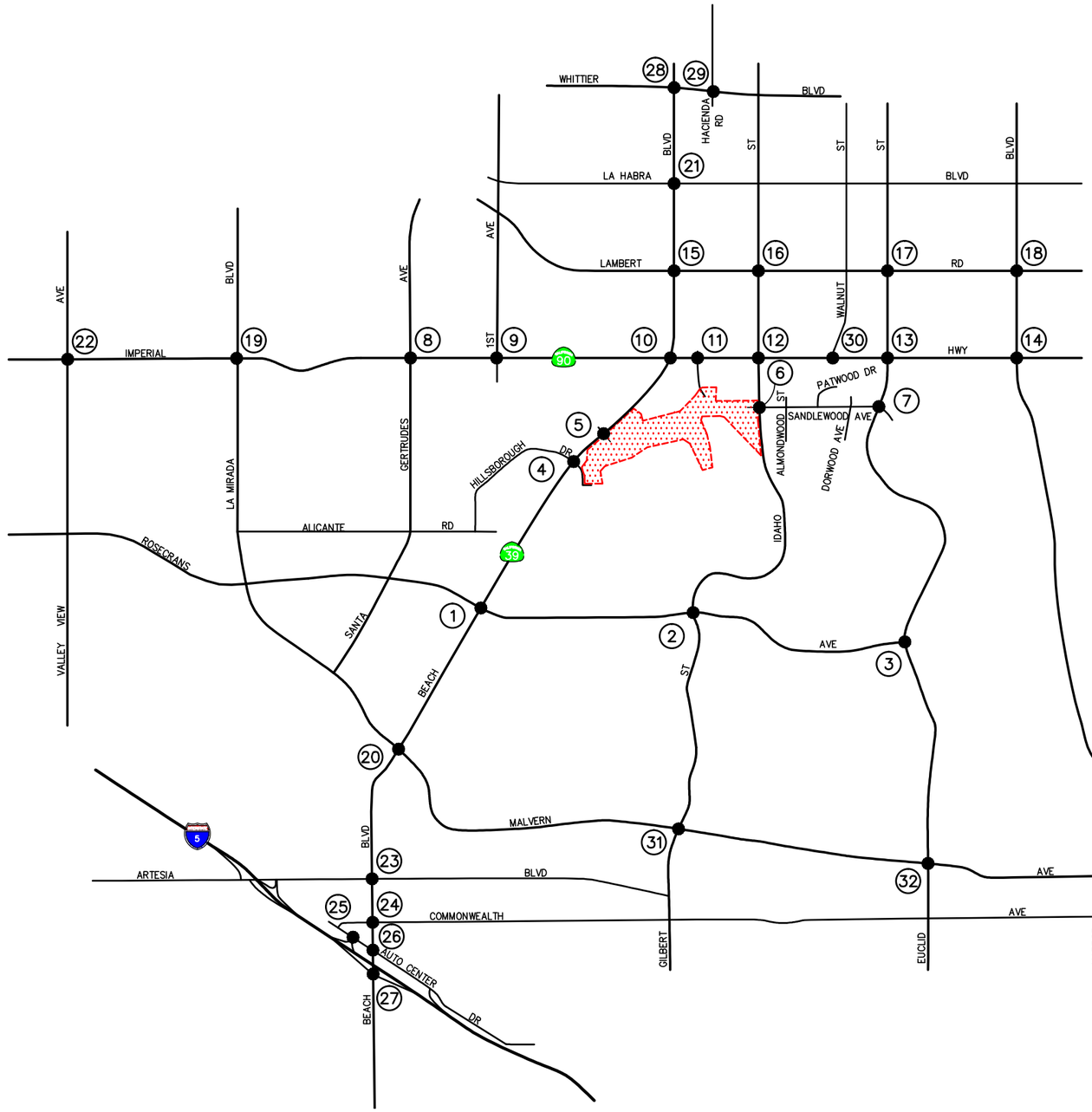
N NO SCALE

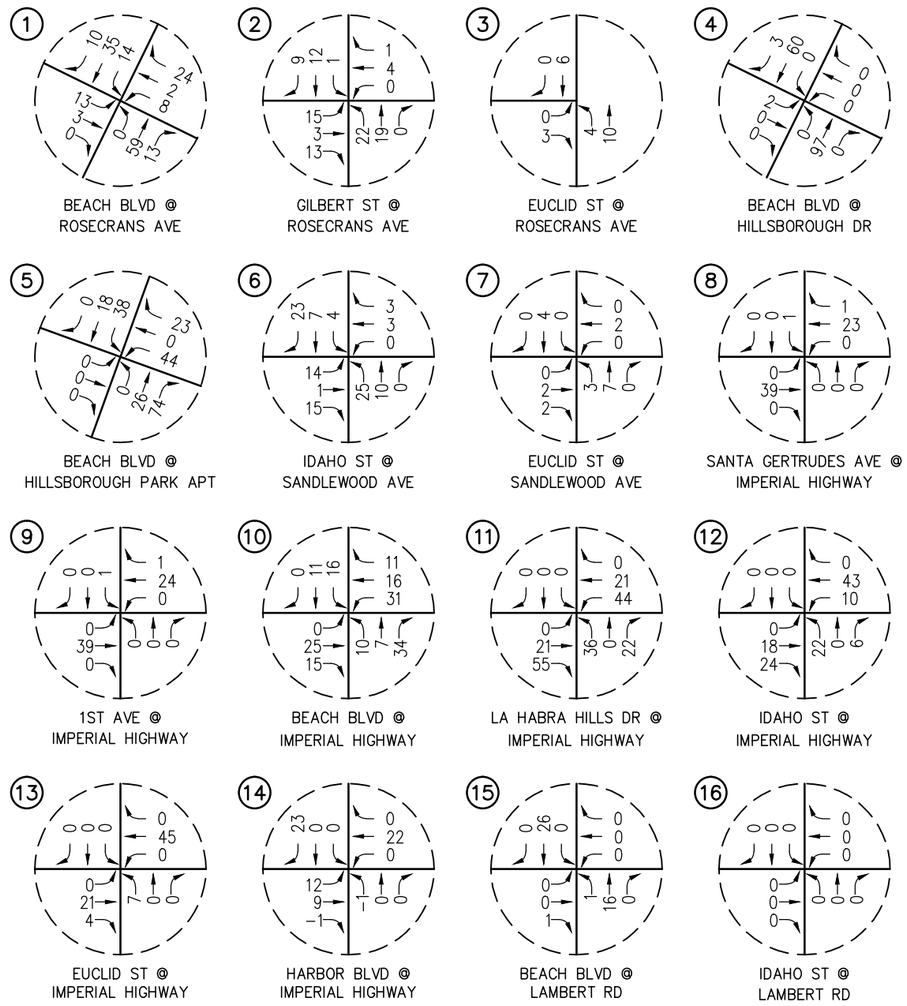
KEY
= PROJECT SITE

FIGURE 18-7B

AM PEAK HOUR PROJECT TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

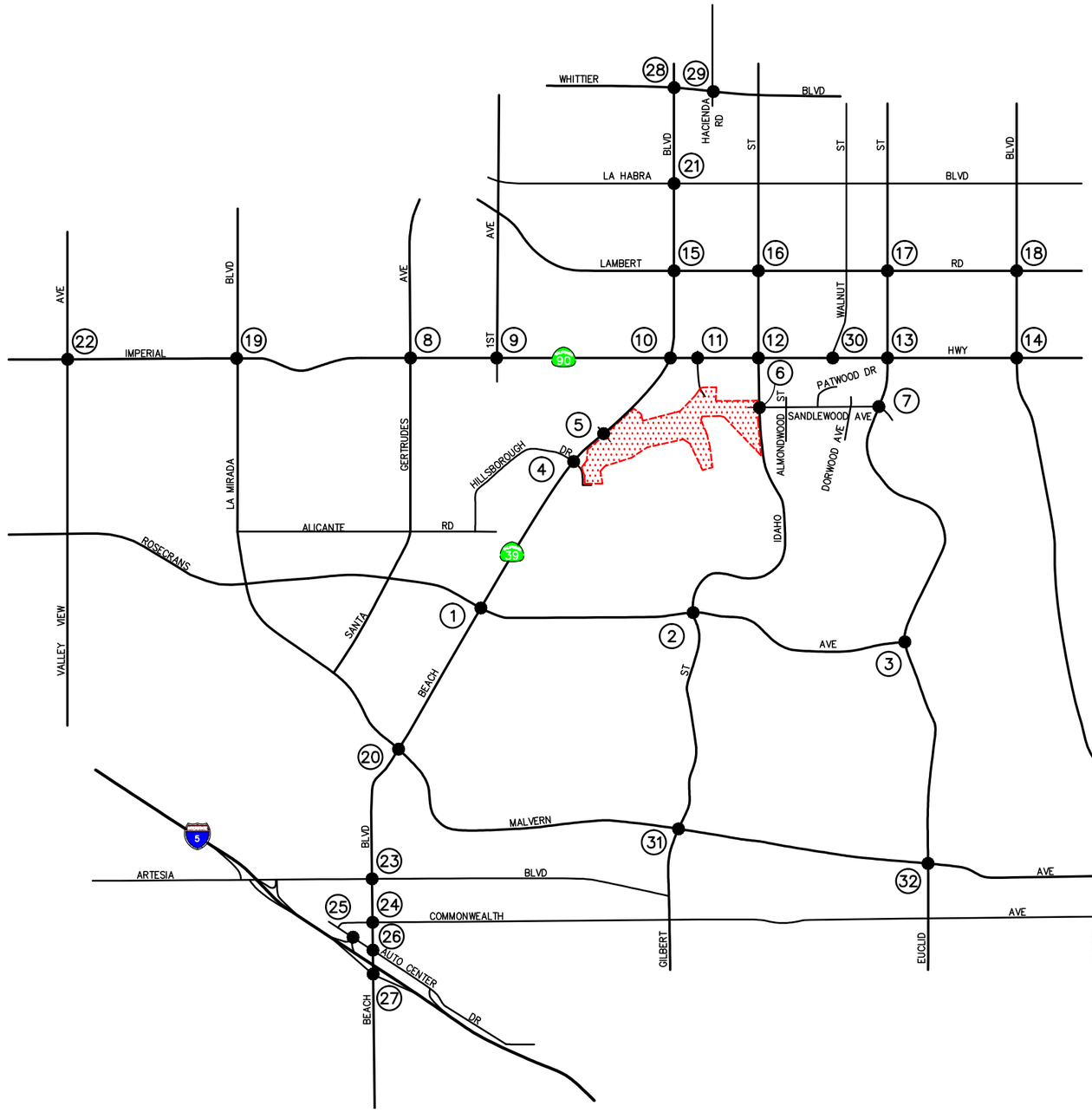
N NO SCALE

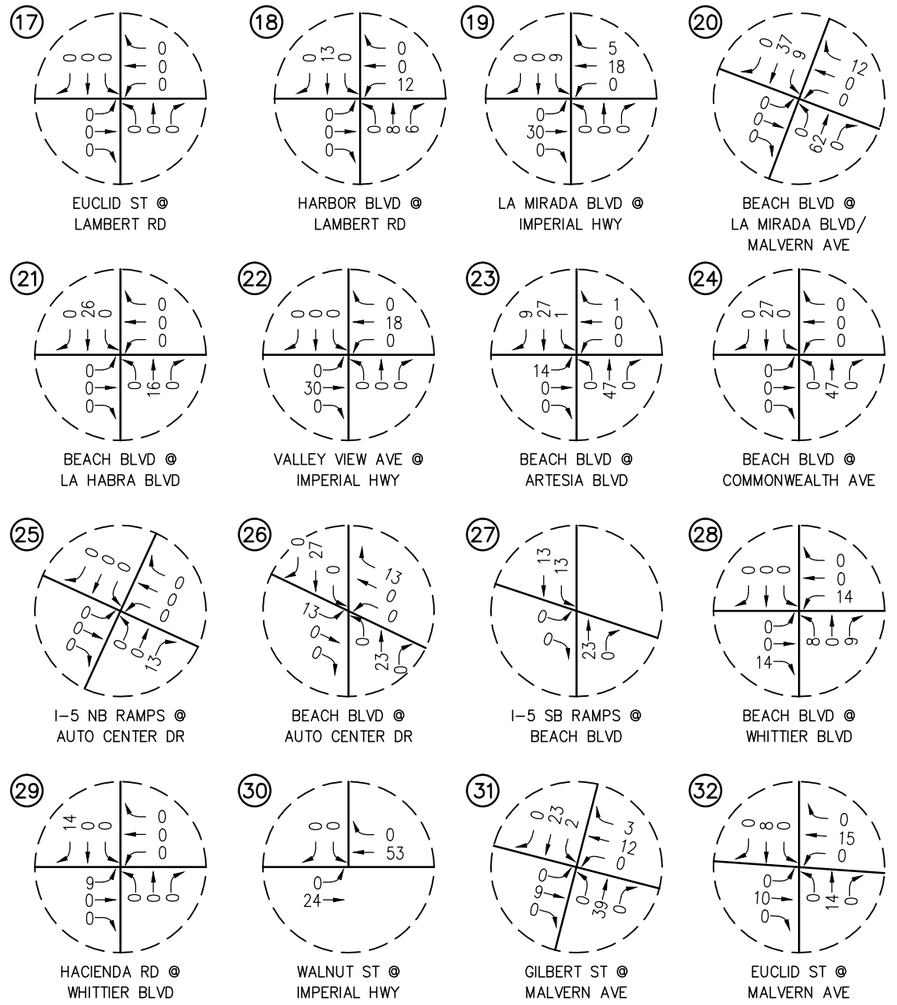
KEY
= PROJECT SITE

FIGURE 18-8A

PM PEAK HOUR PROJECT TRAFFIC VOLUMES – RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

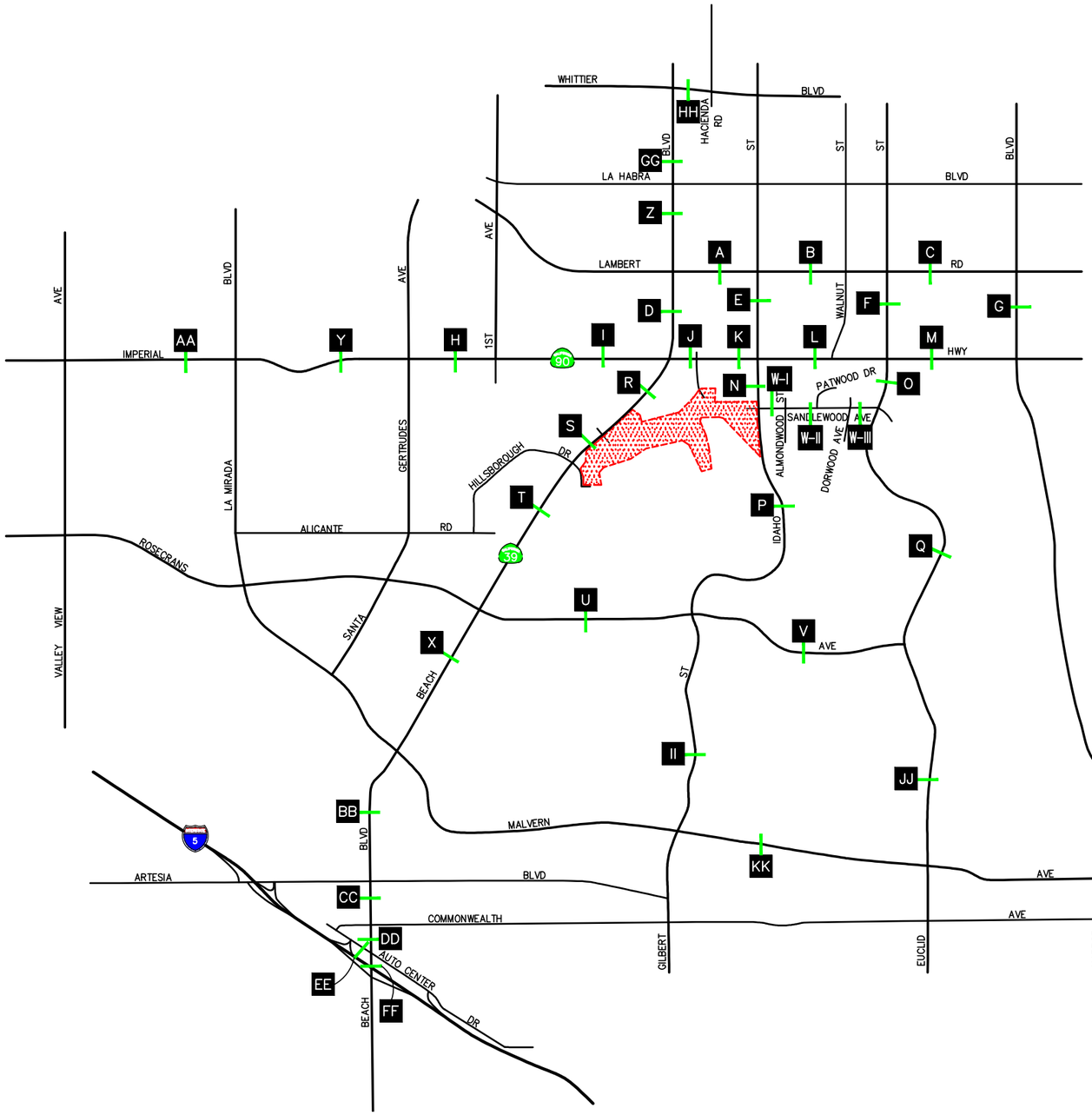
N NO SCALE

KEY
= PROJECT SITE

FIGURE 18-8B

PM PEAK HOUR PROJECT TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	0	U	683
B	0	V	97
C	0	W-I	125
D	462	W-II	125
E	-1	W-III	125
F	-10	X	1,220
G	347	Y	636
H	653	Z	445
I	673	AA	500
J	1,391	BB	998
K	1,007	CC	772
L	707	DD	763
M	602	EE	98
N	611	FF	578
O	114	GG	445
P	564	HH	225
Q	153	II	686
R	1,187	JJ	224
S	1,775	KK	262
T	1,715		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

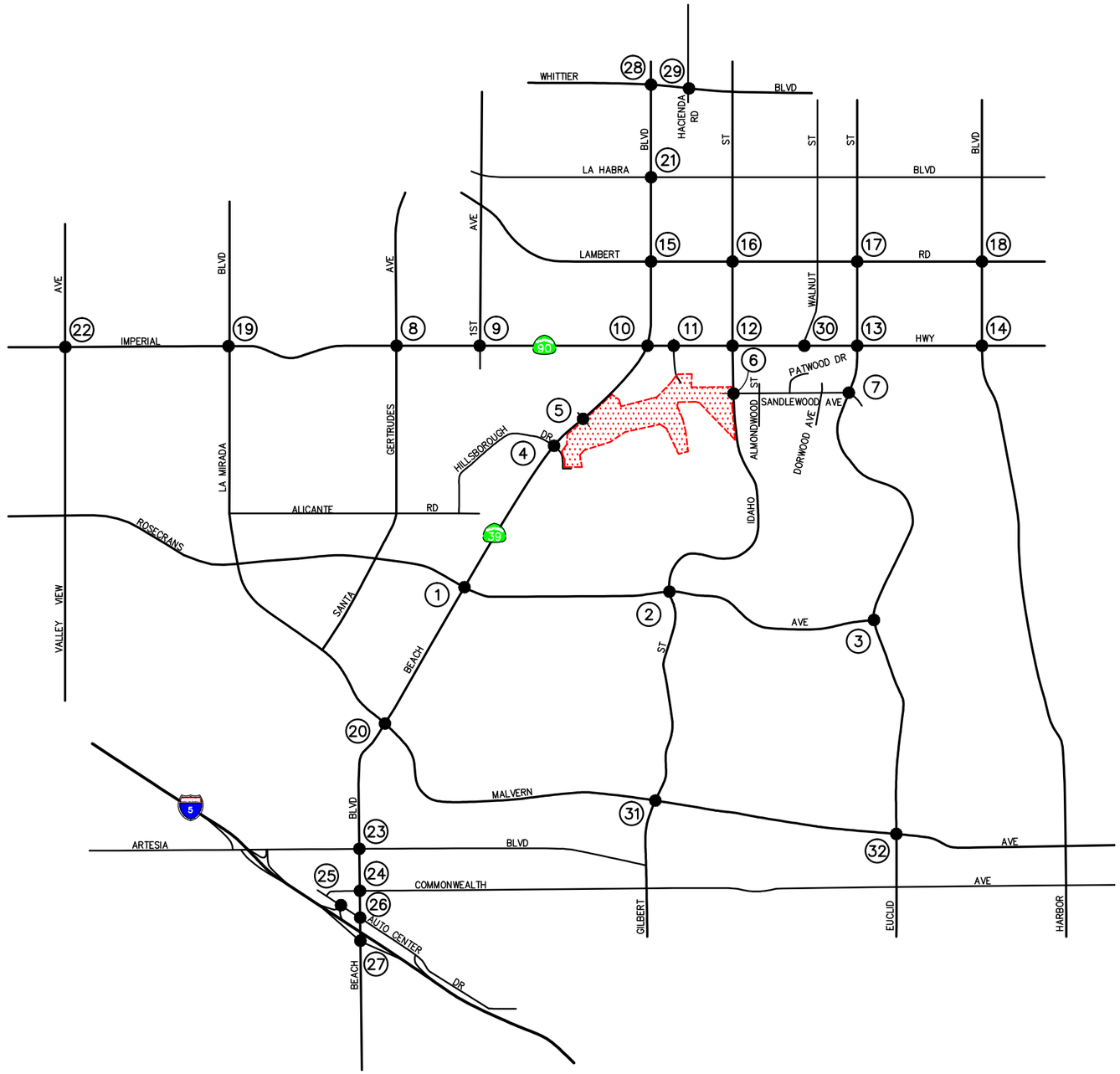
A = STUDY ROADWAY SEGMENT

= PROJECT SITE

FIGURE 18-9

DAILY PROJECT TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA



1 BEACH BLVD @ ROSECRANS AVE
318 2146 212 | 103 619 194 | 161 631 191 | 198 1323 187

2 GILBERT ST @ ROSECRANS AVE
184 651 97 | 48 458 96 | 68 761 254 | 282 339 89

3 EUCLID ST @ ROSECRANS AVE
178 951 | 229 856 | 362 429

4 BEACH BLVD @ HILLSBOROUGH DR
125 2219 24 | 28 29 59 | 206 15 190 | 99 1384 18

5 BEACH BLVD @ HILLSBOROUGH PARK APT
15 2300 11 | 38 0 71 | 52 0 32 | 9 1723 22

6 IDAHO ST @ SANDLEWOOD AVE
7 846 217 | 250 1 65 | 21 2 23 | 7 533 32

7 EUCLID ST @ SANDLEWOOD AVE
61 1086 8 | 28 5 3 | 51 4 59 | 21 488 4

8 SANTA GERTRUDES AVE @ IMPERIAL HIGHWAY
135 659 123 | 80 1563 195 | 98 893 156 | 173 373 158

9 1ST AVE @ IMPERIAL HIGHWAY
207 22 212 | 176 1580 11 | 143 957 4 | 41 20 22

10 BEACH BLVD @ IMPERIAL HIGHWAY
279 1610 329 | 274 1228 479 | 104 975 188 | 227 1001 537

11 LA HABRA HILLS DR @ IMPERIAL HIGHWAY
51 6 44 | 30 1901 104 | 57 1750 46 | 68 14 63

12 IDAHO ST @ IMPERIAL HIGHWAY
194 674 248 | 97 1716 124 | 96 1545 247 | 234 476 132

13 EUCLID ST @ IMPERIAL HIGHWAY
54 871 183 | 59 1656 239 | 57 1473 299 | 222 404 206

14 HARBOR BLVD @ IMPERIAL HIGHWAY
202 1198 248 | 84 1291 261 | 145 1270 304 | 311 509 292

15 BEACH BLVD @ LAMBERT RD
242 1553 212 | 153 1016 424 | 258 982 192 | 270 876 254

16 IDAHO ST @ LAMBERT RD
204 597 105 | 47 1107 220 | 82 1178 183 | 210 379 192

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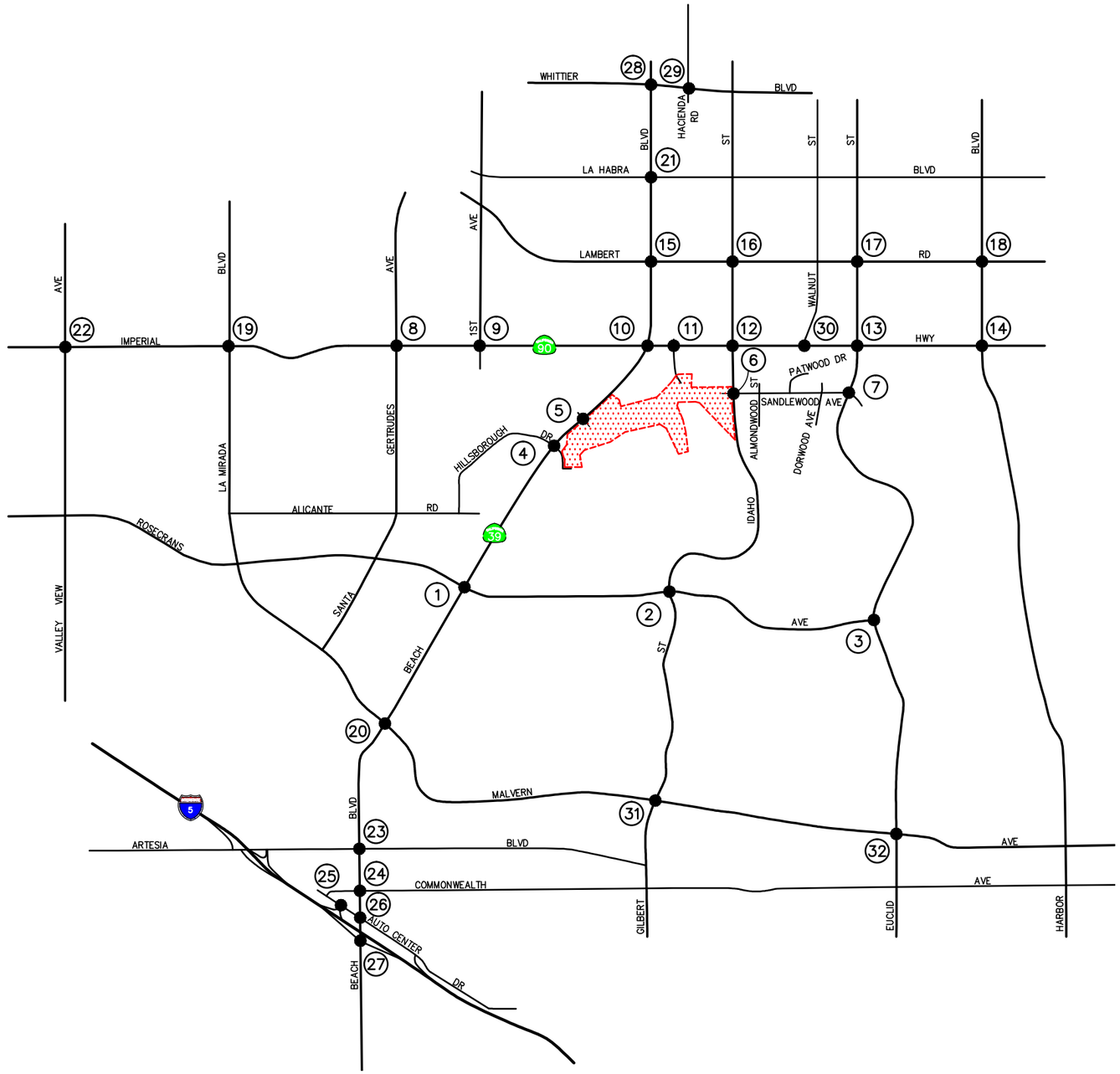
LINSCOTT LAW & GREENSPAN engineers

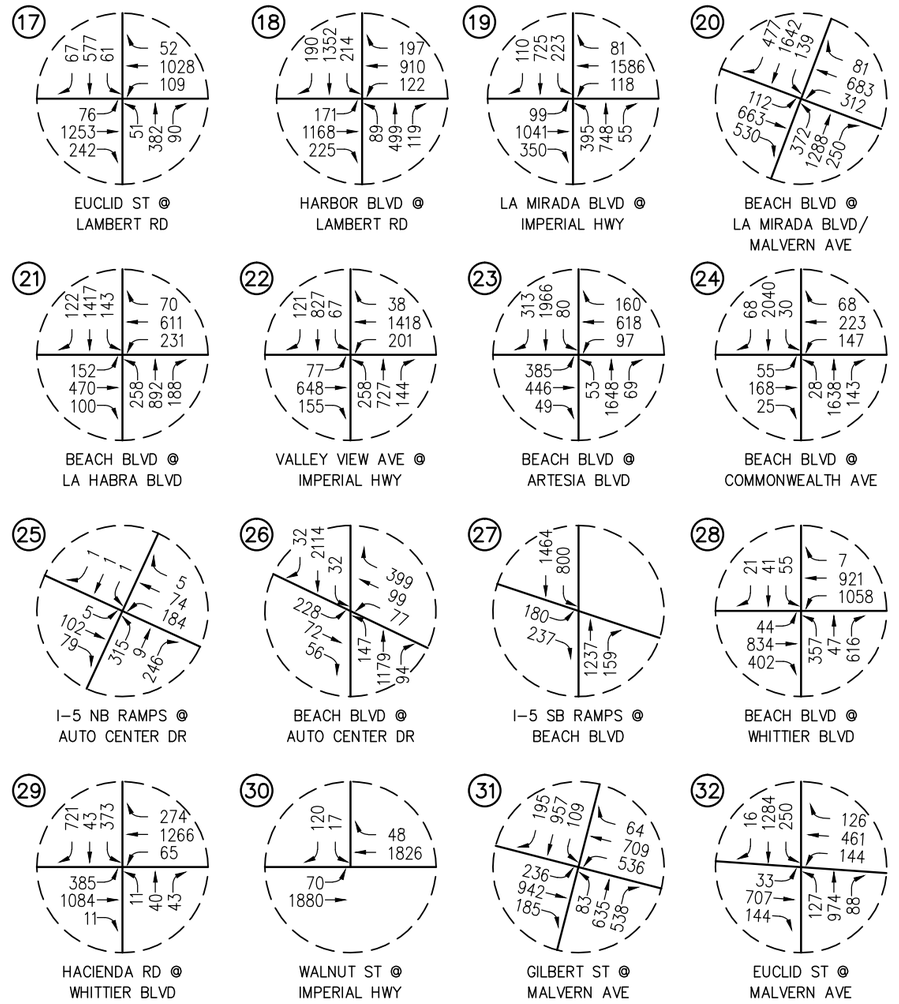
N NO SCALE

KEY
= PROJECT SITE

FIGURE 18-10A

EXISTING PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION
RANCHO LA HABRA, CITY OF LA HABRA





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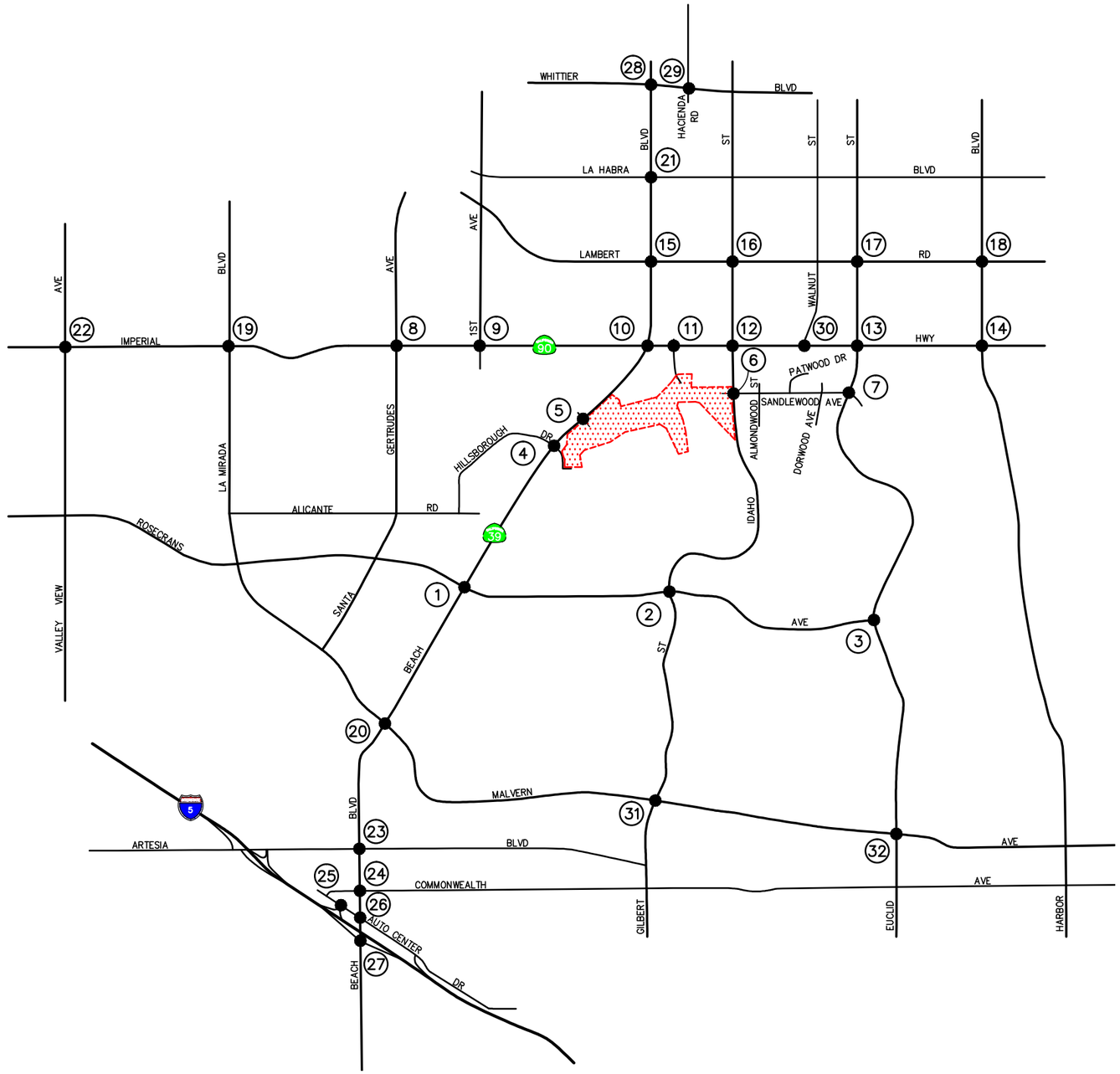
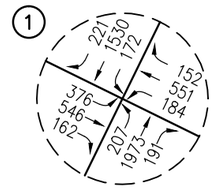
N NO SCALE

KEY
= PROJECT SITE

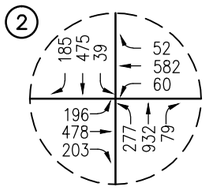
FIGURE 18-10B

EXISTING PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION
RANCHO LA HABRA, CITY OF LA HABRA

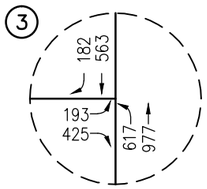




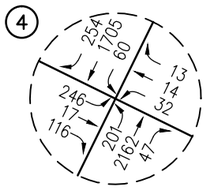
BEACH BLVD @
ROSECRANS AVE



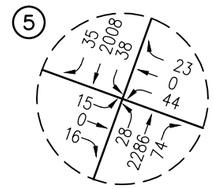
GILBERT ST @
ROSECRANS AVE



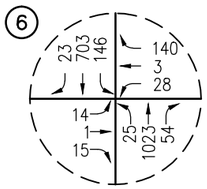
EUCLID ST @
ROSECRANS AVE



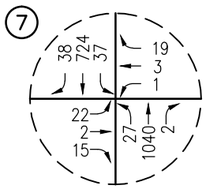
BEACH BLVD @
HILLSBOROUGH DR



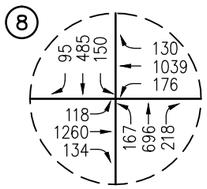
BEACH BLVD @
HILLSBOROUGH PARK APT



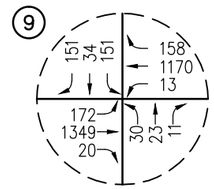
IDAHO ST @
SANDLEWOOD AVE



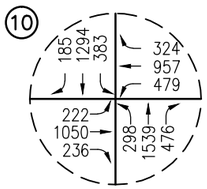
EUCLID ST @
SANDLEWOOD AVE



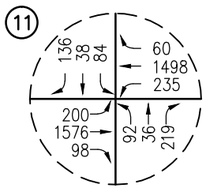
SANTA GERTRUDES AVE @
IMPERIAL HIGHWAY



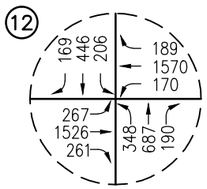
1ST AVE @
IMPERIAL HIGHWAY



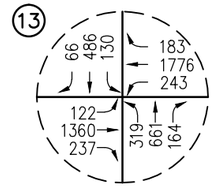
BEACH BLVD @
IMPERIAL HIGHWAY



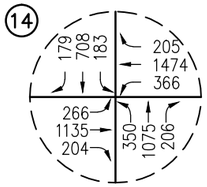
LA HABRA HILLS DR @
IMPERIAL HIGHWAY



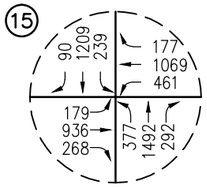
IDAHO ST @
IMPERIAL HIGHWAY



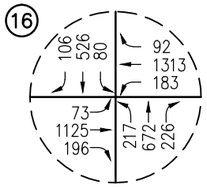
EUCLID ST @
IMPERIAL HIGHWAY



HARBOR BLVD @
IMPERIAL HIGHWAY



BEACH BLVD @
LAMBERT RD



IDAHO ST @
LAMBERT RD

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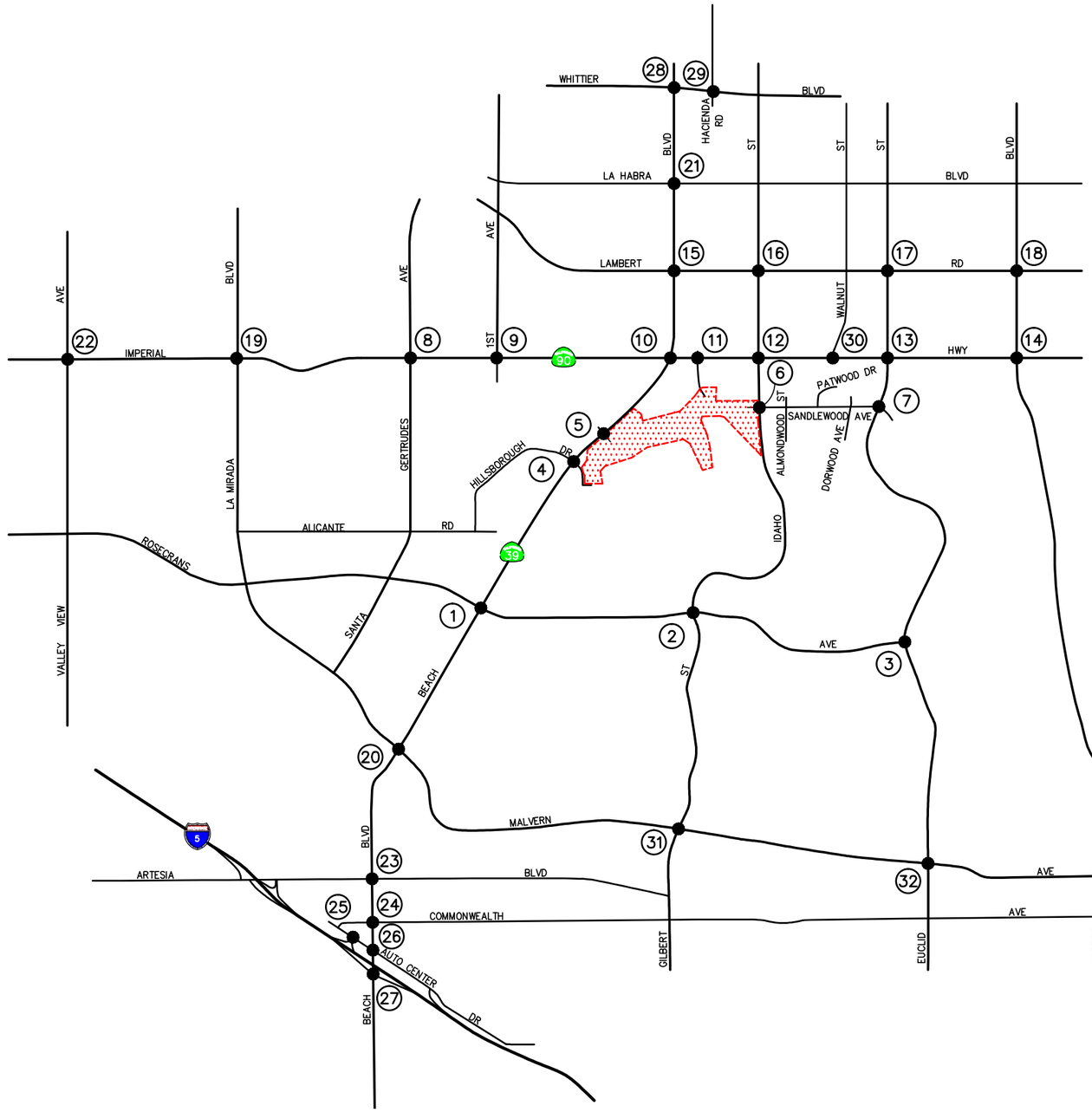
LINSCOTT LAW & GREENSPAN engineers

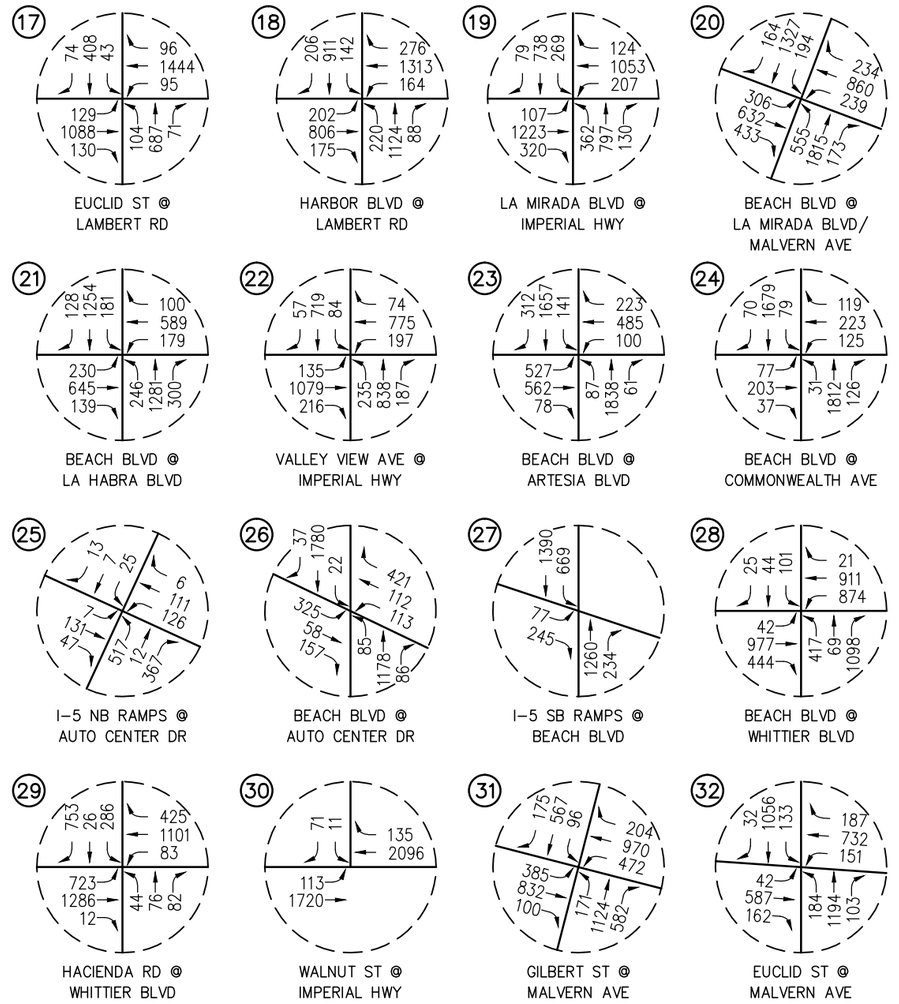
N NO SCALE

KEY
= PROJECT SITE

FIGURE 18-11A

EXISTING PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION
RANCHO LA HABRA, CITY OF LA HABRA





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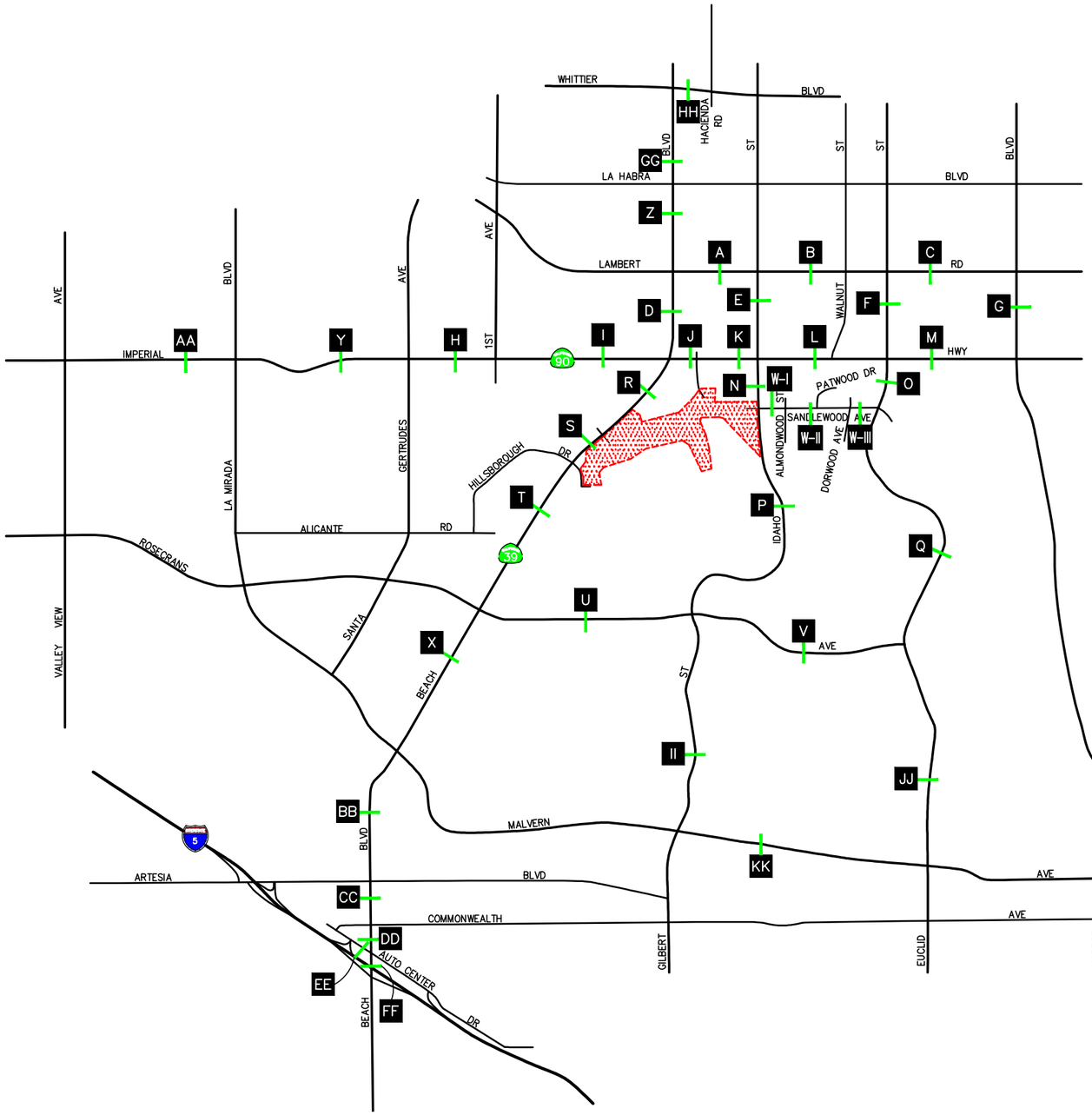
LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY
= PROJECT SITE

FIGURE 18-11B

EXISTING PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION
RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	35,387	U	21,498
B	37,387	V	15,234
C	36,014	W-I	3,725
D	51,908	W-II	2,056
E	23,701	W-III	1,421
F	17,888	X	45,267
G	35,430	Y	32,178
H	36,892	Z	43,338
I	36,983	AA	31,052
J	51,258	BB	72,764
K	51,694	CC	57,609
L	51,551	DD	59,546
M	52,886	EE	12,690
N	20,828	FF	62,482
O	21,710	GG	35,565
P	16,004	HH	47,284
Q	22,497	II	24,213
R	56,524	JJ	31,666
S	59,885	KK	24,244
T	55,351		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

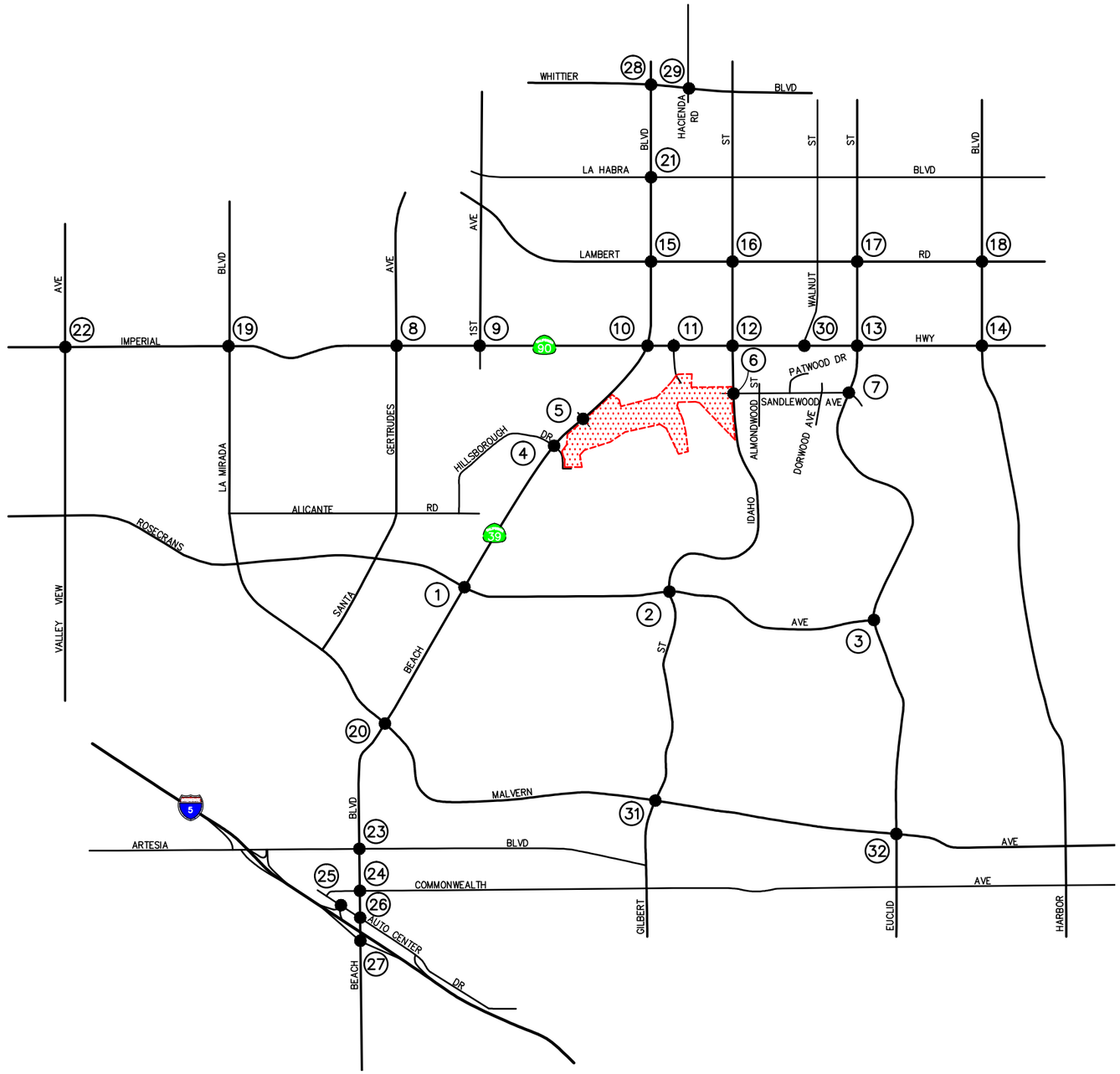
A = STUDY ROADWAY SEGMENT

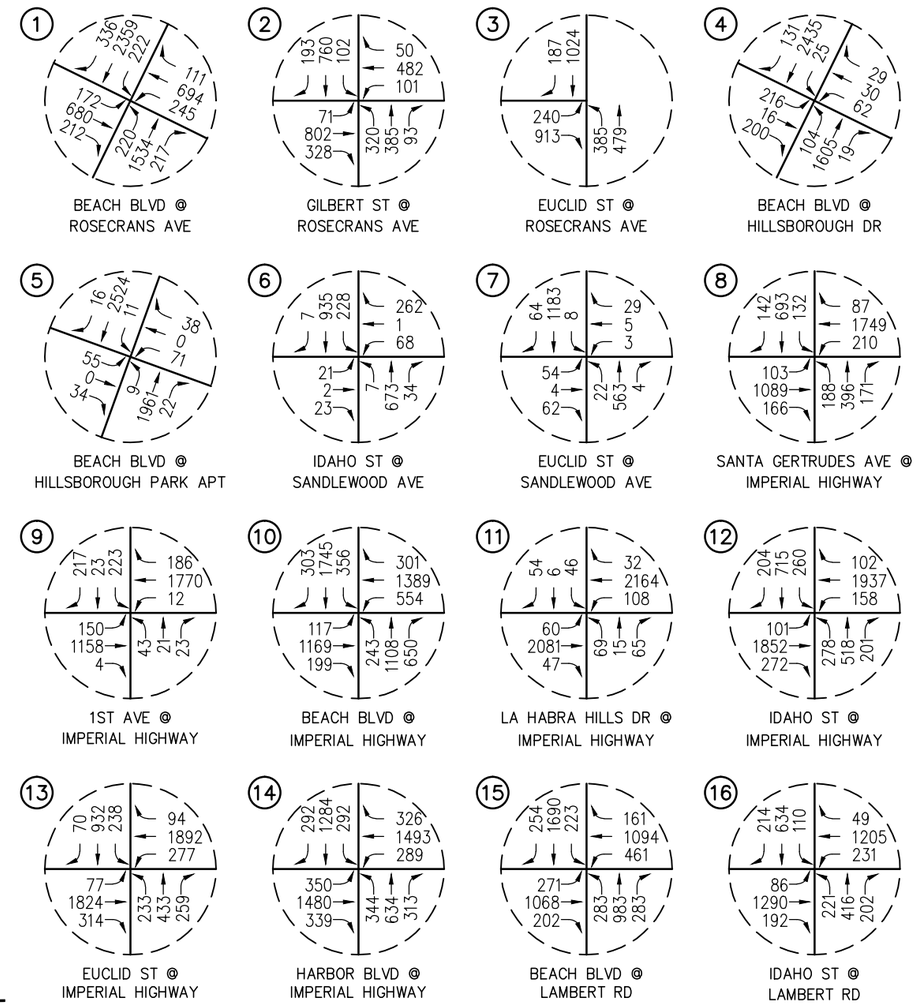
= PROJECT SITE

FIGURE 18-12

EXISTING PLUS PROJECT DAILY TRAFFIC VOLUMES – RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

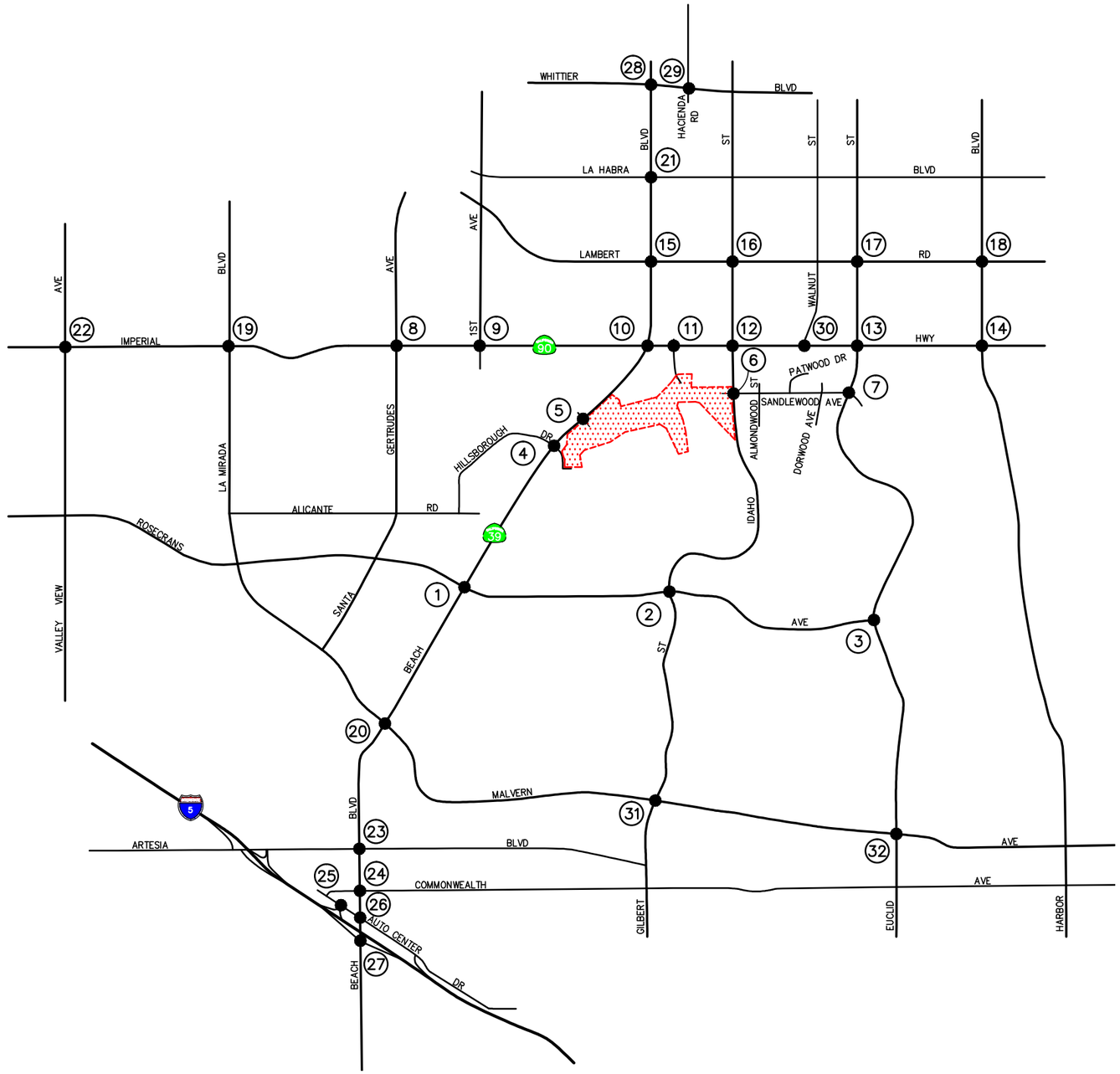
N NO SCALE

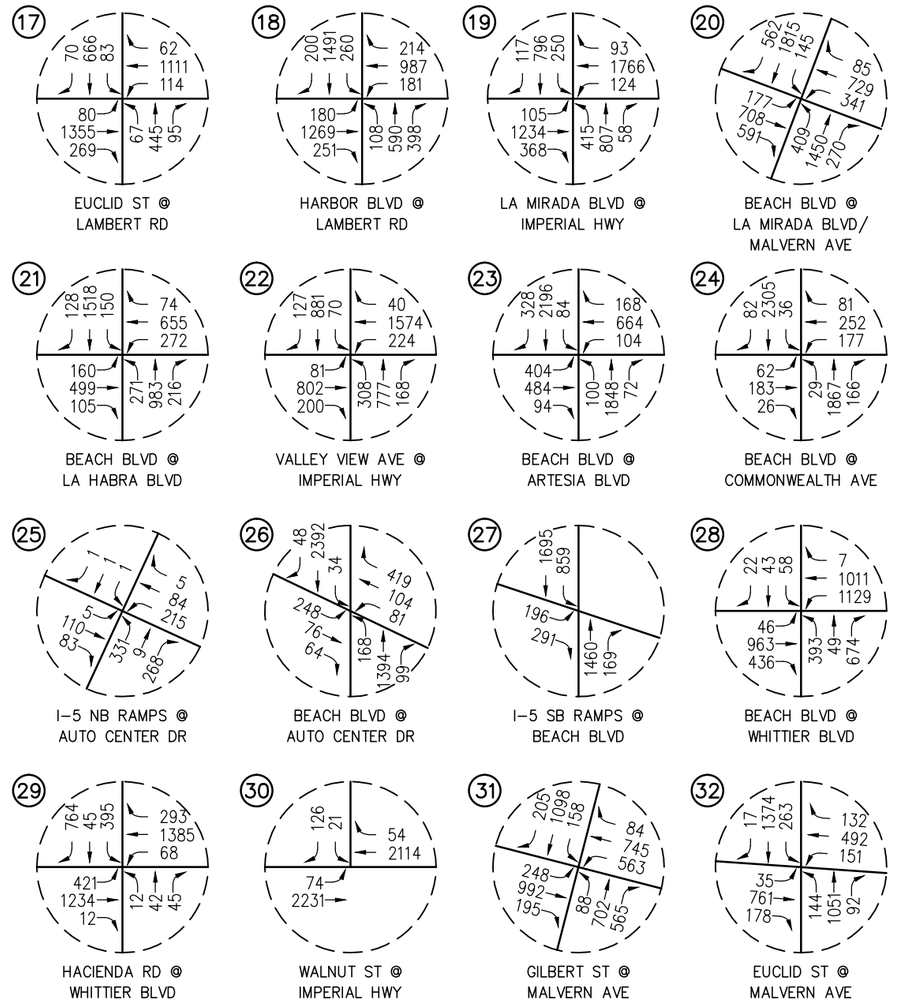
KEY
= PROJECT SITE

FIGURE 18-13A

YEAR 2023 CUMULATIVE PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

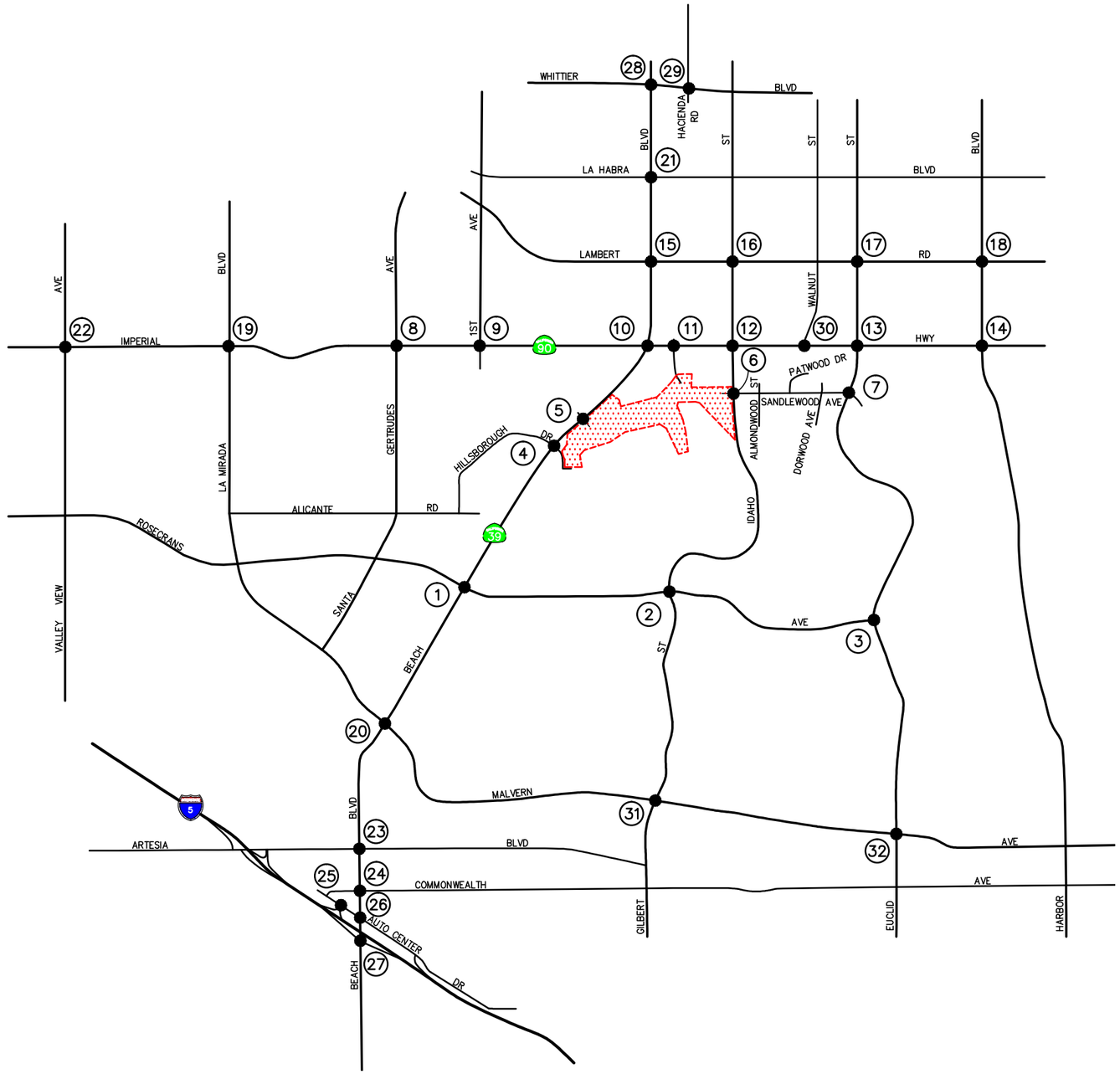
N NO SCALE

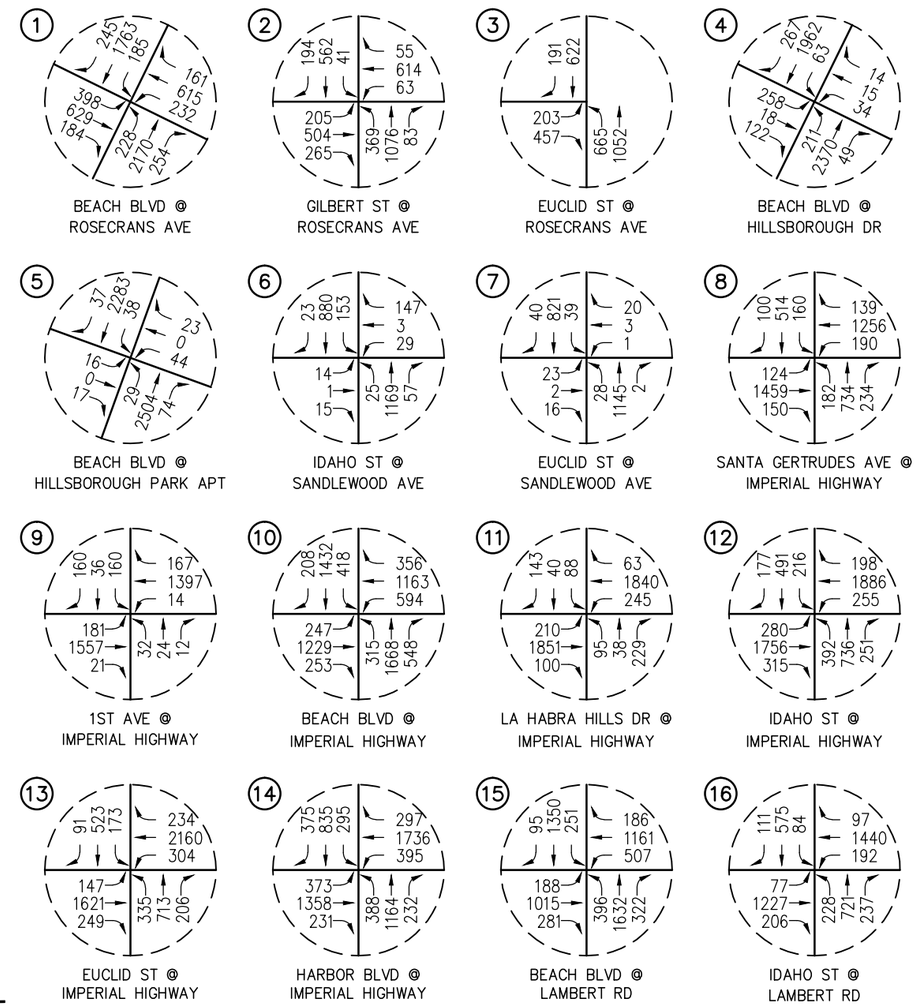
KEY
= PROJECT SITE

FIGURE 18-13B

YEAR 2023 CUMULATIVE PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

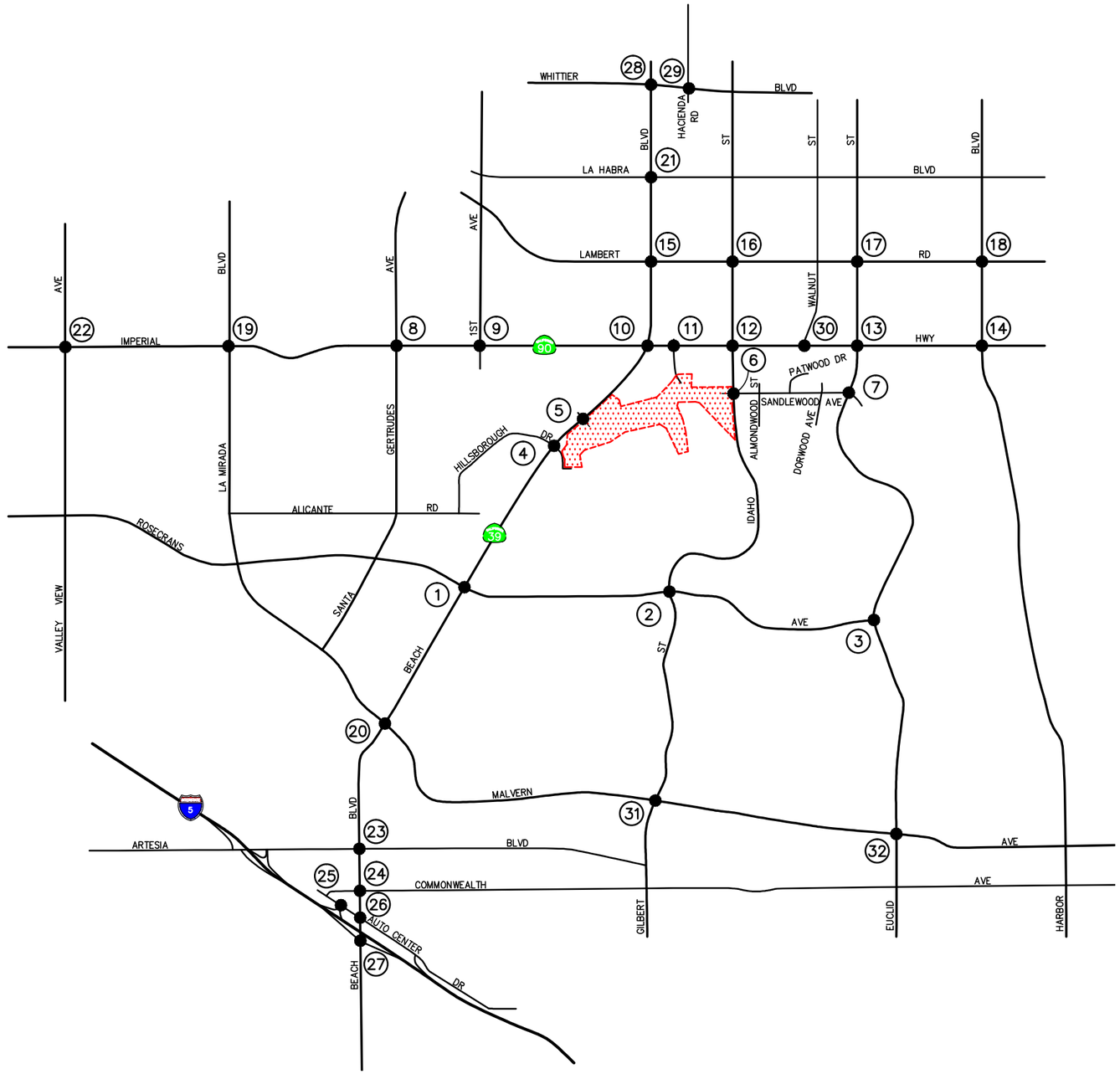
N NO SCALE

KEY
= PROJECT SITE

FIGURE 18-14A

YEAR 2023 CUMULATIVE PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA



17 EUCLID ST @ LAMBERT RD
78 485 55 | 121 1566 100 | 135 1178 150 | 122 787 75

18 HARBOR BLVD @ LAMBERT RD
216 1031 161 | 314 1419 331 | 212 884 197 | 265 1264 193

19 LA MIRADA BLVD @ IMPERIAL HWY
84 808 297 | 147 1267 217 | 114 1416 336 | 380 868 137

20 BEACH BLVD @ LA MIRADA BLVD/ MALVERN AVE
246 1511 203 | 245 920 261 | 366 673 485 | 626 2013 194

21 BEACH BLVD @ LA HABRA BLVD
134 1370 190 | 105 625 217 | 242 691 146 | 258 1383 342

22 VALLEY VIEW AVE @ IMPERIAL HWY
60 774 88 | 78 949 230 | 142 1239 273 | 275 890 218

23 BEACH BLVD @ ARTESIA BLVD
327 1888 148 | 236 529 106 | 553 602 118 | 146 2085 66

24 BEACH BLVD @ COMMONWEALTH AVE
83 1928 93 | 132 249 156 | 95 236 39 | 33 2092 160

25 I-5 NB RAMPS @ AUTO CENTER DR
14 7 142 49 | 26 6 121 174 | 543 13 41

26 BEACH BLVD @ AUTO CENTER DR
51 2048 23 | 441 118 119 | 365 61 173 | 126 1433 90

27 I-5 SB RAMPS @ BEACH BLVD
1631 717 | 98 279 | 1538 247

28 BEACH BLVD @ WHITTIER BLVD
26 46 106 | 22 1041 949 | 44 1080 488 | 456 72 1171

29 HACIENDA RD @ WHITTIER BLVD
807 27 305 | 450 1256 87 | 768 1415 13 | 46 80 86

30 WALNUT ST @ IMPERIAL HWY
75 17 | 146 2490 | 119 2037

31 GILBERT ST @ MALVERN AVE
184 674 138 | 270 1021 496 | 404 875 106 | 181 1299 617

32 EUCLID ST @ MALVERN AVE
34 1139 140 | 196 792 159 | 44 632 192 | 227 1280 108

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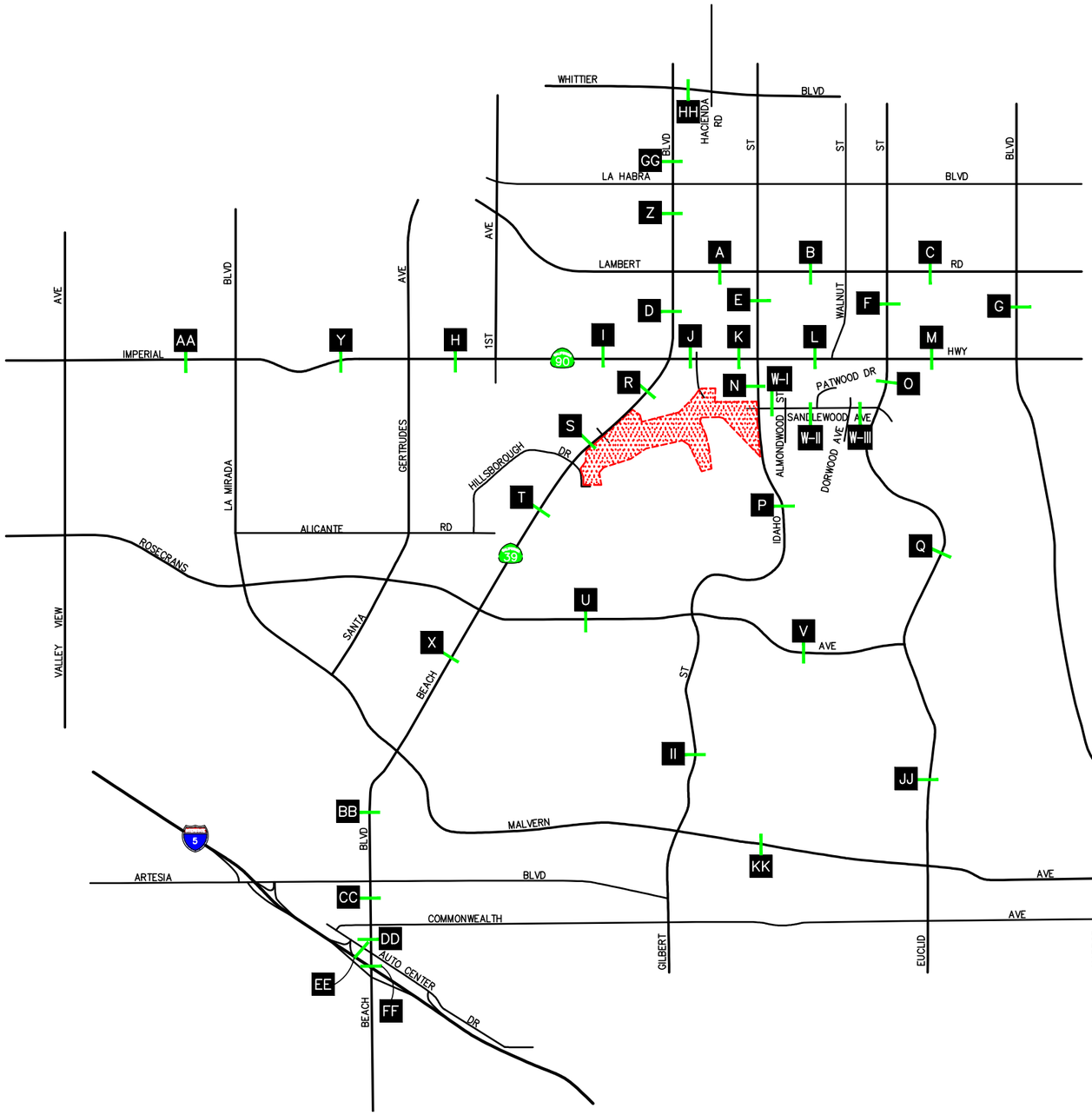
LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY
= PROJECT SITE

FIGURE 18-14B

YEAR 2023 CUMULATIVE PLUS PROJECT
PM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION
RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	38,441	U	25,775
B	40,541	V	16,225
C	39,074	W-I	3,905
D	56,983	W-II	2,153
E	25,277	W-III	1,486
F	20,560	X	51,578
G	42,173	Y	38,046
H	42,691	Z	47,475
I	42,362	AA	35,850
J	58,795	BB	79,879
K	59,272	CC	65,012
L	59,770	DD	66,977
M	64,593	EE	13,924
N	24,269	FF	70,472
O	24,040	GG	38,558
P	18,417	HH	51,795
Q	24,473	II	28,358
R	62,670	JJ	34,166
S	66,170	KK	26,444
T	61,429		

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

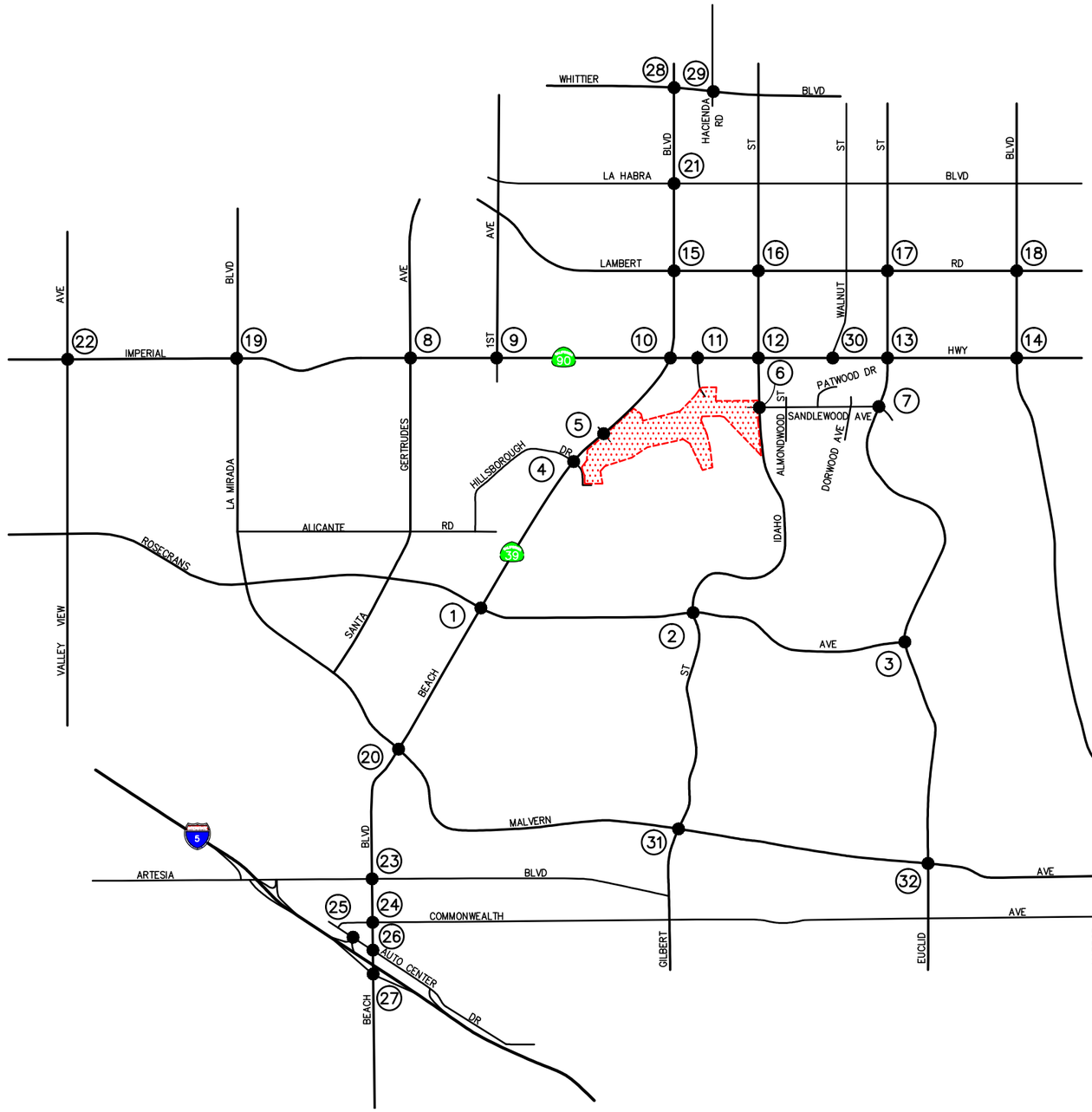
A = STUDY ROADWAY SEGMENT

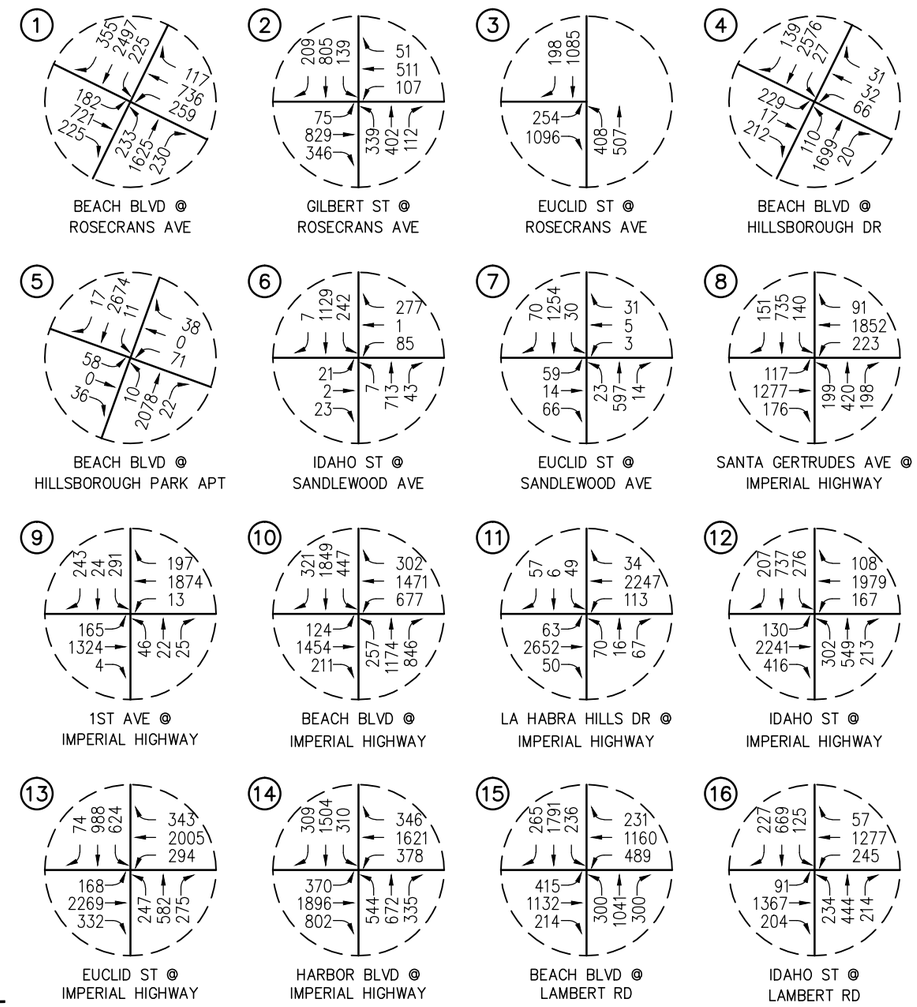
= PROJECT SITE

FIGURE 18-15

YEAR 2023 DAILY CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA





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LINSCOTT LAW & GREENSPAN engineers

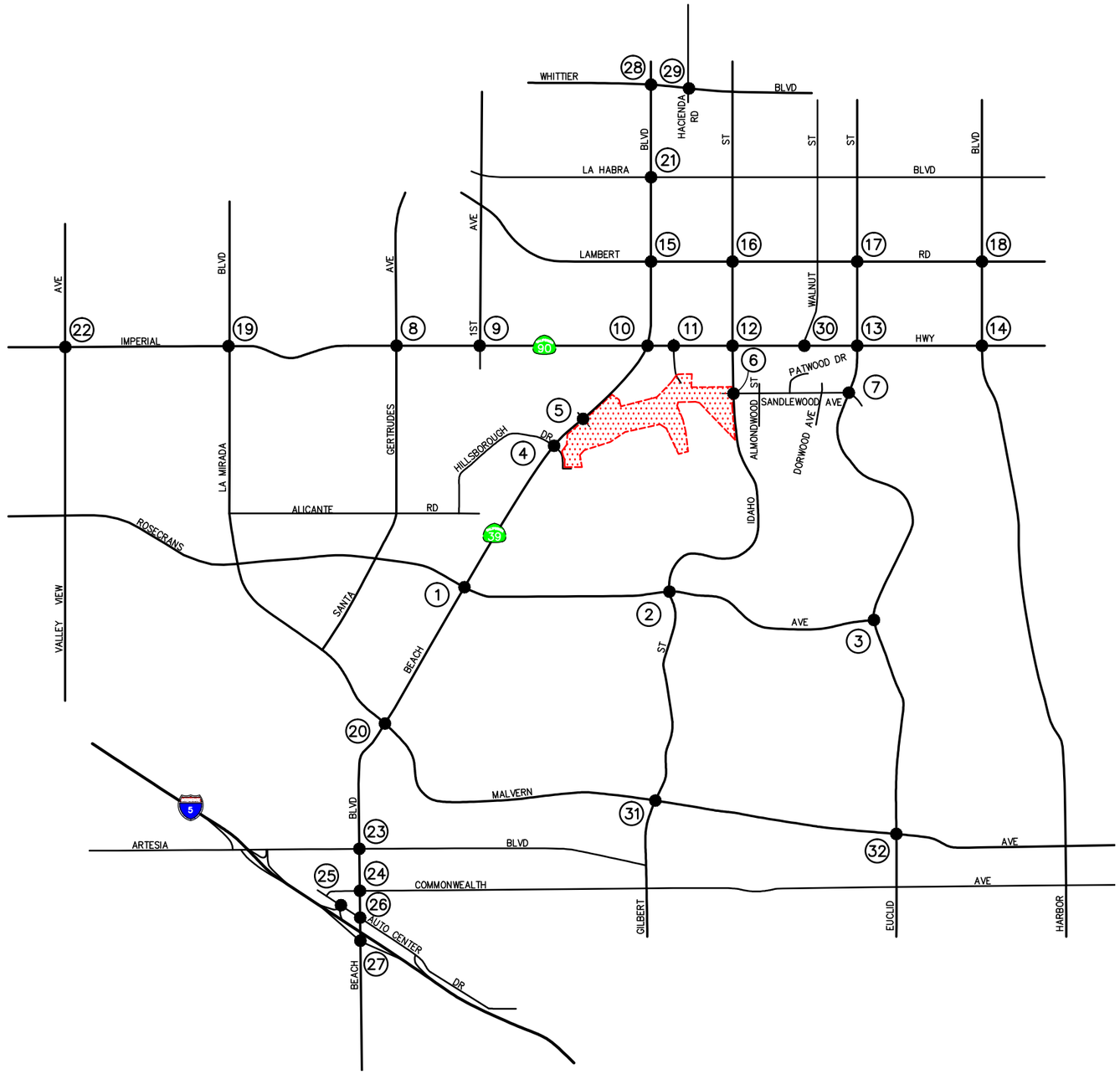
N NO SCALE

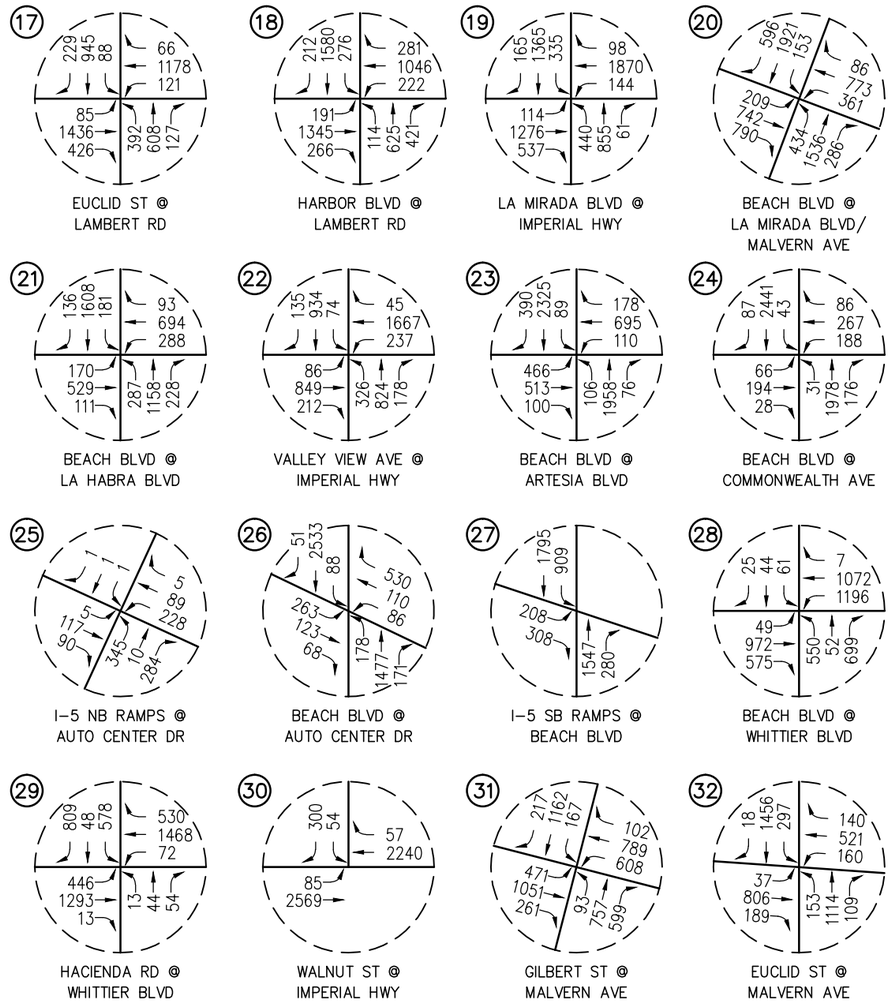
KEY
= PROJECT SITE

FIGURE 18-16A

YEAR 2035 BUILDOUT PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA





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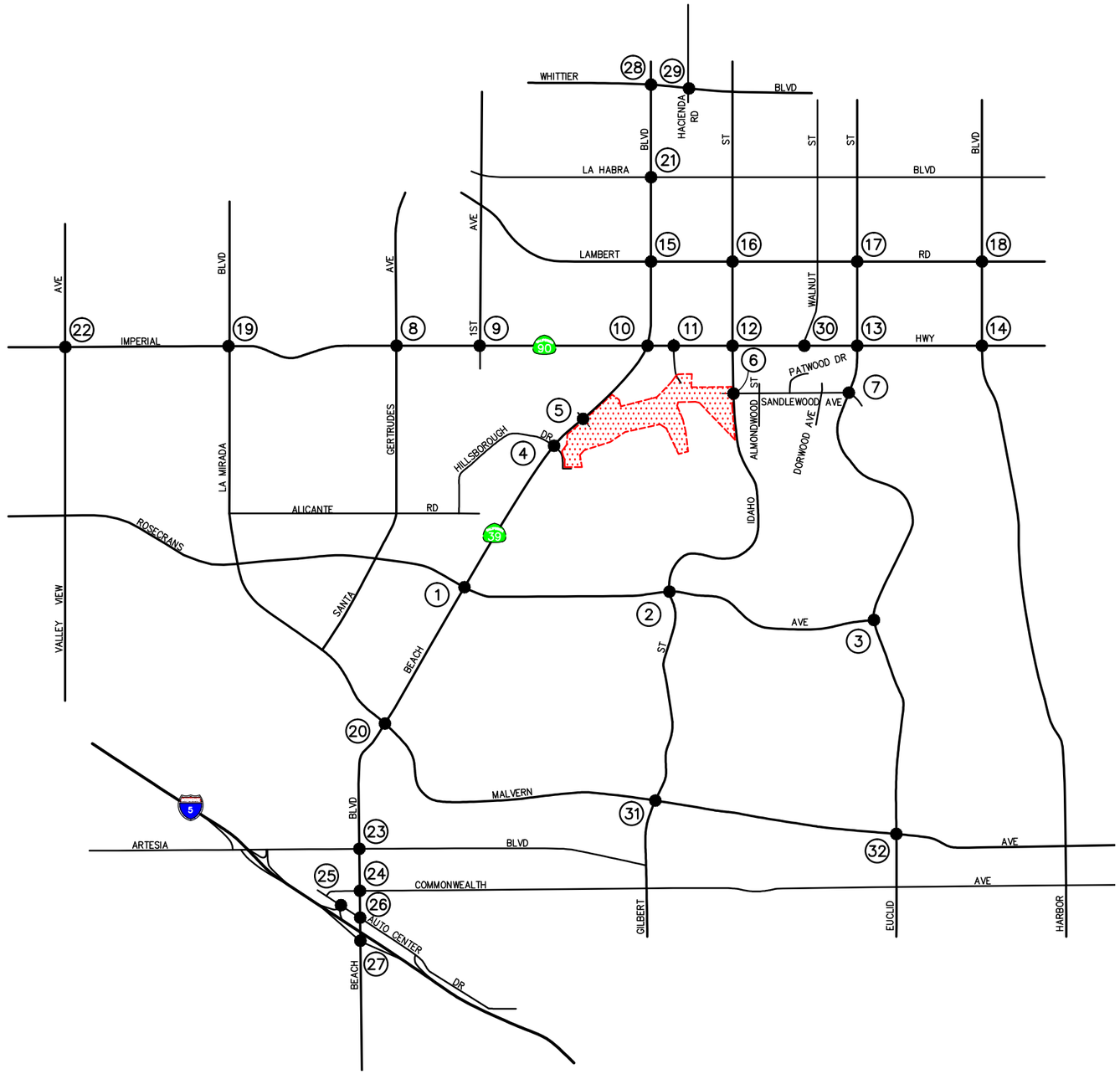
LINSCOTT LAW & GREENSPAN engineers

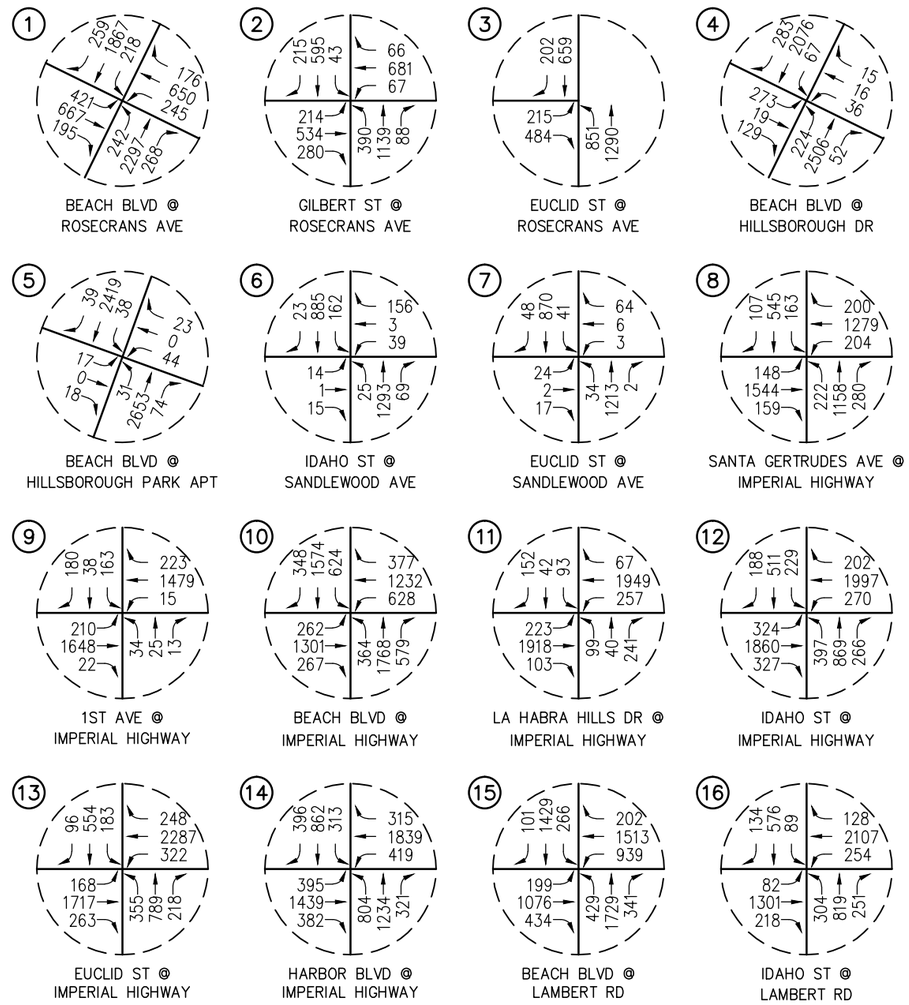
N NO SCALE

KEY
= PROJECT SITE

FIGURE 18-16B

YEAR 2035 BUILDOUT PLUS PROJECT
AM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION
RANCHO LA HABRA, CITY OF LA HABRA





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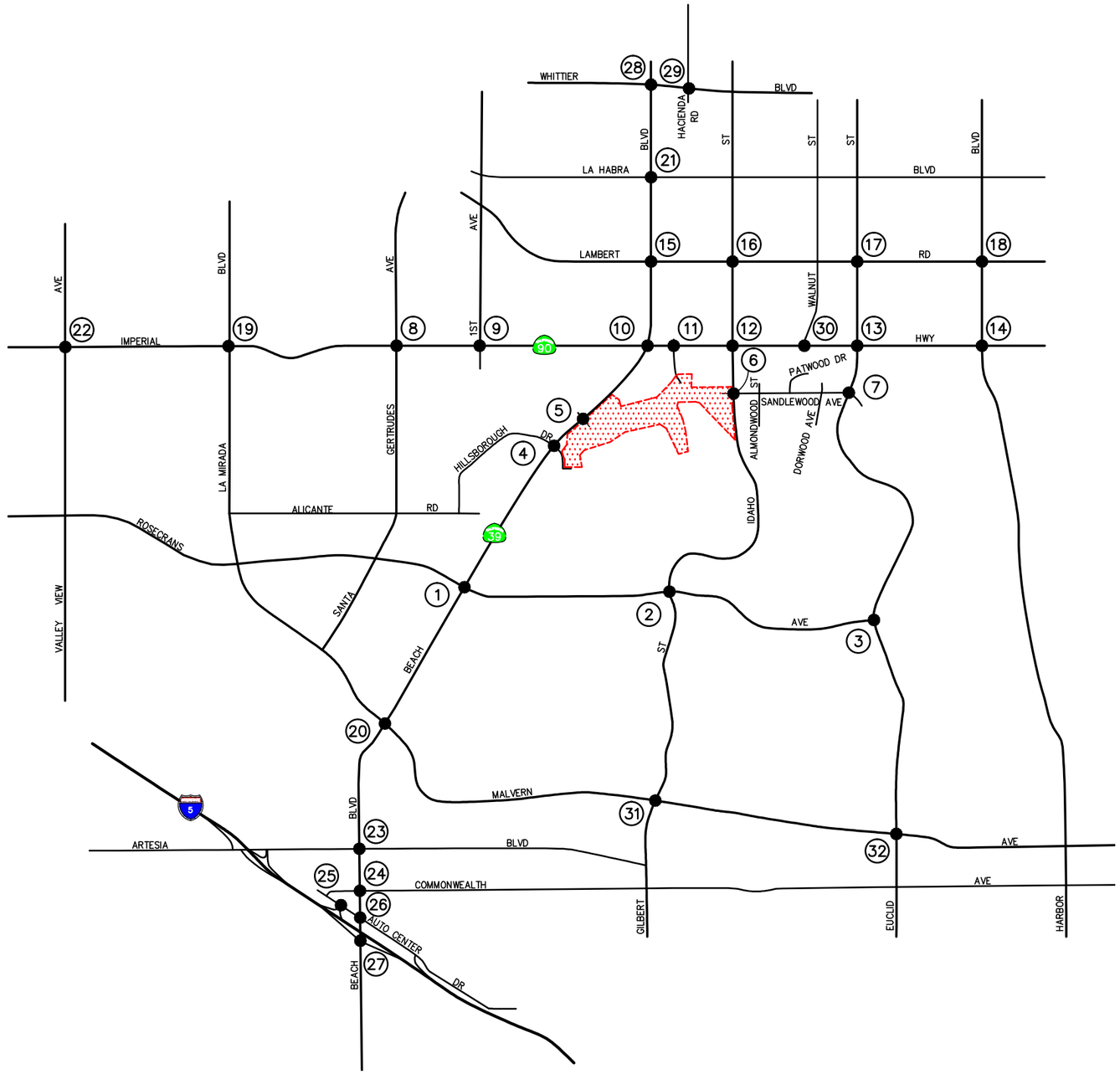
LINSCOTT LAW & GREENSPAN engineers

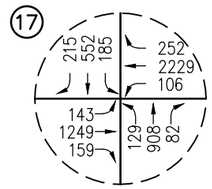
N NO SCALE

KEY
= PROJECT SITE

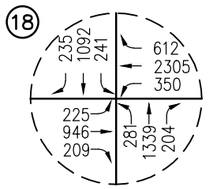
FIGURE 18-17A

YEAR 2035 BUILDOUT PLUS PROJECT
PM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION
RANCHO LA HABRA, CITY OF LA HABRA

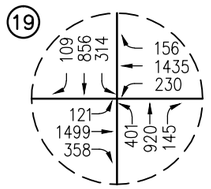




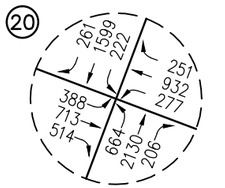
EUCLID ST @
LAMBERT RD



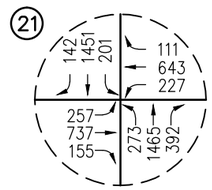
HARBOR BLVD @
LAMBERT RD



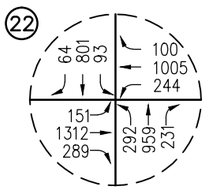
LA MIRADA BLVD @
IMPERIAL HWY



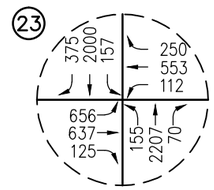
BEACH BLVD @
LA MIRADA BLVD/
MALVERN AVE



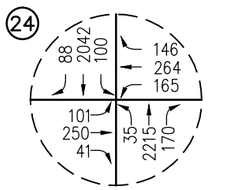
BEACH BLVD @
LA HABRA BLVD



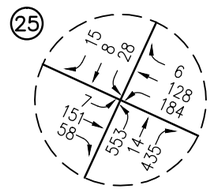
VALLEY VIEW AVE @
IMPERIAL HWY



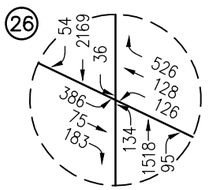
BEACH BLVD @
ARTESIA BLVD



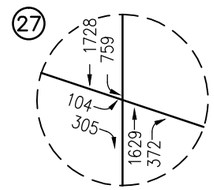
BEACH BLVD @
COMMONWEALTH AVE



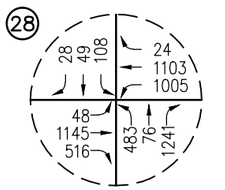
I-5 NB RAMPS @
AUTO CENTER DR



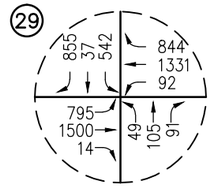
BEACH BLVD @
AUTO CENTER DR



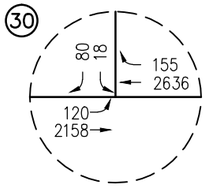
I-5 SB RAMPS @
BEACH BLVD



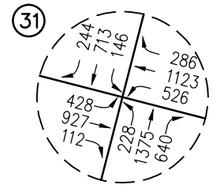
BEACH BLVD @
WHITTIER BLVD



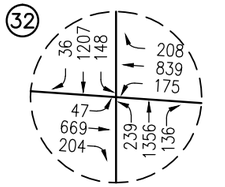
HACIENDA RD @
WHITTIER BLVD



WALNUT ST @
IMPERIAL HWY



GILBERT ST @
MALVERN AVE



EUCLID ST @
MALVERN AVE

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LINSCOTT LAW & GREENSPAN engineers

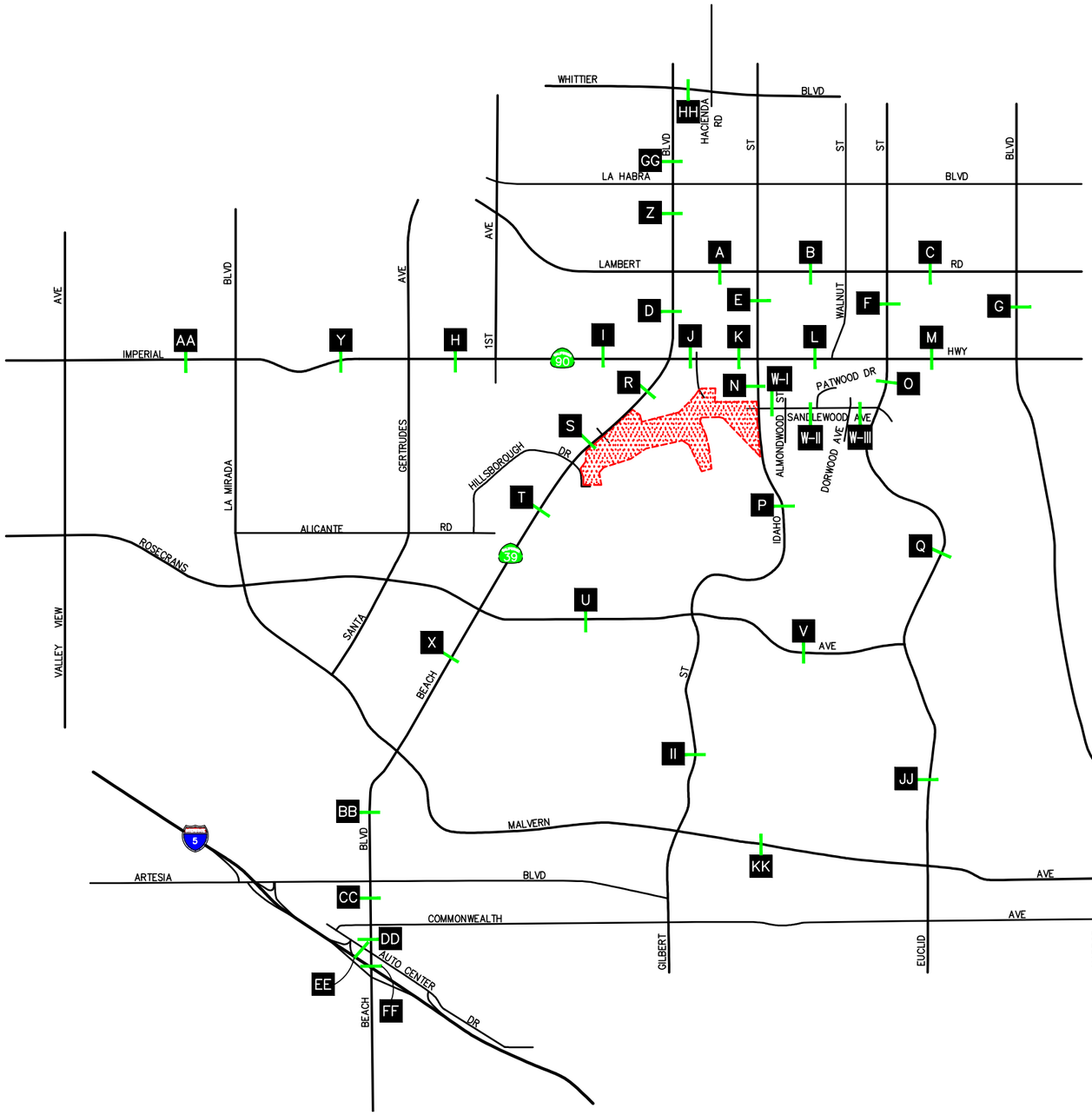
N NO SCALE

KEY
= PROJECT SITE

FIGURE 18-17B

YEAR 2035 BUILDOUT PLUS PROJECT
PM PEAK HOUR TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA



LOCATION	VOLUME	LOCATION	VOLUME
A	40,747	U	27,281
B	42,973	V	16,965
C	41,418	W-I	4,132
D	58,450	W-II	2,190
E	26,411	W-III	1,555
F	21,794	X	54,599
G	44,683	Y	40,291
H	45,213	Z	50,297
I	44,863	AA	37,971
J	63,036	BB	84,612
K	63,441	CC	68,866
L	63,185	DD	70,950
M	68,432	EE	14,754
N	24,662	FF	74,666
O	25,476	GG	40,845
P	20,582	HH	54,889
Q	25,932	II	30,018
R	66,359	JJ	35,168
S	70,034	KK	28,015
T	65,012		

n:\3500\2143531 - westridge golf club residential project, la habra\3531-2 updated tia\dwg\3531f18-18.dwg LDP 14:30:47 01-25-2019 tucker

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

A = STUDY ROADWAY SEGMENT

= PROJECT SITE

FIGURE 18-18

YEAR 2035 DAILY BUILDOUT PLUS PROJECT TRAFFIC VOLUMES - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA

intersection is forecast to operate at an acceptable LOS during the AM and PM peak hours with implementation of improvements. Refer to Section 18.13.1 for details on the recommended improvements. Although not impacted by the proposed Project (Residential Option), AM and PM peak hour LOS results are shown in column 4 for the intersection of Hacienda Road/Whittier Boulevard with the improvements planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project.

Appendix M presents the existing plus project (Residential Option) ICU/LOS and HCM/LOS calculations for the thirty-two (32) key study intersections as well as the traffic signal warrant worksheets for the intersection of Euclid Street/Sandlewood Avenue.

18.5.2 *Existing Plus Project (Residential Option) Traffic Conditions – Roadway Segments*

Table 18-3 summarizes the results of the Existing Plus Project (Residential Option) daily analysis for the thirty-seven (37) key roadway segments. Review of Column 5 of *Table 18-3* indicates that eight (8) of the thirty-seven (37) key roadway segments are forecast to operate at an unacceptable level of service on a daily basis with the proposed Project. The eight (8) locations that operate at an adverse LOS are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	0.944	E
B. Lambert Road between Idaho Street and Euclid Street	La Habra	0.997	E
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	0.960	E
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.209	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Avenue	Buena Park	0.957	E
DD. Beach Blvd between Commonwealth Avenue and Auto Center Drive	Buena Park	0.989	E
FF. Beach Blvd between Auto Center Drive and I-5 SB Ramps	Buena Park	1.038	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.261	F

The eight (8) locations (i.e. Roadway Segments A, B, C, BB, CC, DD, FF and HH) do not exceed the thresholds defined in this report requiring a peak hour link assessment and thus are not impacted by the proposed Project under Existing plus Project (Residential Option) Traffic Conditions. The remaining twenty-nine (29) key roadway segments are forecast to continue to operate at an acceptable service level on a daily basis with the addition of project generated traffic to existing traffic.

18.5.3 *Year 2023 Cumulative Plus Project (Residential Option) Traffic Conditions – Intersections*

Table 18-4 summarizes the peak hour level of service results at the thirty-two (32) key study intersections for the Year 2023. Review of Columns 3 and 4 of *Table 18-4* indicates that traffic associated with the proposed Project (Residential Option) will significantly impact two (2) of the thirty-two (32) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Beach Boulevard/Lambert Road is forecast to operate at unacceptable LOS F during the AM peak hour with the addition of project

traffic, the proposed Project (Residential Option) is expected to add less than the allowable threshold to the ICU value. Also, although the intersection of Euclid Street/Sandlewood Avenue is forecast to operate at unacceptable LOS F during the AM and PM peak hours, the intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied. The remaining twenty-eight (28) key study intersections are forecast to continue to operate at an acceptable LOS with the addition of Project (Residential Option) generated traffic in the Year 2023. The two (2) locations significantly impacted by the proposed Project (Residential Option) in the Year 2023 are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada	1.093	F	1.048	F
30. Walnut Street at Imperial Highway	La Habra	5,473.9 s/v	F	103.3 s/v	F

As shown in column 5, the implementation of improvements at the impacted key study intersections of Beach Boulevard/Rosecrans Avenue and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours. Refer to Section 18.14.1 for details on the recommended improvements. Although not impacted by the proposed Project (Residential Option), AM and PM peak hour LOS results are shown in column 5 for the intersection of Hacienda Road/Whittier Boulevard with the improvements planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project.

Appendix N presents the Year 2023 plus project (Residential Option) ICU/LOS and HCM/LOS calculations for the thirty-two (32) key study intersections as well as the traffic signal warrant worksheets for the intersection of Euclid Street/Sandlewood Avenue.

18.5.4 *Year 2023 Cumulative Plus Project (Residential Option) Traffic Conditions – Roadway Segments*

Table 18-5 summarizes the results of the Year 2023 Plus Project (Residential Option) daily analysis for the thirty-seven (37) key roadway segments. Review of Column 5 of *Table 18-5* indicates that fourteen (14) of the thirty-seven (37) key roadway segments are forecast to operate at an unacceptable level of service on a daily basis in the Year 2023 with the proposed Project (Residential Option). The fourteen (14) locations that are forecast to operate at an adverse LOS in the Year 2023 with project traffic are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	1.025	F
B. Lambert Road between Idaho Street and Euclid Street	La Habra	1.081	F
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	1.042	F
D. Beach Boulevard between Lambert Road and Imperial Highway	La Habra	1.012	F
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	1.073	F
R. Beach Boulevard between Imperial Highway and Hillsborough Apt	La Habra	1.041	F

S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.099	F
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	La Mirada	1.063	F
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.327	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Ave	Buena Park	1.080	F
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	Buena Park	1.113	F
FF. Beach Blvd between Auto Center Dr and I-5 SB Ramps	Buena Park	1.171	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.381	F
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue	Fullerton	0.911	E

Of the fourteen (14) locations operating at an unacceptable level of service, only Roadway Segment M (i.e. Imperial Highway between Euclid Street and Harbor Boulevard), Roadway Segment R (i.e. Beach Boulevard between Imperial Highway and Hillsborough Apt.), Roadway Segment S (i.e. Beach Boulevard between Hillsborough Apt. and Hillsborough Drive) and Roadway Segment T (i.e. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue) require a peak hour link assessment to determine whether or not they will be impacted by the proposed Project (Residential Option) in the Year 2023. The other ten (10) locations (i.e. Roadway Segments A, B, C, D, BB, CC, DD, FF, HH and JJ) do not exceed the thresholds defined in this report requiring a peak hour link assessment and thus are not impacted by the proposed Project (Residential Option) under Year 2023 plus Project Traffic Conditions.

As shown in *Table 18-5*, Roadway Segments M, R, S and T are forecast to operate at acceptable LOS D or better during the critical weekday AM and PM peak commute hours without and with the proposed Project (Residential Option) in the Year 2023. Therefore, Roadway Segments M, R, S and T ***will not*** be significantly impacted by the Project (Residential Option) in the Year 2023.

The remaining twenty-three (23) key roadway segments are forecast to continue to operate at an acceptable service level on a daily basis with the addition of project generated traffic in the Year 2023 traffic condition.

TABLE 18-2
EXISTING PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections		Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Project Significant Impact		(4) With Improvements	
					ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
1.	Beach Boulevard at Rosecrans Avenue	E	La Mirada/ Caltrans	AM	0.979	E	0.995	E	0.016	No	--	--
				PM	0.935	E	0.969	E	0.034	No	--	--
2.	Gilbert Street at Rosecrans Avenue	D	Fullerton	AM	39.3 s/v	D	39.6 s/v	D	--	No	--	--
				PM	37.1 s/v	D	38.2 s/v	D	--	No	--	--
3.	Euclid Street at Rosecrans Avenue	D	Fullerton	AM	29.4 s/v	C	29.4 s/v	C	--	No	--	--
				PM	19.5 s/v	B	19.5 s/v	B	--	No	--	--
4.	Beach Boulevard at Hillsborough Drive	E	La Mirada/ Caltrans	AM	0.768	C	0.789	C	0.021	No	--	--
				PM	0.738	C	0.751	C	0.013	No	--	--
5.	Beach Boulevard at Hillsborough Park Apt.	E	La Habra/ Caltrans	AM	0.533	A	0.567	A	0.034	No	--	--
				PM	0.503	A	0.570	A	0.067	No	--	--
6.	Idaho Street at Sandlewood Avenue	D	La Habra	AM	0.485	A	0.504	A	0.019	No	--	--
				PM	0.528	A	0.545	A	0.017	No	--	--
7.	Euclid Street at Sandlewood Avenue	D	La Habra	AM	**69.4 s/v**	**F**	**75.3 s/v**	**F**	--	No [a]	--	--
				PM	**41.4 s/v**	**E**	**47.2 s/v**	**E**	--	No [a]	--	--
8.	Santa Gertrudes Avenue at Imperial Highway	E	La Mirada	AM	0.852	D	0.860	D	0.008	No	--	--
				PM	0.871	D	0.880	D	0.009	No	--	--
9.	1st Avenue at Imperial Highway	D	La Mirada	AM	0.706	C	0.714	C	0.008	No	--	--
				PM	0.594	A	0.600	B	0.006	No	--	--
10.	Beach Boulevard at Imperial Highway	E	La Habra/ Caltrans	AM	0.786	C	0.801	D	0.015	No	--	--
				PM	0.834	D	0.857	D	0.023	No	--	--
11.	La Habra Hills Drive at Imperial Highway	E	La Habra/ Caltrans	AM	0.501	A	0.521	A	0.020	No	--	--
				PM	0.653	B	0.706	C	0.053	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level
- [a] = Although this intersection is forecast to operate at an unacceptable LOS, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied (refer to Section 7.1.1).

TABLE 18-2 (CONTINUED)
EXISTING PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Project Significant Impact		(4) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
12. Idaho Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.692	B	0.701	C	0.009	No	--	--
			PM	0.728	C	0.736	C	0.008	No	--	--
13. Euclid Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.795	C	0.805	D	0.010	No	--	--
			PM	0.715	C	0.726	C	0.011	No	--	--
14. Harbor Boulevard at Imperial Highway	E	La Habra/ Fullerton/Caltrans	AM	0.759	C	0.762	C	0.003	No	--	--
			PM	0.683	B	0.685	B	0.002	No	--	--
			AM	43.1 s/v	D	47.1 s/v	D	--	No	--	--
			PM	44.4 s/v	D	45.3 s/v	D	--	No	--	--
15. Beach Boulevard at Lambert Road	E	La Habra/ Caltrans	AM	0.949	E	0.951	E	0.002	No	--	--
			PM	0.900	D	0.905	E	0.005	No	--	--
16. Idaho Street at Lambert Road	D	La Habra	AM	0.814	D	0.814	D	0.000	No	--	--
			PM	0.775	C	0.775	C	0.000	No	--	--
17. Euclid Street at Lambert Road	D	La Habra	AM	0.702	C	0.702	C	0.000	No	--	--
			PM	0.799	C	0.799	C	0.000	No	--	--
18. Harbor Boulevard at Lambert Road	D	La Habra	AM	0.696	B	0.696	B	0.000	No	--	--
			PM	0.777	C	0.779	C	0.002	No	--	--
19. La Mirada Boulevard at Imperial Highway	E	La Mirada	AM	0.900	D	0.907	E	0.007	No	--	--
			PM	0.859	D	0.865	D	0.006	No	--	--
20. Beach Boulevard at La Mirada Blvd/Malvern Ave	D	Buena Park/ Caltrans	AM	0.757	C	0.768	C	0.011	No	--	--
			PM	0.805	D	0.825	D	0.020	No	--	--
21. Beach Boulevard at La Habra Boulevard	E	La Habra/ Caltrans	AM	0.729	C	0.731	C	0.002	No	--	--
			PM	0.801	D	0.804	D	0.003	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 18-2 (CONTINUED)
EXISTING PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Project Significant Impact		(4) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
22. Valley View Avenue at Imperial Highway	E	La Mirada	AM	0.903	E	0.909	E	0.006	No	--	--
			PM	0.876	D	0.882	D	0.006	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	Buena Park/ Caltrans	AM	0.795	C	0.807	D	0.012	No	--	--
			PM	0.748	C	0.759	C	0.011	No	--	--
24. Beach Boulevard at Commonwealth Avenue	D	Buena Park/ Caltrans	AM	0.589	A	0.598	A	0.009	No	--	--
			PM	0.613	B	0.622	B	0.009	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.350	A	0.350	A	0.000	No	--	--
			PM	0.477	A	0.477	A	0.000	No	--	--
26. Beach Boulevard at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.720	C	0.730	C	0.010	No	--	--
			PM	0.677	B	0.692	B	0.015	No	--	--
27. Beach Boulevard at I-5 SB Ramps	D	Buena Park/ Caltrans	AM	0.691	B	0.698	B	0.007	No	--	--
			PM	0.675	B	0.684	B	0.009	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.686	B	0.690	B	0.004	No	--	--
			PM	0.758	C	0.760	C	0.002	No	--	--
29. Hacienda Road at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.849	D	0.853	D	0.004	No	0.707	C
			PM	0.834	D	0.843	D	0.009	No	0.771	C
30. Walnut Street at Imperial Highway	E	La Habra/ Caltrans	AM	**957.8 s/v**	**F**	**1,094.0 s/v**	**F**	--	**Yes**	0.539	A
			PM	44.6 s/v	E	47.7 s/v	E	--	No	0.602	B
31. Gilbert Street at Malvern Avenue	D	Fullerton	AM	45.9 s/v	D	46.7 s/v	D	--	No	--	--
			PM	43.6 s/v	D	44.8 s/v	D	--	No	--	--
32. Euclid Street at Malvern Avenue	D	Fullerton	AM	41.8 s/v	D	42.5 s/v	D	--	No	--	--
			PM	43.3 s/v	D	43.4 s/v	D	--	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 18-3
EXISTING PLUS PROJECT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions			(5) Existing Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
A. Lambert Road between Beach Blvd and Idaho Street	D	La Habra	4	Primary	37,500	**35,387**	**0.944**	**E**	**35,387**	**0.944**	**E**	0.000	No
B. Lambert Road between Idaho Street and Euclid Street	D	La Habra	4	Primary	37,500	**37,387**	**0.997**	**E**	**37,387**	**0.997**	**E**	0.000	No
C. Lambert Road between Euclid Street and Harbor Blvd	D	La Habra	4	Primary	37,500	**36,014**	**0.960**	**E**	**36,014**	**0.960**	**E**	0.000	No
D. Beach Boulevard between Lambert Road and Imperial Hwy	E	La Habra	6	Major	56,300	51,446	0.914	E	51,908	0.922	E	0.008	No
E. Idaho Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	23,702	0.632	B	23,701	0.632	B	0.000	No
F. Euclid Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	17,898	0.477	A	17,888	0.477	A	0.000	No
G. Harbor Boulevard between Lambert Road and Imperial Hwy	D	La Habra	6	Major	56,300	35,083	0.623	B	35,430	0.629	B	0.006	No
H. Imperial Highway between Santa Gertrudes Ave and 1st Ave	D	La Mirada	6	Major	54,000	36,239	0.671	B	36,892	0.683	B	0.012	No
I. Imperial Highway between 1st Avenue and Beach Boulevard	E	La Habra	6	Major	56,300	36,310	0.645	B	36,983	0.657	B	0.012	No
J. Imperial Highway between Beach Blvd and La Habra Hills Dr	E	La Habra	6	Smart Street	60,200	49,867	0.828	D	51,258	0.851	D	0.023	No
K. Imperial Highway between La Habra Hills Drive and Idaho St	E	La Habra	6	Smart Street	60,200	50,687	0.842	D	51,694	0.859	D	0.017	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-3 (CONTINUED)
EXISTING PLUS PROJECT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions			(5) Existing Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
L. Imperial Highway between Idaho Street and Euclid Street	E	La Habra	6	Smart Street	60,200	50,844	0.845	D	51,551	0.856	D	0.011	No
M. Imperial Highway between Euclid Street and Harbor Boulevard	E	La Habra	6	Smart Street	60,200	52,284	0.869	D	52,886	0.879	D	0.010	No
N. Idaho Street between Imperial Hwy and Sandlewood Ave	D	La Habra	4	Primary	37,500	20,217	0.539	A	20,828	0.555	A	0.016	No
O. Euclid Street between Sandlewood Ave and Imperial Hwy	D	La Habra	4	Primary	37,500	21,596	0.576	A	21,710	0.579	A	0.003	No
P. Gilbert Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	15,440	0.412	A	16,004	0.427	A	0.015	No
Q. Euclid Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	22,344	0.596	A	22,497	0.600	B	0.004	No
R. Beach Boulevard between Imperial Hwy and Hillsborough Apt.	E	La Habra	6	Smart Street	60,200	55,337	0.919	E	56,524	0.939	E	0.020	No
S. Beach Boulevard between Hillsborough Apt. and Hillsborough Dr	E	La Habra	6	Smart Street	60,200	58,110	0.965	E	59,885	0.995	E	0.030	No
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	E	La Mirada	6	Smart Street	57,780	53,636	0.928	E	55,351	0.958	E	0.030	No
U. Rosecrans Avenue between Beach Boulevard and Gilbert Street	D	Fullerton	4	Primary	37,500	20,815	0.555	A	21,498	0.573	A	0.018	No
V. Rosecrans Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Secondary	25,000	15,137	0.605	B	15,234	0.609	B	0.004	No
W-I. Sandlewood Avenue East of Idaho Street	D	La Habra	2	Commuter	5,400	3,600	0.667	B	3,725	0.690	B	0.023	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-3 (CONTINUED)
EXISTING PLUS PROJECT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment		Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions			(5) Existing Plus Project Traffic Conditions				
							Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
W-II.	Sandlewood Avenue between Idaho Street and Euclid Street	D	La Habra	2	Commuter	5,400	1,931	0.358	A	2,056	0.381	A	0.023	No
W-III.	Sandlewood Avenue West of Euclid Street	D	La Habra	2	Commuter	5,400	1,296	0.240	A	1,421	0.263	A	0.023	No
X.	Beach Boulevard between Rosecrans Ave and La Mirada Blvd	D	Buena Park	6	Smart Street	60,200	44,047	0.732	C	45,267	0.752	C	0.020	No
Y.	Imperial Highway between Santa Gertrudes and La Mirada Blvd	E	La Mirada	6	Major	54,000	31,542	0.584	A	32,178	0.596	B	0.012	No
Z.	Beach Boulevard between Lambert Road and La Habra Blvd	E	La Habra	6	Major	56,300	42,893	0.762	C	43,338	0.770	C	0.008	No
AA.	Imperial Highway between Valley View Ave and La Mirada Blvd	E	La Mirada	6	Major	54,000	30,552	0.566	A	31,052	0.575	A	0.009	No
BB.	Beach Boulevard between La Mirada Blvd/Malvern Ave and Artesia Blvd	D	Buena Park	6	Smart Street	60,200	**71,766**	**1.192**	**F**	**72,764**	**1.209**	**F**	0.017	No
CC.	Beach Boulevard between Artesia Blvd and Commonwealth Ave	D	Buena Park	6	Smart Street	60,200	**56,837**	**0.944**	**E**	**57,609**	**0.957**	**E**	0.013	No
DD.	Beach Boulevard between Commonwealth and Auto Center Dr	D	Buena Park	6	Smart Street	60,200	**58,783**	**0.976**	**E**	**59,546**	**0.989**	**E**	0.013	No
EE.	Auto Center Drive between Beach Boulevard and I-5 NB Ramps	D	Buena Park	4	Primary	37,500	12,592	0.336	A	12,690	0.338	A	0.002	No
FF.	Beach Boulevard between Auto Center Drive and I-5 SB Ramps	D	Buena Park	6	Smart Street	60,200	**61,904**	**1.028**	**F**	**62,482**	**1.038**	**F**	0.010	No
GG	Beach Boulevard between La Habra Blvd and Whittier Blvd	E	La Habra	6	Major	56,300	35,120	0.624	B	35,565	0.632	B	0.008	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-3 (CONTINUED)
EXISTING PLUS PROJECT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions			(5) Existing Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
HH. Whittier Boulevard between Beach Blvd and Hacienda Rd	D	La Habra	4	Primary	37,500	**47,059**	**1.255**	**F**	**47,284**	**1.261**	**F**	0.006	No
II. Gilbert Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	23,527	0.627	B	24,213	0.646	B	0.019	No
JJ. Euclid Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	31,442	0.838	D	31,666	0.844	D	0.006	No
KK. Malvern Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Primary	37,500	23,982	0.640	B	24,244	0.647	B	0.007	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-4
YEAR 2023 (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Min. Acc. LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2023 Cumulative Traffic Conditions		(3) Year 2023 Cumulative Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	E	La Mirada/ Caltrans	AM	0.979	E	**1.077**	**F**	**1.093**	**F**	0.016	No	0.970	E
			PM	0.935	E	**1.015**	**F**	**1.048**	**F**	**0.033**	**Yes**	0.885	D
2. Gilbert Street at Rosecrans Avenue	D	Fullerton	AM	39.3 s/v	D	41.9 s/v	D	42.5 s/v	D	--	No	--	--
			PM	37.1 s/v	D	39.5 s/v	D	40.3 s/v	D	--	No	--	--
3. Euclid Street at Rosecrans Avenue	D	Fullerton	AM	29.4 s/v	C	30.8 s/v	C	30.8 s/v	C	--	No	--	--
			PM	19.5 s/v	B	20.0 s/v	B	20.0 s/v	C	--	No	--	--
4. Beach Boulevard at Hillsborough Drive	E	La Mirada/ Caltrans	AM	0.768	C	0.823	D	0.844	D	0.021	No	--	--
			PM	0.738	C	0.806	D	0.820	D	0.014	No	--	--
5. Beach Boulevard at Hillsborough Park Apt.	E	La Habra/ Caltrans	AM	0.533	A	0.578	A	0.612	B	0.034	No	--	--
			PM	0.503	A	0.546	A	0.614	B	0.068	No	--	--
6. Idaho Street at Sandlewood Avenue	D	La Habra	AM	0.485	A	0.540	A	0.559	A	0.019	No	--	--
			PM	0.528	A	0.580	A	0.597	B	0.017	No	--	--
7. Euclid Street at Sandlewood Avenue	D	La Habra	AM	**69.4 s/v**	**F**	**123.4 s/v**	**F**	**137.7 s/v**	**F**	--	No [a]	--	--
			PM	**41.4 s/v**	**E**	**59.6 s/v**	**F**	**69.3 s/v**	**F**	--	No [a]	--	--
8. Santa Gertrudes Ave at Imperial Highway	E	La Mirada	AM	0.852	D	0.918	E	0.925	E	0.007	No	--	--
			PM	0.871	D	0.948	E	0.956	E	0.008	No	--	--
9. 1st Avenue at Imperial Highway	D	La Mirada	AM	0.706	C	0.760	C	0.768	C	0.008	No	--	--
			PM	0.594	A	0.656	B	0.661	B	0.005	No	--	--
10. Beach Boulevard at Imperial Highway	E	La Habra/ Caltrans	AM	0.786	C	0.880	D	0.895	D	0.015	No	--	--
			PM	0.834	D	0.942	E	0.965	E	0.023	No	--	--
11. La Habra Hills Drive at Imperial Highway	E	La Habra/ Caltrans	AM	0.501	A	0.558	A	0.592	A	0.034	No	--	--
			PM	0.653	B	0.736	C	0.776	C	0.040	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level
- [a] = Although this intersection is forecast to operate at an unacceptable LOS, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied (refer to Section 7.1.1)

TABLE 18-4 (CONTINUED)
YEAR 2023 (RESIDENTIAL OPTION)PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Min. Acc. LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2023 Cumulative Traffic Conditions		(3) Year 2023 Cumulative Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
12. Idaho Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.692	B	0.763	C	0.772	C	0.009	No	--	--
			PM	0.728	C	0.813	D	0.821	D	0.008	No	--	--
13. Euclid Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.795	C	0.904	E	0.914	E	0.010	No	--	--
			PM	0.715	C	0.831	D	0.842	D	0.011	No	--	--
14. Harbor Boulevard at Imperial Highway	E	La Habra/ Fullerton/Caltrans	AM	0.759	C	0.841	D	0.845	D	0.004	No	--	--
			PM	0.683	B	0.814	D	0.835	D	0.021	No	--	--
			AM	43.1 s/v	D	55.1 s/v	E	56.3 s/v	E	--	No	--	--
			PM	44.4 s/v	D	54.0 s/v	D	54.8 s/v	D	--	No	--	--
15. Beach Boulevard at Lambert Road	E	La Habra/ Caltrans	AM	0.949	E	**1.021**	**F**	**1.024**	**F**	0.003	No	--	--
			PM	0.900	D	0.974	E	0.980	E	0.006	No	--	--
16. Idaho Street at Lambert Road	D	La Habra	AM	0.814	D	0.870	D	0.870	D	0.000	No	--	--
			PM	0.775	C	0.831	D	0.831	D	0.000	No	--	--
17. Euclid Street at Lambert Road	D	La Habra	AM	0.702	C	0.771	C	0.771	C	0.000	No	--	--
			PM	0.799	C	0.876	D	0.876	D	0.000	No	--	--
18. Harbor Boulevard at Lambert Road	D	La Habra	AM	0.696	B	0.763	C	0.765	C	0.002	No	--	--
			PM	0.777	C	0.850	D	0.852	D	0.002	No	--	--
19. La Mirada Boulevard at Imperial Highway	E	La Mirada	AM	0.900	D	0.975	E	0.982	E	0.007	No	--	--
			PM	0.859	D	0.935	E	0.941	E	0.006	No	--	--
20. Beach Boulevard at La Mirada Blvd/Malvern	D	Buena Park/ Caltrans	AM	0.757	C	0.843	D	0.854	D	0.011	No	--	--
			PM	0.805	D	0.880	D	0.900	D	0.020	No	--	--
21. Beach Boulevard at La Habra Boulevard	E	La Habra/ Caltrans	AM	0.729	C	0.788	C	0.790	C	0.002	No	--	--
			PM	0.801	D	0.871	D	0.874	D	0.003	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/**LOS values indicate unacceptable service level

TABLE 18-4 (CONTINUED)
YEAR 2023 (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Min. Acc. LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2023 Cumulative Traffic Conditions		(3) Year 2023 Cumulative Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
22. Valley View Avenue at Imperial Highway	E	La Mirada	AM	0.903	E	0.989	E	0.994	E	0.005	No	--	--
			PM	0.876	D	0.985	E	0.991	E	0.006	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	Buena Park/ Caltrans	AM	0.795	C	0.876	D	0.888	D	0.012	No	--	--
			PM	0.748	C	0.834	D	0.845	D	0.011	No	--	--
24. Beach Boulevard at Commonwealth Avenue	D	Buena Park/ Caltrans	AM	0.589	A	0.661	B	0.670	B	0.009	No	--	--
			PM	0.613	B	0.705	C	0.714	C	0.009	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.350	A	0.372	A	0.372	A	0.000	No	--	--
			PM	0.477	A	0.512	A	0.512	A	0.000	No	--	--
26. Beach Boulevard at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.720	C	0.790	C	0.800	C	0.010	No	--	--
			PM	0.677	B	0.763	C	0.779	C	0.016	No	--	--
27. Beach Boulevard at I-5 SB Ramps	D	Buena Park/ Caltrans	AM	0.691	B	0.785	C	0.793	C	0.008	No	--	--
			PM	0.675	B	0.767	C	0.775	C	0.008	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.686	B	0.753	C	0.757	C	0.004	No	--	--
			PM	0.758	C	0.814	D	0.817	D	0.003	No	--	--
29. Hacienda Road at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.849	D	0.910	E	0.914	E	0.004	No	0.762	C
			PM	0.834	D	0.913	E	0.921	E	0.008	No	0.841	D
30. Walnut Street at Imperial Highway	E	La Habra/ Caltrans	AM	**957.8 s/v**	**F**	**5,473.9 s/v**	**F**	**5,473.9 s/v**	**F**	--	**Yes**	0.605	B
			PM	44.6 s/v	E	**94.2 s/v**	**F**	**103.3 s/v**	**F**	--	**Yes**	0.691	B
31. Gilbert Street at Malvern Avenue	D	Fullerton	AM	45.9 s/v	D	44.5 s/v	D	44.7 s/v	D	--	No	--	--
			PM	43.6 s/v	D	49.8 s/v	D	50.7 s/v	D	--	No	--	--
32. Euclid Street at Malvern Avenue	D	Fullerton	AM	41.8 s/v	D	47.9 s/v	D	48.9 s/v	D	--	No	--	--
			PM	43.3 s/v	D	48.2 s/v	D	48.4 s/v	D	--	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 18-5

YEAR 2023 CUMULATIVE PLUS PROJECT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
A. Lambert Road between Beach Blvd and Idaho Street	D	La Habra	4	Primary	37,500	**38,441**	**1.025**	**F**	**38,441**	**1.025**	**F**	0.000	No
B. Lambert Road between Idaho Street and Euclid Street	D	La Habra	4	Primary	37,500	**40,541**	**1.081**	**F**	**40,541**	**1.081**	**F**	0.000	No
C. Lambert Road between Euclid Street and Harbor Blvd	D	La Habra	4	Primary	37,500	**39,074**	**1.042**	**F**	**39,074**	**1.042**	**F**	0.000	No
D. Beach Boulevard between Lambert Road and Imperial Hwy	E	La Habra	6	Major	56,300	**56,521**	**1.004**	**F**	**56,983**	**1.012**	**F**	0.008	No
E. Idaho Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	25,278	0.674	B	25,277	0.674	B	0.000	No
F. Euclid Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	20,570	0.549	A	20,560	0.548	A	-0.001	No
G. Harbor Boulevard between Lambert Road and Imperial Hwy	D	La Habra	6	Major	56,300	41,826	0.743	C	42,173	0.749	C	0.006	No
H Imperial Highway between Santa Gertrudes Ave and 1st Ave	D	La Mirada	6	Major	54,000	42,038	0.778	C	42,691	0.791	C	0.013	No
I. Imperial Highway between 1st Avenue and Beach Boulevard	E	La Habra	6	Major	56,300	41,689	0.740	C	42,362	0.752	C	0.012	No
J. Imperial Highway between Beach Blvd and La Habra Hills Dr	E	La Habra	6	Smart Street	60,200	57,404	0.954	E	58,795	0.977	E	0.023	No
K. Imperial Highway between La Habra Hills Dr and Idaho Street	E	La Habra	6	Smart Street	60,200	58,265	0.968	E	59,272	0.985	E	0.017	No
L. Imperial Highway between Idaho Street and Euclid Street	E	La Habra	6	Smart Street	60,200	59,063	0.981	E	59,770	0.993	E	0.012	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-5 (CONTINUED)

YEAR 2023 CUMULATIVE PLUS PROJECT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
M. Imperial Highway between Euclid Street and Harbor Boulevard	E	La Habra	6	Smart Street	60,200	**63,991**	**1.063**	**F**	**64,593**	**1.073**	**F**	**0.010**	
➢ *Peak Hour Assessment*													
				AM	*EB*	*3,010*	*2,130*	*0.708*	*C*	*2,169*	*0.721*	*C*	*0.013*	*No*
					WB	*3,010*	*2,117*	*0.703*	*C*	*2,129*	*0.707*	*C*	*0.004*	*No*
				PM	*EB*	*3,010*	*1,942*	*0.645*	*B*	*1,962*	*0.652*	*B*	*0.007*	*No*
					WB	*3,010*	*2,455*	*0.816*	*D*	*2,499*	*0.830*	*D*	*0.014*	*No*
N. Idaho Street between Imperial Hwy and Sandlewood Ave	D	La Habra	4	Primary	37,500	23,658	0.631	B	24,269	0.647	B	0.016	No
O. Euclid Street between Sandlewood Ave and Imperial Hwy	D	La Habra	4	Primary	37,500	23,926	0.638	B	24,040	0.641	B	0.003	No
P Gilbert Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	17,853	0.476	A	18,417	0.491	A	0.015	No
Q. Euclid Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	24,320	0.649	B	24,473	0.653	B	0.004	No
R. Beach Boulevard between Imperial Hwy and Hillsborough Apt.	E	La Habra	6	Smart Street	60,200	**61,483**	**1.021**	**F**	**62,670**	**1.041**	**F**	**0.020**	
➢ *Peak Hour Assessment*													
				AM	*NB*	*3,010*	*2,002*	*0.665*	*B*	*2,054*	*0.682*	*B*	*0.017*	*No*
					SB	*3,010*	*2,519*	*0.837*	*D*	*2,551*	*0.848*	*D*	*0.011*	*No*
				PM	*NB*	*3,010*	*2,494*	*0.829*	*D*	*2,543*	*0.845*	*D*	*0.016*	*No*
					SB	*3,010*	*2,302*	*0.765*	*C*	*2,358*	*0.783*	*C*	*0.018*	*No*

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-5 (CONTINUED)

YEAR 2023 CUMULATIVE PLUS PROJECT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
S. Beach Boulevard between Hillsborough Apt. and Hillsborough Dr	E	La Habra	6	Smart Street	60,200	**64,395**	**1.070**	**F**	**66,170**	**1.099**	**F**	**0.029**	
			AM	*NB*	*3,010*	*1,956*	*0.650*	*B*	*1,992*	*0.662*	*B*	*0.012*	*No*
				SB	*3,010*	*2,537*	*0.843*	*D*	*2,629*	*0.873*	*D*	*0.030*	*No*
➢ *Peak Hour Assessment*			*PM*	*NB*	*3,010*	*2,507*	*0.833*	*D*	*2,607*	*0.866*	*D*	*0.033*	*No*
				SB	*3,010*	*2,282*	*0.758*	*C*	*2,344*	*0.779*	*C*	*0.021*	*No*
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	E	La Mirada	6	Smart Street	57,780	**59,714**	**1.033**	**F**	**61,429**	**1.063**	**F**	**0.030**	
			AM	*NB*	*3,210*	*1,694*	*0.528*	*A*	*1,728*	*0.538*	*A*	*0.010*	*No*
				SB	*3,210*	*2,606*	*0.812*	*D*	*2,697*	*0.840*	*D*	*0.028*	*No*
➢ *Peak Hour Assessment*			*PM*	*NB*	*3,210*	*2,533*	*0.789*	*C*	*2,630*	*0.819*	*D*	*0.030*	*No*
				SB	*3,210*	*2,058*	*0.641*	*B*	*2,118*	*0.660*	*B*	*0.019*	*No*
U. Rosecrans Avenue between Beach Boulevard and Gilbert Street	D	Fullerton	4	Primary	37,500	25,092	0.669	B	25,775	0.687	B	0.018	No
V. Rosecrans Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Secondary	25,000	16,128	0.645	B	16,225	0.649	B	0.004	No
W-I. Sandlewood Avenue East of Idaho Street	D	La Habra	2	Commuter	5,400	3,780	0.700	C	3,905	0.723	C	0.023	No
W-II. Sandlewood Avenue between Idaho Street and Euclid Street	D	La Habra	2	Commuter	5,400	2,028	0.376	A	2,153	0.399	A	0.023	No
W-III. Sandlewood Avenue between West of Euclid Street	D	La Habra	2	Commuter	5,400	1,361	0.252	A	1,486	0.275	A	0.023	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-5 (CONTINUED)
YEAR 2023 CUMULATIVE PLUS PROJECT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment		Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
							Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
X.	Beach Boulevard between Rosecrans Ave and La Mirada Blvd	D	Buena Park	6	Smart Street	60,200	50,358	0.837	D	51,578	0.857	D	0.020	No
Y.	Imperial Highway between Santa Gertrudes and La Mirada Blvd	E	La Mirada	6	Major	54,000	37,410	0.693	B	38,046	0.705	C	0.012	No
Z.	Beach Boulevard between Lambert Rd and La Habra Boulevard.	E	La Habra	6	Major	56,300	47,030	0.835	D	47,475	0.843	D	0.008	No
AA.	Imperial Highway between Valley View Ave and La Mirada Blvd	E	La Mirada	6	Major	54,000	35,350	0.655	B	35,850	0.664	B	0.009	No
BB.	Beach Boulevard between La Mirada Blvd/Malvern Ave and Artesia Blvd	D	Buena Park	6	Smart Street	60,200	**78,881**	**1.310**	**F**	**79,879**	**1.327**	**F**	0.017	No
CC.	Beach Boulevard between Artesia Blvd and Commonwealth Ave	D	Buena Park	6	Smart Street	60,200	**64,240**	**1.067**	**F**	**65,012**	**1.080**	**F**	0.013	No
DD.	Beach Blvd between Commonwealth Ave and Auto Center Dr	D	Buena Park	6	Smart Street	60,200	**66,214**	**1.100**	**F**	**66,977**	**1.113**	**F**	0.013	No
EE.	Auto Center Drive between Beach Boulevard and I-5 NB Ramps	D	Buena Park	4	Primary	37,500	13,826	0.369	A	13,924	0.371	A	0.002	No
FF.	Beach Boulevard between Auto Center Drive and I-5 SB Ramps	D	Buena Park	6	Smart Street	60,200	**69,894**	**1.161**	**F**	**70,472**	**1.171**	**F**	0.010	No
GG	Beach Boulevard between La Habra Blvd and Whittier Blvd	E	La Habra	6	Major	56,300	38,113	0.677	B	38,558	0.685	B	0.008	No
HH.	Whittier Boulevard between Beach Blvd and Hacienda Rd	D	La Habra	4	Primary	37,500	**51,570**	**1.375**	**F**	**51,795**	**1.381**	**F**	0.006	No
II.	Gilbert Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	27,672	0.738	C	28,358	0.756	C	0.018	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-5 (CONTINUED)

YEAR 2023 CUMULATIVE PLUS PROJECT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2023 Cumulative Traffic Conditions			(5) Year 2023 Cumulative Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
JJ. Euclid Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	**33,942**	**0.905**	**E**	**34,166**	**0.911**	**E**	0.006	No
KK. Malvern Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Primary	37,500	26,182	0.698	B	26,444	0.705	C	0.007	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

18.5.5 *Year 2035 Buildout Plus Project (Residential Option) Traffic Conditions – Intersections*

Table 18-6 summarizes the peak hour Level of Service results at the thirty-two (32) key study intersections for the Year 2035. Review of Columns 3 and 4 of *Table 18-6* indicates that traffic associated with the proposed Project (Residential Option) will significantly impact four (4) of the thirty-two (32) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of Santa Gertrudes Avenue/Imperial Highway, Euclid Street/Imperial Highway, Harbor Boulevard/Imperial Highway, Idaho Street/Lambert Road, Euclid Street/Lambert Road, Harbor Boulevard/Lambert Road, La Mirada Boulevard/Imperial Highway, Beach Boulevard/La Mirada Boulevard-Malvern Avenue, Valley View Avenue/Imperial Highway, Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard, Gilbert Street/Malvern Avenue and Euclid Street/Malvern Avenue are forecast to operate at unacceptable LOS E and/or LOS F during the AM and/or PM peak hour with the addition of project traffic, the Project (Residential Option) is expected to add less than the allowable threshold to the ICU and/or Delay value. Also, although the intersection of Euclid Street/Sandlewood Avenue is forecast to operate at unacceptable LOS F during the AM and PM peak hours, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied. The remaining fourteen (14) key study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2035. The six (6) locations significantly impacted by the proposed Project (Residential Option) in the Year 2035 are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada	1.151	F	1.119	F
10. Beach Boulevard at Imperial Highway	La Habra	1.014	F	1.072	F
15. Beach Boulevard at Lambert Road	La Habra	1.081	F	1.196	F
30. Walnut Street at Imperial Highway	La Habra	27,301.7 s/v	F	125.0 s/v	F

As shown in column 5, the implementation of improvements at the impacted key study intersections of Beach Boulevard/Rosecrans Avenue and Beach Boulevard/Lambert Road offsets the impact of project traffic; however these locations are still forecast to operate at unacceptable LOS F during the AM and/or PM peak hours. The implementation of improvements at the impacted key study intersections of Beach Boulevard/Imperial Highway and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours. Refer to Section 18.15.1 for details on the recommended improvements. Although not impacted by the proposed Project (Residential Option), AM and PM peak hour LOS results are shown in column 5 for the intersection of Hacienda Road/Whittier Boulevard with the improvements planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project.

Appendix O presents the Year 2035 plus project (Residential Option) ICU/LOS and HCM/LOS calculations for the thirty-two (32) key study intersections as well as the traffic signal warrant worksheets for the intersection of Euclid Street/Sandlewood Avenue.

18.5.6 *Year 2035 Buildout Plus Project (Residential Option) Traffic Conditions – Roadway Segments*

Table 18-7 summarizes the results of the Year 2035 Buildout plus Project (Residential Option) daily analysis for the thirty-seven (37) key roadway segments. Review of Column 5 of *Table 18-7* indicates that eighteen of the thirty-seven (37) key roadway segments are forecast to operate at an unacceptable level of service on a daily basis in the Year 2035 with the proposed Project (Residential Option). The eighteen locations that are forecast to operate at an adverse LOS in the Year 2035 with project traffic are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	1.087	F
B. Lambert Road between Idaho Street and Euclid Street	La Habra	1.146	F
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	1.104	F
D. Beach Boulevard between Lambert Road and Imperial Highway	La Habra	1.038	F
J. Imperial Highway between Beach Blvd and La Habra Hills Dr	La Habra	1.047	F
K. Imperial Highway between La Habra Hills Dr and Idaho Street	La Habra	1.054	F
L. Imperial Highway between Idaho Street and Euclid Street	La Habra	1.050	F
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	1.137	F
R. Beach Boulevard between Imperial Highway and Hillsborough Apt	La Habra	1.102	F
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.163	F
T. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue	La Mirada	1.125	F
X. Beach Boulevard between Rosecrans Ave and La Mirada Blvd	Buena Park	0.907	E
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.406	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Ave	Buena Park	1.144	F
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	Buena Park	1.179	F
FF. Beach Blvd between Auto Center Dr and I-5 SB Ramps	Buena Park	1.240	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.464	F
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue	Fullerton	0.938	E

Of the eighteen locations operating at an unacceptable level of service, only Roadway Segment J (i.e. Imperial Highway between Beach Boulevard and La Habra Hills Drive), Roadway Segment K (i.e. Imperial Highway between La Habra Hills Drive and Idaho Street, Roadway Segment L (i.e. Imperial Highway between Idaho Street and Euclid Street, Roadway Segment M (i.e. Imperial Highway between Euclid Street and Harbor Boulevard), Roadway Segment R (i.e. Beach Boulevard between Imperial Highway and Hillsborough Apt.), Roadway Segment S (i.e. Beach Boulevard between Hillsborough Apt. and Hillsborough Drive), Roadway Segment T (i.e. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue), and Roadway Segment X (i.e. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard) require a peak hour link assessment to determine whether or not they will be impacted by the proposed Project (Residential Option) in the Year 2035. The other ten (10) locations (i.e. Roadway Segments A, B, C, D, BB, CC,

DD, FF, HH and JJ) do not exceed the thresholds defined in this report requiring a peak hour link assessment and thus are not impacted by the proposed Project (Residential Option) under Year 2035 plus Project Traffic Conditions.

As shown in *Table 18-7*, the proposed Project (Residential Option) will have a cumulative impact at Roadway Segment M, as this location is forecast to operate in the Year 2035 at unacceptable LOS F in the eastbound direction during the critical weekday AM peak hour and at unacceptable LOS F in the westbound direction during the critical weekday PM peak hour with the proposed Project (Residential Option). As further shown in *Table 18-7*, the proposed Project (Residential Option) will also have a cumulative impact at Roadway Segment X, as this location is forecast to operate in the Year 2035 at unacceptable LOS E in the southbound direction during the critical weekday AM peak hour and at unacceptable LOS E in the northbound direction during the critical weekday PM peak hour with the proposed Project (Residential Option). The remaining six (6) key roadway segments (i.e. Roadway Segment J, Roadway Segment K, Roadway Segment L, Roadway Segment R, Roadway Segment S and Roadway Segment T) ***will not*** be significantly impacted by the proposed Project (Residential Option) as these six (6) locations are forecast to operate in the Year 2035 at an acceptable LOS without and with the proposed Project (Residential Option) during the weekday AM and PM peak commute hours.

As shown in *Table 18-7*, with implementation of recommended improvements, Roadway Segment M (i.e. Imperial Highway between Euclid Street and Harbor Boulevard) is forecast to operate at acceptable LOS D or better with the addition of Project (Residential Option) generated traffic in the Year 2035 traffic condition.

As shown in *Table 18-7*, with implementation of recommended improvements, Roadway Segment X (i.e. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard) is forecast to operate at acceptable LOS D or better with the addition of Project (Residential Option) generated traffic in the Year 2035 traffic condition.

The remaining nineteen (19) key roadway segments are forecast to continue to operate at an acceptable service level on a daily basis with the addition of project (Residential Option) generated traffic in the Year 2035 traffic condition.

TABLE 18-6
YEAR 2035 (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2035 Buildout Traffic Conditions		(3) Year 2035 Buildout Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	E	La Mirada/ Caltrans	AM	0.979	E	**1.135**	**F**	**1.151**	**F**	0.016	No	**1.021**	**F**
			PM	0.935	E	**1.085**	**F**	**1.119**	**F**	**0.034**	**Yes**	0.950	E
2. Gilbert Street at Rosecrans Avenue	D	Fullerton	AM	39.3 s/v	D	43.4 s/v	D	44.7 s/v	D	--	No	--	--
			PM	37.1 s/v	D	40.0 s/v	D	40.9 s/v	D	--	No	--	--
3. Euclid Street at Rosecrans Avenue	D	Fullerton	AM	29.4 s/v	C	41.5 s/v	D	41.8 s/v	D	--	No	--	--
			PM	19.5 s/v	B	20.1 s/v	C	20.1 s/v	C	--	No	--	--
4. Beach Boulevard at Hillsborough Drive	E	La Mirada/ Caltrans	AM	0.768	C	0.867	D	0.888	D	0.021	No	--	--
			PM	0.738	C	0.849	D	0.863	D	0.014	No	--	--
5. Beach Boulevard at Hillsborough Park Apt.	E	La Habra/ Caltrans	AM	0.533	A	0.610	B	0.643	B	0.033	No	--	--
			PM	0.503	A	0.576	A	0.644	B	0.068	No	--	--
6. Idaho Street at Sandlewood Avenue	D	La Habra	AM	0.485	A	0.572	A	0.591	A	0.019	No	--	--
			PM	0.528	A	0.631	B	0.648	B	0.017	No	--	--
7. Euclid Street at Sandlewood Avenue	D	La Habra	AM	**69.4 s/v**	**F**	**198.0 s/v**	**F**	**221.1 s/v**	**F**	--	No [a]	--	--
			PM	**41.4 s/v**	**E**	**93.1 s/v**	**F**	**110.5 s/v**	**F**	--	No [a]	--	--
8. Santa Gertrudes Avenue at Imperial Highway	E	La Mirada	AM	0.852	D	0.972	E	0.979	E	0.007	No	--	--
			PM	0.871	D	**1.125**	**F**	**1.134**	**F**	0.009	No	--	--
9. 1st Avenue at Imperial Highway	D	La Mirada	AM	0.706	C	0.837	D	0.846	D	0.009	No	--	--
			PM	0.594	A	0.714	C	0.720	C	0.006	No	--	--
10. Beach Boulevard at Imperial Highway	E	La Habra/ Caltrans	AM	0.786	C	0.998	E	**1.014**	**F**	**0.016**	**Yes**	0.923	E
			PM	0.834	D	**1.049**	**F**	**1.072**	**F**	**0.023**	**Yes**	0.986	E
11. La Habra Hills Drive at Imperial Highway	E	La Habra/ Caltrans	AM	0.501	A	0.676	B	0.709	C	0.033	No	--	--
			PM	0.653	B	0.777	C	0.808	D	0.031	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level
- [a] = Although this intersection is forecast to operate at an unacceptable LOS, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied (refer to Section 7.1.1).

TABLE 18-6 (CONTINUED)
YEAR 2035 (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2035 Buildout Traffic Conditions		(3) Year 2035 Buildout Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
12. Idaho Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.692	B	0.830	D	0.844	D	0.014	No	--	--
			PM	0.728	C	0.891	D	0.899	D	0.008	No	--	--
13. Euclid Street at Imperial Highway	E	La Habra/ Caltrans	AM	0.795	C	**1.022**	**F**	**1.031**	**F**	0.009	No	--	--
			PM	0.715	C	0.881	D	0.892	D	0.011	No	--	--
14. Harbor Boulevard at Imperial Highway	E	La Habra/ Fullerton/Caltrans	AM	0.759	C	**1.142**	**F**	**1.145**	**F**	0.003	No	--	--
			PM	0.683	B	0.985	E	0.996	E	0.011	No	--	--
			AM	43.1 s/v	D	**110.1 s/v**	**F**	**111.9 s/v**	**F**	--	No	--	--
			PM	44.4 s/v	D	**89.7 s/v**	**F**	**89.8 s/v**	**F**	--	No	--	--
15. Beach Boulevard at Lambert Road	E	La Habra/ Caltrans	AM	0.949	E	**1.079**	**F**	**1.081**	**F**	0.002	No	**1.073**	**F**
			PM	0.900	D	**1.184**	**F**	**1.196**	**F**	**0.012**	**Yes**	**1.069**	**F**
16. Idaho Street at Lambert Road	D	La Habra	AM	0.814	D	**0.919**	**E**	**0.919**	**E**	0.000	No	--	--
			PM	0.775	C	**1.080**	**F**	**1.080**	**F**	0.000	No	--	--
17. Euclid Street at Lambert Road	D	La Habra	AM	0.702	C	**1.119**	**F**	**1.119**	**F**	0.000	No	--	--
			PM	0.799	C	**1.190**	**F**	**1.190**	**F**	0.000	No	--	--
18. Harbor Boulevard at Lambert Road	D	La Habra	AM	0.696	B	0.814	D	0.816	D	0.002	No	--	--
			PM	0.777	C	**1.134**	**F**	**1.137**	**F**	0.003	No	--	--
19. La Mirada Boulevard at Imperial Highway	E	La Mirada	AM	0.900	D	**1.205**	**F**	**1.212**	**F**	0.007	No	--	--
			PM	0.859	D	0.991	E	0.997	E	0.006	No	--	--
20. Beach Boulevard at La Mirada/Malvern Ave	D	Buena Park/ Caltrans	AM	0.757	C	**0.987**	**E**	**0.998**	**E**	0.011	No	--	--
			PM	0.805	D	**0.925**	**E**	**0.944**	**E**	0.019	No	--	--
21. Beach Boulevard at La Habra Boulevard	E	La Habra/ Caltrans	AM	0.729	C	0.832	D	0.834	D	0.002	No	--	--
			PM	0.801	D	0.925	E	0.928	E	0.003	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 18-6 (CONTINUED)
YEAR 2035 (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Jurisdiction	Time Period	(1) Existing Traffic Conditions		(2) Year 2035 Buildout Traffic Conditions		(3) Year 2035 Buildout Plus Project Traffic Conditions		(4) Project Significant Impact		(5) With Improvements	
				ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Inc.	Yes/No	ICU/HCM	LOS
22. Valley View Avenue at Imperial Highway	E	La Mirada	AM	0.903	E	**1.043**	**F**	**1.048**	**F**	0.005	No	--	--
			PM	0.876	D	**1.033**	**F**	**1.039**	**F**	0.006	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	Buena Park/ Caltrans	AM	0.795	C	**0.943**	**E**	**0.955**	**E**	0.012	No	--	--
			PM	0.748	C	**0.906**	**E**	**0.917**	**E**	0.011	No	--	--
24. Beach Boulevard at Commonwealth Avenue	D	Buena Park/ Caltrans	AM	0.589	A	0.698	B	0.707	C	0.009	No	--	--
			PM	0.613	B	0.747	C	0.756	C	0.009	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.350	A	0.389	A	0.389	A	0.000	No	--	--
			PM	0.477	A	0.529	A	0.529	A	0.000	No	--	--
26. Beach Boulevard at Auto Center Drive	D	Buena Park/ Caltrans	AM	0.720	C	0.855	D	0.865	D	0.010	No	--	--
			PM	0.677	B	0.834	D	0.850	D	0.016	No	--	--
27. Beach Boulevard at I-5 SB Ramps	D	Buena Park/ Caltrans	AM	0.691	B	0.849	D	0.857	D	0.008	No	--	--
			PM	0.675	B	0.837	D	0.845	D	0.008	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.686	B	0.868	D	0.876	D	0.008	No	--	--
			PM	0.758	C	0.858	D	0.861	D	0.003	No	--	--
29. Hacienda Road at Whittier Boulevard	E	La Habra/ Caltrans	AM	0.849	D	0.985	E	0.989	E	0.004	No	0.855	D
			PM	0.834	D	**1.187**	**F**	**1.190**	**F**	0.003	No	**1.066**	**F**
30. Walnut Street at Imperial Highway	E	La Habra/ Caltrans	AM	**957.8 s/v**	**F**	**27,301.7 s/v**	**F**	**27,301.7 s/v**	**F**	--	**Yes**	0.759	C
			PM	44.6 s/v	E	**113.0 s/v**	**F**	**125.0 s/v**	**F**	--	**Yes**	0.725	C
31. Gilbert Street at Malvern Avenue	D	Fullerton	AM	45.9 s/v	D	49.4 s/v	D	52.6 s/v	D	--	No	--	--
			PM	43.6 s/v	D	**56.0 s/v**	**E**	**59.6 s/v**	**E**	--	No	--	--
32. Euclid Street at Malvern Avenue	D	Fullerton	AM	41.8 s/v	D	**59.6 s/v**	**E**	**60.8 s/v**	**E**	--	No	--	--
			PM	43.3 s/v	D	**56.9 s/v**	**E**	**58.6 s/v**	**E**	--	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **BOLD ICU/LOS** and **HCM/LOS** values indicate unacceptable service level

TABLE 18-7

YEAR 2035 BUILDOUT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
A. Lambert Road between Beach Boulevard and Idaho Street	D	La Habra	4	Primary	37,500	**40,747**	**1.087**	**F**	**40,747**	**1.087**	**F**	0.000	No
B. Lambert Road between Idaho Street and Euclid Street	D	La Habra	4	Primary	37,500	**42,973**	**1.146**	**F**	**42,973**	**1.146**	**F**	0.000	No
C. Lambert Road between Euclid Street and Harbor Blvd	D	La Habra	4	Primary	37,500	**41,418**	**1.104**	**F**	**41,418**	**1.104**	**F**	0.000	No
D. Beach Boulevard between Lambert Road and Imperial Hwy	E	La Habra	6	Major	56,300	**57,988**	**1.030**	**F**	**58,450**	**1.038**	**F**	0.008	No
E. Idaho Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	26,412	0.704	C	26,411	0.704	C	0.000	No
F. Euclid Street between Lambert Road and Imperial Hwy	D	La Habra	4	Primary	37,500	21,804	0.581	A	21,794	0.581	A	0.000	No
G. Harbor Boulevard between Lambert Road and Imperial Hwy	D	La Habra	6	Major	56,300	44,336	0.787	C	44,683	0.794	C	0.007	No
H Imperial Highway between Santa Gertrudes Ave and 1st Ave	D	La Mirada	6	Major	54,000	44,560	0.825	D	45,213	0.837	D	0.012	No
I. Imperial Highway between 1st Avenue and Beach Boulevard	E	La Habra	6	Major	56,300	44,190	0.785	C	44,863	0.797	C	0.012	No
J. Imperial Highway between Beach Blvd and La Habra Hills Dr	E	La Habra	6	Smart Street	60,200	**61,645**	**1.024**	**F**	**63,036**	**1.047**	**F**	**0.023**	
➢ *Peak Hour Assessment*			*AM*	*EB*	*3,010*	*2,720*	*0.904*	*E*	*2,765*	*0.919*	*E*	*0.015*	*No*
				WB	*3,010*	*2,312*	*0.768*	*C*	*2,374*	*0.789*	*C*	*0.021*	*No*
			PM	*EB*	*3,010*	*2,168*	*0.720*	*C*	*2,244*	*0.746*	*C*	*0.026*	*No*
				WB	*3,010*	*2,143*	*0.712*	*C*	*2,200*	*0.731*	*C*	*0.019*	*No*

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-7 (CONTINUED)
YEAR 2035 BUILDOUT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
K. Imperial Highway between La Habra Hills Drive and Idaho Street	E	La Habra	6	Smart Street	60,200	**62,434**	**1.037**	**F**	**63,441**	**1.054**	**F**	**0.017**	
➢ *Peak Hour Assessment*													
			AM			*EB* *3,010*	*2,718*	*0.903*	*E*	*2,768*	*0.920*	*E*	*0.017*	*No*
						WB *3,010*	*2,359*	*0.784*	*C*	*2,394*	*0.795*	*C*	*0.011*	*No*
			PM			*EB* *3,010*	*2,209*	*0.734*	*C*	*2,252*	*0.748*	*C*	*0.014*	*No*
						WB *3,010*	*2,208*	*0.734*	*C*	*2,273*	*0.755*	*C*	*0.021*	*No*
L. Imperial Highway between Idaho Street and Euclid Street	E	La Habra	6	Smart Street	60,200	**62,478**	**1.038**	**F**	**63,185**	**1.050**	**F**	**0.012**	
➢ *Peak Hour Assessment*													
			AM			*EB* *3,010*	*2,686*	*0.892*	*D*	*2,730*	*0.907*	*E*	*0.015*	*No*
						WB *3,010*	*2,239*	*0.744*	*C*	*2,254*	*0.749*	*C*	*0.005*	*No*
			PM			*EB* *3,010*	*2,331*	*0.774*	*C*	*2,355*	*0.782*	*C*	*0.008*	*No*
						WB *3,010*	*2,416*	*0.803*	*D*	*2,469*	*0.820*	*D*	*0.017*	*No*
M. Imperial Highway between Euclid Street and Harbor Boulevard	E	La Habra	6	Smart Street	60,200	**67,830**	**1.127**	**F**	**68,432**	**1.137**	**F**	**0.010**	
➢ *Peak Hour Assessment*													
			AM			*EB* *3,010*	***3,029***	***1.006***	***F***	***3,068***	***1.019***	***F***	***0.013***	***Yes***
						WB *3,010*	*2,462*	*0.818*	*D*	*2,474*	*0.822*	*D*	*0.004*	*No*
			PM			*EB* *3,010*	*2,196*	*0.730*	*C*	*2,216*	*0.736*	*C*	*0.006*	*No*
						WB *3,010*	***2,995***	***0.995***	***E***	***3,039***	***1.010***	***F***	***0.015***	***Yes***
➢ *Peak Hour Assessment* (With Improvements) [a]													
			AM		*3,750*	*EB* *3,029*	*0.808*	*D*	*3,068*	*0.818*	*D*	*0.010*	*No*
					3,750	*WB* *2,462*	*0.657*	*B*	*2,474*	*0.660*	*B*	*0.003*	*No*
			PM		*3,750*	*EB* *2,196*	*0.586*	*A*	*2,216*	*0.591*	*A*	*0.005*	*No*
					3,750	*WB* *2,995*	*0.799*	*C*	*3,039*	*0.810*	*D*	*0.011*	*No*

Notes:

- BOLD V/C ratio indicates unacceptable service level

[a] = Improvements at this location include the installation of a 4th eastbound through lane and a 4th westbound through lane.

TABLE 18-7 (CONTINUED)
YEAR 2035 BUILDOUT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
N. Idaho Street between Imperial Hwy and Sandlewood Ave	D	La Habra	4	Primary	37,500	24,051	0.641	B	24,662	0.658	B	0.017	No
O. Euclid Street between Sandlewood Ave and Imperial Hwy	D	La Habra	4	Primary	37,500	25,362	0.676	B	25,476	0.679	B	0.003	No
P. Gilbert Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	20,018	0.534	A	20,582	0.549	A	0.015	No
Q. Euclid Street between Sandlewood Ave and Rosecrans Ave	D	Fullerton	4	Primary	37,500	25,779	0.687	B	25,932	0.692	B	0.005	No
R. Beach Boulevard between Imperial Hwy and Hillsborough Apt.	E	La Habra	6	Smart Street	60,200	**65,172**	**1.083**	**F**	**66,359**	**1.102**	**F**	**0.019**	
➢ *Peak Hour Assessment*													
				NB	*3,010*	*2,122*	*0.705*	*C*	*2,174*	*0.722*	*C*	*0.017*	*No*
				AM	*SB*	*3,010*	*2,670*	*0.887*	*D*	*2,702*	*0.898*	*D*	*0.011*	*No*
				NB	*3,010*	*2,644*	*0.878*	*D*	*2,693*	*0.895*	*D*	*0.017*	*No*
				PM	*SB*	*3,010*	*2,440*	*0.811*	*D*	*2,496*	*0.829*	*D*	*0.018*	*No*
S. Beach Boulevard between Hillsborough Apt. and Hillsborough Dr	E	La Habra	6	Smart Street	60,200	**68,259**	**1.134**	**F**	**70,034**	**1.163**	**F**	**0.029**	
➢ *Peak Hour Assessment*													
				NB	*3,010*	*2,074*	*0.689*	*B*	*2,110*	*0.701*	*C*	*0.012*	*No*
				AM	*SB*	*3,010*	*2,689*	*0.893*	*D*	*2,781*	*0.924*	*E*	*0.031*	*No*
				NB	*3,010*	*2,658*	*0.883*	*D*	*2,758*	*0.916*	*E*	*0.033*	*No*
				PM	*SB*	*3,010*	*2,419*	*0.804*	*D*	*2,481*	*0.824*	*D*	*0.020*	*No*

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

[a] = Improvements at this location include the installation of a 4th eastbound through lane and a 4th westbound through lane.

TABLE 18-7 (CONTINUED)
YEAR 2035 BUILDOUT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	E	La Mirada	6	Smart Street	57,780	**63,297**	**1.095**	**F**	**65,012**	**1.125**	**F**	**0.030**	
AM				*NB*	*3,210*	*1,795*	*0.559*	*A*	*1,829*	*0.570*	*A*	*0.011*	*No*
				SB	*3,210*	*2,763*	*0.861*	*D*	*2,854*	*0.889*	*D*	*0.028*	*No*
➢ *Peak Hour Assessment*													
PM				*NB*	*3,210*	*2,685*	*0.836*	*D*	*2,782*	*0.867*	*D*	*0.031*	*No*
				SB	*3,210*	*2,181*	*0.679*	*B*	*2,241*	*0.698*	*B*	*0.019*	*No*
U. Rosecrans Avenue between Beach Boulevard and Gilbert Street	D	Fullerton	4	Primary	37,500	26,598	0.709	C	27,281	0.727	C	0.018	No
V. Rosecrans Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Secondary	25,000	16,868	0.675	B	16,965	0.679	B	0.004	No
W-I. Sandlewood Avenue East of Idaho Street	D	La Habra	2	Commuter	5,400	4,007	0.742	C	4,132	0.765	C	0.023	No
W-II. Sandlewood Avenue between Idaho Street and Euclid Street	D	La Habra	2	Commuter	5,400	2,065	0.382	A	2,190	0.406	A	0.024	No
W-III. Sandlewood Avenue West of Euclid Street	D	La Habra	2	Commuter	5,400	1,430	0.265	A	1,555	0.288	A	0.023	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

TABLE 18-7 (CONTINUED)
YEAR 2035 BUILDOUT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
						Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
X. Beach Boulevard between Rosecrans Ave and La Mirada Blvd	D	Buena Park	6	Smart Street	60,200	53,379	0.887	D	**54,599**	**0.907**	**E**	**0.020**	
			AM	*NB*	*3,010*	*2,062*	*0.685*	*B*	*2,088*	*0.694*	*B*	*0.009*	*No*
➢ *Peak Hour Assessment*				*SB*	*3,010*	***2,914***	***0.968***	***E***	***2,981***	***0.990***	***E***	***0.022***	***Yes***
			PM	*NB*	*3,010*	***2,735***	***0.909***	***E***	***2,807***	***0.933***	***E***	***0.024***	***Yes***
				SB	*3,010*	*2,264*	*0.752*	*C*	*2,307*	*0.766*	*C*	*0.014*	*No*
			AM	*NB*	*3,750*	*2,062*	*0.550*	*A*	*2,088*	*0.557*	*A*	*0.007*	*No*
➢ *Peak Hour Assessment* (With Improvements) [a]				*SB*	*3,750*	*2,914*	*0.777*	*C*	*2,981*	*0.795*	*C*	*0.018*	*No*
			PM	*NB*	*3,750*	*2,735*	*0.729*	*C*	*2,807*	*0.749*	*C*	*0.020*	*No*
				SB	*3,750*	*2,264*	*0.604*	*B*	*2,307*	*0.615*	*B*	*0.011*	*No*
Y. Imperial Highway between Santa Gertrudes and La Mirada Blvd	E	La Mirada	6	Major	54,000	39,655	0.734	C	40,291	0.746	C	0.012	No
Z. Beach Boulevard between Lambert Rd and La Habra Boulevard	E	La Habra	6	Major	56,300	49,852	0.885	D	50,297	0.893	D	0.008	No
AA. Imperial Highway between Valley View Ave and La Mirada Blvd	E	La Mirada	6	Major	54,000	37,471	0.694	B	37,971	0.703	C	0.009	No
BB. Beach Boulevard between La Mirada Blvd/Malvern Ave and Artesia Blvd	D	Buena Park	6	Smart Street	60,200	**83,614**	**1.389**	**F**	**84,612**	**1.406**	**F**	0.017	No
CC. Beach Boulevard between Artesia Blvd and Commonwealth Ave	D	Buena Park	6	Smart Street	60,200	**68,094**	**1.131**	**F**	**68,866**	**1.144**	**F**	0.013	No
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	D	Buena Park	6	Smart Street	60,200	**70,187**	**1.166**	**F**	**70,950**	**1.179**	**F**	0.013	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

[a] = Improvements at this location include the installation of a 4th northbound through lane and a 4th southbound through lane.

TABLE 18-7 (CONTINUED)
YEAR 2035 BUILDOUT (RESIDENTIAL OPTION) ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment		Min. Acc. LOS	Jurisdiction	(1) No. of Existing Lanes	(2) Arterial Classification	(3) Existing Capacity at LOS "E"	(4) Year 2035 Buildout Traffic Conditions			(5) Year 2035 Buildout Plus Project Traffic Conditions				
							Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Significant (Yes/No)
EE.	Auto Center Drive between Beach Boulevard and I-5 NB Ramps	D	Buena Park	4	Primary	37,500	14,656	0.391	A	14,754	0.393	A	0.002	No
FF.	Beach Boulevard between Auto Center Drive and I-5 SB Ramps	D	Buena Park	6	Smart Street	60,200	**74,088**	**1.231**	**F**	**74,666**	**1.240**	**F**	0.009	No
GG	Beach Boulevard between La Habra Blvd and Whittier Blvd	E	La Habra	6	Major	56,300	40,400	0.718	C	40,845	0.725	C	0.007	No
HH.	Whittier Boulevard between Beach Blvd and Hacienda Rd	D	La Habra	4	Primary	37,500	**54,664**	**1.458**	**F**	**54,889**	**1.464**	**F**	0.006	No
II.	Gilbert Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	29,332	0.782	C	30,018	0.800	D	0.018	No
JJ.	Euclid Street between Rosecrans Ave and Malvern Ave	D	Fullerton	4	Primary	37,500	**34,944**	**0.932**	**E**	**35,168**	**0.938**	**E**	0.006	No
KK.	Malvern Avenue between Gilbert Street and Euclid Street	D	Fullerton	4	Primary	37,500	27,753	0.740	C	28,015	0.747	C	0.007	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

18.6 Residential Option Project Peak Hour Intersection Capacity Analysis – Caltrans

18.6.1 *Existing Plus Project (Residential Option) Traffic Conditions – Caltrans*

Table 18-8 summarizes the peak hour *HCM* level of service results at the nineteen state-controlled study intersections within the study area for Existing plus Project (Residential Option) traffic conditions. Review of Columns 2 and 3 of *Table 18-8* indicates that traffic associated with the Project (Residential Option) will significantly impact three of the nineteen (19) state-controlled study intersections, when compared to the LOS standards specified in this report. The remaining sixteen (16) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of project (Residential Option) generated traffic to existing traffic. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	55.3 s/v	E	71.6 s/v	E
29. Hacienda Rd at Whittier Blvd	La Habra/Caltrans	254.5 s/v	F	167.8 s/v	F
30. Walnut St at Imperial Hwy	La Habra/Caltrans	1,094.0 s/v	F	--	--

As shown in column 4, the implementation of improvements at the impacted key study intersections of Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

18.6.2 *Year 2023 Cumulative Plus Project (Residential Option) Traffic Conditions – Caltrans*

Table 18-9 summarizes the peak hour *HCM* level of service results at the nineteen state-controlled study intersections within the study area for the 2023 horizon year. Review of Columns 2 and 3 of *Table 18-9* indicates that traffic associated with the proposed Project (Residential Option) will significantly impact five (5) of the nineteen (19) state-controlled study intersections, when compared to the LOS standards specified in this report. The remaining fourteen (14) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of project (Residential Option) generated traffic in the Year 2023. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
10. Beach Blvd at Imperial Hwy	La Habra/Caltrans	81.1 s/v	F	91.2 s/v	F
20. Beach Blvd at La Mirada/Malvern Ave	Buena Park/Caltrans	--	--	68.1 s/v	E
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	72.1 s/v	E	72.2 s/v	E
29. Hacienda Rd at Whittier Blvd	La Habra/Caltrans	272.8 s/v	F	156.0 s/v	F
30. Walnut Street at Imperial Hwy	La Habra/Caltrans	5,473.9 s/v	F	103.3 s/v	F

As shown in column 4, the implementation of improvements at the impacted key study intersection of Beach Boulevard/La Mirada Boulevard-Malvern Avenue offsets the impact of project traffic;

however this location is still forecast to operate at unacceptable LOS E during the PM peak hour. The implementation of improvements at the impacted key study intersections of Beach Boulevard/Imperial Highway, Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

18.6.3 *Year 2035 Buildout Plus Project (Residential Option) Traffic Conditions – Caltrans*

Table 18-10 summarizes the peak hour Level of Service results at the nineteen (19) state-controlled study intersections for the Year 2035. Review of Columns 2 and 3 of *Table 11-3* indicates that traffic associated with the Project (Residential Option) will significantly impact nine (9) of the nineteen (19) state-controlled study intersections, when compared to the LOS standards specified in this report. The remaining ten (10) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of project (Residential Option) generated traffic in the Year 2035. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada/Caltrans	--	--	82.2 s/v	F
10. Beach Boulevard at Imperial Highway	La Habra/Caltrans	94.0 s/v	F	113.2 s/v	F
13. Euclid Street at Imperial Highway	La Habra/Caltrans	117.7 s/v	F	88.9 s/v	F
14. Harbor Boulevard at Imperial Hwy	La Habra / Fullerton / Caltrans	111.9 s/v	F	89.8 s/v	F
15. Beach Boulevard at Lambert Road	La Habra/Caltrans	90.9 s/v	F	140.1 s/v	F
20. Beach Blvd at La Mirada/Malvern Ave	Buena Park/Caltrans	--	--	73.3 s/v	E
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	80.5 s/v	F	98.3 s/v	F
29. Hacienda Road at Whittier Blvd	La Habra/Caltrans	448.6 s/v	F	408.6 s/v	F
30. Walnut Street at Imperial Highway	La Habra/Caltrans	27,301.7 s/v	F	125.0 s/v	F

As shown in column 4, the implementation of improvements at the impacted key study intersections of Beach Boulevard/Imperial Highway, Euclid Street/Imperial Highway, Harbor Boulevard/Imperial Highway, Beach Boulevard/Lambert Road, Beach Boulevard/La Mirada Boulevard-Malvern Avenue and Beach Boulevard/Artesia Boulevard offsets the impact of project traffic; however these locations are still forecast to operate at unacceptable LOS E or F during the AM and/or PM peak hours. The implementation of improvements at the impacted key study intersections of Beach Boulevard/Rosecrans Avenue, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

Appendix P presents the Caltrans level of service calculation worksheets for the nineteen (19) state-controlled study intersections (Residential Option).

TABLE 18-8

EXISTING PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Min. Acc. LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
				HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
1.	Beach Boulevard at Rosecrans Avenue	E	AM	49.2 s/v	D	51.1 s/v	D	No	--	--
			PM	56.1 s/v	E	56.8 s/v	E	No	--	--
4.	Beach Boulevard at Hillsborough Drive	E	AM	14.0 s/v	B	14.0 s/v	B	No	--	--
			PM	20.0 s/v	B	20.2 s/v	C	No	--	--
5.	Beach Boulevard at Hillsborough Park Apt.	E	AM	14.5 s/v	B	17.3 s/v	B	No	--	--
			PM	10.4 s/v	B	13.7 s/v	B	No	--	--
10.	Beach Boulevard at Imperial Highway	E	AM	64.4 s/v	E	66.5 s/v	E	No	--	--
			PM	61.5 s/v	E	66.0 s/v	E	No	--	--
11.	La Habra Hills Drive at Imperial Highway	E	AM	38.5 s/v	D	38.6 s/v	D	No	--	--
			PM	49.1 s/v	D	53.0 s/v	D	No	--	--
12.	Idaho Street at Imperial Highway	E	AM	39.6 s/v	D	40.6 s/v	D	No	--	--
			PM	45.2 s/v	D	48.6 s/v	D	No	--	--
13.	Euclid Street at Imperial Highway	E	AM	49.3 s/v	D	50.7 s/v	D	No	--	--
			PM	48.7 s/v	D	50.3 s/v	D	No	--	--
14.	Harbor Boulevard at Imperial Highway	E	AM	43.1 s/v	D	47.1 s/v	D	No	--	--
			PM	44.4 s/v	D	45.3 s/v	D	No	--	--
15.	Beach Boulevard at Lambert Road	E	AM	55.2 s/v	E	55.2 s/v	E	No	--	--
			PM	51.9 s/v	D	52.5 s/v	D	No	--	--
20.	Beach Boulevard at La Mirada Blvd/Malvern Ave	D	AM	48.4 s/v	D	51.4 s/v	D	No	--	--
			PM	48.3 s/v	D	50.5 s/v	D	No	--	--

TABLE 18-8 (CONTINUED)
EXISTING PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Min. Acc. LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
				HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
21.	Beach Boulevard at La Habra Boulevard	E	AM	53.7 s/v	D	54.2 s/v	D	No	--	--
			PM	56.3 s/v	E	56.8 s/v	E	No	--	--
23.	Beach Boulevard at Artesia Boulevard	D	AM	52.6 s/v	D	**55.3 s/v**	**E**	**Yes**	41.6 s/v	D
			PM	**66.5 s/v**	**E**	**71.6 s/v**	**E**	**Yes**	40.8 s/v	D
24.	Beach Boulevard at Commonwealth Avenue	D	AM	38.2 s/v	D	39.2 s/v	D	No	--	--
			PM	36.6 s/v	D	37.3 s/v	D	No	--	--
25.	I-5 NB Ramps at Auto Center Drive	D	AM	40.6 s/v	D	40.6 s/v	D	No	--	--
			PM	38.4 s/v	D	38.6 s/v	D	No	--	--
26.	Beach Boulevard at Auto Center Drive	D	AM	41.5 s/v	D	42.7 s/v	D	No	--	--
			PM	39.7 s/v	D	40.0 s/v	D	No	--	--
27.	Beach Boulevard at I-5 SB Ramps	D	AM	28.7 s/v	C	29.1 s/v	C	No	--	--
			PM	26.2 s/v	C	26.5 s/v	C	No	--	--
28.	Beach Boulevard at Whittier Boulevard	E	AM	45.4 s/v	D	46.1 s/v	D	No	--	--
			PM	55.6 s/v	E	57.9 s/v	E	No	--	--
29.	Hacienda Road at Whittier Boulevard	E	AM	**254.2 s/v**	**F**	**254.5 s/v**	**F**	**Yes**	31.5 s/v	C
			PM	**135.7 s/v**	**F**	**167.8 s/v**	**F**	**Yes**	42.4 s/v	D
30.	Walnut Street at Imperial Highway	E	AM	**957.8 s/v**	**F**	**1,094.0 s/v**	**F**	**Yes**	23.1 s/v	C
			PM	44.6 s/v	E	47.7 s/v	E	No	23.8 s/v	C

TABLE 18-9

YEAR 2023 (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Min. Acc. LOS	Time Period	(1) Year 2023 Cumulative Traffic Conditions		(2) Year 2023 Cumulative Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
				HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
1.	Beach Boulevard at Rosecrans Avenue	E	AM	47.0 s/v	D	48.6 s/v	D	No	--	--
			PM	61.4 s/v	E	70.0 s/v	E	No	--	--
4.	Beach Boulevard at Hillsborough Drive	E	AM	14.8 s/v	B	16.3 s/v	B	No	--	--
			PM	20.5 s/v	C	20.9 s/v	C	No	--	--
5.	Beach Boulevard at Hillsborough Park Apt.	E	AM	16.1 s/v	B	19.4 s/v	B	No	--	--
			PM	11.8 s/v	B	15.2 s/v	B	No	--	--
10.	Beach Boulevard at Imperial Highway	E	AM	76.3 s/v	E	**81.1 s/v**	**F**	**Yes**	69.1 s/v	E
			PM	76.1 s/v	E	**91.2 s/v**	**F**	**Yes**	73.1 s/v	E
11.	La Habra Hills Drive at Imperial Highway	E	AM	42.6 s/v	D	44.6 s/v	D	No	--	--
			PM	55.9 s/v	E	61.1 s/v	E	No	--	--
12.	Idaho Street at Imperial Highway	E	AM	45.8 s/v	D	46.7 s/v	D	No	--	--
			PM	71.7 s/v	E	75.5 s/v	E	No	--	--
13.	Euclid Street at Imperial Highway	E	AM	55.4 s/v	E	58.3 s/v	E	No	--	--
			PM	70.0 s/v	E	74.2 s/v	E	No	--	--
14.	Harbor Boulevard at Imperial Highway	E	AM	55.1 s/v	E	56.3 s/v	E	No	--	--
			PM	54.0 s/v	D	54.8 s/v	D	No	--	--
15.	Beach Boulevard at Lambert Road	E	AM	68.1 s/v	E	68.6 s/v	E	No	--	--
			PM	69.6 s/v	E	70.4 s/v	E	No	--	--
20.	Beach Boulevard at La Mirada Blvd/Malvern Ave	D	AM	39.5 s/v	D	39.5 s/v	D	No	35.7 s/v	D
			PM	**65.5 s/v**	**E**	**68.1 s/v**	**E**	**Yes**	**63.1 s/v**	**E**

TABLE 18-9 (CONTINUED)
YEAR 2023 (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections	Min. Acc. LOS	Time Period	(1) Year 2023 Cumulative Traffic Conditions		(2) Year 2023 Cumulative Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
			HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
21. Beach Boulevard at La Habra Boulevard	E	AM	55.6 s/v	E	55.9 s/v	E	No	--	--
		PM	68.2 s/v	E	69.2 s/v	E	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	AM	**68.2 s/v**	**E**	**72.1 s/v**	**E**	**Yes**	53.2 s/v	D
		PM	**67.8 s/v**	**E**	**72.2 s/v**	**E**	**Yes**	54.0 s/v	D
24. Beach Boulevard at Commonwealth Avenue	D	AM	45.9 s/v	D	47.9 s/v	D	No	--	--
		PM	43.2 s/v	D	44.8 s/v	D	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	AM	41.2 s/v	D	41.3 s/v	D	No	--	--
		PM	45.0 s/v	D	45.2 s/v	D	No	--	--
26. Beach Boulevard at Auto Center Drive	D	AM	32.6 s/v	C	32.9 s/v	C	No	**--**	**--**
		PM	44.8 s/v	D	46.1 s/v	D	No	**--**	**--**
27. Beach Boulevard at I-5 SB Ramps	D	AM	30.8 s/v	C	32.5 s/v	C	No	--	--
		PM	30.6 s/v	C	31.0 s/v	C	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	AM	52.2 s/v	D	53.0 s/v	D	No	--	--
		PM	41.8 s/v	D	42.0 s/v	D	No	--	--
29. Hacienda Road at Whittier Boulevard	E	AM	**272.2 s/v**	**F**	**272.8 s/v**	**F**	**Yes**	31.4 s/v	C
		PM	**154.9 s/v**	**F**	**156.0 s/v**	**F**	**Yes**	34.8 s/v	C
30. Walnut Street at Imperial Highway	E	AM	**5,473.9 s/v**	**F**	**5,473.9 s/v**	**F**	**Yes**	23.8 s/v	C
		PM	**94.2 s/v**	**F**	**103.3 s/v**	**F**	**Yes**	35.7 s/v	D

TABLE 18-10

YEAR 2035 BUILDOUT (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections		Min. Acc. LOS	Time Period	(1) Year 2035 Buildout Traffic Conditions		(2) Year 2035 Buildout Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
				HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
1.	Beach Boulevard at Rosecrans Avenue	E	AM	73.3 s/v	E	74.8 s/v	E	No	50.2 s/v	D
			PM	79.7 s/v	E	**82.2 s/v**	**F**	**Yes**	53.3 s/v	D
4.	Beach Boulevard at Hillsborough Drive	E	AM	15.0 s/v	B	17.1 s/v	B	No	--	--
			PM	21.3 s/v	C	21.8 s/v	C	No	--	--
5.	Beach Boulevard at Hillsborough Park Apt.	E	AM	16.6 s/v	B	19.9 s/v	B	No	--	--
			PM	12.1 s/v	B	15.6 s/v	B	No	--	--
10.	Beach Boulevard at Imperial Highway	E	AM	**88.3 s/v**	**F**	**94.0 s/v**	**F**	**Yes**	**82.2 s/v**	**F**
			PM	**103.2 s/v**	**F**	**113.2 s/v**	**F**	**Yes**	**98.3 s/v**	**F**
11.	La Habra Hills Drive at Imperial Highway	E	AM	65.4 s/v	E	69.2 s/v	E	No	--	--
			PM	59.8 s/v	E	65.3 s/v	E	No	--	--
12.	Idaho Street at Imperial Highway	E	AM	53.7 s/v	D	57.5 s/v	E	No	--	--
			PM	79.6 s/v	E	79.8 s/v	E	No	--	--
13.	Euclid Street at Imperial Highway	E	AM	**117.4 s/v**	**F**	**117.7 s/v**	**F**	**Yes**	**115.4 s/v**	**F**
			PM	**84.3 s/v**	**F**	**88.9 s/v**	**F**	**Yes**	78.6 s/v	E
14.	Harbor Boulevard at Imperial Highway	E	AM	**110.1 s/v**	**F**	**111.9 s/v**	**F**	**Yes**	**107.9 s/v**	**F**
			PM	**89.7 s/v**	**F**	**89.8 s/v**	**F**	**Yes**	**84.9 s/v**	**F**
15.	Beach Boulevard at Lambert Road	E	AM	**90.7 s/v**	**F**	**90.9 s/v**	**F**	**Yes**	75.8 s/v	E
			PM	**139.5 s/v**	**F**	**140.1 s/v**	**F**	**Yes**	**98.9 s/v**	**F**
20.	Beach Boulevard at La Mirada Blvd/Malvern Ave	D	AM	44.8 s/v	D	45.0 s/v	D	No	42.8 s/v	D
			PM	**72.1 s/v**	**E**	**73.3 s/v**	**E**	**Yes**	**68.9 s/v**	**E**

TABLE 18-10 (CONTINUED)

YEAR 2035 BUILDOUT (RESIDENTIAL OPTION) PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersections	Min. Acc. LOS	Time Period	(1) Year 2035 Buildout Traffic Conditions		(2) Year 2035 Buildout Plus Project Traffic Conditions		(3) Impact	(4) With Improvements	
			HCM	LOS	HCM	LOS	Yes/No	HCM	LOS
21. Beach Boulevard at La Habra Boulevard	E	AM	57.1 s/v	E	57.5 s/v	E	No	--	--
		PM	71.0 s/v	E	71.2 s/v	E	No	--	--
23. Beach Boulevard at Artesia Boulevard	D	AM	**76.3 s/v**	**E**	**80.5 s/v**	**F**	**Yes**	**62.9 s/v**	**E**
		PM	**93.6 s/v**	**F**	**98.3 s/v**	**F**	**Yes**	**59.7 s/v**	**E**
24. Beach Boulevard at Commonwealth Avenue	D	AM	46.8 s/v	D	48.8 s/v	D	No	--	--
		PM	43.9 s/v	D	45.5 s/v	D	No	--	--
25. I-5 NB Ramps at Auto Center Drive	D	AM	41.3 s/v	D	41.3 s/v	D	No	--	--
		PM	45.2 s/v	D	45.4 s/v	D	No	--	--
26. Beach Boulevard at Auto Center Drive	D	AM	34.1 s/v	C	34.4 s/v	C	No	--	--
		PM	46.6 s/v	D	47.5 s/v	D	No	--	--
27. Beach Boulevard at I-5 SB Ramps	D	AM	36.6 s/v	D	37.3 s/v	D	No	--	--
		PM	34.8 s/v	C	35.4 s/v	D	No	--	--
28. Beach Boulevard at Whittier Boulevard	E	AM	53.4 s/v	D	54.4 s/v	D	No	--	--
		PM	45.5 s/v	D	45.9 s/v	D	No	--	--
29. Hacienda Road at Whittier Boulevard	E	AM	**447.3 s/v**	**F**	**448.8 s/v**	**F**	**Yes**	37.0 s/v	D
		PM	**408.1 s/v**	**F**	**408.6 s/v**	**F**	**Yes**	43.9 s/v	D
30. Walnut Street at Imperial Highway	E	AM	**27,301.7 s/v**	**F**	**27,301.7 s/v**	**F**	**Yes**	49.1 s/v	D
		PM	**113.0 s/v**	**F**	**125.0 s/v**	**F**	**Yes**	38.8 s/v	D

18.7 Caltrans Basic Freeway Segment Analysis – Residential Option Project

Neither the City of La Habra nor the neighboring Cities have devised methods to measure congestion and project impacts on freeways. Therefore, methods used by Caltrans have been used. Caltrans requires the use of analysis methods provided in the Highway Capacity Manual (*HCM)* for the analysis of basic freeway segments. Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of service standard and will be utilized to assess project impacts at the key study freeway segments. Based on Caltrans criteria, a Project's impact is considered significant if the Project causes the LOS to change from an acceptable LOS (i.e. LOS D or better) to a deficient LOS (i.e. LOS E or F) or increase the density on a facility operating at an unacceptable level.

Basic Freeway Segment Analysis for freeway segments was conducted for the following eight (8) Caltrans freeway segments in the vicinity of the proposed Project:

1. I-5 northbound, north of Beach Boulevard
2. I-5 northbound, south of Beach Boulevard
3. I-5 southbound, north of Beach Boulevard
4. I-5 southbound, south of Beach Boulevard
5. SR-57 northbound, north of Imperial Highway
6. SR-57 northbound, south of Imperial Highway
7. SR-57 southbound, north of Imperial Highway
8. SR-57 southbound, south of Imperial Highway

18.8 Existing Plus Project (Residential Option) Basic Freeway Segment Capacity Analysis

18.8.1 *Existing Traffic Conditions*

Table 18-11 summarizes the peak hour level of service results at the aforementioned eight (8) key freeway segments for Existing (Year 2018) traffic conditions. Review of *Table 18-11* indicates that six of the eight key freeway segments currently operate at LOS D or better during the AM and/or PM peak hours (i.e. key freeway segments #1, #2, #3 and #4 located on the I-5 Freeway and key freeway segments #5 and #6 on the SR-57 Freeway). The remaining two key freeway segments currently operate at unacceptable LOS E during the PM peak hour (i.e. key freeway segments #7 and #8 located on the SR-57 Freeway).

Per Caltrans guidelines, the following is stated in the *Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002*:

> *"The following criterion is a starting point in determining when a TIS is needed. When a project:*
>
> 1. *Generates over 100 peak hour trips assigned to a State highway facility…..*

2. *Generates 50 to 100 peak hour trips assigned to a State highway facility and noticeable delay approaching LOS C or D…..*
3. *Generates 1 to 49 peak hour trips assigned to a State highway facility and noticeable delay approaching LOS E or F…..”*

Based on the Caltrans criteria above and the results of the basic freeway segment analysis for Existing traffic conditions as presented in *Table 18-11,* it is determined that no additional analysis is needed for the key freeway segments located along the I-5 Freeway (i.e. key freeway segments #1, #2, #3 and #4) since the Project does not generate 50 to 100 peak hour trips assigned to a state highway facility and the four (4) I-5 Freeway segments are forecast to operate at an acceptable LOS C or better during the AM and PM peak hours under Existing traffic conditions.

Further review of *Table 18-11* indicates that additional traffic analysis is required for the two key freeway segments located along the SR-57 (i.e. key freeway segments #7 and #8) as these locations currently operate at unacceptable LOS E during the PM peak hours under Existing traffic conditions and the project generates between 1 to 50 peak hour trips. Although key freeway segment #7 results in zero project trips due to the existing land use trip credit, the key freeway segment is still evaluated to show its density value.

18.8.2 *Existing Plus Project (Residential Option) Traffic Conditions*

Table 18-12 summarizes the peak hour level of service results at the two (2) key freeway segments located along the SR-57 Freeway for Existing plus Project (Residential Option) traffic conditions. Review of columns (2) and (3) of *Table 18-12* indicates that with the addition of Project traffic, the two (2) freeway segments located along the SR-57 Freeway are forecast to continue to operate at an unacceptable level of service during the PM peak hour when compared to the LOS standards defined in this report, however the density values remain unchanged without and with the project. Therefore, the proposed Project (Residential Option) will not significantly impact key freeway segments #7 and #8 under existing plus project traffic conditions.

18.9 Year 2023 Cumulative Plus Project (Residential Option) Basic Freeway Segment Capacity Analysis

Table 18-13 summarizes the peak hour level of service results at the two (2) key freeway segments located along the SR-57 Freeway for Year 2023 Cumulative (Residential Option) traffic conditions. Review of columns (3) and (4) of *Table 18-13* indicates that with the addition of Project traffic, the two (2) freeway segments located along the SR-57 Freeway are forecast to continue to operate at an unacceptable level of service during the PM peak hour when compared to the LOS standards defined in this report. The Project’s contribution to the freeway system can be considered cumulatively significant at one (1) of the two freeway segments under this traffic impact analysis scenario (i.e. key freeway segment #8). Although cumulatively impacted, it should be noted that the density increase at key freeway segment #8 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal.

18.10 Year 2035 Buildout Plus Project (Residential Option) Basic Freeway Segment Capacity Analysis

Table 18-14 summarizes the peak hour level of service results at the two (2) key freeway segments located along the SR-57 Freeway for Year 2035 Buildout (Residential Option) traffic conditions. Review of columns (3) and (4) of *Table 18-14* indicates that with the addition of Project traffic, the two (2) freeway segments located along the SR-57 Freeway are forecast to continue to operate at an unacceptable level of service during the PM peak hour when compared to the LOS standards defined in this report, however the density values remain unchanged without and with the project. Therefore, the proposed Project (Residential Option) will not significantly impact key freeway segments #7 and #8 under Year 2035 buildout plus project traffic conditions.

Appendix Q contains the Basic Freeway Segment Analysis calculation worksheets for the two (2) SR-57 freeway segments for Existing Plus Project (Residential Option) traffic conditions, Year 2023 Cumulative Plus Project (Residential Option) traffic conditions and Year 2035 Buildout Plus Project (Residential Option) traffic conditions.

18.11 Freeway Segment Traffic Improvements (Residential Option)

A review of the level of service calculations summarized in *Tables 18-12* through *18-14* indicates that the development of the Project (Residential Option) in combination with cumulative development and ambient traffic growth is anticipated to cumulatively impact one (1) of the two SR-57 mainline freeway segments assessed in the report under Year 2023 cumulative plus project (Residential Option) traffic conditions. Although cumulatively impacted, it should be noted that the density increase at key freeway segment #8 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal. However, the SR-57 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of La Habra) can construct or guarantee the construction of any improvements to these freeways segments. Therefore, the proposed Project's incremental impacts (i.e. approximately less than 1.0% density increase) on key freeway study segments assessed in the report are considered unmitigatable as there are no feasible mitigation measures that will reduce cumulative mainline impacts to below significance thresholds or achieve acceptable service level goals.

TABLE 18-11
EXISTING (RESIDENTIAL OPTION) PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

	Key Basic Freeway Segment	Time Period	Lanes	Project Trips	(1) Existing Traffic Conditions		
					Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS
1.	I-5 northbound *north of*	AM	6	0	981	15.1	B
	Beach Boulevard	PM		0	930	14.3	B
2.	I-5 northbound *south of*	AM	5	4	1,247	19.2	C
	Beach Boulevard	PM		13	1,277	19.6	C
3.	I-5 southbound *north of*	AM	5	0	1,102	17.0	B
	Beach Boulevard	PM		0	1,196	18.4	C
4.	I-5 southbound *south of*	AM	5	22	1,222	18.8	C
	Beach Boulevard	PM		13	1,327	20.4	C
5.	SR-57 northbound *north of*	AM	6	0	1,194	18.4	C
	Imperial Highway	PM		0	1,368	21.0	C
6.	SR-57 northbound *south of*	AM	5	4	1,575	24.4	C
	Imperial Highway	PM		18	1,788	28.4	D
7.	SR-57 southbound *north of*	AM	4	0	1,704	26.8	D
	Imperial Highway	PM		0	**2,123**	**36.9**	**E**
8.	SR-57 southbound *south of*	AM	4	15	1,615	25.1	C
	Imperial Highway	PM		8	**2,155**	**37.9**	**E**

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

TABLE 18-12

EXISTING PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

Key Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Existing Plus Project Traffic Conditions			(3) Significant Impact
		Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Yes/No
7. SR-57 southbound *north of*	AM	1,704	26.8	D	1,704	26.8	D	No
Imperial Highway	PM	**2,123**	**36.9**	**E**	**2,123**	**36.9**	**E**	No
8. SR-57 southbound *south of*	AM	1,615	25.1	C	1,620	25.2	C	No
Imperial Highway	PM	**2,155**	**37.9**	**E**	**2,158**	**37.9**	**E**	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

TABLE 18-13

YEAR 2023 CUMULATIVE PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

Key Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Year 2023 Cumulative Traffic Conditions			(3) Year 2023 Cumulative Plus Project Traffic Conditions			(4) Significant Impact
		Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Yes/No
7. SR-57 southbound *north of*	AM	1,704	26.8	D	1,838	29.5	D	1,838	29.5	D	No
Imperial Highway	PM	**2,123**	**36.9**	**E**	**2,305**	**43.2**	**E**	**2,305**	**43.2**	**E**	No
8. SR-57 southbound *south of*	AM	1,615	25.1	C	1,756	27.8	D	1,761	27.9	D	No
Imperial Highway	PM	**2,155**	**37.9**	**E**	**2,350**	**45.0**	**E**	**2,352**	**45.1 [a]**	**F**	**Yes**

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria
- [a] = *HCS 7* software does not report a density value for mainline segments operating at LOS F. The density value reported in the table is estimated based on the peak hour volume increase.

TABLE 18-14

YEAR 2035 BUILDOUT PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

Key Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Year 2035 Buildout Traffic Conditions			(3) Year 2035 Buildout Plus Project Traffic Conditions			(4) Significant Impact
		Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS	Yes/No
7. SR-57 southbound *north of* Imperial Highway	AM	1,704	26.8	D	1,851	29.8	D	1,851	29.8	D	No
	PM	**2,123**	**36.9**	**E**	**2,258**	**41.4**	**E**	**2,258**	**41.4**	**E**	No
8. SR-57 southbound *south of* Imperial Highway	AM	1,615	25.1	C	1,735	27.4	D	1,740	27.4	D	No
	PM	**2,155**	**37.9**	**E**	**2,276**	**42.1**	**E**	**2,279**	**42.1**	**E**	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

18.12 Freeway Merge/Diverge Ramp Junction Analysis – Residential Option Project

This section of the report presents a Freeway Ramp (Merge/Diverge) Analysis for the SR-57 Interchanges at Imperial Highway. The analysis is consistent with Caltrans requirements and has been prepared using the methods provided in the *Highway Capacity Manual (HCM).*

18.12.1 *Existing Plus Project (Residential Option) Ramp Junction Analysis*

Table 18-15 summarizes the peak hour Level of Service results at the three (3) freeway ramp junctions for Existing Plus Project (Residential Option) traffic conditions. Review of columns (2) and (3) of *Table 18-15* indicates that the proposed Project will not significantly impact the three (3) freeway ramps. The three (3) freeway ramps are projected to continue to operate at acceptable LOS D or better with the addition of project (Residential Option) generated traffic to existing traffic.

18.12.2 *Year 2023 Cumulative Ramp Junction Analysis – Residential Option*

Table 18-16 summarizes the peak hour Level of Service results at the three (3) freeway ramps for Year 2023 Cumulative (Residential Option) traffic conditions. Review of column (2) of *Table 18-16* indicates that one (1) of the three (3) freeway ramps is forecast to continue to operate at an unacceptable level of service in the Year 2023 with project traffic during the PM peak hour, when compared to the LOS standards defined in this report. The remaining two (2) freeway ramps (i.e. key freeway ramps #1 and #2) are forecast to operate at an acceptable LOS D or better in the Year 2023 with project traffic during the AM and PM peak hours. The Project's contribution to the freeway system can be considered significantly impacted at one (1) of the three ramp junctions under this traffic scenario. Although cumulatively impacted, it should be noted that the density increase at key freeway ramp #3 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal.

18.12.3 *Year 2035 Buildout Ramp Junction Analysis – Residential Option*

Table 18-17 summarizes the peak hour Level of Service results for the three (3) freeway ramps for Year 2035 Buildout (Residential Option) traffic conditions. Review of columns (2) and (3) of *Table 18-17* indicates that the proposed Project (Residential Option) will not significantly impact the three (3) freeway ramps. The three (3) freeway ramps are forecast to continue to operate at acceptable LOS D or better during the AM and PM peak hours under Year 2035 Buildout plus Project (Residential Option) traffic conditions.

Appendix R contains the Freeway Merge/Diverge Ramp Junction Analysis calculation worksheets for Existing Plus Project (Residential Option) traffic conditions, Year 2023 Cumulative Plus Project (Residential Option) traffic conditions and Year 2035 Buildout Plus Project (Residential Option) traffic conditions.

18.12.4 *Freeway Ramp Junction Traffic Improvements (Residential Option)*

A review of the level of service calculations summarized in *Tables 18-15* through *18-17* indicates that the development of the Project (Residential Option) in combination with cumulative development and ambient traffic growth is anticipated to significantly impact one (1) of the three (3) freeway ramp junctions assessed in the report under Year 2023 cumulative plus project (Residential Option) traffic conditions. Although cumulatively impacted, it should be noted that the density increase at key freeway ramp #3 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal. However, the SR-57 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of La Habra) can construct or guarantee the construction of any improvements to these ramp junctions. Therefore, the proposed Project's incremental impacts (i.e. approximately less than 1.0% density increase) on freeway ramp junctions assessed in the report are considered unmitigatable as there are no feasible mitigation measures that will reduce cumulative impacts to below significance thresholds or achieve acceptable service level goals.

18.13 Congestion Management Program (CMP) – Residential Option

The Residential Option Project will not impact any of the CMP locations under existing plus project and Year 2023 plus project traffic conditions. The Residential Option Project will impact the intersection of Beach Boulevard/Imperial Highway under Year 2035 plus project traffic conditions. It should be noted that this impact is consistent with the Year 2035 impacts discussed previously in Section 18.5.5. Consistent with the findings presented in Section 18.5.5 for this location, with implementation of recommended improvements, the impact of the proposed Project will be offset.

TABLE 18-15

EXISTING PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

	Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Existing Traffic Conditions				(2) Existing Plus Project Traffic Conditions				(3) Significant Impact
				Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1.	SR-57 Southbound Off-Ramp *to* Imperial Highway	Diverge Analysis	AM	6,100	1,104	19.7	B	6,100	1,104	19.7	B	No
			PM	7,600	1,244	24.2	C	7,600	1,244	24.2	C	No
2.	SR-57 Southbound On-Ramp (WB) *from* Imperial Highway	Merge Analysis	AM	4,996	208	19.2	B	4,996	208	19.2	B	No
			PM	6,356	469	26.0	C	6,356	469	26.0	C	No
3.	SR-57 Southbound On-Ramp (EB) *from* Imperial Highway	Merge Analysis	AM	5,204	577	23.8	C	5,204	594	24.0	C	No
			PM	6,825	888	32.0	D	6,825	898	32.1	D	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

TABLE 18-16

YEAR 2023 CUMULATIVE (RESIDENTIAL OPTION) PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

	Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Year 2023 Cumulative Traffic Conditions				(2) Year 2023 Cumulative Plus Project Traffic Conditions				(3) Significant Impact
				Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1.	SR-57 Southbound Off-Ramp *to* Imperial Highway	Diverge Analysis	AM	6,580	1,262	20.9	C	6,580	1,262	20.9	C	No
			PM	8,251	1,454	27.5	C	8,251	1,454	27.5	C	No
2.	SR-57 Southbound On-Ramp (WB) *from* Imperial Highway	Merge Analysis	AM	5,318	230	20.5	C	5,318	230	20.5	C	No
			PM	6,797	499	27.8	C	6,797	499	27.8	C	No
3.	SR-57 Southbound On-Ramp (EB) *from* Imperial Highway	Merge Analysis	AM	5,548	740	26.4	C	5,548	757	26.5	C	No
			PM	**7,296**	**1,114**	**35.5**	**E**	**7,296**	**1,124**	**35.6**	**E**	**Yes**

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

TABLE 18-17

YEAR 2035 BUILDOUT PLUS PROJECT (RESIDENTIAL OPTION) PEAK HOUR MERGE AND DIVERGE CAPACITY ANALYSIS SUMMARY

Key Freeway Merge or Diverge Segment	Analysis Type	Time Period	(1) Year 2035 Buildout Traffic Conditions				(2) Year 2035 Buildout Plus Project Plus Project Traffic Conditions				(3) Significant Impact
			Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1. SR-57 Southbound Off-Ramp *to* Imperial Highway	Diverge Analysis	AM	6,975	1,466	21.8	C	6,975	1,466	21.8	C	No
		PM	8,508	1,641	27.6	C	8,508	1,641	27.6	C	No
2. SR-57 Southbound On-Ramp (WB) *from* Imperial Highway	Merge Analysis	AM	5,509	244	20.2	C	5,509	244	20.2	C	No
		PM	6,867	529	26.9	C	6,867	529	26.9	C	No
3. SR-57 Southbound On-Ramp (EB) *from* Imperial Highway	Merge Analysis	AM	5,753	784	26.1	C	5,753	801	26.3	C	No
		PM	7,396	1,181	34.7	D	7,396	1,191	34.7	D	No

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

18.14 Existing Plus Project (Residential Option) Recommended Improvements

18.14.1 *Intersection Improvements*

The results of the intersection capacity analysis presented previously in *Table 18-2* shows that the proposed Project will significantly impact one (1) of the thirty-two (32) key study intersections under the "Existing Plus Project – Residential Option" traffic scenario. The following are improvements recommended to mitigate the existing plus project traffic impacts:

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

18.14.2 *Roadway Segment Improvements*

The results of the "Existing Plus Project – Residential Option" daily roadway segment analysis presented previously in *Table 18-3* indicates that the proposed Project (Residential Option) will not significantly impact any of the thirty-seven (37) key roadway segments. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

18.15 Year 2023 Plus Project (Residential Option) Recommended Improvements

18.15.1 *Intersection Improvements*

The results of the intersection capacity analysis presented previously in *Table 18-4* shows that the proposed Project (Residential Option) will significantly impact two (2) of the thirty-two (32) key study intersections under the "Year 2023 Plus Project – Residential Option" traffic scenario. The following are improvements recommended to mitigate the Year 2023 plus project traffic impacts:

- **No. 1 – Beach Boulevard at Rosecrans Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Widen and/or restripe the westbound approach of Rosecrans Avenue by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Mirada. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Mirada and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

18.15.2 *Roadway Segment Improvements*

The results of the "Year 2023 Plus Project – Residential Option" daily roadway segment analysis presented previously in *Table 18-5* indicates that the proposed Project (Residential Option) will not significantly impact any of the thirty-seven (37) key roadway segments. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

18.16 Year 2035 Plus Project (Residential Option) Recommended Improvements

18.16.1 *Intersection Improvements*

The results of the intersection capacity analysis presented previously in *Table 18-6* shows that the proposed Project (Residential Option) will significantly impact four (4) of the thirty-two (32) key study intersections under the "Year 2035 Plus Project – Residential Option" traffic scenario. The following are improvements recommended to mitigate the Year 2035 plus project traffic impacts:

- **No. 1 – Beach Boulevard at Rosecrans Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Widen and/or restripe the westbound approach of Rosecrans Avenue by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Mirada. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Mirada and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 10 – Beach Boulevard at Imperial Highway:** Consistent with the City of La Habra General Plan, widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Consistent with the City of La Habra General Plan, widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these

improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 15 – Beach Boulevard at Lambert Road:** Widen and/or restripe the eastbound approach of Lambert Road by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

18.16.2 *Roadway Segment Improvements*

The results of the "Year 2035 Plus Project – Residential Option" daily roadway segment analysis presented previously in *Table 18-7* indicates that the proposed Project (Residential Option) will significantly impact two (2) of the thirty-seven (37) key roadway segments. The following are improvements recommended to mitigate the Year 2035 plus project traffic impacts:

- **Roadway Segment M – Imperial Highway between Euclid Street and Harbor Boulevard:** Widen and restripe Imperial Highway to provide a 4th eastbound through lane and a 4th westbound through lane. The installation of these improvements will require additional right-of-way and may be further constrained due to the existing channel located south of Imperial Highway that runs parallel to Imperial Highway, from west of Euclid Avenue, east to Village Drive. In addition, this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **Roadway Segment X – Beach Blvd between Rosecrans Ave and La Mirada Blvd:** Widen and restripe Beach Boulevard to provide a 4th northbound through lane and a 4th southbound through lane. The installation of these improvements will require additional right-of-way and is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also

under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

18.17 Recommended Improvements (Residential Option) – Caltrans Methodology

18.17.1 *Existing Plus Project (Residential Option) Recommended Improvements*

The following improvements listed below have been identified to mitigate the existing plus project traffic impacts (Caltrans methodology) at the following intersections:

- **No. 23 – Beach Boulevard at Artesia Boulevard:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary and install a westbound right-turn overlap phase. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra.

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

18.17.2 *Year 2023 Plus Project (Residential Option) Recommended Improvements*

The following improvements listed below have been identified to mitigate the Year 2023 plus project traffic impacts (Caltrans methodology) at the following intersections:

- **No. 10 – Beach Boulevard at Imperial Highway:** Consistent with the City of La Habra General Plan, widen and/or restripe the northbound approach of Beach Boulevard by up to 12-

feet to provide a 4th northbound through lane. Consistent with the City of La Habra General Plan, widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 23 – Beach Boulevard at Artesia Boulevard:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary and install a westbound right-turn overlap phase. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra.

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed

Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

18.17.3 *Year 2035 Plus Project (Residential Option) Recommended Improvements*

The following improvements listed below have been identified to mitigate the Year 2035 plus project traffic impacts (Caltrans methodology) at the following intersections:

- **No. 1 – Beach Boulevard at Rosecrans Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Widen and/or restripe the westbound approach of Rosecrans Avenue by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Mirada. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Mirada and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 10 – Beach Boulevard at Imperial Highway:** Consistent with the City of La Habra General Plan, widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Consistent with the City of La Habra General Plan, widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 13 – Euclid Street at Imperial Highway:** Widen and/or restripe the southbound approach of Imperial Highway by up to 12-feet to provide an exclusive southbound right-turn lane. Modify the existing traffic signal. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 14 – Harbor Boulevard at Imperial Highway:** Modify the existing traffic signal and install a southbound right-turn overlap phase. The installation of this improvement is subject to the approval of Caltrans, the City of La Habra and the City of Fullerton. Since the proposed Project cannot guarantee that these improvements that are located in the Cities of La

Habra/Fullerton and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 15 – Beach Boulevard at Lambert Road:** Widen and/or restripe the eastbound approach of Lambert Road by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 23 – Beach Boulevard at Artesia Boulevard:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary and install a westbound right-turn overlap phase. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra.

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at

this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

Table 18-18 identifies the incremental intersection improvements (Residential Option), which are summarized above, needed by the relevant study years (i.e. existing plus project, Year 2023 plus project and Year 2035 plus project) to maintain, where possible, acceptable service levels based on the LOS standards defined in this report. ***Figure 18-19*** graphically illustrates all of the recommended improvements. This figure also illustrates the project-specific improvements.

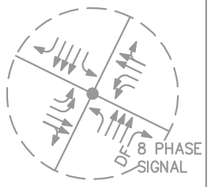
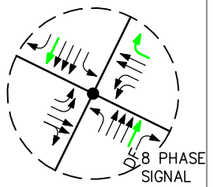
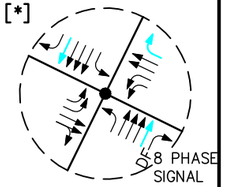
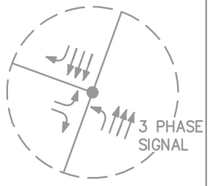
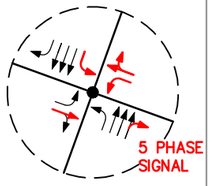
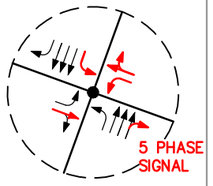
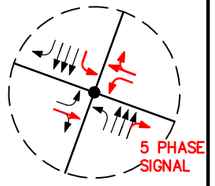
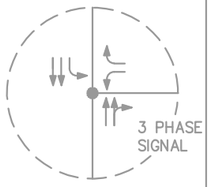
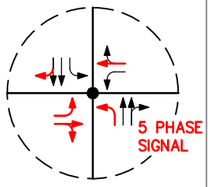
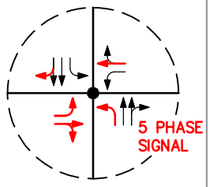
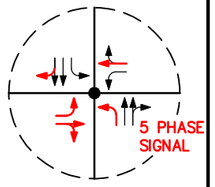
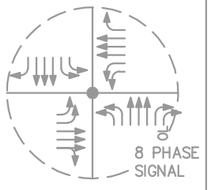
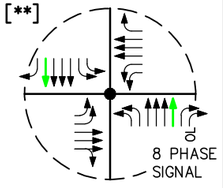
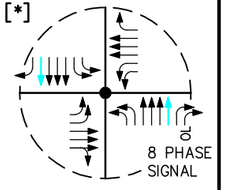
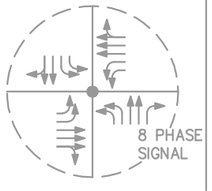
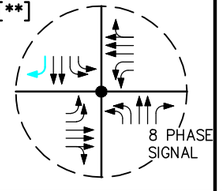
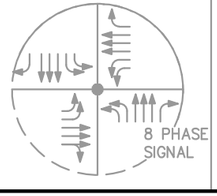
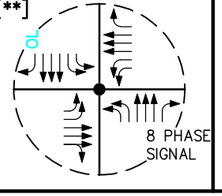
TABLE 18-18
RECOMMENDED IMPROVEMENTS – RESIDENTIAL OPTION

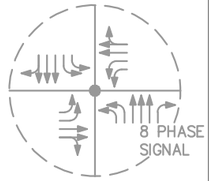
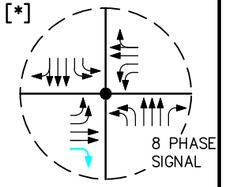
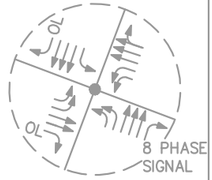
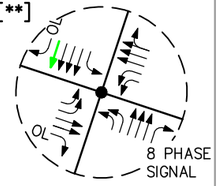
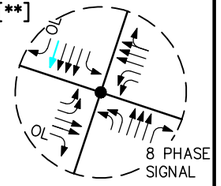
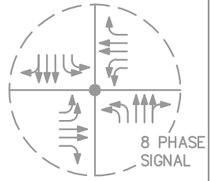
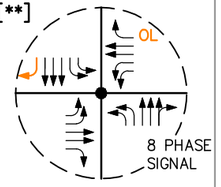
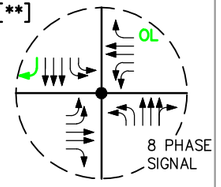
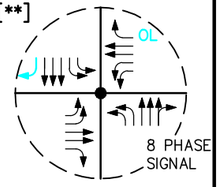
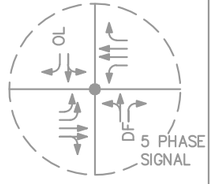
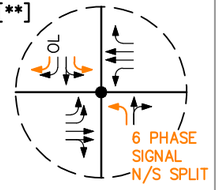
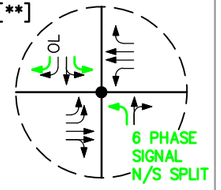
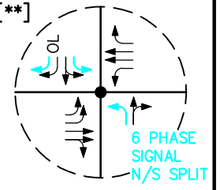
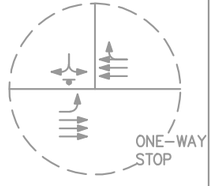
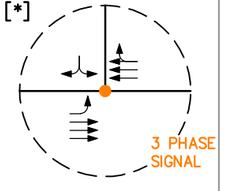
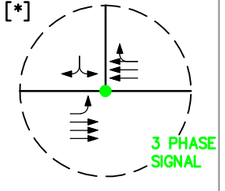
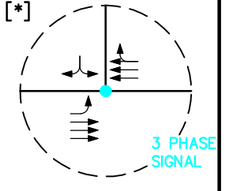
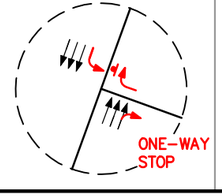
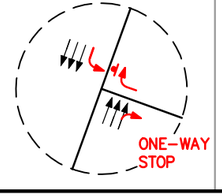
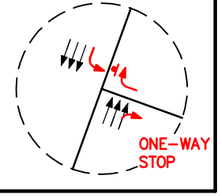
Key Location	Jurisdiction	Improvement Description	Improvements by Scenario		
			(1) Existing Plus Project	(2) Year 2023	(3) Year 2035
1. Beach Boulevard at Rosecrans Avenue	La Mirada / Caltrans	▪ Construct 4th NB through lane. ▪ Construct 4th SB through lane. ▪ Construct an exclusive WB right-turn lane. ▪ Modify existing traffic signal.	-- -- -- --	X X X X	X X X X
10. Beach Boulevard at Imperial Highway	La Habra / Caltrans	▪ Construct 4th NB through lane. ▪ Construct 4th SB through lane. ▪ Modify existing traffic signal.	-- -- --	X X X	X X X
13. Euclid Street at Imperial Highway	La Habra / Caltrans	▪ Construct an exclusive SB right-turn lane. ▪ Modify existing traffic signal.	-- --	-- --	X X
14. Harbor Boulevard at Imperial Highway	La Habra / Fullerton / Caltrans	▪ Modify existing traffic signal and provide a SB right-turn overlap phase.	--	--	X
15. Beach Boulevard at Lambert Road	La Habra / Caltrans	▪ Construct an exclusive EB right-turn lane. ▪ Modify existing traffic signal.	-- --	-- --	X X
20. Beach Boulevard at La Mirada Boulevard/Malvern Avenue	Buena Park / Caltrans	▪ Construct 4th SB through lane. ▪ Modify existing traffic signal.	-- --	X X	X X
23. Beach Boulevard at Artesia Boulevard	Buena Park / Caltrans	▪ Construct an exclusive SB right-turn lane. ▪ Modify existing traffic signal and provide a WB right-turn overlap phase.	X X	X X	X X
29. Hacienda Road at Whittier Boulevard	La Habra / Caltrans	▪ Construct an exclusive NB left-turn lane. ▪ Construct an exclusive SB left-turn lane. ▪ Construct a 2nd SB right-turn lane. ▪ Modify existing traffic signal for north-south split-phase operation.	X X X X	X X X X	X X X X
30. Walnut Street at Imperial Highway	La Habra / Caltrans	▪ Install three-phase traffic signal.	X	X	X

TABLE 18-18 (CONTINUED)

RECOMMENDED IMPROVEMENTS – RESIDENTIAL OPTION

Key Location	Jurisdiction	Improvement Description	Improvements by Scenario		
			(1) Existing Plus Project	(2) Year 2023	(3) Year 2035
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra / Caltrans	▪ Construct 4th EB through lane on Imperial Highway between Euclid Street and Harbor Boulevard.	--	--	X
		▪ Construct 4th WB through lane on Imperial Highway between Euclid Street and Harbor Boulevard.	--	--	X
X. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard	Buena Park / Caltrans	▪ Construct 4th NB through lane on Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard.	--	--	X
		▪ Construct 4th SB through lane on Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard.	--	--	X

INTERSECTION	EXISTING	EXISTING PLUS PROJECT	YEAR 2023 PLUS PROJECT	YEAR 2035 PLUS PROJECT
① BEACH BLVD @ ROSECRANS AVE		NO CHANGE		[*] 
⑤ BEACH BLVD @ HILLSBOROUGH PARK APT				
⑥ IDAHO ST @ SANDLEWOOD AVE				
⑩ BEACH BLVD @ IMPERIAL HIGHWAY		NO CHANGE	[**] 	[*] 
⑬ EUCLID ST @ IMPERIAL HIGHWAY		NO CHANGE	NO CHANGE	[**] 
⑭ HARBOR BLVD @ IMPERIAL HIGHWAY		NO CHANGE	NO CHANGE	[**] 

INTERSECTION	EXISTING	EXISTING PLUS PROJECT	YEAR 2023 PLUS PROJECT	YEAR 2035 PLUS PROJECT
⑮ BEACH BLVD @ LAMBERT RD		NO CHANGE	NO CHANGE	[*] 
⑳ BEACH BLVD @ LA MIRADA BLVD/ MALVERN AVE		NO CHANGE	[**] 	[**] 
㉓ BEACH BLVD @ ARTESIA BLVD		[**] 	[**] 	[**] 
㉙ HACIENDA RD @ WHITTIER BLVD		[**] 	[**] 	[**] 
㉚ WALNUT ST @ IMPERIAL HWY		[*] 	[*] 	[*] 
㉝ BEACH BLVD @ RETAIL PROJECT DWY	DOES NOT EXIST			

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LINSCOTT LAW & GREENSPAN engineers

KEY

= APPROACH LANE ASSIGNMENT
= EXISTING PLUS PROJECT RECOMMENDED IMPROVEMENTS
= YEAR 2023 RECOMMENDED IMPROVEMENTS
= YEAR 2035 RECOMMENDED IMPROVEMENTS
= PROJECT SPECIFIC IMPROVEMENTS
● = TRAFFIC SIGNAL, ▾ = STOP SIGN
DF = DEFACTO RIGHT-TURN

[*] = THIS LOCATION IS ALSO A CALTRANS INTERSECTION. THE RECOMMENDED IMPROVEMENTS SHOWN APPLY TO CALTRANS MITIGATION AS WELL.

[**] = THIS LOCATION IS A CALTRANS INTERSECTION AND IS ONLY IMPACTED UNDER THE CALTRANS METHODOLOGY.

FIGURE 18-19

RECOMMENDED IMPROVEMENTS - RESIDENTIAL OPTION

RANCHO LA HABRA, CITY OF LA HABRA

18.18 Project-Related Fair Share Contribution (Residential Option)

The transportation impacts associated with the development of the proposed Project (Residential Option) were determined based on the near-term (Year 2023) and long-term (Year 2035) analysis. As summarized in *Tables 18-4, 18-5* and *18-9*, the development of the proposed Project (Residential Option) is anticipated to create significant impacts at six (6) key study intersections in the Year 2023. As summarized in *Tables 18-6, 18-7* and *18-10*, the development of the proposed Project (Residential Option) is anticipated to create significant impacts at nine (9) key study intersections and two (2) key roadway segment in the Year 2035. As such, the proposed Project can be expected to pay a proportional "fair-share" of the improvement costs of the impacted intersections/roadway segments to mitigate the project's traffic impacts.

18.18.1 *Year 2023 Project-Related Fair Share Contribution (Residential Option)*

Table 18-19 presents the percentage of net traffic impact at the study intersections impacted by the proposed Project (Residential Option) for Year 2023 traffic conditions. As presented in this table, the first column (1) presents a total of all movements for existing conditions. The second column (2) presents future Year 2023 cumulative traffic conditions. The third column (3) presents future Year 2023 traffic conditions with project traffic (Residential Option). The fourth column (4) presents the project ICU impact and the fifth column (5) presents the ICU benefit of improvement. The sixth column (6) represents the project fair share percentage.

Review of *Table 18-19* shows that the Project's (Residential Option) fair share contribution to offset all Year 2023 intersection project impacts ranges between 4.9% and 18.5%.

18.18.2 *Year 2035 Project-Related Fair Share Contribution (Residential Option)*

Table 18-20 presents the percentage of net traffic impact at the study intersections/roadway segments impacted by the proposed Project (Residential Option) for Year 2035 traffic conditions. The structure of this table is similar to the near-term (Year 2023) fair-share summary presented in *Table 18-19.*

Review of *Table 18-20* shows that the Project's (Residential Option) fair share contribution to offset all Year 2035 intersection project impacts ranges between 1.7% and 26.7%. The Project's fair share contribution to offset all Year 2035 roadway segment project impacts ranges between 3.7% and 11.6%.

TABLE 18-19

YEAR 2023 PROJECT FAIR SHARE CONTRIBUTION – RESIDENTIAL OPTION

Key Location		Jurisdiction	Impacted Time Period	(1) Existing Traffic	(2) Year 2023 Cumulative Traffic	(3) Year 2023 Cumulative Plus Project Traffic	(4) Project ICU Impact	(5) ICU Benefit of Improvement	(6) Project Percentage Share
1.	Beach Boulevard at Rosecrans Avenue	La Mirada/ Caltrans	PM	**6,084**	**6,883**	**7,064**	--	--	**18.5%**
10.	Beach Boulevard at Imperial Highway[54]	La Habra/ Caltrans	AM PM	7,090 **7,267**	7,993 **8,255**	8,134 **8,431**	-- --	-- --	13.5% **15.1%**
20.	Beach Blvd at La Mirada Blvd/Malvern Ave	Buena Park/ Caltrans	PM	**6,812**	**7,623**	**7,743**	**--**	**--**	**12.9%**
23.	Beach Boulevard at Artesia Boulevard	Buena Park/ Caltrans	AM PM	5,808 **5,972**	6,470 **6,705**	6,546 **6,804**	**--** **--**	**--** **--**	10.3% **11.9%**
29.	Hacienda Road at Whittier Boulevard[54]	La Habra/ Caltrans	AM PM	4,298 **4,874**	4,698 **5,317**	4,716 **5,340**	**--** **--**	**--** **--**	4.3% **4.9%**
30.	Walnut Street at Imperial Highway	La Habra/ Caltrans	AM PM	3,902 **4,069**	4,561 **4,807**	4,620 **4,884**	-- --	-- --	8.2% **9.4%**

Notes:
La Habra Signalized Intersections: Project Percentage Share (6) = [Column (4)] / [Column (5)]
La Habra Unsignalized Locations and Locations in Other Jurisdictions: Project Percentage Share (6) = [Column (3) – Column (2)] / [Column (3) – Column (1)]

[54] This intersection is impacted under Caltrans analysis only. However, the fair share percentage at this location may be subject to La Habra criteria.

TABLE 18-20
YEAR 2035 PROJECT FAIR SHARE CONTRIBUTION – RESIDENTIAL OPTION

Key Location		Jurisdiction	Impacted Time Period	(1) Existing Traffic	(2) Year 2035 Buildout Traffic	(3) Year 2035 Buildout Plus Project Traffic	(4) Project ICU Impact	(5) ICU Benefit of Improvement	(6) Project Percentage Share
1.	Beach Boulevard at Rosecrans Avenue	La Mirada/ Caltrans	PM	**6,084**	**7,324**	**7,505**	--	--	**12.7%**
10.	Beach Boulevard at Imperial Highway	La Habra/ Caltrans	AM PM	-- --	-- --	-- --	0.016 **0.023**	0.091 **0.086**	17.6% **26.7%**
13.	Euclid Street at Imperial Highway[55]	La Habra/ Caltrans	AM PM	5,665 **5,670**	8,143 **7,123**	8,201 **7,200**	-- --	-- --	2.3% **5.0%**
14.	Harbor Boulevard at Imperial Highway[55]	La Habra/ Fullerton/Caltrans	AM PM	6,064 **6,287**	9,036 **8,655**	9,087 **8,719**	-- --	-- --	1.7% **2.6%**
15.	Beach Boulevard at Lambert Road	La Habra/ Caltrans	AM[55] PM	6,396 --	7,538 --	7,574 --	-- **0.012**	-- **0.127**	3.1% **9.4%**
20.	Beach Blvd at La Mirada Blvd/Malvern Ave	Buena Park/ Caltrans	PM	**6,812**	**8,037**	**8,157**	--	--	**8.9%**
23.	Beach Boulevard at Artesia Boulevard	Buena Park/ Caltrans	AM PM	5,808 **5,972**	6,930 **7,198**	7,006 **7,297**	-- --	-- --	6.3% **7.5%**
29.	Hacienda Road at Whittier Boulevard[55]	La Habra/ Caltrans	AM PM	**4,298** 4,874	**5,350** 6,232	**5,368** 6,255	-- --	-- --	**1.7%** 1.7%
30.	Walnut Street at Imperial Highway	La Habra/ Caltrans	AM PM	3,902 **4,069**	5,246 **5,090**	5,305 **5,167**	-- --	-- --	4.2% **7.0%**

Notes:
La Habra Signalized Intersections: Project Percentage Share (6) = [Column (4)] / [Column (5)]
La Habra Unsignalized Locations and Locations in Other Jurisdictions: Project Percentage Share (6) = [Column (3) – Column (2)] / [Column (3) – Column (1)]

[55] This intersection is impacted under Caltrans analysis only. However, the fair share percentage at this location may be subject to La Habra criteria.

TABLE 18-20 (CONTINUED)
YEAR 2035 PROJECT FAIR SHARE CONTRIBUTION – RESIDENTIAL OPTION

Key Location		Jurisdiction	Impacted Time Period	(1) Existing Traffic	(2) Year 2035 Buildout Traffic	(3) Year 2035 Buildout Plus Project Traffic	(4) Project ICU Impact	(5) ICU Benefit of Improvement	(6) Project Percentage Share
M.	Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	Daily	**52,284**	**67,830**	**68,432**	--	--	**3.7%**
X.	Beach Blvd between Rosecrans Ave and La Mirada Blvd	Buena Park	Daily	**44,047**	**53,379**	**54,599**	--	--	**11.6%**

Notes:
La Habra Signalized Intersections: Project Percentage Share (6) = [Column (4)] / [Column (5)]
La Habra Unsignalized Locations and Locations in Other Jurisdictions: Project Percentage Share (6) = [Column (3) – Column (2)] / [Column (3) – Column (1)]

19.0 COMPARISON TO PRIOR TRAFFIC IMPACT ANALYSIS REPORT

This section of the report provides a brief comparison (i.e. development tabulation, trip generation characteristics and potential traffic impacts) of the proposed Project and Residential Option Project to those identified in the *Rancho La Habra Traffic Impact Analysis Report,* prepared by LLG Engineers, dated September 11, 2017.

Table 19-1 provides a comparison of the findings of this addendum traffic report (proposed Project and Residential Option Project) and the September 2017 traffic analysis. This table compares the development sizes, the trip generation, the number of study intersections/roadway segments analyzed, Existing plus Project impacts, Year 2023 plus Project impacts, Year 2035 Buildout plus Project impacts, Caltrans impacts (intersections and freeway locations) and CMP impacts of the previous Project, the proposed Project and the Residential Option Project. Column one (1) presents the findings for the Prior Traffic Study (9-11-17), column two (2) presents the findings for the Updated Traffic Study (proposed Project) and column three (3) presents the finding for the Updated Traffic Study (Residential Option Project). Column four (4) summarizes the difference between the Prior Traffic Study and the Updated Traffic Study – proposed Project (column 1 versus column 2) and the difference between the Prior Traffic Study and the Updated Traffic Study – Residential Project Option (column 1 versus column 3).

- **Development Size:** Review of row 1 and column 4 shows that the proposed Project has the same project description as the Prior Traffic Study, except the 2,500 SF restaurant within PA #6 has been eliminated and added to the Recreation Community Center (22,500 SF total).

  Further review of row 1 and column 4 shows that the proposed Residential Option Project has the same project description as the Prior Traffic Study, except the 12,000 SF specialty grocery store and 8,000 SF restaurant within PA #5 has been replaced with 49 DU townhomes/condominiums and the 2,500 SF restaurant within PA #6 has been eliminated and added to the Recreation Community Center (22,500 SF total).

- **Trip Generation**: Review of row 2 and column 4 shows that the proposed Project is expected to generate 1,768 more daily trips, 29 more AM peak hour trips and 174 more PM peak hour trips than the Prior Traffic Study.

  Further review of row 2 and column 4 shows that the proposed Residential Option Project is expected to generate 51 less daily trips, 74 less AM peak hour trips and 12 more PM peak hour trips than the Prior Traffic Study

- **Study Intersections:** Review of row 3 and column 4 shows that the proposed Project and Residential Option Project analyzed the same number of key study intersections and key roadway segments compared to the Prior Traffic Study.

- **Existing Plus Project Impacts:** Review of row 4 and column 4 shows that the proposed Project and Residential Option Project will both have one less intersection impact and the same roadway segment impacts as the Prior Traffic Study under existing plus project traffic conditions.

- **Year 2023 Plus Project Impacts:** Review of row 5 and column 4 shows that the proposed Project will have the same intersection impacts and one less roadway segment impact than the Prior Traffic Study under Year 2023 plus project traffic conditions.

  Further review of row 5 and column 4 shows that the Residential Option Project will have the one less intersection impact and one less roadway segment impact than the Prior Traffic Study under Year 2023 plus project traffic conditions.

- **Year 2035 Buildout Plus Project Impacts**: Review of row 6 and column 4 shows that the proposed Project will have three more intersection impacts and one more roadway segment impact than the Prior Traffic Study under Year 2035 buildout plus project traffic conditions.

  Further review of row 6 and column 4 shows that the Residential Option Project will have one more intersection impact and one more roadway segment impact than the Prior Traffic Study under Year 2035 buildout plus project traffic conditions.

- **Caltrans Impacts (Intersections):** Review of row 7 and column 4 shows that the proposed Project will have the same existing plus project Caltrans intersection impacts, two less Year 2023 plus project Caltrans intersection impacts and two less Year 2035 buildout plus project Caltrans intersection impacts than the Prior Traffic Study.

  Further review of row 7 and column 4 shows that the Residential Option Project will have the same existing plus project Caltrans intersection impacts, two less Year 2023 plus project Caltrans intersection impacts and two less Year 2035 buildout plus project Caltrans intersection impacts than the Prior Traffic Study.

- **Caltrans Impacts (Freeway Mainline):** Review of row 8 and column 4 shows that the proposed Project will have one less existing plus project Caltrans freeway mainline impact, the same Year 2023 plus project Caltrans freeway mainline impacts and one less Year 2035 buildout plus project Caltrans freeway mainline impact than the Prior Traffic Study.

  Further review of row 8 and column 4 shows that the Residential Option Project will have one less existing plus project Caltrans freeway mainline impact, the same Year 2023 plus project Caltrans freeway mainline impacts and one less Year 2035 buildout plus project Caltrans freeway mainline impact than the Prior Traffic Study.

- **Caltrans Impacts (Merge and Diverge):** Review of row 9 and column 4 shows that the proposed Project will have one less existing plus project Caltrans merge/diverge impact, the same Year 2023 plus project Caltrans merge/diverge impacts and one less Year 2035 buildout plus project Caltrans merge/diverge impact than the Prior Traffic Study.

Further review of row 9 and column 4 shows that the Residential Option Project will have one less existing plus project Caltrans merge/diverge impact, the same Year 2023 plus project Caltrans merge/diverge impacts and one less Year 2035 buildout plus project Caltrans merge/diverge impact than the Prior Traffic Study.

- **CMP Analysis:** Review of row 10 and column 4 shows that the proposed Project and Residential Option Project will have the same existing plus project CMP impacts, the same Year 2023 plus project CMP impacts and one more Year 2035 buildout plus project CMP impact than the Prior Traffic Study.

TABLE 19-1
COMPARISON TO PRIOR TRAFFIC IMPACT ANALYSIS REPORT

Description	(1) Prior Traffic Study (9-11-17)	(2) Updated Traffic Study	(3) Updated Traffic Study – Residential Option	(4) Difference	
				(1) Prior Traffic Study versus (2) Updated Traffic Study	(1) Prior Traffic Study versus (3) Updated Traffic Study – Residential Option
1) Development Size	▪ 277 DU Single-Family Homes ▪ 145 DU Townhomes/Condominiums ▪ 12,000 SF Specialty Grocery Store ▪ 8,000 SF Restaurant ▪ 20,000 SF Recreation Community Center ▪ 2,500 SF Restaurant ▪ 42.1 acres Passive Park/Trails	▪ 277 DU Single-Family Homes ▪ 145 DU Townhomes/Condominiums ▪ 12,000 SF Specialty Grocery Store ▪ 8,000 SF Restaurant ▪ 22,500 SF Recreation Community Center ▪ 2,500 SF Restaurant Eliminated and added to the Recreation Community Center ▪ 42.1 acres Passive Park/Trails	▪ 277 DU Single-Family Homes ▪ 145 DU Townhomes/Condominiums ▪ 49 DU Townhomes/Condominiums (Specialty Grocery Store and Restaurant Eliminated) ▪ 22,500 SF Recreation Community Center ▪ 2,500 SF Restaurant Eliminated and added to the Recreation Community Center ▪ 42.1 acres Passive Park/Trails	▪ **Same** ▪ **Same** ▪ **Same** ▪ **Same** ▪ **+2,500 SF (Rec. Community Center)** ▪ **Eliminated** ▪ **Same**	▪ **Same** ▪ **Same** ▪ **+49 DU Townhomes/Condominiums (grocery and restaurant eliminated)** ▪ **+2,500 SF (Rec. Community Center)** ▪ **Eliminated** ▪ **Same**
2) Trip Generation	▪ Daily = 4,398 ▪ AM Peak Hour = 404 ▪ PM Peak Hour = 407	▪ Daily = 6,166 ▪ AM Peak Hour = 433 ▪ PM Peak Hour = 581	▪ Daily = 4,347 ▪ AM Peak Hour = 330 ▪ PM Peak Hour = 419	▪ **Daily = +1,768** ▪ **AM Peak Hour = +29** ▪ **PM Peak Hour = +174**	▪ **Daily = -51** ▪ **AM Peak Hour = -74** ▪ **PM Peak Hour = +12**
3) No. of Study Intersections and Roadway Segments	▪ 32 Intersections / 37 Roadway Segments	▪ 32 Intersections / 37 Roadway Segments	▪ 32 Intersections / 37 Roadway Segments	▪ **Same Number of Study Intersections and Roadway Segments**	▪ **Same Number of Study Intersections and Roadway Segments**
4) Existing Plus Project Impacts	▪ 2 of 32 intersections (#1, #30) ▪ 0 of 37 roadway segments	▪ 1 of 32 intersections (#30) ▪ 0 of 37 roadway segments	▪ 1 of 32 intersections (#30) ▪ 0 of 37 roadway segments	▪ **Intersections = 1 less impact** ▪ **Segments = same impacts**	▪ **Intersections = 1 less impact** ▪ **Segments = same impacts**
5) Year 2023 Plus Project Impacts	▪ 3 of 32 intersections (#1, #10, #30) ▪ 1 of 37 roadway segments (X)	▪ 3 of 32 intersections (#1, #20, #30) ▪ 0 of 37 roadway segments	▪ 2 of 32 intersections (#1, #30) ▪ 0 of 37 roadway segments	▪ **Intersections = same impacts** ▪ **Segments = 1 less impact**	▪ **Intersections = 1 less impact** ▪ **Segments = 1 less impact**
6) Year 2035 Buildout Plus Project Impacts	▪ 3 of 32 intersections (#1, #10, #30) ▪ 1 of 37 roadway segments (X)	▪ 6 of 32 intersections (#1, #10, #13, #15, #20, #30) ▪ 2 of 37 roadway segments (M, X)	▪ 4 of 32 intersections (#1, #10, #15, #30) ▪ 2 of 37 roadway segments (M, X)	▪ **Intersections = 3 more impacts** ▪ **Segments = 1 more impact**	▪ **Intersections = 1 more impact** ▪ **Segments = 1 more impact**
7) Caltrans Impacts (Intersections)	▪ 3 of 19 intersections – existing plus project) (#23, #29, #30) ▪ 7 of 19 intersections – Year 2023 plus project) (#10, #11, #14, #20, #23, #29, #30) ▪ 11 of 19 intersections – Year 2035 buildout plus project) (#1, #10, #11, #13, #14, #15, #20, #21, #23, #29, #30)	▪ 3 of 19 intersections – existing plus project) (#23, #29, #30) ▪ 5 of 19 intersections – Year 2023 plus project) (#10, #20, #23, #29, #30) ▪ 9 of 19 intersections – Year 2035 buildout plus project) (#1, #10, #13, #14, #15, #20, #23, #29, #30)	▪ 3 of 19 intersections – existing plus project) (#23, #29, #30) ▪ 5 of 19 intersections – Year 2023 plus project) (#10, #20, #23, #29, #30) ▪ 9 of 19 intersections – Year 2035 buildout plus project) (#1, #10, #13, #14, #15, #20, #23, #29, #30)	▪ **Same impacts** ▪ **2 less impacts** ▪ **2 less impacts**	▪ **Same impacts** ▪ **2 less impacts** ▪ **2 less impacts**
8) Caltrans Impacts (Freeway Mainline)	▪ 1 freeway segment (existing plus project) ▪ 1 freeway segment (Year 2023 plus project) ▪ 1 freeway segment (Year 2035 buildout plus project)	▪ 0 freeway segment (existing plus project) ▪ 1 freeway segment (Year 2023 plus project) ▪ 0 freeway segment (Year 2035 buildout plus project)	▪ 0 freeway segment (existing plus project) ▪ 1 freeway segment (Year 2023 plus project) ▪ 0 freeway segment (Year 2035 buildout plus project)	▪ **1 less impact** ▪ **Same impacts** ▪ **1 less impact**	▪ **1 less impact** ▪ **Same impacts** ▪ **1 less impact**
9) Caltrans Impacts (Merge and Diverge)	▪ 1 location (existing plus project) ▪ 1 location (Year 2023 plus project) ▪ 1 location (Year 2035 buildout plus project)	▪ 0 location (existing plus project) ▪ 1 location (Year 2023 plus project) ▪ 0 location (Year 2035 buildout plus project)	▪ 0 location (existing plus project) ▪ 1 location (Year 2023 plus project) ▪ 0 location (Year 2035 buildout plus project)	▪ **1 less impact** ▪ **Same impacts** ▪ **1 less impact**	▪ **1 less impact** ▪ **Same impacts** ▪ **1 less impact**
10) CMP Analysis	▪ 0 of 4 intersections (existing plus project) ▪ 0 of 4 intersections (Year 2023 plus project) ▪ 0 of 4 intersections (Year 2035 buildout plus project)	▪ 0 of 4 intersections (existing plus project) ▪ 0 of 4 intersections (Year 2023 plus project) ▪ 1 of 4 intersections (Year 2035 buildout plus project)	▪ 0 of 4 intersections (existing plus project) ▪ 0 of 4 intersections (Year 2023 plus project) ▪ 1 of 4 intersections (Year 2035 buildout plus project)	▪ **Same impacts** ▪ **Same impacts** ▪ **1 more impact**	▪ **Same impacts** ▪ **Same impacts** ▪ **1 more impact**

Intersection and Roadway Segment Key:

▪ #1 = Beach Blvd/Rosecrans Ave; #10 = Beach Blvd/Imperial Hwy; #11 = La Habra Hills Dr/Imperial Hwy; #13 = Euclid St/Imperial Hwy; #14 = Harbor Blvd/Imperial Hwy; #15 = Beach Blvd/Lambert Rd; #20 = Beach Blvd/La Mirada Blvd-Malvern Ave; #21 = Beach Blvd/La Habra Blvd; #23 = Beach Blvd/Artesia Blvd; #29 = Hacienda Rd/Whittier Blvd; #30 = Walnut St/Imperial Hwy; M = Imperial Hwy between Euclid St and Harbor Blvd; X = Beach Blvd between Rosecrans Ave and La Mirada Blvd

20.0 SUMMARY OF FINDINGS AND CONCLUSIONS

- ***Project Description*** – The proposed project site is a 150± acre parcel of land that is generally located south of Imperial Highway and east of Beach Boulevard behind Westridge Plaza and in front of the Westridge Residential Community in the City of La Habra, California. The subject property is now developed with the Westridge Golf Club, an existing privately owned 18-hole golf course with an employee base of 60 persons and amenities which include 22,500 SF of building floor area that houses the golf shop, club house and restaurants/events center, and a practice facility that has a driving range with 35 tees/driving positions and putting greens. The proposed project includes the development of the golf course property with up to 422 residential dwelling units (DU), within four residential gated neighborhoods (Planning Areas) with various product types and lot sizes, a 12,000 SF specialty grocery store and an 8,000 SF restaurant. Planning Area (PA) #1 includes development of a residential condominium/townhome complex with up to 145 DU on the western portion of the site fronting Beach Boulevard. PA #2 and PA #3 consists of two single-family residential neighborhoods in the middle portion of the site with 118 DU and 77 DU, respectively. PA #4 consists of an 82 DU single-family detached neighborhood to be developed on the eastern portion of the site fronting Idaho Street. PA #5 includes the development of a 12,000 SF specialty grocery store and an 8,000 SF restaurant on the western portion of the site fronting Beach Boulevard. In addition, PA #6 of the proposed Project includes the repurposing of the existing Club House/Pro Shop/Restaurant and a portion of the golf course to a 22,500 SF Recreation Community Center and Open Space/Park for a City Park that will be open to the public. The open space/parkland portion of PA #6 includes natural areas with trails, passive turf areas and neighborhood-serving play areas (e.g. tot lots). The Project is expected to be constructed over the next several years, but is dependent on several factors, including the project funding and market conditions. Hence, to provide a conservative assessment, Year 2023 will be utilized to assess the Project's potential opening year (full buildout/occupancy) traffic impacts within a near-term cumulative traffic setting.

  Vehicular access to the proposed Project will continue to be provided via the existing access on La Habra Hills Drive, with an additional full signalized access driveway to be constructed opposite Hillsborough Park Apartments Drive at Beach Boulevard, a proposed left-turn in/right-turn in and right-turn out only unsignalized driveway along Beach Boulevard (serving the specialty grocery store and restaurant pads) and a proposed full access signalized driveway to be constructed opposite Sandlewood Avenue at Idaho Street. Internal gates are provided, which will prevent vehicular connectivity between the proposed Planning Areas and possible cut-through traffic between Beach Boulevard and Imperial Highway. The following describes the access assumptions for each Planning Area.

  Access to PA #1 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive. Access to PA #2 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive and via La Habra Hills Drive. Access to PA #3 will be provided via La Habra Hills Drive. Access to PA #4 will be provided via the intersection of Sandlewood Avenue and Idaho Street. The proposed left-turn in/right-turn in and right-turn out only unsignalized driveway along Beach Boulevard will serve as access to the proposed specialty grocery store and restaurant pads located within PA #5. The current access on La Habra Hills Drive will serve as access to PA #6; it will also continue to serve as a secondary entry/exit to the Westridge Residential Community.

Intersection and signalization improvements of the Project site's signalized driveways on Beach Boulevard and Idaho Street will be completed as a part of the Project.

- ***Study Scope*** – The following thirty-two (32) key study intersections and thirty-seven (37) key roadway segments were selected for detailed peak hour level of service analyses under Existing Traffic Conditions, Existing Plus Project Traffic Conditions, Year 2023 Cumulative Traffic Conditions, Year 2023 Cumulative plus Project Traffic Conditions, Year 2035 Buildout Traffic Conditions, and Year 2035 Buildout plus Project Traffic Conditions.

Key Study Intersections

1. Beach Boulevard at Rosecrans Avenue (LM)
2. Gilbert Street at Rosecrans Avenue (F)
3. Euclid Street at Rosecrans Avenue (F)
4. Beach Boulevard at Hillsborough Drive (LM)
5. Beach Boulevard at Hillsborough Park Apt. (LH)
6. Idaho Street at Sandlewood Avenue (LH)
7. Euclid Street at Sandlewood Avenue (LH)
8. Santa Gertrudes Avenue at Imperial Highway (LM)
9. 1st Avenue at Imperial Highway (LM)
10. Beach Boulevard at Imperial Highway (LH)[56]
11. La Habra Hills Drive at Imperial Highway (LH)
12. Idaho Street at Imperial Highway (LH)
13. Euclid Street at Imperial Highway (LH)
14. Harbor Boulevard at Imperial Highway (LH/F)[57]
15. Beach Boulevard at Lambert Road (LH)
16. Idaho Street at Lambert Road (LH)
17. Euclid Street at Lambert Road (LH)
18. Harbor Boulevard at Lambert Road (LH)
19. La Mirada Boulevard at Imperial Highway (LM)[56]
20. Beach Blvd at La Mirada Blvd/ Malvern Ave (BP)
21. Beach Boulevard at La Habra Boulevard (LH)
22. Valley View Avenue at Imperial Highway (LM)
23. Beach Boulevard at Artesia Boulevard (BP)
24. Beach Boulevard at Commonwealth Avenue (BP)
25. I-5 NB Ramps at Auto Center Drive (BP)
26. Beach Boulevard at Auto Center Drive (BP)
27. I-5 SB Ramps at Beach Boulevard (BP)[57]
28. Beach Boulevard at Whittier Boulevard (LH)[57]
29. Hacienda Road at Whittier Boulevard (LH)
30. Walnut Street at Imperial Highway (LH)
31. Gilbert Street at Malvern Avenue (F)
32. Euclid Street at Malvern Avenue (F)

Key Roadway Segments

A. Lambert Road between Beach Boulevard and Idaho Street (LH)
B. Lambert Road between Idaho Street and Euclid Street (LH)
C. Lambert Road between Euclid Street and Harbor Boulevard (LH)
D. Beach Boulevard between Lambert Road and Imperial Highway (LH)
E. Idaho Street between Lambert Road and Imperial Highway (LH)
F. Euclid Street between Lambert Road and Imperial Highway (LH)
G. Harbor Boulevard between Lambert Road and Imperial Highway (LH)
H. Imperial Highway between Santa Gertrudes Avenue and 1st Avenue (LM)
I. Imperial Highway between 1st Avenue and Beach Boulevard (LH)
J. Imperial Highway between Beach Boulevard and La Habra Hills Drive (LH)
K. Imperial Highway between La Habra Hills Drive and Idaho Street (LH)
L. Imperial Highway between Idaho Street and Euclid Street (LH)
M. Imperial Highway between Euclid Street and Harbor Boulevard (LH)
N. Idaho Street between Imperial Highway and Sandlewood Avenue (LH)
O. Euclid Street between Sandlewood Avenue and Imperial Highway (LH)
P. Gilbert Street between Sandlewood Avenue and Rosecrans Avenue (F)

[56] Los Angeles County Congestion Management Program (CMP) intersection.

[57] Orange County Congestion Management Program (CMP) intersection.

Q. Euclid Street between Sandlewood Avenue and Rosecrans Avenue (F)
R. Beach Boulevard between Imperial Highway and Hillsborough Apt (LH)
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive (LH)
T. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue (LM)
U. Rosecrans Avenue between Beach Boulevard and Gilbert Street (F)
V. Rosecrans Avenue between Gilbert Street and Euclid Street (F)
W. Sandlewood Avenue between Idaho Street and Euclid Street (LH)
X. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard/Malvern Avenue (BP)
Y. Imperial Highway between La Mirada Boulevard and Santa Gertrudes Avenue (LM)
Z. Beach Boulevard between Lambert Road and La Habra Boulevard (LH)
AA. Imperial Highway between Valley View Avenue and La Mirada Boulevard (LM)
BB. Beach Boulevard between La Mirada Boulevard/Malvern Avenue and Artesia Boulevard (BP)
CC. Beach Boulevard between Artesia Boulevard and Commonwealth Avenue (BP)
DD. Beach Boulevard between Commonwealth Avenue and Auto Center Drive (BP)
EE. Auto Center Drive between Beach Boulevard and I-5 NB Ramps (BP)
FF. Beach Boulevard between Auto Center Drive and I-5 SB Ramps (BP)
GG. Beach Boulevard between La Habra Boulevard and Whittier Boulevard (LH)
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road (LH)
II. Gilbert Street between Rosecrans Avenue and Malvern Avenue (F)
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue (F)
KK. Malvern Avenue between Gilbert Street and Euclid Street (F)

- ***Existing Traffic Conditions*** – Two (2) of the thirty-two (32) key study intersections currently operate at an unacceptable level of service during the AM and/or PM peak hours. The intersections of Euclid Street/Sandlewood Avenue and Walnut Street/Imperial Highway currently operate at unacceptable LOS E and/or LOS F during the AM and/or PM peak hours. The remaining thirty (30) key study intersections currently operate at an acceptable level of service during the AM and PM peak hours.

  Eight of the thirty-seven (37) key roadway segments currently operate at unacceptable LOS E or F on a daily basis. The eight locations that currently operate at an adverse LOS are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	0.944	E
B. Lambert Road between Idaho Street and Euclid Street	La Habra	0.997	E
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	0.960	E
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.192	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Avenue	Buena Park	0.944	E
DD. Beach Blvd between Commonwealth Avenue and Auto Center Drive	Buena Park	0.976	E
FF. Beach Blvd between Auto Center Drive and I-5 SB Ramps	Buena Park	1.028	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.255	F

  The remaining twenty-nine (29) key roadway segments currently operate at an acceptable level of service on a daily basis

- ***Project Trip Generation*** – The proposed Project is forecast to generate 6,713 daily trips, with 465 trips (177 inbound, 288 outbound) produced in the AM peak hour and 615 trips (363 inbound, 252 outbound) produced in the PM peak hour on a "typical" weekday. The existing trip generation potential of the Westridge Golf Club based on existing counts totals 547 weekday daily trips, with 32 trips (14 inbound, 18 outbound) produced in the AM peak hour and 34 trips (12 inbound, 22 outbound) produced in the PM peak hour. Comparison of the trips generated by the proposed Project to the trip generation potential of the Existing Land Use shows that the proposed Project would result in an additional 6,166 weekday daily trips, 433 more AM peak hour trips and 581 more PM peak hour trips. The potential traffic impacts of the aforementioned net project trips are evaluated in the traffic analysis section of this report.

- ***Cumulative Projects Traffic Characteristics*** – Sixty-three (63) cumulative projects were considered as part of the cumulative background setting. The sixty-three (63) cumulative projects are expected to generate 92,801 daily trips, with 6,387 trips (2,900 inbound, 3,487 outbound) anticipated during the AM peak hour and 7,649 trips (4,166 inbound, 3,483 outbound) produced during the PM peak hour.

- ***Existing Plus Project Traffic Conditions*** – The proposed Project will significantly impact one (1) of the thirty-two (32) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Euclid Street/Sandlewood Avenue is forecast to operate at unacceptable LOS F during the AM peak hour and unacceptable LOS E during the PM peak hour, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied. The remaining thirty (30) key study intersections currently operate and are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of Project generated traffic to existing traffic. The intersection operating at an adverse level of service under existing plus project traffic conditions consists of the following:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
30. Walnut Street at Imperial Highway	La Habra	1260.8 s/v	F	--	--

The implementation of improvements at the one (1) impacted key study intersection completely offsets the impact of project traffic and the one (1) impacted key study intersection is forecast to operate at an acceptable LOS during the AM and PM peak hours with implementation of improvements.

Nine (9) of the thirty-seven (37) key roadway segments are forecast to operate at an unacceptable level of service on a daily basis with the proposed Project. The nine (9) locations that operate at an adverse LOS are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	0.944	E
B. Lambert Road between Idaho Street and Euclid Street	La Habra	0.997	E
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	0.960	E

S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.005	F
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.211	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Avenue	Buena Park	0.958	E
DD. Beach Blvd between Commonwealth Avenue and Auto Center Drive	Buena Park	0.989	E
FF. Beach Blvd between Auto Center Drive and I-5 SB Ramps	Buena Park	1.038	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.263	F

Of the nine (9) locations operating at an unacceptable level of service, only Roadway Segment S (i.e. Beach Boulevard between Hillsborough Apt. and Hillsborough Drive) require a peak hour link assessment to determine whether or not they will be impacted by the proposed Project. The other eight (8) locations (i.e. Roadway Segments A, B, C, BB, CC, DD, FF and HH) do not exceed the thresholds defined in this report requiring a peak hour link assessment and thus are not impacted by the proposed Project under Existing plus Project Traffic Conditions.

Roadway Segment S currently operates at acceptable LOS C or better during the critical weekday AM and PM peak commute hours. Further, Roadway Segment S is forecast to continue to operate at LOS D or better under Existing Plus Project Traffic Conditions during the weekday AM and PM peak commute hours. Therefore, Roadway Segment S ***will not*** be significantly impacted by the Project. The remaining twenty-eight (28) key roadway segments are forecast to continue to operate at an acceptable service level on a daily basis with the addition of project generated traffic to existing traffic.

- ***Year 2023 Cumulative Plus Project Traffic Conditions*** – The proposed Project will significantly impact three (3) of the thirty-two (32) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Beach Boulevard/Lambert Road is forecast to operate at unacceptable LOS F during the AM peak hour with the addition of project traffic, the proposed Project is expected to add less than the allowable threshold to the ICU value. Also, although the intersection of Euclid Street/Sandlewood Avenue is forecast to operate at unacceptable LOS F during the AM and PM peak hours, the intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied. The remaining twenty-seven (27) key study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2023. The three (3) locations significantly impacted by the proposed Project in the Year 2023 are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada	1.093	F	1.061	F
20. Beach Blvd at La Mirada Blvd/Malvern Ave	Buena Park	--	--	0.904	E
30. Walnut Street at Imperial Highway	La Habra	5,473.9 s/v	F	107.4 s/v	F

The implementation of improvements at the impacted key study intersections of Beach Boulevard/Rosecrans Avenue, Beach Boulevard/La Mirada Boulevard-Malvern Avenue and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key

study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

Fourteen (14) of the thirty-seven (37) key roadway segments are forecast to operate at an unacceptable level of service on a daily basis in the Year 2023 with the proposed Project. The fourteen (14) locations that are forecast to operate at an adverse LOS in the Year 2023 with project traffic are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	1.025	F
B. Lambert Road between Idaho Street and Euclid Street	La Habra	1.081	F
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	1.042	F
D. Beach Boulevard between Lambert Road and Imperial Highway	La Habra	1.018	F
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	1.076	F
R. Beach Boulevard between Imperial Highway and Hillsborough Apt	La Habra	1.075	F
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.110	F
T. Beach Boulevard between Hillsborough Dr and Rosecrans Ave	La Mirada	1.072	F
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.329	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Ave	Buena Park	1.081	F
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	Buena Park	1.113	F
FF. Beach Blvd between Auto Center Dr and I-5 SB Ramps	Buena Park	1.171	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.384	F
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue	Fullerton	0.914	E

Of the fourteen (14) locations operating at an unacceptable level of service, only Roadway Segment D (i.e. Beach Boulevard between Lambert Road and Imperial Highway), Roadway Segment M (i.e. Imperial Highway between Euclid Street and Harbor Boulevard), Roadway Segment R (i.e. Beach Boulevard between Imperial Highway and Hillsborough Apt.), Roadway Segment S (i.e. Beach Boulevard between Hillsborough Apt. and Hillsborough Drive) and Roadway Segment T (i.e. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue) require a peak hour link assessment to determine whether or not they will be impacted by the proposed Project in the Year 2023. The other nine (9) locations (i.e. Roadway Segments A, B, C, BB, CC, DD, FF, HH and JJ) do not exceed the thresholds defined in this report requiring a peak hour link assessment and thus are not impacted by the proposed Project under Year 2023 plus Project Traffic Conditions.

Roadway Segments D, M, R, S and T are forecast to operate at acceptable LOS D or better during the critical weekday AM and PM peak commute hours without and with the proposed Project in the Year 2023. Therefore, Roadway Segments D, M, R, S and T ***will not*** be significantly impacted by the Project in the Year 2023. The remaining twenty-three (23) key roadway segments are forecast to continue to operate at an acceptable service level on a daily basis with the addition of project generated traffic in the Year 2023 traffic condition

- ***Year 2035 Buildout Plus Project Traffic Conditions*** – The proposed Project will significantly impact six (6) of the thirty-two (32) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of Santa Gertrudes Avenue/Imperial Highway, Harbor Boulevard/Imperial Highway, Idaho Street/Lambert Road, Euclid Street/Lambert Road, Harbor Boulevard/Lambert Road, La Mirada Boulevard/Imperial Highway, Valley View Avenue/Imperial Highway, Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard, Gilbert Street/Malvern Avenue and Euclid Street/Malvern Avenue are forecast to operate at unacceptable LOS E and/or LOS F during the AM and/or PM peak hour with the addition of project traffic, the Project is expected to add less than the allowable threshold to the ICU and/or Delay value. Also, although the intersection of Euclid Street/Sandlewood Avenue is forecast to operate at unacceptable LOS F during the AM and PM peak hours, this intersection is not impacted per the significant impact criteria specified in this report, as the peak hour traffic signal warrant is not satisfied. The remaining fourteen (14) key study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2035. The six (6) locations significantly impacted by the proposed Project in the Year 2035 are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	ICU/HCM	LOS	ICU/HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada	1.152	F	1.132	F
10. Beach Boulevard at Imperial Highway	La Habra	1.026	F	1.085	F
13. Euclid Street at Imperial Highway	La Habra	1.033	F	--	--
15. Beach Boulevard at Lambert Road	La Habra	1.084	F	1.200	F
20. Beach Blvd at La Mirada Blvd/Malvern Ave	Buena Park	0.998	E	0.948	E
30. Walnut Street at Imperial Highway	La Habra	27,301.7 s/v	F	127.6 s/v	F

The implementation of improvements at the impacted key study intersections of Beach Boulevard/Rosecrans Avenue, Euclid Street/Imperial Highway, Beach Boulevard/Lambert Road and Beach Boulevard/La Mirada Boulevard-Malvern Avenue offsets the impact of project traffic; however these locations are still forecast to operate at unacceptable LOS E and/or LOS F during the AM and/or PM peak hours. The implementation of improvements at the impacted key study intersections of Beach Boulevard/Imperial Highway and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

Eighteen of the thirty-seven (37) key roadway segments are forecast to operate at an unacceptable level of service on a daily basis in the Year 2035 with the proposed Project. The eighteen locations that are forecast to operate at an adverse LOS in the Year 2035 with project traffic are as follows:

Key Roadway Segment	Jurisdiction	V/C	LOS
A. Lambert Road between Beach Boulevard and Idaho Street	La Habra	1.087	F
B. Lambert Road between Idaho Street and Euclid Street	La Habra	1.146	F
C. Lambert Road between Euclid Street and Harbor Boulevard	La Habra	1.104	F
D. Beach Boulevard between Lambert Road and Imperial Highway	La Habra	1.044	F

J. Imperial Highway between Beach Blvd and La Habra Hills Dr	La Habra	1.056	F
K. Imperial Highway between La Habra Hills Dr and Idaho Street	La Habra	1.062	F
L. Imperial Highway between Idaho Street and Euclid Street	La Habra	1.055	F
M. Imperial Highway between Euclid Street and Harbor Boulevard	La Habra	1.140	F
R. Beach Boulevard between Imperial Highway and Hillsborough Apt	La Habra	1.136	F
S. Beach Boulevard between Hillsborough Apt and Hillsborough Drive	La Habra	1.174	F
T. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue	La Mirada	1.134	F
X. Beach Boulevard between Rosecrans Ave and La Mirada Blvd	Buena Park	0.911	E
BB. Beach Blvd between La Mirada Blvd/Malvern Ave and Artesia Blvd	Buena Park	1.408	F
CC. Beach Blvd between Artesia Blvd and Commonwealth Ave	Buena Park	1.145	F
DD. Beach Blvd between Commonwealth Ave and Auto Center Dr	Buena Park	1.179	F
FF. Beach Blvd between Auto Center Dr and I-5 SB Ramps	Buena Park	1.241	F
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road	La Habra	1.466	F
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue	Fullerton	0.940	E

Of the eighteen locations operating at an unacceptable level of service, only Roadway Segment D (i.e. Beach Boulevard between Lambert Road and Imperial Highway), Roadway Segment J (i.e. Imperial Highway between Beach Boulevard and La Habra Hills Drive), Roadway Segment K (i.e. Imperial Highway between La Habra Hills Drive and Idaho Street, Roadway Segment L (i.e. Imperial Highway between Idaho Street and Euclid Street, Roadway Segment M (i.e. Imperial Highway between Euclid Street and Harbor Boulevard), Roadway Segment R (i.e. Beach Boulevard between Imperial Highway and Hillsborough Apt.), Roadway Segment S (i.e. Beach Boulevard between Hillsborough Apt. and Hillsborough Drive), Roadway Segment T (i.e. Beach Boulevard between Hillsborough Drive and Rosecrans Avenue), and Roadway Segment X (i.e. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard) require a peak hour link assessment to determine whether or not they will be impacted by the proposed Project in the Year 2035. The other nine (9) locations (i.e. Roadway Segments A, B, C, BB, CC, DD, FF, HH and JJ) do not exceed the thresholds defined in this report requiring a peak hour link assessment and thus are not impacted by the proposed Project under Year 2035 plus Project Traffic Conditions.

The proposed Project will have a cumulative impact at Roadway Segment M, as this location is forecast to operate in the Year 2035 at unacceptable LOS F in the eastbound direction during the critical weekday AM peak hour and at unacceptable LOS F in the westbound direction during the critical weekday PM peak hour with the proposed Project. The proposed Project will also have a cumulative impact at Roadway Segment X, as this location is forecast to operate in the Year 2035 at unacceptable LOS E in the southbound direction during the critical weekday AM peak hour and at unacceptable LOS E in the northbound direction during the critical weekday PM peak hour with the proposed Project. The remaining seven (7) key roadway segments (i.e. Roadway Segment D, Roadway Segment J, Roadway Segment K, Roadway Segment L, Roadway Segment R, Roadway Segment S and Roadway Segment T) ***will not*** be significantly impacted by the proposed Project as these seven (7) locations are forecast to operate in the Year

2035 at an acceptable LOS without and with the proposed Project during the weekday AM and PM peak commute hours.

With implementation of recommended improvements, Roadway Segment M (i.e. Imperial Highway between Euclid Street and Harbor Boulevard) is forecast to operate at acceptable LOS D or better with the addition of Project generated traffic in the Year 2035 traffic condition. With implementation of recommended improvements, Roadway Segment X (i.e. Beach Boulevard between Rosecrans Avenue and La Mirada Boulevard) is forecast to operate at acceptable LOS D or better with the addition of Project generated traffic in the Year 2035 traffic condition.

- ***State of California Intersection Analysis (Existing Plus Project)*** – The Project will significantly impact three of the nineteen (19) state-controlled study intersections, when compared to the LOS standards specified in this report. The remaining sixteen (16) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic to existing traffic. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	55.4 s/v	E	72.0 s/v	E
29. Hacienda Rd at Whittier Blvd	La Habra/Caltrans	254.7 s/v	F	167.9 s/v	F
30. Walnut St at Imperial Hwy	La Habra/Caltrans	1,260.8 s/v	F	--	--

The implementation of improvements at the impacted key study intersections of Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

- ***State of California Intersection Analysis (Year 2023 Plus Project)*** – The proposed Project will significantly impact five (5) of the nineteen (19) state-controlled study intersections, when compared to the LOS standards specified in this report. The remaining fourteen (14) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2023. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
10. Beach Blvd at Imperial Hwy	La Habra/Caltrans	84.5 s/v	F	81.7 s/v	F
20. Beach Blvd at La Mirada/Malvern Ave	Buena Park/Caltrans	--	--	68.7 s/v	E
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	72.2 s/v	E	72.5 s/v	E
29. Hacienda Rd at Whittier Blvd	La Habra/Caltrans	273.1 s/v	F	156.3 s/v	F
30. Walnut Street at Imperial Hwy	La Habra/Caltrans	5,473.9 s/v	F	107.4 s/v	F

The implementation of improvements at the impacted key study intersection of Beach Boulevard/La Mirada Boulevard-Malvern Avenue offsets the impact of project traffic; however this location is still forecast to operate at unacceptable LOS E during the PM peak hour. The

implementation of improvements at the impacted key study intersections of Beach Boulevard/Imperial Highway, Beach Boulevard/Artesia Boulevard, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours

- ***State of California Intersection Analysis (Year 2035 Buildout Plus Project)*** – The Project will significantly impact nine (9) of the nineteen (19) state-controlled study intersections, when compared to the LOS standards specified in this report. The remaining ten (10) state-controlled study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2035. The locations projected to operate at an adverse LOS are as follows:

		AM Peak Hour		PM Peak Hour	
Key Intersection	Jurisdiction	HCM	LOS	HCM	LOS
1. Beach Boulevard at Rosecrans Avenue	La Mirada/Caltrans	--	--	85.5 s/v	F
10. Beach Boulevard at Imperial Highway	La Habra/Caltrans	96.9 s/v	F	116.5 s/v	F
13. Euclid Street at Imperial Highway	La Habra/Caltrans	118.6 s/v	F	90.4 s/v	F
14. Harbor Boulevard at Imperial Hwy	La Habra / Fullerton / Caltrans	111.8 s/v	F	90.4 s/v	F
15. Beach Boulevard at Lambert Road	La Habra/Caltrans	90.9 s/v	F	140.9 s/v	F
20. Beach Blvd at La Mirada/Malvern Ave	Buena Park/Caltrans	--	--	74.1 s/v	E
23. Beach Blvd at Artesia Blvd	Buena Park/Caltrans	80.6 s/v	F	98.9 s/v	F
29. Hacienda Road at Whittier Blvd	La Habra/Caltrans	448.6 s/v	F	408.7 s/v	F
30. Walnut Street at Imperial Highway	La Habra/Caltrans	27,301.7 s/v	F	127.6 s/v	F

The implementation of improvements at the impacted key study intersections of Beach Boulevard/Imperial Highway, Euclid Street/Imperial Highway, Harbor Boulevard/Imperial Highway, Beach Boulevard/Lambert Road, Beach Boulevard/La Mirada Boulevard-Malvern Avenue and Beach Boulevard/Artesia Boulevard offsets the impact of project traffic; however these locations are still forecast to operate at unacceptable LOS E or F during the AM and/or PM peak hours. The implementation of improvements at the impacted key study intersections of Beach Boulevard/Rosecrans Avenue, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway completely offsets the impact of project traffic and the key study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours.

- ***Project Specific Improvements*** – The following project design features that will be constructed by the proposed Project are recommended to ensure that adequate ingress and egress to the project site is provided:

  - **No. 5 – Beach Boulevard at Hillsborough Park Apartments:** Construct the east leg of the intersection and provide two inbound lanes and two outbound lanes (i.e. one westbound left-turn lane and one shared through/right-turn lane). Modify the median on Beach Boulevard to provide one 150-foot southbound left-turn lane with a 90-foot transition. Modify the existing traffic signal for five phase operation with protected left-turn phasing in the north-

south direction and permissive phasing in the east-west direction. The installation of these improvements are subject to the approval of the City of La Habra and Caltrans.

- **No. 6 – Idaho Street at Sandlewood Avenue:** Construct the west leg of the intersection and provide one inbound lane and two outbound lanes (i.e. one eastbound left-turn lane and one shared through/right-turn lane). Provide one 100-foot northbound left-turn lane with a 90-foot transition on Idaho Street. Modify the existing traffic signal for five phase operation with protected/permissive left-turn phasing in the north-south direction and permissive phasing in the east-west direction. The installation of these improvements are subject to the approval of the City of La Habra.

- **Beach Boulevard at Proposed Retail Driveway:** Construct the project driveway and provide one inbound lane and one outbound lane (i.e. one westbound right-turn lane). Modify the median on Beach Boulevard to provide one 100-foot southbound left-turn lane with a 90-foot transition. The installation of these improvements are subject to the approval of the City of La Habra and Caltrans.

- ***Planned Improvements*** – The following improvements are planned by the City of La Habra and consist of the following:

  - **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra. These improvements are funded by OCTA and the City of La Habra.

- ***Recommended Improvements (Existing Plus Project)*** – The results of the intersection capacity analysis presented previously in *Table 8-1* shows that the proposed Project will significantly impact one (1) of the thirty-two (32) key study intersections under the "Existing Plus Project" traffic scenario. The following are improvements recommended to mitigate the existing plus project traffic impacts:

  - **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

The results of the "Existing Plus Project" daily roadway segment analysis presented previously in *Table 8-2* indicates that the proposed Project will not significantly impact any of the thirty-seven (37) key roadway segments. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

- ***Recommended Improvements (Year 2023 Plus Project)*** **–** The results of the intersection capacity analysis presented previously in *Table 9-1* shows that the proposed Project will significantly impact three (3) of the thirty-two (32) key study intersections under the "Year 2023 Plus Project" traffic scenario. The following are improvements recommended to mitigate the Year 2023 plus project traffic impacts:

  - **No. 1 – Beach Boulevard at Rosecrans Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Widen and/or restripe the westbound approach of Rosecrans Avenue by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Mirada. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Mirada and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

  - **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

  - **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

The results of the "Year 2023 Plus Project" daily roadway segment analysis presented previously in *Table 9-2* indicates that the proposed Project will not significantly impact any of the thirty-seven (37) key roadway segments. Given that there are no significant project impacts, no improvements are required under this traffic scenario.

- ***Recommended Improvements (Year 2035 Plus Project)*** **–** The results of the intersection capacity analysis presented previously in *Table 10-1* shows that the proposed Project will significantly impact six (6) of the thirty-two (32) key study intersections under the "Year 2035 Plus Project" traffic scenario. The following are improvements recommended to mitigate the Year 2035 plus project traffic impacts:

  - **No. 1 – Beach Boulevard at Rosecrans Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Widen and/or restripe the westbound approach of Rosecrans Avenue by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Mirada. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Mirada and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

  - **No. 10 – Beach Boulevard at Imperial Highway:** Consistent with the City of La Habra General Plan, widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Consistent with the City of La Habra General Plan, widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

  - **No. 13 – Euclid Street at Imperial Highway:** Widen and/or restripe the southbound approach of Imperial Highway by up to 12-feet to provide an exclusive southbound right-turn lane. Modify the existing traffic signal. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 15 – Beach Boulevard at Lambert Road:** Widen and/or restripe the eastbound approach of Lambert Road by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 30 – Walnut Street at Imperial Highway:** Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

The results of the "Year 2035 Plus Project" daily roadway segment analysis presented previously in *Table 10-2* indicates that the proposed Project will significantly impact two (2) of the thirty-seven (37) key roadway segments. The following are improvements recommended to mitigate the Year 2035 plus project traffic impacts:

- **Roadway Segment M – Imperial Highway between Euclid Street and Harbor Boulevard:** Widen and restripe Imperial Highway to provide a 4th eastbound through lane and a 4th westbound through lane. The installation of these improvements will require additional right-of-way and may be further constrained due to the existing channel located south of Imperial Highway that runs parallel to Imperial Highway, from west of Euclid Avenue, east to Village Drive. In addition, this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **Roadway Segment X – Beach Blvd between Rosecrans Ave and La Mirada Blvd:** Widen and restripe Beach Boulevard to provide a 4th northbound through lane and a 4th southbound through lane. The installation of these improvements will require additional right-of-way and is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- ***Recommended Existing Plus Project Improvements (Caltrans Methodology)*** **–** The following improvements listed below have been identified to mitigate the existing plus project traffic impacts (Caltrans methodology) at the following intersections:

  - **No. 23 – Beach Boulevard at Artesia Boulevard:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary and install a westbound right-turn overlap phase. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

  - **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra.

  - **No. 30 – Walnut Street at Imperial Highway:** *Same as those identified in Section 12.3.1.* Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- ***Recommended Year 2023 Plus Project Improvements (Caltrans Methodology)*** **–** The following improvements listed below have been identified to mitigate the Year 2023 plus project traffic impacts (Caltrans methodology) at the following intersections:

- **No. 10 – Beach Boulevard at Imperial Highway: No. 10 – Beach Boulevard at Imperial Highway:** Consistent with the City of La Habra General Plan, widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Consistent with the City of La Habra General Plan, widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 23 – Beach Boulevard at Artesia Boulevard:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary and install a westbound right-turn overlap phase. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra.

- **No. 30 – Walnut Street at Imperial Highway:** *Same as those identified in Section 12.4.1.* Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff,

Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- ***Recommended Year 2035 Plus Project Improvements (Caltrans Methodology)* –** The following improvements listed below have been identified to mitigate the Year 2035 plus project traffic impacts (Caltrans methodology) at the following intersections:

  - **No. 1 – Beach Boulevard at Rosecrans Avenue:** *Same as those identified in Section 12.5.1.* Widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Widen and/or restripe the westbound approach of Rosecrans Avenue by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Mirada. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Mirada and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

  - **No. 10 – Beach Boulevard at Imperial Highway:** *Same as those identified in Section 12.5.1.* Consistent with the City of La Habra General Plan, widen and/or restripe the northbound approach of Beach Boulevard by up to 12-feet to provide a 4th northbound through lane. Consistent with the City of La Habra General Plan, widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

  - **No. 13 – Euclid Street at Imperial Highway:** *Same as those identified in Section 12.5.1.* Widen and/or restripe the southbound approach of Imperial Highway by up to 12-feet to provide an exclusive southbound right-turn lane. Modify the existing traffic signal. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 14 – Harbor Boulevard at Imperial Highway:** Modify the existing traffic signal and install a southbound right-turn overlap phase. The installation of this improvement is subject to the approval of Caltrans, the City of La Habra and the City of Fullerton. Since the proposed Project cannot guarantee that these improvements that are located in the Cities of La Habra/Fullerton and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 15 – Beach Boulevard at Lambert Road:** *Same as those identified in Section 12.5.1.* Widen and/or restripe the eastbound approach of Lambert Road by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 20 – Beach Boulevard at La Mirada Boulevard/Malvern Avenue:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide a 4th southbound through lane. Modify the existing traffic signal as necessary. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of this improvement is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 23 – Beach Boulevard at Artesia Boulevard:** Widen and/or restripe the southbound approach of Beach Boulevard by up to 12-feet to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary and install a westbound right-turn overlap phase. Right-of-way acquisition will be required. Based on review of aerial photographs these improvements appear to be feasible. The installation of these improvements is subject to the approval of Caltrans and the City of Buena Park. Since the proposed Project cannot guarantee that these improvements that are located in the City of Buena Park and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- **No. 29 – Hacienda Road at Whittier Boulevard:** Widen and/or restripe the northbound approach of Hacienda Road to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach of Hacienda Road to provide an exclusive left-turn lane, a shared left/through lane and dual right-turn lanes. Modify the existing traffic signal for split-phase operation in the north-south directions. The installation of these improvements, which are planned by the City of La Habra/Caltrans as part of the Hacienda Road/Whittier Boulevard Intersection Improvement Project are subject to the approval of Caltrans and the City of La Habra.

- **No. 30 – Walnut Street at Imperial Highway:** *Same as those identified in Section 12.5.1.* Consistent with the City of La Habra General Plan, install a three-phase traffic signal with protected left-turn phasing on Imperial Highway (i.e. eastbound left-turn lane). It should be noted that this key study intersection satisfies the peak hour signal warrant under existing traffic conditions (i.e. Warrant #3 described in the current California Manual on Uniform Traffic Control Devices (MUTCD). Further per discussions with City of La Habra staff, Caltrans is currently planning to install a traffic signal at this location (construction schedule is not known at this time). The installation of this improvement is subject to the approval of Caltrans and the City of La Habra. Since the proposed Project cannot guarantee that these improvements that are located in the City of La Habra and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations will be required for this location.

- ***Site Access*** **–** The intersection of Beach Boulevard/Hillsborough Park Apartments (key study intersection #5), the intersection of Idaho Street/Sandlewood Avenue (key study intersection #6) and the intersection of La Habra Hills Drive/Imperial Highway (key study intersection #11) are forecast to operate at acceptable LOS D or better with the proposed Project in the Year 2023 and the Year 2035. The proposed retail project driveway is forecast to operate at an acceptable LOS during the AM and PM peak hours for existing plus project, Year 2023 plus project and Year 2035 plus project traffic conditions. As such, project access will be adequate.

  It should be noted that if a southbound left-turn lane at the proposed retail project driveway is not permitted/approved by Caltrans, project patrons travelling south on Beach Boulevard wanting to access the retail parcel would need to travel to the intersection of Beach Boulevard/Hillsborough Park Apartments, make a u-turn at the intersection and travel north on Beach Boulevard and make a northbound right-turn into the retail parcel. Based on the LOS results presented previously in Sections 8.0, 9.0 and 10.0, the intersection of Beach Boulevard/Hillsborough Park Apartments (i.e. key study intersection #5) has available capacity to accommodate the u-turns, as this location is forecast to operate at acceptable LOS B or better during the AM and PM peak hours under existing plus project, Year 2023 plus project and Year 2035 plus project traffic conditions.

  The on-site circulation layout of the proposed Project as illustrated in *Figure 2-2* on an overall basis is adequate. Curb return radii have been confirmed and are generally adequate for small service/delivery (FedEx, UPS) trucks and trash trucks, as well as fire trucks. Nonetheless, prior to finalization of the Project site plan, conduct an internal circulation analysis using the vehicle turning templates for a fire truck, service/delivery/trash truck and large truck to confirm curb return radii at the project driveways and internal drive aisle widths, etc.

- ***CMP Compliance Assessment*** **–** The proposed Project will not impact any of the CMP locations under existing plus project and Year 2023 plus project traffic conditions. The proposed Project will impact the CMP intersection of Beach Boulevard/Imperial Highway under Year 2035 plus project traffic conditions. It should be noted that this impact is consistent with the Year 2035 impacts discussed previously in Section 10.1.2. Consistent with the findings presented in Section 10.1.2 for this location, with implementation of recommended improvements, the impact

of the proposed Project will be offset (refer to Section 12.5.1 for the recommended improvements).

- ***Caltrans Basic Freeway Analysis*** – The development of the Project in combination with cumulative development and ambient traffic growth is anticipated to cumulatively impact one (1) of the two SR-57 mainline freeway segments assessed in the report under Year 2023 cumulative plus project traffic conditions. Although cumulatively impacted, it should be noted that the density increase at key freeway segment #8 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal. However, the SR-57 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of La Habra) can construct or guarantee the construction of any improvements to these freeways segments. Therefore, the proposed Project's incremental impacts (i.e. approximately less than 1.0% density increase) on key freeway study segments assessed in the report are considered unmitigatable as there are no feasible mitigation measures that will reduce cumulative mainline impacts to below significance thresholds or achieve acceptable service level goals.

- ***Caltrans Ramp Junction Merge and Diverge Analysis*** – The development of the Project in combination with cumulative development and ambient traffic growth is anticipated to significantly impact one (1) of the three (3) freeway ramp junctions assessed in the report under Year 2023 cumulative plus project traffic conditions. Although cumulatively impacted, it should be noted that the density increase at key freeway ramp #3 is minimal (i.e. 0.1 passenger cars per mile per lane) and the added project trips are minimal. However, the SR-57 Freeway is controlled exclusively by the State and there is no mechanism by which the lead agency (City of La Habra) can construct or guarantee the construction of any improvements to these ramp junctions. Therefore, the proposed Project's incremental impacts (i.e. approximately less than 1.0% density increase) on freeway ramp junctions assessed in the report are considered unmitigatable as there are no feasible mitigation measures that will reduce cumulative impacts to below significance thresholds or achieve acceptable service level goals.

- ***Construction Traffic Assessment*** – Construction related trips associated with trucks and employees traveling to and from the site in the morning and afternoon may result in some minor traffic delays; however, potential traffic interference caused by construction vehicles would create a temporary/short-term impact to vehicles using Beach Boulevard and Imperial Highway in the morning and afternoon hours and the number of construction workers will vary depending on the specific construction activities over time. Based on the location of the site, and the proximity of the I-5 Freeway and SR-57 Freeway, it is anticipated that a majority of the construction-related traffic will utilize the freeway to gain regional access to the site.

  Traffic impacts to the adjacent roadway network will be minimal and **not** long-term. Further, since the construction-related trip generation potential of the proposed Project (i.e. all four construction components) is less than that of the proposed Project, no significant impacts resulting from construction traffic are anticipated, aside from the nuisance traffic that will occur as a result of construction-related traffic (e.g., construction materials, construction workers, etc.).

Nevertheless, to ensure impacts to the surrounding street system are kept a minimum, it is recommended that a Construction Management Plan for the proposed Project be developed. The Construction Management Plan should be developed in coordination with the City of La Habra and at a minimum, address the following:

- Traffic control for any street closure, detour, or other disruption to traffic circulation.
- Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e. lumber, tiles, piping, windows, etc.), to access the site, traffic controls and detours, and proposed construction phasing plan for the project.
- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
- Require the Applicant to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material which may have been spilled, tracked, or blown onto adjacent streets or areas.
- Hauling or transport of oversize loads will be allowed between the hours of 9:00 AM and 3:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport will be allowed during nighttime hours, weekends or Federal holidays.
- Use of local streets shall be prohibited.
- Haul trucks entering or exiting public streets shall at all times yield to public traffic.
- If hauling operations cause any damage to existing pavement, street, curb, and/or gutter along the haul route, the applicant will be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer.
- All construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur on-site.
- This Plan shall meet standards established in the current *California Manual on Uniform Traffic Control Device (MUTCD)* as well as City of La Habra requirements.
- The applicant shall coordinate with Caltrans staff regarding project-related wok that will occur on Beach Boulevard.

- ***City of La Habra Traffic Improvement Fee and Traffic Phasing Plan –*** Pursuant to Chapter 14.48 and Chapter 10.52 of the City's Municipal Code, the project applicant shall participate in the payment of Citywide Traffic Impact Fees. The purpose of the traffic impact mitigation fee is to implement the goals and objectives of the City's general plan growth management element, to mitigate the traffic impacts caused by new development within the City through construction of certain improvements, and to ensure that future development pays its fair share of improvements to maintain level of service standards and develop/implement the City's future transportation system as identified in the general plan circulation element. The payment of Citywide Traffic Impact Fees shall be submitted to the City of La Habra Public Works Department/Engineering Division for the mitigation of off-site traffic impacts generated by the Project. These fees will be

calculated by City staff. With respect to project impacts at intersections under the jurisdiction of the City of Fullerton, City of Buena Park, La Mirada and Caltrans, it should also be noted that under CEQA, a fair share monetary contribution to a mitigation fund is adequate mitigation if the fund is tied to a reasonable plan that the relevant agency is committed to implementing. However, these cities and Caltrans do not have mitigation fund programs in place for these improvements to which a development project in the City of La Habra can contribute.

- ***Year 2023 Project Fair Share Contribution*** **–** The Project's fair share contribution to offset all Year 2023 intersection project impacts ranges between 6.3% and 22.3%. Refer to the table below.

Key Location		Jurisdiction	Impacted Time Period	Project ICU Impact	ICU Benefit of Improvement	Project Percentage Share
1.	Beach Boulevard at Rosecrans Avenue	La Mirada/ Caltrans	PM	--	--	**22.3%**
10.	Beach Boulevard at Imperial Highway[58]	La Habra/ Caltrans	AM PM	-- --	-- --	18.6% **22.1%**
20.	Beach Blvd at La Mirada/Malvern Ave	Buena Park/ Caltrans	PM	--	--	**14.6%**
23.	Beach Boulevard at Artesia Boulevard	Buena Park/ Caltrans	AM PM	-- --	-- --	10.9% **13.2%**
29.	Hacienda Road at Whittier Boulevard[58]	La Habra/ Caltrans	AM PM	-- --	-- --	5.7% **6.3%**
30.	Walnut Street at Imperial Highway	La Habra/ Caltrans	AM PM	-- --	-- --	10.4% **12.6%**

[58] This intersection is impacted under Caltrans analysis only. However, the fair share percentage at this location may be subject to La Habra criteria.

- ***Year 2035 Project Fair Share Contribution*** – The Project's fair share contribution to offset all Year 2035 intersection project impacts ranges between 2.2% and 50.0%. The Project's fair share contribution to offset all Year 2035 roadway segment project impacts ranges between 5.0% and 13.4%. Refer to the table below.

Key Location		Jurisdiction	Impacted Time Period	Project ICU Impact	ICU Benefit of Improvement	Project Percentage Share
1.	Beach Boulevard at Rosecrans Avenue	La Mirada/ Caltrans	PM	--	--	**15.6%**
10.	Beach Boulevard at Imperial Highway	La Habra/ Caltrans	AM PM	0.028 **0.036**	0.092 **0.087**	30.4% **41.4%**
13.	Euclid Street at Imperial Highway	La Habra/ Caltrans	AM PM[59]	**0.011** --	**0.022** --	**50.0%** 6.9%
14.	Harbor Boulevard at Imperial Highway[59]	La Habra/ Fullerton/Caltrans	AM PM	-- --	-- --	2.0% **3.4%**
15.	Beach Boulevard at Lambert Road	La Habra/ Caltrans	AM[59] PM	-- **0.016**	-- **0.128**	4.5% **12.5%**
20.	Beach Blvd at La Mirada/Malvern Ave	Buena Park/ Caltrans	PM	--	--	**10.2%**
23.	Beach Boulevard at Artesia Boulevard	Buena Park/ Caltrans	AM PM	-- --	-- --	6.7% **8.3%**
29.	Hacienda Road at Whittier Boulevard[59]	La Habra/ Caltrans	AM PM	**--** **--**	**--** **--**	**2.2%** 2.2%
30.	Walnut Street at Imperial Highway	La Habra/ Caltrans	AM PM	-- --	-- --	5.4% **9.4%**
M.	Imperial Hwy between Euclid St and Harbor Blvd	La Habra	Daily	--	--	**5.0%**
X.	Beach Blvd between Rosecrans Ave and La Mirada Blvd	Buena Park	Daily	--	--	**13.4%**

[59] This intersection is impacted under Caltrans analysis only. However, the fair share percentage at this location may be subject to La Habra criteria.

- ***Project Description (Residential Option Project)*** **–** The Residential Option Project includes the development of 49 townhomes/condominiums in place of the 12,000 SF specialty grocery store and the 8,000 SF restaurant. The following bullets describe the development totals for each Planning Area for the Residential Option Project.

  - Planning Area #1 = 145 DU Townhomes/Condominiums
  - Planning Area #2 = 118 DU Single-Family Homes
  - Planning Area #3 = 77 DU Single-Family Homes
  - Planning Area #4 = 82 DU Single-Family Homes
  - Planning Area #5 = 49 DU Townhomes/Condominiums
  - Planning Area #6 = 22,500 SF Recreation Community Center and 42.1 Acres Passive Park

  Access to PA #1 and PA#5 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive. Access to PA #2 will be provided via the proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive and via La Habra Hills Drive. Access to PA #3 will be provided via La Habra Hills Drive. Access to PA #4 will be provided via the intersection of Sandlewood Avenue and Idaho Street. The current access on La Habra Hills Drive will serve as access to PA #6; it will also continue to serve as a secondary entry/exit to the Westridge Residential Community.

- ***Project Traffic Generation (Residential Option)*** **–** The proposed Residential Option Project is forecast to generate 4,347 daily trips, with 330 trips (96 inbound, 234 outbound) produced in the AM peak hour and 419 trips (263 inbound, 156 outbound) produced in the PM peak hour on a "typical" weekday.

- ***Level of Service Analyses (Residential Option)*** **–** Refer to Section 18.0 for the findings and conclusions for the Residential Option Project.

- ***Comparison to Prior Traffic Impact Analysis Report*** **–** Refer to Section 19.0 and *Table 19-1.*

APPENDIX A

TRAFFIC STUDY SCOPE OF WORK

APPENDIX A-I

TRAFFIC STUDY SCOPE OF WORK

MEMORANDUM

To:	Nelson Wong, Traffic Manager City of La Habra	Date:	September 25, 2015
From:	Richard E. Barretto, P.E., Principal Linscott, Law & Greenspan, Engineers	LLG Ref:	2.14.3531.1
cc::	Carlos Jaramillo, City of La Habra Michael Battaglia, Standard Pacific Homes George E. Peterson, Project Dimensions Peter Carlson, VCS Environmental Daniel A. Kloos, LLG		
Subject:	***Traffic Impact Analysis Scope of Work*** ***Westridge Residential Development*** ***La Habra, California***		

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As a follow-up to our discussions and our coordination efforts, Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit the following Traffic Impact Analysis Scope of Work for the proposed redevelopment of the Westridge Golf Club to a residential community to be developed by Standard Pacific Homes for the City's review and approval. The traffic study is being prepared in support of the entitlement process for development of the subject property and will be included in the *Environmental Impact Report (EIR)* to be prepared for this Project.

Traffic Study Scope of Work

The Traffic Impact Analysis for the proposed Westridge Residential Development (herein referred to as "Project") will satisfy the traffic impact requirements of the City of La Habra and will be consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Orange County*. Given that the project site is generally located south of Imperial Highway and east of Beach Boulevard, both of which are a part of the State Highway System and within the jurisdiction of Caltrans, the criteria outlined in the current Caltrans *Guide for the Preparation of Traffic Impact Studies* will also be considered.

A. Project Location: The Westridge Golf Club is an existing privately owned 18-hole golf course on 150± acres of land with an employee base of 60 persons and amenities which include a 23,000 square-feet (SF) of building floor area that houses the golf shop, club house and restaurant/events center and a practice facility that has a driving range with 35 tees/driving positions and putting greens. The existing golf club, which is open to the public, is generally located south of Imperial Highway and east of Beach Boulevard behind Westridge Plaza and in front of the Westridge Residential Community. The site address is 1400 S. La Habra Hill Drive, La Habra California.

Access to Westridge Golf Club is now provided via a driveway located at the end of the cul-de-sac on La Habra Hills Drive. This access road also serves as a secondary entry/exit to the Westridge Residential Community with a "resident only gated driveway" provided on the southerly border between the golf course and the single-family community. The site is located within the La Habra Hills Specific Plan and is designated as open space/golf course. See attached ***Figure 1-1,*** a Vicinity Map that illustrates the general location of the Project and surrounding street system. ***Figure 2-1*** is an aerial photograph of the Project site.

B. Project Description: The proposed project includes the development of the golf course property with up to 420 residential dwelling units (DU), within four neighborhoods (Planning Areas) with various product types and lot sizes, a 12,000 SF supermarket and an 8,000 SF restaurant. Planning Area (PA) #1 includes development of a residential condominium/townhome complex with up to 145 DU on the western portion of the site fronting Beach Boulevard. PA #1 also includes development of a 12,000 SF supermarket and an 8,000 SF restaurant, also on the western portion of the site fronting Beach Boulevard. PA #2 and PA #3 consists of two single-family residential neighborhoods in the middle portion of the site with 116 DU and 77 DU, respectively. PA #4 consists of an 82 DU single-family detached neighborhood to be developed on the eastern portion of the site fronting Idaho Street. In addition, the proposed Project includes the repurposing of the existing Club House/Pro Shop/Restaurant and a portion of the golf course to a Recreation Community Center and Open Space/Park for a City Park (PA #5) that will be open to the public. The open space/parkland portion of PA #5 includes natural areas with trails, passive turf areas and neighborhood-serving play areas (e.g. tot lots). ***Table 2-1*** summarizes the proposed Project development totals for the site. ***Figure 2-2*** presents the site plan for the proposed Project.

The proposed Project will require a General Plan Amendment (GPA) and Zone Change (ZC) to allow for the development of residential land uses on land that is now designated as open space, as well as a Specific Plan Amendment (SPA) and a Vesting Tentative Tract Map (VTTM). The Project is expected to be constructed over the next several years, but is dependent on several factors, including the project funding and market conditions. Hence, to provide a conservative assessment, Year 2020 will be utilized to assess the Project's potential opening year (full buildout/occupancy) traffic impacts within a near-term cumulative traffic setting.

Access to the proposed Project will continue to be provided via the existing access on La Habra Hills Drive, with an additional full signalized access driveway to be constructed opposite Hillsborough Park Apartments Drive at Beach Boulevard, a proposed left-turn in/right-turn in and right-turn out only unsignalized driveway along Beach Boulevard (serving the supermarket and

restaurant pads) and a proposed full access signalized driveway to be constructed opposite Sandlewood Avenue at Idaho Street.

The current access on La Habra Hills Drive will serve as primary access to PA #2, PA #3 and PA #5, and secondary access to PA #1; it will also continue to serve as a secondary entry/exit to the Westridge Residential Community. The proposed signalized driveway on Beach Boulevard opposite Hillsborough Park Apartments Drive will serve as primary access to PA #1 (i.e. townhomes/condominiums) and secondary access to PA#2, PA #3 and PA #5. The proposed left-turn in/right-turn in and right-turn out only unsignalized driveway along Beach Boulevard will serve as access to the proposed supermarket and restaurant pads.

Access to PA #4 will be provided via the intersection of Sandlewood Avenue and Idaho Street. Intersection and signalization improvements of the Project site's signalized driveways on Beach Boulevard and Idaho Street will be completed as a part of the Project.

C. **Traffic Study Area and Traffic Study Locations:** The following twenty-seven (27) key study intersections represent a list of study intersections to be evaluated in the Project's traffic impact study.

1. Beach Blvd @ Rosecrans Avenue (La Mirada/Caltrans)
2. Gilbert Street @ Rosecrans Avenue (Fullerton)
3. Euclid Street @ Rosecrans Avenue (Fullerton)
4. Beach Boulevard @ Hillsborough Drive (La Habra/Caltrans)
5. Beach Boulevard @ Hillsborough Park Apt (La Habra/Caltrans)
6. Idaho Street at Sandlewood Avenue (La Habra)
7. Euclid Street at Sandlewood Avenue (La Habra)
8. Santa Gertrudes @ Imperial Highway (La Mirada)
9. 1st Avenue @ Imperial Highway (La Mirada)
10. Beach Boulevard @ Imperial Highway (La Habra/Caltrans)
11. Imperial Highway @ La Habra Hills Drive (La Habra/Caltrans)
12. Idaho Street @ Imperial Highway (La Habra/Caltrans)
13. Euclid Street @ Imperial Highway (La Habra/Caltrans)
14. Harbor Boulevard @ Imperial Highway (La Habra/Fullerton/Caltrans)
15. Beach Boulevard @ Lambert Road (La Habra/Caltrans)
16. Idaho Street @ Lambert Road (La Habra)
17. Euclid Street @ Lambert Road (La Habra)
18. Harbor Boulevard @ Lambert Road (La Habra/Fullerton)
19. La Mirada Boulevard @ Imperial Highway (La Mirada)
20. Beach Boulevard @ La Mirada Boulevard/Malvern Avenue (Buena Park/Caltrans)
21. Beach Boulevard @ La Habra Boulevard (La Habra/Caltrans)
22. Valley View Avenue @ Imperial Highway (La Mirada)
23. Beach Boulevard @ Artesia Boulevard (Buena Park/Caltrans)

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24. Beach Boulevard @ Commonwealth Avenue (Buena Park/Caltrans)
25. I-5 NB Ramps @ Auto Center Drive (Buena Park/Caltrans)
26. Beach Boulevard @ Auto Center Drive (Buena Park/Caltrans)
27. I-5 SB Ramps @ Beach Boulevard (Buena Park/Caltrans)

The study intersection listed above will be discussed with City staff and is subject to review and approval of the City.

In addition to the 27 intersections identified above, an assessment of up to thirty-two (32) roadway segments will be performed; it is expected that the key roadway segments will generally consist of locations between the 27 key study intersections identified above.

Caltrans Coordination:
In collaboration with City staff, LLG will meet with Caltrans staff and appropriate members of the project team to discuss the project and analysis criteria, confirm the study approach, and identify traffic issues and concerns. If necessary, update Scope of Work for the traffic study to incorporate Caltrans comments and re-submit memorandum to City staff for final review and approval.

D. Level of Service Criteria: According to City of La Habra criteria, LOS D is the minimum acceptable condition that should be maintained during the morning and evening peak commute hours on all City intersections, except those on the State Highway System and Congestion Management Program Highway System (CMPHS) of Orange County, where LOS E is defined in the CMP for Orange County as the acceptable limit. Within the project study area, Imperial Highway and Beach Boulevard are part of the CMPHS for Orange County.

According to the City of La Mirada General Plan, LOS E is the acceptable condition that should be maintained during the peak commute hours for nonresidential intersections and LOS D is the acceptable condition for residential neighborhood intersections. The Cities of Fullerton and Buena Park consider LOS D to be the acceptable level of service that should be maintained during the peak commute hours.

E. Impact Criteria: Any incremental traffic impact (ICU increase) at intersections operating at LOS E or F within the City of La Habra are considered and addressed through the City's Citywide Traffic Improvement Fee and Phasing Ordinances[1]. "Fair Share" contributions can be required, even if the impacts are less than

[1] Source: City of La Habra Traffic Improvement Fee Resolution No. 4193, passed, approved, and adopted on June 3, 1993, City of La Habra Traffic Improvement Fee Ordinance No. 1452, and Traffic Phasing Plan Ordinance No. 1453 passed, approved and adopted on June 17, 1993.

significant (0.010). These fair share contributions are based on the recommended methodology contained in the Orange County CMP TIA procedures.

For those intersections located outside the jurisdiction of the City of La Habra (i.e. Fullerton, La Mirada, Buena Park), the appropriate LOS standards and impact criteria will be utilized.

F. CMP Compliance/Thresholds for Requiring a CMP TIA: The Orange County CMP indicates that all projects generating 2,400 or more daily trips require a Traffic Impact Analysis (TIA) for CMP evaluation. If a project has access to a CMP link the threshold is reduced to 1,600 or more daily trips.

G. Traffic Counts: AM peak hour and PM peak hour traffic counts for the key study intersections and/or roadway segments were obtained from daily machine and manual peak hour turning movement counts conducted by Transportation Studies, Inc. in November/December 2014, April 2015 and September 2015.

H. Traffic Generation: ***Table 5-1*** *s*ummarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project. The trip generation potential of the residential component of the Project will be estimated using trip rates for ITE Land Use 210: Single Family Detached Housing and ITE Land Use 230: Residential Condominiums/Townhomes. The trip generation for the retail component of the proposed Project will be estimated using trip rates for ITE Land Use 850: Supermarket and ITE Land Use 932: High-Turnover (Sit-Down) Restaurant. The trip generation potential of the community center component of the proposed Project will be estimated using trip rates for ITE Land Use 495: Recreational Community Center. For the open space/parkland portion of the proposed Project, trips will be developed using SANDAG Neighborhood Park (Undeveloped) trip rates. For the existing Westridge Golf Club, existing traffic counts were collected at the site in November 2014 and March/April 2015 and an average of the weekday data was taken to establish the site's existing trip credit. The weekday data collected and averaged consisted of six days that occurred on a Tuesday, Wednesday or Thursday.

Table 5-2 summarizes the Project's trip generation forecast for a typical weekday. Review of the top portion of *Table 5-2* indicates that the retail components of the proposed Project are forecast to generate 1,817 daily trips, with 104 trips (60 inbound, 44 outbound) produced in the AM peak hour and 130 trips (72 inbound, 58 outbound) produced in the PM peak hour. Please note that the aforementioned trip generation includes adjustments for internal capture (i.e. 10%) and pass-by as recommended by ITE. The pass-by reduction factors used in this report, which

are summarized in *Table 5-2*, are based on information published in the *Trip Generation Handbook*, published by ITE (2014). It should be noted that the *Trip Generation Handbook* recommends a PM pass-by percentage of 36% and 44% for supermarket and high-turnover restaurant land uses, respectively. However, 25% was utilized for the PM peak hour to provide a conservative forecast.

Review of the middle portion of *Table 5-2* indicates that the residential component of the Project is forecast to generate 3,236 daily trips, with 258 trips (56 inbound, 202 outbound) produced in the AM peak hour and 332 trips (215 inbound, 117 outbound) produced in the PM peak hour. The recreation component of the Project is forecast to generate 847 daily trips, with 57 trips produced in the AM peak hour and 70 trips produced in the PM peak hour.

Review of the lower portion of *Table 5-2* shows that overall, the proposed Project is forecast to generate 5,900 daily trips, with 419 trips (151 inbound, 268 outbound) produced in the AM peak hour and 532 trips (321 inbound, 211 outbound) produced in the PM peak hour on a "typical" weekday.

For the existing land use, a review of the lower portion of *Table 5-2* shows that the existing trip generation potential of the Westridge Golf Club based on existing counts totals 2,530 weekday daily trips, with 91 trips (58 inbound, 33 outbound) produced in the AM peak hour and 238 trips (104 inbound, 134 outbound) produced in the PM peak hour.

As shown at the bottom of *Table 5-2,* comparison of the trips generated by the proposed Project to the trip generation potential of the Existing Land Use shows that the proposed Project would result in an additional 3,370 weekday daily trips, 328 more AM peak hour trips and 294 more PM peak hour trips. The potential traffic impacts of the aforementioned net project trips are evaluated in the traffic analysis section of this report.

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I. Trip Distribution: Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- the site's proximity to major traffic carriers (i.e. Imperial Hwy, Beach Boulevard, Idaho Street, etc.),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- existing intersection traffic volumes,
- ingress/egress availability at the project site,
- select zone model runs for the proposed Project via the use of the OCTAM 3.4 traffic model, and
- input from City staff.

Figures 5-1, 5-2, 5-3, 5-4, 5-5 and ***5-6*** illustrate the general, directional traffic distribution pattern for PA #1 (residential component), PA #1 (retail/restaurant component), PA #2, PA #3, PA #4 and PA #5 of the proposed Project, respectively.

J. Year 2020 Cumulative (Near-Term) Background Traffic:

- Project Completion Year: 2020
- Ambient Growth Rate: 1.0% per year
- Cumulative Projects: Planned and/or approved projects within the project study area will be researched at the City of La Habra as well as the adjacent jurisdictions (i.e. La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada) and confirmed with the Community Development Department for inclusion in the cumulative traffic analysis. The cumulative projects will be considered in the near-term cumulative traffic assessment.

  Based on our research, ***Table 6-1*** provides a summary of 49 cumulative projects within the City of La Habra and surrounding jurisdictions that will be considered in the traffic study.

K. Long-Term (Year 2035) Traffic:

- Long-Term traffic volume forecasts will be developed via the use of the OCTAM 3.4 approved traffic model. The Future Year 2035 volumes will be derived based on existing peak hour count data and forecast link volumes obtained from the Orange County Transportation Analysis Model (OCTAM 3.4). OCTAM 3.4 is the accepted regional model for forecasting travel demand for Orange County. Growth factors for each intersection approach and departure will be interpolated from OCTAM 3.4 link plots for 2010 and

2035. These growth factors are then applied to existing counts to forecast future turning movement volumes at each of the study intersections. Forecast roadway segment volumes will also be derived based on existing average daily traffic (ADT) volumes and forecast ADT link volumes obtained from OCTAM 3.4. Growth factors for each study roadway segment will be interpolated from OCTAM 3.4 link plots for 2010 and 2035. The growth factors will then be applied to existing ADT counts to forecast future roadway segment ADT.

L. Analysis Scenarios: Consistent with the City's TIA Guidelines, the following are the proposed traffic analysis scenarios. AM peak hour and PM peak hour and daily Level of Service (LOS) calculations at up to 27 study intersections and 32 roadway segments will be prepared to determine the potential impacts of the proposed Project.

(a) Existing Traffic Conditions;
(b) Existing Plus Project Traffic Conditions;
(c) Scenario (b) with Mitigation, if necessary;
(d) Near-Term (Year 2020) Background Traffic Conditions (Existing plus Ambient Growth plus Cumulative Projects);
(e) Near-Term (Year 2020) Background Plus Project Traffic Conditions;
(f) Scenario (e) with Mitigation, if necessary;
(g) Long-Term Buildout Traffic Conditions;
(h) Long-Term Buildout Plus Project Traffic Conditions; and
(i) Scenario (h) with Mitigation, if necessary.

The LOS calculations will be based on the Intersection Capacity Utilization (ICU) method of analysis for signalized intersections, the Orange County MPAH methodology for roadway segments, and the Highway Capacity Manual (HCM) method for unsignalized intersections. The Project's potential impacts will be based on City of La Habra significant impact criteria and Orange County CMP requirements and/or the appropriate jurisdictions criteria. The LOS standards and impact criteria for intersections located outside the jurisdiction of the City of La Habra will be considered and utilized as necessary. For those intersections under Caltrans jurisdiction, the HCM/LOS method of analysis for signalized intersections will be utilized.

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M. Other Issues:

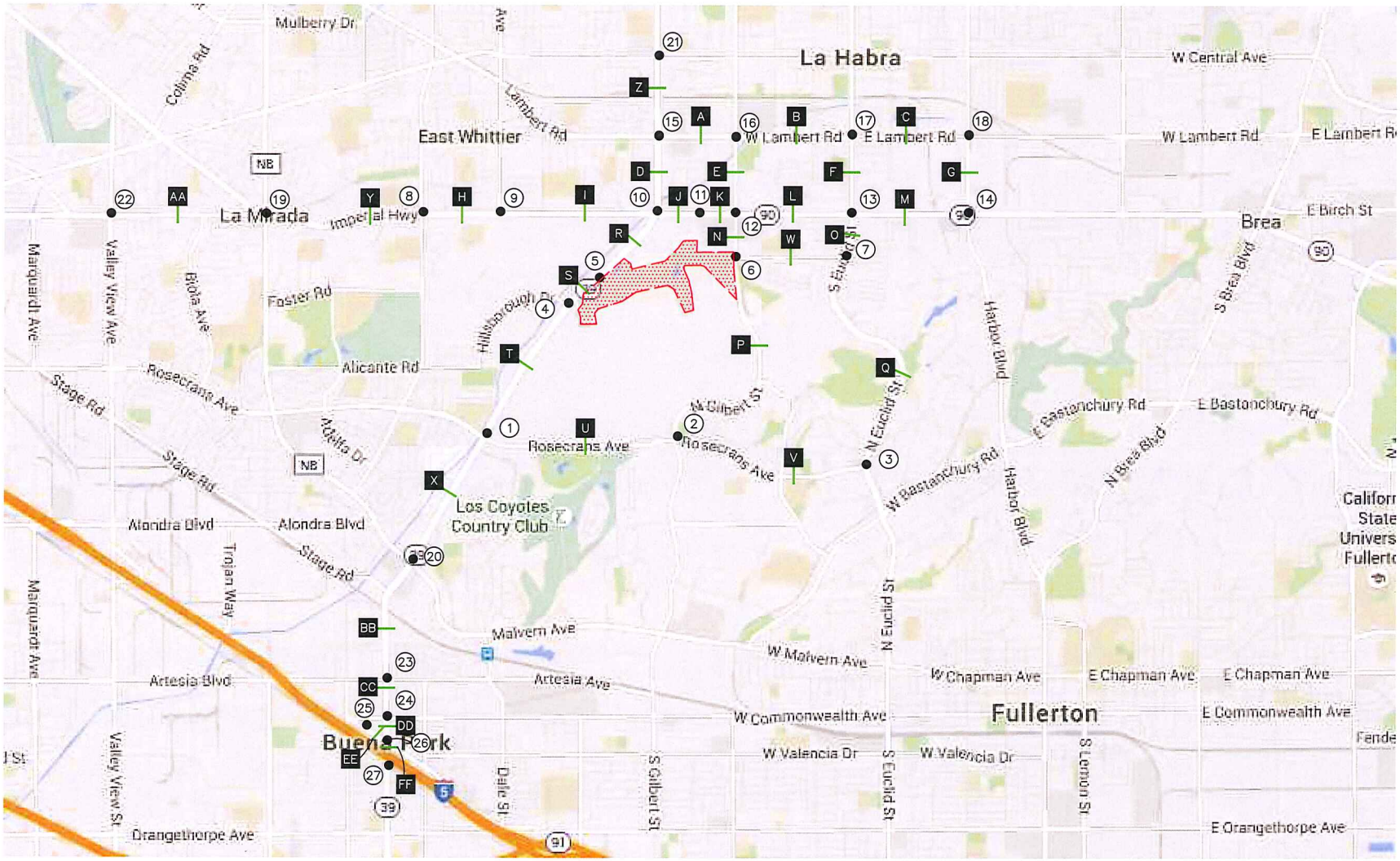
- Evaluate site access and internal circulation of the project.
- Conduct LOS calculations at the proposed project driveway(s), as well as a queuing assessment, as required.
- Identify measures to mitigate the impact of Project traffic including roadway and intersection widening, traffic signal installation & modification signing, localized street improvement striping/channelization and all other improvements to provide acceptable LOS.

We appreciate the opportunity to provide this scope of work. Should you have any questions, please call us at (949) 825-6175. Thank You.

Approved by:

_____ _____

City of La Habra Engineering Division Date



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N NO SCALE

SOURCE: GOOGLE

KEY

(#) = STUDY INTERSECTION

A = STUDY ROADWAY SEGMENT

= PROJECT SITE

FIGURE 1-1

VICINITY MAP

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA

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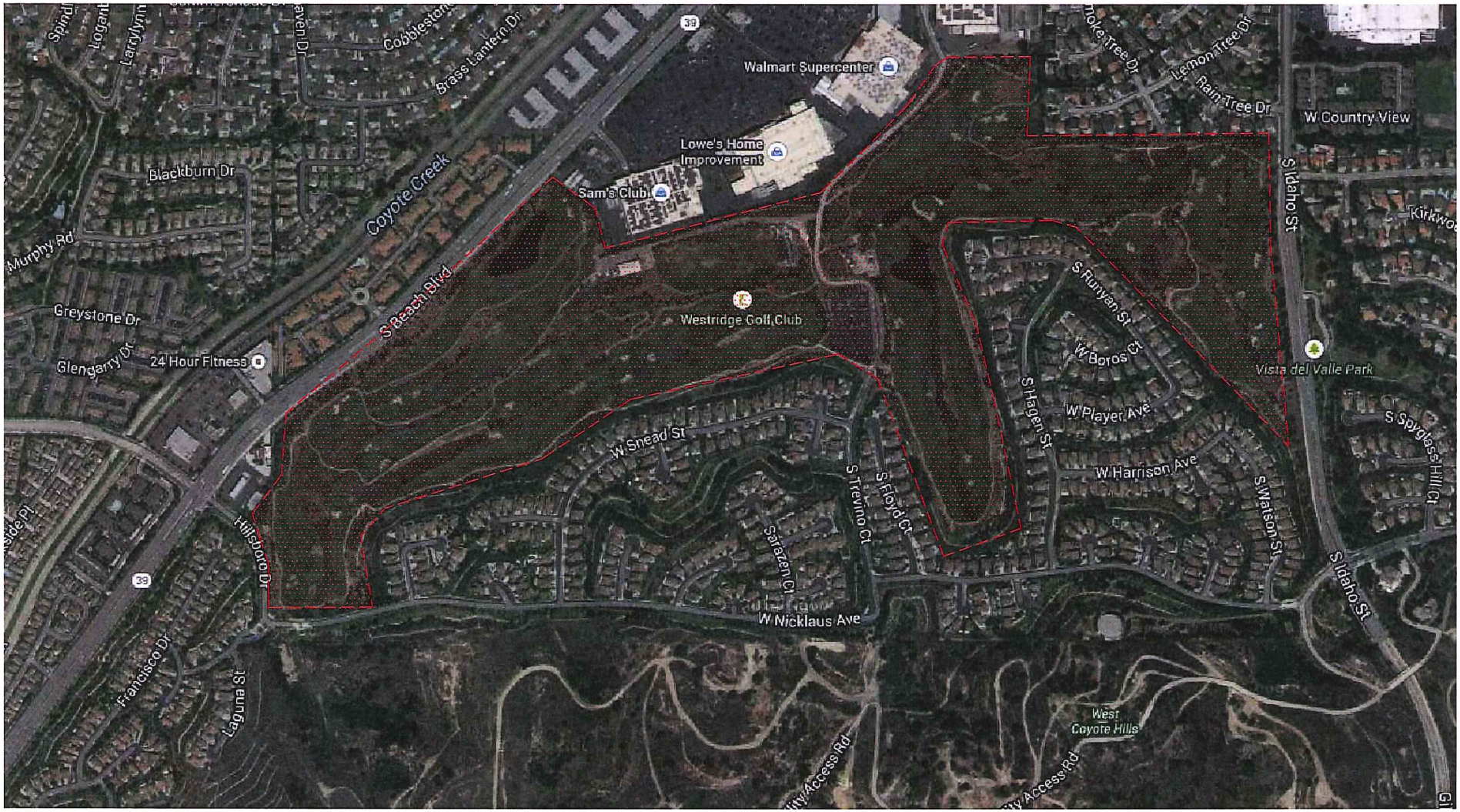

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A-12

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

= PROJECT SITE

FIGURE 2-1

EXISTING AERIAL SITE PLAN

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA

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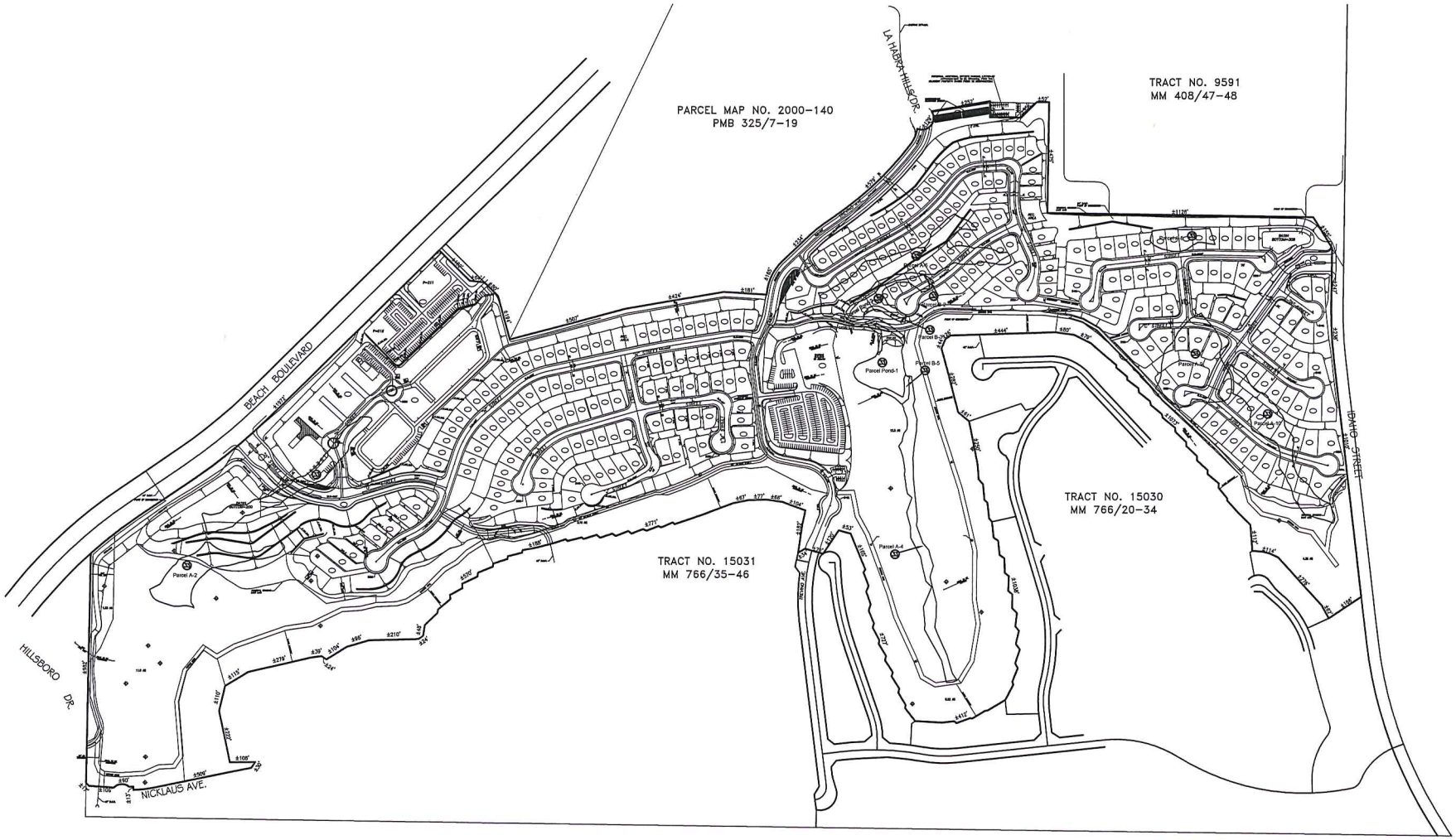
TABLE 2-1
PROJECT DEVELOPMENT SUMMARY

Land Use / Project Description	Project Development Totals
Existing Development	
❑ Westridge Golf Club	
o Club House/Restaurant/Pro Shop/Events facility	23,000 SF
o Number of Holes	18 Holes
o Practice Facility/Driving Range	35 Tees/Driving Positions
o Number of Employees	60 employees
Proposed Project[2]	
❑ PA#1 – Townhomes/Condominiums	145 DU
❑ PA#1 – Supermarket	12,000 SF
❑ PA#1 – Restaurant	8,000 SF
❑ PA#2 – Single-Family Detached Homes (50 x 80)	116 DU
❑ PA #3 – Single-Family Detached Homes (47 x 70)	77 DU
❑ PA #4 – Single-Family Detached Homes (55 x 90)	82 DU
Total Residential Units:	***420 DU***
Total Retail/Restaurant SF:	***20,000 SF***
Proposed City Park and Recreation Community Center	
❑ PA #5 - Passive Park/Trails	17.1± acres
❑ PA #5 - Recreation Community Center	22,500 SF

Notes:
- SF = square-feet
- DU = Dwelling Units

[2] Source: Standard Pacific Homes.



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N NO SCALE

FIGURE 2-2

PROPOSED SITE PLAN
WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA

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TABLE 5-1

PROJECT TRAFFIC GENERATION RATES[3]

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Rates:							
▪ 210: Single-Family Detached Housing (TE/DU)	9.52	0.19	0.56	0.75	0.63	0.37	1.00
▪ 230: Residential Condominiums/Townhomes (TE/DU)	5.81	0.07	0.37	0.44	0.35	0.17	0.52
▪ Neighborhood Park (TE/Acre)[4]	5.00	0.32	0.33	0.65	0.23	0.22	0.45
▪ 495: Recreational Community Center (TE/1000 SF)	33.82	1.35	0.70	2.05	1.34	1.40	2.74
▪ 850: Supermarket (TE/1000 SF)	102.24	2.11	1.29	3.40	4.83	4.65	9.48
▪ 932: High-Turnover (Sit-Down) Restaurant (TE/1000 SF)	127.15	5.95	4.86	10.81	5.91	3.94	9.85

3 Source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2012)].

4 Source: *(Not So) Brief Guide of Vehicle Traffic Generation Rates for the San Diego Area* published by SANDAG (April 2002).

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TABLE 5-2
PROJECT TRAFFIC GENERATION FORECAST[5]

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project – Retail Components							
❑ PA#1 – Supermarket (12,000 SF)	1,227	25	16	41	58	56	114
Internal Capture[6]	-122	-2	-2	-4	-5	-6	-11
Subtotal	1,105	23	14	37	53	50	103
Pass-By Reduction (Daily: 10%, AM: 10%, PM: 25%)[7]	-111	-2	-1	-3	-13	-13	-26
Subtotal [A]	*994*	*21*	*13*	*34*	*40*	*37*	*77*
❑ PA#1 – High-Turnover Restaurant (8,000 SF)	1,017	47	39	86	47	32	79
Internal Capture[6]	-102	-4	-5	-9	-4	-4	-8
Subtotal	915	43	34	77	43	28	71
Pass-By Reduction (Daily: 10%, AM: 10%, PM: 25%)[7]	-92	-4	-3	-7	-11	-7	-18
Subtotal [B]	*823*	*39*	*31*	*70*	*32*	*21*	*53*
Subtotal Retail Components [A] + [B]	***1,817***	***60***	***44***	***104***	***72***	***58***	***130***
Proposed Project – Residential Components							
❑ PA#1 - Townhomes/Condominiums (145 DU)	842	10	54	64	51	25	76
❑ PA#2 - Single-Family Homes – 50 x 80 Lots (116 DU)	1,104	22	65	87	73	43	116
❑ PA #3 - Single-Family Homes – 47 x 70 Lots (77 DU)	733	15	43	58	49	28	77
❑ PA#4 - Single-Family Homes – 55 x 90 Lots (82 DU)	781	16	46	62	52	30	82
Internal Capture[6]	-224	-7	-6	-13	-10	-9	-19
Subtotal Residential Components	***3,236***	***56***	***202***	***258***	***215***	***117***	***332***
Proposed Project – Recreation Components							
❑ PA#5 – Recreation Community Center (22,500 SF)	761	30	16	46	30	32	62
❑ PA#5 – Passive Park (17.1± Acres)	86	5	6	11	4	4	8
Subtotal Recreation Components	***847***	***35***	***22***	***57***	***34***	***36***	***70***
Total Project Trip Generation	**5,900**	**151**	**268**	**419**	**321**	**211**	**532**
Existing Land Use							
▪ Westridge Golf Club Driveway Counts[8]	2,530	58	33	91	104	134	238
Net Difference Trip Generation Forecast Proposed Project vs. Existing Land Use	**3,370**	**93**	**235**	**328**	**217**	**77**	**294**

Notes:

- TE/DU = Trip end per dwelling unit; TE/1000 SF = Trip end per 1000 square-feet of development

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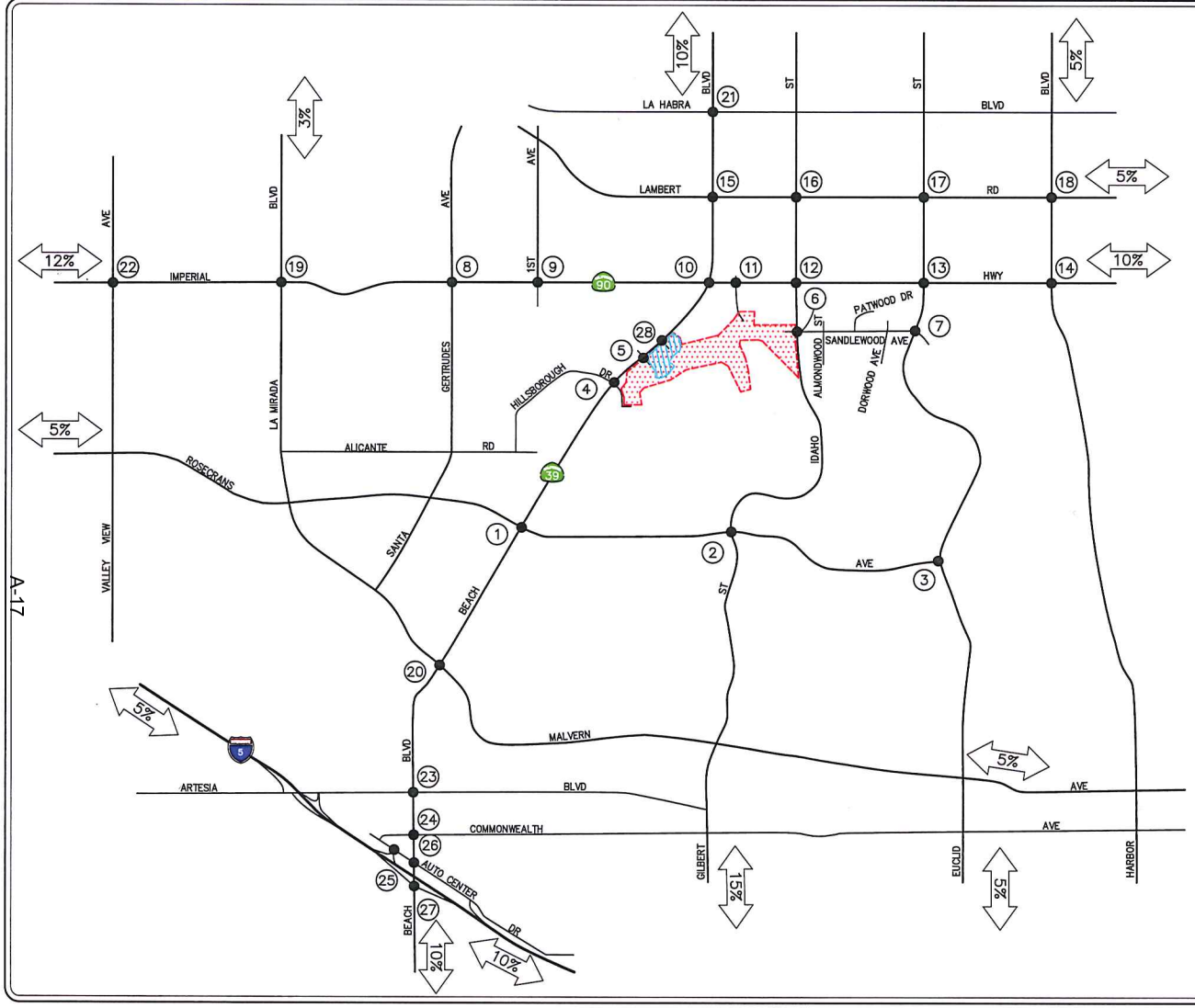
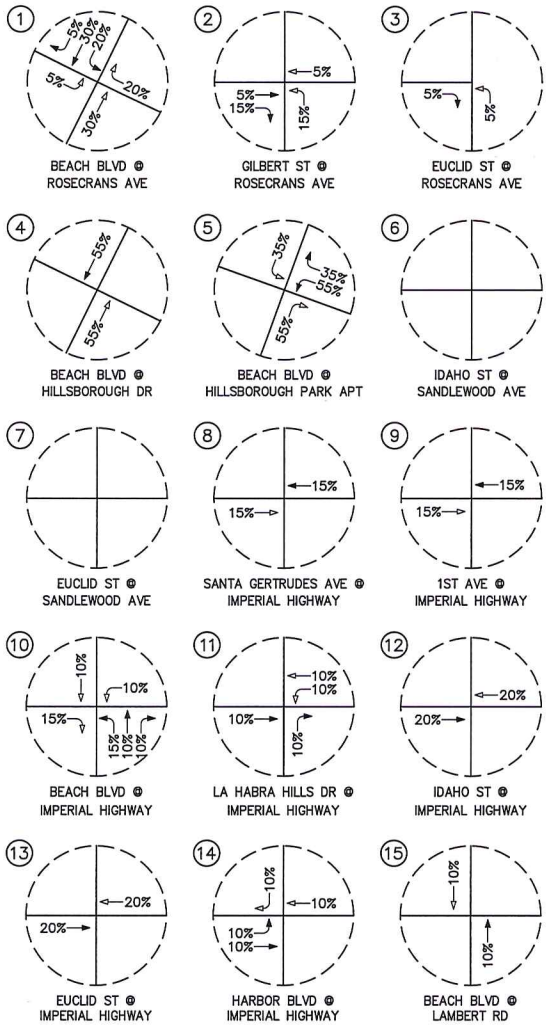
5 Source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2012)].

6 Consistent with the *Trip Generation Handbook*, published by ITE (2014), the project trip generation was adjusted to account for internal capture between the supermarket/restaurant uses and the residential uses. For this analysis, a 10% internal capture reduction factor was applied.

7 The *Trip Generation Handbook*, published by ITE (2014) recommends a PM pass-by percentage of 36% and 44% for supermarket and high-turnover restaurant land uses, respectively. However, 25% was utilized for the PM peak hour to provide a conservative forecast.

8 Source: Traffic counts conducted at the site by TSI in November 2014 and March/April 2015. The values shown in *Table 5-2* are an average of all the weekday data collected (i.e. data consisted of six total days that occurred on a Tuesday/Wednesday/Thursday).





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A-17

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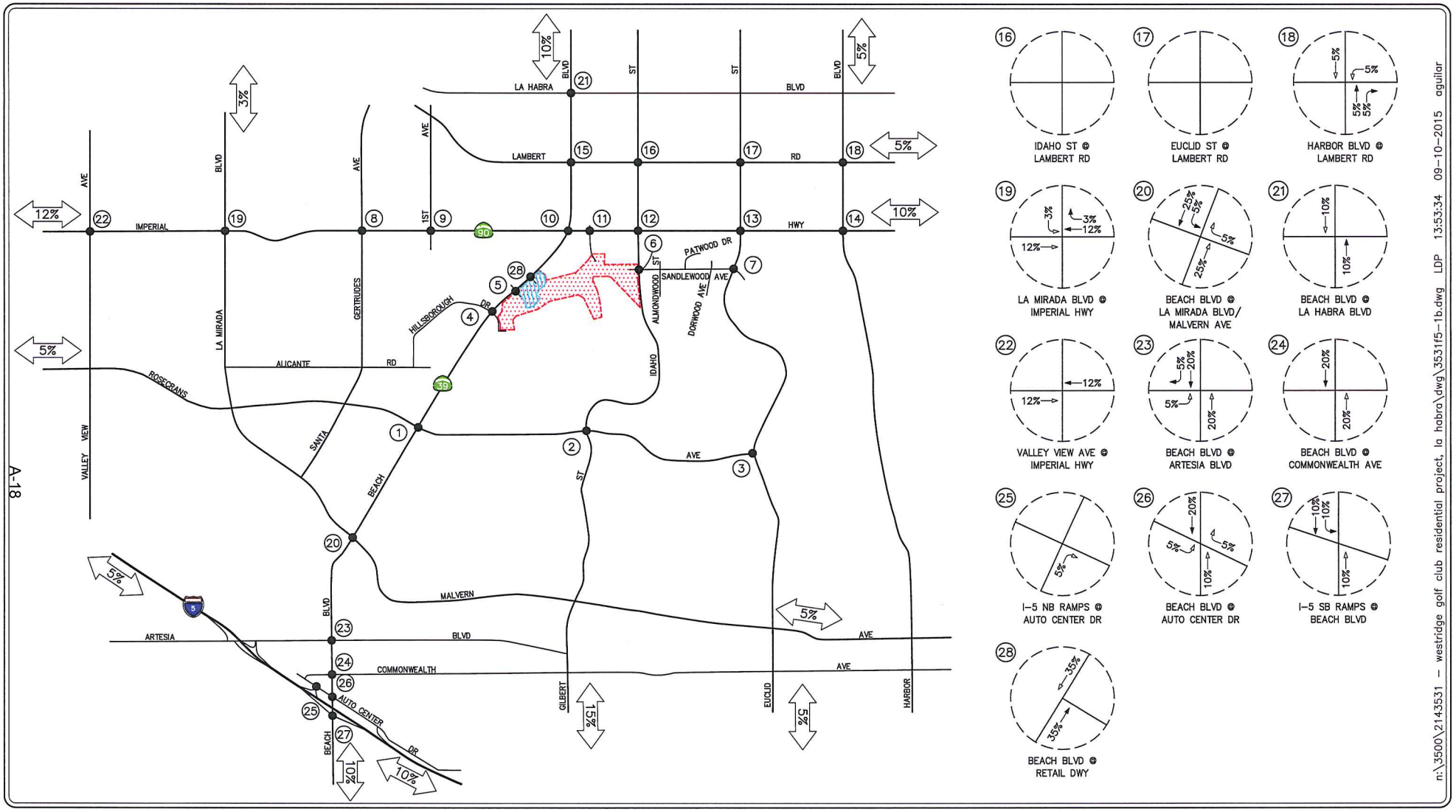
N NO SCALE

KEY
- ⇦ = INBOUND PERCENTAGE
- ⇦ = OUTBOUND PERCENTAGE
- = PA#1
- = PROJECT SITE

FIGURE 5-1A

PA#1 PROJECT TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL
WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA



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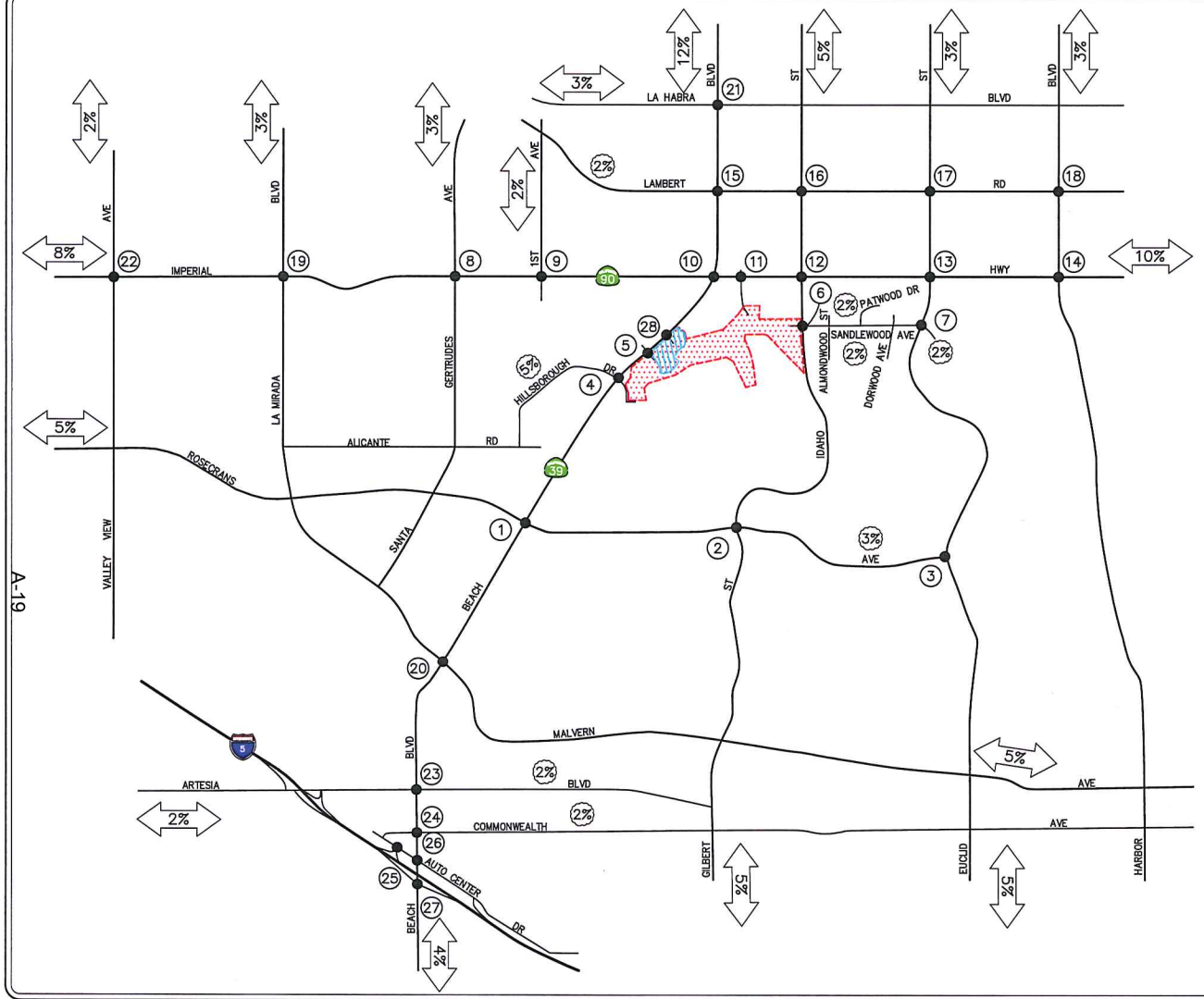
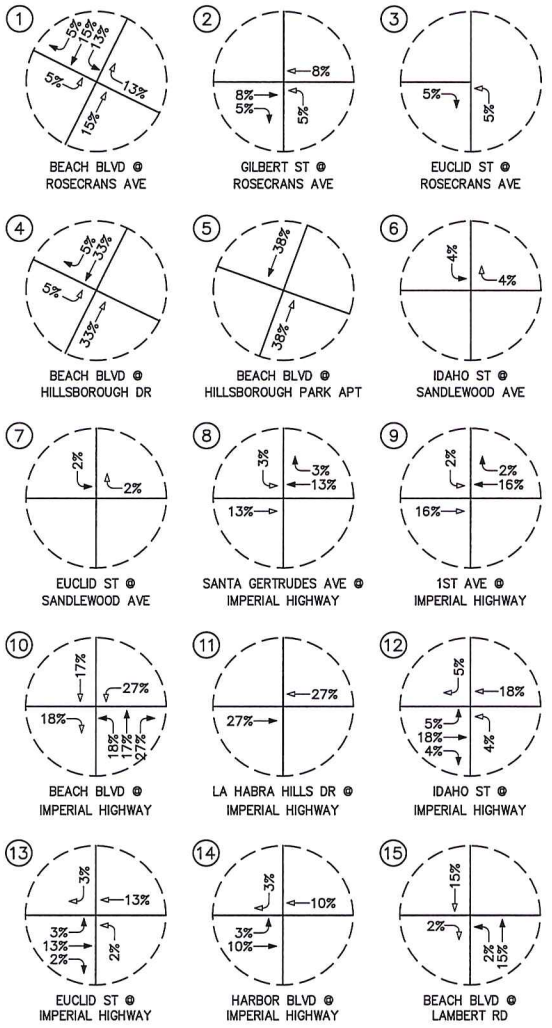
N NO SCALE

KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#1
= PROJECT SITE

FIGURE 5-1B

PA#1 PROJECT TRAFFIC DISTRIBUTION PATTERN – RESIDENTIAL
WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA





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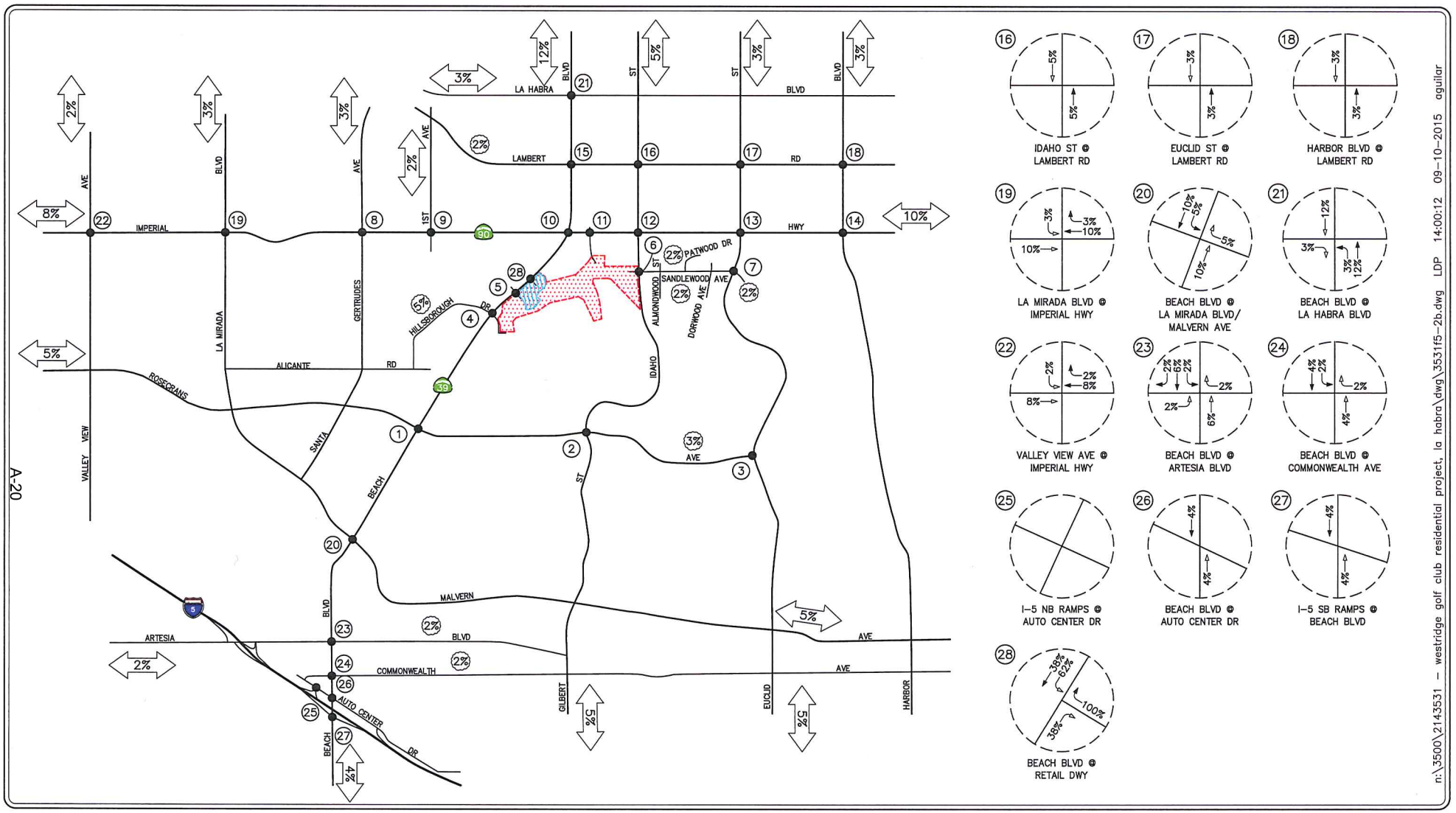
N NO SCALE

KEY
- ⇦ = INBOUND PERCENTAGE
- ⇦ = OUTBOUND PERCENTAGE
- = PA#1
- = PROJECT SITE

FIGURE 5-2A

PA#1 PROJECT TRAFFIC DISTRIBUTION PATTERN – RETAIL/RESTAURANT

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA



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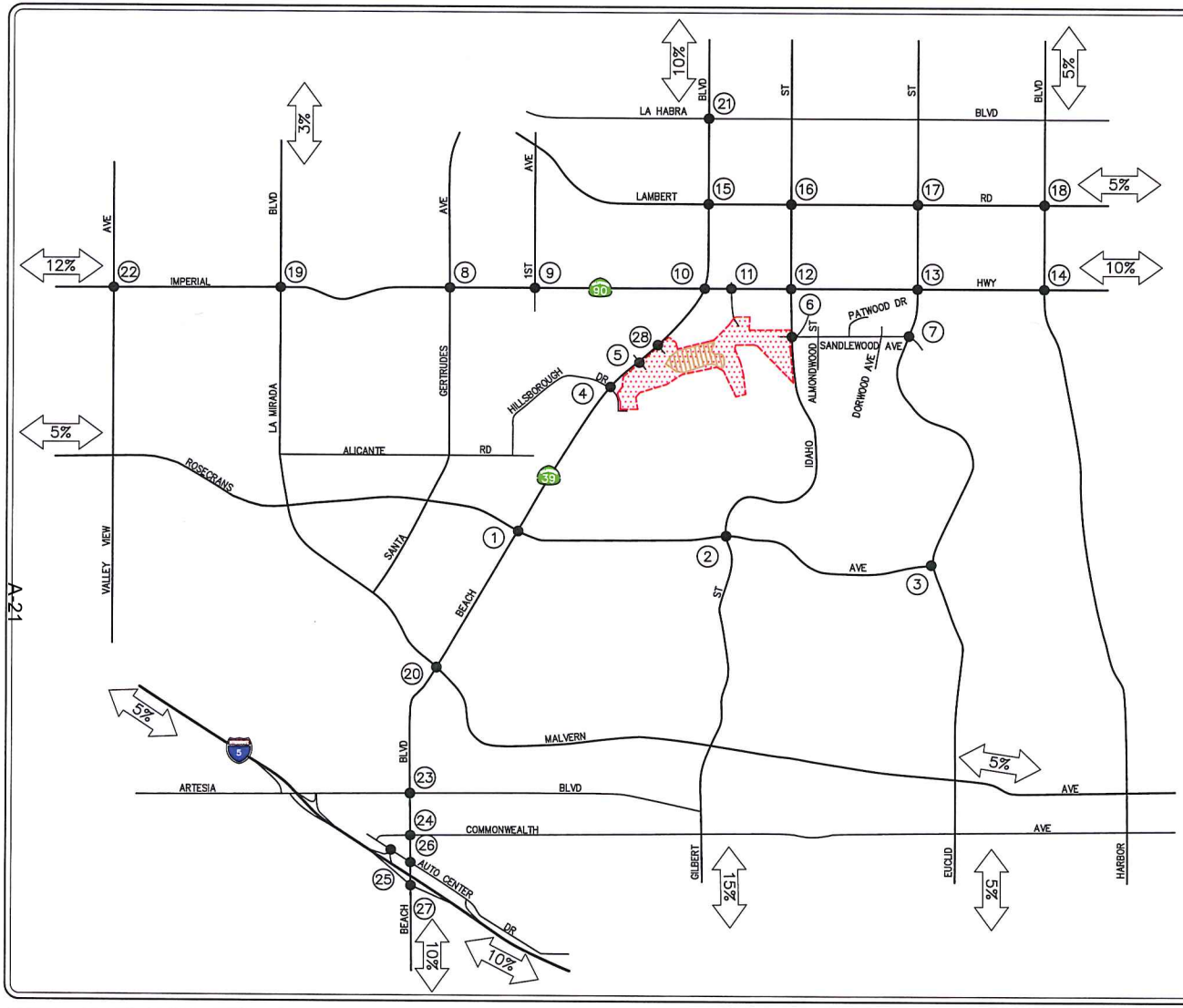
N NO SCALE

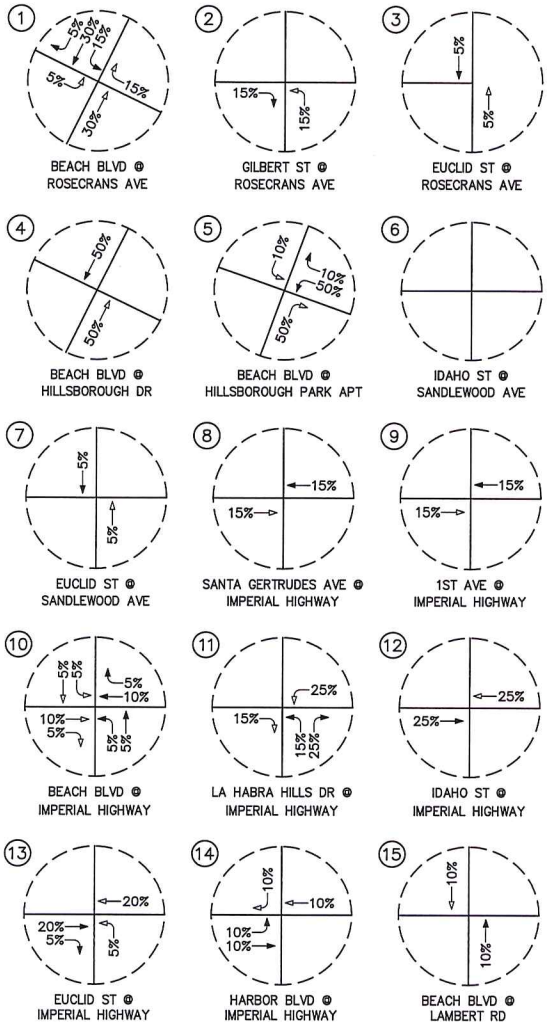
KEY
- ⟵ = INBOUND PERCENTAGE
- ⟵ = OUTBOUND PERCENTAGE
- = PA#1
- = PROJECT SITE

FIGURE 5-2B

PA#1 PROJECT TRAFFIC DISTRIBUTION PATTERN – RETAIL/RESTAURANT

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA





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A-21

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N NO SCALE

KEY
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= OUTBOUND PERCENTAGE
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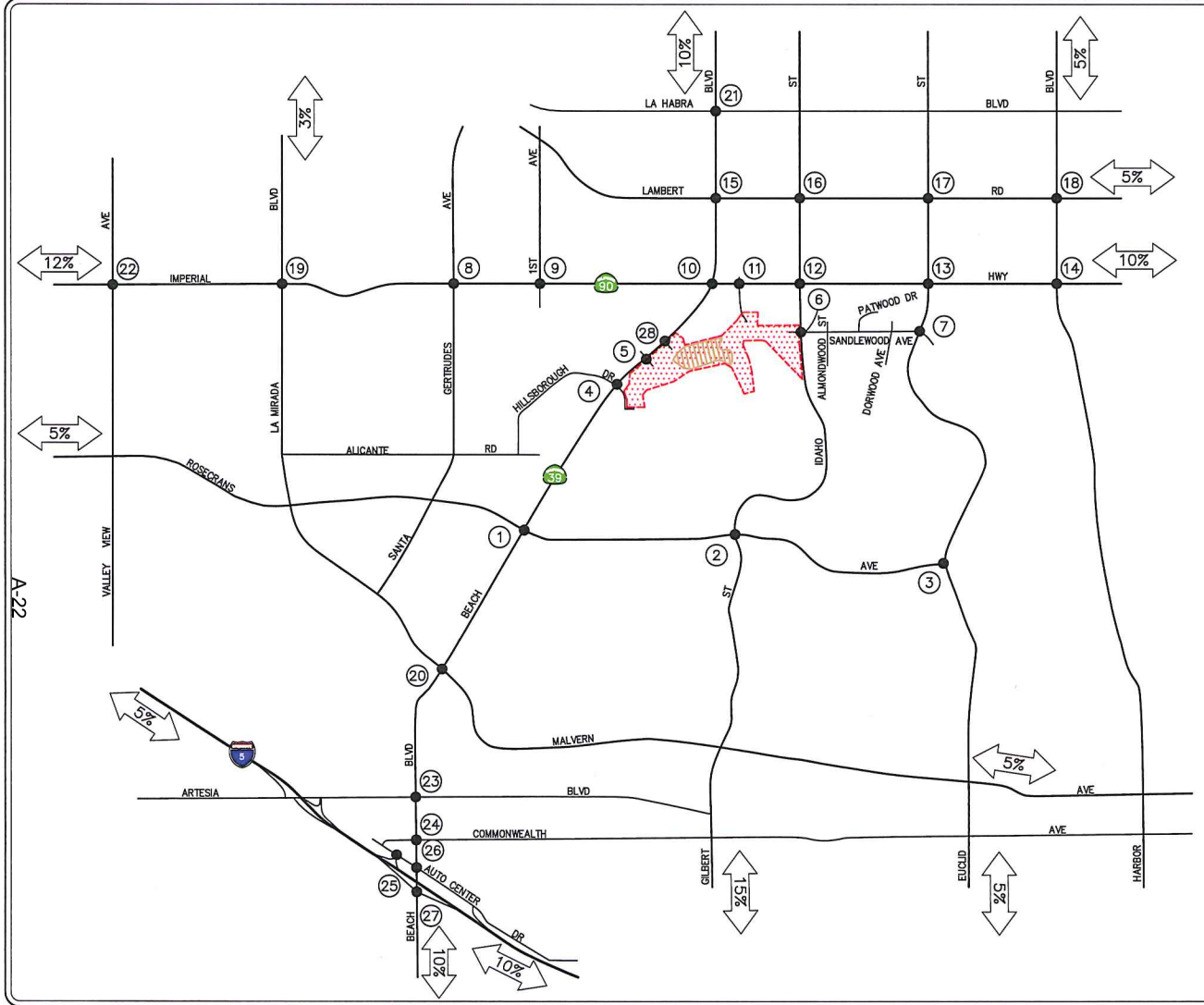
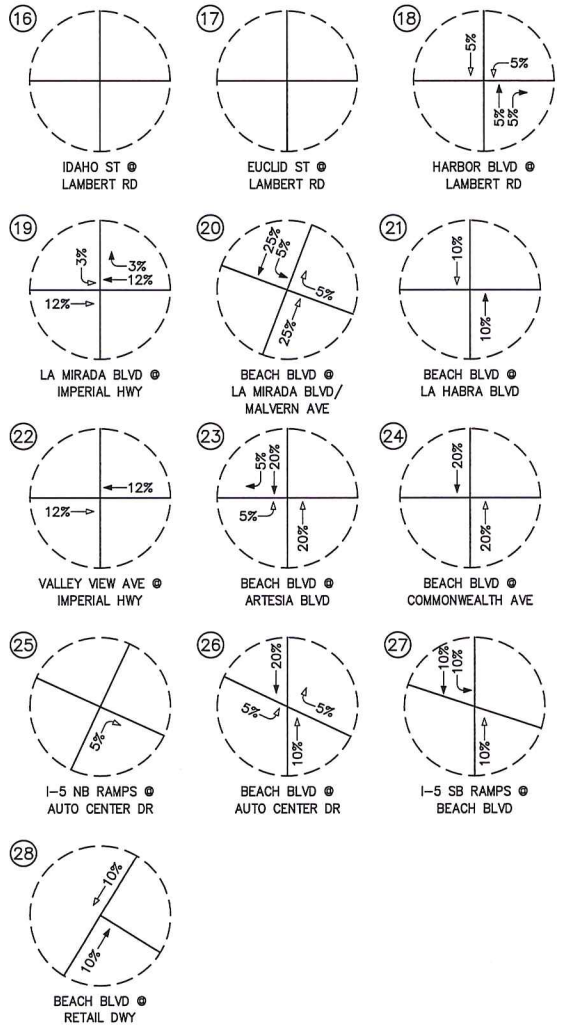
= PROJECT SITE

FIGURE 5–3A

PA#2 PROJECT TRAFFIC DISTRIBUTION PATTERN

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA





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A-22

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N NO SCALE

KEY
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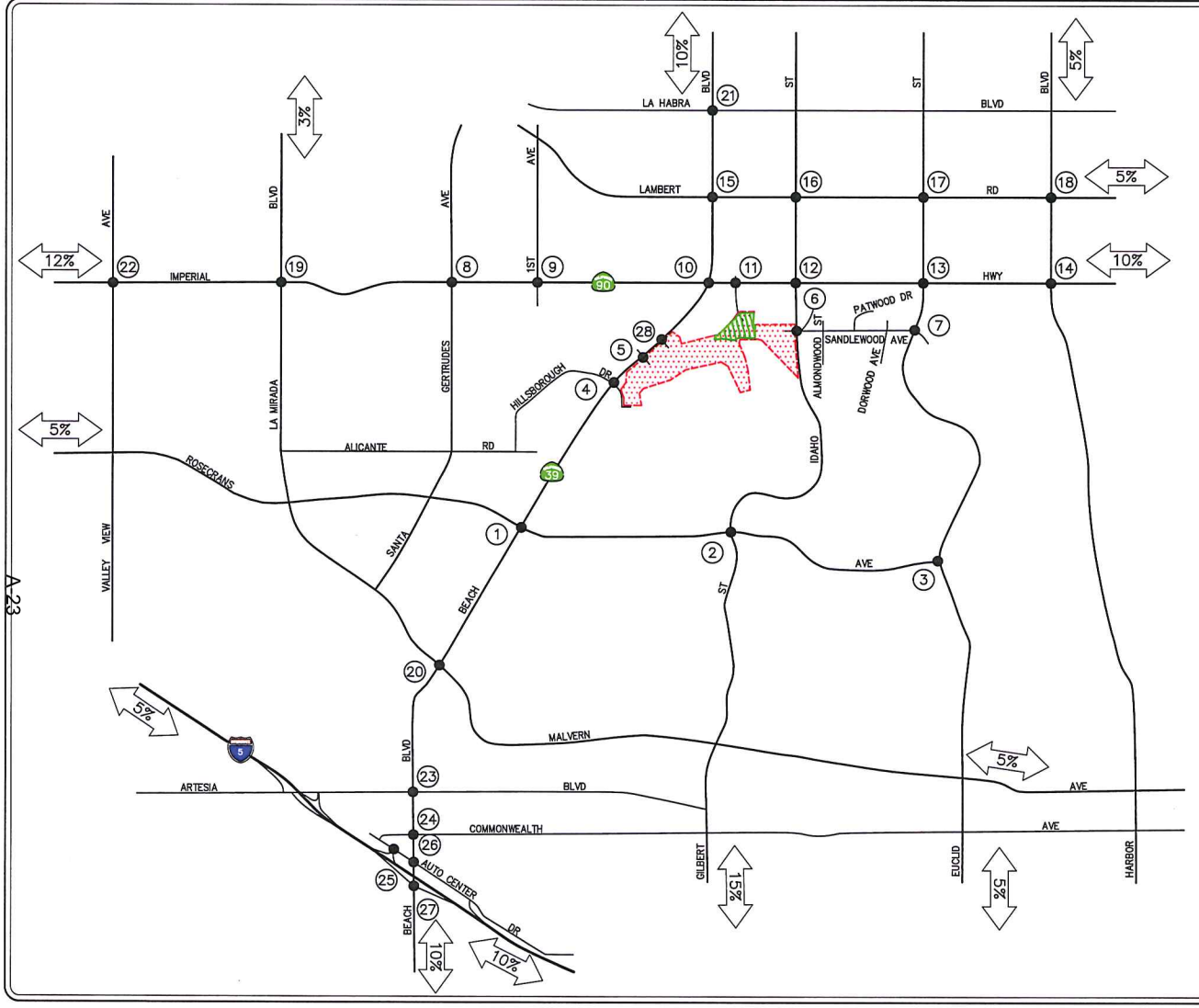
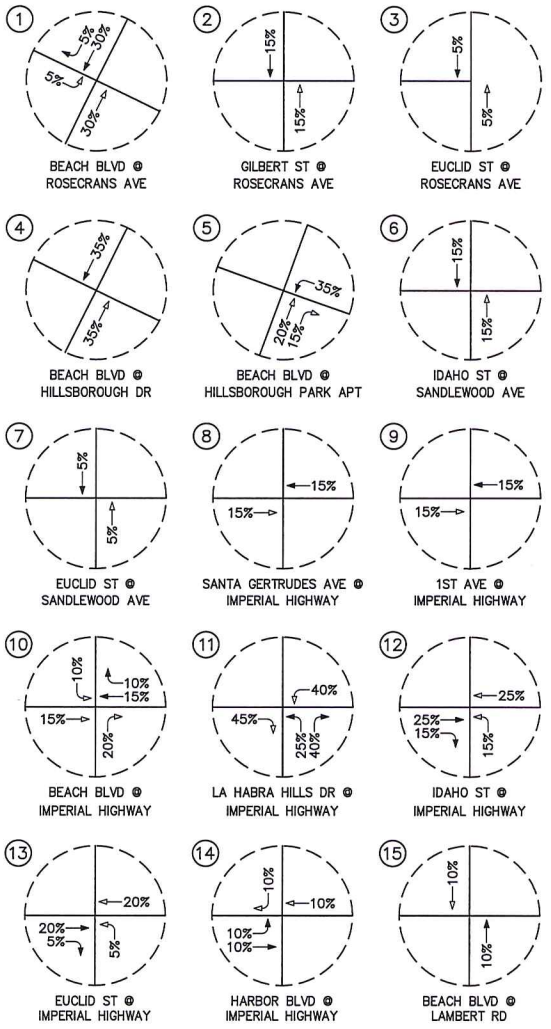
= OUTBOUND PERCENTAGE
= PA#2
= PROJECT SITE

FIGURE 5-3B

PA#2 PROJECT TRAFFIC DISTRIBUTION PATTERN
WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA





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A-23

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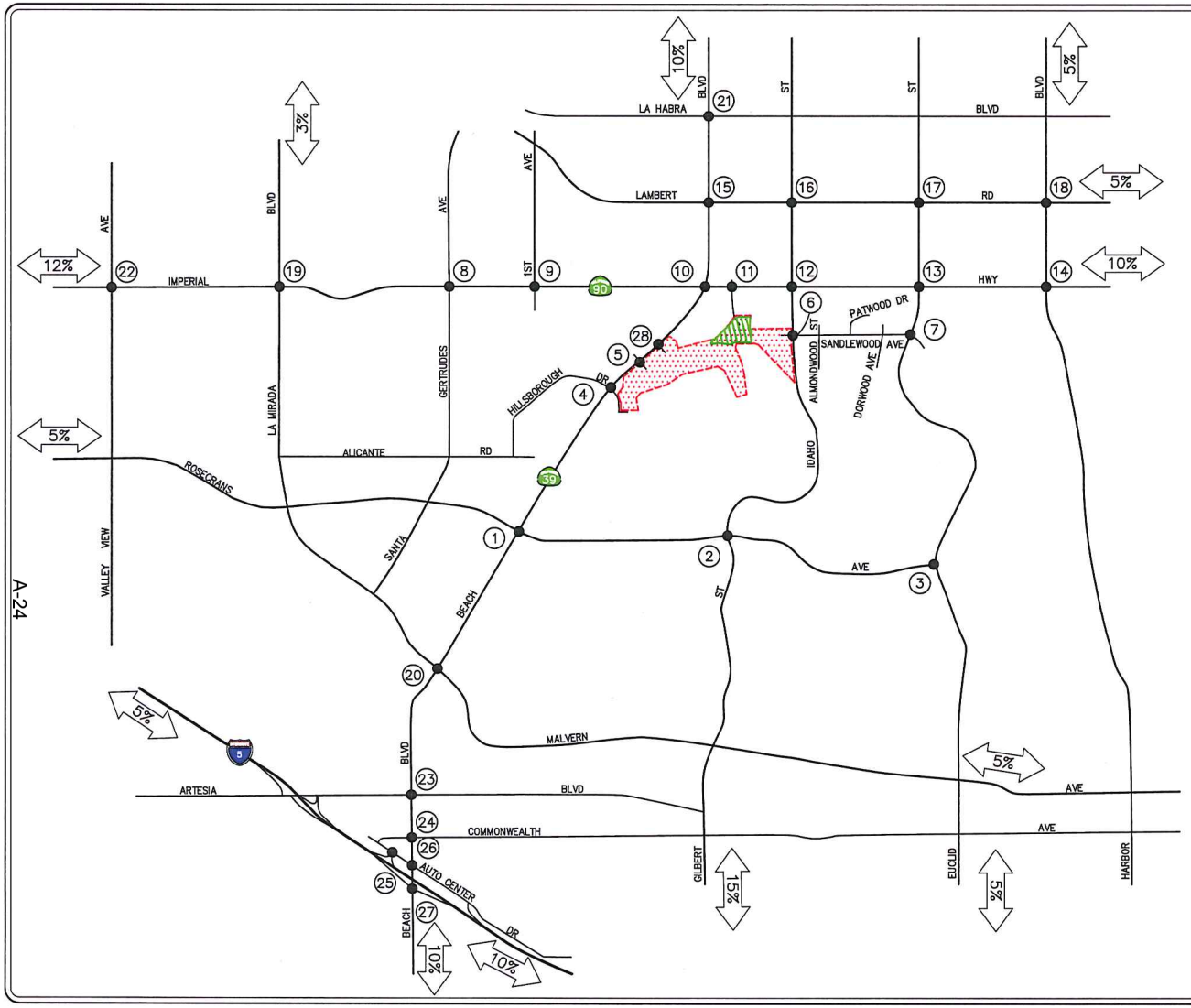
N NO SCALE

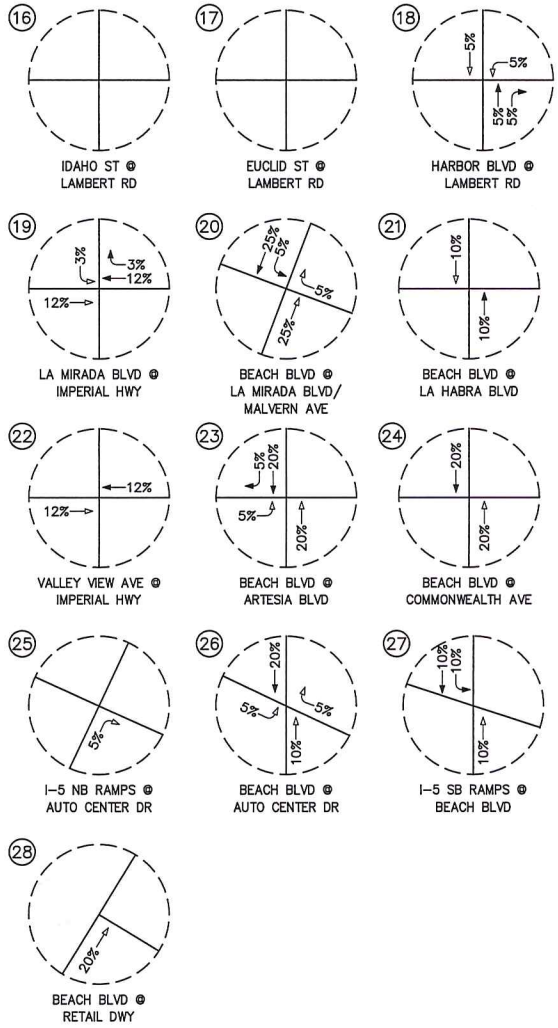
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#3
= PROJECT SITE

FIGURE 5-4A

PA#3 PROJECT TRAFFIC DISTRIBUTION PATTERN

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA





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N NO SCALE

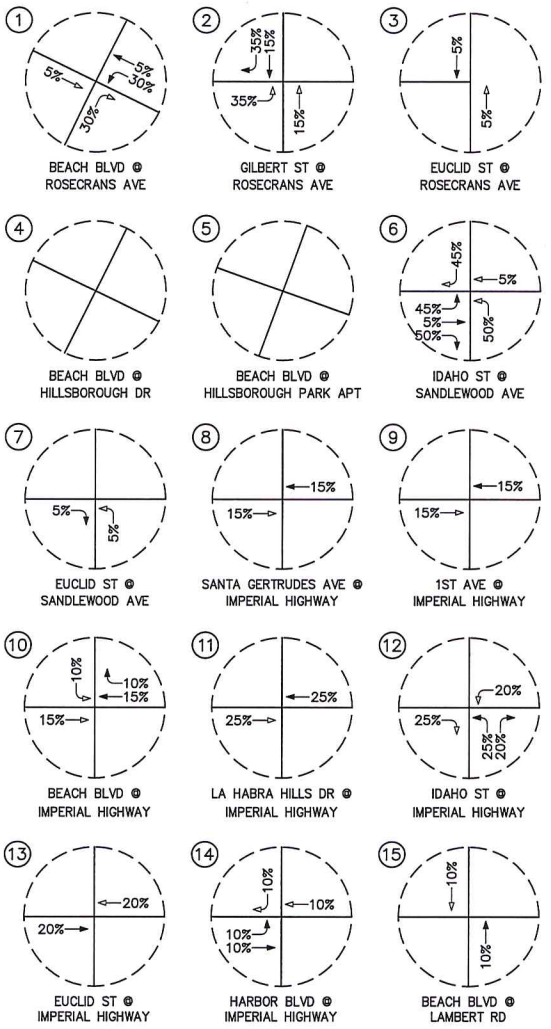
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#3
= PROJECT SITE

FIGURE 5-4B

PA#3 PROJECT TRAFFIC DISTRIBUTION PATTERN

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA





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N NO SCALE

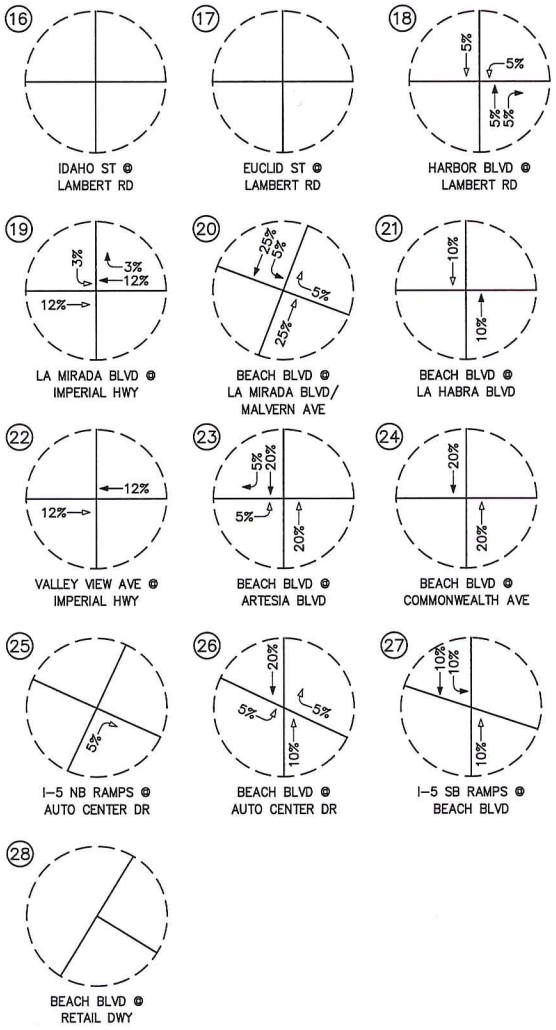
KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
= PA#4
= PROJECT SITE

FIGURE 5–5A

PA#4 PROJECT TRAFFIC DISTRIBUTION PATTERN

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA





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N NO SCALE

KEY
= INBOUND PERCENTAGE
= OUTBOUND PERCENTAGE
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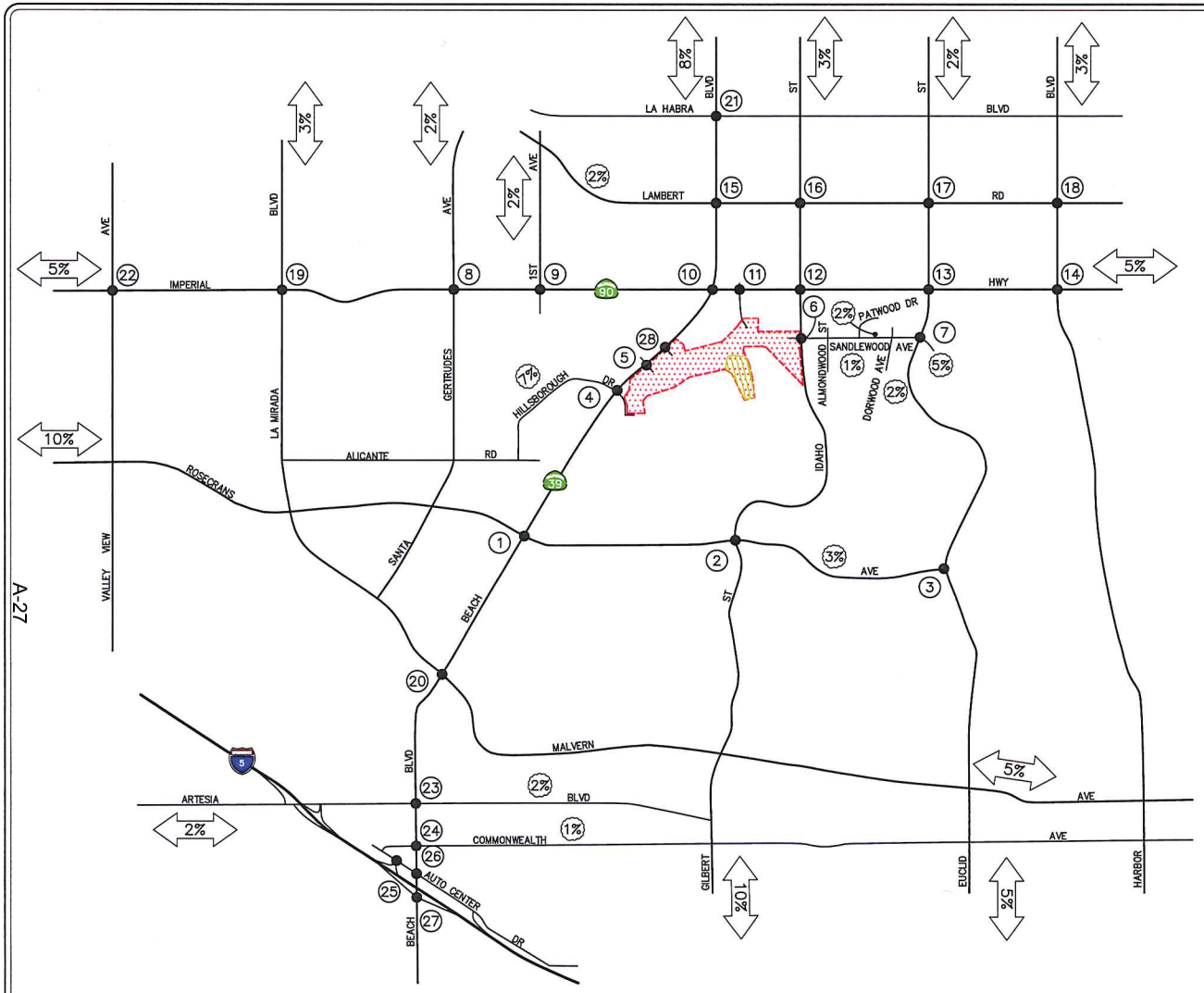
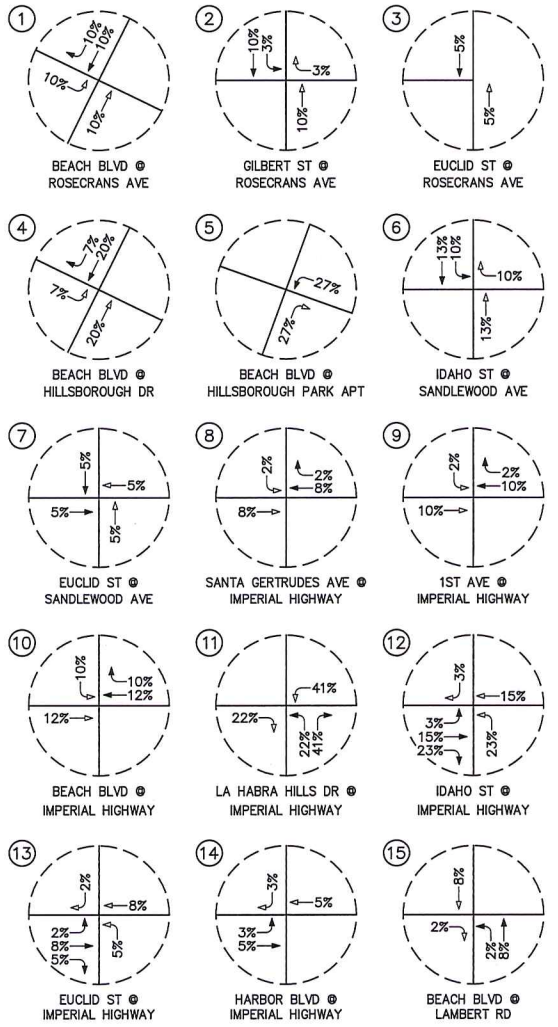
= PROJECT SITE

FIGURE 5-5B

PA#4 PROJECT TRAFFIC DISTRIBUTION PATTERN
WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA





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N NO SCALE

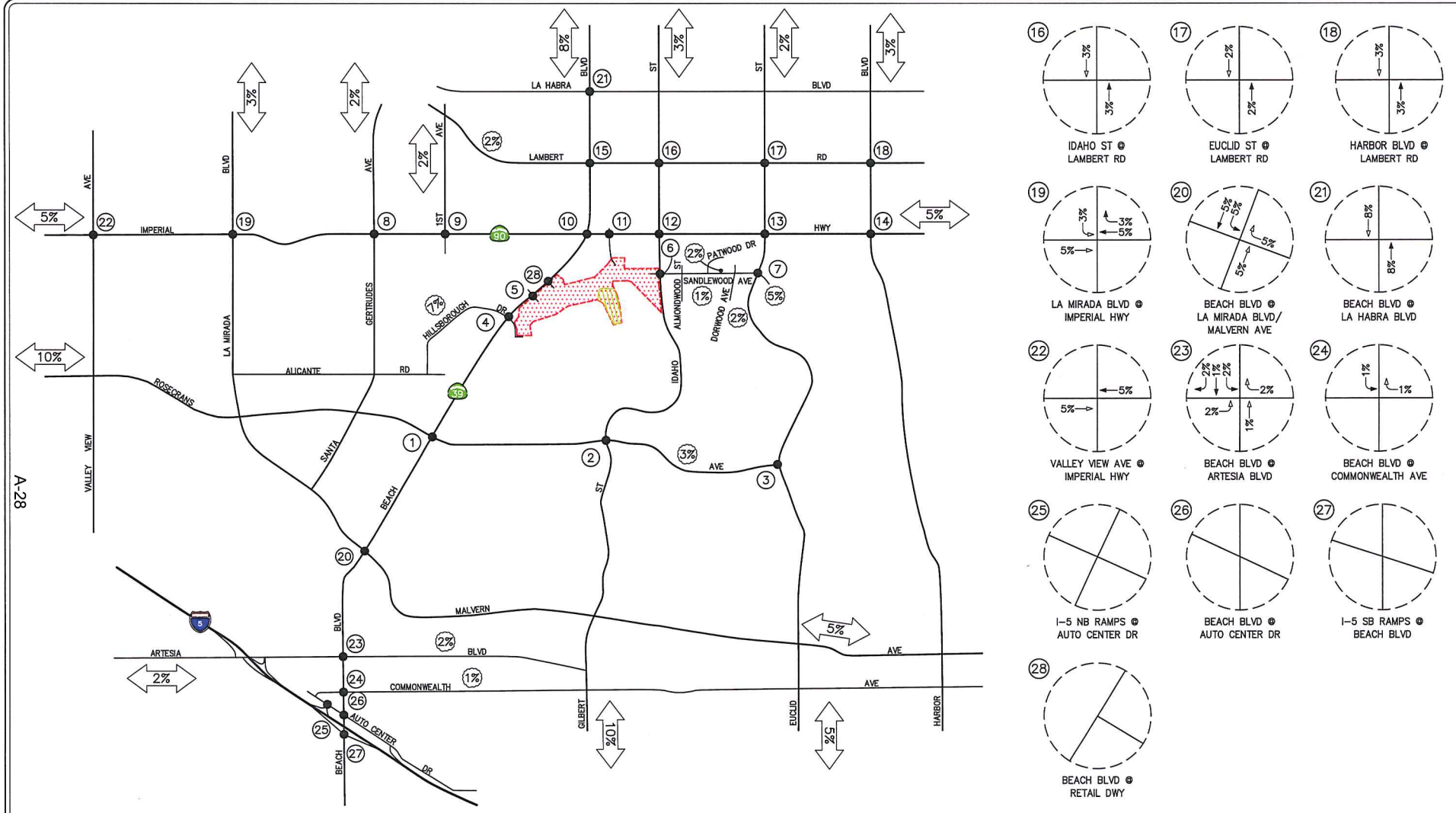
KEY
- ⟵ = INBOUND PERCENTAGE
- ⟵ = OUTBOUND PERCENTAGE
- = PA#5
- = PROJECT SITE

NOTE: 10% INTERNAL TO THE ENTIRE PROJECT SITE

FIGURE 5-6A

PA#5 PROJECT TRAFFIC DISTRIBUTION PATTERN

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA



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N NO SCALE

KEY
- ⇦ = INBOUND PERCENTAGE
- ⇦ = OUTBOUND PERCENTAGE
- = PA#5
- = PROJECT SITE

NOTE: 10% INTERNAL TO THE ENTIRE PROJECT SITE

FIGURE 5-6B

PA#5 PROJECT TRAFFIC DISTRIBUTION PATTERN

WESTRIDGE RESIDENTIAL DEVELOPMENT, LA HABRA

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TABLE 6-1

LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[9]

No.	Description	Location/Address	Size
City of La Habra			
1.	Kaiser Permanente MOB	601 E. Imperial Highway	28,257 SF MOB
2.	951 S. Beach Blvd Residential	951 South Beach Boulevard	335 DU apartments
3.	Whittier Boulevard/Hacienda Road Commercial	1701-1901 W. Whittier Boulevard	22,945 SF commercial
4.	City Hall Relocation/Residential	Northeast corner of Euclid Street and La Habra Boulevard	9 DU SFDR 62 DU condominium/ townhomes
5.	Self-Storage	999 East Lambert Road	133,512 SF self-storage
6.	Urban Village	1220-1240 W. La Habra Boulevard	32 DU condominiums
7.	701 E. Imperial Highway Mixed-Use Development	North of Imperial Highway at Village Drive, east of Leslie Street	104 room hotel, 2,250 SF fast-food with drive-thru, 2,228 SF fast food with drive-thru and 10,000 SF day care center
8.	Cervetto Village Project	1001 E. Whittier Boulevard	32 DU SFDR
9.	Aldi Grocery Store	North of Imperial Highway at Walmart/ Alberto's Driveway	18,557 SF supermarket
10.	Condominiums	306 South Monte Vista Street	12 DU condominiums
11.	G&M Oil	110 South Harbor Boulevard	1,000 SF convenience store and pump islands
12.	La Habra Memory Care	121 E. Whittier Boulevard	17,330 SF care facility with 25 units
13.	Pinnacle Residential	1101 N. Harbor Boulevard	8 DU SFDR
City of La Habra Heights			
14.	Sempra Oil Field Phase 3	NW Part of the City of La Habra Heights	18 acre oil field
City of Fullerton			
15.	West Coyote Hills	Generally north of Rosecrans Avenue between Beach Boulevard and Euclid Avenue	579 DU SFDR 204 DU condominiums 68,000 SF retail/office
16.	Demolition of Beckman Coulter Facility and Construction of Beckman Business Center	4300 North Harbor Boulevard	979,455 SF of warehouse, manufacturing and industrial floor area

[9] Source: City of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada Planning Departments.

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[10]

No.	Description	Location/Address	Size
City of Whittier			
17.	Starbucks	14828 Whittier Boulevard	1,750 SF coffee shop with drive-thru
18.	16050 Whittier Blvd Condos	16050 Whittier Boulevard	67 DU condominiums (96 DU total, 29 DU built)
19.	Morningstar Christian Chapel	16233 Leffingwell Road	13,791 SF church expansion
20.	Self-Storage Project	11280 First Avenue	60,295 SF self-storage
21.	Condominiums	15310 Ashley Court	114 DU condominiums
22.	Assisted Living Facility	13617 Whittier Boulevard	104 Beds
23.	Training School	15915 Russell Street	10 Students
24.	Candlelight Residential	NEC of 1st Street at Candlelight Drive	91 DU SFDR
25.	LA Fitness	13806 Whittier Boulevard	38,000 SF health club
26.	Condominiums	14640-14660 Whittier Boulevard	50 DU condominiums
27.	Starbucks	10737 Beverly Boulevard	998 SF coffee shop with drive-thru
28.	Warmington Condos	12423 Whittier Boulevard	60 DU condominiums
29.	S. Chen Condos Project	7941 Greenleaf Avenue	12 DU condominiums
30.	Popeye's Project	12505 Washington Boulevard	3,800 SF fast-food/with drive-thru
31.	Lincoln Specific Plan (former Fred C. Nelles Youth Correctional Facility)	11850 Whittier Boulevard (at Whittier Boulevard and Sorensen Avenue)	750 residential DU consisting of 187 DU single family, 296 DU apartments, 267 DU condos, with up to 208,350 SF of retail/comm. consisting of 8,000 SF medical office, 127,850 SF shopping center, 38,000 SF supermarket, 4,500 SF drive-in bank, 9,000 SF quality restaurant, 14,000 SF high-turnover rest. and 7,000 SF fast-food restaurant with drive-thru
City of Brea			
32.	Central Park Village	340-420 W. Central Avenue	83 DU townhomes 369 DU apartments 31,000 SF retail 35,000 SF MOB

[10] Source: City of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada Planning Departments.

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TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[11]

No.	Description	Location/Address	Size
33.	South Brea Lofts	500 S. Brea Boulevard	37 DU live/work 10 DU condominiums 7,500 SF commercial
34.	Townhomes	146,148, 150 Orange Avenue	13 DU townhomes
35.	Benfield Pet Hospital	715 E. Birch Street	3,368 SF veterinarian clinic
36.	Albertsons Warehouse & Distribution Center	200 N. Puente Street	54,946 SF warehouse expansion
City of Buena Park			
37.	Los Coyotes Country Club Development Plan	Los Coyotes Country Club	125 DU Condominiums 4,000 SF management/office space 1,000 SF private meeting space 5,000 SF gathering/event space
38.	The Source, Beach/Orangethorpe Mixed-Use Development	NEC of Beach Blvd and Orangethorpe Avenue	300 room hotel 823 DU condominiums 195,000 SF office 355,000 SF retail
39.	Village Circle	North of La Mirada/Malvern and west of Beach Boulevard	32,000 SF supermarket 10,000 SF pharmacy 32,000 SF retail
40.	7301 Artesia Blvd/Nabisco Site	7301 Artesia Blvd	149 DU condominium/townhomes 100 room hotel 45,000 SF automobile sales
41.	OnBeach Mixed-Use	5742 Beach Boulevard	60 DU senior apartment 6,000 SF restaurant 2,200 SF retail and 36,000 SF MOB
City of La Mirada			
42.	Alondra Boulevard Business Center	14445 Alondra Boulevard	200,369 SF warehouse
43.	Condominiums	12000 La Mirada Boulevard	33 DU condominiums
44.	Industrial	14930 Alondra Boulevard	80,000 SF industrial
45.	Apartments	La Mirada Boulevard/Leffingwell Road	28 DU Apartments
46.	Single Family Homes	13400 Biola Avenue	6DU SFDR

[11] Source: City of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada Planning Departments.

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TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[12]

No.	Description	Location/Address	Size
47.	Industrial	13811 Valley View Avenue	60,000 SF industrial
48.	McDonald's	14871 Imperial Highway	4,300 SF fast-food restaurant with drive-thru
49.	Commercial	14447 Firestone Boulevard	28,000 SF commercial

[12] Source: City of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada Planning Departments.

APPENDIX A-II

NOP COMMENT LETTERS AND RESPONSES

MEMORANDUM

To:	Mr. Peter Carlson Carlson Strategic Land Solutions	Date:	May 16, 2016
From:	Richard E. Barretto, P.E. Daniel A. Kloos, P.E. Linscott, Law & Greenspan, Engineers	LLG Ref:	2.14.3531.1
Subject:	Response to Caltrans Traffic-Related NOP Comments for the Rancho La Habra Project, La Habra		

The following is a response memorandum that has been prepared to address the traffic-related comments by Caltrans, as summarized in their letter dated December 8, 2015, regarding the Notice of Preparation (NOP) for the Rancho La Habra Project, located in the City of La Habra, California. A follow-up meeting with the project team and Caltrans staff occurred on January 14, 2016 at Caltrans District 12 offices to discuss the NOP comment letter.

Response to Comment No. 2-1 – Comment acknowledged. The Traffic Impact Analysis Report for the proposed Rancho La Habra Project has been prepared in conformance with the current Caltrans *Guide for the Preparation of Traffic Impact Studies* and provides level of service analyses at nineteen (19) state-controlled key study intersections located either on Beach Boulevard or Imperial Highway for Existing Plus Project Traffic Conditions, Year 2023 Traffic Conditions and Year 2035 Buildout Traffic Conditions. Refer to Sections 13.0 and 16.0 of the Traffic Impact Analysis Report.

Response to Comment No. 2-2 – Comment acknowledged. The Traffic Impact Analysis Report provides level of service analyses at nineteen (19) state-controlled key study intersections located either on Beach Boulevard or Imperial Highway for Existing Plus Project Traffic Conditions, Year 2023 Traffic Conditions and Year 2035 Buildout Traffic Conditions. Refer to Sections 13.0 and 16.0 of the Traffic Impact Analysis Report. For those intersections that are located on Beach Boulevard and Imperial Highway, improvements are identified to mitigate existing and/or forecast adverse service levels.

Response to Comment No. 2-3 – Comment acknowledged. The analysis of all state-controlled facilities has been conducted utilizing the Highway Capacity Manual 2010 methodology. Refer to Sections 13.0 and 16.0 of the Traffic Impact Analysis Report.

Response to Comment No. 2-4 – Comment acknowledged. See Response to Comments No. 2-2 and No. 2-3. The Traffic Impact Analysis Report documents the Project's potential traffic impacts on Beach Boulevard and Imperial Highway.

Response to Comment No. 2-5 – Comment acknowledged. See Response to Comments No. 2-2 and No. 2-3. The Traffic Impact Analysis Report documents the Project's potential traffic impacts on Beach Boulevard and Imperial Highway.

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Response to Comment No. 2-6 – Comment acknowledged. See Response to Comment No. 2-2 and No. 2-3.

Response to Comment No. 2-7 – Comment acknowledged. Refer to Sections 13.0 and 16.0 of the Traffic Impact Analysis Report. For those intersections that are located on Beach Boulevard and Imperial Highway, improvements are identified to mitigate existing and/or forecast adverse service levels.

Response to Comment No. 2-8 – Comment acknowledged.

* * * * * * * * * * *

We appreciate the opportunity to provide these responses. Please call us at (949) 825-6175 if you have any questions regarding this response package.

DEPARTMENT OF TRANSPORTATION
DISTRICT 12
3347 MICHELSON DRIVE, SUITE 100
IRVINE, CA 92612-8894
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December 8, 2015

Mr. Roy Ramsland
Planning Manager
City of La Habra
201 E. La Habra Boulevard
La Habra, CA. 90633

File: IGR/CEQA
SCH#: None
Log #: 4565
SR-39, SR-90

Dear Mr. Ramsland:

Thank you for the opportunity to review and comment on the **Notice of Preparation for the Rancho La Habra Specific Plan.** The Applicant proposes to construct a mixed-use community consisting of three new residential neighborhoods with a maximum of 420 homes (277 single-family homes and 143 multi-family townhomes) linked by trails and open spaces areas, and anchored by a new public community center and park, plus commercial development along Beach Boulevard designed to accommodate a 12,000 square foot commercial retail space and an 8,000 square foot fine dining restaurant pad.

Caltrans Local Development-Intergovernmental Review program reviews impacts of local development to the transportation system, including the State Highway System. The Department works to ensure that local land use planning and development decisions include the provision of transportation choices, including transit, intercity rail passenger service, air service, walking and biking, when appropriate. The Department advocates community design (e.g. urban infill, mixed use, transit oriented development) that promotes an efficient transportation system and healthy communities.

The Department of Transportation (Department) is a responsible agency on this project and has the following comments for your consideration.

2-1 1. A traffic impact study (TIS) is necessary to determine this proposed project's near-term and long-term impacts to the State facilities – existing and proposed – and to propose appropriate mitigation measures. The study should use as a guideline the *Caltrans Guide for the Preparation of Traffic Impact Studies.*

Minimum contents of the traffic impact study are listed in Appendix "A" of the TIS guide. www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

2-2 2. Any facilities within Caltrans' right of way that will be impacted due to the development need to be analyzed.

2-3 3. All analyses within Caltrans' right of way need to reference the latest Highway Capacity Manual (HCM 2010 Edition) that including interrupted flow and/or uninterrupted flow. For the interrupted flow 95 percentile queue length(s) needs to be considered. For uninterrupted flow basic freeway, diverge, merge, and weaving need to be considered.

2-4 4. The proposed 420 homes of multi-family and single-family townhomes as well as the 20,000 square foot of commercial and retail developments will significantly impact the State Routes SR-39 Beach Boulevard, and SR-90 Imperial Highway.

2-5 5. A Traffic Impact Analysis identifying any potential impacts to the traffic flow on the State Highway System due to the proposed development, specifically on SR-39 Beach Boulevard and SR-90 Imperial Highway has to be conducted for further review.

2-6 6. The analysis shall include an intersection capacity analysis (by the HCM methodology) pertaining to the street intersections along SR-39 Beach Boulevard and SR- 90 Imperial Highway.

2-7 7. Any and all mitigation measures in case of significant impacts on state highway system needs to be addressed.

2-8 8. Any work within Caltrans right-of-way will require an encroachment permit. For specific details on the Department's Encroachment Permits procedure, please refer to Department Encroachment Permits Manual, Seventh Edition.
This Manual is available on the web site: www.dot.ca.gov/hq/traffops/developserv/permits.

Please continue to keep us informed of this project and any future developments that could potentially impact State transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Aileen Kennedy at (949) 724-2239.

Sincerely,

MAUREEN EL HARAKE
Branch Chief, Regional-Community-Transit Planning
District 12

c: Lee Haber, Traffic Operations Northeast
Eduardo Amezcua, Traffic Operations Southwest

MEMORANDUM

To:	Mr. Peter Carlson Carlson Strategic Land Solutions	Date:	May 16, 2016
From:	Richard E. Barretto, P.E. Daniel A. Kloos, P.E. Linscott, Law & Greenspan, Engineers	LLG Ref:	2.14.3531.1
Subject:	Response to City of La Habra Traffic-Related Comments for the Rancho La Habra Project, La Habra		

The following is a response memorandum that has been prepared to address the traffic-related comments by the City of La Habra, as summarized in an email from Carlos Jaramillo, Deputy Director of Community Development, regarding the Traffic Study Scope of Work for the Rancho La Habra Project, located in the City of La Habra, California. The email was provided to Peter Carlson on December 21, 2015 by William Kelly from Kelly Associates Management Group.

A follow-up meeting with the project team and City of La Habra Engineering Division staff occurred on January 14, 2016 at the City of La Habra to discuss the comments.

Response to Comment No. 1 – Comment acknowledged. The Traffic Impact Analysis Report will reference CalAtlantic as the project applicant.

Response to Comment No. 2 – Comment acknowledged. The "supermarket" reference has been changed to "specialty grocery store". The project opening year evaluated in the TIA has been updated to reflect a project buildout of Year 2023, which is consistent with the current phasing plan proposed by the project applicant. Refer to the Traffic Impact Analysis Report.

Response to Comment No. 3 – Comment acknowledged. Refer to revised Figure 2-2 (Proposed Site Plan), which clearly identifies the access points to the project site from Beach Boulevard, La Habra Hills Drive and Idaho Street.

Response to Comment No. 4 – Comment acknowledged. The Traffic Impact Analysis Report references the City of La Habra General Plan when discussing the City's level of service standards.

Response to Comment No. 5 – As discussed in Section 5.0 of the Traffic Impact Analysis Report, the trip generation for the retail component (i.e. specialty grocery store and restaurant) of the proposed Project was estimated using trip rates for ITE Land Use 850: Supermarket and ITE Land Use 932: High-Turnover (Sit-Down) Restaurant. It should be noted that the trip rates for ITE Land Use 820: Shopping

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Center and ITE Land Use 931: Quality Restaurant[1] were considered for the retail component of the proposed Project, however these trip rates were not utilized as the trip rates for ITE Land Use 850: Supermarket and ITE Land Use 932: High-Turnover (Sit-Down) Restaurant[1] provide a more conservative trip generation forecast and as a result a "worse-case" analysis for the retail component of the Project.

Response to Comment No. 6 – For the existing Westridge Golf Club, existing traffic counts were collected at the site in November 2014 and March/April 2015 and an average of the weekday data was taken to establish the site's existing trip credit. The weekday data collected and averaged consisted of six days that occurred on a Tuesday, Wednesday or Thursday. It should be noted that traffic counts were collected at the top of the access road near the gated entrance to the existing Westridge Residential Development and at the bottom of the access road to establish the traffic volumes associated with the existing residential gated community. The difference between the two counts represents the existing trips associated with the Westridge Golf Club or the site's existing trip credit.

Response to Comment No. 7 – Comment acknowledged. See Response to Comment No. 2.

Response to Comment No. 8 – Comment acknowledged. Refer to Sections 13.0 and 16.0 of the Traffic Impact Analysis Report for the relative Caltrans analyses. The VMT analysis is forthcoming.

Response to Comment No. 9 – Comment acknowledged. Based on discussions with City of La Habra Engineering Division staff during our follow-up meeting on January 14, 2016, it was agreed to add three (3) City of La Habra intersections, which consisted of the intersection of Beach Boulevard/Whittier Boulevard, Hacienda Road/Whittier Boulevard and Walnut Street/Imperial Highway. It was agreed upon in the follow-up meeting that analyses of the other intersections mentioned in the comment letter (i.e. 1st Avenue/Lambert Road, Idaho Street/Whittier Boulevard, Euclid Street/Whittier Boulevard, Cypress Street/Whittier Boulevard, Harbor Boulevard/Whittier Boulevard, Harbor Boulevard/La Habra Boulevard, Palm Street/Imperial Highway and Puente Street/Imperial Highway) would not be required in the Traffic Impact Analysis Report given added project-related traffic volumes at these locations amounts to far less than the "50 peak hour trip" guideline used by the City to establish potential study intersections.

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[1] A brief descriptions of ITE Land Use 931: Quality Restaurant and ITE Land Use 932: High-Turnover (Sit-Down) Restaurant, as contained in the 9th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2012], are as follows:

- Quality Restaurant: high-quality, full service eating establishment; do not serve breakfast, some do not serve lunch, all serve dinner. Reservations suggested but sometimes required. Patrons commonly wait to be seated, are served by a waiter or waitress. Some have a lounge or bar facilities. Duration of stay is at least one hour.
- High-Turnover (Sit-Down) Restaurant: full service eating establishment, moderately priced; restaurants generally serve lunch and dinner, some serve breakfast. Reservations are not typically taken. Patrons commonly wait to be seated, are served by a waiter or waitress. Some have a lounge or bar facilities. Duration of stay is approximately one hour.

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Response to Comment No. 10 – Comment acknowledged. The "supermarket" reference has been changed to "specialty grocery store".

Response to Comment No. 11 – Comment acknowledged. The maintenance facility is referenced in Table 2-1 of the revised traffic study. The "supermarket" reference has been changed to "specialty grocery store". Also see Response to Comment No. 5.

Response to Comment No. 12 – Comment acknowledged. See Response to Comments No. 5 and No. 6.

Response to Comment No. 13 – Comment acknowledged. The 8-unit condominium project located at 601 North Walnut Street has been added to the cumulative project list. Refer to Section 6.0 of the Traffic Impact Analysis Report.

* * * * * * * * * * *

We appreciate the opportunity to provide these responses. Please call us at (949) 825-6175 if you have any questions regarding this response package.

Hi everyone,

The following would be my comments regarding the Scope of Work submitted by LLG:

1. Page 1-First paragraph, change developer to CalAtlantic. Last paragraph, they are missing the maintenance building/facility located on the site.
2. Page 2-Second paragraph, remove reference to a Supermarket. Third paragraph, the anticipated traffic impacts should be consistent with the phasing plan to be submitted by the developer. The study assumes all the homes will be in by 2020 so as to assume worse case. I would argue that may not be correct given you eliminate the annual 1% growth that occurs by stopping the clock. If phasing takes longer, then you have the surrounding projects that have been identified built, but the 1% growth continues and the development project has yet to be completed. Last paragraph, eliminate supermarket reference.
3. Page 3-Second paragraph, provide an exhibit that clearly defines the 5 planning areas so the access points can be confirmed.
4. Page 4-First paragraph, second line, change "of" to "by". Paragraph four, also note that LOS E for State and CMP is consistent with the La Habra General Plan 2035.
5. Page 5-First full paragraph, insert "within those communities" in the third line between "criteria" and "will". Fourth paragraph, given we don't have a supermarket coming in, please modify the ITE Land Use category.
6. Page 6-Fourth paragraph down, the access road to the clubhouse facility also serves the homes to the south. Do the traffic numbers identified for the clubhouse discount these trips? This is important since those trips will continue to be made.
7. Page 7-Section J, see comments for Page 2 in terms of project phasing and the ambient growth rate.
8. Page 8-Other issues, I don't see reference to VMT analysis or HCM analysis.
9. Figure 1-1, may wish to consider looking at First Avenue and Lambert, Beach and Whittier, Whittier and Hacienda, Whittier and Idaho, Whittier and Euclid, Whittier and Cypress, Whittier and Harbor, La Habra and Harbor, Imperial and Palm, Imperial and Puente intersections.
10. Table 2-1 , existing development category should include maintenance facility and Proposed Project should eliminate the Supermarket category.
11. Table 5-1, eliminate the supermarket category.
12. Table 5-2, proposed project category, eliminate supermarket, define high turnover restaurant? We are thinking about a Lazy Dog type restaurant, is that High Turnover? Existing Land Use category, does this include trips made by the residents to their homes?
13. Table 6-1, missing 8 unit condo project at 601 North Walnut Street. Planning still needs to look at this list.

MEMORANDUM

To:	Mr. Peter Carlson Carlson Strategic Land Solutions	Date:	May 16, 2016
From:	Richard E. Barretto, P.E. Daniel A. Kloos, P.E. Linscott, Law & Greenspan, Engineers	LLG Ref:	2.14.3531.1
Subject:	Response to Shute, Mihaly & Weinberger, LLP Traffic-Related NOP Comments for the Rancho La Habra Project, La Habra		

The following is a response memorandum that has been prepared to address the traffic-related comments by Shute, Mihaly & Weinberger, LLP, as summarized in their letter dated December 14, 2015, regarding the Notice of Preparation (NOP) for the Rancho La Habra Project, located in the City of La Habra, California

Response to Comment No. 1-1 – Comment acknowledged. The status of other known development projects (cumulative projects) in the vicinity of the proposed Project was researched at the Cities of La Habra, La Habra Heights, Fullerton, Whittier, Brea, Buena Park and La Mirada. Based on our research, there are fifteen (15) cumulative projects in the City of La Habra, one (1) cumulative project in the City of La Habra Heights, two (2) cumulative projects in the City of Fullerton, fifteen (15) cumulative projects in the City of Whittier, five (5) cumulative projects in the City of Brea, five (5) cumulative projects in the City of Buena Park and eight (8) cumulative projects in the City of La Mirada within the vicinity of the subject site that have either been built, but not yet fully occupied, or are being processed for approval. These fifty-one (51) cumulative projects have been included as part of the cumulative background setting in addition to the inclusion of an ambient traffic growth factor (i.e. one percent per year). The West Coyote Hills Project was included in the cumulative background setting (i.e. identified as cumulative project #17 in Tables 6-1 and 6-2 of the TIA). Refer to Sections 6.1.2 and 6.1.3 of the Traffic Impact Analysis Report for more details on the cumulative projects.

Response to Comment No. 1-2 – Comment acknowledged. The Traffic Impact Analysis Report provides level of service analyses at thirty-two (32) key study intersections and thirty-seven (37) key roadway segments for Existing Plus Project Traffic Conditions, Year 2023 Traffic Conditions and Year 2035 Buildout Traffic Conditions. The intersections of Beach Boulevard/Imperial Highway and Walnut Street/Imperial Highway have been evaluated in the TIA and are referred to as key study intersections #10 and #30, respectively.

The trip generation rates utilized in the traffic forecasting for the residential component of the proposed Project are based on information contained within the 9th Edition of *Trip Generation,* published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2012]. The ITE *Trip Generation* manual is a nationally recognized trip generation resource for forecasting weekday daily, AM peak hour and PM peak hour trips for a project development. Specifically, as shown in Section 5.0

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of the TIA, the trip generation potential of the residential component of the proposed Project was estimated using trip rates per "dwelling unit" for ITE Land Use 210: Single Family Detached Housing and ITE Land Use 230: Residential Condominiums/Townhomes. It should be noted that the ITE *Trip Generation* manual does not provide data on a per bedroom basis as common traffic engineering practice is to develop trips for these types of residential uses on a per "dwelling unit" basis. It should be further noted that the trip generation approach/methodology was approved for use by City of La Habra Engineering Division staff as part of the scoping process for the traffic study.

Response to Comment No. 1-3 – Comment acknowledged. The Traffic Impact Analysis Report provides level of service analyses at thirty-two (32) key study intersections and thirty-seven (37) key roadway segments for Existing Plus Project Traffic Conditions, which indicates whether or not the proposed Project will have a direct impact on the existing street system. Refer to Section 8.0 of the Traffic Impact Analysis Report for details on the Existing Plus Project analysis.

Given the existing Westridge Residenital Development is a gated residential community, the use of this community's neighborhood streets by the proposed Project as a "through" route will be restricted.

See Response to Comment No. 1-1 relative to the analysis of cumulative conditions.

Response to Comment No. 1-4 – Comment acknowledged. The proposed Project will be required to satisfy the off-street parking requirements contained with the City of La Habra Municipal Code. Details of the proposed Project parking supply and requirements of the Project per the City's Municipal Code are documented in the Rancho La Habra Specific Plan. The proposed Project will provide pedestrian connections to Beach Boulevard, Imperial Highway via La Habra Hills Drive and Idaho Street to access the existing public transit that currently exists along Beach Boulevard and Imperial Highway. Refer to Section 3.1.1 of the Traffic Impact Analysis Report for more details on public transit in the vicinity of the proposed Project.

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We appreciate the opportunity to provide these responses. Please call us at (949) 825-6175 if you have any questions regarding this response package.

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December 14, 2015

Via Electronic Mail

Roy Ramsland
Planning Division
City of La Habra
201 E La Habra Boulevard
La Habra, CA 90631
E-Mail: rramsland@lahabraca.gov

Re: Notice of Preparation of a Draft Environmental Impact Report for Rancho La Habra Specific Plan

Dear Mr. Ramsland:

On behalf of our client, the Westridge Community Association ("Westridge"), thank you for the opportunity to review and comment on the Notice of Preparation ("NOP") prepared for the Rancho La Habra Specific Plan project ("Project"). Westridge is a nonprofit mutual benefit corporation made up of owners of homes located in the City of La Habra ("City"), between the southern boundary of the proposed Project and the City's southern boundary. Many members' homes directly abut and overlook the Project site.

This Project includes a large-scale development of over 400 homes, commercial and restaurant space fronting on Beach Boulevard, and public facilities within the new neighborhood, in addition to amendments to the existing General Plan and Specific Plan, among other approvals. Westridge and its members are deeply concerned about the Project's numerous potential environmental impacts, as well as the harmful planning precedent that the Project could set for residential development of one of the only remaining areas of recreational open space in the City of La Habra.

The recently released NOP is required to provide adequate and reliable information regarding the nature of the proposed Project and its probable environmental impacts, in order to "solicit guidance from public agencies as to the scope and content of

the environmental information to be included in the EIR." California Environmental Quality Act ("CEQA") Guidelines § 15375;[1] *see also* CEQA Guidelines § 15082(a)(1).

Unfortunately, the NOP provides little information about critical aspects of the proposed Project, including Project objectives, alternatives, and cumulative impacts. This makes it difficult to provide a comprehensive response to the NOP or the scope of the EIR. Set forth below are our initial comments relating to the information that has been provided. The City must ensure that the EIR for the Project provides thorough analysis of the topics described below.

I. Cumulative Impacts

An EIR must discuss the cumulative impacts of a project when its incremental effects are considerable when viewed in connection with the effects of other past, current, and probable future projects. CEQA Guidelines §§ 15130(a), 15065(c). Projects currently under environmental review qualify as reasonably probable future projects to be considered in a cumulative impacts analysis. *See San Franciscans for Reasonable Growth v. City & County of San Francisco*, 151 Cal. App. 3d 61, 74 n.13 (1984). In addition, projects anticipated beyond the near future should be analyzed for their cumulative effect if they are reasonably foreseeable. *See Bozung v. Local Agency Formation Comm'n*, 13 Cal. 3d 263, 284 (1975). The analysis of cumulative impacts is particularly important in the context of long-range planning documents because the growth allowed under such plans is often substantial and because they set forth the policies that will guide development for many years. As noted in the CEQA Guidelines, one requirement of an EIR for planning documents is that they provide a more thorough analysis of cumulative impacts than is required for individual projects. *See* CEQA Guidelines § 15168.

Cumulative impacts are exceptionally important in this instance, as the City of Fullerton approved the similar, but even larger, 757-unit West Coyote Hills project on November 17, 2105. This residential development is located immediately to the south of the Westridge neighborhood. Accordingly, Westridge residents will be almost completely surrounded by the two simultaneous and enormous construction projects, which will create many of the same types of impacts associated with, e.g., grading, air quality, noise, traffic, visual resources, and biological resources. We are concerned that despite being published only four days before approval of this neighboring project, which has been the

1-1

[1] The CEQA Guidelines are found at California Code of Regulations, title 14, § 15000 *et seq*. CEQA is found at Public Resources Code § 21000 *et seq*.

subject of repeated public hearings and approvals over the past five years, the NOP makes no mention of it. The EIR for this Project must analyze the cumulative effects of the West Coyote Hills project as well as all other cumulative development projects.

II. Noise

CEQA defines significant noise impacts as including both "noise levels in excess of standards established in the local general plan or noise ordinance" and any "substantial temporary or periodic increase in ambient noise levels in the project above levels existing without the project." CEQA Guidelines, Appendix G § XII(a), (d). The analysis of noise impacts that was posted on the City Planning Department's website last week recognized that much of the area around the Project already experiences noise at close to the limits established by the City's Municipal Code. *See* La Habra Municipal Code §§ 9.32.010-9.32.130.

We note several important considerations that should inform the analysis of noise impacts, especially for a project located immediately adjacent to a residential community. First, compliance with zoning and plan designations is a minimum and does not mean that a project has no significant impact or requires no mitigation. *Communities for a Better Envt. v. California Res. Agency*, 103 Cal. App. 4th 98, 113 (2002). This is especially relevant when the local noise ordinance exempts all construction activities conducted between 7:00 a.m. and 8:00 p.m., Monday through Saturday. *See* La Habra Municipal Code § 9.32.070(E).

In addition, courts recognize that for a project that will increase noise, the reviewing agency must use a metric that provides a true and complete picture of the noise created by the project as compared to baseline conditions. *Berkeley Keep Jets Over the Bay Comm. v. Bd. of Port Com'rs*, 91 Cal. App. 4th 1344, 1377 (2001) (rejecting an EIR that used an average sound metric to evaluate the significance of noise impacts as "fail[ing] to provide . . . the most fundamental information about the project's noise impacts, specifically the number of additional nighttime flights that will occur . . . , the frequency of those flights, and their effect on sleep"). Thus, the EIR for this Project must consider the full range of sound levels that will cause impacts, both from short-term peaks during construction work on this and other nearby sites and from long term occupancy of the Project. Daily and even hourly averages may not be sufficient to analyze the impacts on neighboring communities such as Westridge.

We note that these noise impacts translate into additional health impacts. Exposure to increased noise levels has been associated with increased stress, cardiovascular impacts, and mental health impacts. If the EIR identifies substantial

increases in noise associated with the Project, then it must also discuss the health effects of those noise impacts on affected members of the public.

To the extent that the EIR identifies significant noise impacts that are unavoidable, CEQA requires that the City and adopt all feasible measures that will reduce the Project's impacts, even if they do not completely avoid the significant effect. Pub. Res. Code § 21002; *see also City of Marina v. Board of Trustees of the California State University*, 39 Cal. 4th 341 (2006); 1 Stephen Kostka & Michael Zischke, Practice Under the California Environmental Quality Act § 14.6 (2d ed. 2011) ("A mitigation measure may reduce or minimize a significant impact without avoiding the impact entirely."). The statute also requires that mitigation measures must be "fully enforceable through permit conditions, agreements, or other legally binding instruments." Pub. Res. Code § 21081.6(b); CEQA Guidelines § 15126.4(a)(2). Uncertain, vague, and speculative mitigation measures are inadequate because they lack a commitment to enforcement. *See, e.g., Anderson First Coalition v. City of Anderson*, 130 Cal. App. 4th 1173, 1188-89 (2005) (holding traffic mitigation fee measure inadequate under CEQA due to vagueness in program for implementing required improvements). Accordingly, the EIR must address all aspects of noise impacts created by the Project and mitigate significant effects to the greatest extent possible, even if such measures go beyond the scope of the City's existing noise ordinance.

III. Visual Resources

The EIR must analyze the impacts of the proposed Project on aesthetics including scenic vistas, scenic resources, and the juxtaposition of the proposed development with the existing community. This analysis must include clear graphics showing pre- and post-Project visual conditions. Given the Project's stark shift from a public golf course made up of largely unobstructed open space, trees, and priority habitat for sensitive bird species, it will be particularly important to use appropriate techniques to disclose the Project's aesthetic impacts. As explained by the court in *Quail Botanical Gardens Foundation, Inc. v. City of Encinitas*, 29 Cal. App. 4th 1597, 1606 (1994), it is "self-evident" that replacing open space with a subdivision will have an adverse effect upon "views and the beauty of the setting." The EIR must also consider how to mitigate such impacts in an urban environment that is already short on open space.

As part of this analysis, the EIR must analyze the impact of new lighting on the Project's surroundings. The existing golf course is essentially undeveloped and is not lit at night except for the club house and parking lot. The Project includes construction of new streets throughout almost the entire 151-acre property, each of which will be densely lined with new homes. The Project will transform this site from the calm buffer it was

originally intended to provide between Westridge residents and, for example, the arterial traffic on Beach Boulevard and Idaho Street, to a new island of urban density. *See, e.g.*, La Habra Hills Specific Plan, p. 6 ("The Plan utilizes the golf course and parks as a buffer between existing development and the proposed residential neighborhoods."), 9 (The golf course "serves as a buffer between the proposed residential neighborhoods and the existing business park at Beach Boulevard and Imperial Highway. The golf course also provides a buffer between the existing single-family homes to the north and the proposed development.").[2] The EIR must quantify both baseline and resulting levels of light reaching surrounding homes.

In particular, residents of the hills surrounding the Project will certainly be exposed to the lights installed as part of the Project and the associated development. Courts have recognized that "the opinions of area residents, if based on direct observation, may be relevant as to aesthetic impact and may constitute substantial evidence in support of a fair argument." *Pocket Protectors v. City Of Sacramento*, 124 Cal.App.4th 903, 937 (2004). As a result, the EIR must include a detailed light study to quantify how much light will spill outside of the Project's footprint.

Like noise, light has additional effects on human health by disrupting sleep, internal clocks, and hormone levels. *See* Kristen M. Ploetz, *Light Pollution in the United States: An Overview of the Inadequacies of the Common Law and State and Local Regulation* (2002) 36 NEW ENG. L. REV. 985, 1000. CEQA requires that a public agency make a finding of significance if the "environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly." Pub. Res. Code § 21083(b)(3); CEQA Guidelines § 15065(a)(4). Accordingly, especially given the direct sightlines between the Project and numerous neighboring homes, the EIR must analyze whether the installation of street lights, house-mounted lights, or other Project-related lighting next door to existing homes will have a substantial adverse effect on human beings, including human health.

The EIR must not only evaluate, but also identify mitigation for these effects. In particular, the City should evaluate the effectiveness of shields and other mandatory measures to focus light in the target area while minimizing spill. The City should also determine whether it is appropriate to require a light audit after construction of the Project in order to determine the actual magnitude of spill light and to focus the lights as closely as possible on the Project area. The EIR must, at a minimum, evaluate such mitigation measures before approving the Project.

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[2] Available at: http://www.lahabracity.com/DocumentCenter/View/182.

IV. Traffic and Transportation

The EIR must provide a comprehensive analysis of the Project's traffic impacts. Traffic in the area both immediately surrounding the Project site and on larger arterial and regional highway routes is already substantial and frequently congested. For example, the City's recent General Plan identified two major intersections near the Project as likely to experience unacceptable levels of service within its time horizon. *See* City of La Habra General Plan 2035 ("General Plan"), p. 3-9 (identifying intersections at Beach Boulevard/Imperial Highway and Walnut Street/Imperial Highway). In addition, local residents are consistently frustrated and delayed by existing levels of congestion, especially since completion of the McComber retail center and in Buena Park, Hawks Point residential development in Fullerton, and the Tapestry and La Habra Knolls residential projects in La Habra. As a result, it will be important for the EIR to accurately identify both current baseline conditions and new trip generation data. For the Project's residential uses, this should include trip generation data by unit and by bedroom.

1-2

The EIR must not limit its analysis to intersection capacity utilization and intersection delay, which describe only whether an intersection has enough physical capacity to accommodate vehicles. Rather, the EIR must also assess the change in quality of life that residents will experience with the increase in traffic from the addition of almost 500 homes and 12,000 square feet of retail space attributable to this Project alone. An accurate analysis of neighborhood traffic, one which takes into account the unique characteristics of the existing residential neighborhoods, is essential to determine whether neighborhood streets will be seriously impacted as a result of this proposed development. This analysis must also document cumulative conditions, especially in light of this Project's close proximity to the West Coyote Hills development and additive contributions to local and regional congestion.

1-3

The EIR must also clearly identify the amount of parking that will be provided for residents, visitors, and users of the Project's commercial properties. It also must identify and describe the Project's connection to public transit. An effective transit network serving the Project has the potential to reduce many of the Project's significant environmental impacts including traffic, air quality, greenhouse gas emissions, and noise. If the Project does not include a robust transit program—and there is no indication that it does—one should be developed as partial mitigation for the Project's many obvious significant environmental impacts.

1-4

V. Air Quality

La Habra is in the South Coast Air Basin, which is designated as a nonattainment area for the state and national ambient air quality standards for ozone and $PM_{2.5}$. South Coast Air Quality Management Plan, Final 2012 Air Quality Management Plan, pp. 2-7, 2-33.[3] For this reason, it will be important that the EIR contain a thorough analysis of Project-related and cumulative impacts to air quality. Particular attention must be paid to identifying each source of emissions that would be generated by the Project, including motor vehicle traffic, street sweeping, garbage trucks, and other regular use of maintenance equipment. The EIR must also carefully identify and analyze construction-related increases in toxic air contaminants and criteria air pollutant emissions associated with heavy off-road equipment, as well as the mobilization of dust and other particulate matter. The construction-related impacts are a particular concern here in light of the Project site's historical use for oil production and the known existence of contaminated soils onsite. The EIR must consider both alternatives and mitigation measures that will avoid mobilizing contaminated soils and protect construction workers and nearby residents

VI. Biological Resources

The Project raises serious concerns about its impacts on biological resources. The City's new General Plan, adopted less than two years ago, specifically identifies the Westridge Golf Course as one of the "[f]ew areas of the City [that] support sensitive biological resources." General Plan, p. 6-1. In fact, the existing Golf Course is home to numerous important plant species, including the Mulefat scrub, Southern willow scrub, Coastal sage scrub, and Coastal oak woodland species, some of which provide habitat for protected birds including the state- and federally-protected California gnatcatcher. *Id.* These resources were intentionally created and protected as mandatory mitigation for the La Habra Hills Specific Plan development. *Id.* Thus, any impact to these resources is not only attributable to this Project, but also a potential violation of the existing Mitigation and Monitoring Plan. *See Lincoln Place Tenants Ass'n v. City of Los Angeles*, 155 Cal. App. 4th 425, 452 (2007) (failure to enforce adopted mitigation measures can invalidate approval); Pub. Resources Code § 21168.9(a)(2).

[3] Available at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-(february-2013)/chapter-2-final-2012.pdf.

It is essential for the EIR to consider alternatives that avoid, or at least minimize, biological impacts because they may be impossible to mitigate locally. As an initial matter, mere preservation of fragmented portions of the Project site is not adequate to avoid impacts, as fragmentation decreases the utility of the habitat to species and the planned development will dramatically increase the level of human disturbance to which species are subjected. However, the General Plan recognizes that "La Habra is largely urbanized with few remaining natural open spaces." General Plan, p. 6-1. The very first policy in its Biological Resources and Habitat section emphasizes the importance of this specific site to the City and its remaining biological resources: BR 1.1, "Conserve and protect wildlife ecosystems, riverine corridors, and sensitive habitat areas including the sensitive plant species areas within the Westridge Golf Course." General plan, p. 6-2. Despite both the well-documented importance of this site to the City's biological resources and the limited potential for offsite mitigation, the NOP does not even mention affected species, much less identify the proposed study areas (which will differ by species), the thresholds of significance, or potential mitigation measures.

The EIR must address this high hurdle to the proposed development project thoroughly and must analyze alternatives that will avoid or reduce adverse impacts, as well as all feasible mitigation. *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal. 3d 376, 400-03 (1988). In particular, a full analysis of the Project-specific and cumulative effects on biological resources impacts will be essential to development of effective mitigation measures to ensure that biological resources' impacts will be fully offset. The biological resources study must be based on surveys and detailed field studies that are completed at appropriate times of the year for each species potentially in the area. A search of the California Natural Diversity Database maintained by the Department of Fish and Wildlife is a good starting point, but it is not sufficient to provide the level of detail necessary for the EIR. It is also essential that the City consult with other agencies, including the U.S. Fish and Wildlife Service and state Department of Fish and Wildlife, regarding both the extent of the Project's impacts and appropriate mitigation measures. Deferral of mitigation measures until subsequent permitting processes have begun is not appropriate.

VII. Geologic Impacts and Slope Stability

CEQA requires that an agency consider whether a project will be located in a geologically unstable area where landsides or liquefaction might occur. CEQA Guidelines, Appendix G § VI. Portions of the Project site are very steep, forming a bluff that rises to the south of the site between the current Golf Course and Westridge homes. The applicant is proposing to significantly alter the terrain below and around this steep hill with substantial cut and fill activities that could destabilize the hillside.

The EIR must disclose whether the applicant will be required to undertake hill-stabilizing measures and what those measures will be. The EIR should further analyze whether landslides or liquefaction at the constructed Project site could pose any hazards to residents, both above and below the slopes, or to other neighboring properties.

VIII. Alternatives

The City's evaluation of alternatives to the Project will be a critically important exercise. An EIR must describe a range of alternatives to the proposed project, and to its location, that would feasibly attain the project's basic objectives while avoiding or substantially lessening the project's significant impacts. Pub. Res. Code § 21100(b)(4); CEQA Guidelines § 15126.6(a). A proper analysis of alternatives is essential for the City to comply with CEQA's mandate that significant environmental damage be avoided or substantially lessened where feasible. Pub. Res. Code § 21002; CEQA Guidelines §§ 15002(a)(3), 15021(a)(2), 15126.6(a); *Citizens for Quality Growth v. City of Mount Shasta*, 198 Cal. App. 3d 433, 443–45 (1988). As the California Supreme Court explained in *Laurel Heights*, "[w]ithout meaningful analysis of alternatives in the EIR, neither the courts nor the public can fulfill their proper roles in the CEQA process. . . . [Courts will not] countenance a result that would require blind trust by the public, especially in light of CEQA's fundamental goal that the public be fully informed as to the consequences of action by their public officials." 47 Cal. 3d at 404.

Unfortunately, the NOP fails to define the objectives for the proposed Project. Without a thorough understanding of the proposed Project's purpose, it is all but impossible for the City to identify and evaluate reasonable and feasible Project alternatives. Nor is it possible, in the absence of clearly defined Project objectives, for members of the public or public agencies to identify or provide meaningful input on alternatives or the scope of the EIR. The City must clearly articulate the Project objectives in order to systematically identify and analyze the significant effects of the proposed Project and the feasible mitigation measures or alternatives that will avoid or substantially lessen such significant effects.

The City's NOP does not identify a single alternatives to the proposed Project. NOP, p. 3. It simply states that "[c]omments received from State and Local Agencies/Interested Organizations and Individuals regarding the project will assist in the development of project alternatives." *Id.* Especially in light of the significance of the existing Westridge Golf Course as one of the only remaining large areas of open space in all of La Habra, the City must ensure that the EIR includes a robust discussion of additional alternatives that would lessen the significant impacts of the Project. This alternatives analysis must evaluate alternative locations that would not consume the

City's scarce remaining open space, considerably less intensive levels of development on the Project site, and other options for meeting housing demands, looking beyond the relatively large-lot subdivision model presented by the proposal.

IX. Conclusion

The NOP provides little information about critical aspects of the proposed Project, making it difficult to provide a comprehensive response to the NOP or the scope of the EIR. We respectfully request that the City thoroughly consider all of the information in these initial comments in the EIR for the Rancho La Habra Specific Plan project. This information is required to provide the basis for a comprehensive analysis of environmental impacts and the identification of feasible mitigation measures and Project alternatives.

We appreciate the opportunity to provide these comments. Please keep me informed of all notices, hearings, staff reports, briefings, meetings, and other events related to the proposed Project. Please also notify me of the release of the draft EIR for the proposed Project.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Sah H E

Sarah H. Sigman

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APPENDIX B

EXISTING TRAFFIC COUNT DATA

APPENDIX B-I

INTERSECTION COUNTS

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: BEACH BOULEVARD
E-W: ROSECRANS AVENUE

File Name : H1809041
Site Code :
Start Date : 9/25/2018
Page No : 1

Groups Printed- Turning Movements

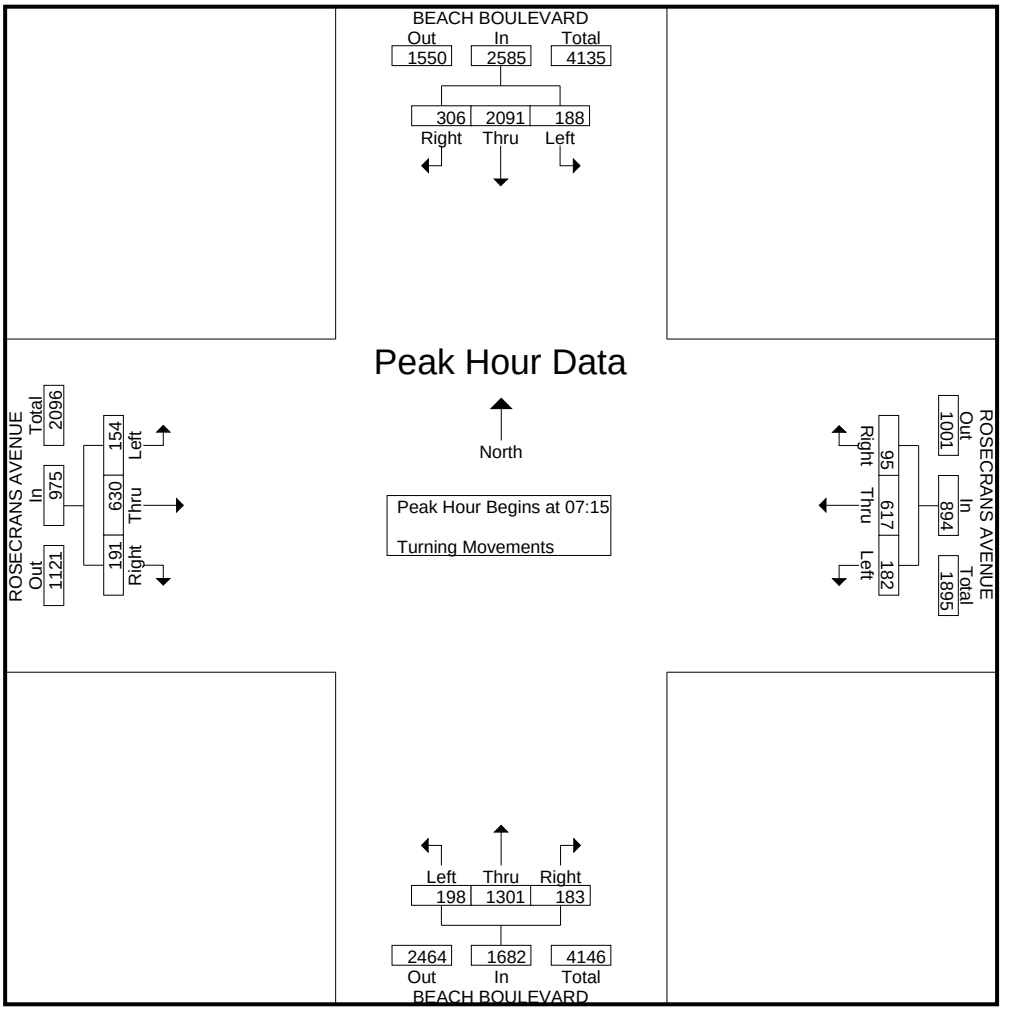
	BEACH BOULEVARD Southbound			ROSECRANS AVENUE Westbound			BEACH BOULEVARD Northbound			ROSECRANS AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	51	517	34	15	112	31	21	244	44	42	98	37	1246
07:15	60	601	43	18	151	36	40	296	47	47	143	27	1509
07:30	98	526	48	24	152	46	51	313	56	49	174	38	1575
07:45	86	524	54	27	171	50	57	363	54	44	156	44	1630
Total	295	2168	179	84	586	163	169	1216	201	182	571	146	5960
08:00	62	440	43	26	143	50	35	329	41	51	157	45	1422
08:15	65	497	28	30	141	48	38	262	34	62	119	50	1374
08:30	59	466	49	32	138	47	36	304	33	40	130	44	1378
08:45	49	475	38	39	111	32	37	308	31	44	91	50	1305
Total	235	1878	158	127	533	177	146	1203	139	197	497	189	5479
16:00	51	387	30	39	121	47	48	455	46	53	123	82	1482
16:15	51	404	33	35	131	40	44	489	41	37	115	57	1477
16:30	62	295	34	43	132	40	43	455	55	45	136	61	1401
16:45	48	423	37	42	123	32	42	486	48	41	130	100	1552
Total	212	1509	134	159	507	159	177	1885	190	176	504	300	5912
17:00	49	344	36	31	146	42	40	469	55	33	122	73	1440
17:15	59	344	31	32	162	57	50	453	49	46	152	108	1543
17:30	55	384	54	23	118	45	46	506	55	42	139	82	1549
17:45	65	290	49	39	142	41	52	434	44	36	174	88	1454
Total	228	1362	170	125	568	185	188	1862	203	157	587	351	5986
Grand Total	970	6917	641	495	2194	684	680	6166	733	712	2159	986	23337
Apprch %	11.4	81.1	7.5	14.7	65	20.3	9	81.4	9.7	18.5	56	25.6	
Total %	4.2	29.6	2.7	2.1	9.4	2.9	2.9	26.4	3.1	3.1	9.3	4.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: BEACH BOULEVARD
E-W: ROSECRANS AVENUE

File Name : H1809041
Site Code :
Start Date : 9/25/2018
Page No : 2

	BEACH BOULEVARD Southbound				ROSECRANS AVENUE Westbound				BEACH BOULEVARD Northbound				ROSECRANS AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	60	**601**	43	**704**	18	151	36	205	40	296	47	383	47	143	27	217	1509
07:30	**98**	526	48	672	24	152	46	222	51	313	**56**	420	49	**174**	38	**261**	1575
07:45	86	524	**54**	664	**27**	**171**	**50**	**248**	**57**	**363**	54	**474**	44	156	44	244	**1630**
08:00	62	440	43	545	26	143	50	219	35	329	41	405	**51**	157	**45**	253	1422
Total Volume	306	2091	188	2585	95	617	182	894	183	1301	198	1682	191	630	154	975	6136
% App. Total	11.8	80.9	7.3		10.6	69	20.4		10.9	77.3	11.8		19.6	64.6	15.8		
PHF	.781	.870	.870	.918	.880	.902	.910	.901	.803	.896	.884	.887	.936	.905	.856	.934	.941



Transportation Studies, Inc.
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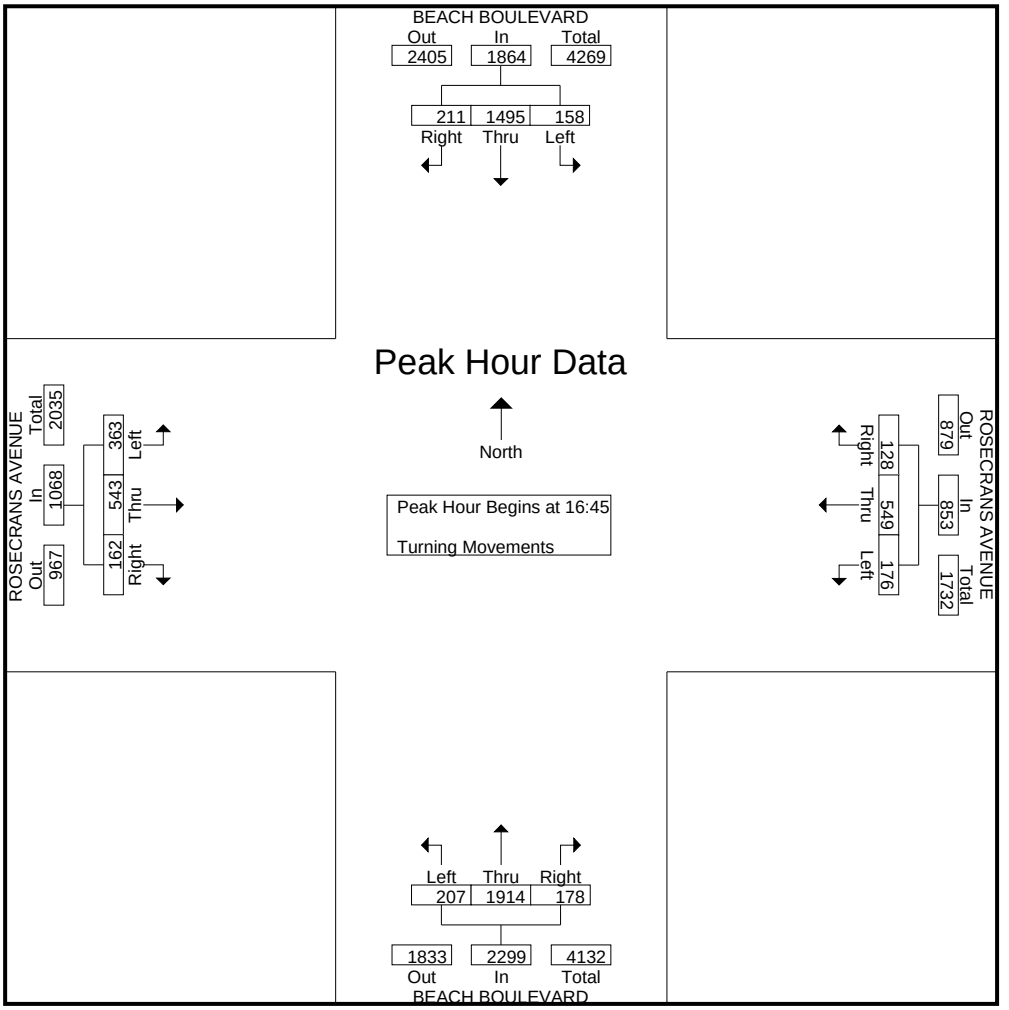
CITY: LA HABRA
N-S: BEACH BOULEVARD
E-W: ROSECRANS AVENUE

File Name : H1809041
Site Code :
Start Date : 9/25/2018
Page No : 3

	BEACH BOULEVARD Southbound				ROSECRANS AVENUE Westbound				BEACH BOULEVARD Northbound				ROSECRANS AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	48	**423**	37	**508**	**42**	123	32	197	42	486	48	576	41	130	100	271	**1552**
17:00	49	344	36	429	31	146	42	219	40	469	**55**	564	33	122	73	228	1440
17:15	**59**	344	31	434	32	**162**	**57**	**251**	**50**	453	49	552	**46**	**152**	**108**	**306**	1543
17:30	55	384	**54**	493	23	118	45	186	46	**506**	55	**607**	42	139	82	263	1549
Total Volume	211	1495	158	1864	128	549	176	853	178	1914	207	2299	162	543	363	1068	6084
% App. Total	11.3	80.2	8.5		15	64.4	20.6		7.7	83.3	9		15.2	50.8	34		
PHF	.894	.884	.731	.917	.762	.847	.772	.850	.890	.946	.941	.947	.880	.893	.840	.873	.980



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: FULLERTON
N-S: GILBERT STREET
E-W: ROSECRANS AVENUE

File Name : H1809042
Site Code :
Start Date : 9/25/2018
Page No : 1

Groups Printed- Turning Movements

	GILBERT STREET Southbound			ROSECRANS AVENUE Westbound			GILBERT STREET Northbound			ROSECRANS AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	37	121	6	6	81	11	11	64	31	26	107	18	519
07:15	35	182	31	3	123	22	33	74	59	63	184	10	819
07:30	35	167	14	19	109	52	22	88	63	77	189	17	852
07:45	57	160	21	13	115	15	15	98	68	57	196	16	831
Total	164	630	72	41	428	100	81	324	221	223	676	61	3021
08:00	43	125	30	12	110	7	19	71	86	36	188	20	747
08:15	31	131	35	6	95	11	23	92	52	38	160	15	689
08:30	35	131	8	15	103	12	14	77	69	36	154	15	669
08:45	40	121	6	8	89	16	11	62	32	47	99	22	553
Total	149	508	79	41	397	46	67	302	239	157	601	72	2658
16:00	44	124	8	11	130	11	15	181	55	47	102	34	762
16:15	38	85	4	10	132	13	28	208	53	38	93	37	739
16:30	34	121	4	11	112	18	14	203	46	47	131	38	779
16:45	52	111	12	11	169	17	27	219	60	41	110	38	867
Total	168	441	28	43	543	59	84	811	214	173	436	147	3147
17:00	45	112	8	11	136	9	16	255	65	46	121	35	859
17:15	48	123	6	13	127	18	14	230	65	38	122	57	861
17:30	31	117	12	16	146	16	22	209	65	65	122	51	872
17:45	39	112	14	16	133	12	21	221	69	41	131	55	864
Total	163	464	40	56	542	55	73	915	264	190	496	198	3456
Grand Total	644	2043	219	181	1910	260	305	2352	938	743	2209	478	12282
Apprch %	22.2	70.3	7.5	7.7	81.2	11.1	8.5	65.4	26.1	21.7	64.4	13.9	
Total %	5.2	16.6	1.8	1.5	15.6	2.1	2.5	19.1	7.6	6	18	3.9	

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CITY: FULLERTON
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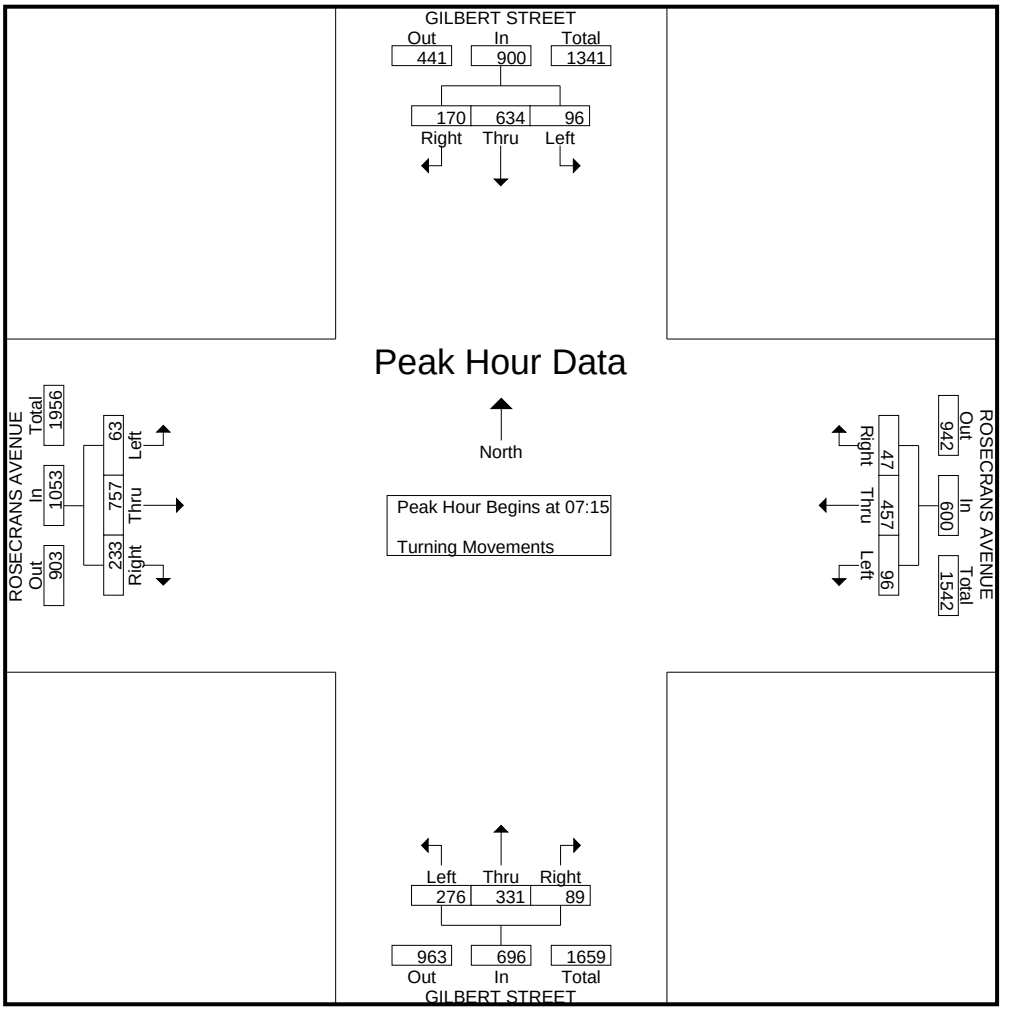
File Name : H1809042
Site Code :
Start Date : 9/25/2018

	GILBERT STREET Southbound				ROSECRANS AVENUE Westbound				GILBERT STREET Northbound				ROSECRANS AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	35	**182**	**31**	**248**	3	**123**	22	148	**33**	74	59	166	63	184	10	257	819
07:30	35	167	14	216	**19**	109	**52**	**180**	22	88	63	173	**77**	189	17	**283**	**852**
07:45	**57**	160	21	238	13	115	15	143	15	**98**	68	**181**	57	**196**	16	269	831
08:00	43	125	30	198	12	110	7	129	19	71	**86**	176	36	188	**20**	244	747
Total Volume	170	634	96	900	47	457	96	600	89	331	276	696	233	757	63	1053	3249
% App. Total	18.9	70.4	10.7		7.8	76.2	16		12.8	47.6	39.7		22.1	71.9	6		
PHF	.746	.871	.774	.907	.618	.929	.462	.833	.674	.844	.802	.961	.756	.966	.788	.930	.953

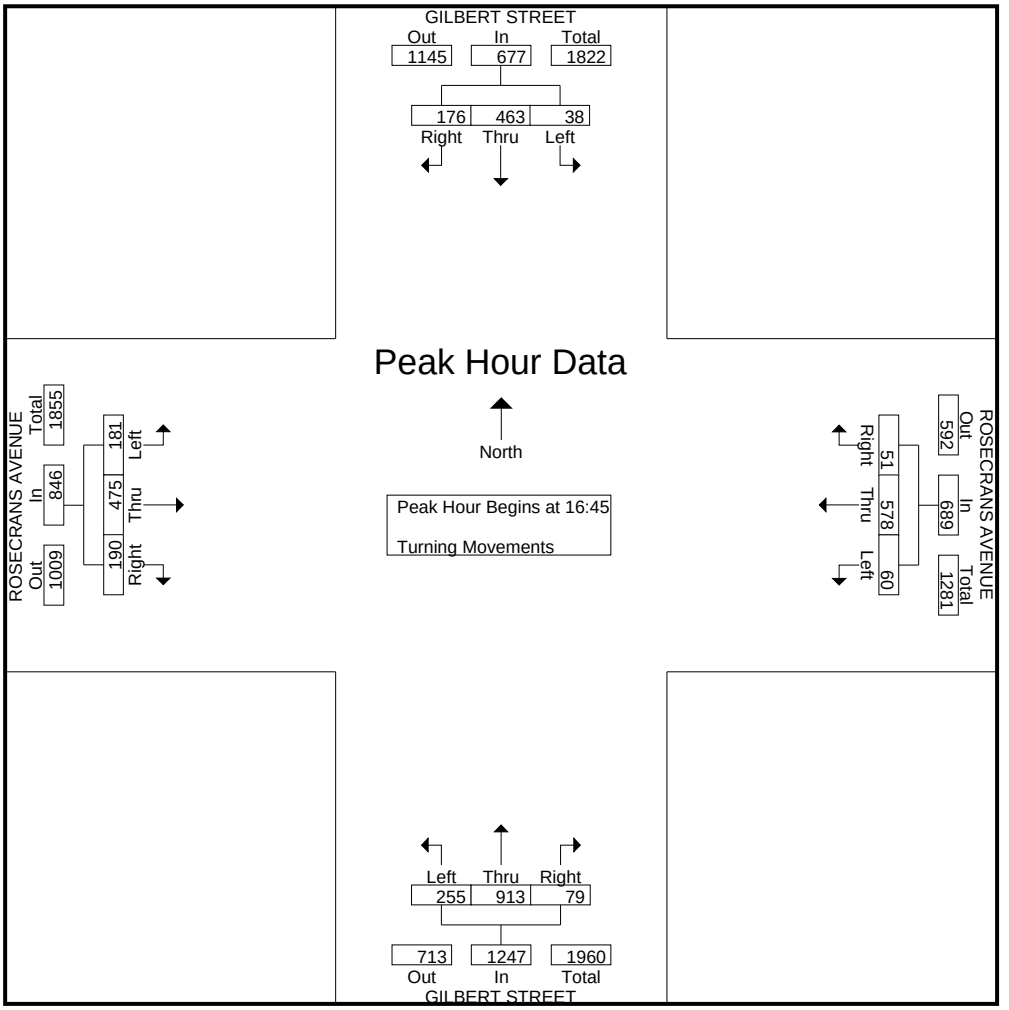


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: FULLERTON
N-S: GILBERT STREET
E-W: ROSECRANS AVENUE

File Name : H1809042
Site Code :
Start Date : 9/25/2018

	GILBERT STREET Southbound				ROSECRANS AVENUE Westbound				GILBERT STREET Northbound				ROSECRANS AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	**52**	111	**12**	175	11	**169**	17	**197**	**27**	219	60	306	41	110	38	189	867
17:00	45	112	8	165	11	136	9	156	16	**255**	**65**	**336**	46	121	35	202	859
17:15	48	**123**	6	**177**	13	127	**18**	158	14	230	65	309	38	**122**	**57**	217	861
17:30	31	117	12	160	**16**	146	16	178	22	209	65	296	**65**	122	51	**238**	**872**
Total Volume	176	463	38	677	51	578	60	689	79	913	255	1247	190	475	181	846	3459
% App. Total	26	68.4	5.6		7.4	83.9	8.7		6.3	73.2	20.4		22.5	56.1	21.4		
PHF	.846	.941	.792	.956	.797	.855	.833	.874	.731	.895	.981	.928	.731	.973	.794	.889	.992



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: FULLERTON
N-S: EUCLID STREET
E-W: ROSECRANS AVENUE

File Name : H1809043
Site Code :
Start Date : 9/25/2018
Page No : 1

Groups Printed- Turning Movements

	EUCLID STREET Southbound			DEAD END Westbound			EUCLID STREET Northbound			ROSECRANS AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	34	266	0	0	0	0	0	88	91	138	0	24	641
07:15	49	251	0	0	0	0	0	86	89	201	0	53	729
07:30	44	236	0	0	0	0	0	127	97	221	0	70	795
07:45	46	189	0	0	0	0	0	108	68	201	0	52	664
Total	173	942	0	0	0	0	0	409	345	761	0	199	2829
08:00	39	267	0	0	0	0	0	103	107	229	0	54	799
08:15	25	239	0	0	0	0	0	91	94	188	0	60	697
08:30	36	196	0	0	0	0	0	102	101	185	0	48	668
08:45	27	153	0	0	0	0	0	100	81	128	0	33	522
Total	127	855	0	0	0	0	0	396	383	730	0	195	2686
16:00	26	120	0	0	0	0	0	195	124	104	0	42	611
16:15	44	150	0	0	0	0	0	189	122	95	0	49	649
16:30	31	154	0	0	0	0	0	209	146	105	0	41	686
16:45	38	142	0	0	0	0	0	208	161	109	0	41	699
Total	139	566	0	0	0	0	0	801	553	413	0	173	2645
17:00	39	131	0	0	0	0	0	241	142	97	0	39	689
17:15	56	157	0	0	0	0	0	254	150	108	0	48	773
17:30	46	132	0	0	0	0	0	241	164	108	0	49	740
17:45	41	137	0	0	0	0	0	231	157	109	0	57	732
Total	182	557	0	0	0	0	0	967	613	422	0	193	2934
Grand Total	621	2920	0	0	0	0	0	2573	1894	2326	0	760	11094
Apprch %	17.5	82.5	0	0	0	0	0	57.6	42.4	75.4	0	24.6	
Total %	5.6	26.3	0	0	0	0	0	23.2	17.1	21	0	6.9	

Transportation Studies, Inc.
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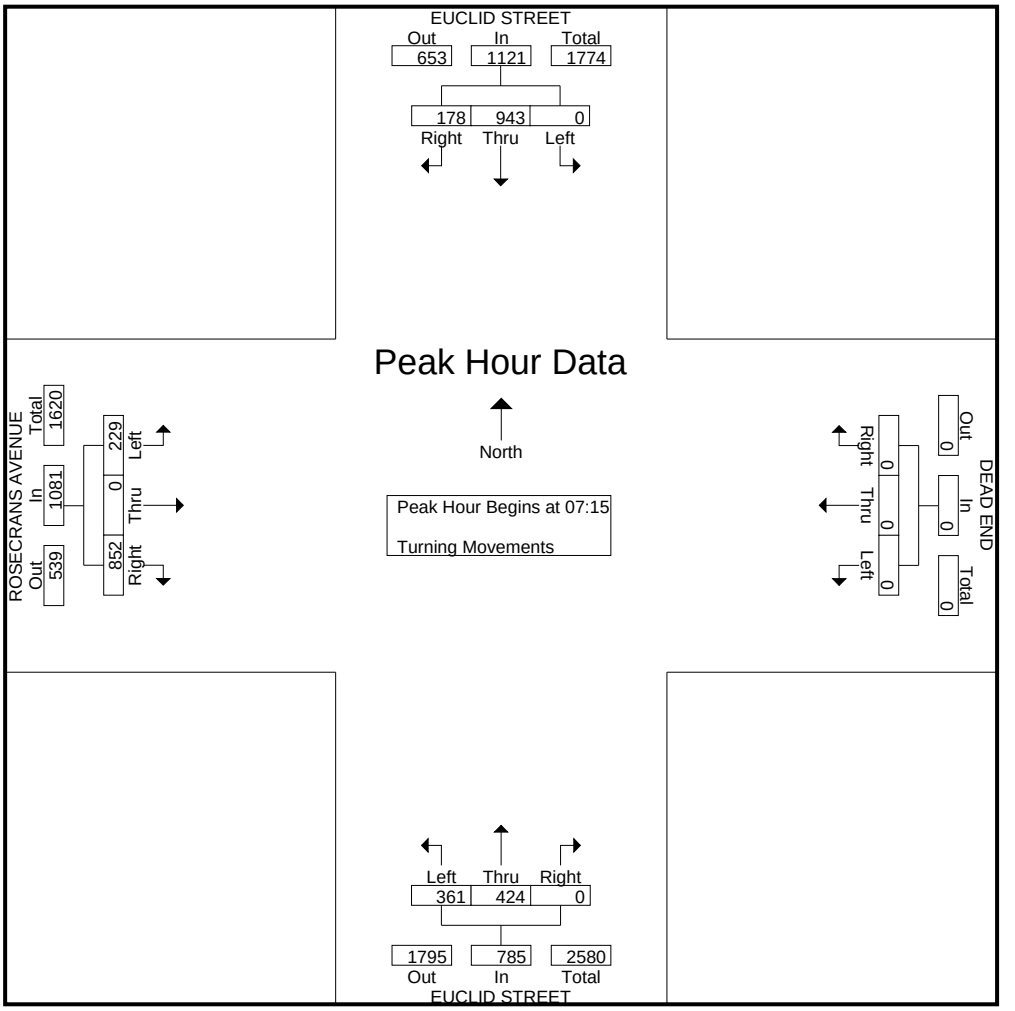
CITY: FULLERTON
N-S: EUCLID STREET
E-W: ROSECRANS AVENUE

File Name : H1809043
Site Code :
Start Date : 9/25/2018

	EUCLID STREET Southbound				DEAD END Westbound				EUCLID STREET Northbound				ROSECRANS AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	**49**	251	0	300	0	0	0	0	0	86	89	175	201	0	53	254	729
07:30	44	236	0	280	0	0	0	0	0	**127**	97	**224**	221	0	**70**	**291**	795
07:45	46	189	0	235	0	0	0	0	0	108	68	176	201	0	52	253	664
08:00	39	**267**	0	**306**	0	0	0	0	0	103	**107**	210	**229**	0	54	283	**799**
Total Volume	178	943	0	1121	0	0	0	0	0	424	361	785	852	0	229	1081	2987
% App. Total	15.9	84.1	0		0	0	0		0	54	46		78.8	0	21.2		
PHF	.908	.883	.000	.916	.000	.000	.000	.000	.000	.835	.843	.876	.930	.000	.818	.929	.935



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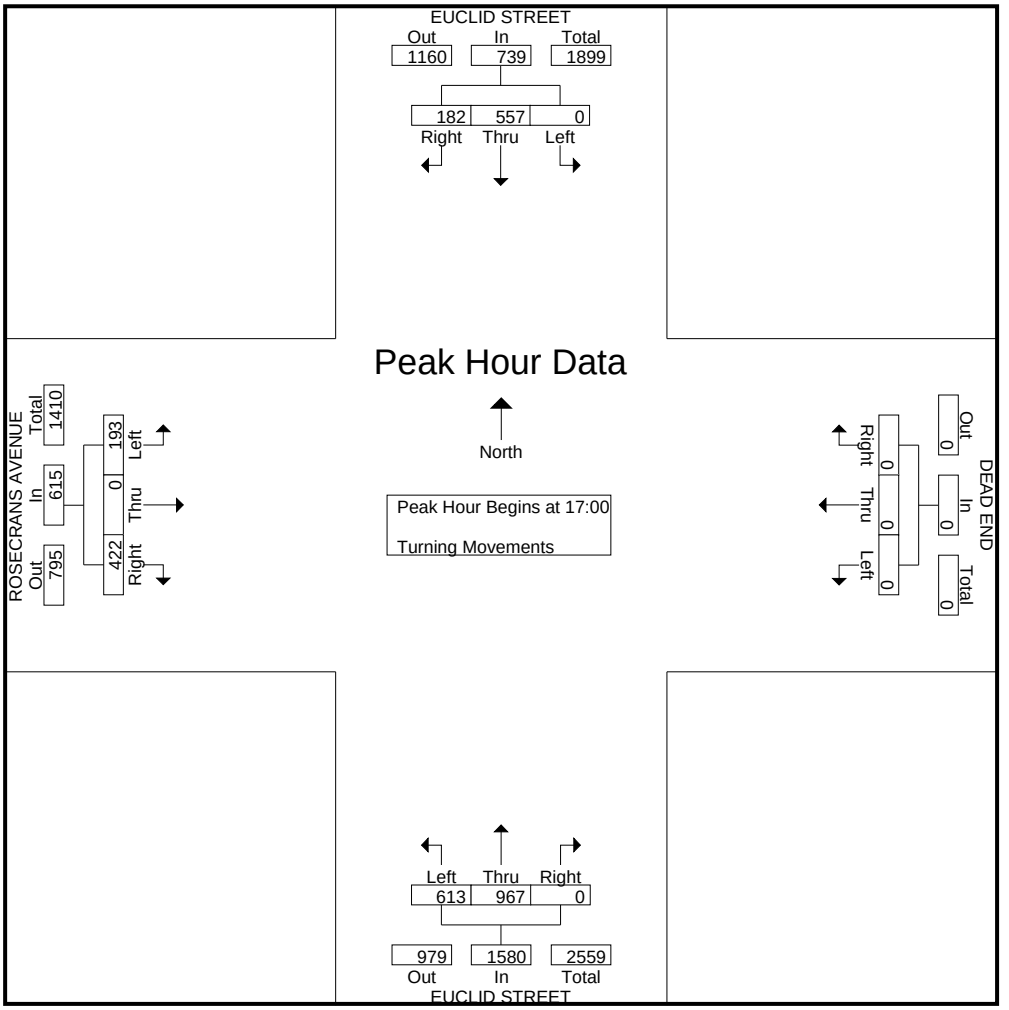
Tustin, CA. 92780

CITY: FULLERTON
N-S: EUCLID STREET
E-W: ROSECRANS AVENUE

File Name : H1809043
Site Code :
Start Date : 9/25/2018
Page No : 3

	EUCLID STREET Southbound				DEAD END Westbound				EUCLID STREET Northbound				ROSECRANS AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	39	131	0	170	0	0	0	0	0	241	142	383	97	0	39	136	689
17:15	**56**	**157**	0	**213**	0	0	0	0	0	**254**	150	404	108	0	48	156	**773**
17:30	46	132	0	178	0	0	0	0	0	241	**164**	**405**	108	0	49	157	740
17:45	41	137	0	178	0	0	0	0	0	231	157	388	**109**	0	**57**	**166**	732
Total Volume	182	557	0	739	0	0	0	0	0	967	613	1580	422	0	193	615	2934
% App. Total	24.6	75.4	0		0	0	0		0	61.2	38.8		68.6	0	31.4		
PHF	.813	.887	.000	.867	.000	.000	.000	.000	.000	.952	.934	.975	.968	.000	.846	.926	.949



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S : BEACH BOULEVARD
E-W: HILLSBOROUGH DRIVE

File Name : h1809020
Site Code :
Start Date : 9/18/2018
Page No : 1

Groups Printed- Turning Movements

	Beach Boulevard Southbound			Hillsborough Drive Westbound			Beach Boulevard Northbound			Hillsborough Drive Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	26	531	9	5	3	13	6	236	13	37	2	35	916
07:15	33	530	7	5	4	16	7	316	33	45	2	59	1057
07:30	23	556	8	12	13	11	6	307	20	53	7	48	1064
07:45	32	537	3	7	4	21	2	385	20	52	4	47	1114
Total	114	2154	27	29	24	61	21	1244	86	187	15	189	4151
08:00	35	505	6	4	8	11	3	342	26	40	2	49	1031
08:15	33	510	9	4	5	10	7	338	20	57	0	51	1044
08:30	37	474	9	9	5	8	6	299	29	43	8	58	985
08:45	28	426	15	6	5	13	5	333	35	46	4	44	960
Total	133	1915	39	23	23	42	21	1312	110	186	14	202	4020
16:00	74	393	5	3	5	8	12	488	45	31	4	61	1129
16:15	60	386	14	3	2	12	15	472	59	29	5	62	1119
16:30	73	435	10	4	5	7	10	461	46	23	7	43	1124
16:45	69	396	22	3	7	13	9	474	58	32	5	63	1151
Total	276	1610	51	13	19	40	46	1895	208	115	21	229	4523
17:00	37	407	20	4	8	14	9	515	49	28	6	70	1167
17:15	55	453	19	4	2	5	9	544	38	33	1	47	1210
17:30	70	381	11	4	2	7	17	487	52	29	4	62	1126
17:45	89	404	10	1	2	6	12	519	62	26	6	65	1202
Total	251	1645	60	13	14	32	47	2065	201	116	17	244	4705
Grand Total	774	7324	177	78	80	175	135	6516	605	604	67	864	17399
Apprch %	9.4	88.5	2.1	23.4	24	52.6	1.9	89.8	8.3	39.3	4.4	56.3	
Total %	4.4	42.1	1	0.4	0.5	1	0.8	37.5	3.5	3.5	0.4	5	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
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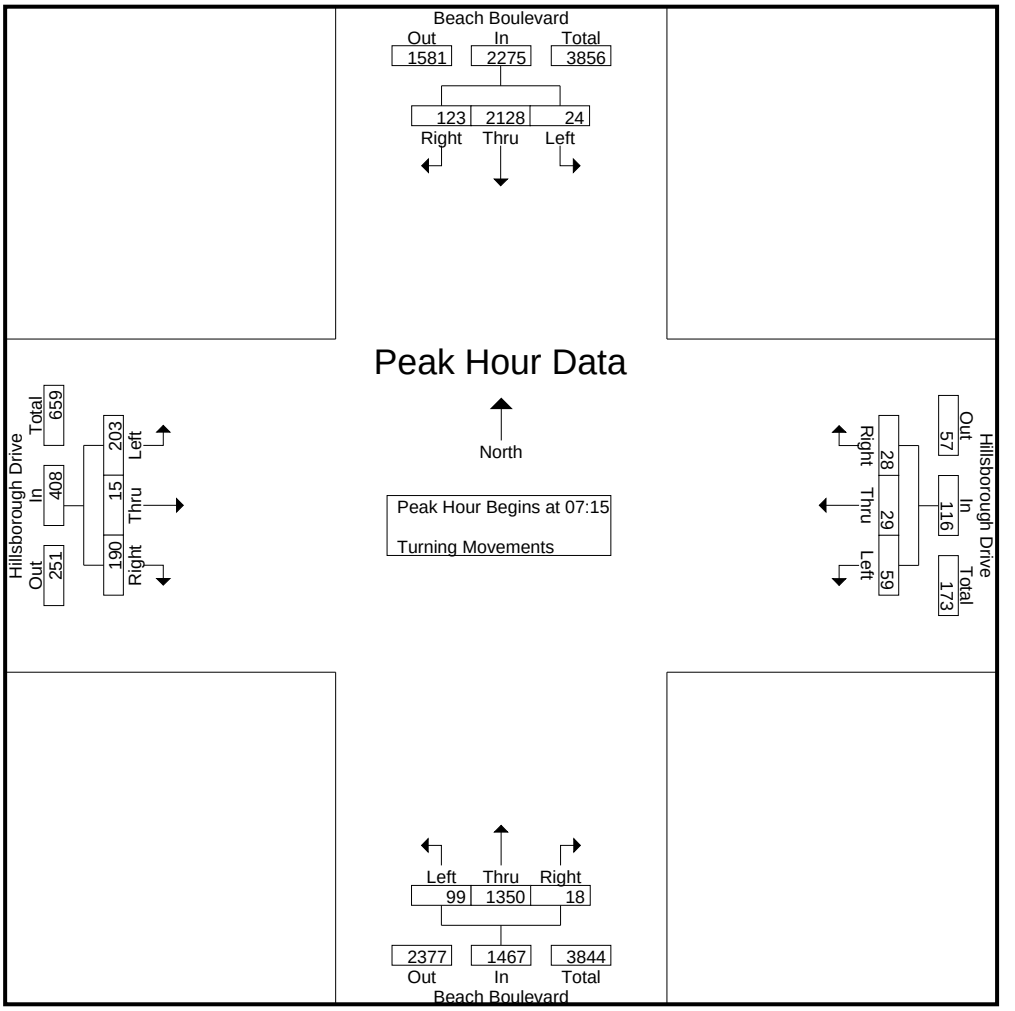
CITY: LA HABRA
N-S : BEACH BOULEVARD
E-W: HILLSBOROUGH DRIVE

File Name : h1809020
Site Code :
Start Date : 9/18/2018
Page No : 2

	Beach Boulevard Southbound				Hillsborough Drive Westbound				Beach Boulevard Northbound				Hillsborough Drive Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	33	530	7	570	5	4	16	25	**7**	316	**33**	356	45	2	**59**	106	1057
07:30	23	**556**	**8**	**587**	**12**	**13**	11	**36**	6	307	20	333	**53**	**7**	48	**108**	1064
07:45	32	537	3	572	7	4	**21**	32	2	**385**	20	**407**	52	4	47	103	**1114**
08:00	**35**	505	6	546	4	8	11	23	3	342	26	371	40	2	49	91	1031
Total Volume	123	2128	24	2275	28	29	59	116	18	1350	99	1467	190	15	203	408	4266
% App. Total	5.4	93.5	1.1		24.1	25	50.9		1.2	92	6.7		46.6	3.7	49.8		
PHF	.879	.957	.750	.969	.583	.558	.702	.806	.643	.877	.750	.901	.896	.536	.860	.944	.957



Transportation Studies, Inc.
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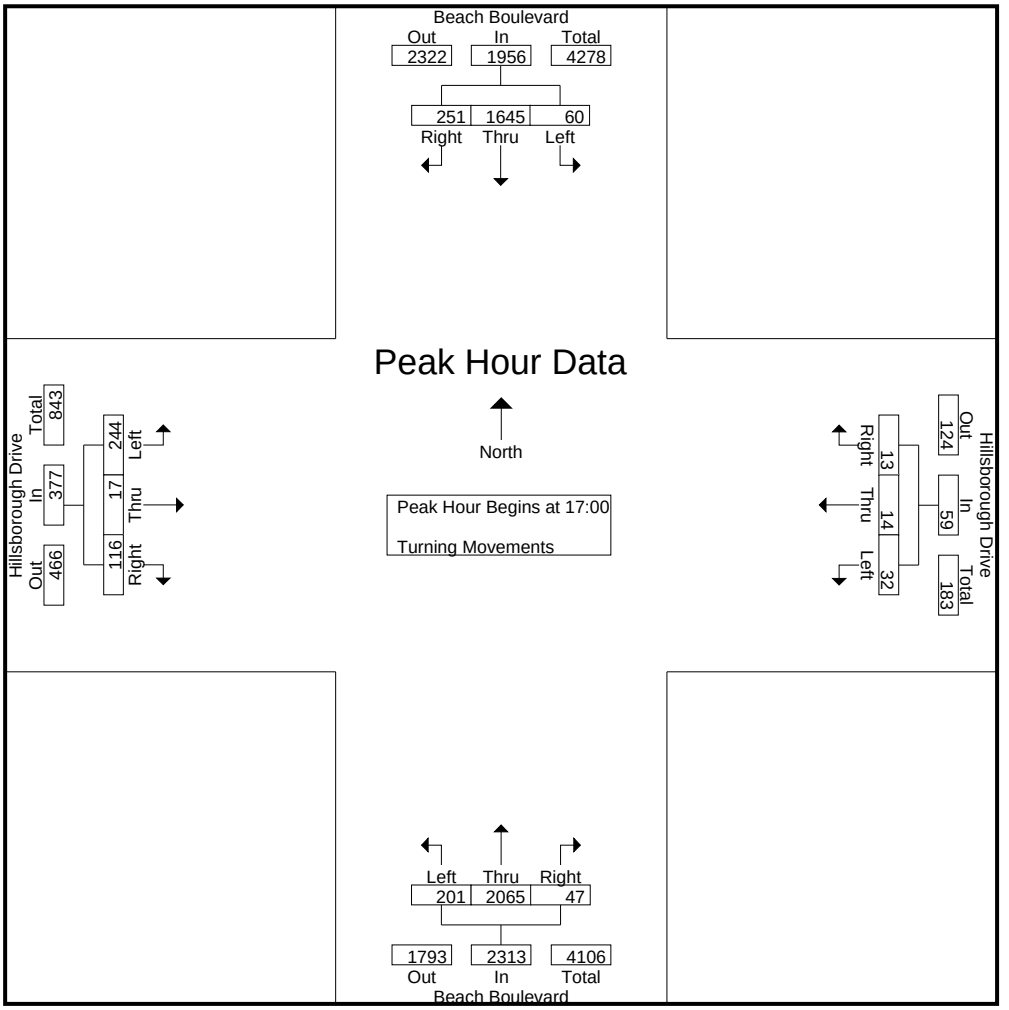
CITY: LA HABRA
N-S : BEACH BOULEVARD
E-W: HILLSBOROUGH DRIVE

File Name : h1809020
Site Code :
Start Date : 9/18/2018

	Beach Boulevard Southbound				Hillsborough Drive Westbound				Beach Boulevard Northbound				Hillsborough Drive Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	37	407	**20**	464	**4**	**8**	**14**	**26**	9	515	49	573	28	**6**	**70**	**104**	1167
17:15	55	**453**	19	**527**	4	2	5	11	9	**544**	38	591	**33**	1	47	81	**1210**
17:30	70	381	11	462	4	2	7	13	**17**	487	52	556	29	4	62	95	1126
17:45	**89**	404	10	503	1	2	6	9	12	519	**62**	**593**	26	6	65	97	1202
Total Volume	251	1645	60	1956	13	14	32	59	47	2065	201	2313	116	17	244	377	4705
% App. Total	12.8	84.1	3.1		22	23.7	54.2		2	89.3	8.7		30.8	4.5	64.7		
PHF	.705	.908	.750	.928	.813	.438	.571	.567	.691	.949	.810	.975	.879	.708	.871	.906	.972



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: BEACH BOULEVARD
E-W: HILLSBOROUGH PARK APTS

File Name : H1809021
Site Code :
Start Date : 9/18/2018

Groups Printed- Turning Movements

	Beach Boulevard Southbound			Dead End Westbound			Beach Boulevard Northbound			Hillsborough Park Apartments Driveway Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	1	544	0	0	0	0	0	308	0	8	0	5	866
07:15	4	590	0	0	0	0	0	423	2	9	0	11	1039
07:30	2	561	0	0	0	0	0	405	3	7	0	14	992
07:45	5	571	0	0	0	0	0	468	3	13	0	10	1070
Total	12	2266	0	0	0	0	0	1604	8	37	0	40	3967
08:00	4	557	0	0	0	0	0	413	1	3	0	17	995
08:15	5	545	0	0	0	0	0	375	0	12	0	7	944
08:30	2	542	0	0	0	0	0	343	0	3	0	3	893
08:45	2	420	0	0	0	0	0	432	1	13	0	5	873
Total	13	2064	0	0	0	0	0	1563	2	31	0	32	3705
16:00	9	464	0	0	0	0	0	565	3	4	0	8	1053
16:15	2	500	0	0	0	0	0	545	8	4	0	4	1063
16:30	7	522	0	0	0	0	0	523	1	3	0	4	1060
16:45	6	463	0	0	0	0	0	613	4	5	0	3	1094
Total	24	1949	0	0	0	0	0	2246	16	16	0	19	4270
17:00	7	498	0	0	0	0	0	552	10	0	0	2	1069
17:15	12	494	0	0	0	0	0	552	4	4	0	6	1072
17:30	5	493	0	0	0	0	0	572	7	5	0	4	1086
17:45	11	505	0	0	0	0	0	584	7	7	0	3	1117
Total	35	1990	0	0	0	0	0	2260	28	16	0	15	4344
Grand Total	84	8269	0	0	0	0	0	7673	54	100	0	106	16286
Apprch %	1	99	0	0	0	0	0	99.3	0.7	48.5	0	51.5	
Total %	0.5	50.8	0	0	0	0	0	47.1	0.3	0.6	0	0.7	

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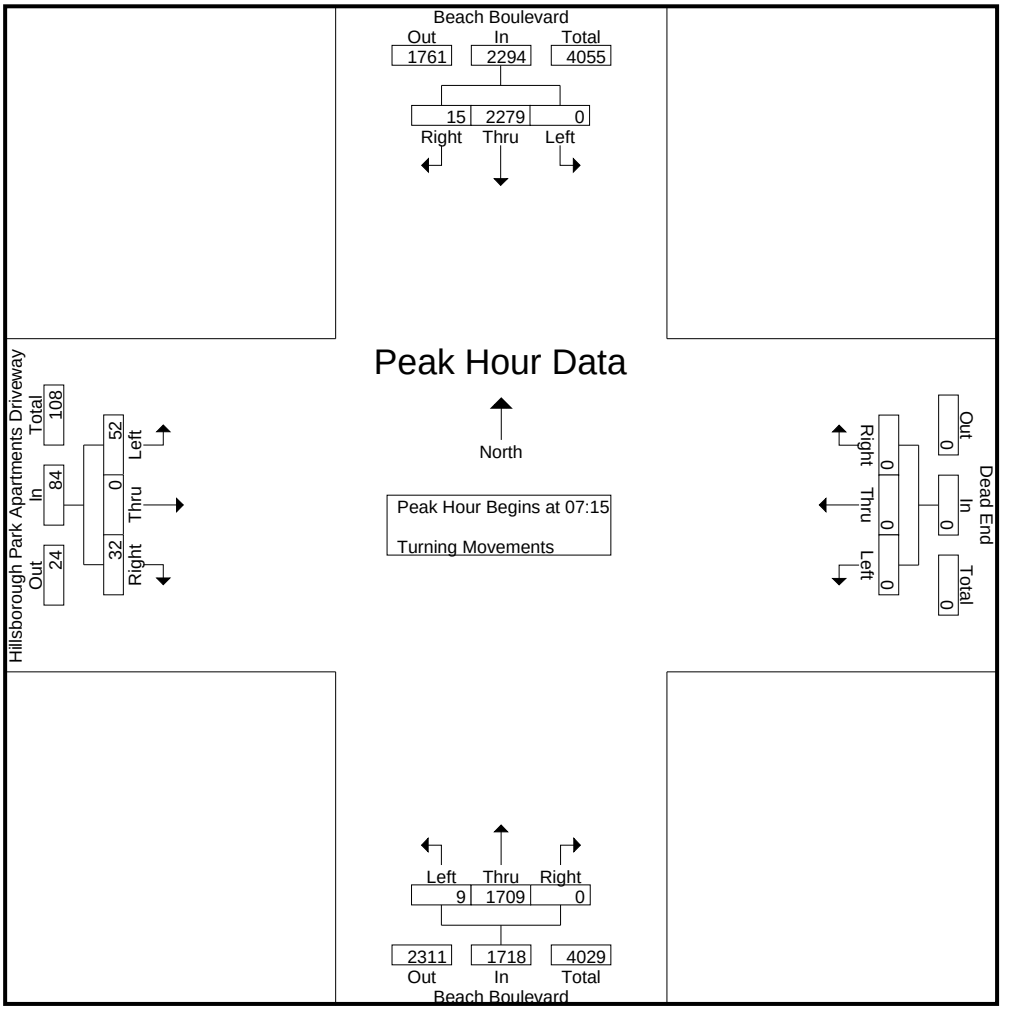
CITY: LA HABRA
N-S: BEACH BOULEVARD
E-W: HILLSBOROUGH PARK APTS

File Name : H1809021
Site Code :
Start Date : 9/18/2018

	Beach Boulevard Southbound				Dead End Westbound				Beach Boulevard Northbound				Hillsborough Park Apartments Driveway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	4	**590**	0	**594**	0	0	0	0	0	423	2	425	9	0	11	20	1039
07:30	2	561	0	563	0	0	0	0	0	405	**3**	408	7	0	14	21	992
07:45	**5**	571	0	576	0	0	0	0	0	**468**	3	**471**	**13**	0	10	**23**	**1070**
08:00	4	557	0	561	0	0	0	0	0	413	1	414	3	0	**17**	20	995
Total Volume	15	2279	0	2294	0	0	0	0	0	1709	9	1718	32	0	52	84	4096
% App. Total	0.7	99.3	0		0	0	0		0	99.5	0.5		38.1	0	61.9		
PHF	.750	.966	.000	.965	.000	.000	.000	.000	.000	.913	.750	.912	.615	.000	.765	.913	.957

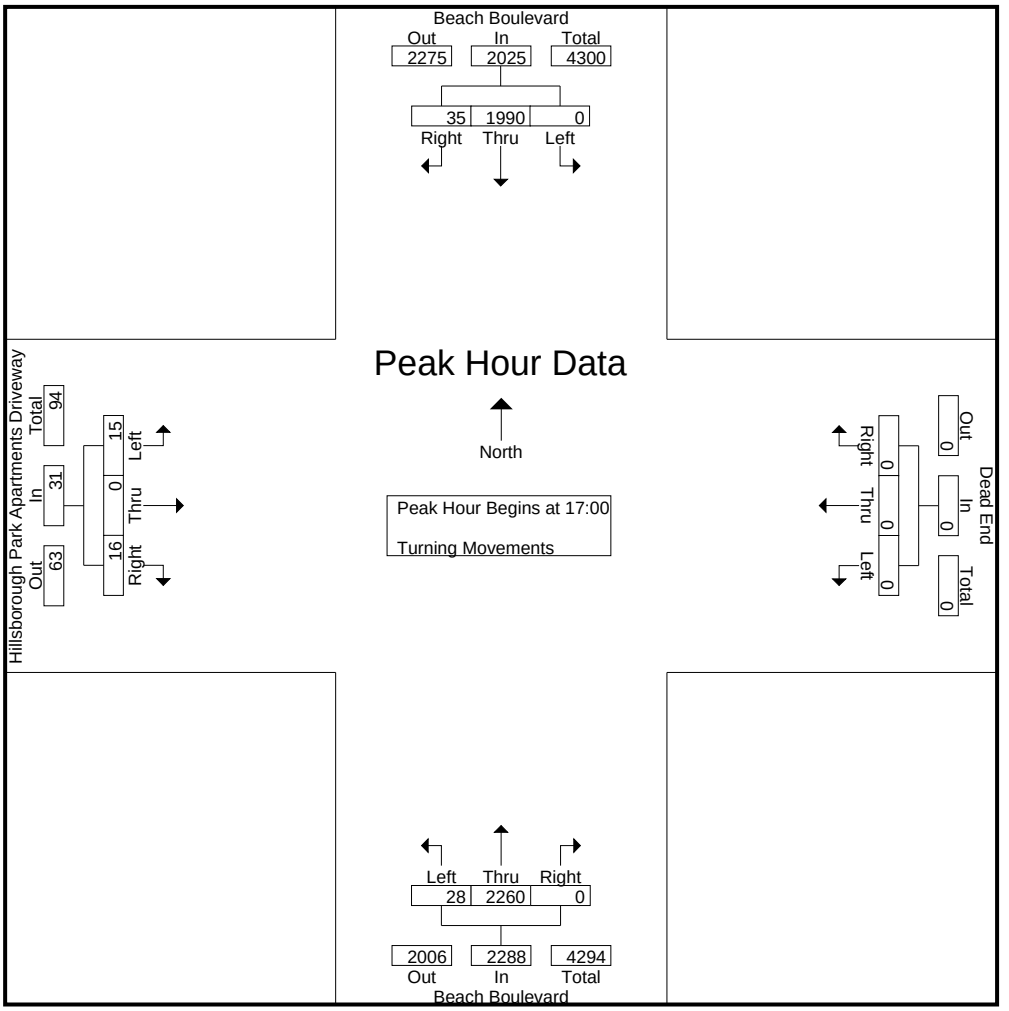


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: BEACH BOULEVARD
E-W: HILLSBOROUGH PARK APTS

File Name : H1809021
Site Code :
Start Date : 9/18/2018
Page No : 3

	Beach Boulevard Southbound				Dead End Westbound				Beach Boulevard Northbound				Hillsborough Park Apartments Driveway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	7	498	0	505	0	0	0	0	0	552	**10**	562	0	0	2	2	1069
17:15	**12**	494	0	506	0	0	0	0	0	552	4	556	4	0	**6**	**10**	1072
17:30	5	493	0	498	0	0	0	0	0	572	7	579	5	0	4	9	1086
17:45	11	**505**	0	**516**	0	0	0	0	0	**584**	7	**591**	**7**	0	3	10	**1117**
Total Volume	35	1990	0	2025	0	0	0	0	0	2260	28	2288	16	0	15	31	4344
% App. Total	1.7	98.3	0		0	0	0		0	98.8	1.2		51.6	0	48.4		
PHF	.729	.985	.000	.981	.000	.000	.000	.000	.000	.967	.700	.968	.571	.000	.625	.775	.972



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: IDAHO STREET
E-W: SANDLEWOOD AVNENUE

File Name : H1809022
Site Code :
Start Date : 9/18/2018

Groups Printed- Turning Movements

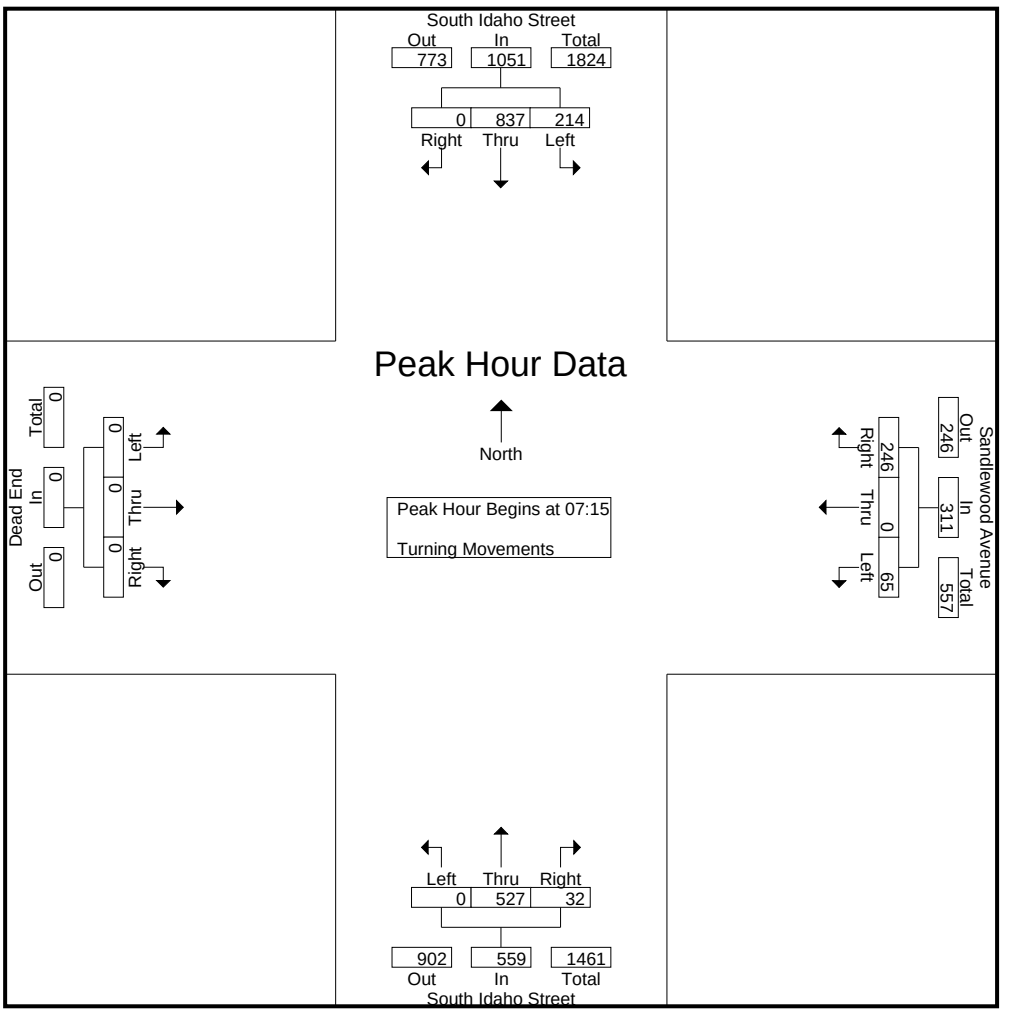
	South Idaho Street Southbound			Sandlewood Avenue Westbound			South Idaho Street Northbound			Dead End Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	0	147	13	14	0	16	3	87	0	0	0	0	280
07:15	0	196	23	20	0	12	5	114	0	0	0	0	370
07:30	0	222	74	54	0	15	11	151	0	0	0	0	527
07:45	0	235	71	90	0	18	7	137	0	0	0	0	558
Total	0	800	181	178	0	61	26	489	0	0	0	0	1735
08:00	0	184	46	82	0	20	9	125	0	0	0	0	466
08:15	0	162	7	34	0	14	6	124	0	0	0	0	347
08:30	0	117	11	16	0	5	4	140	0	0	0	0	293
08:45	0	124	25	11	0	8	5	137	0	0	0	0	310
Total	0	587	89	143	0	47	24	526	0	0	0	0	1416
16:00	0	169	27	38	0	7	7	172	0	0	0	0	420
16:15	0	179	36	19	0	8	7	261	0	0	0	0	510
16:30	0	160	24	31	0	8	5	221	0	0	0	0	449
16:45	0	167	23	16	0	11	15	241	0	0	0	1	474
Total	0	675	110	104	0	34	34	895	0	0	0	1	1853
17:00	0	170	33	40	0	9	9	257	0	0	0	2	520
17:15	0	193	27	30	0	7	13	287	0	0	0	0	557
17:30	0	169	35	26	0	8	16	231	0	0	0	0	485
17:45	0	164	47	41	0	4	16	238	0	0	0	0	510
Total	0	696	142	137	0	28	54	1013	0	0	0	2	2072
Grand Total	0	2758	522	562	0	170	138	2923	0	0	0	3	7076
Apprch %	0	84.1	15.9	76.8	0	23.2	4.5	95.5	0	0	0	100	
Total %	0	39	7.4	7.9	0	2.4	2	41.3	0	0	0	0	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: IDAHO STREET
E-W: SANDLEWOOD AVNENUE

File Name : H1809022
Site Code :
Start Date : 9/18/2018

	South Idaho Street Southbound				Sandlewood Avenue Westbound				South Idaho Street Northbound				Dead End Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	196	23	219	20	0	12	32	5	114	0	119	0	0	0	0	370
07:30	0	222	**74**	296	54	0	15	69	**11**	**151**	0	**162**	0	0	0	0	527
07:45	0	**235**	71	**306**	**90**	0	18	**108**	7	137	0	144	0	0	0	0	**558**
08:00	0	184	46	230	82	0	**20**	102	9	125	0	134	0	0	0	0	466
Total Volume	0	837	214	1051	246	0	65	311	32	527	0	559	0	0	0	0	1921
% App. Total	0	79.6	20.4		79.1	0	20.9		5.7	94.3	0		0	0	0		
PHF	.000	.890	.723	.859	.683	.000	.813	.720	.727	.873	.000	.863	.000	.000	.000	.000	.861

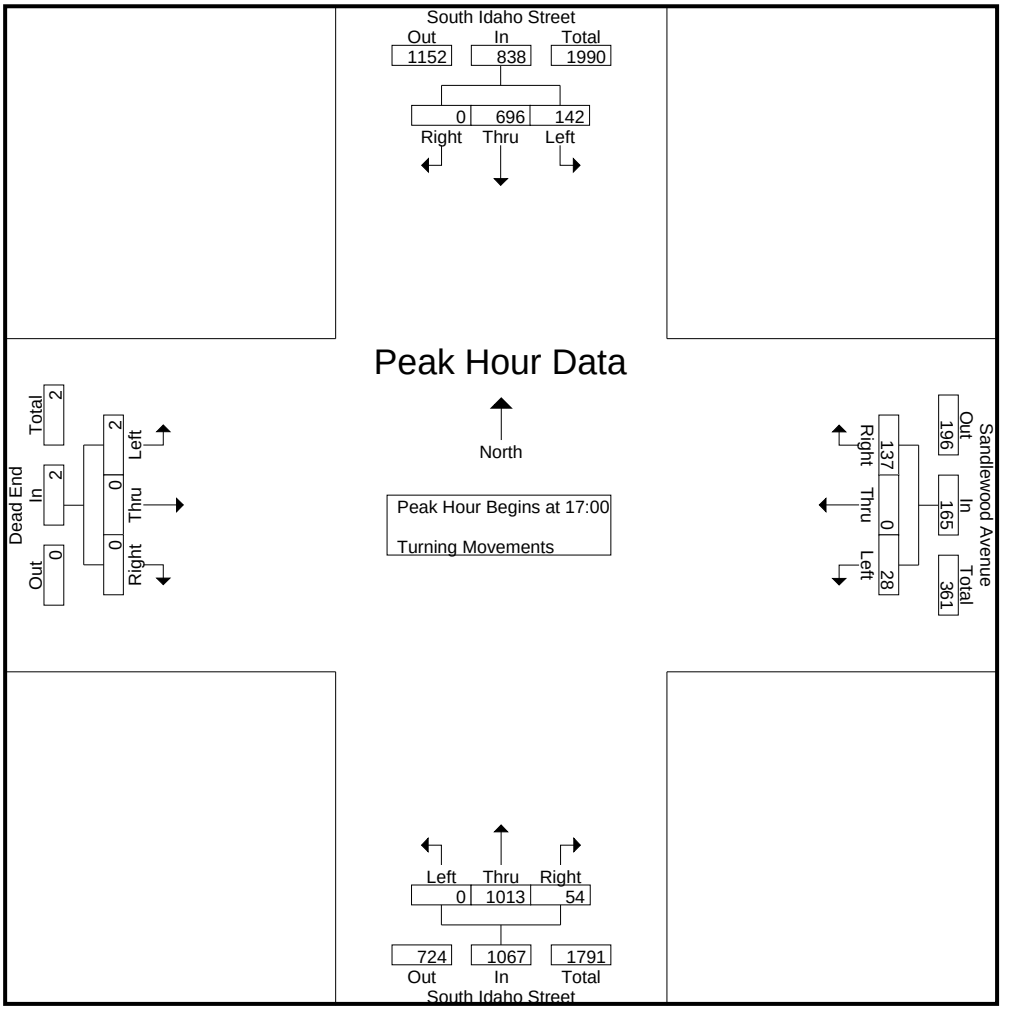


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: IDAHO STREET
E-W: SANDLEWOOD AVNENUE

File Name : H1809022
Site Code :
Start Date : 9/18/2018
Page No : 3

	South Idaho Street Southbound				Sandlewood Avenue Westbound				South Idaho Street Northbound				Dead End Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	170	33	203	40	0	**9**	**49**	9	257	0	266	0	0	**2**	**2**	520
17:15	0	**193**	27	**220**	30	0	7	37	13	**287**	0	**300**	0	0	0	0	**557**
17:30	0	169	35	204	26	0	8	34	**16**	231	0	247	0	0	0	0	485
17:45	0	164	**47**	211	**41**	0	4	45	16	238	0	254	0	0	0	0	510
Total Volume	0	696	142	838	137	0	28	165	54	1013	0	1067	0	0	2	2	2072
% App. Total	0	83.1	16.9		83	0	17		5.1	94.9	0		0	0	100		
PHF	.000	.902	.755	.952	.835	.000	.778	.842	.844	.882	.000	.889	.000	.000	.250	.250	.930



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: EUCLID STREET
E-W: SANDLEWOOD AVENUE

File Name : H1809023
Site Code :
Start Date : 9/18/2018
Page No : 1

Groups Printed- Turning Movements

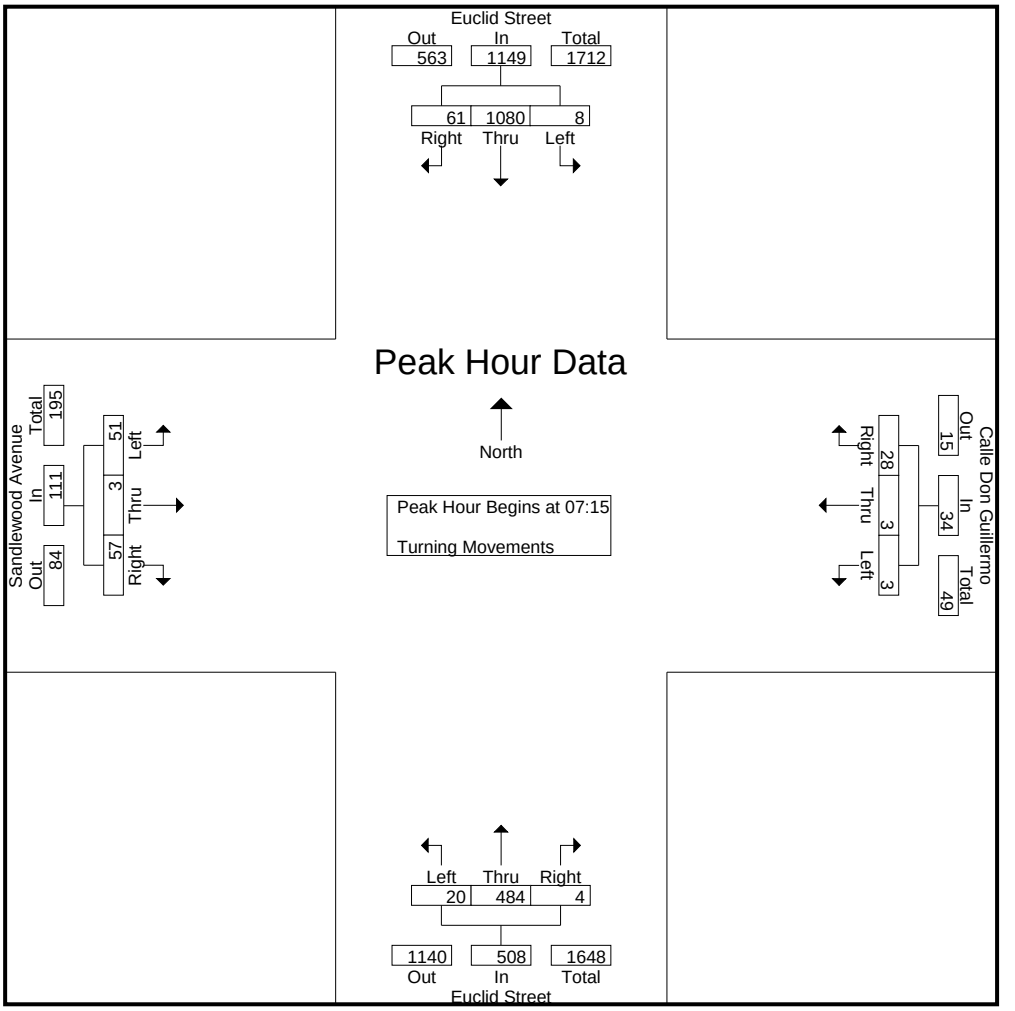
	Euclid Street Southbound			Calle Don Guillermo Westbound			Euclid Street Northbound			Sandlewood Avenue Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	4	293	1	6	0	3	0	91	2	7	0	4	411
07:15	8	266	1	2	0	1	0	115	4	6	0	5	408
07:30	8	272	0	9	3	0	1	133	7	17	0	11	461
07:45	27	253	3	10	0	0	1	116	5	21	3	19	458
Total	47	1084	5	27	3	4	2	455	18	51	3	39	1738
08:00	18	289	4	7	0	2	2	120	4	13	0	16	475
08:15	4	231	1	8	0	0	1	121	2	8	0	4	380
08:30	8	230	2	6	0	1	0	139	2	3	0	6	397
08:45	7	204	8	7	0	0	0	106	1	2	1	5	341
Total	37	954	15	28	0	3	3	486	9	26	1	31	1593
16:00	6	158	6	4	0	1	0	206	5	2	1	2	391
16:15	10	130	10	7	0	1	4	241	4	3	0	2	412
16:30	0	160	9	7	0	0	1	227	4	5	1	9	423
16:45	6	131	7	4	0	0	1	271	5	1	1	4	431
Total	22	579	32	22	0	2	6	945	18	11	3	17	1657
17:00	8	201	11	4	0	0	0	236	6	0	0	5	471
17:15	14	179	6	5	0	0	0	270	8	4	0	3	489
17:30	8	170	10	3	0	1	1	261	4	2	0	9	469
17:45	8	170	10	7	1	0	1	266	6	7	0	5	481
Total	38	720	37	19	1	1	2	1033	24	13	0	22	1910
Grand Total	144	3337	89	96	4	10	13	2919	69	101	7	109	6898
Apprch %	4	93.5	2.5	87.3	3.6	9.1	0.4	97.3	2.3	46.5	3.2	50.2	
Total %	2.1	48.4	1.3	1.4	0.1	0.1	0.2	42.3	1	1.5	0.1	1.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: EUCLID STREET
E-W: SANDLEWOOD AVENUE

File Name : H1809023
Site Code :
Start Date : 9/18/2018

	Euclid Street Southbound				Calle Don Guillermo Westbound				Euclid Street Northbound				Sandlewood Avenue Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	8	266	1	275	2	0	1	3	0	115	4	119	6	0	5	11	408
07:30	8	272	0	280	9	**3**	0	**12**	1	**133**	**7**	**141**	17	0	11	28	461
07:45	**27**	253	3	283	**10**	0	0	10	1	116	5	122	**21**	**3**	**19**	**43**	458
08:00	18	**289**	**4**	**311**	7	0	**2**	9	**2**	120	4	126	13	0	16	29	**475**
Total Volume	61	1080	8	1149	28	3	3	34	4	484	20	508	57	3	51	111	1802
% App. Total	5.3	94	0.7		82.4	8.8	8.8		0.8	95.3	3.9		51.4	2.7	45.9		
PHF	.565	.934	.500	.924	.700	.250	.375	.708	.500	.910	.714	.901	.679	.250	.671	.645	.948

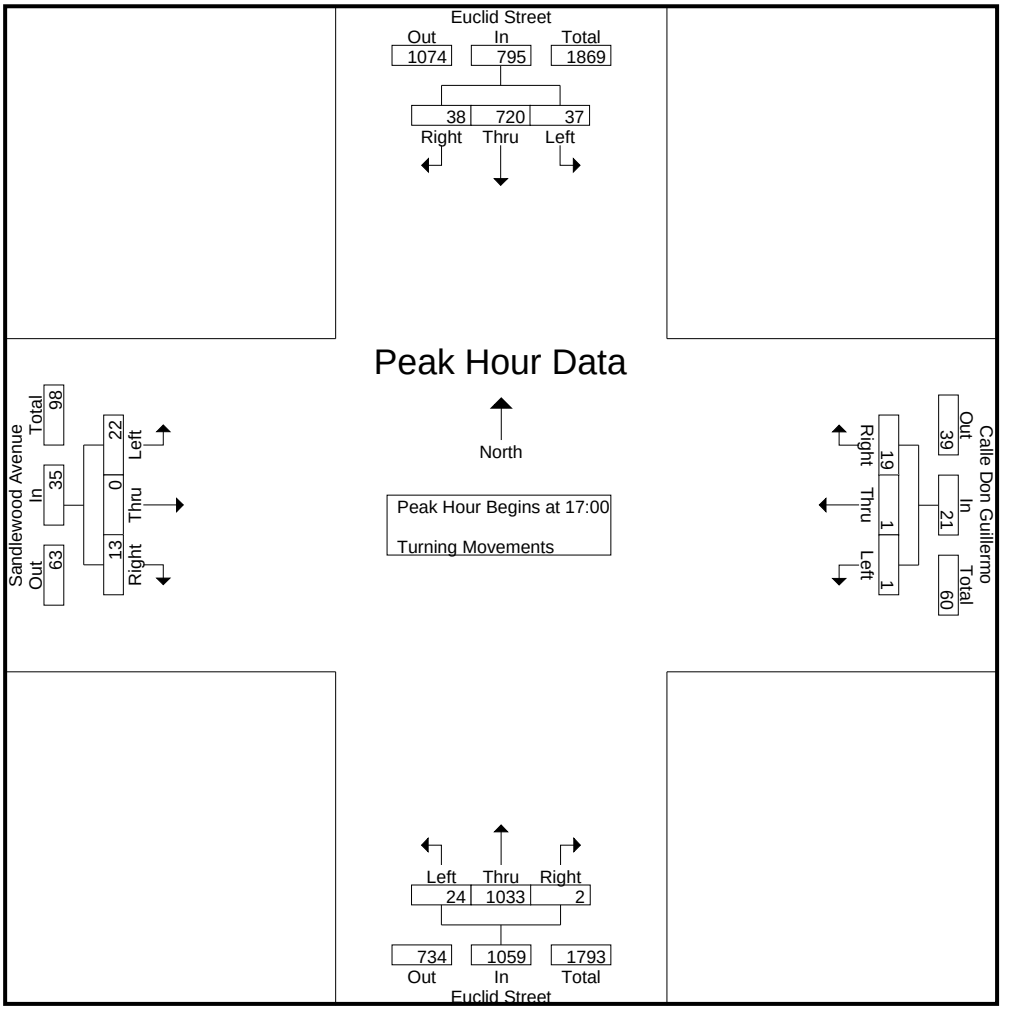


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: EUCLID STREET
E-W: SANDLEWOOD AVENUE

File Name : H1809023
Site Code :
Start Date : 9/18/2018
Page No : 3

	Euclid Street Southbound				Calle Don Guillermo Westbound				Euclid Street Northbound				Sandlewood Avenue Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	8	**201**	**11**	**220**	4	0	0	4	0	236	6	242	0	0	5	5	471
17:15	**14**	179	6	199	5	0	0	5	0	**270**	**8**	**278**	4	0	3	7	**489**
17:30	8	170	10	188	3	0	**1**	4	**1**	261	4	266	2	0	**9**	11	469
17:45	8	170	10	188	**7**	**1**	0	**8**	1	266	6	273	**7**	0	5	**12**	481
Total Volume	38	720	37	795	19	1	1	21	2	1033	24	1059	13	0	22	35	1910
% App. Total	4.8	90.6	4.7		90.5	4.8	4.8		0.2	97.5	2.3		37.1	0	62.9		
PHF	.679	.896	.841	.903	.679	.250	.250	.656	.500	.956	.750	.952	.464	.000	.611	.729	.976



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: SANTA GERTRUDES AVENUE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809024
Site Code : 00000000
Start Date : 9/18/2018

Groups Printed- Turning Movements

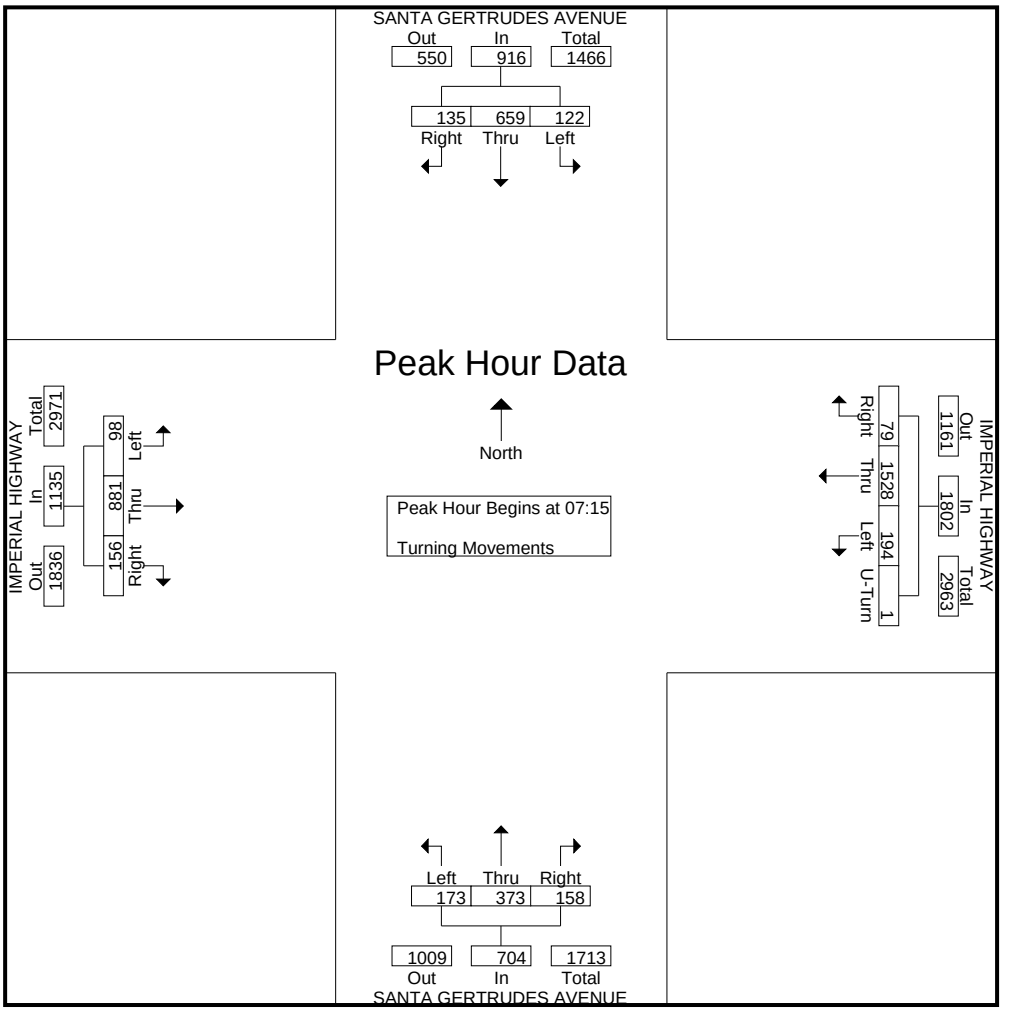
	SANTA GERTRUDES AVENUE Southbound			IMPERIAL HIGHWAY Westbound				SANTA GERTRUDES AVENUE Northbound			IMPERIAL HIGHWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	26	154	25	11	316	38	0	17	65	34	30	178	10	904
07:15	25	175	30	16	383	50	1	25	83	40	16	218	13	1075
07:30	32	164	31	15	425	55	0	44	97	40	33	242	29	1207
07:45	32	146	39	22	366	37	0	53	111	47	46	215	33	1147
Total	115	639	125	64	1490	180	1	139	356	161	125	853	85	4333
08:00	46	174	22	26	354	52	0	36	82	46	61	206	23	1128
08:15	24	111	32	15	309	45	0	21	97	38	52	212	19	975
08:30	23	79	19	21	263	32	1	16	58	27	25	210	18	792
08:45	17	101	27	26	221	30	1	26	75	30	21	141	17	733
Total	110	465	100	88	1147	159	2	99	312	141	159	769	77	3628
*** BREAK ***														
16:00	21	89	23	40	255	49	1	32	165	38	36	302	33	1084
16:15	37	106	32	39	228	39	1	43	138	37	38	274	26	1038
16:30	15	103	35	35	249	46	0	29	137	40	41	332	28	1090
16:45	26	121	36	38	214	38	1	49	186	42	31	287	29	1098
Total	99	419	126	152	946	172	3	153	626	157	146	1195	116	4310
17:00	28	117	29	35	244	37	1	54	174	36	35	338	31	1159
17:15	20	121	36	26	248	37	1	62	180	47	37	312	23	1150
17:30	26	142	40	39	269	51	2	56	165	39	33	298	31	1191
17:45	21	105	44	29	255	45	2	46	177	45	29	273	33	1104
Total	95	485	149	129	1016	170	6	218	696	167	134	1221	118	4604
Grand Total	419	2008	500	433	4599	681	12	609	1990	626	564	4038	396	16875
Apprch %	14.3	68.6	17.1	7.6	80.3	11.9	0.2	18.9	61.7	19.4	11.3	80.8	7.9	
Total %	2.5	11.9	3	2.6	27.3	4	0.1	3.6	11.8	3.7	3.3	23.9	2.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: SANTA GERTRUDES AVENUE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809024
Site Code : 00000000
Start Date : 9/18/2018

	SANTA GERTRUDES AVENUE Southbound				IMPERIAL HIGHWAY Westbound					SANTA GERTRUDES AVENUE Northbound				IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15																		
07:15	25	**175**	30	230	16	383	50	**1**	450	25	83	40	148	16	218	13	247	1075
07:30	32	164	31	227	15	**425**	**55**	0	**495**	44	97	40	181	33	**242**	29	**304**	**1207**
07:45	32	146	**39**	217	22	366	37	0	425	**53**	**111**	**47**	**211**	46	215	**33**	294	1147
08:00	**46**	174	22	**242**	**26**	354	52	0	432	36	82	46	164	**61**	206	23	290	1128
Total Volume	135	659	122	916	79	1528	194	1	1802	158	373	173	704	156	881	98	1135	4557
% App. Total	14.7	71.9	13.3		4.4	84.8	10.8	0.1		22.4	53	24.6		13.7	77.6	8.6		
PHF	.734	.941	.782	.946	.760	.899	.882	.250	.910	.745	.840	.920	.834	.639	.910	.742	.933	.944

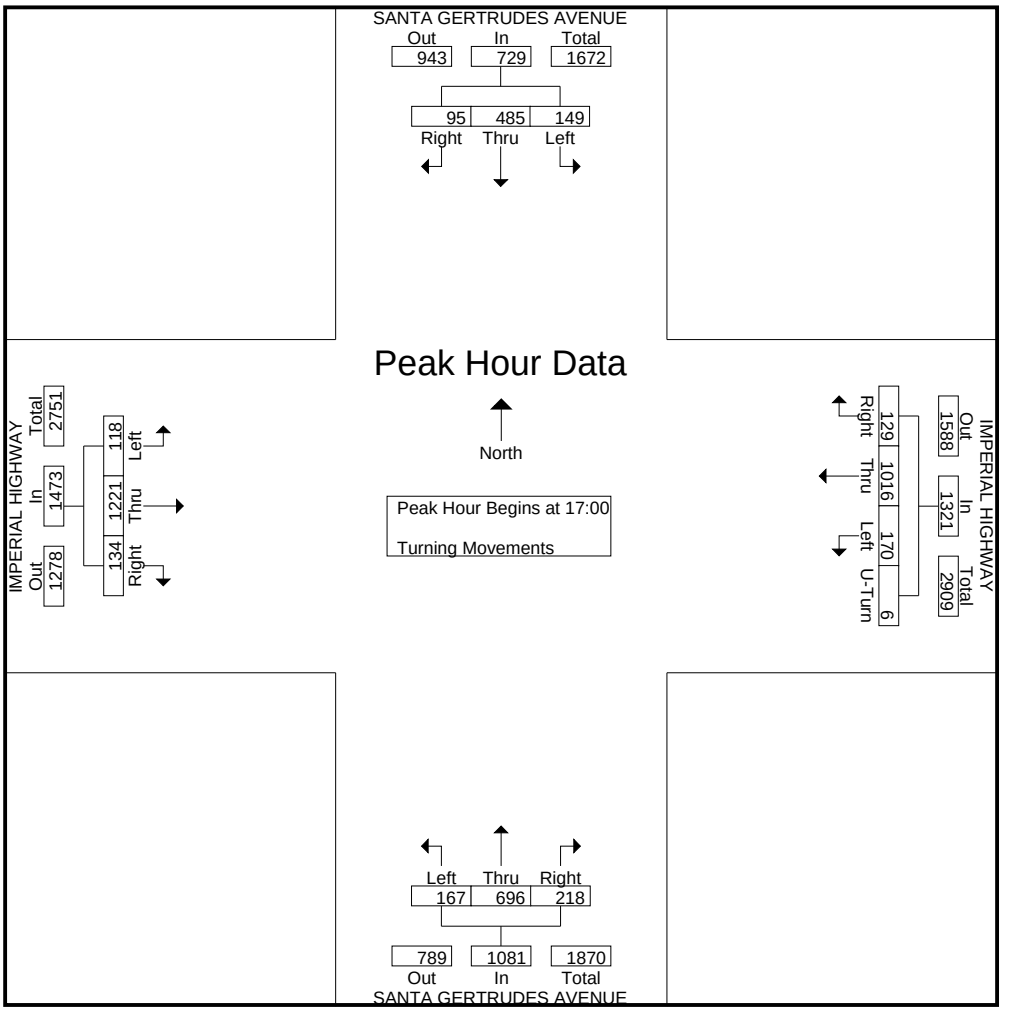


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: SANTA GERTRUDES AVENUE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809024
Site Code : 00000000
Start Date : 9/18/2018

	SANTA GERTRUDES AVENUE Southbound				IMPERIAL HIGHWAY Westbound					SANTA GERTRUDES AVENUE Northbound				IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 17:00																		
17:00	**28**	117	29	174	35	244	37	1	317	54	174	36	264	35	**338**	31	**404**	1159
17:15	20	121	36	177	26	248	37	1	312	**62**	**180**	**47**	**289**	**37**	312	23	372	1150
17:30	26	**142**	40	**208**	**39**	**269**	**51**	**2**	**361**	56	165	39	260	33	298	31	362	**1191**
17:45	21	105	**44**	170	29	255	45	2	331	46	177	45	268	29	273	**33**	335	1104
Total Volume	95	485	149	729	129	1016	170	6	1321	218	696	167	1081	134	1221	118	1473	4604
% App. Total	13	66.5	20.4		9.8	76.9	12.9	0.5		20.2	64.4	15.4		9.1	82.9	8		
PHF	.848	.854	.847	.876	.827	.944	.833	.750	.915	.879	.967	.888	.935	.905	.903	.894	.912	.966



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: 1ST AVENUE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809025
Site Code : 00000000
Start Date : 9/18/2018

Groups Printed- Turning Movements

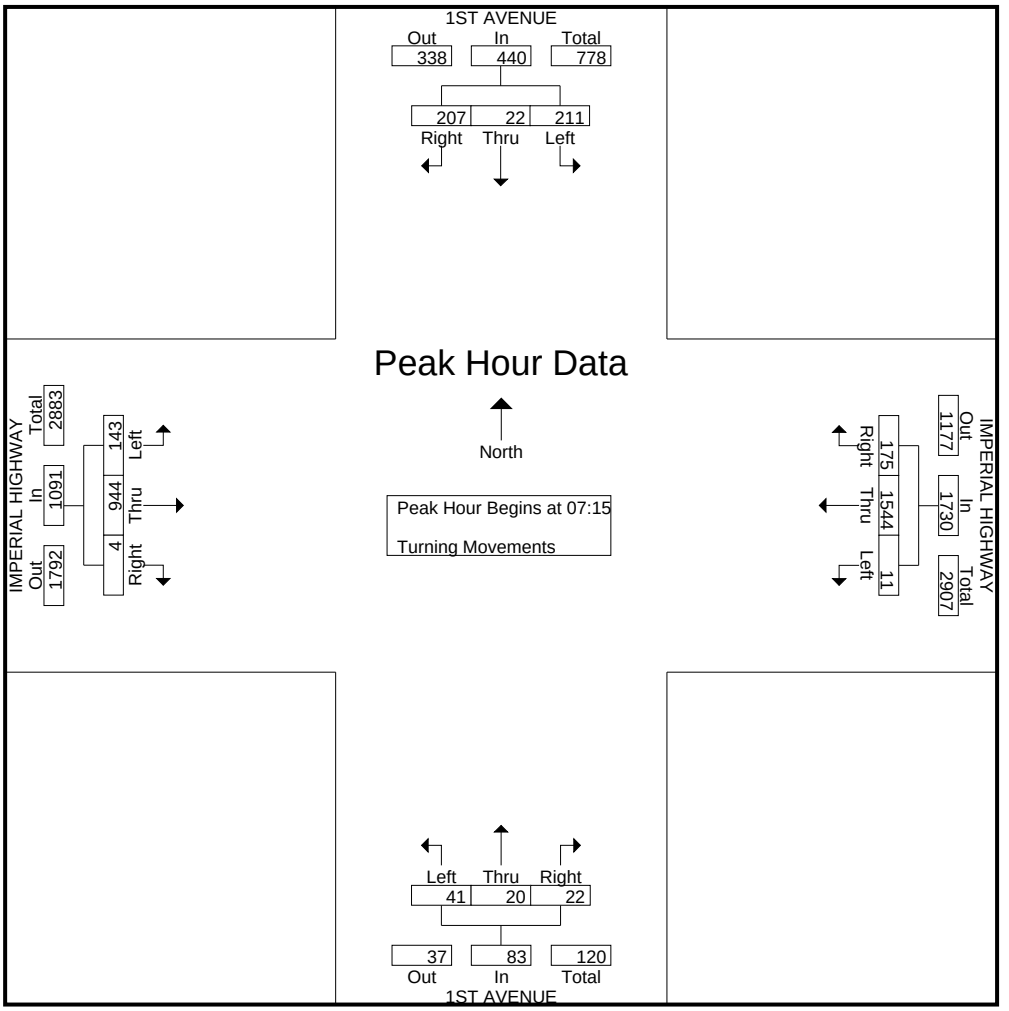
	1ST AVENUE Southbound			IMPERIAL HIGHWAY Westbound			1ST AVENUE Northbound			IMPERIAL HIGHWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	32	1	51	22	338	0	8	3	8	0	203	14	680
07:15	47	2	60	29	400	3	4	9	4	2	233	17	810
07:30	56	5	46	46	423	1	1	7	7	1	250	31	874
07:45	55	9	55	65	380	2	7	2	13	1	228	59	876
Total	190	17	212	162	1541	6	20	21	32	4	914	121	3240
08:00	49	6	50	35	341	5	10	2	17	0	233	36	784
08:15	43	6	57	30	306	0	11	9	10	5	231	27	735
08:30	23	2	27	26	263	0	5	4	6	3	200	18	577
08:45	29	1	43	17	227	1	4	6	8	2	178	27	543
Total	144	15	177	108	1137	6	30	21	41	10	842	108	2639
*** BREAK ***													
16:00	50	5	30	43	283	7	7	6	3	4	306	36	780
16:15	46	7	33	37	270	6	2	3	4	5	290	23	726
16:30	36	6	21	37	299	4	4	0	6	5	330	43	791
16:45	34	6	33	39	268	3	4	2	5	4	286	27	711
Total	166	24	117	156	1120	20	17	11	18	18	1212	129	3008
17:00	35	9	37	38	282	3	2	6	6	2	353	47	820
17:15	38	7	45	36	278	2	5	9	6	4	313	38	781
17:30	42	8	25	42	315	4	2	5	8	4	333	44	832
17:45	36	10	43	41	271	4	2	3	10	10	311	43	784
Total	151	34	150	157	1146	13	11	23	30	20	1310	172	3217
Grand Total	651	90	656	583	4944	45	78	76	121	52	4278	530	12104
Apprch %	46.6	6.4	47	10.5	88.7	0.8	28.4	27.6	44	1.1	88	10.9	
Total %	5.4	0.7	5.4	4.8	40.8	0.4	0.6	0.6	1	0.4	35.3	4.4	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: 1ST AVENUE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809025
Site Code : 00000000
Start Date : 9/18/2018
Page No : 2

	1ST AVENUE Southbound				IMPERIAL HIGHWAY Westbound				1ST AVENUE Northbound				IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	47	2	**60**	109	29	400	3	432	4	**9**	4	17	**2**	233	17	252	810
07:30	**56**	5	46	107	46	**423**	1	**470**	1	7	7	15	1	**250**	31	282	874
07:45	55	**9**	55	**119**	**65**	380	2	447	7	2	13	22	1	228	**59**	**288**	**876**
08:00	49	6	50	105	35	341	**5**	381	**10**	2	**17**	**29**	0	233	36	269	784
Total Volume	207	22	211	440	175	1544	11	1730	22	20	41	83	4	944	143	1091	3344
% App. Total	47	5	48		10.1	89.2	0.6		26.5	24.1	49.4		0.4	86.5	13.1		
PHF	.924	.611	.879	.924	.673	.913	.550	.920	.550	.556	.603	.716	.500	.944	.606	.947	.954

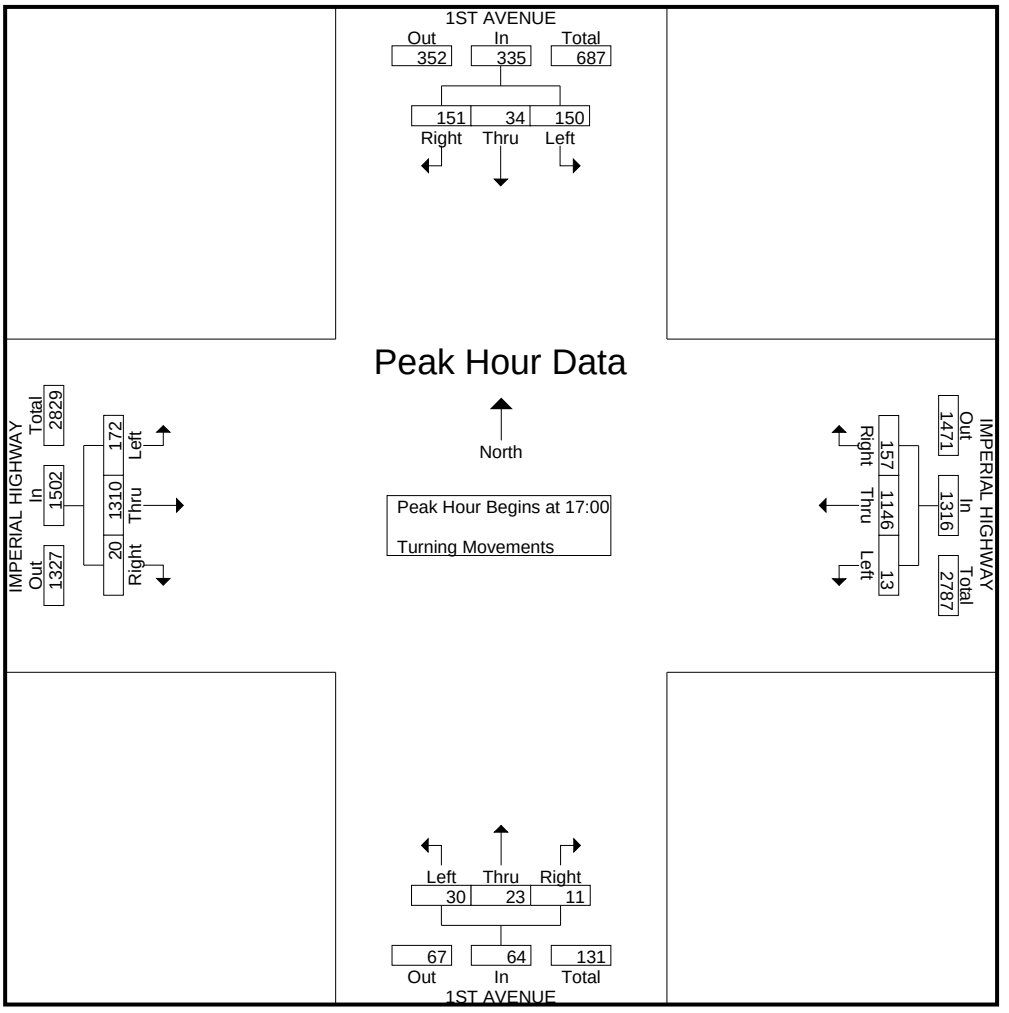


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: 1ST AVENUE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809025
Site Code : 00000000
Start Date : 9/18/2018

	1ST AVENUE Southbound				IMPERIAL HIGHWAY Westbound				1ST AVENUE Northbound				IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	35	9	37	81	38	282	3	323	2	6	6	14	2	**353**	**47**	**402**	820
17:15	38	7	**45**	**90**	36	278	2	316	**5**	**9**	6	**20**	4	313	38	355	781
17:30	**42**	8	25	75	**42**	**315**	**4**	**361**	2	5	8	15	4	333	44	381	**832**
17:45	36	**10**	43	89	41	271	4	316	2	3	**10**	15	**10**	311	43	364	784
Total Volume	151	34	150	335	157	1146	13	1316	11	23	30	64	20	1310	172	1502	3217
% App. Total	45.1	10.1	44.8		11.9	87.1	1		17.2	35.9	46.9		1.3	87.2	11.5		
PHF	.899	.850	.833	.931	.935	.910	.813	.911	.550	.639	.750	.800	.500	.928	.915	.934	.967



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809031
Site Code : 00000000
Start Date : 9/18/2018

Groups Printed- Turning Movements

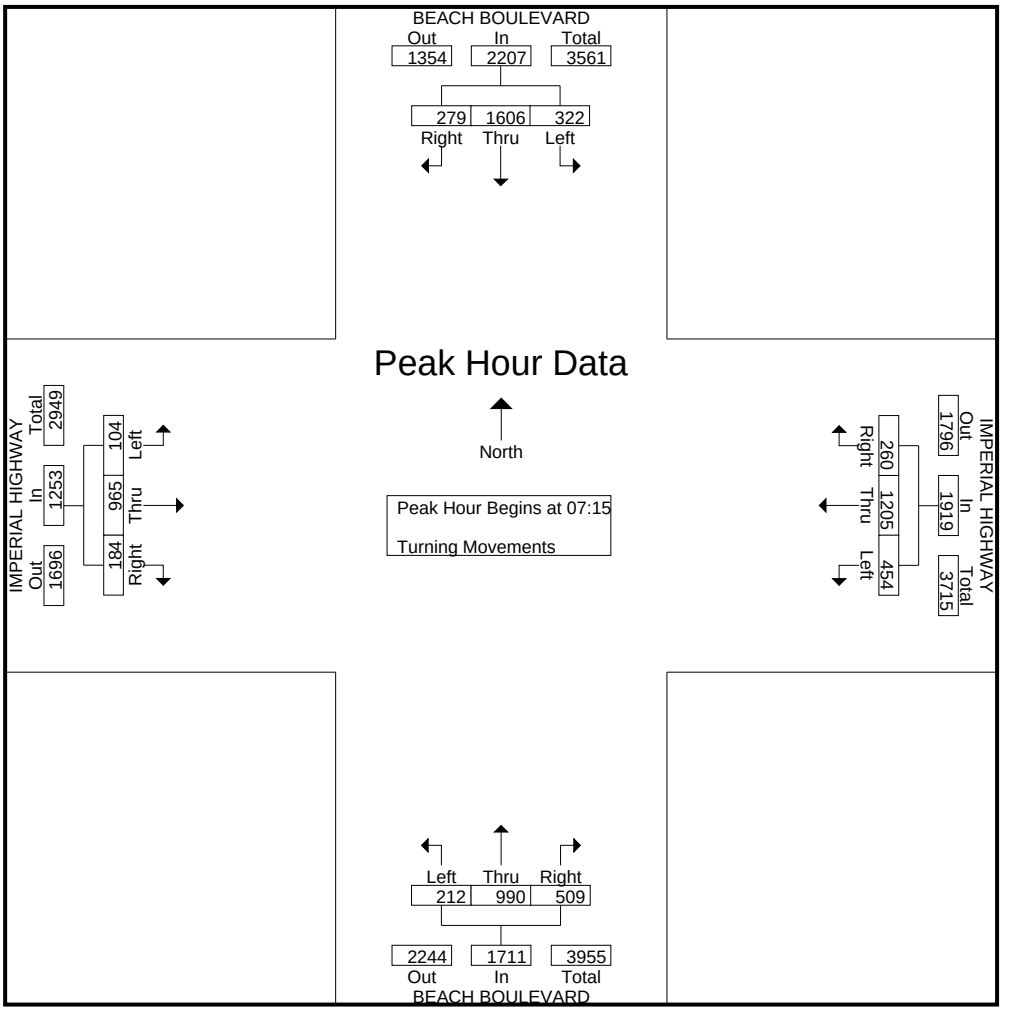
	BEACH BOULEVARD Southbound			IMPERIAL HIGHWAY Westbound			BEACH BOULEVARD Northbound			IMPERIAL HIGHWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	51	398	76	42	258	114	95	187	22	31	212	20	1506
07:15	64	417	72	65	301	109	140	228	34	37	279	18	1764
07:30	78	381	83	63	321	115	112	238	58	40	258	26	1773
07:45	79	406	91	65	327	114	132	265	66	57	238	37	1877
Total	272	1602	322	235	1207	452	479	918	180	165	987	101	6920
08:00	58	402	76	67	256	116	125	259	54	50	190	23	1676
08:15	57	398	65	78	256	111	118	218	42	59	241	36	1679
08:30	41	386	65	45	188	113	113	214	41	39	209	28	1482
08:45	48	275	61	49	176	115	113	234	38	54	171	19	1353
Total	204	1461	267	239	876	455	469	925	175	202	811	106	6190
*** BREAK ***													
16:00	41	303	71	61	226	98	126	386	72	50	238	39	1711
16:15	43	311	75	72	243	122	114	361	69	66	239	47	1762
16:30	57	338	85	65	239	108	104	365	58	39	248	50	1756
16:45	48	302	83	59	235	86	116	386	76	46	252	62	1751
Total	189	1254	314	257	943	414	460	1498	275	201	977	198	6980
17:00	49	297	119	85	236	106	102	371	65	63	254	66	1813
17:15	46	322	76	71	240	122	116	392	69	52	268	53	1827
17:30	52	327	79	70	239	110	103	377	72	47	266	65	1807
17:45	38	337	93	87	226	110	121	392	82	59	237	38	1820
Total	185	1283	367	313	941	448	442	1532	288	221	1025	222	7267
Grand Total	850	5600	1270	1044	3967	1769	1850	4873	918	789	3800	627	27357
Apprch %	11	72.5	16.5	15.4	58.5	26.1	24.2	63.8	12	15.1	72.9	12	
Total %	3.1	20.5	4.6	3.8	14.5	6.5	6.8	17.8	3.4	2.9	13.9	2.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809031
Site Code : 00000000
Start Date : 9/18/2018
Page No : 2

	BEACH BOULEVARD Southbound				IMPERIAL HIGHWAY Westbound				BEACH BOULEVARD Northbound				IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	64	**417**	72	553	65	301	109	475	**140**	228	34	402	37	**279**	18	**334**	1764
07:30	78	381	83	542	63	321	115	499	112	238	58	408	40	258	26	324	1773
07:45	**79**	406	**91**	**576**	65	**327**	114	**506**	132	**265**	**66**	**463**	**57**	238	**37**	332	**1877**
08:00	58	402	76	536	**67**	256	**116**	439	125	259	54	438	50	190	23	263	1676
Total Volume	279	1606	322	2207	260	1205	454	1919	509	990	212	1711	184	965	104	1253	7090
% App. Total	12.6	72.8	14.6		13.5	62.8	23.7		29.7	57.9	12.4		14.7	77	8.3		
PHF	.883	.963	.885	.958	.970	.921	.978	.948	.909	.934	.803	.924	.807	.865	.703	.938	.944

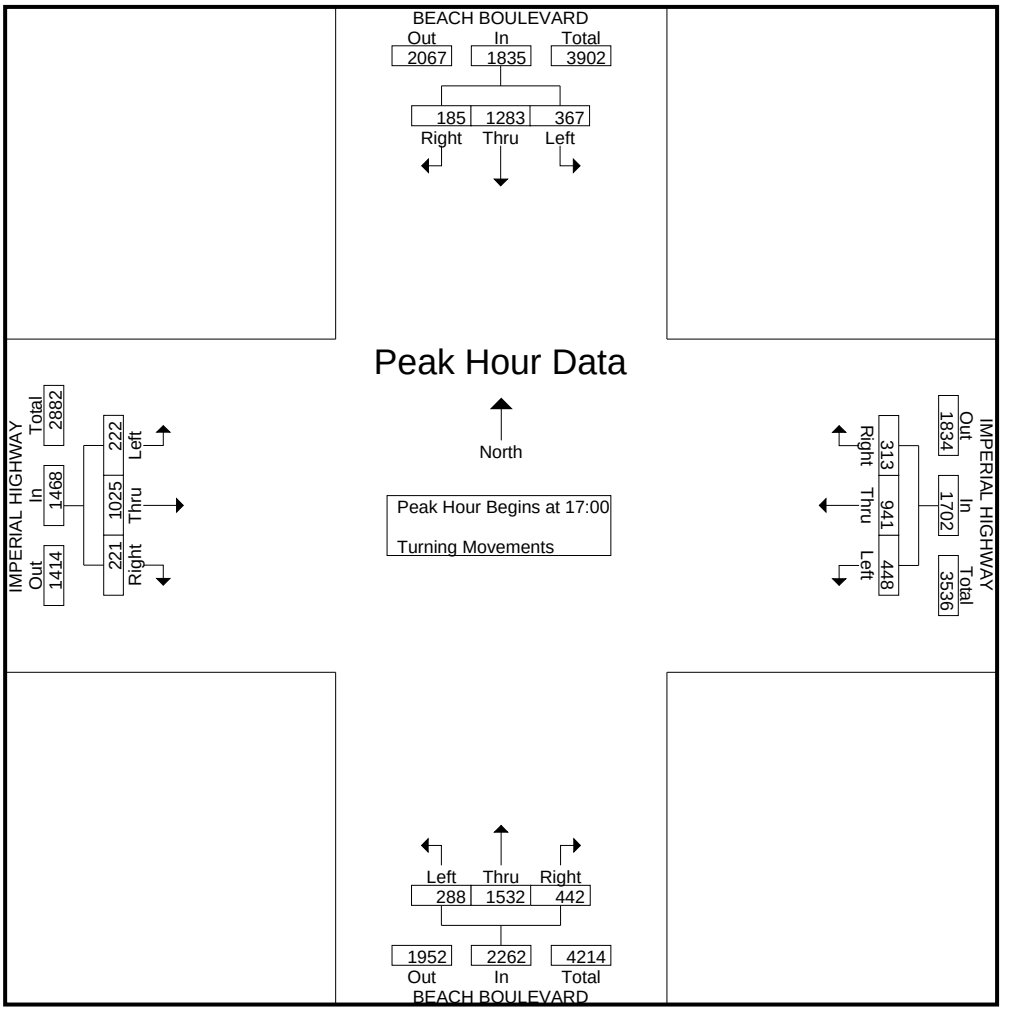


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809031
Site Code : 00000000
Start Date : 9/18/2018
Page No : 3

	BEACH BOULEVARD Southbound				IMPERIAL HIGHWAY Westbound				BEACH BOULEVARD Northbound				IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	49	297	**119**	465	85	236	106	427	102	371	65	538	**63**	254	**66**	**383**	1813
17:15	46	322	76	444	71	**240**	**122**	**433**	116	**392**	69	577	52	**268**	53	373	**1827**
17:30	**52**	327	79	458	70	239	110	419	103	377	72	552	47	266	65	378	1807
17:45	38	**337**	93	**468**	**87**	226	110	423	**121**	392	**82**	**595**	59	237	38	334	1820
Total Volume	185	1283	367	1835	313	941	448	1702	442	1532	288	2262	221	1025	222	1468	7267
% App. Total	10.1	69.9	20		18.4	55.3	26.3		19.5	67.7	12.7		15.1	69.8	15.1		
PHF	.889	.952	.771	.980	.899	.980	.918	.983	.913	.977	.878	.950	.877	.956	.841	.958	.994



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: LA HABRA HILLS DRIVE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809027
Site Code : 00000000
Start Date : 9/18/2018
Page No : 1

Groups Printed- Turning Movements

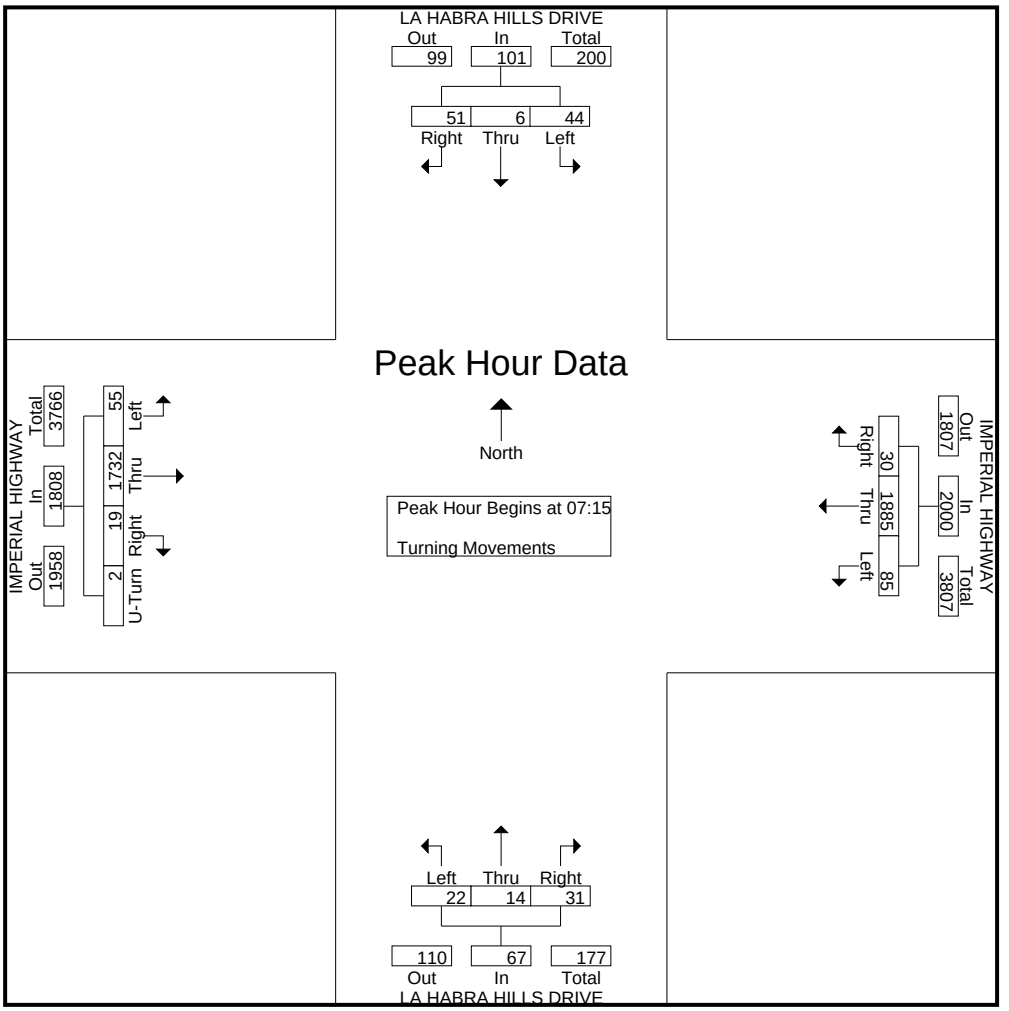
	LA HABRA HILLS DRIVE Southbound			IMPERIAL HIGHWAY Westbound			LA HABRA HILLS DRIVE Northbound			IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Int. Total
07:00	7	3	9	5	374	15	12	3	4	4	355	11	0	802
07:15	8	0	11	3	488	15	3	3	6	3	485	14	1	1040
07:30	10	1	11	7	488	18	7	2	11	1	440	14	0	1010
07:45	16	1	13	11	483	22	10	6	3	4	437	12	0	1018
Total	41	5	44	26	1833	70	32	14	24	12	1717	51	1	3870
08:00	17	4	9	9	426	30	11	3	2	11	370	15	1	908
08:15	7	3	20	10	390	17	22	3	1	6	397	21	1	898
08:30	11	3	13	6	328	31	23	3	7	7	360	23	1	816
08:45	8	7	3	7	303	30	15	3	9	7	326	23	2	743
Total	43	17	45	32	1447	108	71	12	19	31	1453	82	5	3365
*** BREAK ***														
16:00	34	13	14	11	329	55	49	7	15	14	355	59	3	958
16:15	21	6	22	13	382	37	61	10	19	11	358	58	4	1002
16:30	32	8	18	17	373	49	51	6	19	13	369	50	2	1007
16:45	24	8	26	22	356	55	46	7	16	8	403	42	3	1016
Total	111	35	80	63	1440	196	207	30	69	46	1485	209	12	3983
17:00	33	11	19	17	383	48	61	11	14	14	362	36	9	1018
17:15	40	10	16	12	358	42	47	11	13	9	398	53	6	1015
17:30	39	9	23	9	380	46	43	7	13	12	392	45	6	1024
17:45	29	4	21	9	368	44	45	6	19	13	380	45	7	990
Total	141	34	79	47	1489	180	196	35	59	48	1532	179	28	4047
Grand Total	336	91	248	168	6209	554	506	91	171	137	6187	521	46	15265
Apprch %	49.8	13.5	36.7	2.4	89.6	8	65.9	11.8	22.3	2	89.8	7.6	0.7	
Total %	2.2	0.6	1.6	1.1	40.7	3.6	3.3	0.6	1.1	0.9	40.5	3.4	0.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: LA HABRA HILLS DRIVE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809027
Site Code : 00000000
Start Date : 9/18/2018
Page No : 2

	LA HABRA HILLS DRIVE Southbound				IMPERIAL HIGHWAY Westbound				LA HABRA HILLS DRIVE Northbound				IMPERIAL HIGHWAY Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15																		
07:15	8	0	11	19	3	**488**	15	506	3	3	6	12	3	**485**	14	**1**	**503**	**1040**
07:30	10	1	11	22	7	488	18	513	7	2	**11**	**20**	1	440	14	0	455	1010
07:45	16	1	**13**	**30**	**11**	483	22	**516**	10	**6**								
08:00	**17**	**4**	9	30	9	426	**30**	465	**11**	3	2	16	**11**	370	**15**	1	397	908
Total Volume	51	6	44	101	30	1885	85	2000	31	14	22	67	19	1732	55	2	1808	3976
% App. Total	50.5	5.9	43.6		1.5	94.2	4.2		46.3	20.9	32.8		1.1	95.8	3	0.1		
PHF	.750	.375	.846	.842	.682	.966	.708	.969	.705	.583	.500	.838	.432	.893	.917	.500	.899	.956

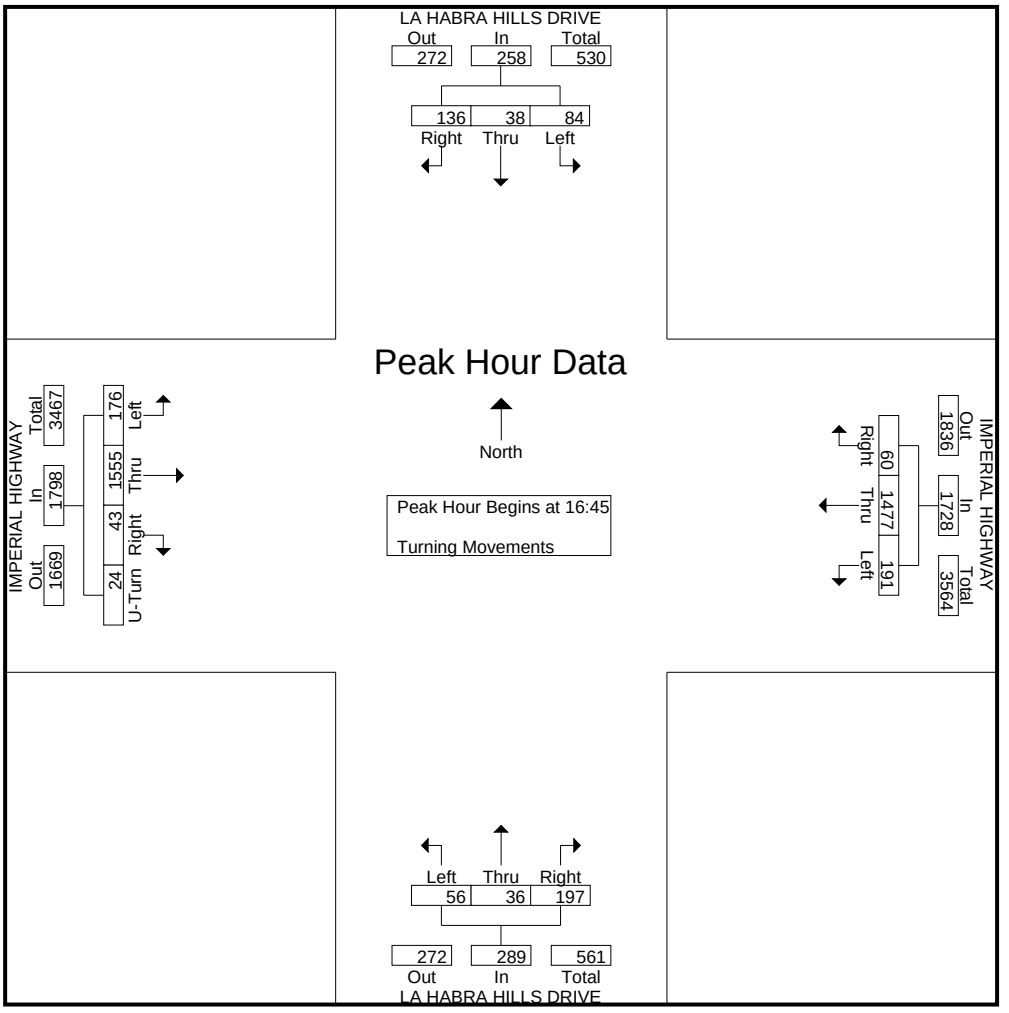


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: LA HABRA HILLS DRIVE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809027
Site Code : 00000000
Start Date : 9/18/2018
Page No : 3

	LA HABRA HILLS DRIVE Southbound				IMPERIAL HIGHWAY Westbound				LA HABRA HILLS DRIVE Northbound				IMPERIAL HIGHWAY Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 16:45																		
16:45	24	8	**26**	58	**22**	356	**55**	433	46	7	**16**	69	8	**403**	42	3	456	1016
17:00	33	**11**	19	63	17	**383**	48	**448**	**61**	**11**		**86**	**14**	362	36	**9**	421	1018
17:15	**40**	10	16	66	12	358	42	412	47	11	13	71	9	398	**53**	6	**466**	1015
17:30	39	9	23	**71**	9	380	46	435	43	7	13	63	12	392	45	6	455	**1024**
Total Volume	136	38	84	258	60	1477	191	1728	197	36	56	289	43	1555	176	24	1798	4073
% App. Total	52.7	14.7	32.6		3.5	85.5	11.1		68.2	12.5	19.4		2.4	86.5	9.8	1.3		
PHF	.850	.864	.808	.908	.682	.964	.868	.964	.807	.818	.875	.840	.768	.965	.830	.667	.965	.994



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: IDAHO STREET
E-W: IMPERIAL HIGHWAY

File Name : H1809028
Site Code :
Start Date : 9/18/2018

Groups Printed- Turning Movements

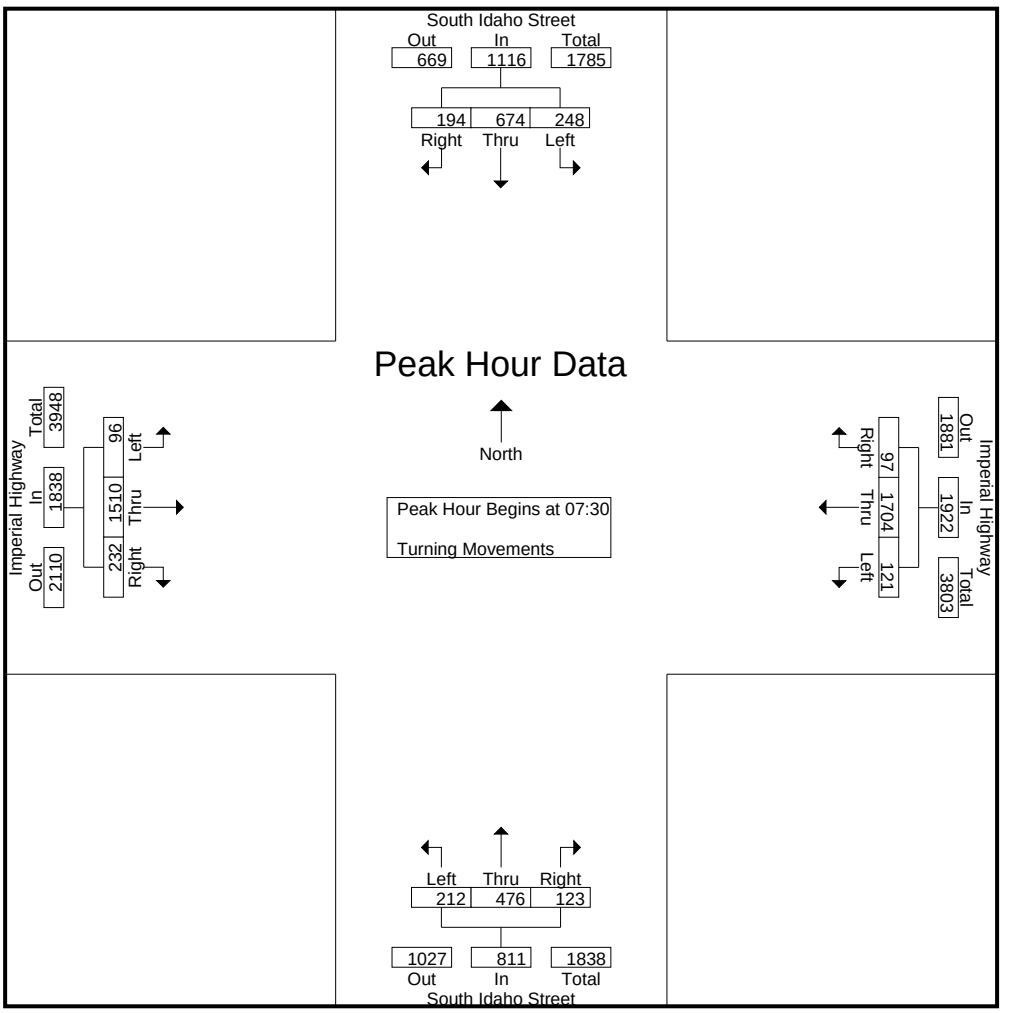
	South Idaho Street Southbound			Imperial Highway Westbound			South Idaho Street Northbound			Imperial Highway Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	35	122	67	19	347	25	31	46	26	19	330	18	1085
07:15	27	136	54	34	379	22	18	66	26	38	349	22	1171
07:30	41	161	64	29	451	25	32	87	43	52	450	19	1454
07:45	65	196	64	26	416	28	33	137	68	62	383	16	1494
Total	168	615	249	108	1593	100	114	336	163	171	1512	75	5204
08:00	47	191	69	22	412	40	19	145	55	68	364	32	1464
08:15	41	126	51	20	425	28	39	107	46	50	313	29	1275
08:30	36	87	68	30	353	26	34	84	40	38	367	22	1185
08:45	32	96	48	32	318	24	33	76	44	23	303	21	1050
Total	156	500	236	104	1508	118	125	412	185	179	1347	104	4974
16:00	41	109	42	63	337	48	40	157	74	44	329	52	1336
16:15	42	99	59	51	354	46	40	151	62	66	343	72	1385
16:30	44	107	61	61	354	48	53	177	74	59	355	56	1449
16:45	46	101	36	65	372	48	48	140	70	54	336	51	1367
Total	173	416	198	240	1417	190	181	625	280	223	1363	231	5537
17:00	46	108	37	65	378	59	45	154	76	61	381	81	1491
17:15	34	103	57	30	404	39	45	210	88	58	377	74	1519
17:30	51	117	51	37	361	36	46	166	85	52	377	67	1446
17:45	38	118	61	57	384	26	48	157	77	66	373	45	1450
Total	169	446	206	189	1527	160	184	687	326	237	1508	267	5906
Grand Total	666	1977	889	641	6045	568	604	2060	954	810	5730	677	21621
Apprch %	18.9	56	25.2	8.8	83.3	7.8	16.7	56.9	26.4	11.2	79.4	9.4	
Total %	3.1	9.1	4.1	3	28	2.6	2.8	9.5	4.4	3.7	26.5	3.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: IDAHO STREET
E-W: IMPERIAL HIGHWAY

File Name : H1809028
Site Code :
Start Date : 9/18/2018
Page No : 2

	South Idaho Street Southbound				Imperial Highway Westbound				South Idaho Street Northbound				Imperial Highway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	41	161	64	266	**29**	**451**	25	**505**	32	87	43	162	52	**450**	19	**521**	1454
07:45	**65**	**196**	64	**325**	26	416	28	470	33	137	**68**	**238**	62	383	16	461	**1494**
08:00	47	191	**69**	307	22	412	**40**	474	19	**145**	55	219	**68**	364	**32**	464	1464
08:15	41	126	51	218	20	425	28	473	**39**	107	46	192	50	313	29	392	1275
Total Volume	194	674	248	1116	97	1704	121	1922	123	476	212	811	232	1510	96	1838	5687
% App. Total	17.4	60.4	22.2		5	88.7	6.3		15.2	58.7	26.1		12.6	82.2	5.2		
PHF	.746	.860	.899	.858	.836	.945	.756	.951	.788	.821	.779	.852	.853	.839	.750	.882	.952

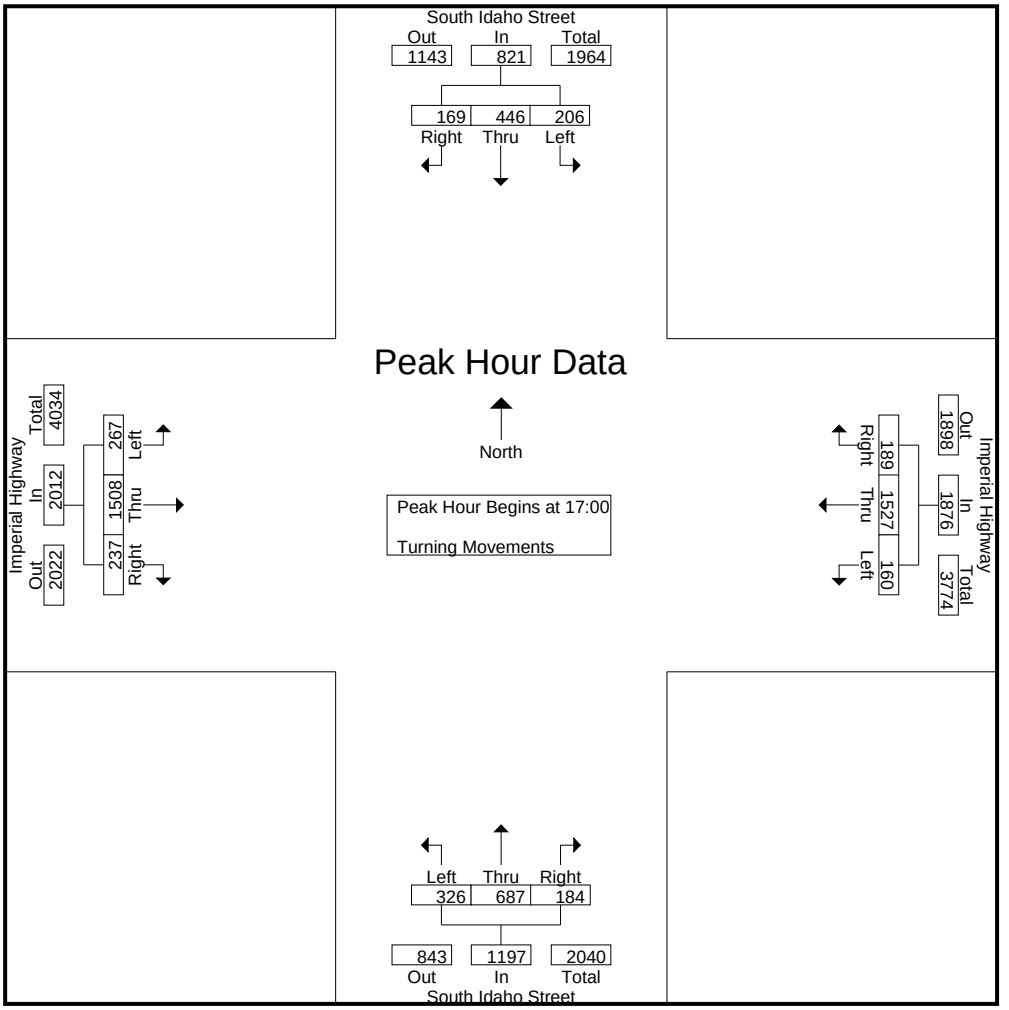


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: IDAHO STREET
E-W: IMPERIAL HIGHWAY

File Name : H1809028
Site Code :
Start Date : 9/18/2018

	South Idaho Street Southbound				Imperial Highway Westbound				South Idaho Street Northbound				Imperial Highway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	46	108	37	191	**65**	378	**59**	**502**	45	154	76	275	61	**381**	**81**	**523**	1491
17:15	34	103	57	194	30	**404**	39	473	45	**210**	**88**	**343**	58	377	74	509	**1519**
17:30	**51**	117	51	**219**	37	361	36	434	46	166	85	297	52	377	67	496	1446
17:45	38	**118**	**61**	217	57	384	26	467	**48**	157	77	282	**66**	373	45	484	1450
Total Volume	169	446	206	821	189	1527	160	1876	184	687	326	1197	237	1508	267	2012	5906
% App. Total	20.6	54.3	25.1		10.1	81.4	8.5		15.4	57.4	27.2		11.8	75	13.3		
PHF	.828	.945	.844	.937	.727	.945	.678	.934	.958	.818	.926	.872	.898	.990	.824	.962	.972



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: EUCLID STREET
E-W: IMPERIAL HIGHWAY

File Name : H1809029
Site Code :
Start Date : 9/18/2018
Page No : 1

Groups Printed- Turning Movements

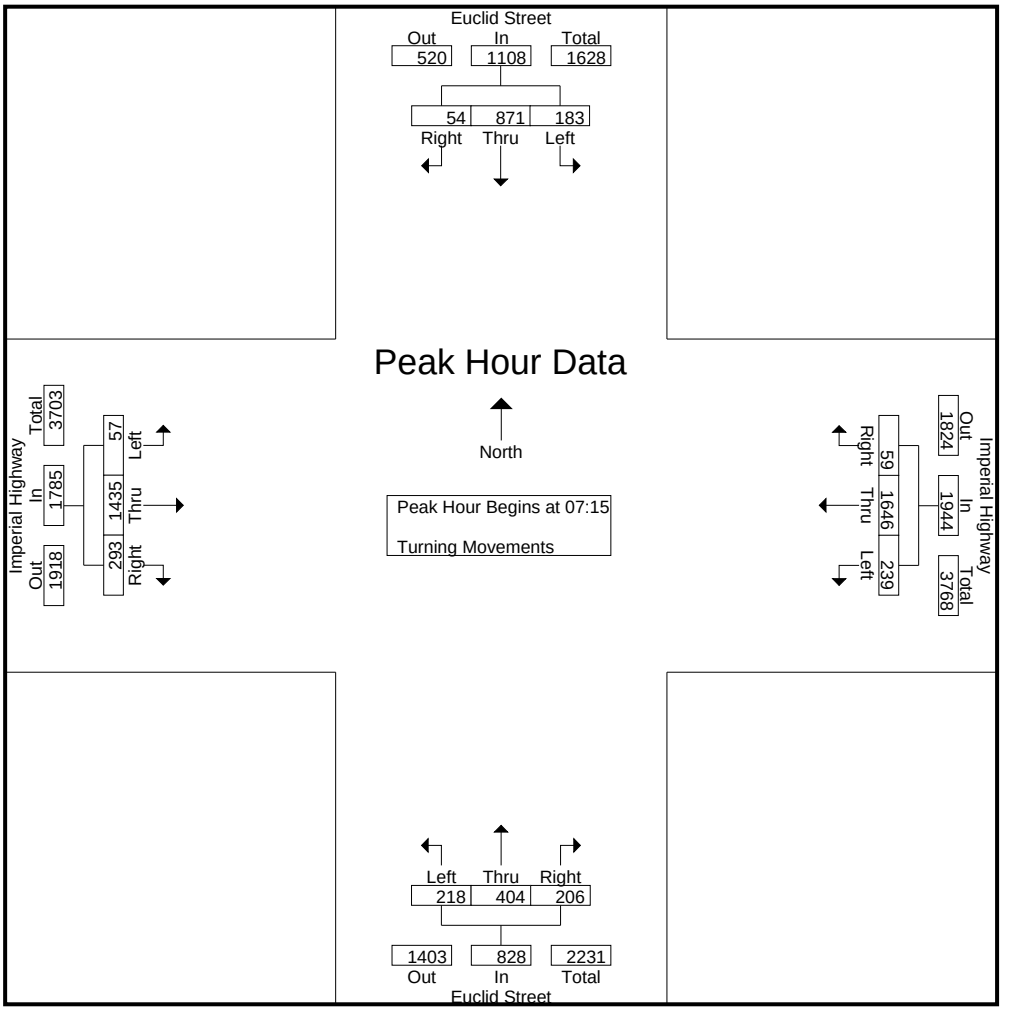
	Euclid Street Southbound			Imperial Highway Westbound			Euclid Street Northbound			Imperial Highway Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	9	181	36	19	352	29	38	67	26	82	330	3	1172
07:15	16	168	58	19	437	36	37	70	40	79	356	12	1328
07:30	12	226	43	15	432	55	52	91	51	56	383	12	1428
07:45	11	245	46	12	399	84	58	118	67	76	347	17	1480
Total	48	820	183	65	1620	204	185	346	184	293	1416	44	5408
08:00	15	232	36	13	378	64	59	125	60	82	349	16	1429
08:15	12	144	29	13	332	33	42	73	47	76	386	25	1212
08:30	16	152	30	20	300	26	40	65	54	72	351	7	1133
08:45	16	155	32	18	297	41	26	64	40	57	302	13	1061
Total	59	683	127	64	1307	164	167	327	201	287	1388	61	4835
16:00	21	111	41	48	384	40	38	129	68	57	321	23	1281
16:15	17	104	29	39	390	38	46	165	70	43	345	31	1317
16:30	14	100	27	28	404	51	46	162	67	63	340	35	1337
16:45	20	86	40	26	426	46	42	176	67	46	345	33	1353
Total	72	401	137	141	1604	175	172	632	272	209	1351	122	5288
17:00	11	116	32	40	458	57	35	154	84	73	294	23	1377
17:15	23	118	34	37	436	59	46	177	76	51	374	33	1464
17:30	16	123	27	49	433	57	38	164	81	47	358	32	1425
17:45	16	129	37	57	404	70	45	166	71	62	313	34	1404
Total	66	486	130	183	1731	243	164	661	312	233	1339	122	5670
Grand Total	245	2390	577	453	6262	786	688	1966	969	1022	5494	349	21201
Apprch %	7.6	74.4	18	6	83.5	10.5	19	54.3	26.7	14.9	80	5.1	
Total %	1.2	11.3	2.7	2.1	29.5	3.7	3.2	9.3	4.6	4.8	25.9	1.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: EUCLID STREET
E-W: IMPERIAL HIGHWAY

File Name : H1809029
Site Code :
Start Date : 9/18/2018
Page No : 2

	Euclid Street Southbound				Imperial Highway Westbound				Euclid Street Northbound				Imperial Highway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	**16**	168	**58**	242	**19**	**437**	36	492	37	70	40	147	79	356	12	447	1328
07:30	12	226	43	281	15	432	55	**502**	52	91	51	194	56	**383**	12	**451**	1428
07:45	11	**245**	46	**302**	12	399	**84**	495	58	118	**67**	243	76	347	**17**	440	**1480**
08:00	15	232	36	283	13	378	64	455	**59**	**125**	60	**244**	**82**	349	16	447	1429
Total Volume	54	871	183	1108	59	1646	239	1944	206	404	218	828	293	1435	57	1785	5665
% App. Total	4.9	78.6	16.5		3	84.7	12.3		24.9	48.8	26.3		16.4	80.4	3.2		
PHF	.844	.889	.789	.917	.776	.942	.711	.968	.873	.808	.813	.848	.893	.937	.838	.989	.957

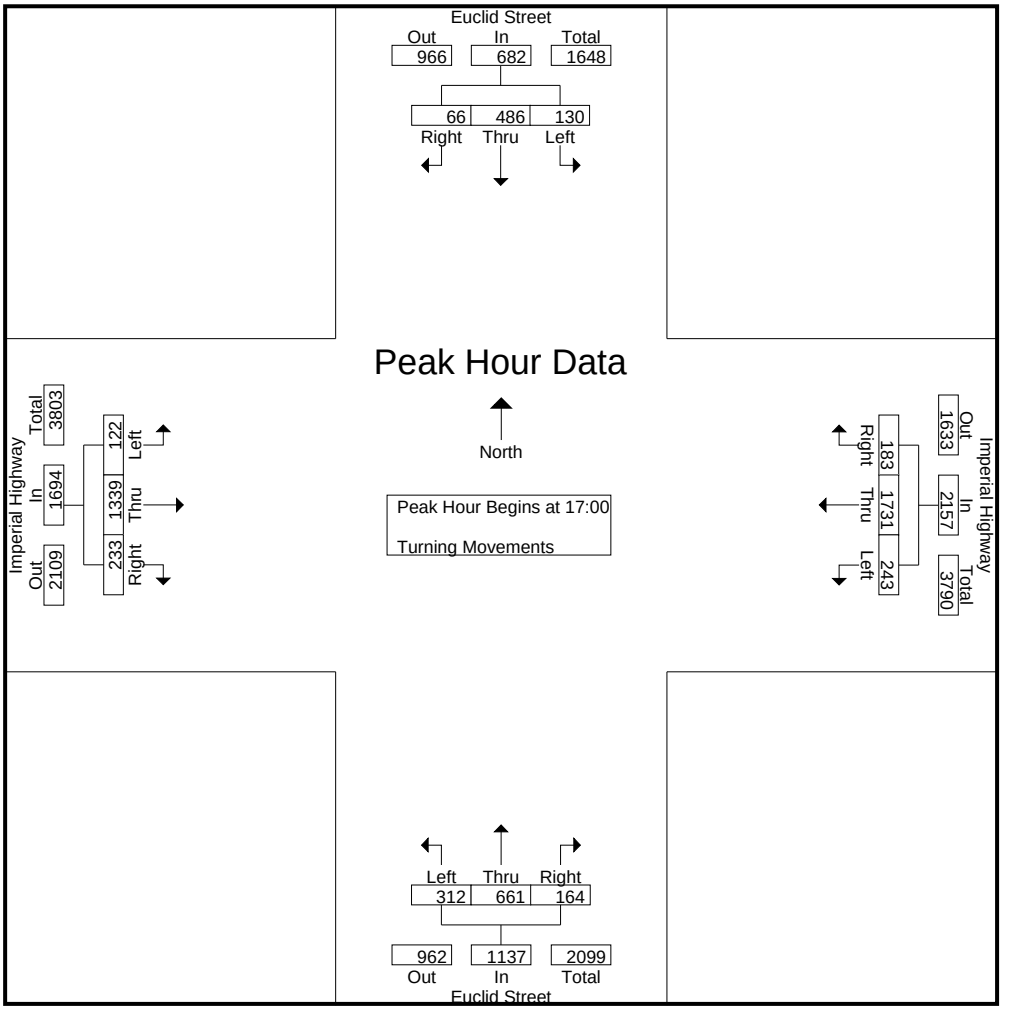


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: EUCLID STREET
E-W: IMPERIAL HIGHWAY

File Name : H1809029
Site Code :
Start Date : 9/18/2018
Page No : 3

	Euclid Street Southbound				Imperial Highway Westbound				Euclid Street Northbound				Imperial Highway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	11	116	32	159	40	**458**	57	**555**	35	154	**84**	273	**73**	294	23	390	1377
17:15	**23**	118	34	175	37	436	59	532	**46**	**177**	76	**299**	51	**374**	33	**458**	**1464**
17:30	16	123	27	166	49	433	57	539	38	164	81	283	47	358	32	437	1425
17:45	16	**129**	**37**	**182**	**57**	404	**70**	531	45	166	71	282	62	313	**34**	409	1404
Total Volume	66	486	130	682	183	1731	243	2157	164	661	312	1137	233	1339	122	1694	5670
% App. Total	9.7	71.3	19.1		8.5	80.3	11.3		14.4	58.1	27.4		13.8	79	7.2		
PHF	.717	.942	.878	.937	.803	.945	.868	.972	.891	.934	.929	.951	.798	.895	.897	.925	.968



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: HARBOR BOULEVARD
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809030
Site Code : 00000000
Start Date : 9/18/2018
Page No : 1

Groups Printed- Turning Movements

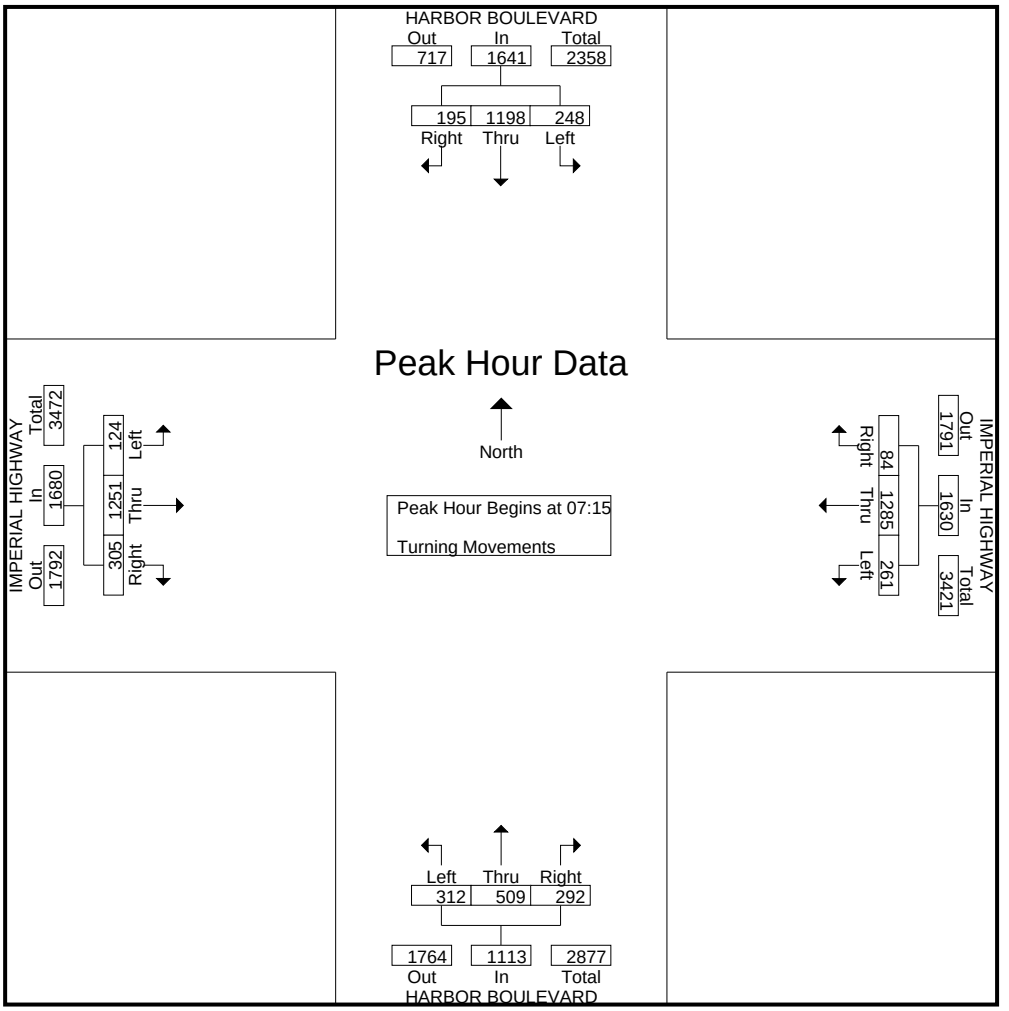
	HARBOR BOULEVARD Southbound			IMPERIAL HIGHWAY Westbound			HARBOR BOULEVARD Northbound			IMPERIAL HIGHWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	35	299	60	10	255	59	46	124	68	69	279	37	1341
07:15	57	320	62	18	314	57	67	120	81	79	281	38	1494
07:30	49	353	42	15	329	87	58	121	71	71	290	22	1508
07:45	46	251	75	20	317	63	96	129	75	96	348	29	1545
Total	187	1223	239	63	1215	266	267	494	295	315	1198	126	5888
08:00	43	274	69	31	325	54	71	139	85	59	332	35	1517
08:15	31	273	66	34	262	93	63	118	55	80	296	55	1426
08:30	51	276	60	41	233	68	67	133	66	78	315	52	1440
08:45	46	239	53	31	229	63	77	108	58	64	285	31	1284
Total	171	1062	248	137	1049	278	278	498	264	281	1228	173	5667
*** BREAK ***													
16:00	37	177	40	38	318	74	52	258	78	64	286	40	1462
16:15	51	164	42	54	311	81	47	242	68	78	268	68	1474
16:30	37	180	47	65	330	106	62	266	78	54	269	78	1572
16:45	45	175	21	50	365	93	39	249	101	57	272	55	1522
Total	170	696	150	207	1324	354	200	1015	325	253	1095	241	6030
17:00	41	179	60	50	394	86	47	246	95	51	297	58	1604
17:15	33	174	55	40	363	81	58	314	77	43	288	63	1589
17:30	48	194	36	54	353	92	51	235	105	34	289	66	1557
17:45	49	173	39	52	326	94	54	248	101	48	268	76	1528
Total	171	720	190	196	1436	353	210	1043	378	176	1142	263	6278
Grand Total	699	3701	827	603	5024	1251	955	3050	1262	1025	4663	803	23863
Apprch %	13.4	70.8	15.8	8.8	73	18.2	18.1	57.9	24	15.8	71.8	12.4	
Total %	2.9	15.5	3.5	2.5	21.1	5.2	4	12.8	5.3	4.3	19.5	3.4	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: HARBOR BOULEVARD
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809030
Site Code : 00000000
Start Date : 9/18/2018

	HARBOR BOULEVARD Southbound				IMPERIAL HIGHWAY Westbound				HARBOR BOULEVARD Northbound				IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	**57**	320	62	439	18	314	57	389	67	120	81	268	79	281	**38**	398	1494
07:30	49	**353**	42	**444**	15	**329**	**87**	**431**	58	121	71	250	71	290	22	383	1508
07:45	46	251	**75**	372	20	317	63	400	**96**	129	75	**300**	**96**	**348**	29	**473**	**1545**
08:00	43	274	69	386	**31**	325	54	410	71	**139**	**85**	295	59	332	35	426	1517
Total Volume	195	1198	248	1641	84	1285	261	1630	292	509	312	1113	305	1251	124	1680	6064
% App. Total	11.9	73	15.1		5.2	78.8	16		26.2	45.7	28		18.2	74.5	7.4		
PHF	.855	.848	.827	.924	.677	.976	.750	.945	.760	.915	.918	.928	.794	.899	.816	.888	.981

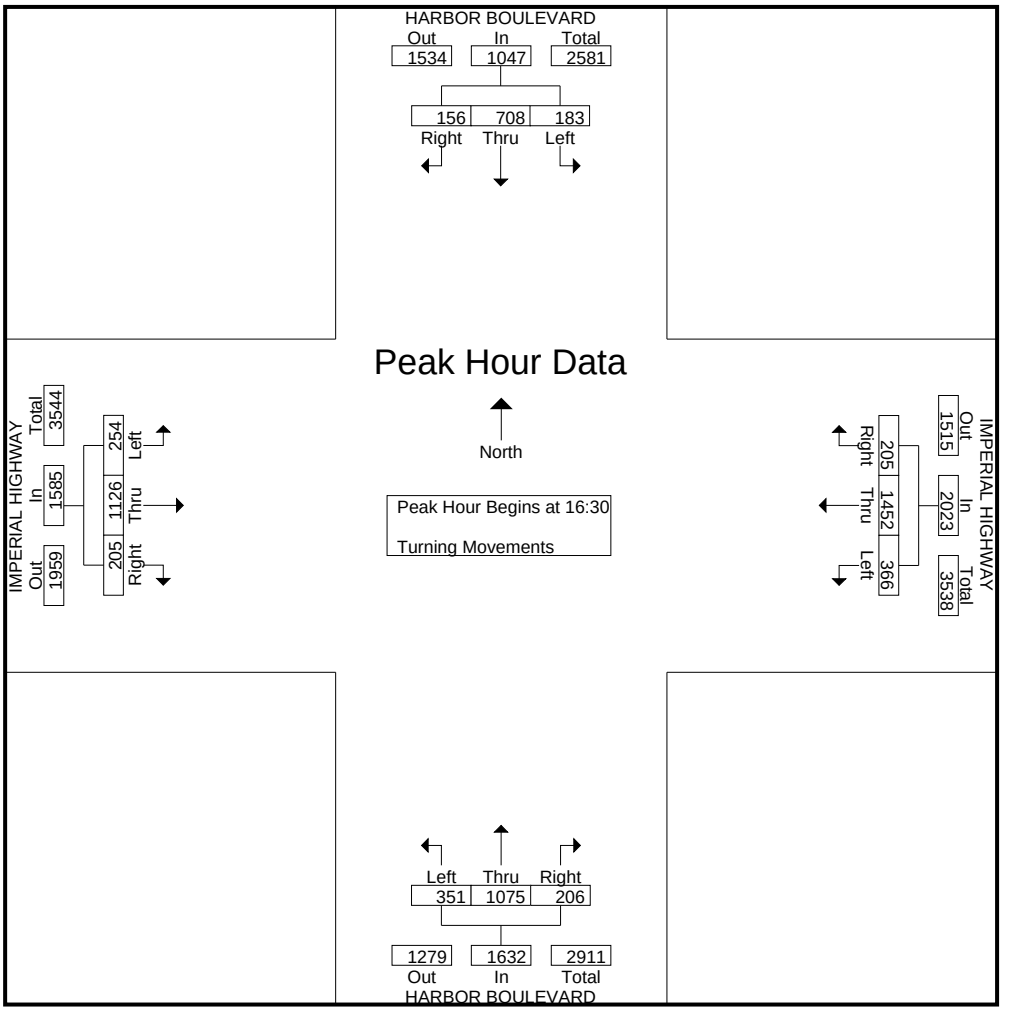


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: HARBOR BOULEVARD
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809030
Site Code : 00000000
Start Date : 9/18/2018
Page No : 3

	HARBOR BOULEVARD Southbound				IMPERIAL HIGHWAY Westbound				HARBOR BOULEVARD Northbound				IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	37	**180**	47	264	**65**	330	**106**	501	**62**	266	78	406	54	269	**78**	401	1572
16:45	**45**	175	21	241	50	365	93	508	39	249	**101**	389	**57**	272	55	384	1522
17:00	41	179	**60**	**280**	50	**394**	86	**530**	47	246	95	388	51	**297**	58	**406**	**1604**
17:15	33	174	55	262	40	363	81	484	58	**314**	77	**449**	43	288	63	394	1589
Total Volume	156	708	183	1047	205	1452	366	2023	206	1075	351	1632	205	1126	254	1585	6287
% App. Total	14.9	67.6	17.5		10.1	71.8	18.1		12.6	65.9	21.5		12.9	71	16		
PHF	.867	.983	.763	.935	.788	.921	.863	.954	.831	.856	.869	.909	.899	.948	.814	.976	.980



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: LAMBERT ROAD

File Name : H1809026
Site Code : 00000000
Start Date : 9/18/2018

Groups Printed- Turning Movements

	BEACH BOULEVARD Southbound			LAMBERT ROAD Westbound			BEACH BOULEVARD Northbound			LAMBERT ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	14	414	50	26	207	91	52	146	48	35	231	11	1325
07:15	40	405	55	40	225	95	75	180	62	35	275	37	1524
07:30	41	394	61	38	255	107	71	207	67	68	225	69	1603
07:45	101	349	42	35	292	124	56	248	70	39	235	62	1653
Total	196	1562	208	139	979	417	254	781	247	177	966	179	6105
08:00	60	395	54	40	244	98	52	217	70	49	247	90	1616
08:15	33	343	56	28	184	107	52	219	72	48	232	34	1408
08:30	15	326	44	25	164	94	72	186	29	45	204	22	1226
08:45	11	289	33	33	167	70	55	198	45	48	186	15	1150
Total	119	1353	187	126	759	369	231	820	216	190	869	161	5400
*** BREAK ***													
16:00	25	304	53	37	276	113	71	356	81	40	217	30	1603
16:15	27	308	39	43	248	110	88	337	64	53	214	34	1565
16:30	23	312	63	41	249	123	75	308	71	53	223	31	1572
16:45	32	269	43	72	237	93	56	298	53	77	268	44	1542
Total	107	1193	198	193	1010	439	290	1299	269	223	922	139	6282
17:00	29	333	54	36	269	136	76	379	105	59	251	52	1779
17:15	18	298	61	45	265	118	73	415	102	67	247	54	1763
17:30	23	296	75	43	280	108	69	334	73	73	224	38	1636
17:45	20	256	49	53	255	99	74	348	96	68	214	35	1567
Total	90	1183	239	177	1069	461	292	1476	376	267	936	179	6745
Grand Total	512	5291	832	635	3817	1686	1067	4376	1108	857	3693	658	24532
Apprch %	7.7	79.7	12.5	10.3	62.2	27.5	16.3	66.8	16.9	16.5	70.9	12.6	
Total %	2.1	21.6	3.4	2.6	15.6	6.9	4.3	17.8	4.5	3.5	15.1	2.7	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: LAMBERT ROAD

File Name : H1809026
Site Code : 00000000
Start Date : 9/18/2018
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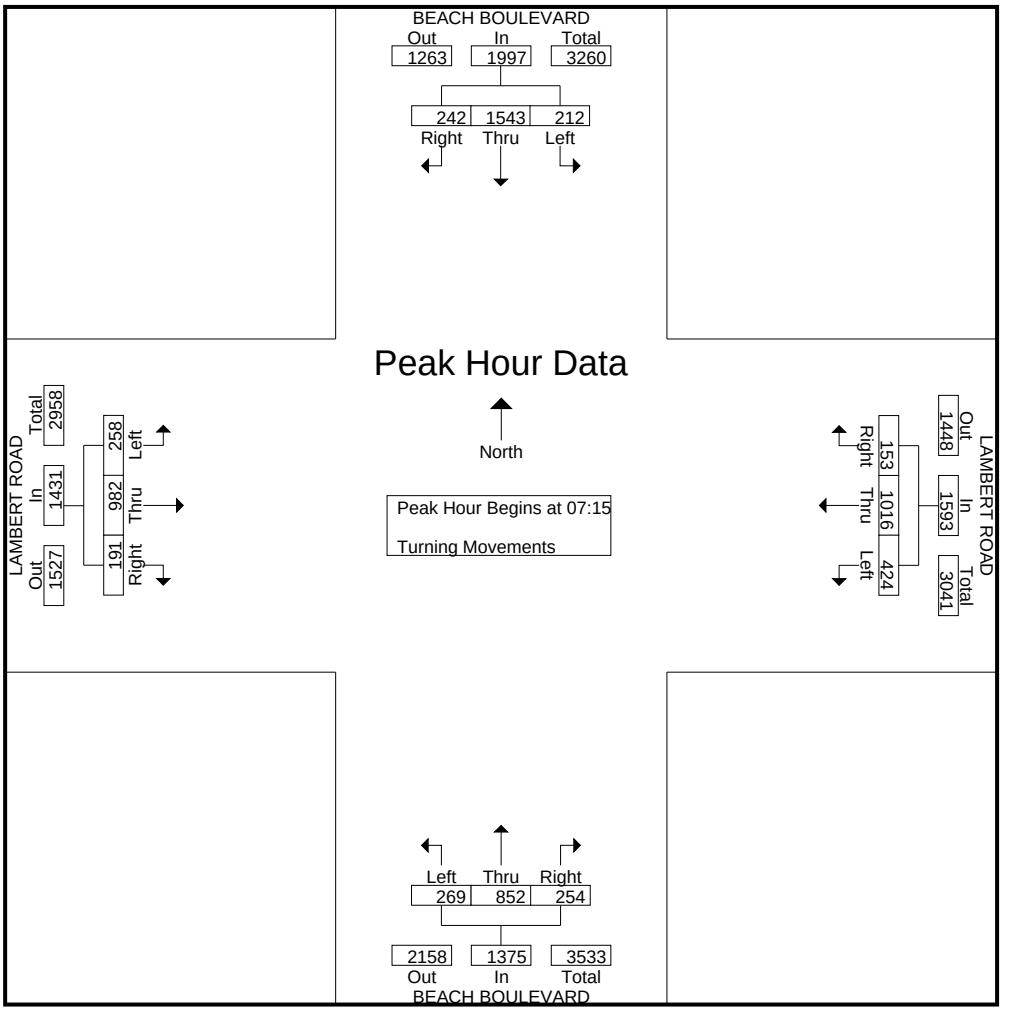
	BEACH BOULEVARD Southbound				LAMBERT ROAD Westbound				BEACH BOULEVARD Northbound				LAMBERT ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	40	**405**	55	500	**40**	225	95	360	**75**	180	62	317	35	**275**	37	347	1524
07:30	41	394	**61**	496	38	255	107	400	71	207	67	345	**68**	225	69	362	1603
07:45	**101**	349	42	492	35	**292**	**124**	**451**	56	**248**	**70**	**374**	39	235	62	336	**1653**
08:00	60	395	54	**509**	40	244	98	382	52	217	70	339	49	247	**90**	**386**	1616
Total Volume	242	1543	212	1997	153	1016	424	1593	254	852	269	1375	191	982	258	1431	6396
% App. Total	12.1	77.3	10.6		9.6	63.8	26.6		18.5	62	19.6		13.3	68.6	18		
PHF	.599	.952	.869	.981	.956	.870	.855	.883	.847	.859	.961	.919	.702	.893	.717	.927	.967

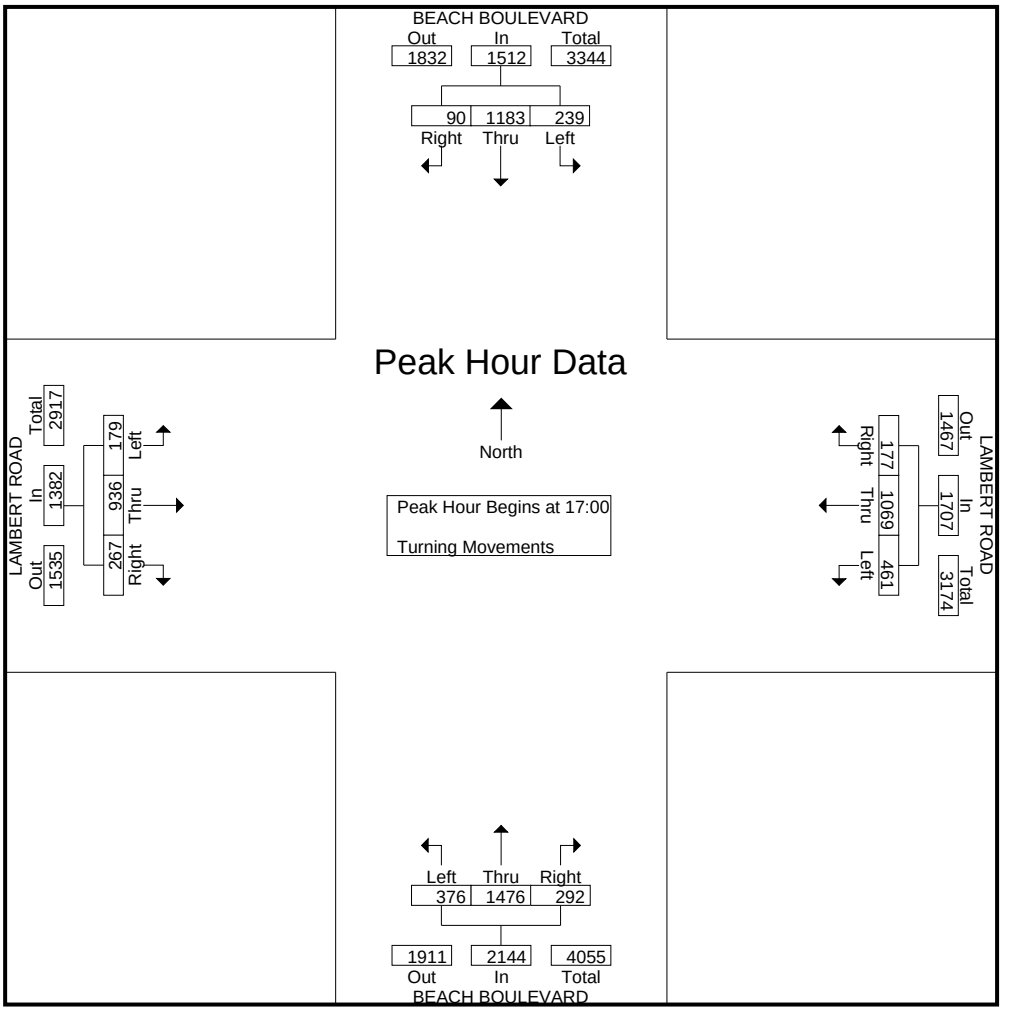


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: LAMBERT ROAD

File Name : H1809026
Site Code : 00000000
Start Date : 9/18/2018
Page No : 3

	BEACH BOULEVARD Southbound				LAMBERT ROAD Westbound				BEACH BOULEVARD Northbound				LAMBERT ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	**29**	**333**	54	**416**	36	269	**136**	**441**	**76**	379	**105**	560	59	**251**	52	362	**1779**
17:15	18	298	61	377	45	265	118	428	73	**415**	102	**590**	67	247	**54**	**368**	1763
17:30	23	296	**75**	394	43	**280**	108	431	69	334	73	476	**73**	224	38	335	1636
17:45	20	256	49	325	**53**	255	99	407	74	348	96	518	68	214	35	317	1567
Total Volume	90	1183	239	1512	177	1069	461	1707	292	1476	376	2144	267	936	179	1382	6745
% App. Total	6	78.2	15.8		10.4	62.6	27		13.6	68.8	17.5		19.3	67.7	13		
PHF	.776	.888	.797	.909	.835	.954	.847	.968	.961	.889	.895	.908	.914	.932	.829	.939	.948



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: IDAHO STREET
E-W Direction: LAMBERT ROAD

File Name : H1809032
Site Code : 00000000
Start Date : 9/18/2018

Groups Printed- Turning Movements

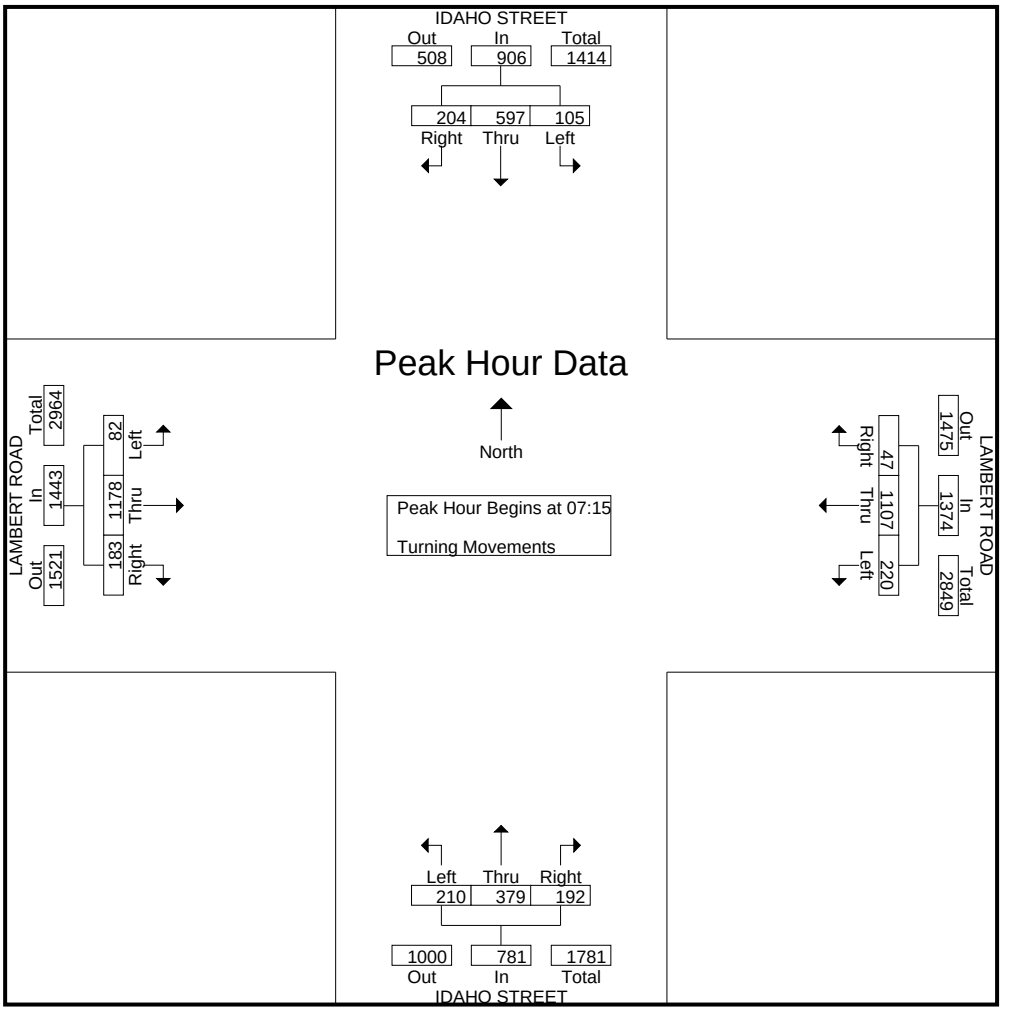
	IDAHO STREET Southbound			LAMBERT ROAD Westbound			IDAHO STREET Northbound			LAMBERT ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	25	109	18	8	262	33	29	50	32	47	290	5	908
07:15	29	129	21	10	250	38	34	82	55	34	306	16	1004
07:30	64	177	32	13	275	62	51	102	52	38	287	29	1182
07:45	71	175	29	12	320	68	57	101	48	52	273	22	1228
Total	189	590	100	43	1107	201	171	335	187	171	1156	72	4322
08:00	40	116	23	12	262	52	50	94	55	59	312	15	1090
08:15	31	121	25	9	214	36	42	68	55	42	291	20	954
08:30	24	107	17	9	202	22	35	65	39	32	272	13	837
08:45	17	105	11	13	210	38	30	77	32	41	238	12	824
Total	112	449	76	43	888	148	157	304	181	174	1113	60	3705
*** BREAK ***													
16:00	29	116	18	20	306	51	58	142	44	42	300	15	1141
16:15	27	110	11	19	318	38	54	140	51	53	239	13	1073
16:30	33	111	19	16	317	42	67	158	49	37	269	14	1132
16:45	26	115	20	21	313	41	55	154	54	53	298	14	1164
Total	115	452	68	76	1254	172	234	594	198	185	1106	56	4510
17:00	34	127	17	20	319	51	65	174	44	48	305	18	1222
17:15	27	118	24	19	348	50	57	153	49	54	289	14	1202
17:30	26	145	13	24	330	35	52	152	60	50	286	25	1198
17:45	19	136	26	29	316	47	52	193	64	44	245	16	1187
Total	106	526	80	92	1313	183	226	672	217	196	1125	73	4809
Grand Total	522	2017	324	254	4562	704	788	1905	783	726	4500	261	17346
Apprch %	18.2	70.5	11.3	4.6	82.6	12.8	22.7	54.8	22.5	13.2	82	4.8	
Total %	3	11.6	1.9	1.5	26.3	4.1	4.5	11	4.5	4.2	25.9	1.5	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: IDAHO STREET
E-W Direction: LAMBERT ROAD

File Name : H1809032
Site Code : 00000000
Start Date : 9/18/2018
Page No : 2

	IDAHO STREET Southbound				LAMBERT ROAD Westbound				IDAHO STREET Northbound				LAMBERT ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	29	129	21	179	10	250	38	298	34	82	**55**	171	34	306	16	356	1004
07:30	64	**177**	**32**	273	**13**	275	62	350	51	**102**	52	205	38	287	**29**	354	1182
07:45	**71**	175	29	**275**	12	**320**	**68**	**400**	**57**	101	48	**206**	52	273	22	347	**1228**
08:00	40	116	23	179	12	262	52	326	50	94	55	199	**59**	**312**	15	**386**	1090
Total Volume	204	597	105	906	47	1107	220	1374	192	379	210	781	183	1178	82	1443	4504
% App. Total	22.5	65.9	11.6		3.4	80.6	16		24.6	48.5	26.9		12.7	81.6	5.7		
PHF	.718	.843	.820	.824	.904	.865	.809	.859	.842	.929	.955	.948	.775	.944	.707	.935	.917

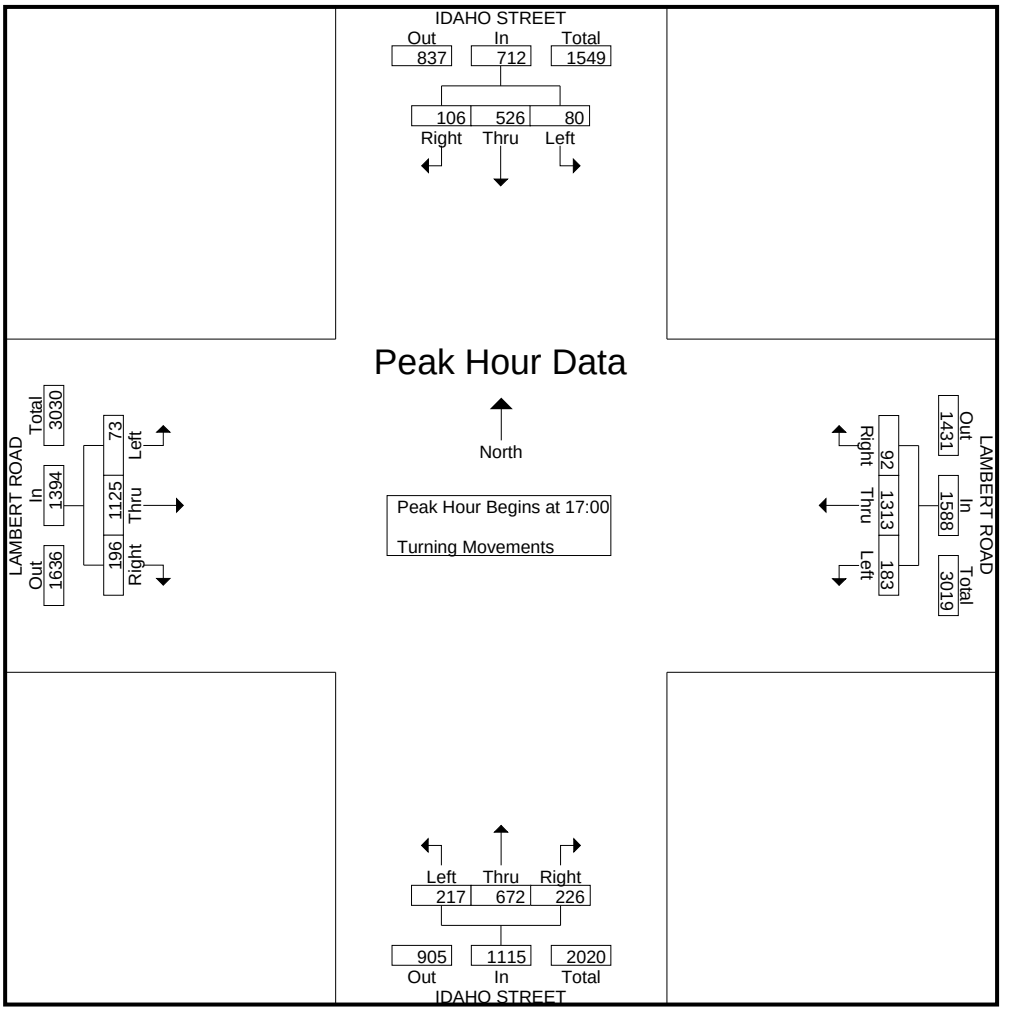


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: IDAHO STREET
E-W Direction: LAMBERT ROAD

File Name : H1809032
Site Code : 00000000
Start Date : 9/18/2018
Page No : 3

	IDAHO STREET Southbound				LAMBERT ROAD Westbound				IDAHO STREET Northbound				LAMBERT ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	**34**	127	17	178	20	319	**51**	390	**65**	174	44	283	48	**305**	18	**371**	**1222**
17:15	27	118	24	169	19	**348**	50	**417**	57	153	49	259	**54**	289	14	357	1202
17:30	26	**145**	13	**184**	24	330	35	389	52	152	60	264	50	286	**25**	361	1198
17:45	19	136	**26**	181	**29**	316	47	392	52	**193**	**64**	**309**	44	245	16	305	1187
Total Volume	106	526	80	712	92	1313	183	1588	226	672	217	1115	196	1125	73	1394	4809
% App. Total	14.9	73.9	11.2		5.8	82.7	11.5		20.3	60.3	19.5		14.1	80.7	5.2		
PHF	.779	.907	.769	.967	.793	.943	.897	.952	.869	.870	.848	.902	.907	.922	.730	.939	.984



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: EUCLID STREET
E-W Direction: LAMBERT ROAD

File Name : H1809033
Site Code : 00000000
Start Date : 9/18/2018

Groups Printed- Turning Movements

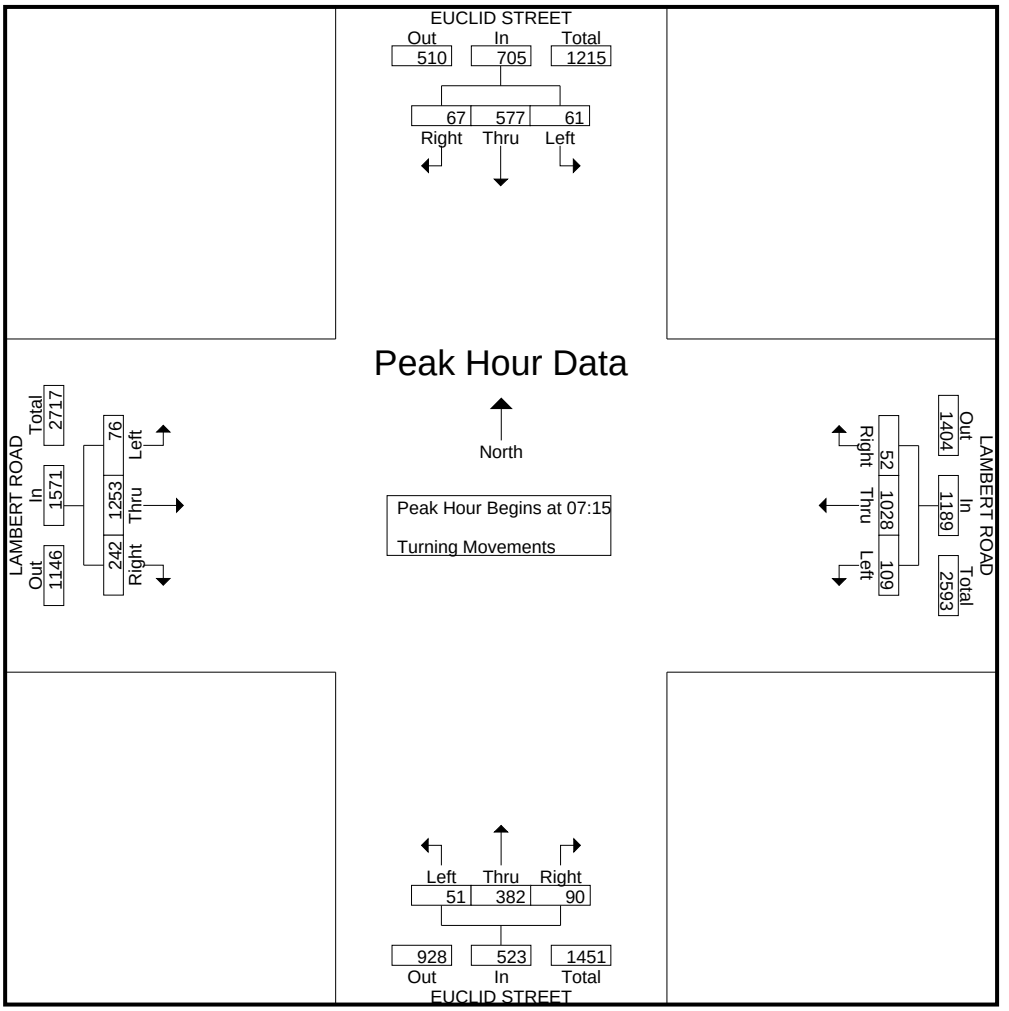
	EUCLID STREET Southbound			LAMBERT ROAD Westbound			EUCLID STREET Northbound			LAMBERT ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	14	128	13	11	226	14	5	58	15	41	313	11	849
07:15	16	149	12	14	250	23	15	86	15	60	304	19	963
07:30	15	142	17	14	260	27	28	81	11	55	317	23	990
07:45	12	146	15	14	263	33	28	110	16	63	332	14	1046
Total	57	565	57	53	999	97	76	335	57	219	1266	67	3848
08:00	24	140	17	10	255	26	19	105	9	64	300	20	989
08:15	5	90	11	6	206	18	24	72	11	53	295	20	811
08:30	6	133	14	7	200	13	21	58	9	38	283	12	794
08:45	11	130	8	11	212	29	15	64	9	33	234	25	781
Total	46	493	50	34	873	86	79	299	38	188	1112	77	3375
*** BREAK ***													
16:00	16	101	9	21	329	21	16	135	21	26	271	30	996
16:15	17	119	8	23	294	15	24	151	22	27	217	29	946
16:30	22	97	5	30	323	18	29	179	35	24	233	44	1039
16:45	21	88	12	25	379	20	18	167	25	28	283	44	1110
Total	76	405	34	99	1325	74	87	632	103	105	1004	147	4091
17:00	14	101	13	17	364	30	15	178	26	28	280	33	1099
17:15	22	109	10	26	353	21	19	166	29	40	266	27	1088
17:30	17	110	8	28	348	24	19	176	24	34	259	25	1072
17:45	12	119	6	22	347	19	15	184	29	28	265	18	1064
Total	65	439	37	93	1412	94	68	704	108	130	1070	103	4323
Grand Total	244	1902	178	279	4609	351	310	1970	306	642	4452	394	15637
Apprch %	10.5	81.8	7.7	5.3	88	6.7	12	76.2	11.8	11.7	81.1	7.2	
Total %	1.6	12.2	1.1	1.8	29.5	2.2	2	12.6	2	4.1	28.5	2.5	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: EUCLID STREET
E-W Direction: LAMBERT ROAD

File Name : H1809033
Site Code : 00000000
Start Date : 9/18/2018

	EUCLID STREET Southbound				LAMBERT ROAD Westbound				EUCLID STREET Northbound				LAMBERT ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	16	**149**	12	177	**14**	250	23	287	15	86	15	116	60	304	19	383	963
07:30	15	142	**17**	174	14	260	27	301	**28**	81	11	120	55	317	**23**	395	990
07:45	12	146	15	173	14	**263**	**33**	**310**	28	**110**	**16**	**154**	63	**332**	14	**409**	**1046**
08:00	**24**	140	17	**181**	10	255	26	291	19	105	9	133	**64**	300	20	384	989
Total Volume	67	577	61	705	52	1028	109	1189	90	382	51	523	242	1253	76	1571	3988
% App. Total	9.5	81.8	8.7		4.4	86.5	9.2		17.2	73	9.8		15.4	79.8	4.8		
PHF	.698	.968	.897	.974	.929	.977	.826	.959	.804	.868	.797	.849	.945	.944	.826	.960	.953

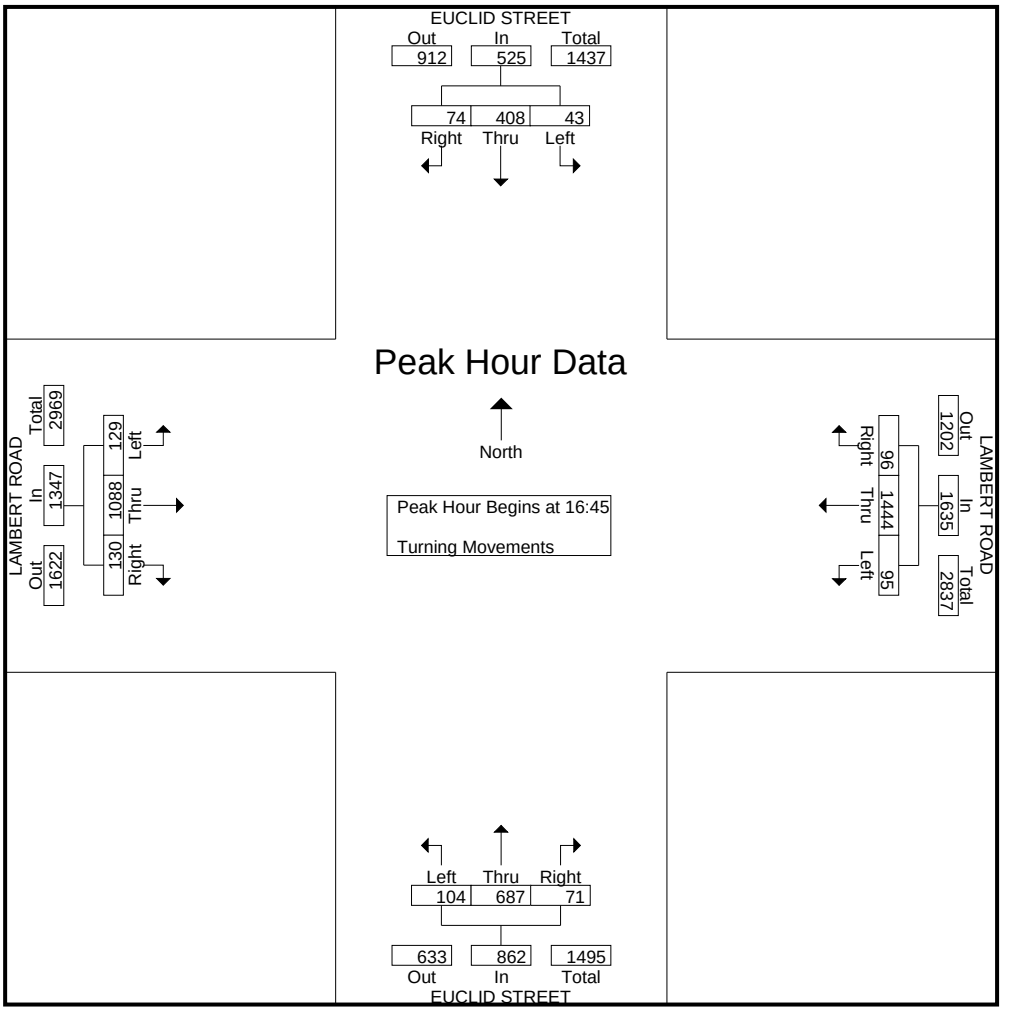


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: EUCLID STREET
E-W Direction: LAMBERT ROAD

File Name : H1809033
Site Code : 00000000
Start Date : 9/18/2018

	EUCLID STREET Southbound				LAMBERT ROAD Westbound				EUCLID STREET Northbound				LAMBERT ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	21	88	12	121	25	**379**	20	**424**	18	167	25	210	28	**283**	**44**	**355**	**1110**
17:00	14	101	**13**	128	17	364	**30**	411	15	**178**	26	**219**	28	280	33	341	1099
17:15	**22**	109	10	**141**	26	353	21	400	**19**	166	**29**	214	**40**	266	27	333	1088
17:30	17	**110**	8	135	**28**	348	24	400	19	176	24	219	34	259	25	318	1072
Total Volume	74	408	43	525	96	1444	95	1635	71	687	104	862	130	1088	129	1347	4369
% App. Total	14.1	77.7	8.2		5.9	88.3	5.8		8.2	79.7	12.1		9.7	80.8	9.6		
PHF	.841	.927	.827	.931	.857	.953	.792	.964	.934	.965	.897	.984	.813	.961	.733	.949	.984



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: HARBOR BOULEVARD
E-W Direction: LAMBERT ROAD

File Name : H1809034
Site Code : 00000000
Start Date : 9/18/2018

Groups Printed- Turning Movements

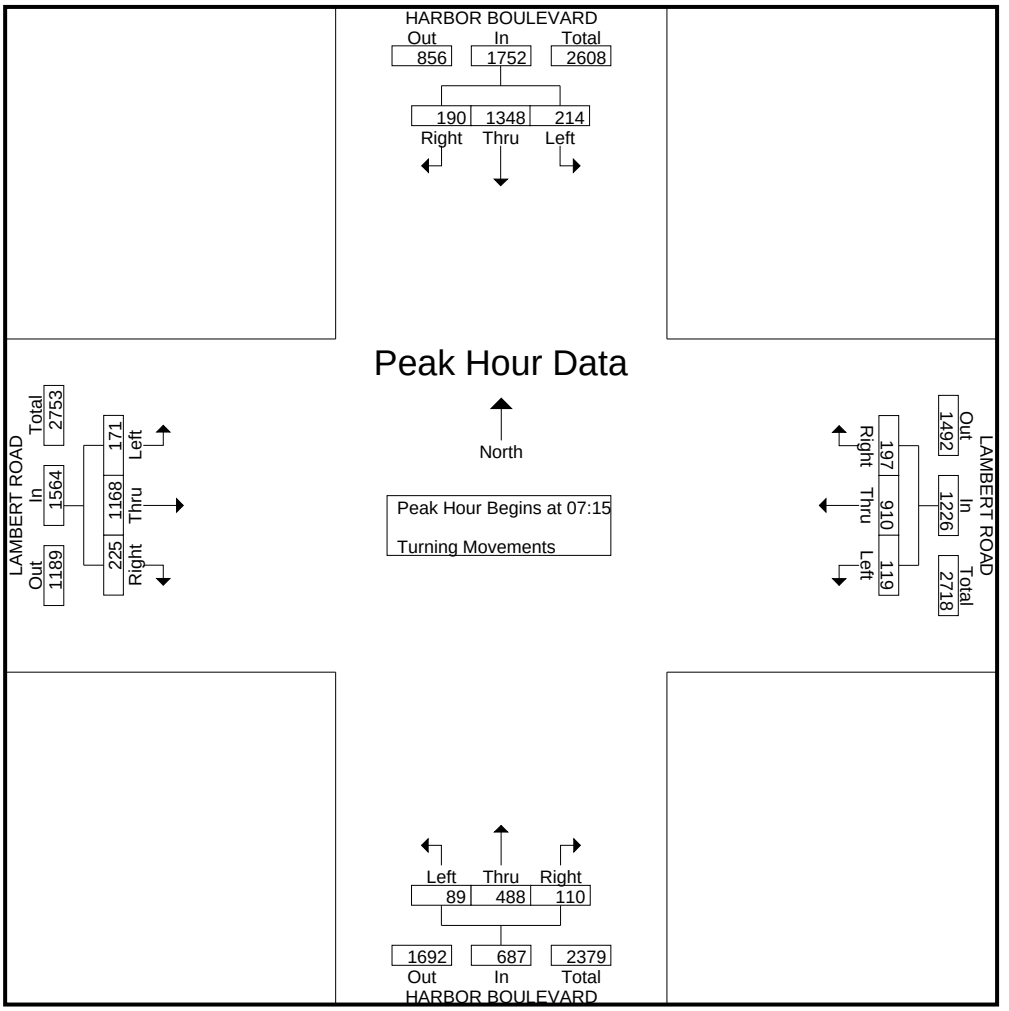
	HARBOR BOULEVARD Southbound			LAMBERT ROAD Westbound			HARBOR BOULEVARD Northbound			LAMBERT ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	41	325	34	28	223	32	29	105	32	70	238	35	1192
07:15	37	357	42	29	201	29	22	113	20	63	249	31	1193
07:30	46	340	61	53	251	28	28	115	16	52	295	49	1334
07:45	64	320	64	82	242	31	25	128	23	48	327	45	1399
Total	188	1342	201	192	917	120	104	461	91	233	1109	160	5118
08:00	43	331	47	33	216	31	35	132	30	62	297	46	1303
08:15	32	304	34	29	174	33	17	140	27	51	218	39	1098
08:30	27	342	41	20	189	30	25	152	27	52	242	53	1200
08:45	39	259	39	42	191	30	19	126	16	37	200	43	1041
Total	141	1236	161	124	770	124	96	550	100	202	957	181	4642
*** BREAK ***													
16:00	43	213	23	18	298	26	25	259	42	29	208	53	1237
16:15	31	185	39	63	251	40	26	277	50	35	167	66	1230
16:30	49	233	41	83	328	39	17	305	59	39	176	49	1418
16:45	50	211	34	62	344	36	19	275	52	40	209	48	1380
Total	173	842	137	226	1221	141	87	1116	203	143	760	216	5265
17:00	62	233	34	74	320	40	20	226	45	49	225	53	1381
17:15	45	221	33	57	321	37	26	310	64	47	196	52	1409
17:30	41	218	34	61	306	36	17	290	46	50	183	42	1324
17:45	42	197	28	46	285	24	24	254	55	43	218	59	1275
Total	190	869	129	238	1232	137	87	1080	210	189	822	206	5389
Grand Total	692	4289	628	780	4140	522	374	3207	604	767	3648	763	20414
Apprch %	12.3	76.5	11.2	14.3	76.1	9.6	8.9	76.6	14.4	14.8	70.5	14.7	
Total %	3.4	21	3.1	3.8	20.3	2.6	1.8	15.7	3	3.8	17.9	3.7	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: HARBOR BOULEVARD
E-W Direction: LAMBERT ROAD

File Name : H1809034
Site Code : 00000000
Start Date : 9/18/2018

	HARBOR BOULEVARD Southbound				LAMBERT ROAD Westbound				HARBOR BOULEVARD Northbound				LAMBERT ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	37	**357**	42	436	29	201	29	259	22	113	20	155	**63**	249	31	343	1193
07:30	46	340	61	447	53	**251**	28	332	28	115	16	159	52	295	**49**	396	1334
07:45	**64**	320	**64**	**448**	**82**	242	**31**	**355**	25	128	23	176	48	**327**	45	**420**	**1399**
08:00	43	331	47	421	33	216	31	280	**35**	**132**	**30**	**197**	62	297	46	405	1303
Total Volume	190	1348	214	1752	197	910	119	1226	110	488	89	687	225	1168	171	1564	5229
% App. Total	10.8	76.9	12.2		16.1	74.2	9.7		16	71	13		14.4	74.7	10.9		
PHF	.742	.944	.836	.978	.601	.906	.960	.863	.786	.924	.742	.872	.893	.893	.872	.931	.934

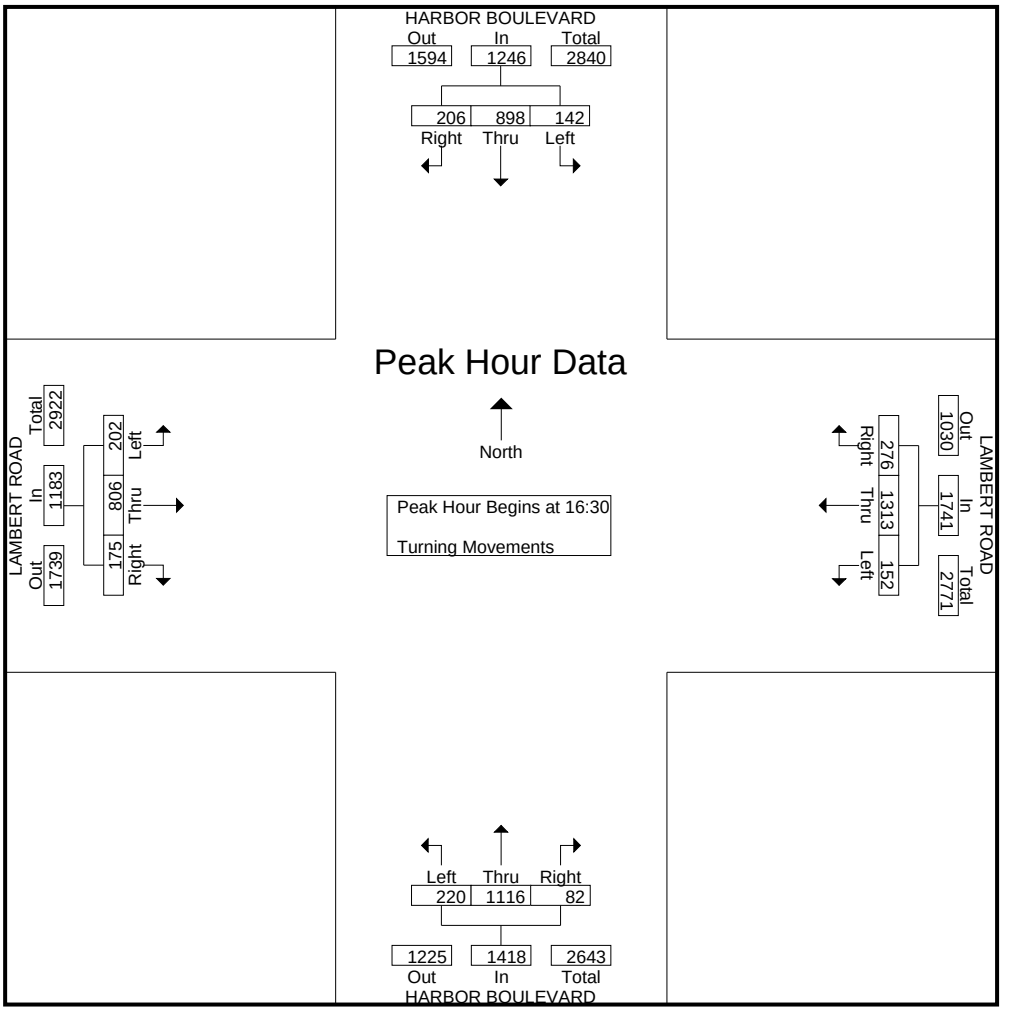


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: HARBOR BOULEVARD
E-W Direction: LAMBERT ROAD

File Name : H1809034
Site Code : 00000000
Start Date : 9/18/2018
Page No : 3

	HARBOR BOULEVARD Southbound				LAMBERT ROAD Westbound				HARBOR BOULEVARD Northbound				LAMBERT ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	49	**233**	**41**	323	**83**	328	39	**450**	17	305	59	381	39	176	49	264	**1418**
16:45	50	211	34	295	62	**344**	36	442	19	275	52	346	40	209	48	297	1380
17:00	**62**	233	34	**329**	74	320	**40**	434	20	226	45	291	**49**	**225**	**53**	**327**	1381
17:15	45	221	33	299	57	321	37	415	**26**	**310**	**64**	**400**	47	196	52	295	1409
Total Volume	206	898	142	1246	276	1313	152	1741	82	1116	220	1418	175	806	202	1183	5588
% App. Total	16.5	72.1	11.4		15.9	75.4	8.7		5.8	78.7	15.5		14.8	68.1	17.1		
PHF	.831	.964	.866	.947	.831	.954	.950	.967	.788	.900	.859	.886	.893	.896	.953	.904	.985



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: LA MIRADA BOULEVARD
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809035
Site Code : 00000000
Start Date : 9/18/2018

Groups Printed- Turning Movements

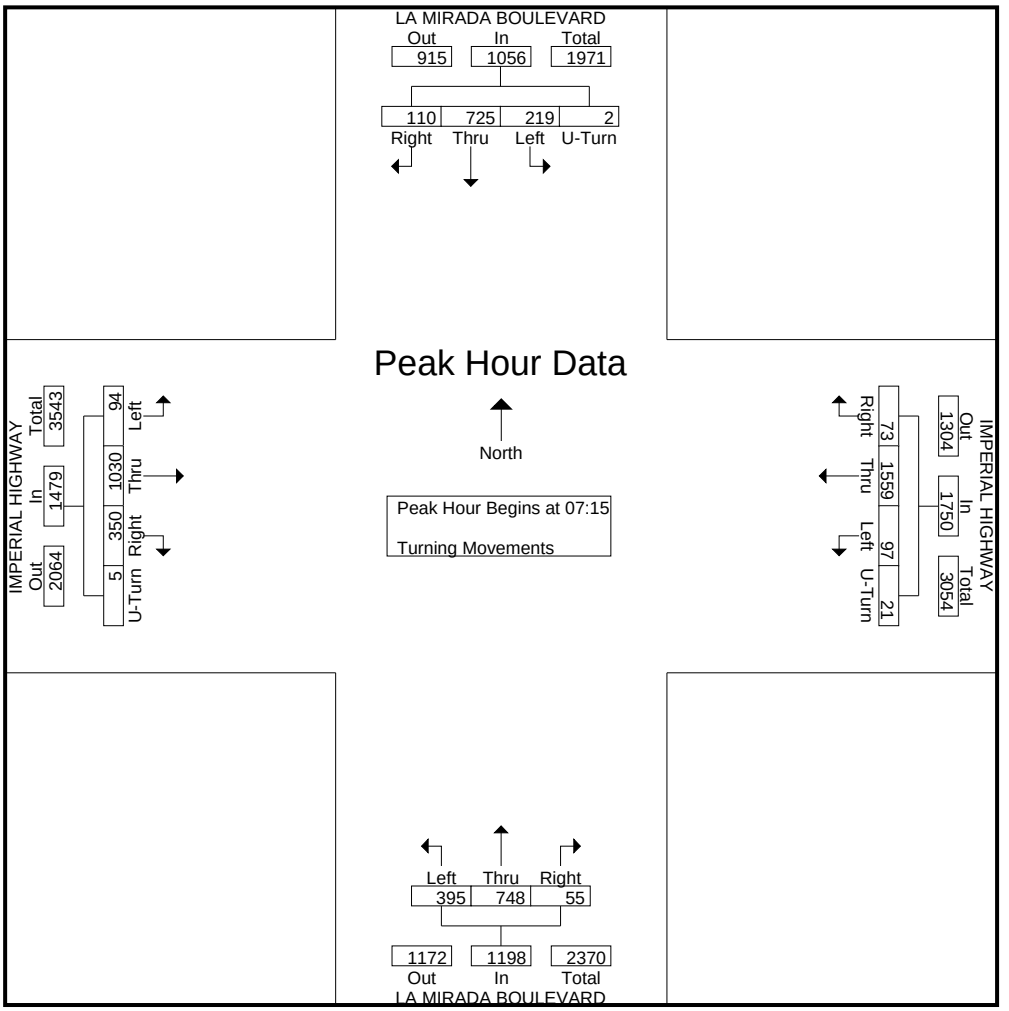
	LA MIRADA BOULEVARD Southbound				IMPERIAL HIGHWAY Westbound				LA MIRADA BOULEVARD Northbound			IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	U-Turn	Int. Total
07:00	17	167	22	1	19	363	19	5	8	110	88	66	181	17	0	1083
07:15	27	198	52	1	16	356	18	5	15	182	112	107	245	21	1	1356
07:30	21	170	52	1	10	465	18	6	14	176	98	96	265	27	2	1421
07:45	36	203	70	0	20	364	28	2	14	220	103	94	260	20	1	1435
Total	101	738	196	3	65	1548	83	18	51	688	401	363	951	85	4	5295
08:00	26	154	45	0	27	374	33	8	12	170	82	53	260	26	1	1271
08:15	29	196	41	0	23	309	27	6	36	163	105	48	204	23	0	1210
08:30	19	142	33	2	27	307	41	11	28	132	103	48	178	12	1	1084
08:45	26	150	38	0	22	170	32	12	17	149	121	53	134	24	1	949
Total	100	642	157	2	99	1160	133	37	93	614	411	202	776	85	3	4514
*** BREAK ***																
16:00	20	149	61	3	37	263	42	6	36	157	80	74	275	36	3	1242
16:15	20	194	81	3	33	224	32	5	30	198	97	91	261	17	4	1290
16:30	13	156	56	5	32	273	42	5	32	183	82	83	295	35	3	1295
16:45	14	184	87	1	33	235	41	4	40	203	99	82	281	34	1	1339
Total	67	683	285	12	135	995	157	20	138	741	358	330	1112	122	11	5166
17:00	22	152	57	1	30	251	39	8	35	173	87	68	329	18	4	1274
17:15	23	203	81	1	15	263	45	10	38	224	92	82	282	24	1	1384
17:30	21	149	63	0	37	273	44	7	25	196	86	76	302	32	0	1311
17:45	13	234	57	0	37	248	45	9	32	204	97	94	280	28	0	1378
Total	79	738	258	2	119	1035	173	34	130	797	362	320	1193	102	5	5347
Grand Total	347	2801	896	19	418	4738	546	109	412	2840	1532	1215	4032	394	23	20322
Apprch %	8.5	68.9	22.1	0.5	7.2	81.5	9.4	1.9	8.6	59.4	32	21.5	71.2	7	0.4	
Total %	1.7	13.8	4.4	0.1	2.1	23.3	2.7	0.5	2	14	7.5	6	19.8	1.9	0.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: LA MIRADA BOULEVARD
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809035
Site Code : 00000000
Start Date : 9/18/2018
Page No : 2

	LA MIRADA BOULEVARD Southbound					IMPERIAL HIGHWAY Westbound					LA MIRADA BOULEVARD Northbound				IMPERIAL HIGHWAY Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 07:15																				
07:15	27	198	52	**1**	278	16	356	18	5	395	**15**	182	**112**	309	**107**	245	21	1	374	1356
07:30	21	170	52	1	244	10	**465**	18	6	**499**	14	176	98	288	96	**265**	**27**	**2**	**390**	1421
07:45	**36**	**203**	**70**	0	**309**	20	364	28	2	414	14	**220**	103	**337**	94	260	20	1	375	**1435**
08:00	26	154	45	0	225	**27**	374	**33**	**8**	442	12	170	82	264	53	260	26	1	340	1271
Total Volume	110	725	219	2	1056	73	1559	97	21	1750	55	748	395	1198	350	1030	94	5	1479	5483
% App. Total	10.4	68.7	20.7	0.2		4.2	89.1	5.5	1.2		4.6	62.4	33		23.7	69.6	6.4	0.3		
PHF	.764	.893	.782	.500	.854	.676	.838	.735	.656	.877	.917	.850	.882	.889	.818	.972	.870	.625	.948	.955

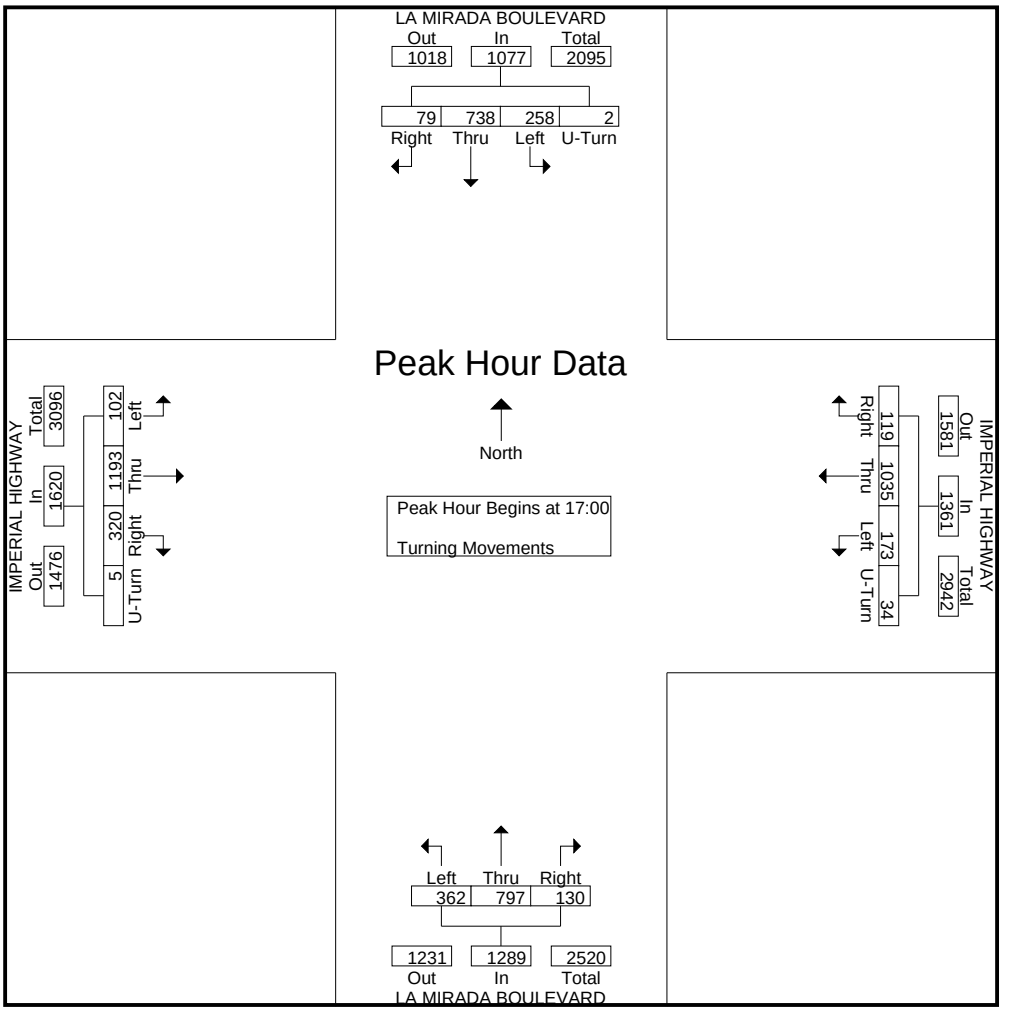


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: LA MIRADA BOULEVARD
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809035
Site Code : 00000000
Start Date : 9/18/2018
Page No : 3

	LA MIRADA BOULEVARD Southbound					IMPERIAL HIGHWAY Westbound					LA MIRADA BOULEVARD Northbound				IMPERIAL HIGHWAY Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 17:00																				
17:00	22	152	57	**1**	232	30	251	39	8	328	35	173	87	295	68	**329**	18	**4**	**419**	1274
17:15	**23**	203	**81**	1	**308**	15	263	**45**	**10**	333	**38**	**224**	92	**354**	82	282	24	1	389	**1384**
17:30	21	149	63	0	233	**37**	**273**	44	7	**361**	25	196	86	307	76	302	**32**	0	410	1311
17:45	13	**234**	57	0	304	37	248	45	9	339	32	204	**97**	333	**94**	280	28	0	402	1378
Total Volume	79	738	258	2	1077	119	1035	173	34	1361	130	797	362	1289	320	1193	102	5	1620	5347
% App. Total	7.3	68.5	24	0.2		8.7	76	12.7	2.5		10.1	61.8	28.1		19.8	73.6	6.3	0.3		
PHF	.859	.788	.796	.500	.874	.804	.948	.961	.850	.943	.855	.890	.933	.910	.851	.907	.797	.313	.967	.966



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: LA MIRADA BLVD / MALVERN

File Name : H1809044
Site Code : 00000000
Start Date : 9/25/2018
Page No : 1

Groups Printed- Turning Movements

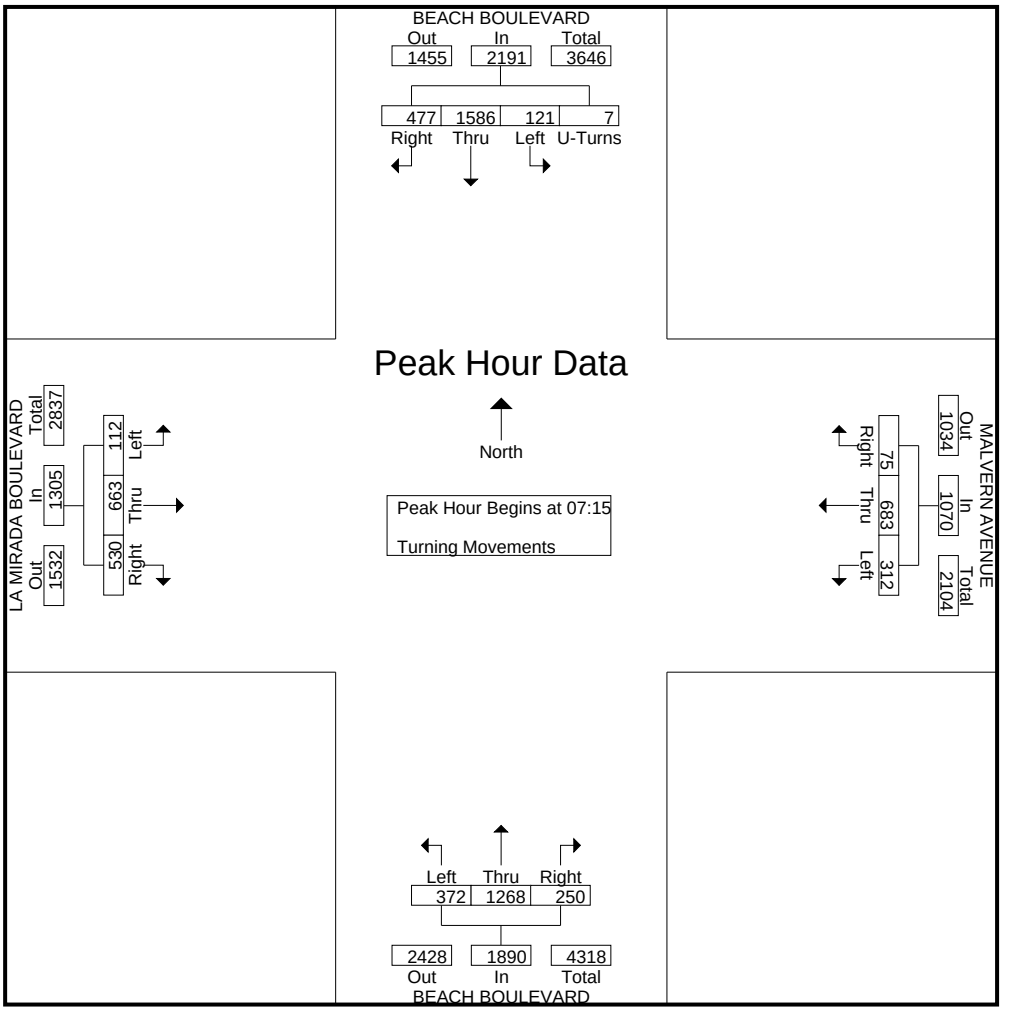
	BEACH BOULEVARD Southbound				MALVERN AVENUE Westbound			BEACH BOULEVARD Northbound			LA MIRADA BOULEVARD Eastbound			
Start Time	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	100	411	29	1	23	135	46	66	247	94	149	183	23	1507
07:15	107	419	35	1	17	166	62	103	283	91	144	187	20	1635
07:30	141	431	39	2	25	184	80	67	325	94	120	182	33	1723
07:45	124	357	22	2	20	174	86	44	350	103	133	145	28	1588
Total	472	1618	125	6	85	659	274	280	1205	382	546	697	104	6453
08:00	105	379	25	2	13	159	84	36	310	84	133	149	31	1510
08:15	88	380	32	3	15	152	68	32	263	96	140	130	13	1412
08:30	76	438	32	7	18	151	62	30	315	87	145	166	38	1565
08:45	54	420	31	3	25	144	60	23	259	83	127	131	20	1380
Total	323	1617	120	15	71	606	274	121	1147	350	545	576	102	5867
*** BREAK ***														
16:00	39	329	32	8	46	196	54	52	466	151	115	137	80	1705
16:15	42	347	44	11	66	244	68	45	404	118	108	170	74	1741
16:30	39	303	37	12	47	197	62	41	470	152	107	134	80	1681
16:45	44	311	33	8	63	223	55	35	413	134	103	191	72	1685
Total	164	1290	146	39	222	860	239	173	1753	555	433	632	306	6812
17:00	47	349	28	7	24	219	68	48	428	122	86	137	61	1624
17:15	36	315	32	11	28	228	64	41	425	155	107	183	81	1706
17:30	37	317	48	12	51	237	75	36	397	125	103	179	66	1683
17:45	41	226	32	10	46	217	64	43	446	159	97	158	71	1610
Total	161	1207	140	40	149	901	271	168	1696	561	393	657	279	6623
Grand Total	1120	5732	531	100	527	3026	1058	742	5801	1848	1917	2562	791	25755
Apprch %	15	76.6	7.1	1.3	11.4	65.6	22.9	8.8	69.1	22	36.4	48.6	15	
Total %	4.3	22.3	2.1	0.4	2	11.7	4.1	2.9	22.5	7.2	7.4	9.9	3.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: LA MIRADA BLVD / MALVERN

File Name : H1809044
Site Code : 00000000
Start Date : 9/25/2018

	BEACH BOULEVARD Southbound					MALVERN AVENUE Westbound				BEACH BOULEVARD Northbound				LA MIRADA BOULEVARD Eastbound				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15																		
07:15	107	419	35	1	562	17	166	62	245	**103**				**144**	**187**	20	**351**	1635
07:30	**141**	**431**	**39**	**2**	**613**	**25**	**184**	80	**289**	67	325	94	486	120	182	**33**	335	**1723**
07:45	124	357	22	2	505	20	174	**86**	280	44	**350**	**103**	**497**	133	145	28	306	1588
08:00	105	379	25	2	511	13	159	84	256	36	310	84	430	133	149	31	313	1510
Total Volume	477	1586	121	7	2191	75	683	312	1070	250	1268	372	1890	530	663	112	1305	6456
% App. Total	21.8	72.4	5.5	0.3		7	63.8	29.2		13.2	67.1	19.7		40.6	50.8	8.6		
PHF	.846	.920	.776	.875	.894	.750	.928	.907	.926	.607	.906	.903	.951	.920	.886	.848	.929	.937

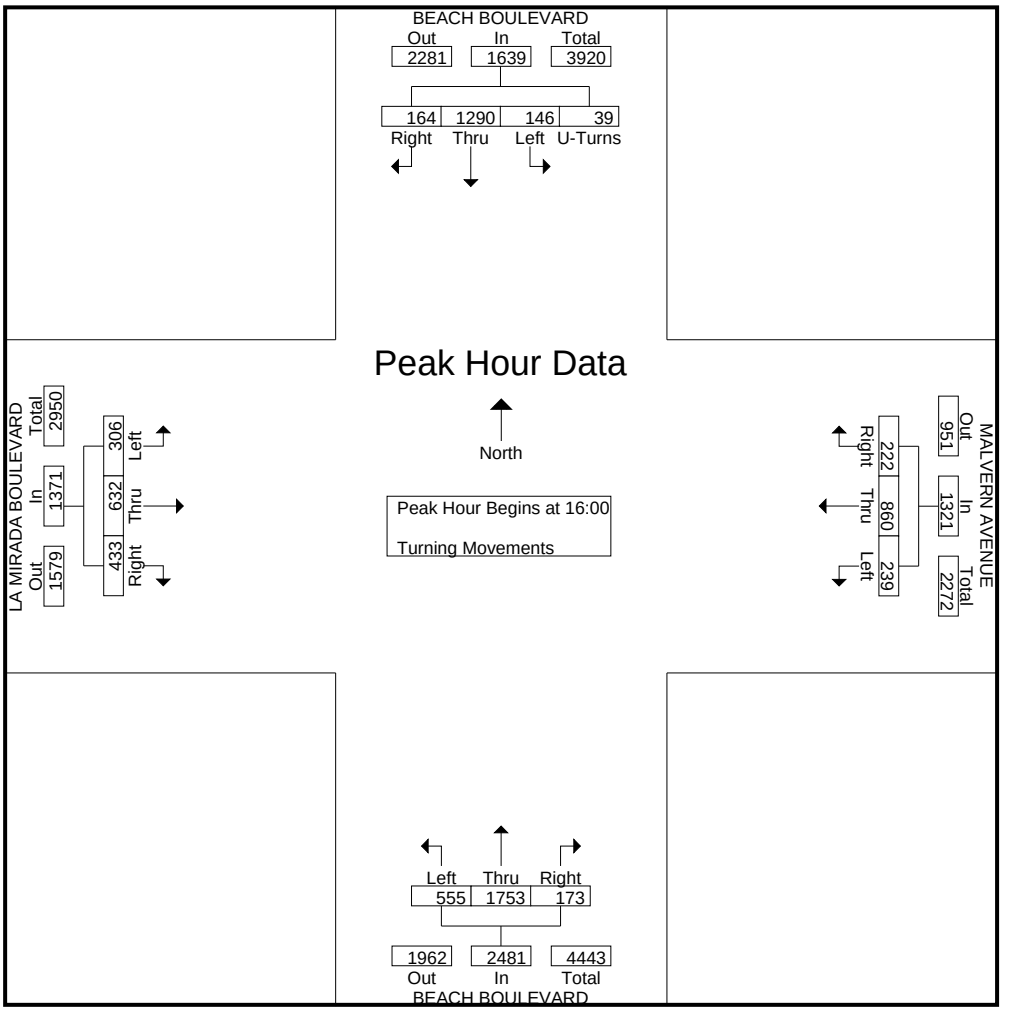


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: LA MIRADA BLVD / MALVERN

File Name : H1809044
Site Code : 00000000
Start Date : 9/25/2018

	BEACH BOULEVARD Southbound					MALVERN AVENUE Westbound				BEACH BOULEVARD Northbound				LA MIRADA BOULEVARD Eastbound				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 16:00																		
16:00	39	329	32	8	408	46	196	54	296	**52**			**669**	**115**	137	**80**	332	1705
16:15	42	**347**	**44**	11	**444**	**66**	**244**	**68**	**378**	45	404	118	567	108	170	74	352	**1741**
16:30	39	303	37	**12**	391	47	197	62	306	41	**470**	**152**						
16:45	**44**	311	33	8	396	63	223	55	341	35	413	134	582	103	**191**	72	**366**	1685
Total Volume	164	1290	146	39	1639	222	860	239	1321	173	1753	555	2481	433	632	306	1371	6812
% App. Total	10	78.7	8.9	2.4		16.8	65.1	18.1		7	70.7	22.4		31.6	46.1	22.3		
PHF	.932	.929	.830	.813	.923	.841	.881	.879	.874	.832	.932	.913	.927	.941	.827	.956	.936	.978



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: LA HABRA BOULEVARD

File Name : H1809045
Site Code : 00000000
Start Date : 9/25/2018
Page No : 1

Groups Printed- Turning Movements

	BEACH BOULEVARD Southbound				LA HABRA BOULEVARD Westbound			BEACH BOULEVARD Northbound				LA HABRA BOULEVARD Eastbound			
Start Time	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Int. Total
07:00	17	345	19	7	12	137	51	25	138	37	2	28	110	26	954
07:15	37	353	33	3	12	182	53	36	185	91	5	27	154	40	1211
07:30	20	339	30	7	18	180	62	49	232	64	7	25	143	30	1206
07:45	35	381	29	11	18	126	54	56	226	33	7	24	104	37	1141
Total	109	1418	111	28	60	625	220	166	781	225	21	104	511	133	4512
08:00	30	334	19	11	22	123	62	47	225	45	6	24	69	45	1062
08:15	22	351	28	6	13	120	46	29	170	33	4	29	89	27	967
08:30	19	267	21	9	10	88	43	46	175	29	3	15	75	31	831
08:45	24	238	13	7	7	86	26	34	154	32	7	12	76	24	740
Total	95	1190	81	33	52	417	177	156	724	139	20	80	309	127	3600
*** BREAK ***															
16:00	34	274	18	9	21	126	40	80	316	38	7	35	128	49	1175
16:15	25	261	28	15	19	102	39	69	338	54	7	41	141	46	1185
16:30	29	244	35	11	20	119	34	70	314	45	4	29	142	47	1143
16:45	31	281	32	12	24	140	54	90	334	67	6	39	149	62	1321
Total	119	1060	113	47	84	487	167	309	1302	204	24	144	560	204	4824
17:00	30	282	30	14	23	160	44	73	277	48	3	30	171	65	1250
17:15	29	353	35	13	24	128	40	74	365	62	8	41	145	49	1366
17:30	38	312	34	11	29	161	41	63	289	48	4	29	180	54	1293
17:45	20	315	28	16	20	165	50	74	320	38	3	41	132	47	1269
Total	117	1262	127	54	96	614	175	284	1251	196	18	141	628	215	5178
Grand Total	440	4930	432	162	292	2143	739	915	4058	764	83	469	2008	679	18114
Apprch %	7.4	82.7	7.2	2.7	9.2	67.5	23.3	15.7	69.7	13.1	1.4	14.9	63.6	21.5	
Total %	2.4	27.2	2.4	0.9	1.6	11.8	4.1	5.1	22.4	4.2	0.5	2.6	11.1	3.7	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: LA HABRA BOULEVARD

File Name : H1809045
Site Code : 00000000
Start Date : 9/25/2018
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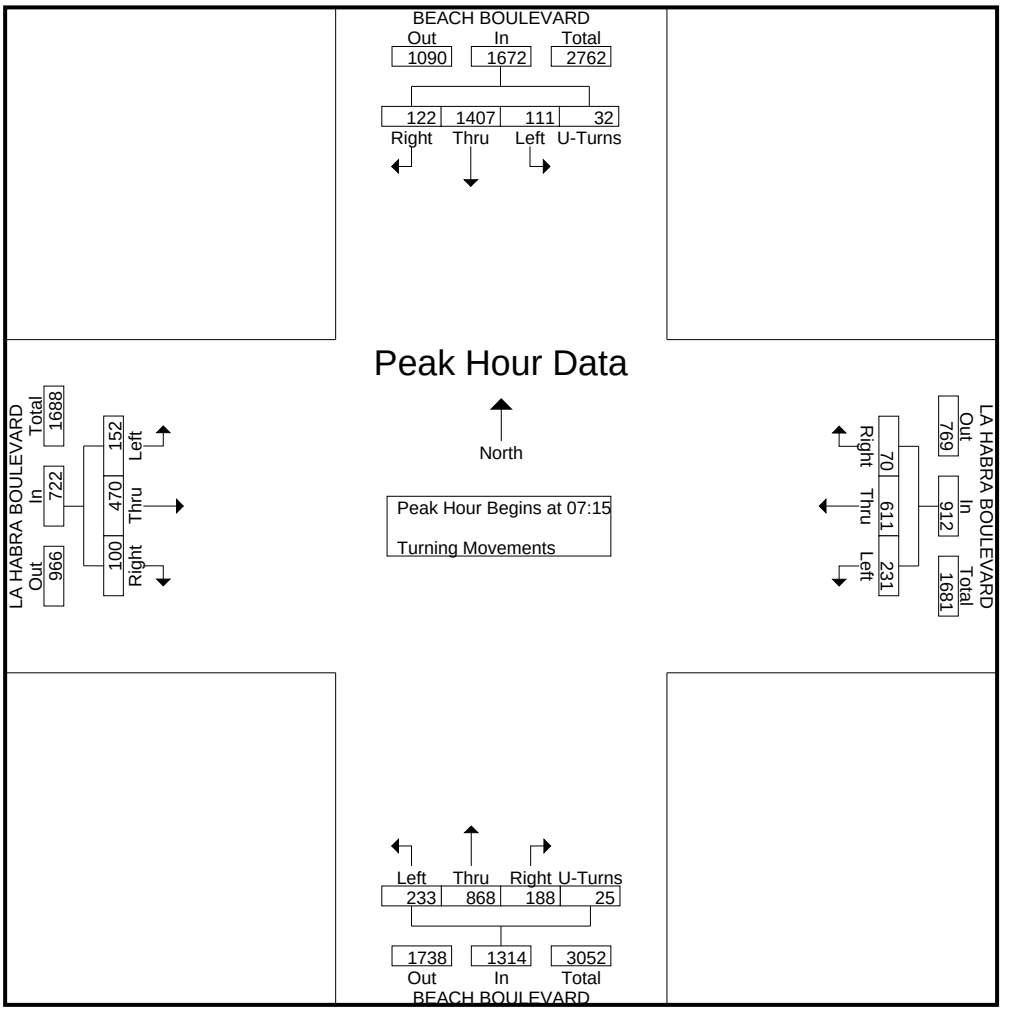
	BEACH BOULEVARD Southbound					LA HABRA BOULEVARD Westbound				BEACH BOULEVARD Northbound					LA HABRA BOULEVARD Eastbound				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:15																			
07:15	**37**	353	**33**	3	426	12	**182**	53	247	36	185	**91**			**27**	**154**	40	**221**	**1211**
07:30	20	339	30	7	396	18	180	**62**	**260**	49	**232**	64	**7**	**352**	25	143	30	198	1206
07:45	35	**381**	29	**11**	**456**	18	126	54	198	**56**									
08:00	**30**	**334**	**19**	**11**	**394**	**22**	123	62	207	47	225	45	6	323	24	69	**45**	138	1062
Total Volume	122	1407	111	32	1672	70	611	231	912	188	868	233	25	1314	100	470	152	722	4620
% App. Total	7.3	84.2	6.6	1.9		7.7	67	25.3		14.3	66.1	17.7	1.9		13.9	65.1	21.1		
PHF	.824	.923	.841	.727	.917	.795	.839	.931	.877	.839	.935	.640	.893	.933	.926	.763	.844	.817	.954



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
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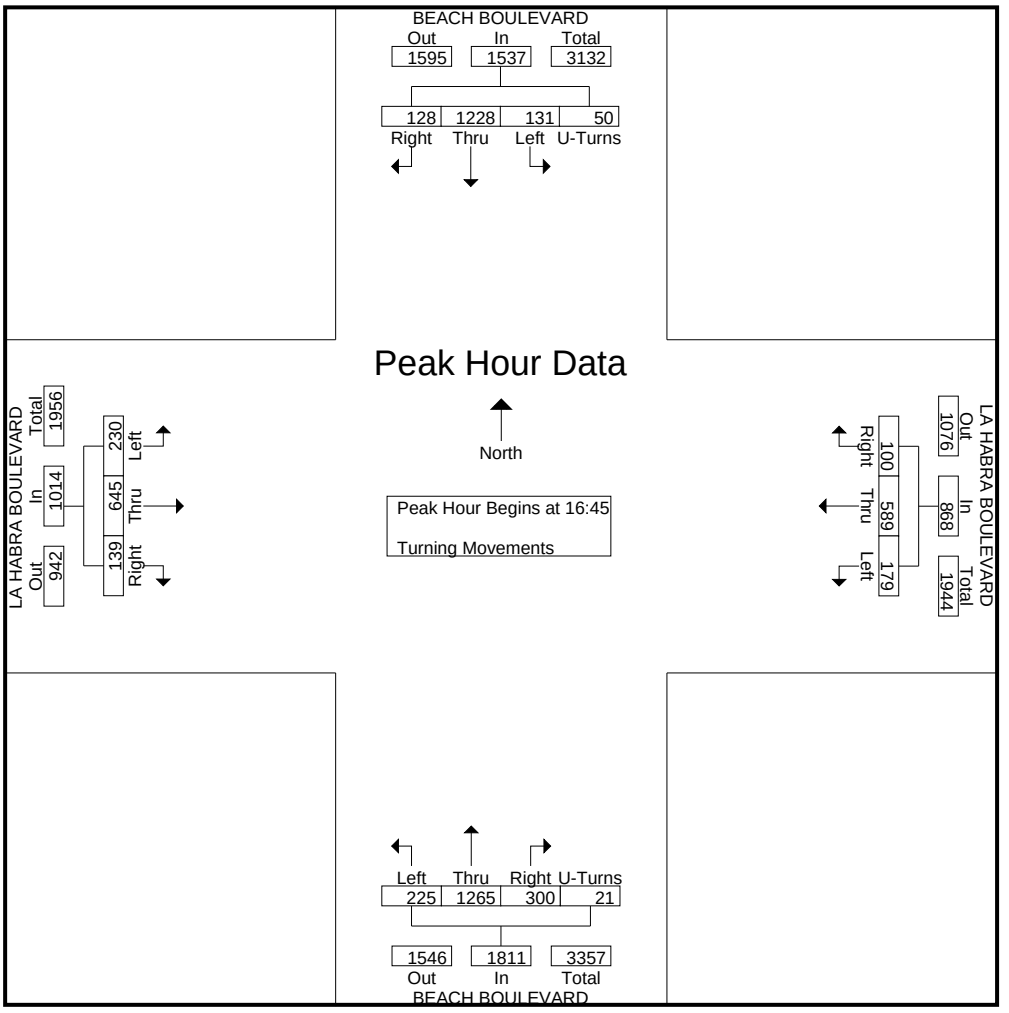
File Name : H1809045
Site Code : 00000000
Start Date : 9/25/2018
Page No : 3

	BEACH BOULEVARD Southbound					LA HABRA BOULEVARD Westbound				BEACH BOULEVARD Northbound					LA HABRA BOULEVARD Eastbound				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 16:45																			
16:45	31	281	32	12	356	24	140	**54**	218	**90**		**67**							
17:00	**30**	**282**	**30**	**14**	356	23	160	44	227	73	277	48	3	401	30	171	**65**	**266**	1250
17:15	29	**353**	**35**	13	**430**	24	128	40	192	74	**365**	62	**8**	**509**	**41**	145	49	235	**1366**
17:30	**38**	312	34	11	395	**29**	**161**	41	**231**	63	289	48	4	404	29	**180**	54	263	1293
Total Volume	128	1228	131	50	1537	100	589	179	868	300	1265	225	21	1811	139	645	230	1014	5230
% App. Total	8.3	79.9	8.5	3.3		11.5	67.9	20.6		16.6	69.9	12.4	1.2		13.7	63.6	22.7		
PHF	.842	.870	.936	.893	.894	.862	.915	.829	.939	.833	.866	.840	.656	.889	.848	.896	.885	.953	.957



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: VALLEY VIEW AVENUE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809036
Site Code : 00000000
Start Date : 9/18/2018

Groups Printed- Turning Movements

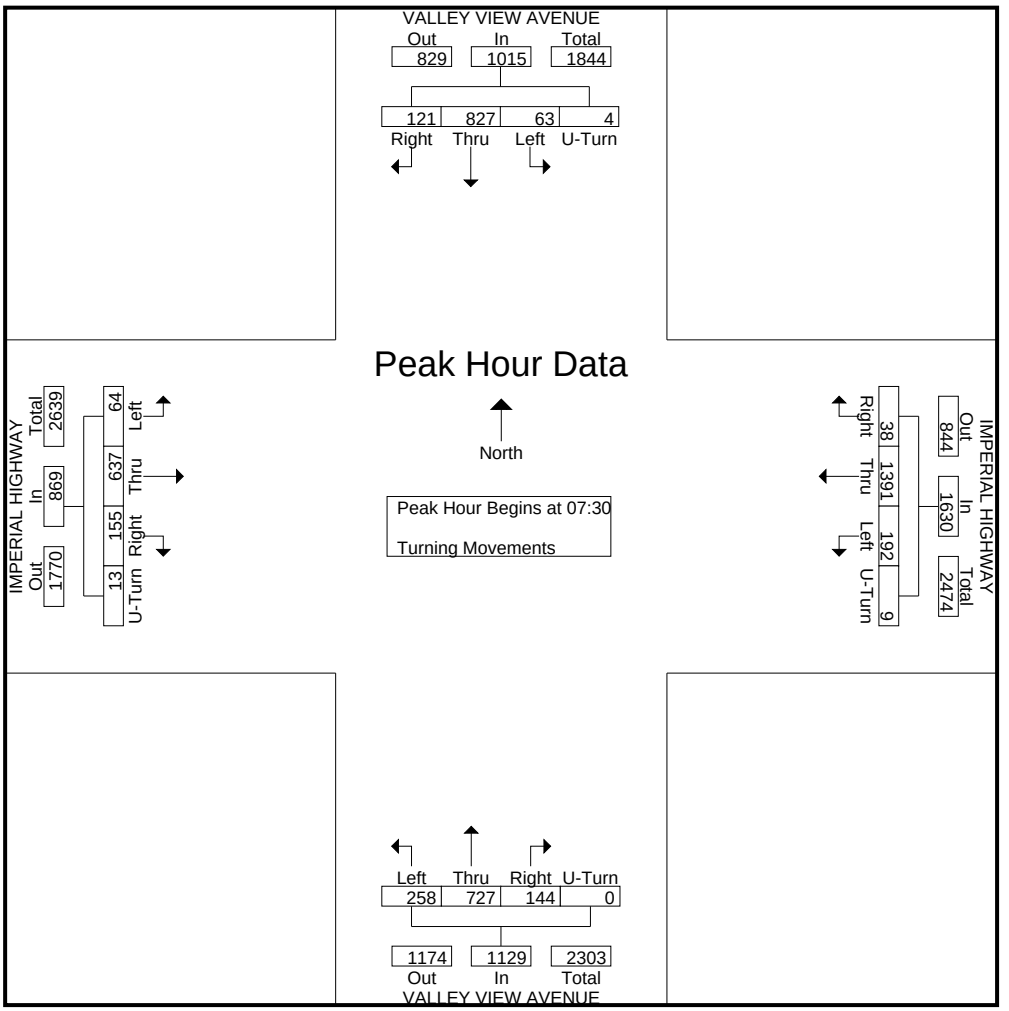
	VALLEY VIEW AVENUE Southbound				IMPERIAL HIGHWAY Westbound				VALLEY VIEW AVENUE Northbound				IMPERIAL HIGHWAY Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00	18	214	4	1	10	254	49	2	22	130	41	2	49	111	17	4	928
07:15	17	162	16	2	5	309	31	1	34	114	70	2	38	202	8	3	1014
07:30	32	276	21	1	5	305	54	2	40	188	57	0	39	183	16	3	1222
07:45	30	201	20	0	13	396	42	1	35	154	69	0	39	191	16	1	1208
Total	97	853	61	4	33	1264	176	6	131	586	237	4	165	687	57	11	4372
08:00	34	192	14	2	7	351	58	5	45	220	63	0	44	131	15	5	1186
08:15	25	158	8	1	13	339	38	1	24	165	69	0	33	132	17	4	1027
08:30	17	138	9	1	17	261	46	1	43	205	76	1	32	121	14	2	984
08:45	12	106	11	0	16	206	33	2	26	129	51	1	48	117	23	3	784
Total	88	594	42	4	53	1157	175	9	138	719	259	2	157	501	69	14	3981
*** BREAK ***																	
16:00	20	125	15	2	15	172	40	5	60	238	56	1	62	264	27	2	1104
16:15	17	153	10	1	17	172	42	5	40	170	57	1	46	249	39	6	1025
16:30	19	120	17	3	12	159	47	4	37	198	32	1	57	242	32	2	982
16:45	18	201	10	7	19	182	48	1	55	218	57	0	52	253	30	2	1153
Total	74	599	52	13	63	685	177	15	192	824	202	3	217	1008	128	12	4264
17:00	14	171	17	1	20	202	42	9	45	218	61	1	65	252	32	5	1155
17:15	15	197	25	1	16	189	51	4	40	198	48	2	56	271	28	3	1144
17:30	10	150	20	3	19	184	33	9	47	204	64	2	43	273	32	3	1096
17:45	17	147	23	3	24	197	44	6	39	193	57	0	46	239	27	1	1063
Total	56	665	85	8	79	772	170	28	171	813	230	5	210	1035	119	12	4458
Grand Total	315	2711	240	29	228	3878	698	58	632	2942	928	14	749	3231	373	49	17075
Apprch %	9.6	82.3	7.3	0.9	4.7	79.8	14.4	1.2	14	65.1	20.5	0.3	17	73.4	8.5	1.1	
Total %	1.8	15.9	1.4	0.2	1.3	22.7	4.1	0.3	3.7	17.2	5.4	0.1	4.4	18.9	2.2	0.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: VALLEY VIEW AVENUE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809036
Site Code : 00000000
Start Date : 9/18/2018
Page No : 2

	VALLEY VIEW AVENUE Southbound					IMPERIAL HIGHWAY Westbound					VALLEY VIEW AVENUE Northbound					IMPERIAL HIGHWAY Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	32	**276**	**21**		**330**	5	305	54	2	366	40	188	57	0	285	39	183	16	3	241	**1222**
07:45	30	201	20	0	251	**13**	**396**			**452**	35	154	**69**	0	258	39	**191**	16	1	**247**	1208
08:00	**34**			**2**				**58**	**5**	421	**45**	**220**			**328**	**44**			**5**		
08:15	**25**	**158**	**8**	**1**	**192**	**13**	**339**	**38**	**1**	**391**	**24**	**165**	**69**	**0**	**258**	**33**	**132**	**17**	**4**	**186**	**1027**
Total Volume	121	827	63	4	1015	38	1391	192	9	1630	144	727	258	0	1129	155	637	64	13	869	4643
% App. Total																					
PHF	.890	.749	.750	.500	.769	.731	.878	.828	.450	.902	.800	.826	.935	.000	.861	.881	.834	.941	.650	.880	.950

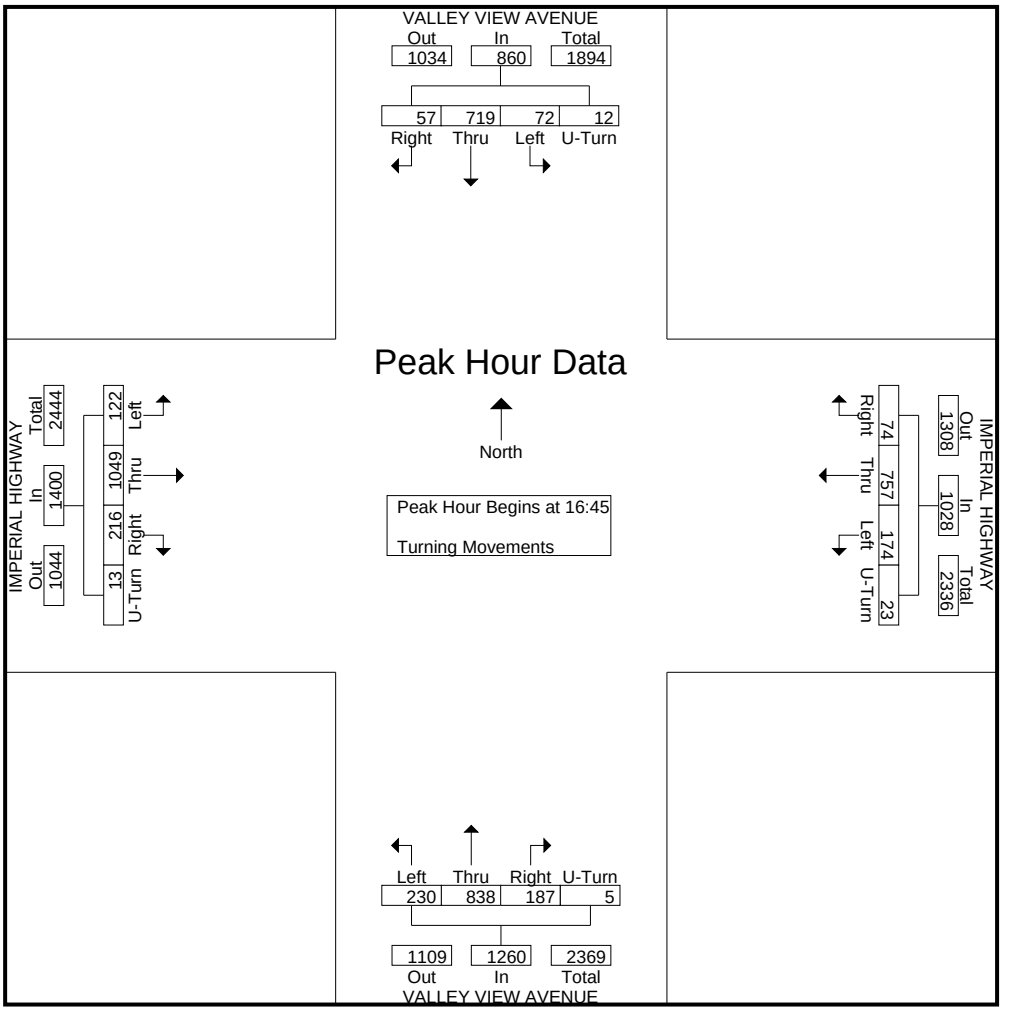


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA MIRADA
N-S Direction: VALLEY VIEW AVENUE
E-W Direction: IMPERIAL HIGHWAY

File Name : H1809036
Site Code : 00000000
Start Date : 9/18/2018
Page No : 3

	VALLEY VIEW AVENUE Southbound					IMPERIAL HIGHWAY Westbound					VALLEY VIEW AVENUE Northbound					IMPERIAL HIGHWAY Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**18**	**201**	10	**7**							**55**	**218**			**330**	52	253	30	2	337	1153
17:00	14	171	17	1	203	**20**	**202**		**9**	**273**	45	218	61	1	325	**65**		**32**	**5**		**1155**
17:15	15	197	**25**		**238**	16	189	**51**						**2**						**358**	1144
17:30	10	150	20	3	183	19	184	33	9	245	47	204	**64**	2	317	43	**273**	32	3	351	1096
Total Volume	57	719	72	12	860	74	757	174	23	1028	187	838	230	5	1260	216	1049	122	13	1400	4548
% App. Total	6.6	83.6	8.4	1.4		7.2	73.6	16.9	2.2		14.8	66.5	18.3	0.4		15.4	74.9	8.7	0.9		
PHF	.792	.894	.720	.429	.903	.925	.937	.853	.639	.941	.850	.961	.898	.625	.955	.831	.961	.953	.650	.978	.984



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: ARTESIA BOULEVARD

File Name : H1809046
Site Code : 00000000
Start Date : 9/25/2018
Page No : 1

Groups Printed- Turning Movements

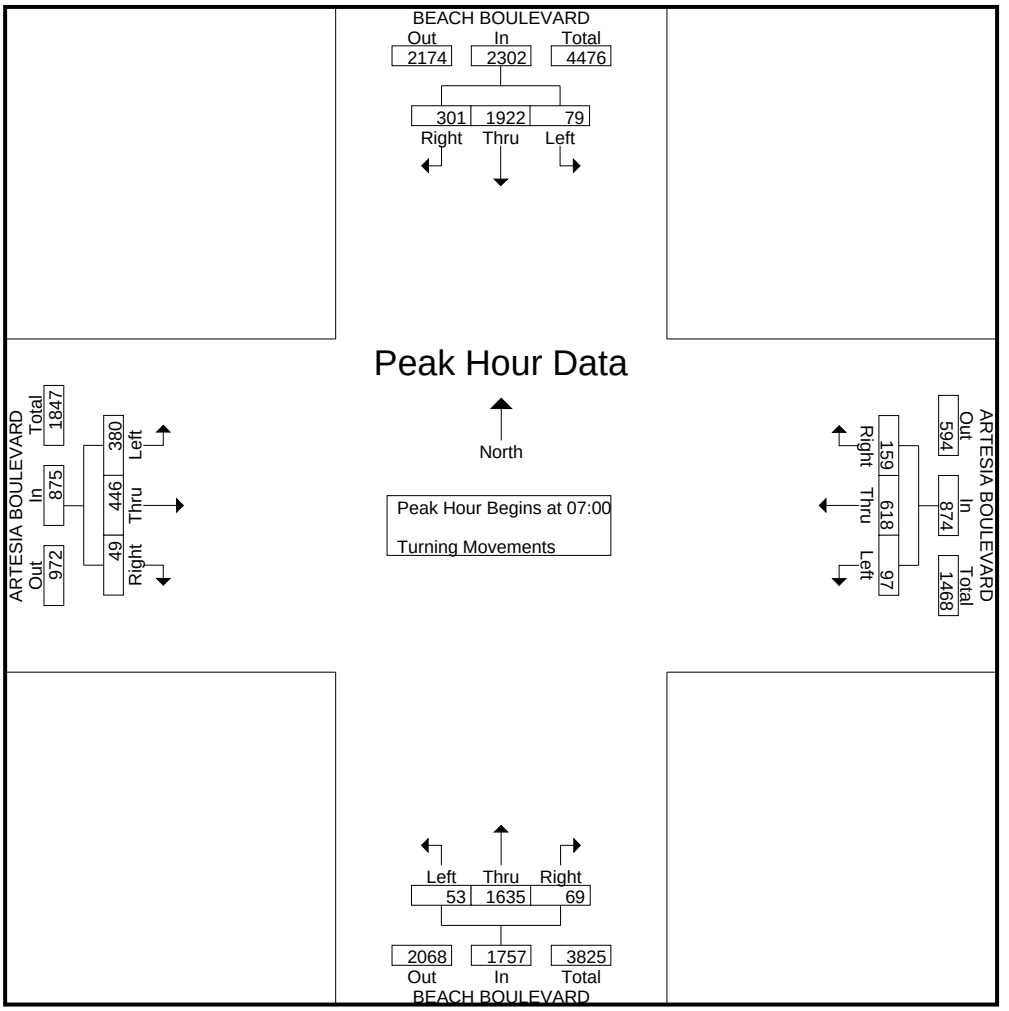
	BEACH BOULEVARD Southbound			ARTESIA BOULEVARD Westbound			BEACH BOULEVARD Northbound			ARTESIA BOULEVARD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	86	471	20	35	138	16	14	351	13	8	79	82	1313
07:15	69	467	17	40	155	18	19	410	14	18	115	108	1450
07:30	93	506	20	40	172	27	17	428	14	12	130	98	1557
07:45	53	478	22	44	153	36	19	446	12	11	122	92	1488
Total	301	1922	79	159	618	97	69	1635	53	49	446	380	5808
08:00	70	465	14	37	119	14	13	340	16	15	74	98	1275
08:15	82	445	20	47	134	29	13	342	12	9	74	84	1291
08:30	75	454	25	39	113	27	7	347	15	16	90	77	1285
08:45	81	448	22	49	106	17	12	309	11	18	64	75	1212
Total	308	1812	81	172	472	87	45	1338	54	58	302	334	5063
*** BREAK ***													
16:00	78	433	31	60	110	31	7	496	14	23	120	134	1537
16:15	73	352	36	65	119	39	12	393	27	17	149	145	1427
16:30	71	425	37	52	115	23	12	454	21	16	113	128	1467
16:45	65	369	29	67	131	27	18	455	23	19	158	123	1484
Total	287	1579	133	244	475	120	49	1798	85	75	540	530	5915
17:00	81	413	33	42	120	22	15	452	23	22	135	140	1498
17:15	86	423	41	61	119	28	16	430	20	21	156	122	1523
17:30	84	351	29	65	123	22	17	358	17	20	183	137	1406
17:45	78	423	43	67	100	18	15	438	16	19	142	142	1501
Total	329	1610	146	235	462	90	63	1678	76	82	616	541	5928
Grand Total	1225	6923	439	810	2027	394	226	6449	268	264	1904	1785	22714
Apprch %	14.3	80.6	5.1	25.1	62.7	12.2	3.3	92.9	3.9	6.7	48.2	45.2	
Total %	5.4	30.5	1.9	3.6	8.9	1.7	1	28.4	1.2	1.2	8.4	7.9	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: ARTESIA BOULEVARD

File Name : H1809046
Site Code : 00000000
Start Date : 9/25/2018

	BEACH BOULEVARD Southbound				ARTESIA BOULEVARD Westbound				BEACH BOULEVARD Northbound				ARTESIA BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	86	471	20	577	35	138	16	189	14	351	13	378	8	79	82	169	1313
07:15	69	467	17	553	40	155	18	213	**19**	410	**14**	443	**18**	115	**108**	**241**	1450
07:30	**93**	**506**	20	**619**	40	**172**	27	**239**	17	428	14	459	12	**130**	98	240	**1557**
07:45	53	478	**22**	553	**44**	153	**36**	233	19	**446**	12	**477**	11	122	92	225	1488
Total Volume	301	1922	79	2302	159	618	97	874	69	1635	53	1757	49	446	380	875	5808
% App. Total	13.1	83.5	3.4		18.2	70.7	11.1		3.9	93.1	3		5.6	51	43.4		
PHF	.809	.950	.898	.930	.903	.898	.674	.914	.908	.916	.946	.921	.681	.858	.880	.908	.933

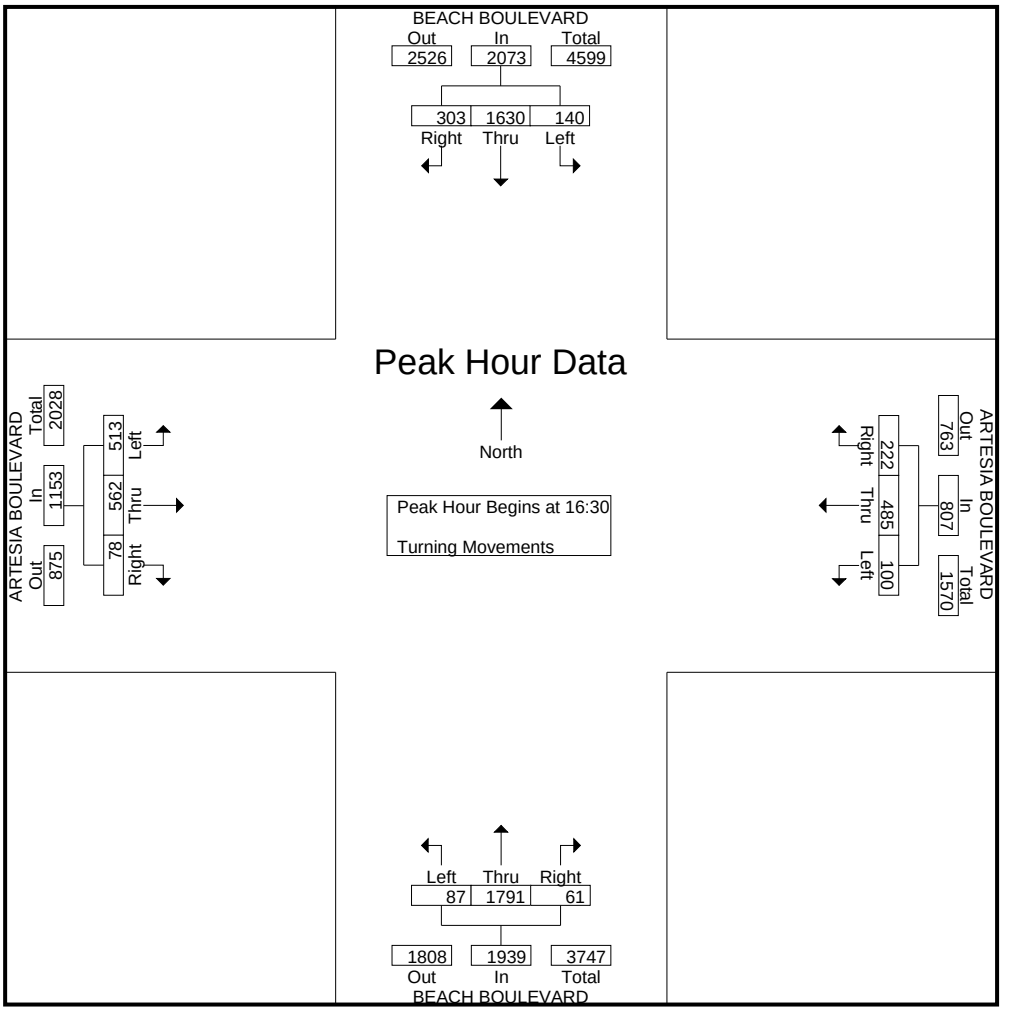


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: ARTESIA BOULEVARD

File Name : H1809046
Site Code : 00000000
Start Date : 9/25/2018

	BEACH BOULEVARD Southbound				ARTESIA BOULEVARD Westbound				BEACH BOULEVARD Northbound				ARTESIA BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	71	**425**	37	533	52	115	23	190	12	454	21	487	16	113	128	257	1467
16:45	65	369	29	463	**67**	**131**	27	**225**	**18**	**455**	**23**	**496**	19	**158**	123	**300**	1484
17:00	81	413	33	527	42	120	22	184	15	452	23	490	**22**	135	**140**	297	1498
17:15	**86**	423	**41**	**550**	61	119	**28**	208	16	430	20	466	21	156	122	299	**1523**
Total Volume	303	1630	140	2073	222	485	100	807	61	1791	87	1939	78	562	513	1153	5972
% App. Total	14.6	78.6	6.8		27.5	60.1	12.4		3.1	92.4	4.5		6.8	48.7	44.5		
PHF	.881	.959	.854	.942	.828	.926	.893	.897	.847	.984	.946	.977	.886	.889	.916	.961	.980



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: COMMONWEALTH BOULEVARD

File Name : H1809047
Site Code : 00000000
Start Date : 9/25/2018

Groups Printed- Turning Movements

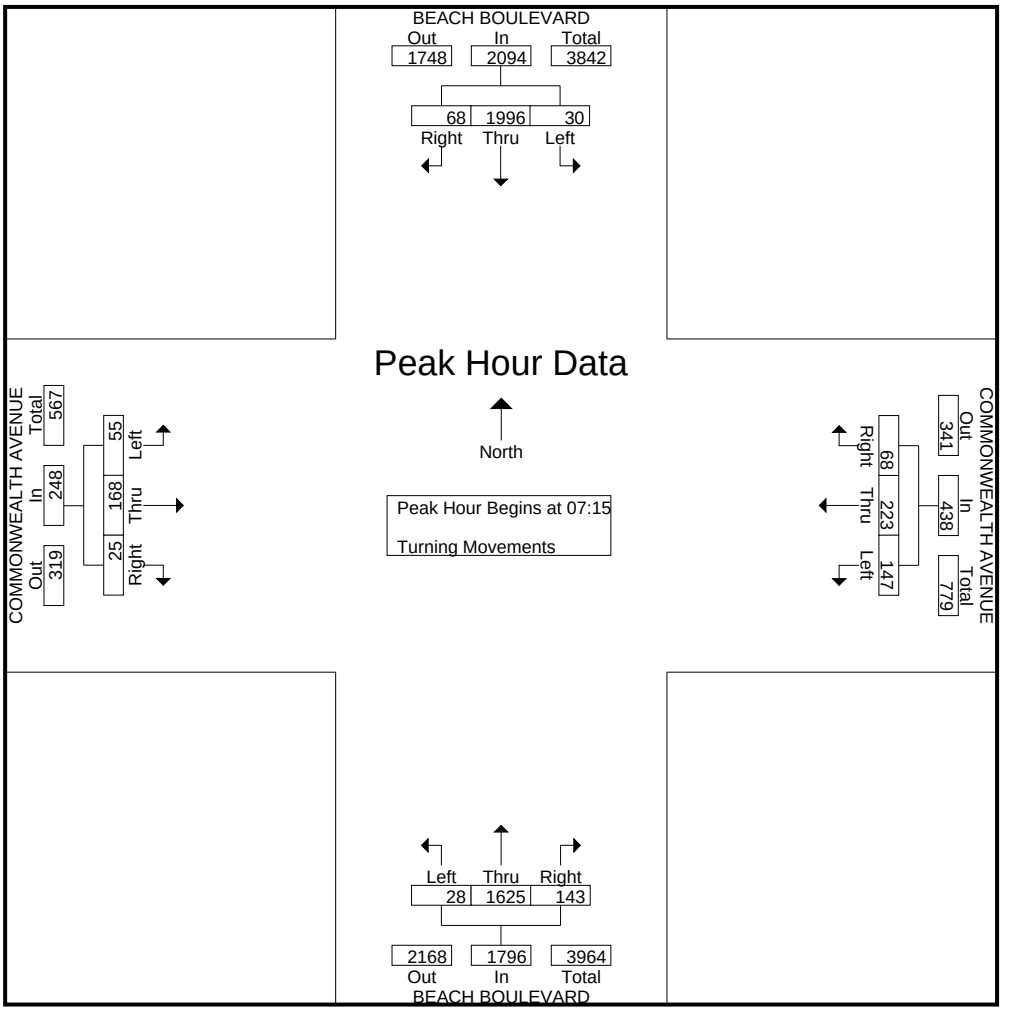
	BEACH BOULEVARD Southbound			COMMONWEALTH AVENUE Westbound			BEACH BOULEVARD Northbound			COMMONWEALTH AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	10	456	4	21	38	37	24	345	4	4	29	8	980
07:15	12	478	8	10	51	47	27	416	2	6	46	13	1116
07:30	18	513	9	20	58	33	40	411	10	5	41	15	1173
07:45	21	515	4	20	67	38	39	445	9	8	53	11	1230
Total	61	1962	25	71	214	155	130	1617	25	23	169	47	4499
08:00	17	490	9	18	47	29	37	353	7	6	28	16	1057
08:15	18	469	10	17	48	29	23	342	6	5	26	9	1002
08:30	20	459	18	18	38	25	25	353	7	7	21	18	1009
08:45	21	443	18	14	43	24	25	327	6	7	40	4	972
Total	76	1861	55	67	176	107	110	1375	26	25	115	47	4040
*** BREAK ***													
16:00	11	401	32	23	60	43	44	410	4	7	43	22	1100
16:15	20	382	16	24	56	20	27	446	11	7	49	17	1075
16:30	19	423	22	32	55	33	31	427	5	9	41	18	1115
16:45	16	405	20	32	64	38	36	431	6	6	57	23	1134
Total	66	1611	90	111	235	134	138	1714	26	29	190	80	4424
17:00	15	442	21	31	48	34	32	461	9	15	56	19	1183
17:15	20	395	24	28	58	31	29	362	5	6	61	27	1046
17:30	19	404	21	29	48	40	41	417	10	11	54	14	1108
17:45	16	416	24	24	44	25	30	365	3	11	52	27	1037
Total	70	1657	90	112	198	130	132	1605	27	43	223	87	4374
Grand Total	273	7091	260	361	823	526	510	6311	104	120	697	261	17337
Apprch %	3.6	93	3.4	21.1	48.1	30.8	7.4	91.1	1.5	11.1	64.7	24.2	
Total %	1.6	40.9	1.5	2.1	4.7	3	2.9	36.4	0.6	0.7	4	1.5	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: COMMONWEALTH BOULEVARD

File Name : H1809047
Site Code : 00000000
Start Date : 9/25/2018
Page No : 2

	BEACH BOULEVARD Southbound				COMMONWEALTH AVENUE Westbound				BEACH BOULEVARD Northbound				COMMONWEALTH AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	12	478	8	498	10	51	**47**	108	27	416	2	445	6	46	13	65	1116
07:30	18	513	**9**	**540**	**20**	58	33	111	**40**	411	**10**	461	5	41	15	61	1173
07:45	**21**	**515**	4	540	20	**67**	38	**125**	39	**445**	9	**493**	**8**	**53**	11	**72**	**1230**
08:00	17	490	9	516	18	47	29	94	37	353	7	397	6	28	**16**	50	1057
Total Volume	68	1996	30	2094	68	223	147	438	143	1625	28	1796	25	168	55	248	4576
% App. Total	3.2	95.3	1.4		15.5	50.9	33.6		8	90.5	1.6		10.1	67.7	22.2		
PHF	.810	.969	.833	.969	.850	.832	.782	.876	.894	.913	.700	.911	.781	.792	.859	.861	.930

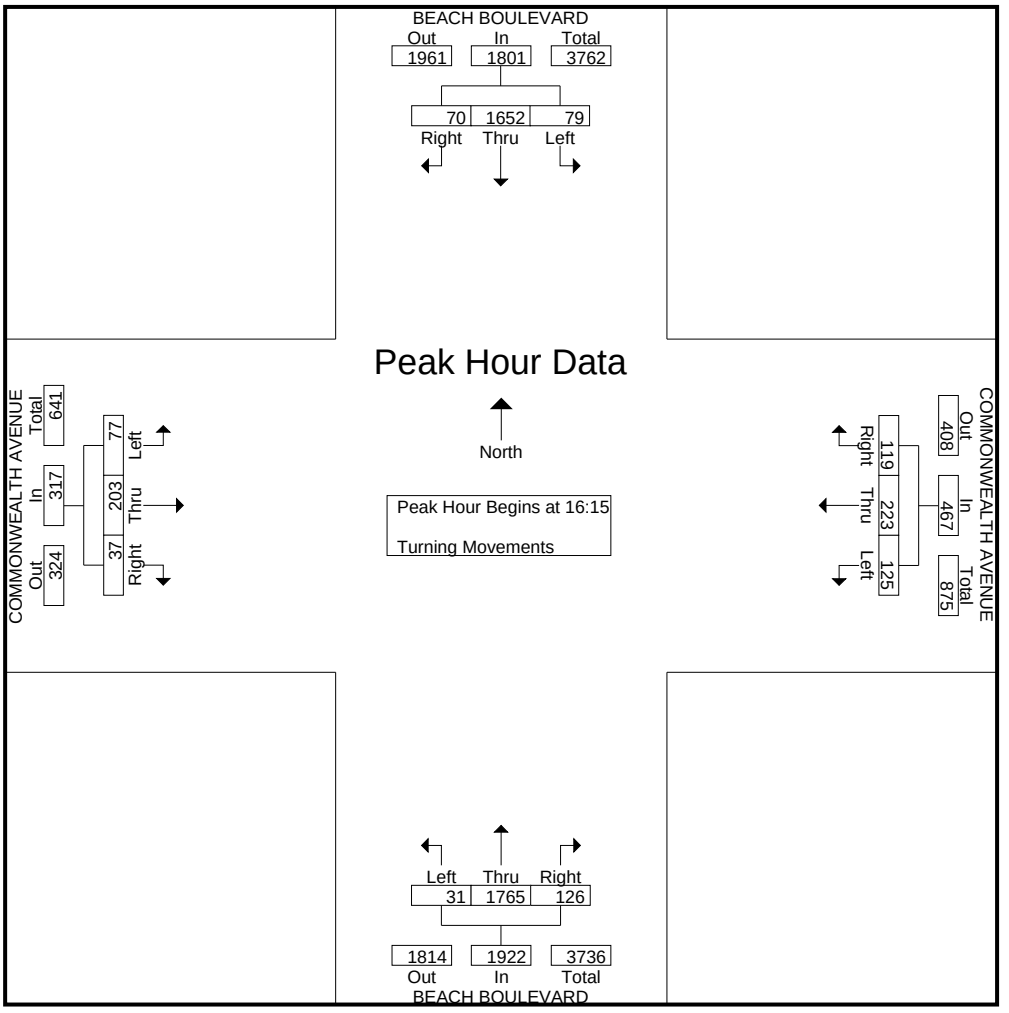


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: COMMONWEALTH BOULEVARD

File Name : H1809047
Site Code : 00000000
Start Date : 9/25/2018

	BEACH BOULEVARD Southbound				COMMONWEALTH AVENUE Westbound				BEACH BOULEVARD Northbound				COMMONWEALTH AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	**20**	382	16	418	24	56	20	100	27	446	**11**	484	7	49	17	73	1075
16:30	19	423	**22**	464	**32**	55	33	120	31	427	5	463	9	41	18	68	1115
16:45	16	405	20	441	32	**64**	**38**	**134**	**36**	431	6	473	6	**57**	**23**	86	1134
17:00	15	**442**	21	**478**	31	48	34	113	32	**461**	9	**502**	**15**	56	19	**90**	**1183**
Total Volume	70	1652	79	1801	119	223	125	467	126	1765	31	1922	37	203	77	317	4507
% App. Total	3.9	91.7	4.4		25.5	47.8	26.8		6.6	91.8	1.6		11.7	64	24.3		
PHF	.875	.934	.898	.942	.930	.871	.822	.871	.875	.957	.705	.957	.617	.890	.837	.881	.952



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: I-5 NB RAMPS
E-W Direction: AUTO CENTER DRIVE

File Name : H1809048
Site Code : 00000000
Start Date : 9/25/2018

Groups Printed- Turning Movements

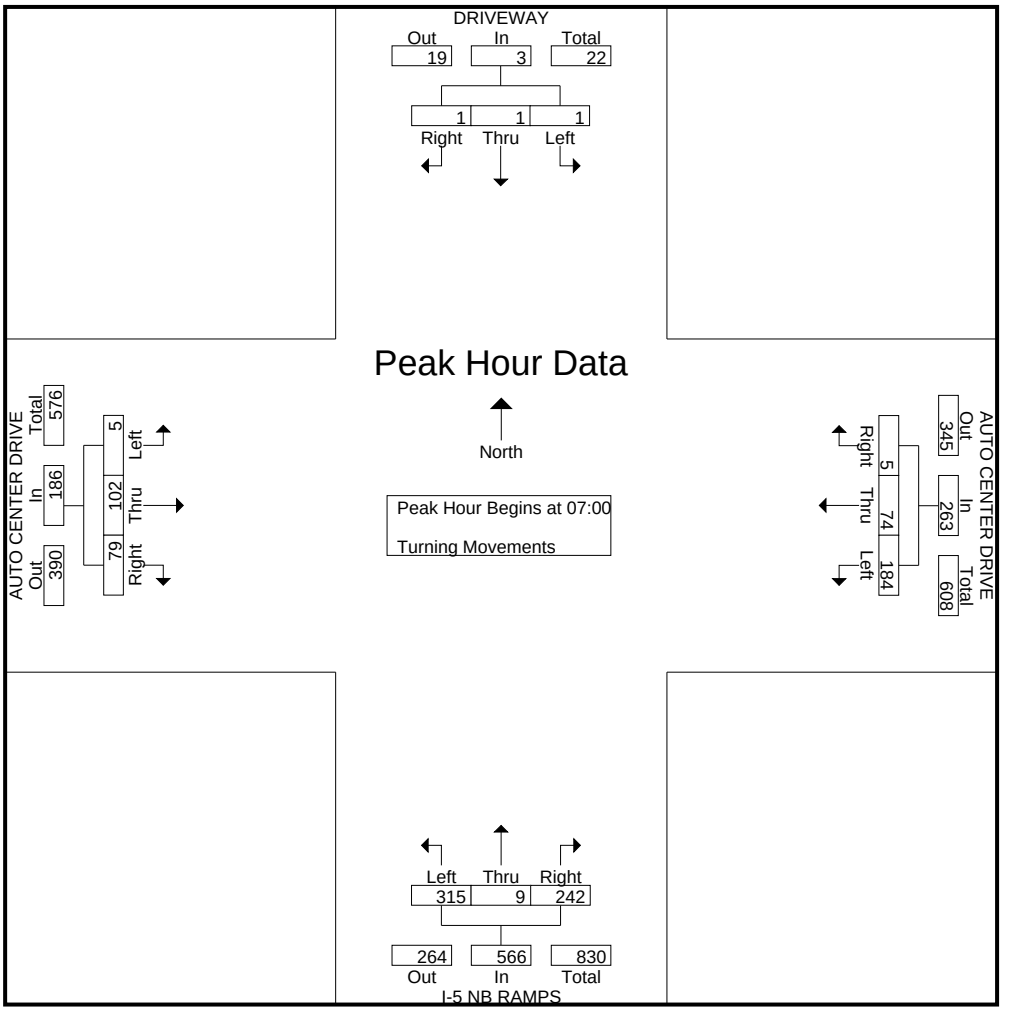
	DRIVEWAY Southbound			AUTO CENTER DRIVE Westbound			I-5 NB RAMPS Northbound			AUTO CENTER DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	0	1	0	1	12	46	50	0	84	25	13	1	233
07:15	1	0	0	2	16	50	63	0	97	19	32	0	280
07:30	0	0	1	1	26	45	60	2	82	16	34	2	269
07:45	0	0	0	1	20	43	69	7	52	19	23	2	236
Total	1	1	1	5	74	184	242	9	315	79	102	5	1018
08:00	2	0	1	2	19	30	53	8	20	20	8	3	166
08:15	4	0	0	5	20	38	59	11	28	8	15	3	191
08:30	0	0	0	7	19	38	56	6	25	18	11	3	183
08:45	0	1	2	7	20	27	26	14	31	23	20	2	173
Total	6	1	3	21	78	133	194	39	104	69	54	11	713
*** BREAK ***													
16:00	4	1	3	0	22	22	80	2	100	12	27	1	274
16:15	2	3	3	0	22	25	85	5	118	9	27	1	300
16:30	7	2	7	3	21	19	86	1	100	10	18	4	278
16:45	2	0	7	1	21	26	86	3	137	9	33	4	329
Total	15	6	20	4	86	92	337	11	455	40	105	10	1181
17:00	4	2	9	0	18	28	87	6	94	14	42	2	306
17:15	3	2	4	2	23	22	96	3	152	7	29	0	343
17:30	5	0	9	3	37	45	83	1	125	11	29	3	351
17:45	1	3	3	1	33	31	88	2	146	15	31	2	356
Total	13	7	25	6	111	126	354	12	517	47	131	7	1356
Grand Total	35	15	49	36	349	535	1127	71	1391	235	392	33	4268
Apprch %	35.4	15.2	49.5	3.9	37.9	58.2	43.5	2.7	53.7	35.6	59.4	5	
Total %	0.8	0.4	1.1	0.8	8.2	12.5	26.4	1.7	32.6	5.5	9.2	0.8	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: I-5 NB RAMPS
E-W Direction: AUTO CENTER DRIVE

File Name : H1809048
Site Code : 00000000
Start Date : 9/25/2018

	DRIVEWAY Southbound				AUTO CENTER DRIVE Westbound				I-5 NB RAMPS Northbound				AUTO CENTER DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	0	**1**	0	**1**	1	12	46	59	50	0	84	134	**25**	13	1	39	233
07:15	**1**	0	0	1	**2**	16	**50**	68	63	0	**97**	**160**	19	32	0	51	**280**
07:30	0	0	**1**	1	1	**26**	45	**72**	60	2	82	144	16	**34**	**2**	**52**	269
07:45	0	0	0	0	1	20	43	64	**69**	**7**	52	128	19	23	2	44	236
Total Volume	1	1	1	3	5	74	184	263	242	9	315	566	79	102	5	186	1018
% App. Total	33.3	33.3	33.3		1.9	28.1	70		42.8	1.6	55.7		42.5	54.8	2.7		
PHF	.250	.250	.250	.750	.625	.712	.920	.913	.877	.321	.812	.884	.790	.750	.625	.894	.909

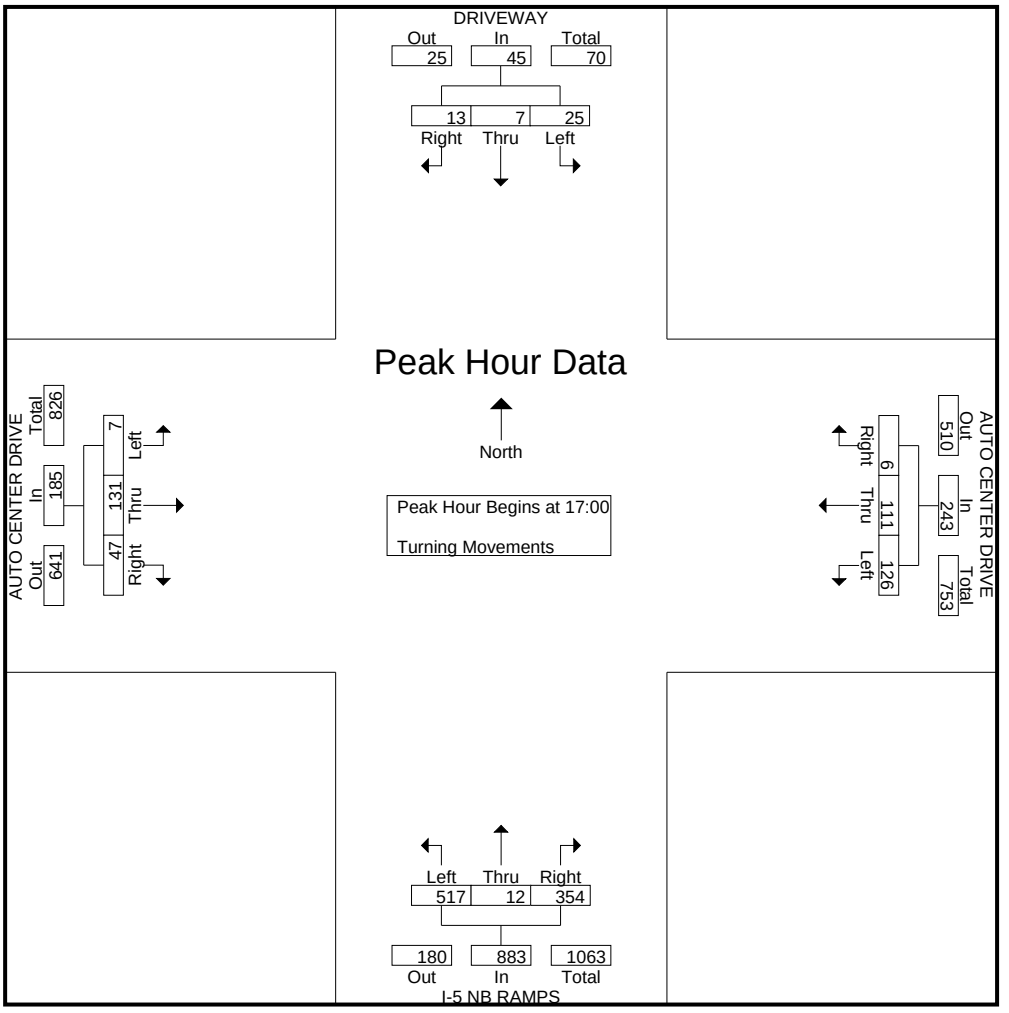


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: I-5 NB RAMPS
E-W Direction: AUTO CENTER DRIVE

File Name : H1809048
Site Code : 00000000
Start Date : 9/25/2018
Page No : 3

	DRIVEWAY Southbound				AUTO CENTER DRIVE Westbound				I-5 NB RAMPS Northbound				AUTO CENTER DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	4	2	**9**	**15**	0	18	28	46	87	**6**	94	187	14	**42**	2	**58**	306
17:15	3	2	4	9	2	23	22	47	**96**	3	**152**	**251**	7	29	0	36	343
17:30	**5**	0	9	14	**3**	**37**	**45**	**85**	83	1	125	209	11	29	**3**	43	351
17:45	1	**3**	3	7	1	33	31	65	88	2	146	236	**15**	31	2	48	**356**
Total Volume	13	7	25	45	6	111	126	243	354	12	517	883	47	131	7	185	1356
% App. Total	28.9	15.6	55.6		2.5	45.7	51.9		40.1	1.4	58.6		25.4	70.8	3.8		
PHF	.650	.583	.694	.750	.500	.750	.700	.715	.922	.500	.850	.879	.783	.780	.583	.797	.952



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: AUTO CENTER DRIVE

File Name : H1809049
Site Code : 00000000
Start Date : 9/25/2018
Page No : 1

Groups Printed- Turning Movements

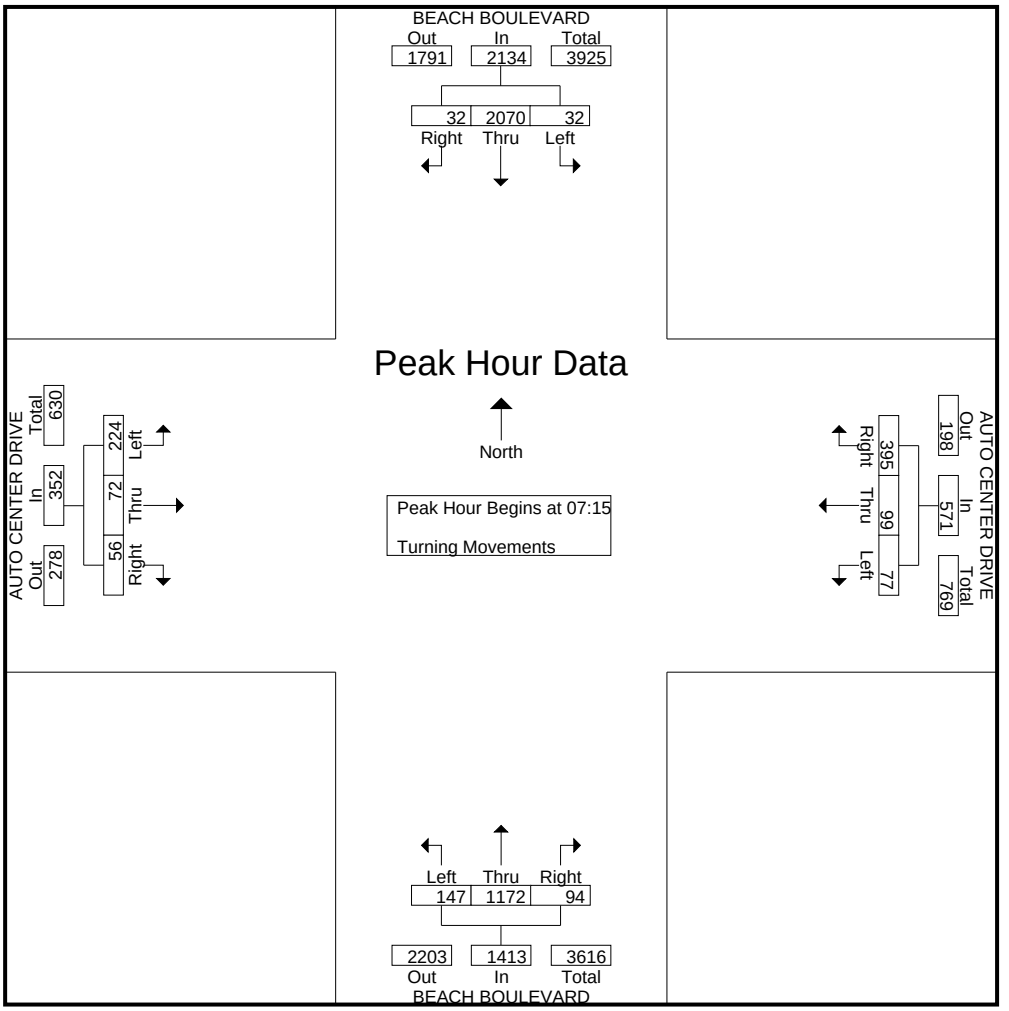
	BEACH BOULEVARD Southbound			AUTO CENTER DRIVE Westbound			BEACH BOULEVARD Northbound			AUTO CENTER DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	8	488	6	98	26	16	13	244	41	8	8	38	994
07:15	11	493	8	125	18	20	12	285	42	22	15	53	1104
07:30	8	520	8	110	33	21	24	304	42	9	29	59	1167
07:45	8	559	11	100	24	18	35	300	24	17	18	59	1173
Total	35	2060	33	433	101	75	84	1133	149	56	70	209	4438
08:00	5	498	5	60	24	18	23	283	39	8	10	53	1026
08:15	14	478	3	96	27	13	17	227	35	17	8	48	983
08:30	13	461	7	64	26	10	22	369	34	21	6	46	1079
08:45	10	465	9	58	20	20	24	265	40	10	7	31	959
Total	42	1902	24	278	97	61	86	1144	148	56	31	178	4047
*** BREAK ***													
16:00	12	441	7	109	24	25	26	292	17	32	11	70	1066
16:15	9	393	3	102	22	20	24	305	21	36	14	66	1015
16:30	4	442	10	109	24	27	20	274	23	34	22	74	1063
16:45	7	432	3	97	23	24	22	300	23	33	17	68	1049
Total	32	1708	23	417	93	96	92	1171	84	135	64	278	4193
17:00	10	465	8	102	29	27	14	316	13	46	10	76	1116
17:15	6	427	4	104	29	31	23	230	20	37	17	91	1019
17:30	14	429	7	105	31	31	27	309	29	41	14	77	1114
17:45	12	400	7	69	35	30	10	245	21	38	20	77	964
Total	42	1721	26	380	124	119	74	1100	83	162	61	321	4213
Grand Total	151	7391	106	1508	415	351	336	4548	464	409	226	986	16891
Apprch %	2	96.6	1.4	66.3	18.2	15.4	6.3	85	8.7	25.2	13.9	60.8	
Total %	0.9	43.8	0.6	8.9	2.5	2.1	2	26.9	2.7	2.4	1.3	5.8	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: AUTO CENTER DRIVE

File Name : H1809049
Site Code : 00000000
Start Date : 9/25/2018

	BEACH BOULEVARD Southbound				AUTO CENTER DRIVE Westbound				BEACH BOULEVARD Northbound				AUTO CENTER DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	**11**	493	8	512	**125**	18	20	163	12	285	**42**	339	**22**	15	53	90	1104
07:30	8	520	8	536	110	**33**	**21**	**164**	24	**304**	42	**370**	9	**29**	**59**	**97**	1167
07:45	8	**559**	**11**	**578**	100	24	18	142	**35**	300	24	359	17	18	59	94	**1173**
08:00	5	498	5	508	60	24	18	102	23	283	39	345	8	10	53	71	1026
Total Volume	32	2070	32	2134	395	99	77	571	94	1172	147	1413	56	72	224	352	4470
% App. Total	1.5	97	1.5		69.2	17.3	13.5		6.7	82.9	10.4		15.9	20.5	63.6		
PHF	.727	.926	.727	.923	.790	.750	.917	.870	.671	.964	.875	.955	.636	.621	.949	.907	.953

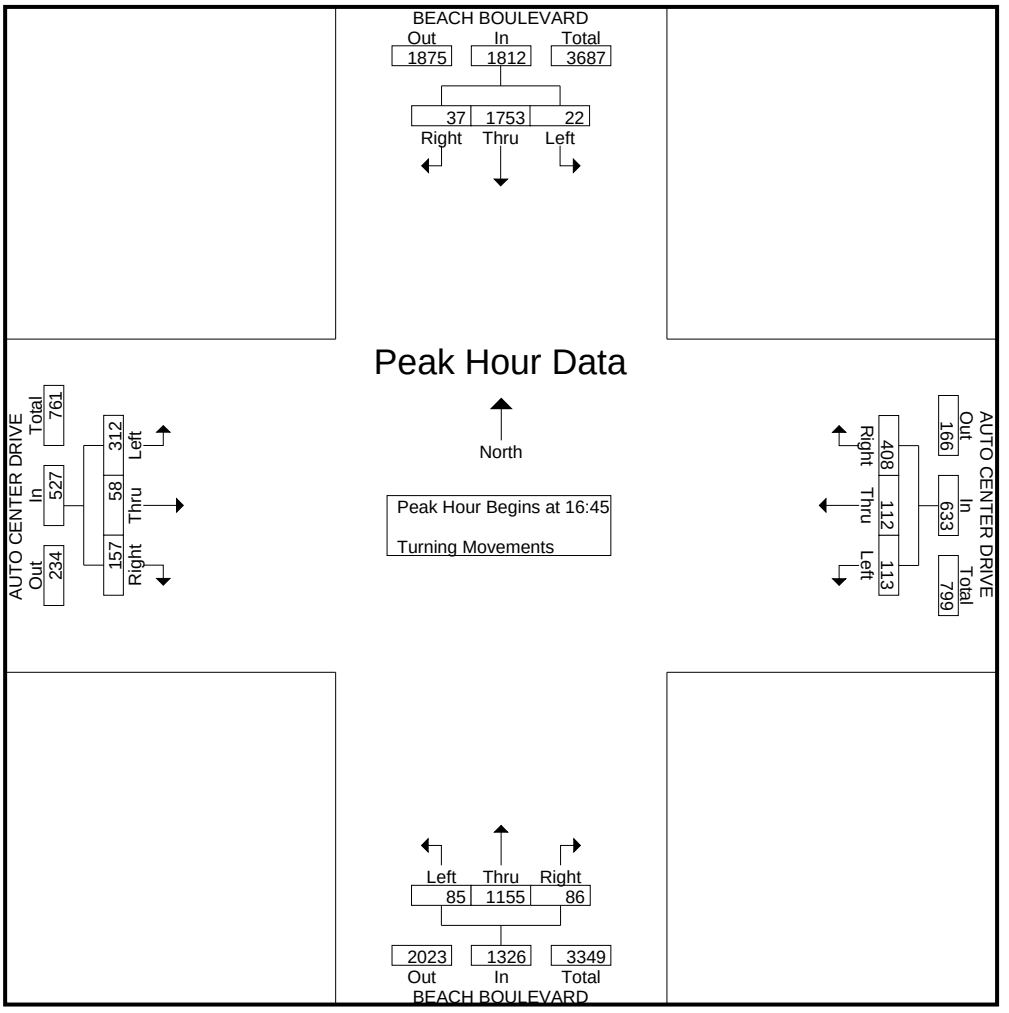


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: AUTO CENTER DRIVE

File Name : H1809049
Site Code : 00000000
Start Date : 9/25/2018

	BEACH BOULEVARD Southbound				AUTO CENTER DRIVE Westbound				BEACH BOULEVARD Northbound				AUTO CENTER DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	7	432	3	442	97	23	24	144	22	300	23	345	33	**17**	68	118	1049
17:00	10	**465**	**8**	**483**	102	29	27	158	14	**316**	13	343	**46**	10	76	132	**1116**
17:15	6	427	4	437	104	29	**31**	164	23	230	20	273	37	17	**91**	**145**	1019
17:30	**14**	429	7	450	**105**	**31**	31	**167**	**27**	309	**29**	**365**	41	14	77	132	1114
Total Volume	37	1753	22	1812	408	112	113	633	86	1155	85	1326	157	58	312	527	4298
% App. Total	2	96.7	1.2		64.5	17.7	17.9		6.5	87.1	6.4		29.8	11	59.2		
PHF	.661	.942	.688	.938	.971	.903	.911	.948	.796	.914	.733	.908	.853	.853	.857	.909	.963



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: I-5 SB RAMPS

File Name : H1809050
Site Code : 00000000
Start Date : 9/25/2018
Page No : 1

Groups Printed- Turning Movements

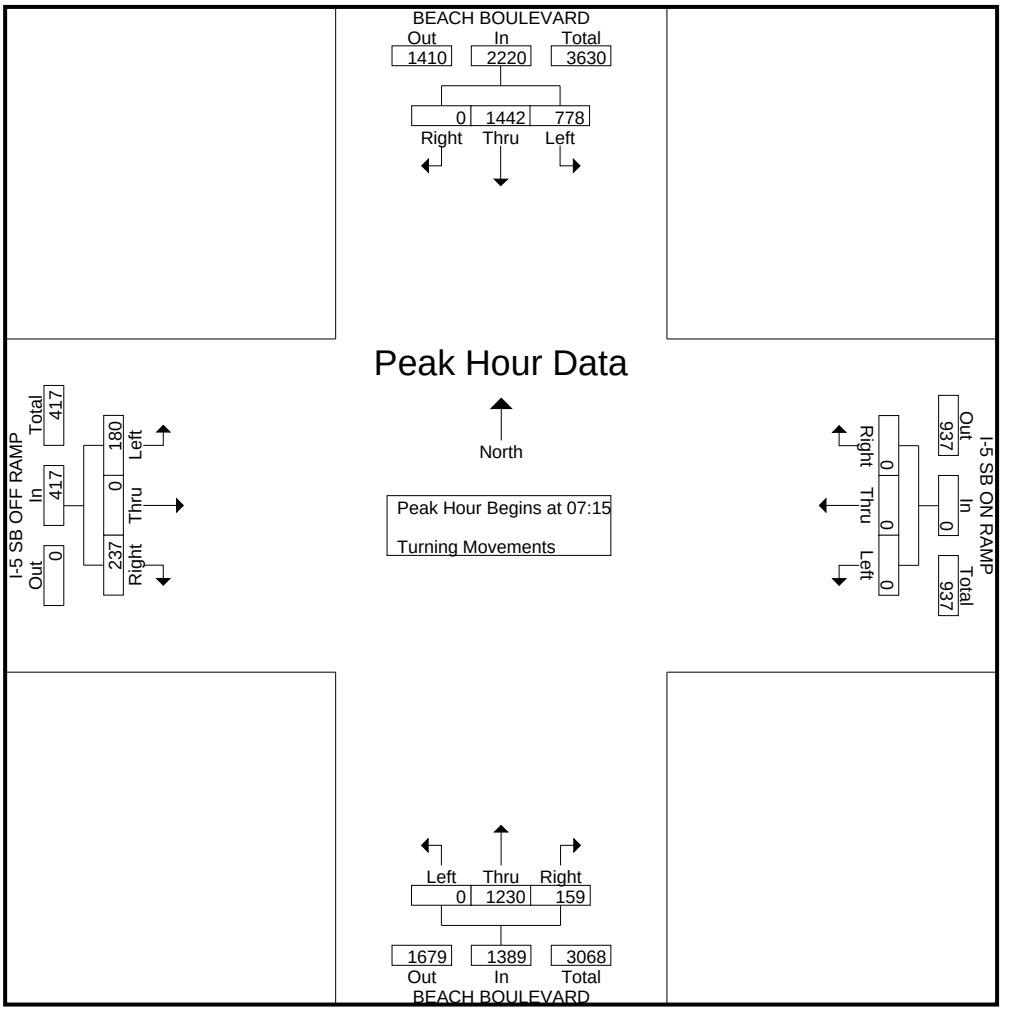
	BEACH BOULEVARD Southbound			I-5 SB ON RAMP Westbound			BEACH BOULEVARD Northbound			I-5 SB OFF RAMP Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	0	324	185	0	0	0	37	253	0	41	0	29	869
07:15	0	349	192	0	0	0	40	290	0	61	0	36	968
07:30	0	365	198	0	0	0	35	300	0	56	0	60	1014
07:45	0	381	204	0	0	0	42	330	0	72	0	44	1073
Total	0	1419	779	0	0	0	154	1173	0	230	0	169	3924
08:00	0	347	184	0	0	0	42	310	0	48	0	40	971
08:15	0	308	197	0	0	0	31	302	0	34	0	35	907
08:30	0	300	170	0	0	0	42	306	0	37	0	36	891
08:45	0	291	211	0	0	0	24	316	0	35	0	26	903
Total	0	1246	762	0	0	0	139	1234	0	154	0	137	3672
*** BREAK ***													
16:00	0	345	159	0	0	0	67	301	0	52	0	33	957
16:15	0	288	157	0	0	0	72	322	0	69	0	23	931
16:30	0	335	171	0	0	0	56	292	0	62	0	23	939
16:45	0	343	155	0	0	0	59	339	0	58	0	24	978
Total	0	1311	642	0	0	0	254	1254	0	241	0	103	3805
17:00	0	369	160	0	0	0	55	302	0	74	0	17	977
17:15	0	328	177	0	0	0	56	283	0	65	0	21	930
17:30	0	337	164	0	0	0	64	313	0	48	0	15	941
17:45	0	291	188	0	0	0	45	254	0	57	0	16	851
Total	0	1325	689	0	0	0	220	1152	0	244	0	69	3699
Grand Total	0	5301	2872	0	0	0	767	4813	0	869	0	478	15100
Apprch %	0	64.9	35.1	0	0	0	13.7	86.3	0	64.5	0	35.5	
Total %	0	35.1	19	0	0	0	5.1	31.9	0	5.8	0	3.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: I-5 SB RAMPS

File Name : H1809050
Site Code : 00000000
Start Date : 9/25/2018
Page No : 2

	BEACH BOULEVARD Southbound				I-5 SB ON RAMP Westbound				BEACH BOULEVARD Northbound				I-5 SB OFF RAMP Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	349	192	541	0	0	0	0	40	290	0	330	61	0	36	97	968
07:30	0	365	198	563	0	0	0	0	35	300	0	335	56	0	**60**	**116**	1014
07:45	0	**381**	**204**	**585**	0	0	0	0	**42**	**330**	0	**372**	**72**	0	44	116	**1073**
08:00	0	347	184	531	0	0	0	0	42	310	0	352	48	0	40	88	971
Total Volume	0	1442	778	2220	0	0	0	0	159	1230	0	1389	237	0	180	417	4026
% App. Total	0	65	35		0	0	0		11.4	88.6	0		56.8	0	43.2		
PHF	.000	.946	.953	.949	.000	.000	.000	.000	.946	.932	.000	.933	.823	.000	.750	.899	.938

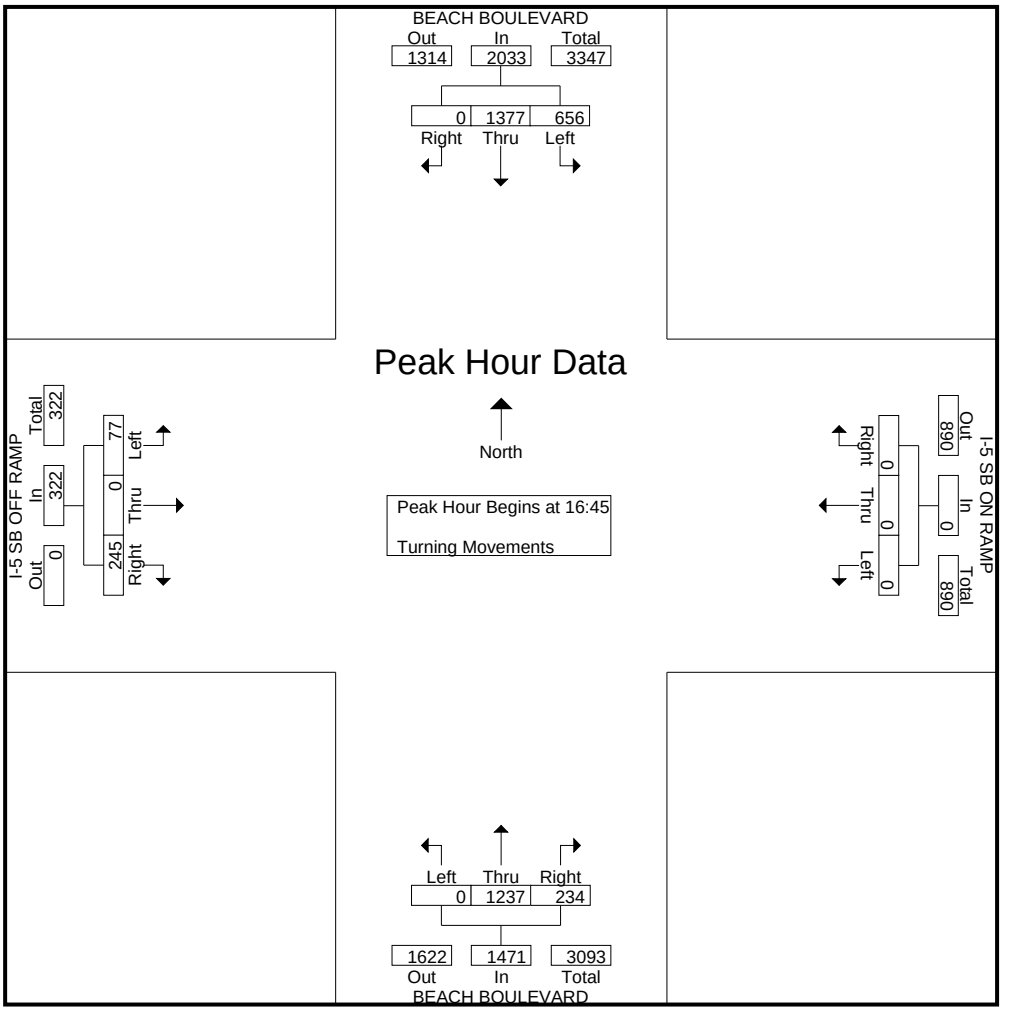


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: BUENA PARK
N-S Direction: BEACH BOULEVARD
E-W Direction: I-5 SB RAMPS

File Name : H1809050
Site Code : 00000000
Start Date : 9/25/2018

	BEACH BOULEVARD Southbound				I-5 SB ON RAMP Westbound				BEACH BOULEVARD Northbound				I-5 SB OFF RAMP Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	343	155	498	0	0	0	0	59	**339**	0	**398**	58	0	**24**	82	**978**
17:00	0	**369**	160	**529**	0	0	0	0	55	302	0	357	**74**	0	17	**91**	977
17:15	0	328	**177**	505	0	0	0	0	56	283	0	339	65	0	21	86	930
17:30	0	337	164	501	0	0	0	0	**64**	313	0	377	48	0	15	63	941
Total Volume	0	1377	656	2033	0	0	0	0	234	1237	0	1471	245	0	77	322	3826
% App. Total	0	67.7	32.3		0	0	0		15.9	84.1	0		76.1	0	23.9		
PHF	.000	.933	.927	.961	.000	.000	.000	.000	.914	.912	.000	.924	.828	.000	.802	.885	.978



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: WHITTIER BOULEVARD

File Name : H1809051
Site Code : 00000000
Start Date : 9/25/2018
Page No : 1

Groups Printed- Turning Movements

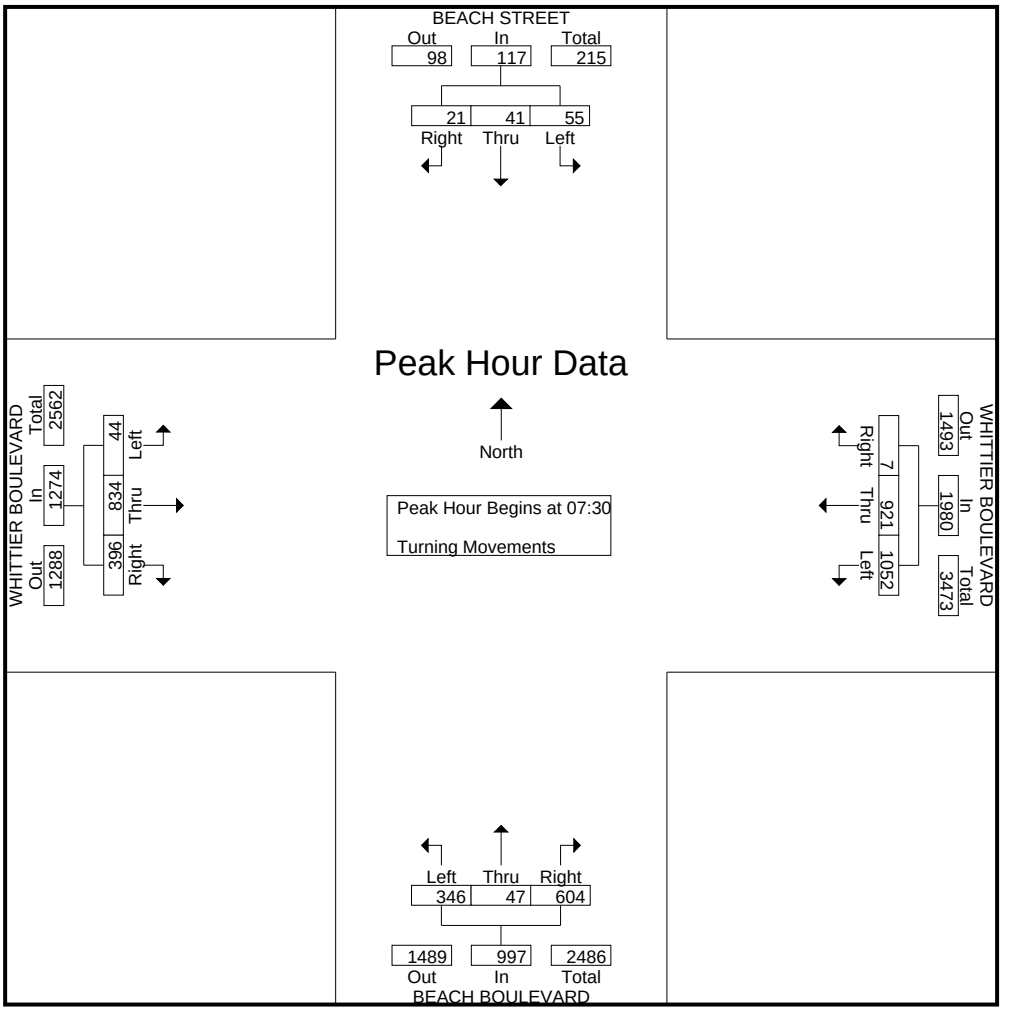
	BEACH STREET Southbound			WHITTIER BOULEVARD Westbound			BEACH BOULEVARD Northbound			WHITTIER BOULEVARD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	4	9	12	0	223	252	93	15	60	89	148	2	907
07:15	8	12	16	0	221	260	128	14	66	78	213	3	1019
07:30	1	8	14	1	247	260	149	8	82	93	269	7	1139
07:45	5	17	9	0	242	286	173	14	86	99	162	11	1104
Total	18	46	51	1	933	1058	543	51	294	359	792	23	4169
08:00	5	10	14	1	216	260	160	17	95	110	184	9	1081
08:15	10	6	18	5	216	246	122	8	83	94	219	17	1044
08:30	6	11	15	5	208	237	131	10	77	69	174	9	952
08:45	4	10	9	3	171	192	124	8	66	64	168	9	828
Total	25	37	56	14	811	935	537	43	321	337	745	44	3905
*** BREAK ***													
16:00	7	17	27	4	224	206	250	8	107	86	230	13	1179
16:15	0	8	23	5	219	210	261	12	89	88	222	8	1145
16:30	11	10	16	6	209	193	265	15	105	83	230	10	1153
16:45	7	9	19	8	213	194	304	16	92	109	255	9	1235
Total	25	44	85	23	865	803	1080	51	393	366	937	40	4712
17:00	8	14	38	2	235	217	241	18	102	104	235	9	1223
17:15	4	13	20	5	238	229	279	16	101	114	251	13	1283
17:30	6	8	24	6	225	220	265	19	114	103	236	11	1237
17:45	5	20	25	5	221	218	253	20	87	91	207	11	1163
Total	23	55	107	18	919	884	1038	73	404	412	929	44	4906
Grand Total	91	182	299	56	3528	3680	3198	218	1412	1474	3403	151	17692
Apprch %	15.9	31.8	52.3	0.8	48.6	50.7	66.2	4.5	29.2	29.3	67.7	3	
Total %	0.5	1	1.7	0.3	19.9	20.8	18.1	1.2	8	8.3	19.2	0.9	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: WHITTIER BOULEVARD

File Name : H1809051
Site Code : 00000000
Start Date : 9/25/2018

	BEACH STREET Southbound				WHITTIER BOULEVARD Westbound				BEACH BOULEVARD Northbound				WHITTIER BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	1	8	14	23	1	**247**	260	508	149	8	82	239	93	**269**	7	**369**	**1139**
07:45	5	**17**	9	31	0	242	**286**	**528**	**173**	14	86	**273**	99	162	11	272	1104
08:00	5	10	14	29	1	216	260	477	160	**17**	**95**	272	**110**	184	9	303	1081
08:15	**10**	6	**18**	**34**	**5**	216	246	467	122	8	83	213	94	219	**17**	330	1044
Total Volume	21	41	55	117	7	921	1052	1980	604	47	346	997	396	834	44	1274	4368
% App. Total	17.9	35	47		0.4	46.5	53.1		60.6	4.7	34.7		31.1	65.5	3.5		
PHF	.525	.603	.764	.860	.350	.932	.920	.938	.873	.691	.911	.913	.900	.775	.647	.863	.959

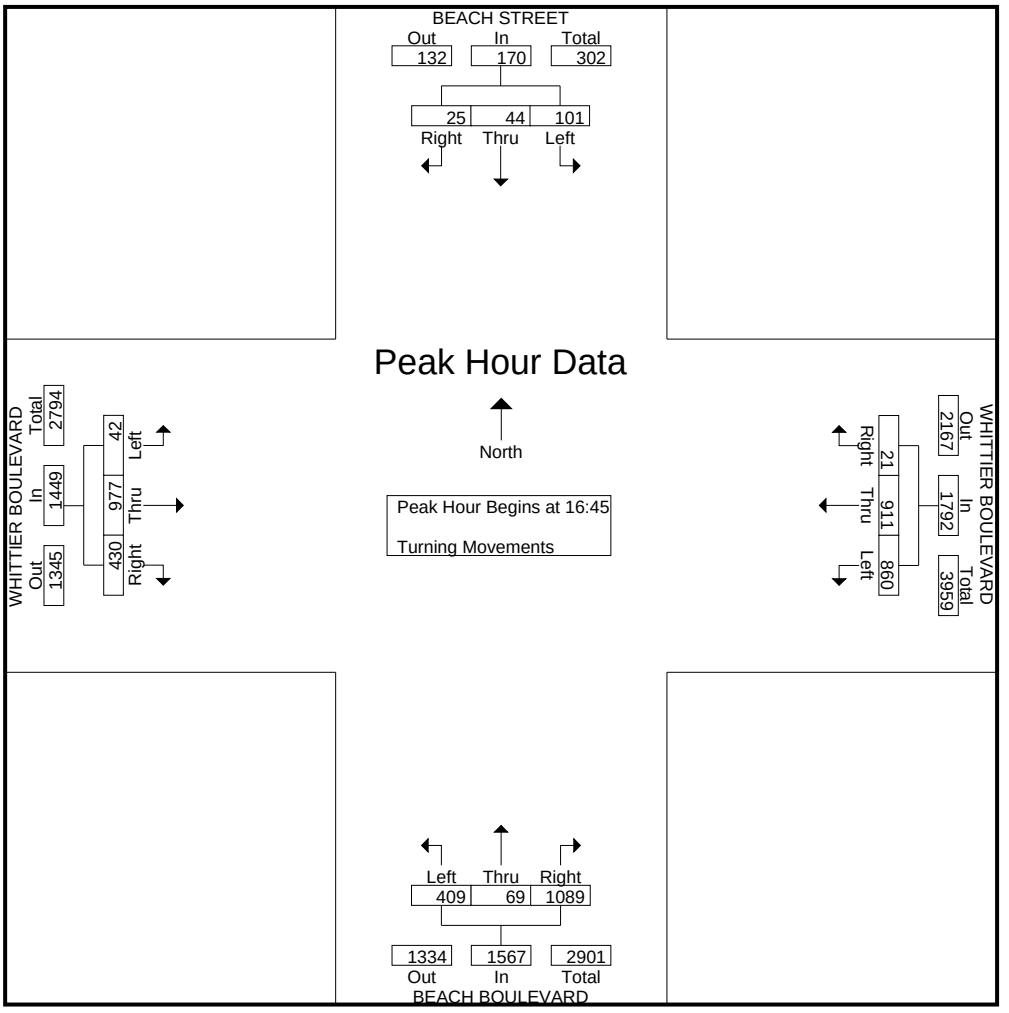


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: BEACH BOULEVARD
E-W Direction: WHITTIER BOULEVARD

File Name : H1809051
Site Code : 00000000
Start Date : 9/25/2018
Page No : 3

	BEACH STREET Southbound				WHITTIER BOULEVARD Westbound				BEACH BOULEVARD Northbound				WHITTIER BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	7	9	19	35	**8**	213	194	415	**304**	16	92	**412**	109	**255**	9	373	1235
17:00	**8**	**14**	**38**	**60**	2	235	217	454	241	18	102	361	104	235	9	348	1223
17:15	4	13	20	37	5	**238**	**229**	**472**	279	16	101	396	**114**	251	**13**	**378**	**1283**
17:30	6	8	24	38	6	225	220	451	265	**19**	**114**	398	103	236	11	350	1237
Total Volume	25	44	101	170	21	911	860	1792	1089	69	409	1567	430	977	42	1449	4978
% App. Total	14.7	25.9	59.4		1.2	50.8	48		69.5	4.4	26.1		29.7	67.4	2.9		
PHF	.781	.786	.664	.708	.656	.957	.939	.949	.896	.908	.897	.951	.943	.958	.808	.958	.970



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: HACIENDA ROAD
E-W Direction: WHITTIER BOULEVARD

File Name : H1809052
Site Code : 00000000
Start Date : 9/25/2018

Groups Printed- Turning Movements

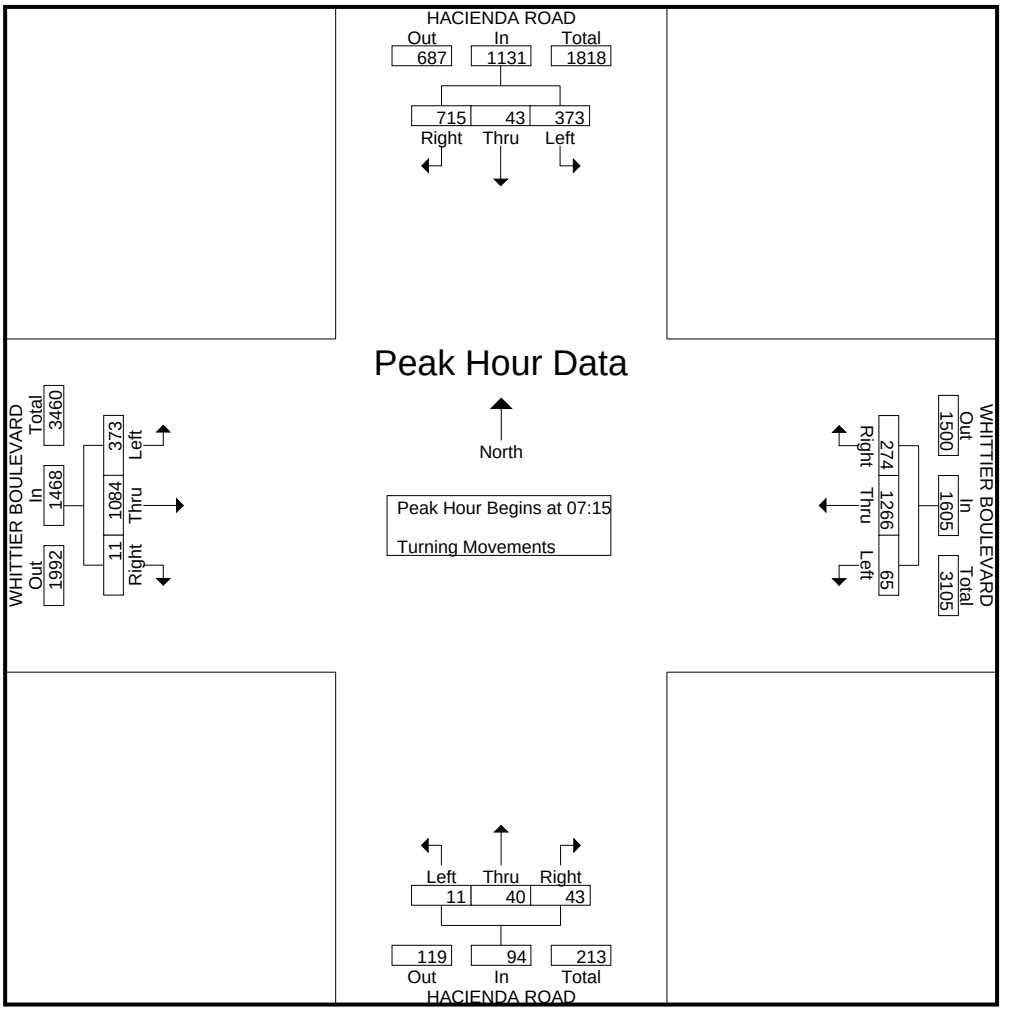
	HACIENDA ROAD Southbound			WHITTIER BOULEVARD Westbound			HACIENDA ROAD Northbound			WHITTIER BOULEVARD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	179	2	88	64	301	3	1	2	2	0	207	74	923
07:15	165	5	105	62	310	5	9	4	4	1	271	91	1032
07:30	197	3	109	80	322	12	8	5	0	1	323	73	1133
07:45	190	8	80	77	313	14	14	12	2	1	255	90	1056
Total	731	18	382	283	1246	34	32	23	8	3	1056	328	4144
08:00	163	27	79	55	321	34	12	19	5	8	235	119	1077
08:15	164	12	85	62	286	19	25	23	10	3	231	106	1026
08:30	128	6	78	51	282	7	5	8	1	4	225	104	899
08:45	115	5	65	46	283	8	17	3	9	4	209	95	859
Total	570	50	307	214	1172	68	59	53	25	19	900	424	3861
*** BREAK ***													
16:00	142	5	71	98	251	19	10	10	16	5	331	169	1127
16:15	153	9	67	97	266	13	21	20	11	2	345	189	1193
16:30	186	10	78	95	240	21	16	22	6	5	310	173	1162
16:45	161	7	63	104	247	21	22	23	13	2	351	150	1164
Total	642	31	279	394	1004	74	69	75	46	14	1337	681	4646
17:00	188	7	73	102	266	27	24	17	16	3	335	197	1255
17:15	192	8	69	109	277	20	17	22	6	5	331	184	1240
17:30	180	4	72	114	279	14	19	20	12	2	301	178	1195
17:45	179	7	72	100	279	22	22	17	10	2	319	155	1184
Total	739	26	286	425	1101	83	82	76	44	12	1286	714	4874
Grand Total	2682	125	1254	1316	4523	259	242	227	123	48	4579	2147	17525
Apprch %	66	3.1	30.9	21.6	74.2	4.2	40.9	38.3	20.8	0.7	67.6	31.7	
Total %	15.3	0.7	7.2	7.5	25.8	1.5	1.4	1.3	0.7	0.3	26.1	12.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: HACIENDA ROAD
E-W Direction: WHITTIER BOULEVARD

File Name : H1809052
Site Code : 00000000
Start Date : 9/25/2018

	HACIENDA ROAD Southbound				WHITTIER BOULEVARD Westbound				HACIENDA ROAD Northbound				WHITTIER BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	165	5	105	275	62	310	5	377	9	4	4	17	1	271	91	363	1032
07:30	**197**	3	**109**	**309**	**80**	**322**	12	**414**	8	5	0	13	1	**323**	73	**397**	**1133**
07:45	190	8	80	278	77	313	14	404	**14**	12	2	28	1	255	90	346	1056
08:00	163	**27**	79	269	55	321	**34**	410	12	**19**	**5**	**36**	**8**	235	**119**	362	1077
Total Volume	715	43	373	1131	274	1266	65	1605	43	40	11	94	11	1084	373	1468	4298
% App. Total	63.2	3.8	33		17.1	78.9	4		45.7	42.6	11.7		0.7	73.8	25.4		
PHF	.907	.398	.856	.915	.856	.983	.478	.969	.768	.526	.550	.653	.344	.839	.784	.924	.948

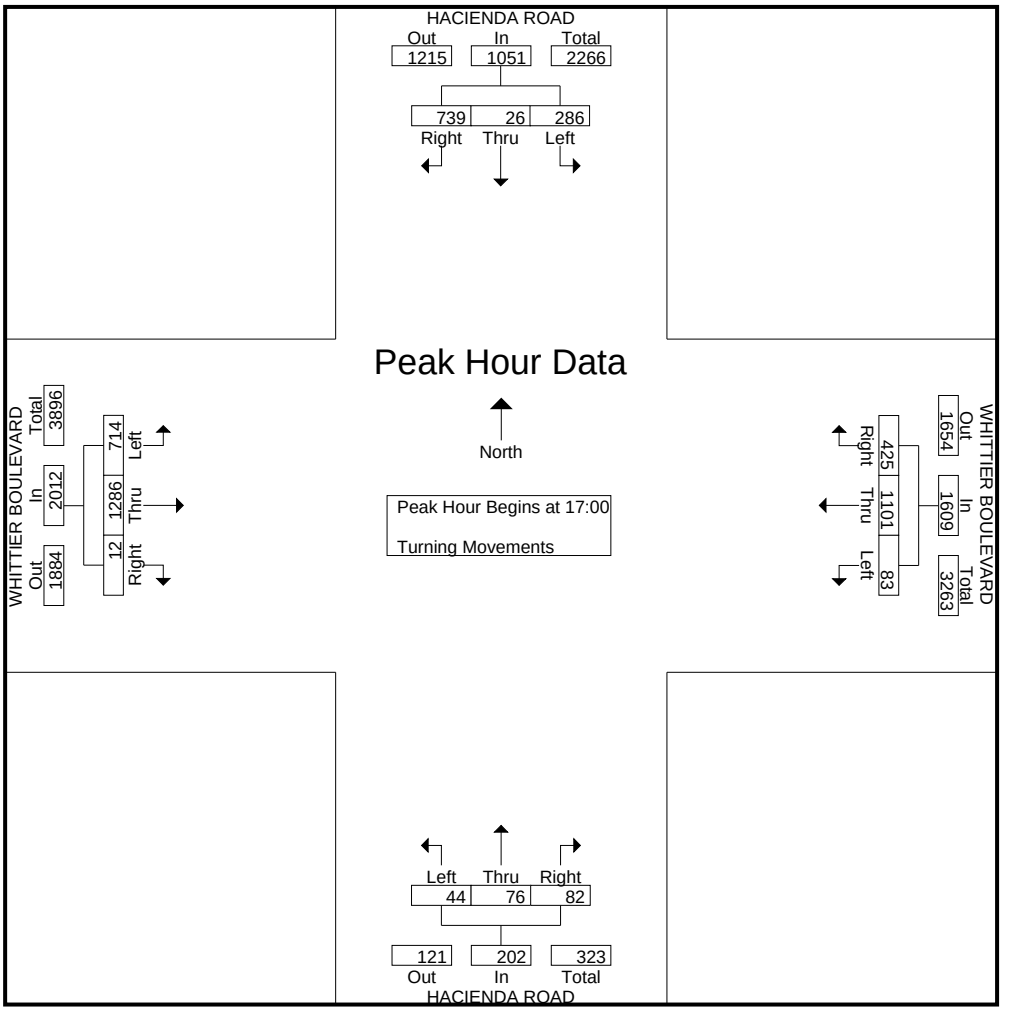


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: LA HABRA
N-S Direction: HACIENDA ROAD
E-W Direction: WHITTIER BOULEVARD

File Name : H1809052
Site Code : 00000000
Start Date : 9/25/2018

	HACIENDA ROAD Southbound				WHITTIER BOULEVARD Westbound				HACIENDA ROAD Northbound				WHITTIER BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	188	7	**73**	268	102	266	**27**	395	**24**	17	**16**	**57**	3	**335**	**197**	**535**	**1255**
17:15	**192**	**8**	69	**269**	109	277	20	406	17	**22**	6	45	**5**	331	184	520	1240
17:30	180	4	72	256	**114**	**279**	14	**407**	19	20	12	51	2	301	178	481	1195
17:45	179	7	72	258	100	279	22	401	22	17	10	49	2	319	155	476	1184
Total Volume	739	26	286	1051	425	1101	83	1609	82	76	44	202	12	1286	714	2012	4874
% App. Total	70.3	2.5	27.2		26.4	68.4	5.2		40.6	37.6	21.8		0.6	63.9	35.5		
PHF	.962	.813	.979	.977	.932	.987	.769	.988	.854	.864	.688	.886	.600	.960	.906	.940	.971



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: WALNUT STREET
E-W: IMPERIAL HIGHWAY

File Name : H1809037
Site Code :
Start Date : 9/18/2018
Page No : 1

Groups Printed- Turning Movementd

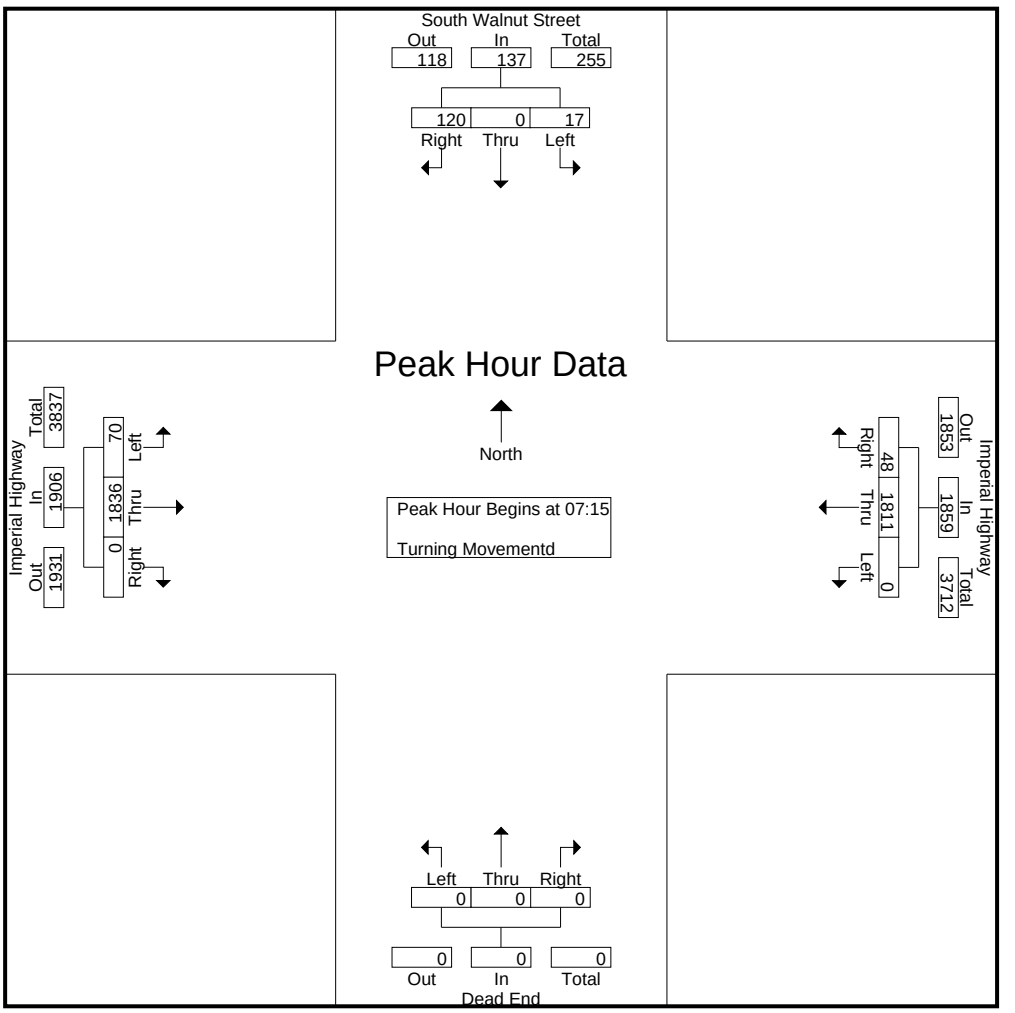
	South Walnut Street Southbound			Imperial Highway Westbound			Dead End Northbound			Imperial Highway Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	16	0	4	8	367	0	0	0	0	0	393	7	795
07:15	25	0	5	10	454	0	0	0	0	0	471	6	971
07:30	35	0	6	9	498	0	0	0	0	0	526	14	1088
07:45	33	0	6	10	477	0	0	0	0	0	420	28	974
Total	109	0	21	37	1796	0	0	0	0	0	1810	55	3828
08:00	27	0	0	19	382	0	0	0	0	0	419	22	869
08:15	23	0	8	11	447	0	0	0	0	0	401	15	905
08:30	18	0	5	15	336	0	0	0	0	0	442	10	826
08:45	15	0	5	8	362	0	0	0	0	0	397	13	800
Total	83	0	18	53	1527	0	0	0	0	0	1659	60	3400
16:00	16	0	1	23	471	0	0	0	0	0	383	19	913
16:15	20	0	4	33	505	0	0	0	0	0	463	30	1055
16:30	15	0	3	27	380	0	0	0	0	0	387	22	834
16:45	23	0	4	32	521	0	0	0	0	0	439	26	1045
Total	74	0	12	115	1877	0	0	0	0	0	1672	97	3847
17:00	14	0	3	29	536	0	0	0	0	0	397	23	1002
17:15	20	0	3	38	500	0	0	0	0	0	451	35	1047
17:30	14	0	1	36	486	0	0	0	0	0	409	29	975
17:45	20	0	2	39	475	0	0	0	0	0	422	25	983
Total	68	0	9	142	1997	0	0	0	0	0	1679	112	4007
Grand Total	334	0	60	347	7197	0	0	0	0	0	6820	324	15082
Apprch %	84.8	0	15.2	4.6	95.4	0	0	0	0	0	95.5	4.5	
Total %	2.2	0	0.4	2.3	47.7	0	0	0	0	0	45.2	2.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: WALNUT STREET
E-W: IMPERIAL HIGHWAY

File Name : H1809037
Site Code :
Start Date : 9/18/2018

	South Walnut Street Southbound				Imperial Highway Westbound				Dead End Northbound				Imperial Highway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	25	0	5	30	10	454	0	464	0	0	0	0	0	471	6	477	971
07:30	**35**	0	**6**	**41**	9	**498**	0	**507**	0	0	0	0	0	**526**	14	**540**	**1088**
07:45	33	0	6	39	10	477	0	487	0	0	0	0	0	420	**28**	448	974
08:00	27	0	0	27	**19**	382	0	401	0	0	0	0	0	419	22	441	869
Total Volume	120	0	17	137	48	1811	0	1859	0	0	0	0	0	1836	70	1906	3902
% App. Total	87.6	0	12.4		2.6	97.4	0		0	0	0		0	96.3	3.7		
PHF	.857	.000	.708	.835	.632	.909	.000	.917	.000	.000	.000	.000	.000	.873	.625	.882	.897

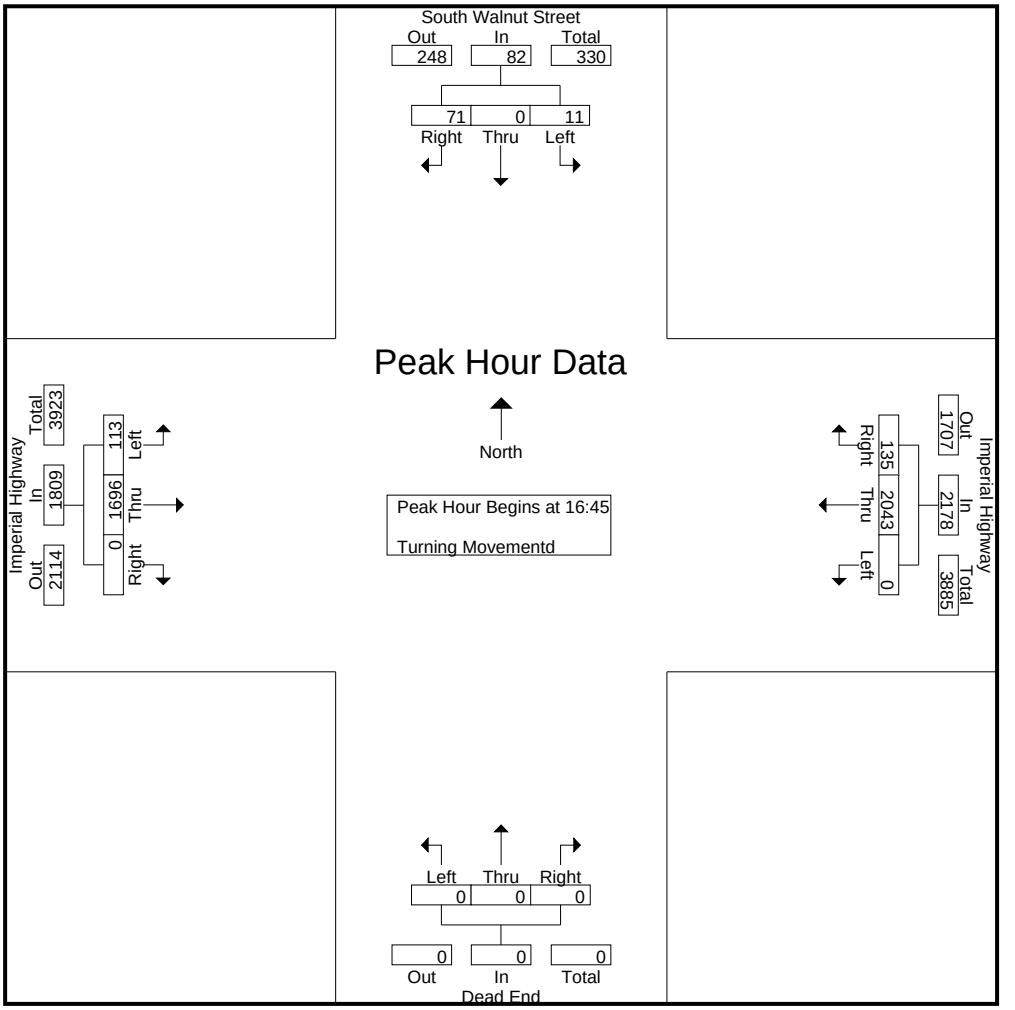


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

CITY: LA HABRA
N-S: WALNUT STREET
E-W: IMPERIAL HIGHWAY

File Name : H1809037
Site Code :
Start Date : 9/18/2018

	South Walnut Street Southbound				Imperial Highway Westbound				Dead End Northbound				Imperial Highway Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	**23**	0	**4**	**27**	32	521	0	553	0	0	0	0	0	439	26	465	1045
17:00	14	0	3	17	29	**536**	0	**565**	0	0	0	0	0	397	23	420	1002
17:15	20	0	3	23	**38**	500	0	538	0	0	0	0	0	**451**	**35**	**486**	**1047**
17:30	14	0	1	15	36	486	0	522	0	0	0	0	0	409	29	438	975
Total Volume	71	0	11	82	135	2043	0	2178	0	0	0	0	0	1696	113	1809	4069
% App. Total	86.6	0	13.4		6.2	93.8	0		0	0	0		0	93.8	6.2		
PHF	.772	.000	.688	.759	.888	.953	.000	.964	.000	.000	.000	.000	.000	.940	.807	.931	.972



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: FULLERTON
N-S Direction: GILBERT STREET
E-W Direction: MALVERN AVENUE

File Name : H1809053
Site Code : 00000000
Start Date : 9/25/2018

Groups Printed- Turning Movements

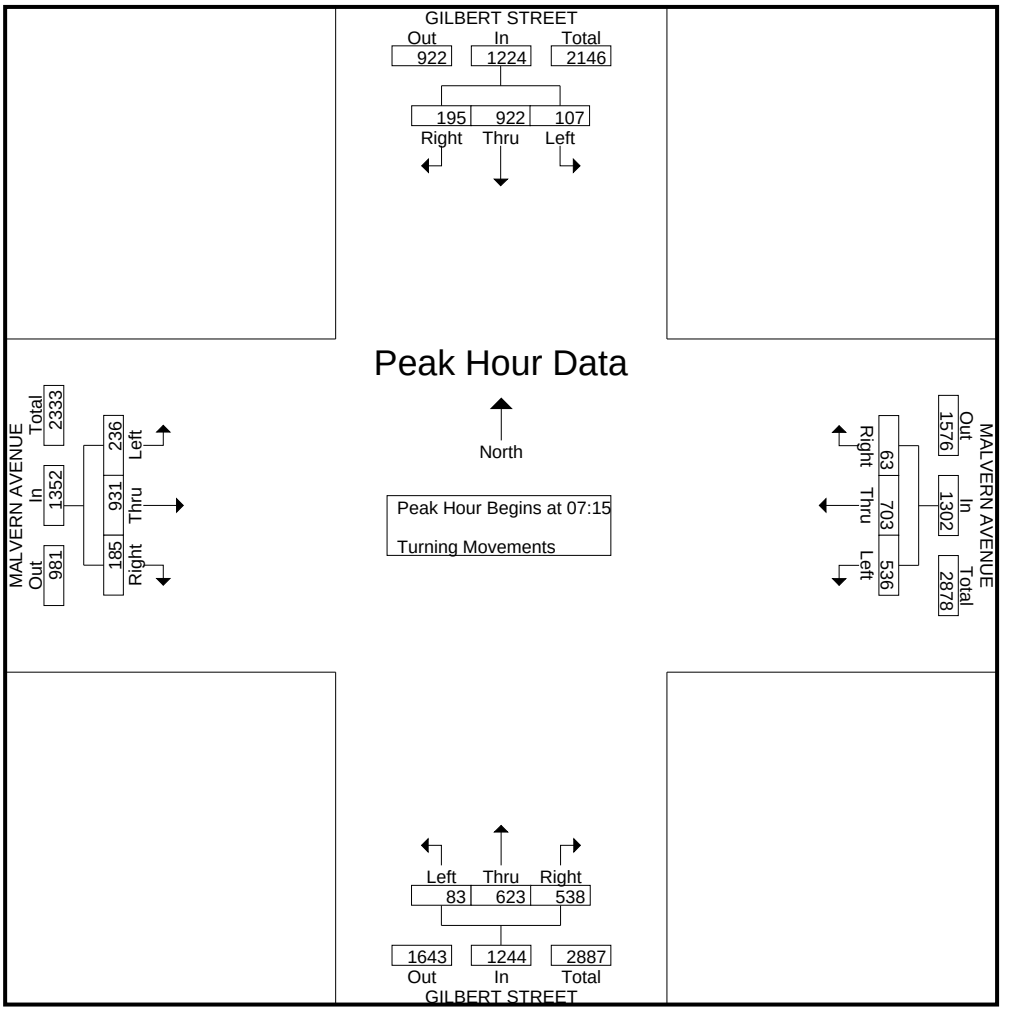
	GILBERT STREET Southbound			MALVERN AVENUE Westbound			GILBERT STREET Northbound			MALVERN AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	30	213	12	21	173	105	94	95	17	43	216	28	1047
07:15	46	213	29	16	142	115	128	164	15	44	249	44	1205
07:30	59	230	39	16	192	137	166	180	15	34	267	81	1416
07:45	41	244	17	14	204	168	138	151	25	51	205	67	1325
Total	176	900	97	67	711	525	526	590	72	172	937	220	4993
08:00	49	235	22	17	165	116	106	128	28	56	210	44	1176
08:15	45	212	27	18	146	121	79	130	24	48	186	35	1071
08:30	52	224	27	20	169	100	88	88	25	60	151	28	1032
08:45	41	231	27	18	137	118	77	94	15	43	172	39	1012
Total	187	902	103	73	617	455	350	440	92	207	719	146	4291
*** BREAK ***													
16:00	38	122	13	46	214	121	109	206	39	30	177	68	1183
16:15	44	135	26	43	240	119	120	241	52	30	156	88	1294
16:30	38	117	23	47	224	110	146	257	45	36	194	77	1314
16:45	33	141	14	72	233	121	129	279	38	30	187	80	1357
Total	153	515	76	208	911	471	504	983	174	126	714	313	5148
17:00	33	124	19	58	208	116	136	289	39	22	192	99	1335
17:15	38	143	15	35	252	112	149	271	42	24	229	97	1407
17:30	52	146	35	51	241	124	148	261	42	32	208	95	1435
17:45	52	131	25	57	257	120	149	264	48	22	194	94	1413
Total	175	544	94	201	958	472	582	1085	171	100	823	385	5590
Grand Total	691	2861	370	549	3197	1923	1962	3098	509	605	3193	1064	20022
Apprch %	17.6	72.9	9.4	9.7	56.4	33.9	35.2	55.6	9.1	12.4	65.7	21.9	
Total %	3.5	14.3	1.8	2.7	16	9.6	9.8	15.5	2.5	3	15.9	5.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: FULLERTON
N-S Direction: GILBERT STREET
E-W Direction: MALVERN AVENUE

File Name : H1809053
Site Code : 00000000
Start Date : 9/25/2018

	GILBERT STREET Southbound				MALVERN AVENUE Westbound				GILBERT STREET Northbound				MALVERN AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	46	213	29	288	16	142	115	273	128	164	15	307	44	249	44	337	1205
07:30	**59**	230	**39**	**328**	16	192	137	345	**166**	**180**	15	**361**	34	**267**	**81**	**382**	**1416**
07:45	41	**244**	17	302	14	**204**	**168**	**386**	138	151	25	314	51	205	67	323	1325
08:00	49	235	22	306	**17**	165	116	298	106	128	**28**	262	**56**	210	44	310	1176
Total Volume	195	922	107	1224	63	703	536	1302	538	623	83	1244	185	931	236	1352	5122
% App. Total	15.9	75.3	8.7		4.8	54	41.2		43.2	50.1	6.7		13.7	68.9	17.5		
PHF	.826	.945	.686	.933	.926	.862	.798	.843	.810	.865	.741	.861	.826	.872	.728	.885	.904

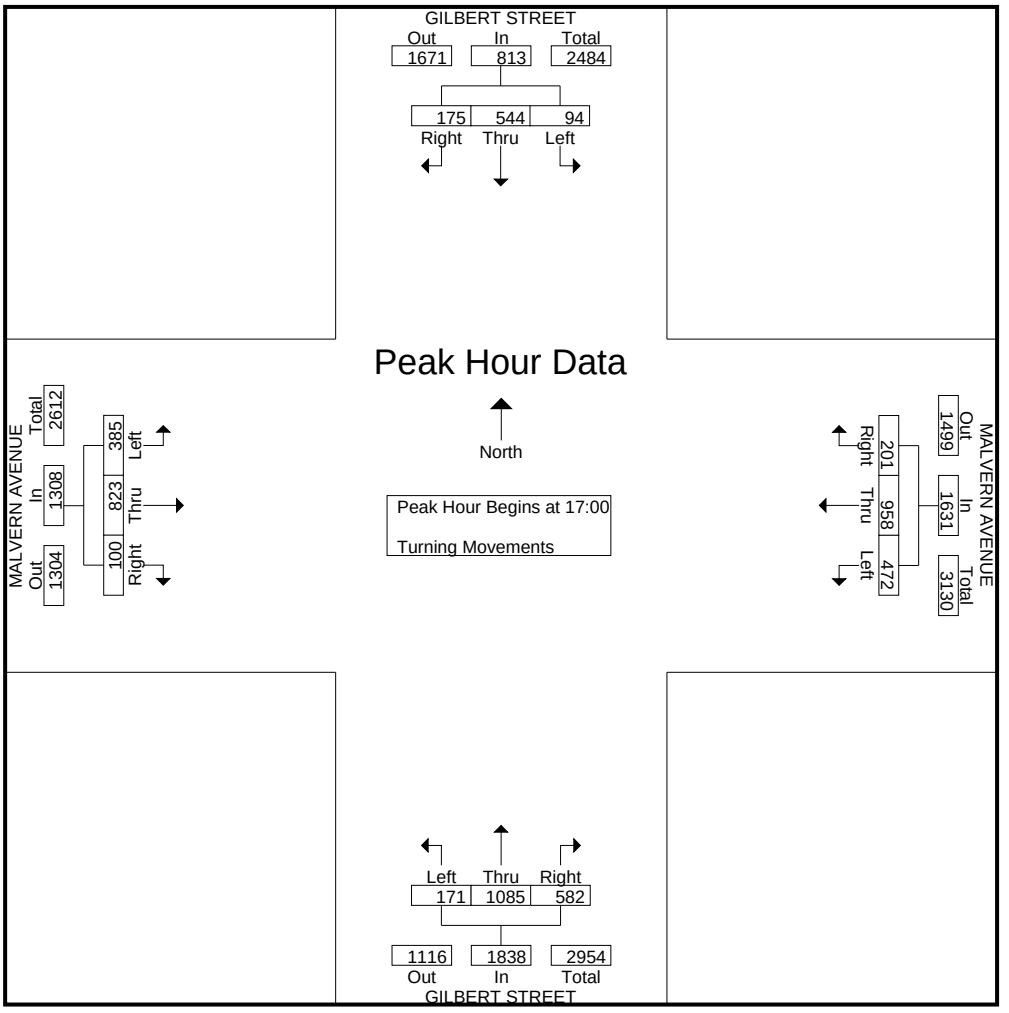


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: FULLERTON
N-S Direction: GILBERT STREET
E-W Direction: MALVERN AVENUE

File Name : H1809053
Site Code : 00000000
Start Date : 9/25/2018

	GILBERT STREET Southbound				MALVERN AVENUE Westbound				GILBERT STREET Northbound				MALVERN AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	33	124	19	176	**58**	208	116	382	136	**289**	39	**464**	22	192	**99**	313	1335
17:15	38	143	15	196	35	252	112	399	**149**	271	42	462	24	**229**	97	**350**	1407
17:30	**52**	**146**	**35**	**233**	51	241	**124**	416	148	261	42	451	**32**	208	95	335	**1435**
17:45	52	131	25	208	57	**257**	120	**434**	149	264	**48**	461	22	194	94	310	1413
Total Volume	175	544	94	813	201	958	472	1631	582	1085	171	1838	100	823	385	1308	5590
% App. Total	21.5	66.9	11.6		12.3	58.7	28.9		31.7	59	9.3		7.6	62.9	29.4		
PHF	.841	.932	.671	.872	.866	.932	.952	.940	.977	.939	.891	.990	.781	.898	.972	.934	.974



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: FULLERTON
N-S Direction: EUCLID STREET
E-W Direction: MALVERN AVENUE

File Name : H1809054
Site Code : 00000000
Start Date : 9/25/2018

Groups Printed- Turning Movements

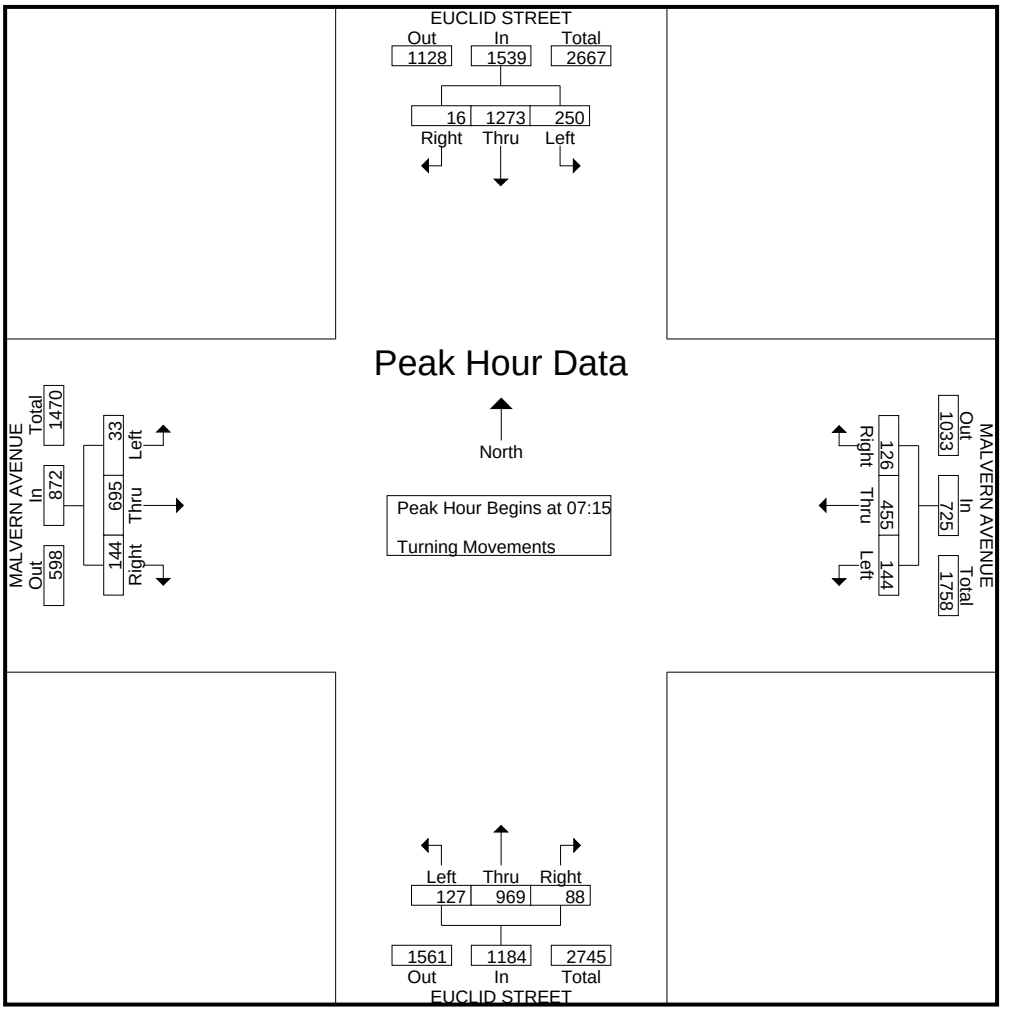
	EUCLID STREET Southbound			MALVERN AVENUE Westbound			EUCLID STREET Northbound			MALVERN AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	2	325	41	22	133	25	29	196	23	40	163	7	1006
07:15	0	327	56	41	118	37	34	242	32	43	177	4	1111
07:30	4	326	66	27	128	42	22	247	33	25	195	8	1123
07:45	7	312	73	31	104	32	12	250	22	45	177	13	1078
Total	13	1290	236	121	483	136	97	935	110	153	712	32	4318
08:00	5	308	55	27	105	33	20	230	40	31	146	8	1008
08:15	4	342	50	39	95	45	21	237	22	43	160	12	1070
08:30	3	325	50	24	76	40	22	210	27	42	140	8	967
08:45	12	289	39	20	80	33	22	169	37	44	122	7	874
Total	24	1264	194	110	356	151	85	846	126	160	568	35	3919
*** BREAK ***													
16:00	5	249	31	42	172	40	31	253	39	33	153	9	1057
16:15	6	218	34	34	160	39	21	300	47	39	154	9	1061
16:30	2	252	33	42	186	42	22	303	49	44	129	9	1113
16:45	4	238	39	50	149	42	27	293	42	42	140	10	1076
Total	17	957	137	168	667	163	101	1149	177	158	576	37	4307
17:00	6	256	37	56	158	36	29	295	47	40	129	14	1103
17:15	10	284	29	40	228	35	24	290	54	37	148	8	1187
17:30	12	270	28	41	182	38	23	302	41	43	160	10	1150
17:45	6	217	22	42	191	29	24	296	58	41	135	8	1069
Total	34	1027	116	179	759	138	100	1183	200	161	572	40	4509
Grand Total	88	4538	683	578	2265	588	383	4113	613	632	2428	144	17053
Apprch %	1.7	85.5	12.9	16.8	66	17.1	7.5	80.5	12	19.7	75.8	4.5	
Total %	0.5	26.6	4	3.4	13.3	3.4	2.2	24.1	3.6	3.7	14.2	0.8	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: FULLERTON
N-S Direction: EUCLID STREET
E-W Direction: MALVERN AVENUE

File Name : H1809054
Site Code : 00000000
Start Date : 9/25/2018
Page No : 2

	EUCLID STREET Southbound				MALVERN AVENUE Westbound				EUCLID STREET Northbound				MALVERN AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	**327**	56	383	**41**	118	37	196	**34**	242	32	**308**	43	177	4	224	1111
07:30	4	326	66	**396**	27	**128**	**42**	**197**	22	247	33	302	25	**195**	8	228	**1123**
07:45	**7**	312	**73**	392	31	104	32	167	12	**250**	22	284	**45**	177	**13**	**235**	1078
08:00	5	308	55	368	27	105	33	165	20	230	**40**	290	31	146	8	185	1008
Total Volume	16	1273	250	1539	126	455	144	725	88	969	127	1184	144	695	33	872	4320
% App. Total	1	82.7	16.2		17.4	62.8	19.9		7.4	81.8	10.7		16.5	79.7	3.8		
PHF	.571	.973	.856	.972	.768	.889	.857	.920	.647	.969	.794	.961	.800	.891	.635	.928	.962

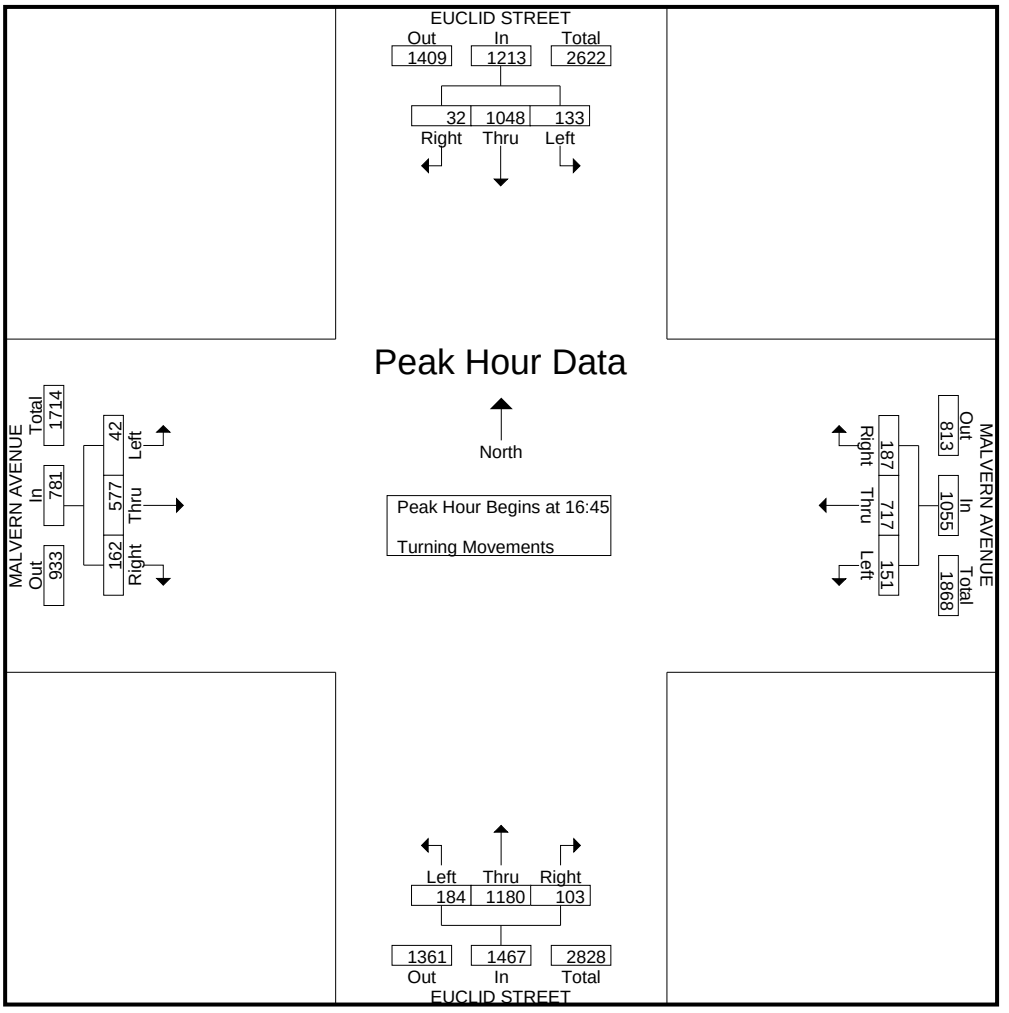


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: FULLERTON
N-S Direction: EUCLID STREET
E-W Direction: MALVERN AVENUE

File Name : H1809054
Site Code : 00000000
Start Date : 9/25/2018

	EUCLID STREET Southbound				MALVERN AVENUE Westbound				EUCLID STREET Northbound				MALVERN AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	4	238	**39**	281	50	149	**42**	241	27	293	42	362	42	140	10	192	1076
17:00	6	256	37	299	**56**	158	36	250	**29**	295	47	**371**	40	129	**14**	183	1103
17:15	10	**284**	29	**323**	40	**228**	35	**303**	24	290	**54**	368	37	148	8	193	**1187**
17:30	**12**	270	28	310	41	182	38	261	23	**302**	41	366	**43**	**160**	10	**213**	1150
Total Volume	32	1048	133	1213	187	717	151	1055	103	1180	184	1467	162	577	42	781	4516
% App. Total	2.6	86.4	11		17.7	68	14.3		7	80.4	12.5		20.7	73.9	5.4		
PHF	.667	.923	.853	.939	.835	.786	.899	.870	.888	.977	.852	.989	.942	.902	.750	.917	.951



APPENDIX B-II

ROADWAY SEGMENT COUNTS

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : LAMBERT ROAD
Segment : BEACH BLVD TO IDAHO ST
Client : LL&G

Site: LA HABRA
Date: 09/27/18
Day: Thursday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	38	130	268	1,142	32	105	250	952	70	235	518	2,094
12:15	39		284		31		232		70		516	
12:30	27		296		22		232		49		528	
12:45	26		294		20		238		46		532	
01:00	24	92	306	1,236	26	101	250	1,083	50	193	556	2,319
01:15	18		294		28		250		46		544	
01:30	28		300		25		278		53		578	
01:45	22		336		22		305		44		641	
02:00	16	83	329	1,406	9	51	269	1,201	25	134	598	2,607
02:15	14		332		10		277		24		609	
02:30	25		370		18		277		43		647	
02:45	28		375		14		378		42		753	
03:00	15	174	386	1,655	8	89	374	1,474	23	263	760	3,129
03:15	34		456		21		377		55		833	
03:30	60		411		31		347		91		758	
03:45	65		402		29		376		94		778	
04:00	32	287	403	1,740	23	159	392	1,634	55	446	795	3,374
04:15	46		442		31		441		77		883	
04:30	106		457		54		407		160		864	
04:45	103		438		51		394		154		832	
05:00	88	566	438	1,678	74	384	401	1,583	162	950	839	3,261
05:15	136		418		84		404		220		822	
05:30	162		390		120		387		282		777	
05:45	180		432		106		391		286		823	
06:00	166	1,094	398	1,574	133	795	395	1,343	299	1,889	793	2,917
06:15	246		398		168		388		414		786	
06:30	316		394		234		298		550		692	
06:45	366		384		260		262		626		646	
07:00	387	2,007	348	1,162	314	1,478	272	911	701	3,485	620	2,073
07:15	496		340		360		257		856		597	
07:30	550		242		408		204		958		446	
07:45	574		232		396		178		970		410	
08:00	476	1,707	236	775	328	1,257	195	696	804	2,964	431	1,471
08:15	470		204		323		206		793		410	
08:30	414		161		300		150		714		311	
08:45	347		174		306		145		653		319	
09:00	346	1,305	165	549	234	897	179	601	580	2,202	344	1,150
09:15	297		154		211		156		508		310	
09:30	315		136		184		136		499		272	
09:45	347		94		268		130		615		224	
10:00	299	1,089	105	341	222	864	87	317	521	1,953	192	658
10:15	268		92		222		90		490		182	
10:30	262		74		202		78		464		152	
10:45	260		70		218		62		478		132	
11:00	281	1,113	56	172	217	861	65	186	498	1,974	121	358
11:15	276		49		196		46		472		95	
11:30	270		34		204		36		474		70	
11:45	286		33		244		39		530		72	
Totals	9,647		13,430		7,041		11,981		16,688		25,411	
Split%	57.8		52.9		42.2		47.1					
Day Totals		23,077				19,022				42,099		
Day Splits		54.8				45.2						
Peak Hour	07:15		04:15		07:15		04:15		07:15		04:15	
Volume	2,096		1,775		1,492		1,643		3,588		3,418	
Factor	0.91		0.97		0.91		0.93		0.92		0.97	

Data File : D1809038

Printed : 9/28/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : LAMBERT ROAD
Segment : IDAHO ST TO EUCLID ST
Client : LL&G

Site: LA HABRA
Date: 09/18/18
Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	22	76	230	927	42	108	232	824	64	184	462	1,751
12:15	24		224		24		208		48		432	
12:30	14		227		28		176		42		403	
12:45	16		246		14		208		30		454	
01:00	15	72	225	1,007	18	86	230	1,000	33	158	455	2,007
01:15	14		264		20		230		34		494	
01:30	23		240		30		274		53		514	
01:45	20		278		18		266		38		544	
02:00	19	79	270	1,135	20	59	216	1,074	39	138	486	2,209
02:15	20		278		9		228		29		506	
02:30	20		279		20		291		40		570	
02:45	20		308		10		339		30		647	
03:00	22	174	304	1,318	11	64	334	1,431	33	238	638	2,749
03:15	30		324		12		369		42		693	
03:30	64		354		18		332		82		686	
03:45	58		336		23		396		81		732	
04:00	42	319	352	1,453	23	156	388	1,535	65	475	740	2,988
04:15	60		320		33		353		93		673	
04:30	99		361		50		384		149		745	
04:45	118		420		50		410		168		830	
05:00	108	610	400	1,532	67	361	419	1,626	175	971	819	3,158
05:15	138		386		84		408		222		794	
05:30	176		364		100		392		276		756	
05:45	188		382		110		407		298		789	
06:00	172	1,185	318	1,306	130	753	354	1,235	302	1,938	672	2,541
06:15	262		336		168		320		430		656	
06:30	347		340		213		283		560		623	
06:45	404		312		242		278		646		590	
07:00	414	1,727	258	899	288	1,270	295	989	702	2,997	553	1,888
07:15	442		239		296		283		738		522	
07:30	432		218		332		195		764		413	
07:45	439		184		354		216		793		400	
08:00	427	1,488	177	589	300	1,009	189	696	727	2,497	366	1,285
08:15	388		144		228		184		616		328	
08:30	352		136		238		157		590		293	
08:45	321		132		243		166		564		298	
09:00	290	1,034	129	459	216	894	130	524	506	1,928	259	983
09:15	278		141		213		146		491		287	
09:30	230		92		222		136		452		228	
09:45	236		97		243		112		479		209	
10:00	204	824	64	261	244	873	102	311	448	1,697	166	572
10:15	192		73		228		77		420		150	
10:30	200		58		187		76		387		134	
10:45	228		66		214		56		442		122	
11:00	204	828	49	162	217	855	51	190	421	1,683	100	352
11:15	184		36		204		49		388		85	
11:30	222		42		199		58		421		100	
11:45	218		35		235		32		453		67	
Totals	8,416		11,048		6,488		11,435		14,904		22,483	
Split%	56.5		49.1		43.5		50.9					
Day Totals		19,464				17,923				37,387		
Day Splits		52.1				47.9						
Peak Hour	07:15		04:45		07:15		04:45		07:15		04:45	
Volume	1,740		1,570		1,282		1,629		3,022		3,199	
Factor	0.98		0.93		0.91		0.97		0.95		0.96	

Data File : D1809039

Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : LAMBERT ROAD
Site: LA HABRA
Segment : EUCLID ST TO HARBOR BLVD
Date: 09/18/18
Client : LL&G
Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	16	51	208	829	41	105	248	904	57	156	456	1,733
12:15	17		196		28		252		45		448	
12:30	6		216		18		194		24		410	
12:45	12		209		18		210		30		419	
01:00	6	46	189	876	22	110	268	1,102	28	156	457	1,978
01:15	7		232		30		262		37		494	
01:30	12		217		32		298		44		515	
01:45	21		238		26		274		47		512	
02:00	10	62	220	1,024	20	58	266	1,236	30	120	486	2,260
02:15	14		266		10		241		24		507	
02:30	19		266		18		360		37		626	
02:45	19		272		10		369		29		641	
03:00	21	187	286	1,135	14	62	430	1,697	35	249	716	2,832
03:15	34		269		10		435		44		704	
03:30	62		292		18		410		80		702	
03:45	70		288		20		422		90		710	
04:00	44	315	298	1,126	20	160	414	1,685	64	475	712	2,811
04:15	62		250		29		340		91		590	
04:30	86		266		49		462		135		728	
04:45	123		312		62		469		185		781	
05:00	103	575	331	1,211	52	338	450	1,715	155	913	781	2,926
05:15	126		298		76		447		202		745	
05:30	154		287		84		419		238		706	
05:45	192		295		126		399		318		694	
06:00	134	924	237	1,055	138	818	356	1,327	272	1,742	593	2,382
06:15	198		272		186		358		384		630	
06:30	284		282		223		323		507		605	
06:45	308		264		271		290		579		554	
07:00	332	1,535	206	701	324	1,344	332	1,070	656	2,879	538	1,771
07:15	347		173		282		288		629		461	
07:30	438		164		368		222		806		386	
07:45	418		158		370		228		788		386	
08:00	360	1,228	160	470	334	1,139	214	695	694	2,367	374	1,165
08:15	302		104		259		173		561		277	
08:30	302		98		268		154		570		252	
08:45	264		108		278		154		542		262	
09:00	244	896	96	364	215	1,011	160	548	459	1,907	256	912
09:15	242		107		246		146		488		253	
09:30	206		91		290		136		496		227	
09:45	204		70		260		106		464		176	
10:00	188	748	42	186	282	955	108	328	470	1,703	150	514
10:15	186		46		243		76		429		122	
10:30	182		56		212		86		394		142	
10:45	192		42		218		58		410		100	
11:00	182	754	40	138	250	959	62	212	432	1,713	102	350
11:15	177		32		246		58		423		90	
11:30	200		37		216		58		416		95	
11:45	195		29		247		34		442		63	
Totals	7,321		9,115		7,059		12,519		14,380		21,634	
Split%	50.9		42.1		49.1		57.9					
Day Totals		16,436				19,578				36,014		
Day Splits		45.6				54.4						
Peak Hour	07:15		04:45		07:15		04:30		07:15		04:30	
Volume	1,563		1,228		1,354		1,828		2,917		3,035	
Factor	0.89		0.93		0.91		0.97		0.90		0.97	

Data File : D1809040
Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: LA HABRA

Segment : LAMBERT RD TO IMPERIAL HWY — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	86	254	366	1,441	36	112	307	1,321	122	366	673	2,762
12:15	66		362		27		366		93		728	
12:30	52		367		30		328		82		695	
12:45	50		346		19		320		69		666	
01:00	54	156	317	1,439	21	84	324	1,372	75	240	641	2,811
01:15	36		384		20		352		56		736	
01:30	22		382		27		342		49		724	
01:45	44		356		16		354		60		710	
02:00	38	116	350	1,719	6	56	350	1,397	44	172	700	3,116
02:15	24		424		11		332		35		756	
02:30	21		449		21		339		42		788	
02:45	33		496		18		376		51		872	
03:00	28	116	486	1,977	19	144	375	1,751	47	260	861	3,728
03:15	18		497		34		488		52		985	
03:30	32		498		54		445		86		943	
03:45	38		496		37		443		75		939	
04:00	32	165	506	2,058	45	370	412	1,761	77	535	918	3,819
04:15	39		501		84		468		123		969	
04:30	38		513		109		448		147		961	
04:45	56		538		132		433		188		971	
05:00	56	287	542	2,126	172	843	462	1,820	228	1,130	1,004	3,946
05:15	76		556		191		466		267		1,022	
05:30	60		520		232		472		292		992	
05:45	95		508		248		420		343		928	
06:00	184	870	548	2,005	272	1,532	439	1,608	456	2,402	987	3,613
06:15	158		489		346		414		504		903	
06:30	242		458		420		384		662		842	
06:45	286		510		494		371		780		881	
07:00	294	1,467	432	1,643	550	2,140	356	1,242	844	3,607	788	2,885
07:15	376		450		526		321		902		771	
07:30	374		353		544		307		918		660	
07:45	423		408		520		258		943		666	
08:00	397	1,426	372	1,276	508	1,813	253	827	905	3,239	625	2,103
08:15	362		324		496		214		858		538	
08:30	329		286		437		194		766		480	
08:45	338		294		372		166		710		460	
09:00	311	1,262	232	896	360	1,416	183	541	671	2,678	415	1,437
09:15	316		252		376		144		692		396	
09:30	303		230		331		118		634		348	
09:45	332		182		349		96		681		278	
10:00	312	1,197	212	606	340	1,291	112	371	652	2,488	324	977
10:15	317		146		282		103		599		249	
10:30	282		132		339		84		621		216	
10:45	286		116		330		72		616		188	
11:00	293	1,253	92	376	363	1,292	74	211	656	2,545	166	587
11:15	314		102		306		44		620		146	
11:30	296		100		312		60		608		160	
11:45	350		82		311		33		661		115	
Totals	8,569		17,562		11,093		14,222		19,662		31,784	
Split%	43.6		55.3		56.4		44.7					
Day Totals		26,131				25,315				51,446		
Day Splits		50.8				49.2						
Peak Hour	07:15		04:45		07:00		04:45		07:15		04:45	
Volume	1,570		2,156		2,140		1,833		3,668		3,989	
Factor	0.93		0.97		0.97		0.97		0.97		0.98	

Data File : $906$003 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IDAHO STREET — Site: LA HABRA

Segment : LAMBERT RD TO IMPERIAL HWY — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	22	68	138	605	12	34	166	660	34	102	304	1,265
12:15	19		162		7		189		26		351	
12:30	13		137		5		149		18		286	
12:45	14		168		10		156		24		324	
01:00	16	37	158	672	8	21	159	640	24	58	317	1,312
01:15	9		142		3		160		12		302	
01:30	6		202		6		157		12		359	
01:45	6		170		4		164		10		334	
02:00	9	24	150	760	9	29	158	736	18	53	308	1,496
02:15	3		173		4		183		7		356	
02:30	7		195		6		188		13		383	
02:45	5		242		10		207		15		449	
03:00	2	21	232	997	4	49	198	785	6	70	430	1,782
03:15	6		262		9		189		15		451	
03:30	6		258		15		204		21		462	
03:45	7		245		21		194		28		439	
04:00	14	55	246	1,091	13	143	218	811	27	198	464	1,902
04:15	7		289		26		203		33		492	
04:30	15		268		46		191		61		459	
04:45	19		288		58		199		77		487	
05:00	19	108	311	1,188	57	319	194	879	76	427	505	2,067
05:15	29		280		57		220		86		500	
05:30	26		306		95		241		121		547	
05:45	34		291		110		224		144		515	
06:00	41	250	296	994	106	652	221	846	147	902	517	1,840
06:15	62		234		133		217		195		451	
06:30	78		238		199		218		277		456	
06:45	69		226		214		190		283		416	
07:00	98	608	194	770	225	1,092	192	653	323	1,700	386	1,423
07:15	142		192		235		161		377		353	
07:30	167		204		310		160		477		364	
07:45	201		180		322		140		523		320	
08:00	192	574	148	562	254	826	111	415	446	1,400	259	977
08:15	142		148		209		122		351		270	
08:30	126		127		179		100		305		227	
08:45	114		139		184		82		298		221	
09:00	135	496	140	454	173	648	82	285	308	1,144	222	739
09:15	115		116		170		74		285		190	
09:30	120		98		149		76		269		174	
09:45	126		100		156		53		282		153	
10:00	120	475	94	255	133	576	50	164	253	1,051	144	419
10:15	108		68		166		45		274		113	
10:30	128		50		133		40		261		90	
10:45	119		43		144		29		263		72	
11:00	152	531	50	157	134	610	30	77	286	1,141	80	234
11:15	118		51		160		18		278		69	
11:30	137		28		148		17		285		45	
11:45	124		28		168		12		292		40	
Totals	3,247		8,505		4,999		6,951		8,246		15,456	
Split%	39.4		55.0		60.6		45.0					
Day Totals		11,752				11,950				23,702		
Day Splits		49.6				50.4						
Peak Hour	07:15		05:00		07:15		05:15		07:15		05:15	
Volume	702		1,188		1,121		906		1,823		2,079	
Factor	0.87		0.95		0.87		0.94		0.87		0.95	

Data File : D1809042 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : EUCLID STREET — Site: LA HABRA

Segment : LAMBERT RD TO IMPERIAL HWY — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	14	49	108	447	10	31	108	408	24	80	216	855
12:15	20		126		10		99		30		225	
12:30	7		110		6		110		13		220	
12:45	8		103		5		91		13		194	
01:00	6	26	120	465	3	19	114	451	9	45	234	916
01:15	7		111		7		119		14		230	
01:30	7		122		3		102		10		224	
01:45	6		112		6		116		12		228	
02:00	7	36	102	524	6	22	110	572	13	58	212	1,096
02:15	10		120		4		132		14		252	
02:30	6		136		5		154		11		290	
02:45	13		166		7		176		20		342	
03:00	2	20	188	763	6	30	141	597	8	50	329	1,360
03:15	5		196		5		132		10		328	
03:30	6		194		9		162		15		356	
03:45	7		185		10		162		17		347	
04:00	5	34	168	854	17	113	150	536	22	147	318	1,390
04:15	7		212		14		138		21		350	
04:30	14		250		34		118		48		368	
04:45	8		224		48		130		56		354	
05:00	8	81	250	982	47	247	132	631	55	328	382	1,613
05:15	18		234		46		168		64		402	
05:30	14		248		67		161		81		409	
05:45	41		250		87		170		128		420	
06:00	46	234	227	785	124	757	138	516	170	991	365	1,301
06:15	62		184		150		140		212		324	
06:30	46		210		221		126		267		336	
06:45	80		164		262		112		342		276	
07:00	95	452	152	532	235	1,045	96	363	330	1,497	248	895
07:15	109		143		246		91		355		234	
07:30	114		121		292		84		406		205	
07:45	134		116		272		92		406		208	
08:00	146	440	109	382	238	785	85	263	384	1,225	194	645
08:15	110		91		179		58		289		149	
08:30	94		88		180		66		274		154	
08:45	90		94		188		54		278		148	
09:00	95	330	80	297	162	566	58	187	257	896	138	484
09:15	86		69		152		38		238		107	
09:30	76		82		122		53		198		135	
09:45	73		66		130		38		203		104	
10:00	84	334	44	178	111	436	30	98	195	770	74	276
10:15	83		48		102		20		185		68	
10:30	80		46		119		30		199		76	
10:45	87		40		104		18		191		58	
11:00	82	394	38	126	109	391	18	69	191	785	56	195
11:15	110		30		90		21		200		51	
11:30	94		28		94		18		188		46	
11:45	108		30		98		12		206		42	
Totals	2,430		6,335		4,442		4,691		6,872		11,026	
Split%	35.4		57.5		64.6		42.5					
Day Totals		8,765				9,133				17,898		
Day Splits		49.0				51.0						
Peak Hour	07:30		05:00		07:15		05:15		07:15		05:00	
Volume	504		982		1,048		637		1,551		1,613	
Factor	0.86		0.98		0.90		0.94		0.96		0.96	

Data File : D1809043 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : HARBOR BOULEVARD — Site: LA HABRA

Segment : LAMBERT RD TO IMPERIAL HWY — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	48	146	200	940	20	88	229	923	68	234	429	1,863
12:15	38		260		21		232		59		492	
12:30	27		252		25		228		52		480	
12:45	33		228		22		234		55		462	
01:00	24	99	263	1,041	10	94	244	996	34	193	507	2,037
01:15	29		270		26		244		55		514	
01:30	21		243		34		278		55		521	
01:45	25		265		24		230		49		495	
02:00	21	89	257	1,096	20	65	257	1,075	41	154	514	2,171
02:15	18		249		12		251		30		500	
02:30	27		284		14		299		41		583	
02:45	23		306		19		268		42		574	
03:00	18	126	304	1,246	18	125	286	1,106	36	251	590	2,352
03:15	28		316		26		270		54		586	
03:30	34		337		32		286		66		623	
03:45	46		289		49		264		95		553	
04:00	18	122	308	1,392	36	230	266	1,051	54	352	574	2,443
04:15	30		336		35		248		65		584	
04:30	32		402		61		266		93		668	
04:45	42		346		98		271		140		617	
05:00	48	247	305	1,373	84	513	305	1,159	132	760	610	2,532
05:15	40		377		111		304		151		681	
05:30	64		341		148		290		212		631	
05:45	95		350		170		260		265		610	
06:00	82	455	316	1,280	209	1,352	264	1,068	291	1,807	580	2,348
06:15	96		346		281		264		377		610	
06:30	126		322		417		276		543		598	
06:45	151		296		445		264		596		560	
07:00	163	672	296	1,068	388	1,624	218	755	551	2,296	514	1,823
07:15	168		275		426		173		594		448	
07:30	167		270		426		184		593		454	
07:45	174		227		384		180		558		407	
08:00	211	753	214	773	376	1,512	146	534	587	2,265	360	1,307
08:15	174		209		397		136		571		345	
08:30	196		184		409		134		605		318	
08:45	172		166		330		118		502		284	
09:00	174	733	184	729	314	1,272	115	435	488	2,005	299	1,164
09:15	170		229		330		104		500		333	
09:30	193		166		350		122		543		288	
09:45	196		150		278		94		474		244	
10:00	200	793	170	468	230	986	91	286	430	1,779	261	754
10:15	221		129		288		80		509		209	
10:30	169		88		234		59		403		147	
10:45	203		81		234		56		437		137	
11:00	212	900	80	263	228	883	54	147	440	1,783	134	410
11:15	193		80		224		40		417		120	
11:30	248		60		236		26		484		86	
11:45	247		43		195		27		442		70	
Totals	5,135		11,669		8,744		9,535		13,879		21,204	
Split%	37.0		55.0		63.0		45.0					
Day Totals		16,804				18,279				35,083		
Day Splits		47.9				52.1						
Peak Hour	11:00		04:30		06:45		04:45		06:45		04:30	
Volume	900		1,430		1,685		1,170		2,334		2,576	
Factor	0.91		0.89		0.95		0.96		0.98		0.95	

* Data File : D1809044 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IMPERIAL HIGHWAY — Site: LA HABRA

Segment : SANTA GERTRUDES TO 1ST AVE — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	30	97	218	948	37	90	240	968	67	187	458	1,916
12:15	21		258		16		236		37		494	
12:30	18		256		20		240		38		496	
12:45	28		216		17		252		45		468	
01:00	32	77	230	979	24	81	256	1,056	56	158	486	2,035
01:15	12		265		12		258		24		523	
01:30	16		224		20		263		36		487	
01:45	17		260		25		279		42		539	
02:00	12	74	236	1,038	28	74	256	1,172	40	148	492	2,210
02:15	26		255		9		277		35		532	
02:30	18		246		20		296		38		542	
02:45	18		301		17		343		35		644	
03:00	22	132	395	1,409	24	126	295	1,253	46	258	690	2,662
03:15	24		351		28		338		52		689	
03:30	48		332		40		280		88		612	
03:45	38		331		34		340		72		671	
04:00	27	215	352	1,372	47	259	314	1,257	74	474	666	2,629
04:15	54		326		53		317		107		643	
04:30	71		352		64		316		135		668	
04:45	63		342		95		310		158		652	
05:00	60	373	386	1,497	86	508	318	1,277	146	881	704	2,774
05:15	74		389		106		308		180		697	
05:30	120		372		168		343		288		715	
05:45	119		350		148		308		267		658	
06:00	116	612	348	1,235	154	1,017	330	1,195	270	1,629	678	2,430
06:15	138		346		210		286		348		632	
06:30	154		276		307		297		461		573	
06:45	204		265		346		282		550		547	
07:00	198	1,087	252	911	337	1,733	269	1,004	535	2,820	521	1,915
07:15	272		254		450		273		722		527	
07:30	296		200		492		244		788		444	
07:45	321		205		454		218		775		423	
08:00	272	996	194	640	409	1,384	226	707	681	2,380	420	1,347
08:15	288		176		374		150		662		326	
08:30	214		137		304		174		518		311	
08:45	222		133		297		157		519		290	
09:00	173	753	152	455	271	1,068	138	500	444	1,821	290	955
09:15	198		122		271		146		469		268	
09:30	190		101		274		112		464		213	
09:45	192		80		252		104		444		184	
10:00	195	801	101	290	244	958	116	364	439	1,759	217	654
10:15	214		68		262		98		476		166	
10:30	182		68		204		86		386		154	
10:45	210		53		248		64		458		117	
11:00	191	867	50	165	240	977	54	188	431	1,844	104	353
11:15	229		41		241		34		470		75	
11:30	210		36		236		52		446		88	
11:45	237		38		260		48		497		86	
Totals	6,084		10,939		8,275		10,941		14,359		21,880	
Split%	42.4		50.0		57.6		50.0					
Day Totals		17,023				19,216				36,239		
Day Splits		47.0				53.0						
Peak Hour	07:30		05:00		07:15		05:15		07:15		05:00	
Volume	1,177		1,497		1,805		1,289		2,966		2,774	
Factor	0.92		0.96		0.92		0.94		0.94		0.97	

Data File : D1809045 — Printed : 9/21/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IMPERIAL HIGHWAY | Site: LA HABRA

Segment : 1ST AVE TO BEACH BLVD | Date: 09/18/18

Client : LL&G | Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	25	91	246	961	37	108	239	1,004	62	199	485	1,965
12:15	24		240		28		236		52		476	
12:30	18		249		21		267		39		516	
12:45	24		226		22		262		46		488	
01:00	25	70	232	996	22	84	252	1,084	47	154	484	2,080
01:15	13		272		12		281		25		553	
01:30	18		232		21		289		39		521	
01:45	14		260		29		262		43		522	
02:00	10	64	208	956	24	70	273	1,143	34	134	481	2,099
02:15	20		219		9		272		29		491	
02:30	20		252		16		280		36		532	
02:45	14		277		21		318		35		595	
03:00	22	128	342	1,338	22	103	308	1,302	44	231	650	2,640
03:15	24		356		24		353		48		709	
03:30	44		322		31		288		75		610	
03:45	38		318		26		353		64		671	
04:00	26	238	346	1,379	34	191	305	1,311	60	429	651	2,690
04:15	54		344		39		344		93		688	
04:30	84		341		50		320		134		661	
04:45	74		348		68		342		142		690	
05:00	67	419	374	1,422	82	418	318	1,312	149	837	692	2,734
05:15	70		355		82		324		152		679	
05:30	132		361		132		342		264		703	
05:45	150		332		122		328		272		660	
06:00	134	706	322	1,199	120	836	332	1,248	254	1,542	654	2,447
06:15	152		337		170		310		322		647	
06:30	188		274		250		300		438		574	
06:45	232		266		296		306		528		572	
07:00	222	1,163	248	875	334	1,654	286	1,032	556	2,817	534	1,907
07:15	308		220		374		248		682		468	
07:30	315		203		474		270		789		473	
07:45	318		204		472		228		790		432	
08:00	268	1,120	162	591	389	1,333	242	803	657	2,453	404	1,394
08:15	323		180		370		187		693		367	
08:30	272		131		294		192		566		323	
08:45	257		118		280		182		537		300	
09:00	198	835	126	438	256	1,012	144	558	454	1,847	270	996
09:15	208		130		264		166		472		296	
09:30	208		96		240		136		448		232	
09:45	221		86		252		112		473		198	
10:00	196	832	83	287	252	940	134	418	448	1,772	217	705
10:15	224		74		244		110		468		184	
10:30	208		60		208		96		416		156	
10:45	204		70		236		78		440		148	
11:00	207	920	44	146	228	960	62	212	435	1,880	106	358
11:15	237		34		232		44		469		78	
11:30	204		34		248		58		452		92	
11:45	272		34		252		48		524		82	
Totals	6,586		10,588		7,709		11,427		14,295		22,015	
Split%	46.1		48.1		53.9		51.9					
Day Totals		17,174				19,136				36,310		
Day Splits		47.3				52.7						
Peak Hour	07:30		04:45		07:15		04:45		07:30		04:45	
Volume	1,224		1,438		1,709		1,326		2,929		2,764	
Factor	0.95		0.96		0.90		0.97		0.93		0.98	

Data File : D1809046 | Printed : 9/21/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IMPERIAL HIGHWAY | Site: LA HABRA

Segment : BEACH BLVD TO LA HABRA HILLS | Date: 09/18/18

Client : LL&G | Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	26	127	356	1,487	53	151	338	1,350	79	278	694	2,837
12:15	40		392		48		344		88		736	
12:30	26		376		26		328		52		704	
12:45	35		363		24		340		59		703	
01:00	43	115	339	1,495	40	133	324	1,326	83	248	663	2,821
01:15	28		372		26		326		54		698	
01:30	22		408		32		342		54		750	
01:45	22		376		35		334		57		710	
02:00	16	99	348	1,454	38	106	342	1,473	54	205	690	2,927
02:15	20		350		20		369		40		719	
02:30	26		330		21		342		47		672	
02:45	37		426		27		420		64		846	
03:00	33	212	393	1,857	30	144	387	1,557	63	356	780	3,414
03:15	38		544		30		404		68		948	
03:30	59		486		42		366		101		852	
03:45	82		434		42		400		124		834	
04:00	36	368	452	1,842	42	242	366	1,602	78	610	818	3,444
04:15	74		478		43		423		117		901	
04:30	122		421		64		409		186		830	
04:45	136		491		93		404		229		895	
05:00	94	596	418	1,872	101	515	416	1,732	195	1,111	834	3,604
05:15	120		524		103		442		223		966	
05:30	168		468		146		426		314		894	
05:45	214		462		165		448		379		910	
06:00	188	1,084	495	1,765	156	1,060	429	1,575	344	2,144	924	3,340
06:15	224		444		228		385		452		829	
06:30	302		434		306		398		608		832	
06:45	370		392		370		363		740		755	
07:00	362	1,796	380	1,330	388	1,858	323	1,344	750	3,654	703	2,674
07:15	468		353		446		320		914		673	
07:30	490		313		511		379		1,001		692	
07:45	476		284		513		322		989		606	
08:00	428	1,688	250	986	447	1,615	294	1,069	875	3,303	544	2,055
08:15	462		288		460		290		922		578	
08:30	422		250		349		249		771		499	
08:45	376		198		359		236		735		434	
09:00	338	1,316	188	654	304	1,268	239	814	642	2,584	427	1,468
09:15	307		184		327		223		634		407	
09:30	341		152		317		186		658		338	
09:45	330		130		320		166		650		296	
10:00	324	1,288	115	425	279	1,240	174	558	603	2,528	289	983
10:15	328		128		354		150		682		278	
10:30	322		98		298		123		620		221	
10:45	314		84		309		111		623		195	
11:00	346	1,399	78	254	314	1,328	78	298	660	2,727	156	552
11:15	335		68		332		78		667		146	
11:30	330		56		328		70		658		126	
11:45	388		52		354		72		742		124	
Totals	10,088		15,421		9,660		14,698		19,748		30,119	
Split%	51.1		51.2		48.9		48.8					
Day Totals		25,509				24,358				49,867		
Day Splits		51.2				48.8						
Peak Hour	07:15		05:15		07:30		05:15		07:30		05:15	
Volume	1,862		1,949		1,931		1,745		3,787		3,694	
Factor	0.95		0.93		0.94		0.97		0.95		0.96	

* Data File : D1809047 | Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IMPERIAL HIGHWAY — Site: LA HABRA

Segment : LA HABRA HILLS TO IDAHO ST — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	31	142	348	1,488	50	127	376	1,466	81	269	724	2,954
12:15	44		390		28		374		72		764	
12:30	34		368		31		385		65		753	
12:45	33		382		18		331		51		713	
01:00	39	109	358	1,496	36	139	362	1,514	75	248	720	3,010
01:15	24		358		18		377		42		735	
01:30	22		382		41		389		63		771	
01:45	24		398		44		386		68		784	
02:00	16	104	348	1,461	35	103	390	1,617	51	207	738	3,078
02:15	24		361		14		390		38		751	
02:30	26		350		30		385		56		735	
02:45	38		402		24		452		62		854	
03:00	32	204	367	1,701	31	156	460	1,750	63	360	827	3,451
03:15	40		488		31		458		71		946	
03:30	56		430		52		400		108		830	
03:45	76		416		42		432		118		848	
04:00	38	340	398	1,726	48	287	408	1,742	86	627	806	3,468
04:15	66		446		52		442		118		888	
04:30	114		428		72		446		186		874	
04:45	122		454		115		446		237		900	
05:00	90	558	422	1,754	100	550	463	1,803	190	1,108	885	3,557
05:15	116		472		132		444		248		916	
05:30	158		438		164		426		322		864	
05:45	194		422		154		470		348		892	
06:00	183	1,068	440	1,588	198	1,182	490	1,709	381	2,250	930	3,297
06:15	220		394		256		425		476		819	
06:30	300		382		344		418		644		800	
06:45	365		372		384		376		749		748	
07:00	352	1,738	368	1,386	406	1,992	348	1,373	758	3,730	716	2,759
07:15	450		356		516		359		966		715	
07:30	456		340		548		356		1,004		696	
07:45	480		322		522		310		1,002		632	
08:00	400	1,580	258	1,023	466	1,653	291	1,022	866	3,233	549	2,045
08:15	436		279		426		241		862		520	
08:30	387		266		390		260		777		526	
08:45	357		220		371		230		728		450	
09:00	309	1,213	214	700	372	1,396	227	795	681	2,609	441	1,495
09:15	276		194		333		231		609		425	
09:30	334		149		328		189		662		338	
09:45	294		143		363		148		657		291	
10:00	272	1,179	124	457	372	1,425	174	496	644	2,604	298	953
10:15	317		140		345		114		662		254	
10:30	278		112		338		120		616		232	
10:45	312		81		370		88		682		169	
11:00	357	1,354	92	284	355	1,462	86	275	712	2,816	178	559
11:15	316		72		360		62		676		134	
11:30	311		62		369		71		680		133	
11:45	370		58		378		56		748		114	
Totals	9,589		15,064		10,472		15,562		20,061		30,626	
Split%	47.8		49.2		52.2		50.8					
Day Totals		24,653				26,034				50,687		
Day Splits		48.6				51.4						
Peak Hour	07:15		04:45		07:15		05:15		07:15		05:15	
Volume	1,786		1,786		2,052		1,830		3,838		3,602	
Factor	0.93		0.95		0.94		0.93		0.96		0.97	

* Data File : D1809048 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IMPERIAL HIGHWAY — Site: LA HABRA

Segment : IDAHO ST TO EUCLID ST — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	38	146	330	1,444	46	141	420	1,474	84	287	750	2,918
12:15	34		384		29		348		63		732	
12:30	34		348		38		378		72		726	
12:45	40		382		28		328		68		710	
01:00	30	100	328	1,451	36	148	376	1,505	66	248	704	2,956
01:15	16		378		31		390		47		768	
01:30	30		377		44		362		74		739	
01:45	24		368		37		377		61		745	
02:00	18	107	344	1,487	36	108	400	1,665	54	215	744	3,152
02:15	30		340		20		357		50		697	
02:30	26		390		32		452		58		842	
02:45	33		413		20		456		53		869	
03:00	38	216	388	1,692	32	156	460	1,786	70	372	848	3,478
03:15	41		462		36		416		77		878	
03:30	77		432		47		448		124		880	
03:45	60		410		41		462		101		872	
04:00	42	394	417	1,764	46	294	445	1,930	88	688	862	3,694
04:15	92		442		50		464		142		906	
04:30	134		444		78		473		212		917	
04:45	126		461		120		548		246		1,009	
05:00	113	686	436	1,764	94	517	503	1,887	207	1,203	939	3,651
05:15	122		456		130		469		252		925	
05:30	235		454		154		448		389		902	
05:45	216		418		139		467		355		885	
06:00	218	1,298	426	1,606	190	1,195	423	1,629	408	2,493	849	3,235
06:15	267		402		263		429		530		831	
06:30	396		414		356		395		752		809	
06:45	417		364		386		382		803		746	
07:00	401	1,802	350	1,263	422	1,902	348	1,327	823	3,704	698	2,590
07:15	487		337		498		352		985		689	
07:30	468		312		504		344		972		656	
07:45	446		264		478		283		924		547	
08:00	414	1,652	252	922	461	1,610	274	981	875	3,262	526	1,903
08:15	450		262		404		230		854		492	
08:30	416		226		387		236		803		462	
08:45	372		182		358		241		730		423	
09:00	326	1,250	196	638	338	1,351	216	778	664	2,601	412	1,416
09:15	308		178		328		220		636		398	
09:30	304		136		357		179		661		315	
09:45	312		128		328		163		640		291	
10:00	284	1,145	138	439	372	1,381	176	489	656	2,526	314	928
10:15	271		115		295		122		566		237	
10:30	290		98		380		118		670		216	
10:45	300		88		334		73		634		161	
11:00	323	1,273	82	256	376	1,515	91	280	699	2,788	173	536
11:15	290		65		338		60		628		125	
11:30	311		50		419		69		730		119	
11:45	349		59		382		60		731		119	
Totals	10,069		14,726		10,318		15,731		20,387		30,457	
Split%	49.4		48.4		50.6		51.6					
Day Totals		24,795				26,049				50,844		
Day Splits		48.8				51.2						
Peak Hour	07:15		04:45		07:15		04:30		07:15		04:30	
Volume	1,815		1,807		1,941		1,993		3,756		3,790	
Factor	0.93		0.98		0.96		0.91		0.95		0.94	

* Data File : D1809049 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IMPERIAL HIGHWAY — Site: LA HABRA

Segment : EUCLID ST TO HARBOR BLVD — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	20	79	296	1,300	65	162	422	1,497	85	241	718	2,797
12:15	23		324		24		364		47		688	
12:30	18		354		41		384		59		738	
12:45	18		326		32		327		50		653	
01:00	26	67	320	1,256	38	153	398	1,625	64	220	718	2,881
01:15	10		290		23		411		33		701	
01:30	14		338		48		380		62		718	
01:45	17		308		44		436		61		744	
02:00	7	68	288	1,253	35	114	406	1,705	42	182	694	2,958
02:15	18		306		18		370		36		676	
02:30	19		336		35		434		54		770	
02:45	24		323		26		495		50		818	
03:00	32	166	314	1,258	32	142	466	1,824	64	308	780	3,082
03:15	32		344		29		434		61		778	
03:30	60		292		42		444		102		736	
03:45	42		308		39		480		81		788	
04:00	34	286	298	1,224	38	272	454	1,862	72	558	752	3,086
04:15	66		336		42		448		108		784	
04:30	96		313		86		450		182		763	
04:45	90		277		106		510		196		787	
05:00	66	413	296	1,132	86	496	545	2,017	152	909	841	3,149
05:15	83		280		113		476		196		756	
05:30	134		278		128		522		262		800	
05:45	130		278		169		474		299		752	
06:00	129	568	237	833	173	1,078	460	1,684	302	1,646	697	2,517
06:15	122		222		245		462		367		684	
06:30	177		198		302		408		479		606	
06:45	140		176		358		354		498		530	
07:00	168	607	172	609	408	1,804	346	1,311	576	2,411	518	1,920
07:15	196		172		486		342		682		514	
07:30	111		140		458		332		569		472	
07:45	132		125		452		291		584		416	
08:00	262	947	164	498	442	1,576	285	1,086	704	2,523	449	1,584
08:15	213		129		393		256		606		385	
08:30	248		105		382		286		630		391	
08:45	224		100		359		259		583		359	
09:00	196	879	96	320	362	1,354	228	839	558	2,233	324	1,159
09:15	213		96		332		221		545		317	
09:30	215		72		356		198		571		270	
09:45	255		56		304		192		559		248	
10:00	230	986	64	215	356	1,304	192	525	586	2,290	256	740
10:15	244		62		310		130		554		192	
10:30	240		49		326		112		566		161	
10:45	272		40		312		91		584		131	
11:00	274	1,109	43	134	352	1,439	110	340	626	2,548	153	474
11:15	258		32		332		82		590		114	
11:30	267		30		395		78		662		108	
11:45	310		29		360		70		670		99	
Totals	6,175		10,032		9,894		16,315		16,069		26,347	
Split%	38.4		38.1		61.6		61.9					
Day Totals		16,207				26,209				42,416		
Day Splits		38.2				61.8						
Peak Hour	11:00		12:15		07:15		04:45		11:00		04:45	
Volume	1,109		1,324		1,838		2,053		2,548		3,184	
Factor	0.89		0.94		0.95		0.94		0.95		0.95	

* Data File : D1809050 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IDAHO STREET — Site: LA HABRA

Segment : IMPERIAL HWY TO SANDLEWOOD AVE — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	14	53	138	491	11	42	126	502	25	95	264	993
12:15	16		127		10		126		26		253	
12:30	13		109		7		116		20		225	
12:45	10		117		14		134		24		251	
01:00	7	23	120	506	10	21	158	553	17	44	278	1,059
01:15	6		124		4		142		10		266	
01:30	4		134		5		124		9		258	
01:45	6		128		2		129		8		257	
02:00	9	21	130	705	4	30	140	658	13	51	270	1,363
02:15	3		138		6		174		9		312	
02:30	6		180		6		164		12		344	
02:45	3		257		14		180		17		437	
03:00	3	33	227	919	3	27	172	679	6	60	399	1,598
03:15	11		256		7		163		18		419	
03:30	9		196		8		168		17		364	
03:45	10		240		9		176		19		416	
04:00	11	60	216	978	7	67	194	751	18	127	410	1,729
04:15	13		249		16		184		29		433	
04:30	12		252		13		182		25		434	
04:45	24		261		31		191		55		452	
05:00	25	134	268	1,112	24	183	177	740	49	317	445	1,852
05:15	26		294		43		185		69		479	
05:30	37		289		48		196		85		485	
05:45	46		261		68		182		114		443	
06:00	49	278	280	953	72	409	241	757	121	687	521	1,710
06:15	70		250		86		172		156		422	
06:30	75		215		111		184		186		399	
06:45	84		208		140		160		224		368	
07:00	103	656	156	641	146	885	174	573	249	1,541	330	1,214
07:15	132		178		204		135		336		313	
07:30	192		150		262		134		454		284	
07:45	229		157		273		130		502		287	
08:00	210	668	96	336	225	653	112	449	435	1,321	208	785
08:15	160		90		178		123		338		213	
08:30	156		68		118		106		274		174	
08:45	142		82		132		108		274		190	
09:00	130	495	56	227	111	406	96	320	241	901	152	547
09:15	111		65		87		92		198		157	
09:30	132		59		100		70		232		129	
09:45	122		47		108		62		230		109	
10:00	102	427	47	151	104	389	54	170	206	816	101	321
10:15	100		33		112		48		212		81	
10:30	97		43		81		32		178		75	
10:45	128		28		92		36		220		64	
11:00	114	484	24	82	99	426	30	94	213	910	54	176
11:15	123		22		114		30		237		52	
11:30	127		14		106		14		233		28	
11:45	120		22		107		20		227		42	
Totals	3,332		7,101		3,538		6,246		6,870		13,347	
Split%	48.5		53.2		51.5		46.8					
Day Totals		10,433				9,784				20,217		
Day Splits		51.6				48.4						
Peak Hour	07:30		05:15		07:15		05:15		07:30		05:15	
Volume	791		1,124		964		804		1,729		1,928	
Factor	0.86		0.96		0.88		0.83		0.86		0.93	

Data File : D1809051 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : EUCLID STREET — Site: LA HABRA

Segment : IMPERIAL HWY TO SANDLEWOOD AVE — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	19	55	159	544	13	39	120	477	32	94	279	1,021
12:15	15		122		8		120		23		242	
12:30	13		145		8		116		21		261	
12:45	8		118		10		121		18		239	
01:00	7	26	140	560	4	23	124	557	11	49	264	1,117
01:15	10		150		7		151		17		301	
01:30	4		160		7		137		11		297	
01:45	5		110		5		145		10		255	
02:00	6	26	142	691	7	27	115	635	13	53	257	1,326
02:15	8		167		11		150		19		317	
02:30	5		172		5		169		10		341	
02:45	7		210		4		201		11		411	
03:00	4	34	272	925	9	23	170	723	13	57	442	1,648
03:15	9		226		1		176		10		402	
03:30	12		213		7		188		19		401	
03:45	9		214		6		189		15		403	
04:00	10	78	233	1,034	18	72	180	669	28	150	413	1,703
04:15	16		261		12		140		28		401	
04:30	23		260		14		197		37		457	
04:45	29		280		28		152		57		432	
05:00	19	158	263	1,097	38	209	214	803	57	367	477	1,900
05:15	30		280		30		204		60		484	
05:30	46		268		69		182		115		450	
05:45	63		286		72		203		135		489	
06:00	54	373	216	814	127	795	214	721	181	1,168	430	1,535
06:15	92		240		158		192		250		432	
06:30	104		198		216		165		320		363	
06:45	123		160		294		150		417		310	
07:00	114	663	156	554	284	1,111	120	458	398	1,774	276	1,012
07:15	140		138		279		112		419		250	
07:30	196		138		274		116		470		254	
07:45	213		122		274		110		487		232	
08:00	182	602	110	393	321	1,059	89	317	503	1,661	199	710
08:15	134		80		264		87		398		167	
08:30	166		96		224		86		390		182	
08:45	120		107		250		55		370		162	
09:00	124	474	82	325	215	683	74	233	339	1,157	156	558
09:15	116		94		174		52		290		146	
09:30	116		74		136		61		252		135	
09:45	118		75		158		46		276		121	
10:00	140	521	63	198	108	472	52	159	248	993	115	357
10:15	122		49		120		36		242		85	
10:30	123		50		142		37		265		87	
10:45	136		36		102		34		238		70	
11:00	115	501	39	126	121	467	24	92	236	968	63	218
11:15	116		32		106		32		222		64	
11:30	123		26		110		24		233		50	
11:45	147		29		130		12		277		41	
Totals	3,511		7,261		4,980		5,844		8,491		13,105	
Split%	41.3		55.4		58.7		44.6					
Day Totals		10,772				10,824				21,596		
Day Splits		49.9				50.1						
Peak Hour	07:15		05:00		07:15		05:00		07:15		05:00	
Volume	731		1,097		1,148		803		1,879		1,900	
Factor	0.86		0.96		0.89		0.94		0.93		0.97	

* Data File : D1809052 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : GILBERT STREET — Site: LA HABRA

Segment : SANDLEWOOD AVE TO ROSECRANS AV — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	11	51	89	338	8	29	100	399	19	80	189	737
12:15	22		102		5		95		27		197	
12:30	9		66		8		104		17		170	
12:45	9		81		8		100		17		181	
01:00	11	32	78	382	8	24	131	422	19	56	209	804
01:15	10		105		10		92		20		197	
01:30	5		104		3		92		8		196	
01:45	6		95		3		107		9		202	
02:00	6	26	110	514	2	25	94	416	8	51	204	930
02:15	3		122		3		104		6		226	
02:30	11		146		10		108		21		254	
02:45	6		136		10		110		16		246	
03:00	8	28	136	662	2	28	121	499	10	56	257	1,161
03:15	6		178		5		132		11		310	
03:30	7		186		10		135		17		321	
03:45	7		162		11		111		18		273	
04:00	5	40	190	863	6	65	158	553	11	105	348	1,416
04:15	10		225		11		107		21		332	
04:30	10		218		15		142		25		360	
04:45	15		230		33		146		48		376	
05:00	15	96	270	981	32	193	142	573	47	289	412	1,554
05:15	15		256		34		147		49		403	
05:30	28		215		50		144		78		359	
05:45	38		240		77		140		115		380	
06:00	32	172	238	799	59	378	144	513	91	550	382	1,312
06:15	29		213		75		134		104		347	
06:30	53		184		104		146		157		330	
06:45	58		164		140		89		198		253	
07:00	72	372	148	481	132	646	124	471	204	1,018	272	952
07:15	79		126		172		136		251		262	
07:30	98		105		160		113		258		218	
07:45	123		102		182		98		305		200	
08:00	86	352	78	305	139	525	72	247	225	877	150	552
08:15	97		84		128		60		225		144	
08:30	82		80		132		62		214		142	
08:45	87		63		126		53		213		116	
09:00	96	336	61	221	102	390	66	214	198	726	127	435
09:15	86		60		98		46		184		106	
09:30	66		50		96		54		162		104	
09:45	88		50		94		48		182		98	
10:00	80	293	49	161	82	321	40	148	162	614	89	309
10:15	88		41		71		50		159		91	
10:30	56		40		72		27		128		67	
10:45	69		31		96		31		165		62	
11:00	71	317	37	111	98	384	10	44	169	701	47	155
11:15	73		30		101		16		174		46	
11:30	80		20		94		7		174		27	
11:45	93		24		91		11		184		35	
Totals	2,115		5,818		3,008		4,499		5,123		10,317	
Split%	41.3		56.4		58.7		43.6					
Day Totals		7,933				7,507				15,440		
Day Splits		51.4				48.6						
Peak Hour	07:30		05:00		07:15		04:45		07:15		05:00	
Volume	404		981		653		579		1,039		1,554	
Factor	0.82		0.91		0.90		0.98		0.85		0.94	

Data File : D1809066 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : EUCLID STREET — Site: LA HABRA

Segment : SANDLEWOOD AVE TO ROSECRANS AV — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	33	89	128	553	9	36	112	507	42	125	240	1,060
12:15	26		136		15		115		41		251	
12:30	15		153		9		140		24		293	
12:45	15		136		3		140		18		276	
01:00	11	31	150	646	6	24	128	560	17	55	278	1,206
01:15	12		168		7		138		19		306	
01:30	2		158		6		158		8		316	
01:45	6		170		5		136		11		306	
02:00	6	24	146	699	5	23	134	638	11	47	280	1,337
02:15	4		153		4		152		8		305	
02:30	6		202		8		174		14		376	
02:45	8		198		6		178		14		376	
03:00	4	30	219	916	5	30	176	705	9	60	395	1,621
03:15	10		208		8		176		18		384	
03:30	6		248		9		178		15		426	
03:45	10		241		8		175		18		416	
04:00	7	52	268	1,109	15	112	177	784	22	164	445	1,893
04:15	8		274		27		208		35		482	
04:30	16		286		30		206		46		492	
04:45	21		281		40		193		61		474	
05:00	14	146	312	1,249	46	289	192	802	60	435	504	2,051
05:15	25		326		57		248		82		574	
05:30	50		303		74		186		124		489	
05:45	57		308		112		176		169		484	
06:00	47	308	269	1,020	134	920	178	642	181	1,228	447	1,662
06:15	69		274		182		186		251		460	
06:30	82		257		296		154		378		411	
06:45	110		220		308		124		418		344	
07:00	112	659	198	637	286	1,138	96	398	398	1,797	294	1,035
07:15	168		171		328		112		496		283	
07:30	207		145		268		104		475		249	
07:45	172		123		256		86		428		209	
08:00	148	600	125	438	309	985	78	271	457	1,585	203	709
08:15	166		112		262		68		428		180	
08:30	154		100		225		62		379		162	
08:45	132		101		189		63		321		164	
09:00	124	451	98	372	141	619	60	228	265	1,070	158	600
09:15	118		120		174		76		292		196	
09:30	97		92		156		52		253		144	
09:45	112		62		148		40		260		102	
10:00	122	475	89	251	136	507	31	124	258	982	120	375
10:15	127		58		134		42		261		100	
10:30	132		58		115		17		247		75	
10:45	94		46		122		34		216		80	
11:00	116	534	38	112	121	520	28	81	237	1,054	66	193
11:15	130		32		144		18		274		50	
11:30	144		23		128		19		272		42	
11:45	144		19		127		16		271		35	
Totals	3,399		8,002		5,203		5,740		8,602		13,742	
Split%	39.5		58.2		60.5		41.8					
Day Totals		11,401				10,943				22,344		
Day Splits		51.0				49.0						
Peak Hour	07:15		05:00		06:30		04:30		07:15		05:00	
Volume	695		1,249		1,218		839		1,856		2,051	
Factor	0.84		0.96		0.93		0.85		0.94		0.89	

* Data File : D1809067 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: LA HABRA

Segment : IMPERIAL HWY TO HILLSBOROUGH — Date: 09/27/18

Client : LL&G — Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	70	233	388	1,432	54	167	362	1,450	124	400	750	2,882
12:15	60		350		43		377		103		727	
12:30	54		320		32		382		86		702	
12:45	49		374		38		329		87		703	
01:00	40	147	364	1,558	32	105	360	1,488	72	252	724	3,046
01:15	50		412		18		363		68		775	
01:30	23		378		32		386		55		764	
01:45	34		404		23		379		57		783	
02:00	36	119	402	1,868	26	93	352	1,512	62	212	754	3,380
02:15	36		441		22		384		58		825	
02:30	22		508		21		376		43		884	
02:45	25		517		24		400		49		917	
03:00	42	188	555	2,171	26	199	438	1,806	68	387	993	3,977
03:15	40		484		48		461		88		945	
03:30	48		574		59		427		107		1,001	
03:45	58		558		66		480		124		1,038	
04:00	53	295	567	2,206	50	375	478	1,996	103	670	1,045	4,202
04:15	58		522		72		528		130		1,050	
04:30	82		566		126		504		208		1,070	
04:45	102		551		127		486		229		1,037	
05:00	74	443	518	2,073	184	898	478	1,928	258	1,341	996	4,001
05:15	106		514		202		490		308		1,004	
05:30	120		565		250		474		370		1,039	
05:45	143		476		262		486		405		962	
06:00	163	869	588	2,091	334	1,635	478	1,749	497	2,504	1,066	3,840
06:15	164		530		366		444		530		974	
06:30	268		475		428		449		696		924	
06:45	274		498		507		378		781		876	
07:00	378	1,662	501	1,635	507	1,991	404	1,387	885	3,653	905	3,022
07:15	347		433		510		355		857		788	
07:30	472		379		472		324		944		703	
07:45	465		322		502		304		967		626	
08:00	476	1,782	340	1,128	514	1,882	286	1,036	990	3,664	626	2,164
08:15	420		282		453		290		873		572	
08:30	448		250		491		229		939		479	
08:45	438		256		424		231		862		487	
09:00	417	1,567	226	920	354	1,278	230	780	771	2,845	456	1,700
09:15	348		242		306		194		654		436	
09:30	433		226		326		198		759		424	
09:45	369		226		292		158		661		384	
10:00	352	1,363	184	633	336	1,233	163	501	688	2,596	347	1,134
10:15	333		180		312		152		645		332	
10:30	320		140		291		110		611		250	
10:45	358		129		294		76		652		205	
11:00	316	1,375	118	417	316	1,363	92	310	632	2,738	210	727
11:15	338		112		326		88		664		200	
11:30	352		109		367		67		719		176	
11:45	369		78		354		63		723		141	
Totals	10,043		18,132		11,219		15,943		21,262		34,075	
Split%	47.2		53.2		52.8		46.8					
Day Totals		28,175				27,162				55,337		
Day Splits		50.9				49.1						
Peak Hour	07:30		03:30		07:15		04:00		07:30		03:45	
Volume	1,833		2,221		1,998		1,996		3,774		4,203	
Factor	0.96		0.97		0.97		0.95		0.95		0.98	

Data File : D1809053 — Printed : 9/28/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: LA HABRA

Segment : HILLSBOROUGH APT TO HILLSBOROU — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	SB				NB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	61	180	395	1,562	61	228	364	1,414	122	408	759	2,976
12:15	44		383		57		382		101		765	
12:30	49		402		55		343		104		745	
12:45	26		382		55		325		81		707	
01:00	28	140	419	1,662	57	158	247	1,000	85	298	666	2,662
01:15	32		402		36		260		68		662	
01:30	36		422		26		230		62		652	
01:45	44		419		39		263		83		682	
02:00	13	90	415	1,759	38	145	276	1,239	51	235	691	2,998
02:15	17		463		29		286		46		749	
02:30	35		424		34		330		69		754	
02:45	25		457		44		347		69		804	
03:00	17	192	480	2,058	32	216	346	1,384	49	408	826	3,442
03:15	50		486		36		331		86		817	
03:30	56		548		79		322		135		870	
03:45	69		544		69		385		138		929	
04:00	50	432	511	2,190	55	316	351	1,417	105	748	862	3,607
04:15	97		547		60		315		157		862	
04:30	110		595		81		361		191		956	
04:45	175		537		120		390		295		927	
05:00	202	1,091	571	2,289	99	587	406	1,549	301	1,678	977	3,838
05:15	244		568		109		346		353		914	
05:30	304		562		161		390		465		952	
05:45	341		588		218		407		559		995	
06:00	338	1,883	509	1,993	149	998	383	1,832	487	2,881	892	3,825
06:15	447		544		222		460		669		1,004	
06:30	514		493		263		490		777		983	
06:45	584		447		364		499		948		946	
07:00	625	2,625	465	1,685	382	1,772	438	1,680	1,007	4,397	903	3,365
07:15	691		454		417		452		1,108		906	
07:30	658		414		474		421		1,132		835	
07:45	651		352		499		369		1,150		721	
08:00	631	2,433	371	1,247	494	1,898	337	1,287	1,125	4,331	708	2,534
08:15	642		316		468		330		1,110		646	
08:30	636		275		458		304		1,094		579	
08:45	524		285		478		316		1,002		601	
09:00	451	1,678	276	933	442	1,721	263	1,025	893	3,399	539	1,958
09:15	414		263		451		257		865		520	
09:30	395		224		426		278		821		502	
09:45	418		170		402		227		820		397	
10:00	380	1,522	175	596	360	1,392	247	809	740	2,914	422	1,405
10:15	383		163		351		198		734		361	
10:30	386		149		299		208		685		357	
10:45	373		109		382		156		755		265	
11:00	419	1,546	109	319	372	1,451	146	487	791	2,997	255	806
11:15	377		67		369		122		746		189	
11:30	356		73		333		125		689		198	
11:45	394		70		377		94		771		164	
Totals	13,812		18,293		10,882		15,123		24,694		33,416	
Split%	55.9		54.7		44.1		45.3					
Day Totals		32,105				26,005				58,110		
Day Splits		55.2				44.8						
Peak Hour	07:15		05:00		07:30		06:15		07:30		05:45	
Volume	2,631		2,289		1,935		1,887		4,517		3,874	
Factor	0.95		0.97		0.97		0.95		0.98		0.96	

* Data File : D1809054 — Printed : 10/9/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: LA HABRA

Segment : HILLSBOROUGH DR TO ROSECRANS — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	69	241	316	1,342	42	183	324	1,328	111	424	640	2,670
12:15	66		356		61		348		127		704	
12:30	56		340		42		334		98		674	
12:45	50		330		38		322		88		652	
01:00	32	135	351	1,432	18	105	338	1,375	50	240	689	2,807
01:15	35		344		23		315		58		659	
01:30	30		357		32		368		62		725	
01:45	38		380		32		354		70		734	
02:00	32	133	388	1,684	28	110	384	1,489	60	243	772	3,173
02:15	30		382		17		358		47		740	
02:30	36		442		29		363		65		805	
02:45	35		472		36		384		71		856	
03:00	21	188	507	2,090	22	166	410	1,629	43	354	917	3,719
03:15	46		504		36		384		82		888	
03:30	69		537		52		430		121		967	
03:45	52		542		56		405		108		947	
04:00	38	284	542	2,196	60	409	481	1,788	98	693	1,023	3,984
04:15	62		586		68		452		130		1,038	
04:30	77		482		135		390		212		872	
04:45	107		586		146		465		253		1,051	
05:00	64	407	572	2,204	185	1,039	428	1,716	249	1,446	1,000	3,920
05:15	86		554		241		452		327		1,006	
05:30	110		538		293		424		403		962	
05:45	147		540		320		412		467		952	
06:00	142	795	582	2,128	318	1,805	431	1,598	460	2,600	1,013	3,726
06:15	188		514		407		400		595		914	
06:30	218		529		544		401		762		930	
06:45	247		503		536		366		783		869	
07:00	294	1,358	479	1,643	566	2,486	392	1,300	860	3,844	871	2,943
07:15	304		462		658		329		962		791	
07:30	346		362		638		298		984		660	
07:45	414		340		624		281		1,038		621	
08:00	380	1,439	317	1,159	566	2,195	248	903	946	3,634	565	2,062
08:15	335		315		567		237		902		552	
08:30	366		279		530		238		896		517	
08:45	358		248		532		180		890		428	
09:00	279	1,159	227	909	404	1,524	173	672	683	2,683	400	1,581
09:15	280		238		398		203		678		441	
09:30	302		230		403		152		705		382	
09:45	298		214		319		144		617		358	
10:00	306	1,233	210	672	344	1,340	114	460	650	2,573	324	1,132
10:15	298		168		369		138		667		306	
10:30	317		150		333		116		650		266	
10:45	312		144		294		92		606		236	
11:00	300	1,193	118	375	351	1,325	86	292	651	2,518	204	667
11:15	279		104		324		82		603		186	
11:30	298		92		306		66		604		158	
11:45	316		61		344		58		660		119	
Totals	8,565		17,834		12,687		14,550		21,252		32,384	
Split%	40.3		55.1		59.7		44.9					
Day Totals		26,399				27,237				53,636		
Day Splits		49.2				50.8						
Peak Hour	07:45		04:45		07:00		04:00		07:15		04:45	
Volume	1,495		2,250		2,486		1,788		3,930		4,019	
Factor	0.90		0.96		0.94		0.93		0.95		0.96	

Data File : D1809068 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : ROSECRANS AVENUE — Site: LA HABRA

Segment : BEACH BLVD TO GILBERT ST — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	20	56	122	530	1	36	124	503	21	92	246	1,033
12:15	17		123		14		128		31		251	
12:30	11		132		9		121		20		253	
12:45	8		153		12		130		20		283	
01:00	6	18	122	518	8	25	136	557	14	43	258	1,075
01:15	7		129		3		157		10		286	
01:30	1		127		7		122		8		249	
01:45	4		140		7		142		11		282	
02:00	6	17	146	646	0	5	140	585	6	22	286	1,231
02:15	3		144		0		105		3		249	
02:30	4		174		3		157		7		331	
02:45	4		182		2		183		6		365	
03:00	3	21	168	714	2	22	162	730	5	43	330	1,444
03:15	4		165		4		175		8		340	
03:30	9		175		11		209		20		384	
03:45	5		206		5		184		10		390	
04:00	3	26	183	777	8	59	230	882	11	85	413	1,659
04:15	7		190		7		214		14		404	
04:30	8		200		19		189		27		389	
04:45	8		204		25		249		33		453	
05:00	16	128	215	922	26	145	255	952	42	273	470	1,874
05:15	31		212		31		238		62		450	
05:30	35		251		37		217		72		468	
05:45	46		244		51		242		97		486	
06:00	49	389	235	865	54	422	249	828	103	811	484	1,693
06:15	68		223		81		225		149		448	
06:30	126		228		121		194		247		422	
06:45	146		179		166		160		312		339	
07:00	144	897	178	691	166	835	137	531	310	1,732	315	1,222
07:15	225		206		217		152		442		358	
07:30	288		156		224		120		512		276	
07:45	240		151		228		122		468		273	
08:00	246	777	166	488	250	810	86	343	496	1,587	252	831
08:15	174		108		189		102		363		210	
08:30	198		108		208		75		406		183	
08:45	159		106		163		80		322		186	
09:00	118	490	104	306	133	544	63	247	251	1,034	167	553
09:15	116		93		144		58		260		151	
09:30	134		54		135		62		269		116	
09:45	122		55		132		64		254		119	
10:00	99	440	66	215	136	475	56	180	235	915	122	395
10:15	120		52		121		50		241		102	
10:30	101		52		106		44		207		96	
10:45	120		45		112		30		232		75	
11:00	102	449	38	119	118	512	25	88	220	961	63	207
11:15	123		32		116		26		239		58	
11:30	114		27		150		24		264		51	
11:45	110		22		128		13		238		35	
Totals	3,708		6,791		3,890		6,426		7,598		13,217	
Split%	48.8		51.4		51.2		48.6					
Day Totals		10,499				10,316				20,815		
Day Splits		50.4				49.6						
Peak Hour	07:15		05:30		07:15		04:45		07:15		05:15	
Volume	999		953		919		959		1,918		1,888	
Factor	0.87		0.95		0.92		0.94		0.94		0.97	

* Data File : D1809069 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : ROSECRANS AVENUE
Segment : GILBERT ST TO EUCLID ST
Client : LL&G

Site: LA HABRA
Date: 09/25/18
Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	11	36	107	410	14	31	94	372	25	67	201	782
12:15	8		90		8		86		16		176	
12:30	10		115		5		86		15		201	
12:45	7		98		4		106		11		204	
01:00	4	12	92	406	2	11	134	462	6	23	226	868
01:15	4		98		4		125		8		223	
01:30	1		108		4		100		5		208	
01:45	3		108		1		103		4		211	
02:00	2	12	110	525	0	7	84	479	2	19	194	1,004
02:15	4		119		2		94		6		213	
02:30	5		148		4		163		9		311	
02:45	1		148		1		138		2		286	
03:00	1	13	128	554	1	13	118	550	2	26	246	1,104
03:15	2		141		4		134		6		275	
03:30	4		148		6		151		10		299	
03:45	6		137		2		147		8		284	
04:00	1	17	132	569	3	27	150	645	4	44	282	1,214
04:15	4		123		4		159		8		282	
04:30	6		157		8		136		14		293	
04:45	6		157		12		200		18		357	
05:00	11	98	140	611	12	68	149	672	23	166	289	1,283
05:15	29		151		12		166		41		317	
05:30	25		144		19		186		44		330	
05:45	33		176		25		171		58		347	
06:00	44	372	160	546	32	216	175	584	76	588	335	1,130
06:15	57		134		40		150		97		284	
06:30	126		129		71		151		197		280	
06:45	145		123		73		108		218		231	
07:00	120	806	102	365	99	585	105	397	219	1,391	207	762
07:15	230		105		154		121		384		226	
07:30	222		88		190		95		412		183	
07:45	234		70		142		76		376		146	
08:00	200	764	98	277	146	478	62	252	346	1,242	160	529
08:15	206		63		121		68		327		131	
08:30	220		57		110		60		330		117	
08:45	138		59		101		62		239		121	
09:00	102	396	68	186	78	329	44	200	180	725	112	386
09:15	80		58		80		54		160		112	
09:30	120		28		96		58		216		86	
09:45	94		32		75		44		169		76	
10:00	95	355	31	95	82	310	40	123	177	665	71	218
10:15	94		23		74		40		168		63	
10:30	86		19		77		25		163		44	
10:45	80		22		77		18		157		40	
11:00	74	374	24	65	94	403	17	59	168	777	41	124
11:15	110		13		100		20		210		33	
11:30	98		18		121		9		219		27	
11:45	92		10		88		13		180		23	
Totals	3,255		4,609		2,478		4,795		5,733		9,404	
Split%	56.8		49.0		43.2		51.0					
Day Totals		7,864				7,273				15,137		
Day Splits		52.0				48.0						
Peak Hour	07:15		05:15		07:15		04:45		07:15		05:15	
Volume	886		631		632		701		1,518		1,329	
Factor	0.95		0.90		0.83		0.88		0.92		0.96	

Data File : D1809070

Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : SANDLEWOOD AVENUE — Site: LA HABRA

Segment : E/O IDAHO ST — Date: 09/18/18

Client : LL&G

Interval	EB				WB				Combined				Day: Tuesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	2	5	21	78	2	3	26	84	4	8	47	162	
12:15	2		17		1		18		3		35		
12:30	1		20		0		20		1		40		
12:45	0		20		0		20		0		40		
01:00	4	6	35	117	2	2	26	105	6	8	61	222	
01:15	0		36		0		15		0		51		
01:30	2		24		0		48		2		72		
01:45	0		22		0		16		0		38		
02:00	1	3	27	192	0	3	18	150	1	6	45	342	
02:15	1		50		2		18		3		68		
02:30	1		56		0		32		1		88		
02:45	0		59		1		82		1		141		
03:00	0	1	48	128	0	5	80	160	0	6	128	288	
03:15	0		24		2		34		2		58		
03:30	0		26		1		18		1		44		
03:45	1		30		2		28		3		58		
04:00	1	4	36	149	1	7	40	125	2	11	76	274	
04:15	1		44		3		25		4		69		
04:30	1		32		2		36		3		68		
04:45	1		37		1		24		2		61		
05:00	0	6	44	201	5	32	46	149	5	38	90	350	
05:15	0		42		6		33		6		75		
05:30	0		54		11		32		11		86		
05:45	6		61		10		38		16		99		
06:00	3	32	45	137	9	59	56	144	12	91	101	281	
06:15	6		34		14		36		20		70		
06:30	9		32		20		28		29		60		
06:45	14		26		16		24		30		50		
07:00	16	216	26	102	20	190	26	94	36	406	52	196	
07:15	30		26		26		32		56		58		
07:30	86		18		51		20		137		38		
07:45	84		32		93		16		177		48		
08:00	50	111	17	57	91	154	6	29	141	265	23	86	
08:15	13		10		33		8		46		18		
08:30	18		16		16		7		34		23		
08:45	30		14		14		8		44		22		
09:00	16	51	18	73	34	83	7	29	50	134	25	102	
09:15	9		28		12		11		21		39		
09:30	10		11		26		11		36		22		
09:45	16		16		11		0		27		16		
10:00	9	59	8	27	19	74	1	13	28	133	9	40	
10:15	16		7		18		2		34		9		
10:30	11		3		13		8		24		11		
10:45	23		9		24		2		47		11		
11:00	14	77	1	7	12	62	1	5	26	139	2	12	
11:15	26		4		20		2		46		6		
11:30	18		2		20		1		38		3		
11:45	19		0		10		1		29		1		
Totals	571		1,268		674		1,087		1,245		2,355		
Split%	45.9		53.8		54.1		46.2						
Day Totals		1,839				1,761				3,600			
Day Splits		51.1				48.9							
Peak Hour	07:15		02:15		07:30		02:30		07:15		02:15		
Volume	250		213		268		228		511		425		
Factor	0.73		0.90		0.72		0.70		0.72		0.75		

* Data File : D1809055 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : SANDLEWOOD AVENUE
Segment : IDAHO ST TO EUCLID ST
Client : LL&G

Site: LA HABRA
Date: 09/18/18
Day: Tuesday

Interval	WB				EB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	1	1	17	48	0	0	5	38	1	1	22	86
12:15	0		10		0		12		0		22	
12:30	0		8		0		11		0		19	
12:45	0		13		0		10		0		23	
01:00	1	2	6	46	3	5	8	57	4	7	14	103
01:15	1		14		1		14		2		28	
01:30	0		16		1		21		1		37	
01:45	0		10		0		14		0		24	
02:00	0	2	12	101	1	3	10	99	1	5	22	200
02:15	1		17		1		13		2		30	
02:30	0		30		1		16		1		46	
02:45	1		42		0		60		1		102	
03:00	0	2	30	70	0	1	30	77	0	3	60	147
03:15	0		19		0		17		0		36	
03:30	0		8		0		17		0		25	
03:45	2		13		1		13		3		26	
04:00	0	0	14	55	1	4	15	64	1	4	29	119
04:15	0		7		1		12		1		19	
04:30	0		18		0		19		0		37	
04:45	0		16		2		18		2		34	
05:00	1	20	23	80	0	1	18	73	1	21	41	153
05:15	5		21		0		18		5		39	
05:30	6		17		0		21		6		38	
05:45	8		19		1		16		9		35	
06:00	3	32	25	64	3	17	24	77	6	49	49	141
06:15	8		15		4		19		12		34	
06:30	10		14		7		19		17		33	
06:45	11		10		3		15		14		25	
07:00	16	148	22	50	2	101	11	56	18	249	33	106
07:15	18		11		11		13		29		24	
07:30	48		8		24		15		72		23	
07:45	66		9		64		17		130		26	
08:00	61	97	4	17	49	79	12	31	110	176	16	48
08:15	17		5		15		5		32		10	
08:30	8		3		3		6		11		9	
08:45	11		5		12		8		23		13	
09:00	18	52	5	20	14	35	9	32	32	87	14	52
09:15	5		5		10		9		15		14	
09:30	17		8		5		7		22		15	
09:45	12		2		6		7		18		9	
10:00	8	48	1	13	6	31	3	18	14	79	4	31
10:15	18		4		8		7		26		11	
10:30	7		5		2		3		9		8	
10:45	15		3		15		5		30		8	
11:00	2	21	1	4	4	34	1	5	6	55	2	9
11:15	8		1		7		1		15		2	
11:30	6		2		10		1		16		3	
11:45	5		0		13		2		18		2	
Totals	425		568		311		627		736		1,195	
Split%	57.7		47.5		42.3		52.5					
Day Totals		993				938				1,931		
Day Splits		51.4				48.6						
Peak Hour	07:15		02:30		07:30		02:45		07:30		02:30	
Volume	193		121		152		124		344		244	
Factor	0.73		0.72		0.59		0.52		0.66		0.60	

Data File : D1809056

Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : SANDLEWOOD AVENUE — Site: LA HABRA

Segment : W/O EUCLID ST — Date: 09/18/18

Client : LL&G

Interval	EB				WB				Combined				Day: Tuesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	0	0	3	29	0	2	7	33	0	2	10	62	
12:15	0		5		1		5		1		10		
12:30	0		10		0		12		0		22		
12:45	0		11		1		9		1		20		
01:00	0	1	4	30	0	1	6	45	0	2	10	75	
01:15	0		7		0		16		0		23		
01:30	1		13		0		13		1		26		
01:45	0		6		1		10		1		16		
02:00	0	0	3	58	0	1	4	68	0	1	7	126	
02:15	0		10		0		13		0		23		
02:30	0		13		0		22		0		35		
02:45	0		32		1		29		1		61		
03:00	0	2	20	45	0	0	10	37	0	2	30	82	
03:15	1		9		0		9		1		18		
03:30	0		9		0		7		0		16		
03:45	1		7		0		11		1		18		
04:00	2	9	6	30	0	4	12	48	2	13	18	78	
04:15	4		3		1		10		5		13		
04:30	2		15		1		14		3		29		
04:45	1		6		2		12		3		18		
05:00	0	5	8	33	1	5	18	64	1	10	26	97	
05:15	3		5		0		23		3		28		
05:30	2		10		4		11		6		21		
05:45	0		10		0		12		0		22		
06:00	7	16	12	35	1	12	18	55	8	28	30	90	
06:15	3		14		2		18		5		32		
06:30	4		5		7		12		11		17		
06:45	2		4		2		7		4		11		
07:00	7	83	3	27	6	67	14	46	13	150	17	73	
07:15	9		8		9		12		18		20		
07:30	22		8		22		8		44		16		
07:45	45		8		30		12		75		20		
08:00	33	62	2	13	32	60	8	18	65	122	10	31	
08:15	13		5		4		6		17		11		
08:30	8		2		14		2		22		4		
08:45	8		4		10		2		18		6		
09:00	9	39	3	8	8	28	4	26	17	67	7	34	
09:15	12		3		6		7		18		10		
09:30	9		2		6		12		15		14		
09:45	9		0		8		3		17		3		
10:00	6	37	0	3	5	23	4	14	11	60	4	17	
10:15	11		2		7		3		18		5		
10:30	9		1		6		4		15		5		
10:45	11		0		5		3		16		3		
11:00	8	29	1	6	3	32	1	7	11	61	2	13	
11:15	6		0		6		1		12		1		
11:30	7		3		7		2		14		5		
11:45	8		2		16		3		24		5		
Totals	283		317		235		461		518		778		
Split%	54.6		40.7		45.4		59.3						
Day Totals		600				696				1,296			
Day Splits		46.3				53.7							
Peak Hour	07:30		02:15		07:15		02:15		07:15		02:15		
Volume	113		75		93		74		202		149		
Factor	0.63		0.59		0.73		0.64		0.67		0.61		

Data File : D1809057 — Printed : 9/25/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: BUENA PARK

Segment : ROSECRANS AVE TO MALVERN AVE — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	86	265	280	1,243	34	137	222	941	120	402	502	2,184
12:15	62		329		46		242		108		571	
12:30	62		320		31		261		93		581	
12:45	55		314		26		216		81		530	
01:00	42	157	346	1,369	13	78	216	863	55	235	562	2,232
01:15	37		318		16		213		53		531	
01:30	36		348		21		220		57		568	
01:45	42		357		28		214		70		571	
02:00	26	143	411	1,617	20	80	221	943	46	223	632	2,560
02:15	30		378		12		236		42		614	
02:30	45		388		22		238		67		626	
02:45	42		440		26		248		68		688	
03:00	21	163	466	1,962	22	137	277	1,077	43	300	743	3,039
03:15	42		466		30		263		72		729	
03:30	54		512		41		264		95		776	
03:45	46		518		44		273		90		791	
04:00	36	241	512	2,154	54	368	310	1,148	90	609	822	3,302
04:15	57		556		60		293		117		849	
04:30	60		512		122		259		182		771	
04:45	88		574		132		286		220		860	
05:00	45	367	451	1,943	144	806	294	1,113	189	1,173	745	3,056
05:15	92		523		204		279		296		802	
05:30	98		486		250		282		348		768	
05:45	132		483		208		258		340		741	
06:00	143	785	531	1,984	267	1,336	276	1,077	410	2,121	807	3,061
06:15	166		473		306		268		472		741	
06:30	216		512		374		283		590		795	
06:45	260		468		389		250		649		718	
07:00	273	1,341	522	1,618	381	1,591	252	866	654	2,932	774	2,484
07:15	316		392		438		232		754		624	
07:30	364		344		380		190		744		534	
07:45	388		360		392		192		780		552	
08:00	346	1,315	291	1,145	358	1,501	169	587	704	2,816	460	1,732
08:15	292		310		418		150		710		460	
08:30	361		264		372		160		733		424	
08:45	316		280		353		108		669		388	
09:00	282	1,156	226	916	292	1,141	129	480	574	2,297	355	1,396
09:15	279		222		301		124		580		346	
09:30	294		242		296		116		590		358	
09:45	301		226		252		111		553		337	
10:00	240	1,082	232	727	258	987	102	350	498	2,069	334	1,077
10:15	285		196		261		98		546		294	
10:30	260		166		242		90		502		256	
10:45	297		133		226		60		523		193	
11:00	282	1,181	116	404	231	959	55	203	513	2,140	171	607
11:15	292		123		250		58		542		181	
11:30	294		90		238		48		532		138	
11:45	313		75		240		42		553		117	
Totals	8,196		17,082		9,121		9,648		17,317		26,730	
Split%	47.3		63.9		52.7		36.1					
Day Totals		25,278				18,769				44,047		
Day Splits		57.4				42.6						
Peak Hour	07:15		04:00		07:00		04:00		07:15		04:00	
Volume	1,414		2,154		1,591		1,148		2,982		3,302	
Factor	0.91		0.94		0.91		0.93		0.96		0.96	

Data File : D1809071 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IMPERIAL HIGHWAY | Site: LA HABRA

Segment : LA MIRADA TO SANTA GERTRUDES | Date: 09/18/18

Client : LL&G | Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	28	90	169	651	34	97	244	970	62	187	413	1,621
12:15	26		184		24		236		50		420	
12:30	18		150		17		258		35		408	
12:45	18		148		22		232		40		380	
01:00	27	68	187	746	20	77	247	1,006	47	145	434	1,752
01:15	13		185		12		256		25		441	
01:30	16		178		17		246		33		424	
01:45	12		196		28		257		40		453	
02:00	9	65	166	798	23	73	267	1,094	32	138	433	1,892
02:15	22		176		13		256		35		432	
02:30	20		216		16		271		36		487	
02:45	14		240		21		300		35		540	
03:00	20	116	261	995	23	127	326	1,224	43	243	587	2,219
03:15	22		254		26		332		48		586	
03:30	36		254		40		265		76		519	
03:45	38		226		38		301		76		527	
04:00	16	183	251	1,053	48	267	276	1,170	64	450	527	2,223
04:15	39		264		49		310		88		574	
04:30	62		282		76		279		138		561	
04:45	66		256		94		305		160		561	
05:00	50	292	277	1,069	100	511	257	1,194	150	803	534	2,263
05:15	44		286		110		312		154		598	
05:30	100		242		156		305		256		547	
05:45	98		264		145		320		243		584	
06:00	84	436	254	932	162	1,001	284	1,119	246	1,437	538	2,051
06:15	100		248		200		303		300		551	
06:30	110		218		286		270		396		488	
06:45	142		212		353		262		495		474	
07:00	149	818	172	670	364	1,683	236	926	513	2,501	408	1,596
07:15	189		180		390		244		579		424	
07:30	242		182		457		240		699		422	
07:45	238		136		472		206		710		342	
08:00	232	764	133	451	412	1,457	224	715	644	2,221	357	1,166
08:15	218		110		402		160		620		270	
08:30	162		112		367		175		529		287	
08:45	152		96		276		156		428		252	
09:00	144	597	115	383	286	1,074	138	518	430	1,671	253	901
09:15	155		104		260		154		415		258	
09:30	138		82		280		124		418		206	
09:45	160		82		248		102		408		184	
10:00	148	596	76	238	258	952	96	339	406	1,548	172	577
10:15	164		62		241		93		405		155	
10:30	136		52		221		80		357		132	
10:45	148		48		232		70		380		118	
11:00	152	666	36	152	236	938	58	181	388	1,604	94	333
11:15	158		41		218		38		376		79	
11:30	150		43		238		37		388		80	
11:45	206		32		246		48		452		80	
Totals	4,691		8,138		8,257		10,456		12,948		18,594	
Split%	36.2		43.8		63.8		56.2					
Day Totals		12,829				18,713				31,542		
Day Splits		40.7				59.3						
Peak Hour	07:30		04:30		07:30		02:30		07:30		05:15	
Volume	930		1,101		1,743		1,229		2,673		2,267	
Factor	0.96		0.96		0.92		0.93		0.94		0.95	

Data File : D1809058 | Printed : 9/21/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: BUENA PARK

Segment : LAMBERT RD TO LA HABRA BLVD — Date: 10/03/18

Client : LL&G — Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	36	160	288	1,220	24	93	292	1,165	60	253	580	2,385
12:15	44		315		17		312		61		627	
12:30	40		293		36		289		76		582	
12:45	40		324		16		272		56		596	
01:00	28	85	332	1,286	21	62	278	1,101	49	147	610	2,387
01:15	23		296		9		268		32		564	
01:30	17		320		12		286		29		606	
01:45	17		338		20		269		37		607	
02:00	32	83	320	1,531	11	63	303	1,256	43	146	623	2,787
02:15	22		349		15		281		37		630	
02:30	16		446		17		312		33		758	
02:45	13		416		20		360		33		776	
03:00	24	82	441	1,825	10	101	410	1,458	34	183	851	3,283
03:15	19		482		31		416		50		898	
03:30	16		462		30		320		46		782	
03:45	23		440		30		312		53		752	
04:00	20	107	476	1,879	35	255	368	1,444	55	362	844	3,323
04:15	26		474		51		384		77		858	
04:30	30		459		88		340		118		799	
04:45	31		470		81		352		112		822	
05:00	30	206	460	1,851	92	583	424	1,572	122	789	884	3,423
05:15	64		512		135		396		199		908	
05:30	46		450		166		378		212		828	
05:45	66		429		190		374		256		803	
06:00	96	587	441	1,731	203	1,226	380	1,372	299	1,813	821	3,103
06:15	107		486		262		360		369		846	
06:30	170		424		342		330		512		754	
06:45	214		380		419		302		633		682	
07:00	207	1,079	406	1,276	421	1,815	268	969	628	2,894	674	2,245
07:15	223		328		459		241		682		569	
07:30	343		280		461		236		804		516	
07:45	306		262		474		224		780		486	
08:00	354	1,305	216	872	456	1,630	211	725	810	2,935	427	1,597
08:15	327		253		424		183		751		436	
08:30	301		206		396		184		697		390	
08:45	323		197		354		147		677		344	
09:00	213	967	199	637	320	1,097	159	476	533	2,064	358	1,113
09:15	246		154		290		121		536		275	
09:30	242		132		260		102		502		234	
09:45	266		152		227		94		493		246	
10:00	277	1,043	146	519	234	1,047	98	322	511	2,090	244	841
10:15	244		125		252		86		496		211	
10:30	256		120		277		78		533		198	
10:45	266		128		284		60		550		188	
11:00	288	1,161	97	320	290	1,083	52	166	578	2,244	149	486
11:15	291		81		264		42		555		123	
11:30	284		92		263		35		547		127	
11:45	298		50		266		37		564		87	
Totals	6,865		14,947		9,055		12,026		15,920		26,973	
Split%	43.1		55.4		56.9		44.6					
Day Totals		21,812				21,081				42,893		
Day Splits		50.9				49.1						
Peak Hour	07:30		04:30		07:15		05:00		07:30		04:45	
Volume	1,330		1,901		1,850		1,572		3,145		3,442	
Factor	0.94		0.93		0.98		0.93		0.97		0.95	

Data File : D1809072 — Printed : 10/5/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : IMPERIAL HIGHWAY — Site: LA HABRA

Segment : VALLEY VIEW AVE TO LA MIRADA — Date: 09/18/18

Client : LL&G — Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	50	146	184	777	41	118	217	811	91	264	401	1,588
12:15	38		198		33		194		71		392	
12:30	26		208		18		202		44		410	
12:45	32		187		26		198		58		385	
01:00	27	83	184	774	21	83	208	804	48	166	392	1,578
01:15	18		212		22		188		40		400	
01:30	22		194		16		194		38		388	
01:45	16		184		24		214		40		398	
02:00	22	79	188	899	29	83	224	853	51	162	412	1,752
02:15	24		197		18		194		42		391	
02:30	14		236		16		210		30		446	
02:45	19		278		20		225		39		503	
03:00	24	122	286	1,068	30	160	248	1,067	54	282	534	2,135
03:15	18		284		30		294		48		578	
03:30	34		230		48		276		82		506	
03:45	46		268		52		249		98		517	
04:00	23	186	299	1,176	48	304	233	949	71	490	532	2,125
04:15	44		299		69		222		113		521	
04:30	70		276		89		242		159		518	
04:45	49		302		98		252		147		554	
05:00	56	344	300	1,228	134	570	284	1,046	190	914	584	2,274
05:15	84		301		136		237		220		538	
05:30	100		330		144		256		244		586	
05:45	104		297		156		269		260		566	
06:00	89	517	316	1,077	174	968	246	962	263	1,485	562	2,039
06:15	115		292		192		243		307		535	
06:30	148		246		265		253		413		499	
06:45	165		223		337		220		502		443	
07:00	166	977	180	695	340	1,469	217	752	506	2,446	397	1,447
07:15	271		195		344		181		615		376	
07:30	280		184		374		176		654		360	
07:45	260		136		411		178		671		314	
08:00	208	697	162	567	432	1,367	158	557	640	2,064	320	1,124
08:15	179		127		363		152		542		279	
08:30	168		138		326		140		494		278	
08:45	142		140		246		107		388		247	
09:00	184	627	138	426	250	933	106	413	434	1,560	244	839
09:15	154		100		228		134		382		234	
09:30	159		94		239		85		398		179	
09:45	130		94		216		88		346		182	
10:00	176	656	70	270	222	819	80	286	398	1,475	150	556
10:15	153		76		205		83		358		159	
10:30	160		62		190		69		350		131	
10:45	167		62		202		54		369		116	
11:00	142	658	46	190	198	770	52	169	340	1,428	98	359
11:15	164		58		184		40		348		98	
11:30	174		54		193		37		367		91	
11:45	178		32		195		40		373		72	
Totals	5,092		9,147		7,644		8,669		12,736		17,816	
Split%	40.0		51.3		60.0		48.7					
Day Totals		14,239				16,313				30,552		
Day Splits		46.6				53.4						
Peak Hour	07:15		05:15		07:30		03:00		07:15		05:00	
Volume	1,019		1,244		1,580		1,067		2,580		2,274	
Factor	0.91		0.94		0.91		0.91		0.96		0.97	

Data File : D1809059 — Printed : 9/21/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: BUENA PARK

Segment : LA MIRADA BLVD TO ARTESIA BLVD — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	114	393	428	1,856	86	287	454	1,807	200	680	882	3,663
12:15	108		508		80		454		188		962	
12:30	88		462		58		472		146		934	
12:45	83		458		63		427		146		885	
01:00	51	214	460	1,965	50	196	467	1,880	101	410	927	3,845
01:15	49		477		39		454		88		931	
01:30	50		497		50		499		100		996	
01:45	64		531		57		460		121		991	
02:00	40	174	597	2,279	67	201	470	1,997	107	375	1,067	4,276
02:15	44		522		32		510		76		1,032	
02:30	52		526		44		513		96		1,039	
02:45	38		634		58		504		96		1,138	
03:00	26	190	618	2,684	31	226	554	2,189	57	416	1,172	4,873
03:15	48		648		61		538		109		1,186	
03:30	60		702		58		557		118		1,259	
03:45	56		716		76		540		132		1,256	
04:00	48	306	699	2,786	96	652	612	2,290	144	958	1,311	5,076
04:15	57		670		125		570		182		1,240	
04:30	81		695		219		539		300		1,234	
04:45	120		722		212		569		332		1,291	
05:00	74	609	650	2,727	290	1,458	553	2,243	364	2,067	1,203	4,970
05:15	134		719		330		592		464		1,311	
05:30	177		648		440		542		617		1,190	
05:45	224		710		398		556		622		1,266	
06:00	192	1,276	689	2,719	496	2,326	495	1,967	688	3,602	1,184	4,686
06:15	252		704		586		516		838		1,220	
06:30	352		648		602		478		954		1,126	
06:45	480		678		642		478		1,122		1,156	
07:00	488	2,270	603	2,088	676	2,759	465	1,593	1,164	5,029	1,068	3,681
07:15	585		537		660		410		1,245		947	
07:30	591		492		716		358		1,307		850	
07:45	606		456		707		360		1,313		816	
08:00	512	1,919	392	1,518	650	2,632	326	1,149	1,162	4,551	718	2,667
08:15	462		408		640		276		1,102		684	
08:30	501		363		694		296		1,195		659	
08:45	444		355		648		251		1,092		606	
09:00	415	1,685	363	1,439	554	2,031	245	958	969	3,716	608	2,397
09:15	422		366		546		271		968		637	
09:30	408		330		492		228		900		558	
09:45	440		380		439		214		879		594	
10:00	402	1,654	320	1,071	468	1,807	234	775	870	3,461	554	1,846
10:15	396		296		444		213		840		509	
10:30	418		247		462		206		880		453	
10:45	438		208		433		122		871		330	
11:00	415	1,776	190	608	424	1,687	130	450	839	3,463	320	1,058
11:15	458		174		417		130		875		304	
11:30	436		140		436		94		872		234	
11:45	467		104		410		96		877		200	
Totals	12,466		23,740		16,262		19,298		28,728		43,038	
Split%	43.4		55.2		56.6		44.8					
Day Totals		36,206				35,560				71,766		
Day Splits		50.5				49.5						
Peak Hour	07:15		03:30		07:00		04:00		07:00		04:00	
Volume	2,294		2,787		2,759		2,290		5,029		5,076	
Factor	0.95		0.97		0.96		0.94		0.96		0.97	

Data File : D1809073 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: BUENA PARK

Segment : ARTESIA BLVD TO COMMONWEALTH — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	65	229	355	1,554	110	331	350	1,535	175	560	705	3,089
12:15	60		412		84		406		144		818	
12:30	48		403		66		380		114		783	
12:45	56		384		71		399		127		783	
01:00	36	175	384	1,550	40	165	362	1,560	76	340	746	3,110
01:15	42		393		46		395		88		788	
01:30	38		410		38		379		76		789	
01:45	59		363		41		424		100		787	
02:00	56	179	381	1,604	29	143	444	1,737	85	322	825	3,341
02:15	35		408		41		392		76		800	
02:30	44		454		39		427		83		881	
02:45	44		361		34		474		78		835	
03:00	28	206	423	1,703	19	160	489	1,962	47	366	912	3,665
03:15	52		432		46		496		98		928	
03:30	56		396		45		485		101		881	
03:45	70		452		50		492		120		944	
04:00	86	568	453	1,854	43	266	486	1,888	129	834	939	3,742
04:15	102		463		52		465		154		928	
04:30	196		472		78		463		274		935	
04:45	184		466		93		474		277		940	
05:00	252	1,292	462	1,752	77	505	528	1,859	329	1,797	990	3,611
05:15	304		440		88		442		392		882	
05:30	378		446		151		447		529		893	
05:45	358		404		189		442		547		846	
06:00	418	1,914	402	1,573	184	1,112	422	1,791	602	3,026	824	3,364
06:15	470		379		216		479		686		858	
06:30	528		406		328		422		856		828	
06:45	498		386		384		468		882		854	
07:00	478	2,111	350	1,316	378	1,748	394	1,555	856	3,859	744	2,871
07:15	515		392		454		400		969		792	
07:30	586		304		432		409		1,018		713	
07:45	532		270		484		352		1,016		622	
08:00	506	1,946	314	1,012	374	1,461	296	1,186	880	3,407	610	2,198
08:15	480		236		356		342		836		578	
08:30	482		248		400		274		882		522	
08:45	478		214		331		274		809		488	
09:00	486	1,705	202	847	344	1,383	318	1,236	830	3,088	520	2,083
09:15	411		218		361		308		772		526	
09:30	442		214		354		284		796		498	
09:45	366		213		324		326		690		539	
10:00	387	1,547	199	673	323	1,366	282	896	710	2,913	481	1,569
10:15	399		202		340		240		739		442	
10:30	380		176		341		202		721		378	
10:45	381		96		362		172		743		268	
11:00	329	1,435	105	376	342	1,362	159	509	671	2,797	264	885
11:15	376		114		355		154		731		268	
11:30	344		83		347		106		691		189	
11:45	386		74		318		90		704		164	
Totals	13,307		15,814		10,002		17,714		23,309		33,528	
Split%	57.1		47.2		42.9		52.8					
Day Totals		29,121				27,716				56,837		
Day Splits		51.2				48.8						
Peak Hour	07:15		04:15		07:00		03:00		07:15		04:15	
Volume	2,139		1,863		1,748		1,962		3,883		3,793	
Factor	0.91		0.99		0.90		0.99		0.95		0.96	

Data File : D1809074 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: LA HABRA

Segment : COMMONWELATH AVE TO AUTO CENTR — Date: 09/27/18

Client : LL&G

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	79	257	404	1,538	92	359	384	1,615	171	616	788	3,153	
12:15	80		368		101		396		181		764		
12:30	54		366		84		439		138		805		
12:45	44		400		82		396		126		796		
01:00	46	188	392	1,598	56	215	406	1,707	102	403	798	3,305	
01:15	48		394		62		445		110		839		
01:30	38		397		41		446		79		843		
01:45	56		415		56		410		112		825		
02:00	50	182	418	1,627	49	172	450	1,885	99	354	868	3,512	
02:15	46		394		48		474		94		868		
02:30	46		404		47		486		93		890		
02:45	40		411		28		475		68		886		
03:00	36	237	361	1,619	36	206	474	1,886	72	443	835	3,505	
03:15	51		430		58		528		109		958		
03:30	69		394		40		386		109		780		
03:45	81		434		72		498		153		932		
04:00	77	547	410	1,713	38	276	396	1,684	115	823	806	3,397	
04:15	106		426		71		426		177		852		
04:30	186		442		89		464		275		906		
04:45	178		435		78		398		256		833		
05:00	250	1,316	483	1,779	70	489	440	1,716	320	1,805	923	3,495	
05:15	322		422		96		466		418		888		
05:30	366		468		145		442		511		910		
05:45	378		406		178		368		556		774		
06:00	427	1,933	394	1,665	160	1,020	440	1,708	587	2,953	834	3,373	
06:15	494		466		194		413		688		879		
06:30	511		380		286		454		797		834		
06:45	501		425		380		401		881		826		
07:00	471	1,946	348	1,442	370	1,806	448	1,794	841	3,752	796	3,236	
07:15	500		388		440		490		940		878		
07:30	507		342		488		430		995		772		
07:45	468		364		508		426		976		790		
08:00	466	1,919	312	1,144	380	1,690	330	1,330	846	3,609	642	2,474	
08:15	511		290		438		308		949		598		
08:30	490		276		412		354		902		630		
08:45	452		266		460		338		912		604		
09:00	407	1,586	240	1,037	362	1,639	282	1,314	769	3,225	522	2,351	
09:15	376		313		424		380		800		693		
09:30	407		244		420		334		827		578		
09:45	396		240		433		318		829		558		
10:00	370	1,505	232	769	414	1,722	311	1,005	784	3,227	543	1,774	
10:15	397		221		432		252		829		473		
10:30	380		170		438		234		818		404		
10:45	358		146		438		208		796		354		
11:00	374	1,541	117	414	372	1,445	196	598	746	2,986	313	1,012	
11:15	386		118		355		146		741		264		
11:30	361		102		384		146		745		248		
11:45	420		77		334		110		754		187		
Totals	13,157		16,345		11,039		18,242		24,196		34,587		
Split%	54.4		47.3		45.6		52.7						
Day Totals		29,502				29,281				58,783			
Day Splits		50.2				49.8							
Peak Hour	06:30		04:45		07:15		02:30		07:30		02:30		
Volume	1,983		1,808		1,816		1,963		3,766		3,569		
Factor	0.97		0.94		0.89		0.93		0.95		0.93		

Data File : D1809075 — Printed : 9/28/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : AUTO CENTER DRIVE — Site: BUENA PARK

Segment : BEACH BLVD TO I-5 NB RAMPS — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	26	73	140	438	16	51	74	308	42	124	214	746
12:15	24		112		12		63		36		175	
12:30	12		96		5		88		17		184	
12:45	11		90		18		83		29		173	
01:00	9	40	80	402	3	22	74	381	12	62	154	783
01:15	11		110		5		76		16		186	
01:30	15		104		6		124		21		228	
01:45	5		108		8		107		13		215	
02:00	14	36	113	465	5	28	60	312	19	64	173	777
02:15	12		108		10		102		22		210	
02:30	7		118		6		72		13		190	
02:45	3		126		7		78		10		204	
03:00	1	26	129	609	1	32	82	302	2	58	211	911
03:15	8		146		6		76		14		222	
03:30	9		162		14		66		23		228	
03:45	8		172		11		78		19		250	
04:00	11	42	114	535	14	96	66	235	25	138	180	770
04:15	5		147		14		55		19		202	
04:30	11		130		24		52		35		182	
04:45	15		144		44		62		59		206	
05:00	14	112	162	643	46	156	56	275	60	268	218	918
05:15	22		178		34		58		56		236	
05:30	30		159		36		78		66		237	
05:45	46		144		40		83		86		227	
06:00	38	263	160	591	36	216	66	260	74	479	226	851
06:15	51		157		48		78		99		235	
06:30	81		168		68		66		149		234	
06:45	93		106		64		50		157		156	
07:00	67	404	111	407	82	323	52	218	149	727	163	625
07:15	100		101		81		70		181		171	
07:30	120		114		82		50		202		164	
07:45	117		81		78		46		195		127	
08:00	79	310	88	295	72	320	40	182	151	630	128	477
08:15	91		64		92		42		183		106	
08:30	72		71		74		50		146		121	
08:45	68		72		82		50		150		122	
09:00	66	365	68	282	80	328	49	201	146	693	117	483
09:15	94		78		82		54		176		132	
09:30	80		74		74		58		154		132	
09:45	125		62		92		40		217		102	
10:00	110	425	48	219	73	293	32	124	183	718	80	343
10:15	99		70		64		34		163		104	
10:30	108		43		82		38		190		81	
10:45	108		58		74		20		182		78	
11:00	102	412	44	150	104	317	20	68	206	729	64	218
11:15	75		50		66		17		141		67	
11:30	127		22		78		19		205		41	
11:45	108		34		69		12		177		46	
Totals	2,508		5,036		2,182		2,866		4,690		7,902	
Split%	53.5		63.7		46.5		36.3					
Day Totals		7,544				5,048				12,592		
Day Splits		59.9				40.1						
Peak Hour	09:45		04:45		08:15		01:30		09:45		05:15	
Volume	442		643		328		393		753		926	
Factor	0.88		0.90		0.89		0.79		0.87		0.98	

* Data File : D1809076 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: BUENA PARK

Segment : AUTO CENTER DR TO I-5 SB RMP — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	114	355	448	2,019	76	258	417	1,728	190	613	865	3,747
12:15	73		534		64		416		137		950	
12:30	76		508		64		468		140		976	
12:45	92		529		54		427		146		956	
01:00	48	216	400	2,021	42	195	433	1,684	90	411	833	3,705
01:15	55		530		47		420		102		950	
01:30	59		530		44		413		103		943	
01:45	54		561		62		418		116		979	
02:00	37	160	573	1,983	64	197	453	1,779	101	357	1,026	3,762
02:15	46		422		39		449		85		871	
02:30	40		512		52		472		92		984	
02:45	37		476		42		405		79		881	
03:00	23	184	455	2,089	36	228	465	1,835	59	412	920	3,924
03:15	46		512		55		456		101		968	
03:30	71		510		65		458		136		968	
03:45	44		612		72		456		116		1,068	
04:00	62	399	518	1,778	94	635	478	1,896	156	1,034	996	3,674
04:15	72		432		119		442		191		874	
04:30	111		404		211		458		322		862	
04:45	154		424		211		518		365		942	
05:00	132	669	437	1,681	208	1,346	492	1,866	340	2,015	929	3,547
05:15	118		384		350		480		468		864	
05:30	197		486		404		466		601		952	
05:45	222		374		384		428		606		802	
06:00	196	1,046	416	1,874	390	1,788	464	1,706	586	2,834	880	3,580
06:15	232		548		422		420		654		968	
06:30	284		474		485		442		769		916	
06:45	334		436		491		380		825		816	
07:00	414	1,980	367	1,649	469	1,962	411	1,443	883	3,942	778	3,092
07:15	496		420		488		376		984		796	
07:30	518		412		505		368		1,023		780	
07:45	552		450		500		288		1,052		738	
08:00	452	1,712	352	1,518	481	1,831	317	1,078	933	3,543	669	2,596
08:15	391		442		466		268		857		710	
08:30	417		326		436		246		853		572	
08:45	452		398		448		247		900		645	
09:00	422	1,690	407	1,476	454	1,650	250	967	876	3,340	657	2,443
09:15	426		406		392		220		818		626	
09:30	418		303		409		257		827		560	
09:45	424		360		395		240		819		600	
10:00	372	1,683	306	863	374	1,600	236	784	746	3,283	542	1,647
10:15	400		215		412		234		812		449	
10:30	485		182		413		186		898		368	
10:45	426		160		401		128		827		288	
11:00	468	1,763	166	557	401	1,623	130	460	869	3,386	296	1,017
11:15	473		168		390		144		863		312	
11:30	420		116		426		100		846		216	
11:45	402		107		406		86		808		193	
Totals	11,857		19,508		13,313		17,226		25,170		36,734	
Split%	47.1		53.1		52.9		46.9					
Day Totals		31,365				30,539				61,904		
Day Splits		50.7				49.3						
Peak Hour	07:15		01:15		07:15		04:45		07:15		03:15	
Volume	2,018		2,194		1,974		1,956		3,992		4,000	
Factor	0.91		0.96		0.98		0.94		0.95		0.94	

* Data File : D1809077 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : BEACH BOULEVARD — Site: LA HABRA

Segment : LA HABRA BLVD TO WHITTIER BLVD — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	30	122	230	920	29	92	224	958	59	214	454	1,878
12:15	32		248		30		278		62		526	
12:30	38		218		20		234		58		452	
12:45	22		224		13		222		35		446	
01:00	16	58	238	1,031	10	33	239	959	26	91	477	1,990
01:15	16		262		5		244		21		506	
01:30	14		257		9		220		23		477	
01:45	12		274		9		256		21		530	
02:00	15	46	264	1,162	6	30	254	1,096	21	76	518	2,258
02:15	10		278		3		262		13		540	
02:30	12		278		12		261		24		539	
02:45	9		342		9		319		18		661	
03:00	9	62	372	1,540	6	77	316	1,247	15	139	688	2,787
03:15	14		428		25		352		39		780	
03:30	15		354		30		297		45		651	
03:45	24		386		16		282		40		668	
04:00	13	96	380	1,581	36	177	312	1,235	49	273	692	2,816
04:15	20		394		29		308		49		702	
04:30	26		398		52		282		78		680	
04:45	37		409		60		333		97		742	
05:00	32	189	403	1,629	90	462	315	1,314	122	651	718	2,943
05:15	44		408		112		328		156		736	
05:30	48		432		124		338		172		770	
05:45	65		386		136		333		201		719	
06:00	104	462	372	1,459	163	922	266	1,096	267	1,384	638	2,555
06:15	84		373		205		301		289		674	
06:30	124		370		256		280		380		650	
06:45	150		344		298		249		448		593	
07:00	164	956	320	1,160	332	1,534	220	818	496	2,490	540	1,978
07:15	200		340		386		232		586		572	
07:30	250		282		402		178		652		460	
07:45	342		218		414		188		756		406	
08:00	272	965	246	760	424	1,440	141	527	696	2,405	387	1,287
08:15	273		168		378		136		651		304	
08:30	214		172		350		134		564		306	
08:45	206		174		288		116		494		290	
09:00	192	759	130	538	224	884	124	436	416	1,643	254	974
09:15	172		166		219		139		391		305	
09:30	195		130		238		100		433		230	
09:45	200		112		203		73		403		185	
10:00	182	780	108	330	230	894	56	214	412	1,674	164	544
10:15	194		92		235		63		429		155	
10:30	200		62		208		58		408		120	
10:45	204		68		221		37		425		105	
11:00	202	832	50	200	222	873	52	165	424	1,705	102	365
11:15	190		54		227		48		417		102	
11:30	210		58		212		35		422		93	
11:45	230		38		212		30		442		68	
Totals	5,327		12,310		7,418		10,065		12,745		22,375	
Split%	41.8		55.0		58.2		45.0					
Day Totals		17,637				17,483				35,120		
Day Splits		50.2				49.8						
Peak Hour	07:30		04:45		07:15		04:45		07:30		04:45	
Volume	1,137		1,652		1,626		1,314		2,755		2,966	
Factor	0.83		0.96		0.96		0.97		0.91		0.96	

Data File : D1809078 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : WHITTIER BOULEVARD — Site: LA HABRA

Segment : BEACH BLVD TO HACIENDA RD — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	37	134	325	1,202	32	114	346	1,262	69	248	671	2,464
12:15	41		274		34		316		75		590	
12:30	21		296		32		304		53		600	
12:45	35		307		16		296		51		603	
01:00	18	64	334	1,307	9	44	284	1,208	27	108	618	2,515
01:15	17		320		13		274		30		594	
01:30	12		316		11		304		23		620	
01:45	17		337		11		346		28		683	
02:00	19	51	378	1,582	5	51	336	1,448	24	102	714	3,030
02:15	15		356		11		326		26		682	
02:30	11		399		17		364		28		763	
02:45	6		449		18		422		24		871	
03:00	10	78	478	2,087	10	77	409	1,633	20	155	887	3,720
03:15	10		571		24		412		34		983	
03:30	30		492		22		390		52		882	
03:45	28		546		21		422		49		968	
04:00	17	137	609	2,441	32	216	382	1,568	49	353	991	4,009
04:15	29		556		44		406		73		962	
04:30	43		638		66		386		109		1,024	
04:45	48		638		74		394		122		1,032	
05:00	48	303	636	2,368	95	597	416	1,711	143	900	1,052	4,079
05:15	68		576		152		460		220		1,036	
05:30	95		610		164		425		259		1,035	
05:45	92		546		186		410		278		956	
06:00	137	764	490	1,921	234	1,483	415	1,482	371	2,247	905	3,403
06:15	156		480		328		376		484		856	
06:30	244		531		408		395		652		926	
06:45	227		420		513		296		740		716	
07:00	242	1,407	406	1,435	500	2,126	304	1,056	742	3,533	710	2,491
07:15	336		405		532		298		868		703	
07:30	493		324		540		258		1,033		582	
07:45	336		300		554		196		890		496	
08:00	344	1,266	253	928	500	1,853	228	758	844	3,119	481	1,686
08:15	347		221		488		182		835		403	
08:30	293		230		471		184		764		414	
08:45	282		224		394		164		676		388	
09:00	219	931	195	652	320	1,194	178	569	539	2,125	373	1,221
09:15	224		174		314		153		538		327	
09:30	256		169		308		124		564		293	
09:45	232		114		252		114		484		228	
10:00	228	968	116	380	305	1,191	104	356	533	2,159	220	736
10:15	251		110		310		96		561		206	
10:30	240		86		282		98		522		184	
10:45	249		68		294		58		543		126	
11:00	246	1,100	72	233	276	1,126	59	197	522	2,226	131	430
11:15	294		73		274		56		568		129	
11:30	257		50		282		47		539		97	
11:45	303		38		294		35		597		73	
Totals	7,203		16,536		10,072		13,248		17,275		29,784	
Split%	41.7		55.5		58.3		44.5					
Day Totals		23,739				23,320				47,059		
Day Splits		50.4				49.6						
Peak Hour	07:30		04:30		07:00		05:00		07:15		04:45	
Volume	1,520		2,488		2,126		1,711		3,635		4,155	
Factor	0.77		0.97		0.96		0.93		0.88		0.99	

* Data File : D1809079 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : GILBERT STREET — Site: FULLERTON

Segment : ROSEVRANS AVE TO MALVERN AVE — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	30	104	156	603	9	50	133	520	39	154	289	1,123
12:15	32		161		20		137		52		298	
12:30	21		138		6		130		27		268	
12:45	21		148		15		120		36		268	
01:00	17	60	177	613	9	29	161	667	26	89	338	1,280
01:15	18		133		12		200		30		333	
01:30	14		155		3		164		17		319	
01:45	11		148		5		142		16		290	
02:00	9	39	178	763	4	32	130	637	13	71	308	1,400
02:15	10		164		4		124		14		288	
02:30	15		214		10		181		25		395	
02:45	5		207		14		202		19		409	
03:00	11	42	216	997	2	38	152	667	13	80	368	1,664
03:15	10		259		9		182		19		441	
03:30	10		270		12		164		22		434	
03:45	11		252		15		169		26		421	
04:00	5	41	264	1,195	10	106	175	691	15	147	439	1,886
04:15	10		298		16		164		26		462	
04:30	11		288		26		172		37		460	
04:45	15		345		54		180		69		525	
05:00	19	97	358	1,385	53	325	192	759	72	422	550	2,144
05:15	17		337		72		180		89		517	
05:30	29		330		92		208		121		538	
05:45	32		360		108		179		140		539	
06:00	40	256	339	1,209	112	597	202	746	152	853	541	1,955
06:15	39		302		118		190		157		492	
06:30	71		299		159		192		230		491	
06:45	106		269		208		162		314		431	
07:00	114	676	226	763	204	1,008	161	610	318	1,684	387	1,373
07:15	198		192		266		173		464		365	
07:30	184		171		284		154		468		325	
07:45	180		174		254		122		434		296	
08:00	187	595	164	554	230	988	150	400	417	1,583	314	954
08:15	176		154		225		82		401		236	
08:30	132		122		303		108		435		230	
08:45	100		114		230		60		330		174	
09:00	113	460	122	457	175	669	74	267	288	1,129	196	724
09:15	124		114		166		62		290		176	
09:30	97		112		157		58		254		170	
09:45	126		109		171		73		297		182	
10:00	110	402	110	348	124	558	52	191	234	960	162	539
10:15	108		86		142		54		250		140	
10:30	91		90		146		46		237		136	
10:45	93		62		146		39		239		101	
11:00	109	488	59	197	138	563	14	65	247	1,051	73	262
11:15	124		60		142		25		266		85	
11:30	122		40		142		14		264		54	
11:45	133		38		141		12		274		50	
Totals	3,260		9,084		4,963		6,220		8,223		15,304	
Split%	39.6		59.4		60.4		40.6					
Day Totals		12,344				11,183				23,527		
Day Splits		52.5				47.5						
Peak Hour	07:15		05:00		07:15		05:30		07:15		05:00	
Volume	749		1,385		1,034		779		1,783		2,144	
Factor	0.95		0.96		0.91		0.94		0.95		0.97	

* Data File : D1809080 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : EUCLID STREET — Site: FULLERTON

Segment : ROSECRANS AVE TO MALVERN AVE — Date: 09/25/18

Client : LL&G — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	42	100	191	790	19	58	186	788	61	158	377	1,578
12:15	21		189		16		180		37		369	
12:30	18		194		17		208		35		402	
12:45	19		216		6		214		25		430	
01:00	11	34	212	950	13	39	220	878	24	73	432	1,828
01:15	8		244		13		214		21		458	
01:30	7		238		6		224		13		462	
01:45	8		256		7		220		15		476	
02:00	5	32	240	965	8	31	201	1,003	13	63	441	1,968
02:15	7		217		3		226		10		443	
02:30	9		266		12		290		21		556	
02:45	11		242		8		286		19		528	
03:00	7	47	276	1,174	6	45	296	1,072	13	92	572	2,246
03:15	12		294		8		258		20		552	
03:30	16		306		11		246		27		552	
03:45	12		298		20		272		32		570	
04:00	12	108	268	1,311	16	135	273	1,095	28	243	541	2,406
04:15	19		334		27		249		46		583	
04:30	32		353		43		293		75		646	
04:45	45		356		49		280		94		636	
05:00	28	261	334	1,386	62	407	309	1,145	90	668	643	2,531
05:15	65		352		82		306		147		658	
05:30	76		332		104		272		180		604	
05:45	92		368		159		258		251		626	
06:00	67	488	347	1,303	158	1,120	261	973	225	1,608	608	2,276
06:15	104		342		202		270		306		612	
06:30	161		298		364		231		525		529	
06:45	156		316		396		211		552		527	
07:00	203	1,060	254	836	366	1,594	156	622	569	2,654	410	1,458
07:15	278		198		369		184		647		382	
07:30	291		200		444		154		735		354	
07:45	288		184		415		128		703		312	
08:00	228	878	169	597	360	1,434	114	419	588	2,312	283	1,016
08:15	212		162		422		113		634		275	
08:30	218		138		376		89		594		227	
08:45	220		128		276		103		496		231	
09:00	208	686	122	504	246	891	110	353	454	1,577	232	857
09:15	172		146		218		84		390		230	
09:30	152		134		200		82		352		216	
09:45	154		102		227		77		381		179	
10:00	161	683	108	352	194	726	50	195	355	1,409	158	547
10:15	198		99		180		68		378		167	
10:30	168		70		164		38		332		108	
10:45	156		75		188		39		344		114	
11:00	165	783	57	167	176	782	47	142	341	1,565	104	309
11:15	200		43		193		33		393		76	
11:30	198		40		200		35		398		75	
11:45	220		27		213		27		433		54	
Totals	5,160		10,335		7,262		8,685		12,422		19,020	
Split%	41.5		54.3		58.5		45.7					
Day Totals		15,495				15,947				31,442		
Day Splits		49.3				50.7						
Peak Hour	07:15		05:15		07:30		04:30		07:15		04:30	
Volume	1,085		1,399		1,641		1,188		2,673		2,583	
Factor	0.93		0.95		0.92		0.96		0.91		0.98	

* Data File : D1809081 — Printed : 9/27/2018

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : MALVERN AVENUE
Segment : GILBERT ST TO EUCLID ST
Client : LL&G

Site: FULLERTON
Date: 09/25/18
Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	16	46	162	635	19	71	155	628	35	117	317	1,263
12:15	12		151		22		152		34		303	
12:30	10		158		14		163		24		321	
12:45	8		164		16		158		24		322	
01:00	8	28	166	717	8	32	180	701	16	60	346	1,418
01:15	7		190		7		172		14		362	
01:30	6		189		6		177		12		366	
01:45	7		172		11		172		18		344	
02:00	8	26	176	787	4	19	146	719	12	45	322	1,506
02:15	5		158		4		161		9		319	
02:30	8		227		7		182		15		409	
02:45	5		226		4		230		9		456	
03:00	3	20	242	983	3	42	219	911	6	62	461	1,894
03:15	5		248		7		236		12		484	
03:30	6		264		13		224		19		488	
03:45	6		229		19		232		25		461	
04:00	14	80	212	858	4	79	254	970	18	159	466	1,828
04:15	14		208		12		225		26		433	
04:30	27		226		19		248		46		474	
04:45	25		212		44		243		69		455	
05:00	31	177	209	913	30	212	214	1,059	61	389	423	1,972
05:15	39		245		48		280		87		525	
05:30	50		233		52		261		102		494	
05:45	57		226		82		304		139		530	
06:00	74	650	228	931	68	399	269	890	142	1,049	497	1,821
06:15	120		292		75		218		195		510	
06:30	252		212		106		190		358		402	
06:45	204		199		150		213		354		412	
07:00	219	1,101	164	622	210	796	217	675	429	1,897	381	1,297
07:15	280		179		205		157		485		336	
07:30	308		145		209		173		517		318	
07:45	294		134		172		128		466		262	
08:00	226	844	123	391	170	600	133	522	396	1,444	256	913
08:15	250		84		156		152		406		236	
08:30	176		96		154		121		330		217	
08:45	192		88		120		116		312		204	
09:00	156	608	96	323	110	458	140	485	266	1,066	236	808
09:15	150		86		120		118		270		204	
09:30	142		89		112		104		254		193	
09:45	160		52		116		123		276		175	
10:00	132	516	62	194	132	517	112	297	264	1,033	174	491
10:15	129		46		132		74		261		120	
10:30	130		52		127		61		257		113	
10:45	125		34		126		50		251		84	
11:00	157	633	34	95	118	615	38	107	275	1,248	72	202
11:15	166		32		148		27		314		59	
11:30	162		19		155		28		317		47	
11:45	148		10		194		14		342		24	
Totals	4,729		7,449		3,840		7,964		8,569		15,413	
Split%	55.2		48.3		44.8		51.7					
Day Totals		12,178				11,804				23,982		
Day Splits		50.8				49.2						
Peak Hour	07:15		03:00		07:00		05:15		07:00		05:15	
Volume	1,108		983		796		1,114		1,897		2,046	
Factor	0.90		0.93		0.95		0.92		0.92		0.97	

Data File : D1809082

Printed : 9/27/2018

APPENDIX C

EXISTING INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX C-I

EXISTING TRAFFIC CONDITIONS

AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.979
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	165	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	198	1301	183	188	2091	306	154	630	191	182	617	95
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	198	1301	183	188	2091	306	154	630	191	182	617	95
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	198	1301	183	188	2091	306	154	630	191	182	617	95
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	1301	183	188	2091	306	154	630	191	182	617	95
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	1301	183	188	2091	306	154	630	191	182	617	95
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	198	1301	183	188	2091	306	154	630	191	182	617	95
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.53	0.47	2.00	1.73	0.27
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2456	744	2880	2773	427
Capacity Analysis Module:												
Vol/Sat:	0.12	0.27	0.11	0.12	0.44	0.19	0.05	0.26	0.26	0.06	0.22	0.22
Crit Moves:	****			****			****			****		

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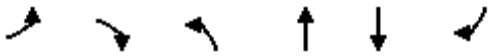
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	757	233	96	457	47	276	331	89	96	634	170
Future Volume (veh/h)	63	757	233	96	457	47	276	331	89	96	634	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	757	233	96	457	47	276	331	89	96	634	170
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	887	395	183	946	422	308	1672	746	120	1297	579
Arrive On Green	0.04	0.25	0.25	0.05	0.27	0.27	0.17	0.47	0.47	0.07	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	63	757	233	96	457	47	276	331	89	96	634	170
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.1	24.4	15.5	4.8	13.0	2.7	18.2	6.5	3.8	6.4	16.5	9.2
Cycle Q Clear(g_c), s	3.1	24.4	15.5	4.8	13.0	2.7	18.2	6.5	3.8	6.4	16.5	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	887	395	183	946	422	308	1672	746	120	1297	579
V/C Ratio(X)	0.23	0.85	0.59	0.52	0.48	0.11	0.90	0.20	0.12	0.80	0.49	0.29
Avail Cap(c_a), veh/h	275	1007	449	205	1096	489	430	1672	746	193	1297	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	42.9	39.6	33.7	37.1	33.3	48.6	18.6	17.8	55.1	29.4	27.1
Incr Delay (d2), s/veh	0.4	6.6	1.6	2.3	0.4	0.1	16.4	0.3	0.3	11.4	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.5	6.2	2.2	5.7	1.1	9.5	2.8	1.5	3.2	7.3	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	49.5	41.2	36.0	37.5	33.4	65.0	18.8	18.2	66.5	30.8	28.4
LnGrp LOS	C	D	D	D	D	C	E	B	B	E	C	C
Approach Vol, veh/h		1053			600			696			900	
Approach Delay, s/veh		46.7			36.9			37.0			34.1	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	61.4	11.5	34.9	24.7	48.8	9.5	36.9
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	46.0	8.0	34.0	29.0	30.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	8.4	8.5	6.8	26.4	20.2	18.5	5.1	15.0
Green Ext Time (p_c), s	0.1	2.7	0.0	3.6	0.5	3.8	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	852	361	424	943	178
Future Volume (veh/h)	229	852	361	424	943	178
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	852	361	424	943	178
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	835	1029	440	2399	1828	815
Arrive On Green	0.24	0.24	0.13	0.68	0.51	0.51
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	229	852	361	424	943	178
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.5	29.0	12.2	5.3	21.0	7.4
Cycle Q Clear(g_c), s	6.5	29.0	12.2	5.3	21.0	7.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	835	1029	440	2399	1828	815
V/C Ratio(X)	0.27	0.83	0.82	0.18	0.52	0.22
Avail Cap(c_a), veh/h	835	1029	778	2399	1828	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	34.4	51.0	7.2	19.3	15.9
Incr Delay (d2), s/veh	0.2	5.7	3.9	0.2	1.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	24.0	5.5	2.0	8.8	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.1	40.1	54.9	7.4	20.3	16.6
LnGrp LOS	D	D	D	A	C	B
Approach Vol, veh/h	1081			785	1121	
Approach Delay, s/veh	39.5			29.2	19.7	
Approach LOS	D			C	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.0		34.0	19.3	66.7
Change Period (Y+Rc), s		5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		81.0		29.0	27.0	50.0
Max Q Clear Time (g_c+I1), s		7.3		31.0	14.2	23.0
Green Ext Time (p_c), s		3.2		0.0	1.1	8.4

Intersection Summary		
HCM 6th Ctrl Delay		29.4
HCM 6th LOS		C

AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.768
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	99	1350	18	24	2128	123	203	15	190	59	29	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	1350	18	24	2128	123	203	15	190	59	29	28
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	1350	18	24	2128	123	203	15	190	59	29	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	1350	18	24	2128	123	203	15	190	59	29	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	1350	18	24	2128	123	203	15	190	59	29	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	1350	18	24	2128	123	203	15	190	59	29	28
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	814	786
Capacity Analysis Module:												
Vol/Sat:	0.06	0.28	0.01	0.02	0.44	0.08	0.13	0.01	0.12	0.04	0.04	0.04
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.533
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	3 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	9 1709		0	0 2279		15	52	0	32	0	0	0
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	9 1709		0	0 2279		15	52	0	32	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9 1709		0	0 2279		15	52	0	32	0	0	0
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	9 1709		0	0 2279		15	52	0	32	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9 1709		0	0 2279		15	52	0	32	0	0	0
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
FinalVolume:	9 1709		0	0 2279		15	52	0	32	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700 1700		1700	1700 1700		1700	1700 1700		1700	1700 1700		1700
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	1.00 3.00		0.00	0.00 3.00		1.00	1.00 0.00		1.00	0.00 0.00		0.00
Final Sat.:	1700 5100		0	0 5100		1700	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.01 0.34		0.00	0.00 0.45		0.01	0.03 0.00		0.02	0.00 0.00		0.00
Crit Moves:	****				****		****					

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.485
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	23	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Prot+Permit					Split Phase					Split Phase				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	0	0	1	1	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	527	32			214	837	0			0	0	0			65	0	246		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	0	527	32			214	837	0			0	0	0			65	0	246		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	527	32			214	837	0			0	0	0			65	0	246		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	0	527	32			214	837	0			0	0	0			65	0	246		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	0	527	32			214	837	0			0	0	0			65	0	246		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	0	527	32			214	837	0			0	0	0			65	0	246		
Saturation Flow Module:																				
Sat/Lane:	1700	1700	1700			1700	1700	1700			1700	1700	1700			1700	1700	1700		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	0.00	1.89	0.11			1.00	2.00	0.00			0.00	0.00	0.00			1.00	0.00	1.00		
Final Sat.:	0	3205	195			1700	3400	0			0	0	0			1700	0	1700		
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.16	0.16			0.13	0.25	0.00			0.00	0.00	0.00			0.04	0.00	0.14		
Crit Moves:		****					****													****

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Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	3	57	3	3	28	20	484	4	8	1080	61
Future Vol, veh/h	51	3	57	3	3	28	20	484	4	8	1080	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	3	60	3	3	29	21	509	4	8	1137	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1483	1740	601	1139	1770	257	1201	0	0	513	0	0
Stage 1	1185	1185	-	553	553	-	-	-	-	-	-	-
Stage 2	298	555	-	586	1217	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	87	86	443	156	82	742	577	-	-	1049	-	-
Stage 1	201	261	-	485	513	-	-	-	-	-	-	-
Stage 2	686	511	-	463	252	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	78	82	443	127	78	742	577	-	-	1049	-	-
Mov Cap-2 Maneuver	78	82	-	127	78	-	-	-	-	-	-	-
Stage 1	194	259	-	468	495	-	-	-	-	-	-	-
Stage 2	631	493	-	392	250	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	69.4	16.2	0.5	0.1
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	577	-	-	78	443	97	742	1049	-	-
HCM Lane V/C Ratio	0.036	-	-	0.729	0.135	0.065	0.04	0.008	-	-
HCM Control Delay (s)	11.5	-	-	127.5	14.4	44.7	10.1	8.5	-	-
HCM Lane LOS	B	-	-	F	B	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.5	0.5	0.2	0.1	0	-	-

AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.852
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	81	Level Of Service:	D

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	173	373	158	122	659	135	98	881	156	195	1528	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	173	373	158	122	659	135	98	881	156	195	1528	79
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	173	373	158	122	659	135	98	881	156	195	1528	79
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	173	373	158	122	659	135	98	881	156	195	1528	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	173	373	158	122	659	135	98	881	156	195	1528	79
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	173	373	158	122	659	135	98	881	156	195	1528	79
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.40	0.60	1.00	1.66	0.34	1.00	2.55	0.45	1.00	2.85	0.15
Final Sat.:	1600	2248	952	1600	2656	544	1600	4078	722	1600	4564	236
Capacity Analysis Module:												
Vol/Sat:	0.11	0.17	0.17	0.08	0.25	0.25	0.06	0.22	0.22	0.12	0.33	0.33
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.706
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	41	20	22	211	22	207	143	944	4	11	1544	175
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	20	22	211	22	207	143	944	4	11	1544	175
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	20	22	211	22	207	143	944	4	11	1544	175
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	20	22	211	22	207	143	944	4	11	1544	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	20	22	211	22	207	143	944	4	11	1544	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	41	20	22	211	22	207	143	944	4	11	1544	175
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.00	1.00	1.00	1.00	2.99	0.01	1.00	2.69	0.31
Final Sat.:	1600	762	838	1600	1600	1600	1600	4780	20	1600	4311	489
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.13	0.01	0.13	0.09	0.20	0.20	0.01	0.36	0.36
Crit Moves:	****			****			****				****	

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.786
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	C

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	212	990	509	322	1606	279	104	965	184	454	1205	260
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	990	509	322	1606	279	104	965	184	454	1205	260
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	212	990	509	322	1606	279	104	965	184	454	1205	260
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	212	990	509	322	1606	279	104	965	184	454	1205	260
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	212	990	509	322	1606	279	104	965	184	454	1205	260
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	212	990	509	322	1606	279	104	965	184	454	1205	260
OvlAdjVol:			55									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.52	0.48	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4283	817	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.19	0.15	0.09	0.31	0.16	0.03	0.23	0.23	0.13	0.24	0.15
OvlAdjV/S:			0.02									
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.501
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	22	14	31	44	6	51	57	1732	19	85	1885	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	14	31	44	6	51	57	1732	19	85	1885	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	14	31	44	6	51	57	1732	19	85	1885	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	14	31	44	6	51	57	1732	19	85	1885	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	14	31	44	6	51	57	1732	19	85	1885	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	14	31	44	6	51	57	1732	19	85	1885	30
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.22	0.78	1.00	0.88	0.12	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2078	1322	1700	1496	204	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.03	0.03	0.03	0.03	0.34	0.01	0.05	0.37	0.02
Crit Moves:			****			****	****				****	

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.692
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	212	476	123	248	674	194	96	1510	232	121	1704	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	476	123	248	674	194	96	1510	232	121	1704	97
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	212	476	123	248	674	194	96	1510	232	121	1704	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	212	476	123	248	674	194	96	1510	232	121	1704	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	212	476	123	248	674	194	96	1510	232	121	1704	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	212	476	123	248	674	194	96	1510	232	121	1704	97
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.84	0.16
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4825	275
Capacity Analysis Module:												
Vol/Sat:	0.06	0.14	0.07	0.07	0.20	0.11	0.03	0.30	0.14	0.04	0.35	0.35
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.795
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1 1	0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	218	404	206	183	871	54	57	1435	293	239	1646	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	218	404	206	183	871	54	57	1435	293	239	1646	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	218	404	206	183	871	54	57	1435	293	239	1646	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	218	404	206	183	871	54	57	1435	293	239	1646	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	404	206	183	871	54	57	1435	293	239	1646	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	218	404	206	183	871	54	57	1435	293	239	1646	59
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.88	0.12	2.00	2.49	0.51	2.00	2.90	0.10
Final Sat.:	3400	3400	1700	3400	3202	198	3400	4235	865	3400	4924	176
Capacity Analysis Module:												
Vol/Sat:	0.06	0.12	0.12	0.05	0.27	0.27	0.02	0.34	0.34	0.07	0.33	0.33
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.759
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	312	509	292	248	1198	195	124	1251	305	261	1285	84
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	312	509	292	248	1198	195	124	1251	305	261	1285	84
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	312	509	292	248	1198	195	124	1251	305	261	1285	84
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	312	509	292	248	1198	195	124	1251	305	261	1285	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	509	292	248	1198	195	124	1251	305	261	1285	84
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	509	292	248	1198	195	124	1251	305	261	1285	84
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.41	0.59	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4100	1000	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.10	0.17	0.07	0.23	0.11	0.04	0.31	0.31	0.08	0.25	0.05
Crit Moves:	****			****			****			****		

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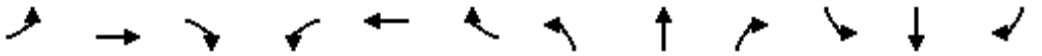

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1251	305	261	1285	84	312	509	292	248	1198	195
Future Volume (veh/h)	124	1251	305	261	1285	84	312	509	292	248	1198	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	1277	311	266	1311	86	318	519	298	253	1222	199
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1357	330	322	1940	602	371	1659	515	515	1915	594
Arrive On Green	0.05	0.33	0.33	0.09	0.38	0.38	0.11	0.32	0.32	0.15	0.37	0.37
Sat Flow, veh/h	3456	4098	997	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	127	1061	527	266	1311	86	318	519	298	253	1222	199
Grp Sat Flow(s),veh/h/ln	1728	1702	1691	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	4.3	36.3	36.4	9.1	25.7	3.1	10.9	9.2	18.8	8.1	23.6	10.8
Cycle Q Clear(g_c), s	4.3	36.3	36.4	9.1	25.7	3.1	10.9	9.2	18.8	8.1	23.6	10.8
Prop In Lane	1.00		0.59	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	1127	560	322	1940	602	371	1659	515	515	1915	594
V/C Ratio(X)	0.70	0.94	0.94	0.83	0.68	0.14	0.86	0.31	0.58	0.49	0.64	0.33
Avail Cap(c_a), veh/h	230	1135	564	346	1940	602	374	1659	515	515	1915	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	39.0	39.0	53.5	31.0	13.0	52.7	30.4	33.7	46.9	30.8	26.8
Incr Delay (d2), s/veh	6.6	14.7	24.3	14.4	0.9	0.1	17.5	0.5	4.7	0.7	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	17.3	18.6	4.6	10.6	1.6	5.6	3.8	7.9	3.5	9.9	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.5	53.7	63.3	67.9	32.0	13.1	70.2	30.9	38.3	47.6	32.5	28.3
LnGrp LOS	E	D	E	E	C	B	E	C	D	D	C	C
Approach Vol, veh/h		1715			1663			1135			1674	
Approach Delay, s/veh		57.3			36.7			43.9			34.3	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.9	44.0	16.2	44.7	16.9	50.0	10.3	50.6
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	* 39	12.0	* 40	13.0	37.0	8.0	44.0
Max Q Clear Time (g_c+I1), s	10.1	20.8	11.1	38.4	12.9	25.6	6.3	27.7
Green Ext Time (p_c), s	0.1	4.4	0.1	1.4	0.0	6.8	0.1	8.9

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.949
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	128	Level Of Service:	E

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	269	852	254	212	1543	242	258	982	191	424	1016	153
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	269	852	254	212	1543	242	258	982	191	424	1016	153
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	269	852	254	212	1543	242	258	982	191	424	1016	153
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	269	852	254	212	1543	242	258	982	191	424	1016	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	269	852	254	212	1543	242	258	982	191	424	1016	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	269	852	254	212	1543	242	258	982	191	424	1016	153
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.59	0.41	2.00	1.67	0.33	2.00	1.74	0.26
Final Sat.:	3400	5100	1700	3400	4409	691	3400	2846	554	3400	2955	445
Capacity Analysis Module:												
Vol/Sat:	0.08	0.17	0.15	0.06	0.35	0.35	0.08	0.35	0.34	0.12	0.34	0.34
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.814
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	D

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	210	379	192	105	597	204	82	1178	183	220	1107	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	210	379	192	105	597	204	82	1178	183	220	1107	47
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	210	379	192	105	597	204	82	1178	183	220	1107	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	210	379	192	105	597	204	82	1178	183	220	1107	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	210	379	192	105	597	204	82	1178	183	220	1107	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	210	379	192	105	597	204	82	1178	183	220	1107	47
OvlAdjVol:			82			163						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.73	0.27	2.00	1.92	0.08
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2943	457	3400	3262	138
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.06	0.18	0.12	0.02	0.40	0.40	0.06	0.34	0.34
OvlAdjV/S:			0.05			0.10						
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.702
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	C

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	51	382	90	61	577	67	76	1253	242	109	1028	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	51	382	90	61	577	67	76	1253	242	109	1028	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	382	90	61	577	67	76	1253	242	109	1028	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	382	90	61	577	67	76	1253	242	109	1028	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	382	90	61	577	67	76	1253	242	109	1028	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	382	90	61	577	67	76	1253	242	109	1028	52
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.62	0.38	1.00	1.79	0.21	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2752	648	1700	3046	354	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.14	0.04	0.19	0.19	0.04	0.37	0.14	0.06	0.30	0.03
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.696
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	B

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	89	488	110	214	1348	190	171	1168	225	119	910	197
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	488	110	214	1348	190	171	1168	225	119	910	197
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	488	110	214	1348	190	171	1168	225	119	910	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	488	110	214	1348	190	171	1168	225	119	910	197
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	488	110	214	1348	190	171	1168	225	119	910	197
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	488	110	214	1348	190	171	1168	225	119	910	197
OvlAdjVol:			51									90
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.63	0.37	2.00	2.52	0.48	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4470	630	3400	4276	824	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.06	0.06	0.30	0.30	0.05	0.27	0.27	0.04	0.27	0.12
OvlAdjV/S:			0.03									0.05
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.900
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	D

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	3 0	1	1 0	2 1	0
Volume Module:												
Base Vol:	395	748	55	221	725	110	99	1030	350	118	1559	73
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	395	748	55	221	725	110	99	1030	350	118	1559	73
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	395	748	55	221	725	110	99	1030	350	118	1559	73
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	395	748	55	221	725	110	99	1030	350	118	1559	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	395	748	55	221	725	110	99	1030	350	118	1559	73
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	395	748	55	221	725	110	99	1030	350	118	1559	73
OvlAdjVol:									131			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.86	0.14	2.00	1.74	0.26	1.00	3.00	1.00	1.00	2.87	0.13
Final Sat.:	2880	2981	219	2880	2778	422	1600	4800	1600	1600	4585	215
Capacity Analysis Module:												
Vol/Sat:	0.14	0.25	0.25	0.08	0.26	0.26	0.06	0.21	0.22	0.07	0.34	0.34
OvlAdjV/S:									0.08			
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.757
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	C

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	372	1268	250	128	1586	477	112	663	530	312	683	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	372	1268	250	128	1586	477	112	663	530	312	683	75
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	372	1268	250	128	1586	477	112	663	530	312	683	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	372	1268	250	128	1586	477	112	663	530	312	683	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	372	1268	250	128	1586	477	112	663	530	312	683	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	372	1268	250	128	1586	477	112	663	530	312	683	75
OvlAdjVol:						421			344			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.70	0.30
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4595	505
Capacity Analysis Module:												
Vol/Sat:	0.11	0.25	0.15	0.08	0.31	0.28	0.03	0.20	0.31	0.09	0.15	0.15
OvlAdjV/S:						0.25			0.20			
Crit Moves:	****				****			****			****	

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AM Existing Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.729
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	C

Street Name:	Beach Blvd						La Habra Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	258	868	188	143	1407	122	152	470	100	231	611	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	258	868	188	143	1407	122	152	470	100	231	611	70
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	258	868	188	143	1407	122	152	470	100	231	611	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	258	868	188	143	1407	122	152	470	100	231	611	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	868	188	143	1407	122	152	470	100	231	611	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	258	868	188	143	1407	122	152	470	100	231	611	70
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.47	0.53	1.00	2.76	0.24	1.00	1.65	0.35	1.00	1.79	0.21
Final Sat.:	3400	4192	908	1700	4693	407	1700	2804	596	1700	3051	349
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.21	0.08	0.30	0.30	0.09	0.17	0.17	0.14	0.20	0.20
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.903
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	102	Level Of Service:	E

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	258	727	144	67	827	121	77	637	155	201	1391	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	258	727	144	67	827	121	77	637	155	201	1391	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	258	727	144	67	827	121	77	637	155	201	1391	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	258	727	144	67	827	121	77	637	155	201	1391	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	727	144	67	827	121	77	637	155	201	1391	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	258	727	144	67	827	121	77	637	155	201	1391	38
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.67	0.33	1.00	1.74	0.26	1.00	2.41	0.59	1.00	2.92	0.08
Final Sat.:	1600	2671	529	1600	2792	408	1600	3861	939	1600	4672	128
Capacity Analysis Module:												
Vol/Sat:	0.16	0.27	0.27	0.04	0.30	0.30	0.05	0.17	0.16	0.13	0.30	0.30
Crit Moves:	****				****		****				****	

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AM Existing Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Bouelvard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.795
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	53	1635	69	79	1922	301	380	446	49	97	618	159
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	1635	69	79	1922	301	380	446	49	97	618	159
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	1635	69	79	1922	301	380	446	49	97	618	159
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	1635	69	79	1922	301	380	446	49	97	618	159
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	1635	69	79	1922	301	380	446	49	97	618	159
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	1635	69	79	1922	301	380	446	49	97	618	159
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.88	0.12	2.00	2.59	0.41	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4893	207	3400	4409	691	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.33	0.33	0.02	0.44	0.44	0.11	0.13	0.03	0.03	0.18	0.09
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.589
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	28	1625	143	30	1996	68	55	168	25	147	223	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	1625	143	30	1996	68	55	168	25	147	223	68
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	1625	143	30	1996	68	55	168	25	147	223	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	1625	143	30	1996	68	55	168	25	147	223	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	1625	143	30	1996	68	55	168	25	147	223	68
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	1625	143	30	1996	68	55	168	25	147	223	68
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.76	0.24	1.00	2.90	0.10	1.00	2.00	1.00	2.00	1.53	0.47
Final Sat.:	1700	4688	413	1700	4932	168	1700	3400	1700	3400	2605	795
Capacity Analysis Module:												
Vol/Sat:	0.02	0.35	0.35	0.02	0.40	0.40	0.03	0.05	0.01	0.04	0.09	0.09
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB ramps at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.350
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	19	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0 2	0 1	1 0
Volume Module:												
Base Vol:	315	9	242	1	1	1	5	102	79	184	74	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	9	242	1	1	1	5	102	79	184	74	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	9	242	1	1	1	5	102	79	184	74	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	315	9	242	1	1	1	5	102	79	184	74	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	9	242	1	1	1	5	102	79	184	74	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	9	242	1	1	1	5	102	79	184	74	5
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.97	0.03	1.00	0.34	0.33	0.33	1.00	1.13	0.87	2.00	1.87	0.13
Final Sat.:	1653	47	1700	567	567	567	1700	1916	1484	3400	3185	215
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.14	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.02	0.02
Crit Moves:	****			****				****		****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.720
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	C

Street Name:	Beach Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 4	0 1	2	0 1	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	147	1172	94	32	2070	32	224	72	56	77	99	395
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	147	1172	94	32	2070	32	224	72	56	77	99	395
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	147	1172	94	32	2070	32	224	72	56	77	99	395
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	1172	94	32	2070	32	224	72	56	77	99	395
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	1172	94	32	2070	32	224	72	56	77	99	395
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	1172	94	32	2070	32	224	72	56	77	99	395
OvlAdjVol:												363
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.12	0.88	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1913	1488	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.23	0.06	0.02	0.30	0.02	0.07	0.04	0.04	0.02	0.03	0.23
OvlAdjV/S:												0.21
Crit Moves:	****			****			****					****

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.691
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Beach Boulevard						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2	1 0	2	0 3	0 0	1	0 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	1230	159	778	1442	0	180	0	237	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1230	159	778	1442	0	180	0	237	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1230	159	778	1442	0	180	0	237	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1230	159	778	1442	0	180	0	237	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1230	159	778	1442	0	180	0	237	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1230	159	778	1442	0	180	0	237	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.66	0.34	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4516	584	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.27	0.23	0.28	0.00	0.11	0.00	0.14	0.00	0.00	0.00
Crit Moves:		****		****					****			

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.686
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	346	47	604	55	41	21	44	834	396	1052	921	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	346	47	604	55	41	21	44	834	396	1052	921	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	346	47	604	55	41	21	44	834	396	1052	921	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	346	47	604	55	41	21	44	834	396	1052	921	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	346	47	604	55	41	21	44	834	396	1052	921	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	346	47	604	55	41	21	44	834	396	1052	921	7
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.76	0.24	2.00	0.47	0.35	0.18	1.00	2.00	1.00	3.00	1.98	0.02
Final Sat.:	2993	407	3400	799	596	305	1700	3400	1700	5100	3374	26
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.18	0.07	0.07	0.07	0.03	0.25	0.23	0.21	0.27	0.27
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	11	40	43	373	43	715	373	1084	11	65	1266	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	40	43	373	43	715	373	1084	11	65	1266	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	40	43	373	43	715	373	1084	11	65	1266	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	40	43	373	43	715	373	1084	11	65	1266	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	40	43	373	43	715	373	1084	11	65	1266	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	40	43	373	43	715	373	1084	11	65	1266	274
OvlAdjVol:						529						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.78	1.00	0.90	0.10	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	367	1333	1700	1524	176	1700	3400	3366	34	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.22	0.24	0.42	0.11	0.32	0.32	0.04	0.37	0.16
OvlAdjV/S:						0.31						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	35.1

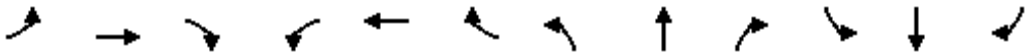
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	1836	1811	48	17	120
Future Vol, veh/h	70	1836	1811	48	17	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2040	2012	53	19	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2065	0	-	0	3011	1033
Stage 1	-	-	-	-	2039	-
Stage 2	-	-	-	-	972	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	116	-	-	-	26	197
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	296	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	116	-	-	-	~ 9	197
Mov Cap-2 Maneuver	-	-	-	-	~ 9	-
Stage 1	-	-	-	-	~ 18	-
Stage 2	-	-	-	-	296	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	$ 957.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	116	-	-	-	55
HCM Lane V/C Ratio	0.67	-	-	-	2.768
HCM Control Delay (s)	83.8	-	-	-	$ 957.8
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	3.5	-	-	-	15.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



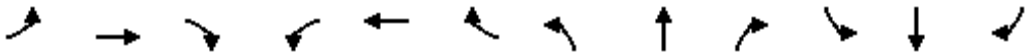
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	931	185	536	703	63	83	623	538	107	922	195
Future Volume (veh/h)	236	931	185	536	703	63	83	623	538	107	922	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	931	185	536	703	63	83	623	538	107	922	195
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	1150	228	595	1659	648	105	1125	775	149	1022	216
Arrive On Green	0.11	0.27	0.27	0.17	0.32	0.32	0.06	0.32	0.32	0.08	0.35	0.35
Sat Flow, veh/h	3456	4276	847	3456	5106	1585	1781	3554	1585	1781	2919	617
Grp Volume(v), veh/h	236	741	375	536	703	63	83	623	538	107	561	556
Grp Sat Flow(s),veh/h/ln	1728	1702	1718	1728	1702	1585	1781	1777	1585	1781	1777	1759
Q Serve(g_s), s	7.8	24.4	24.5	18.2	12.9	0.0	5.5	17.4	19.2	7.0	36.0	36.0
Cycle Q Clear(g_c), s	7.8	24.4	24.5	18.2	12.9	0.0	5.5	17.4	19.2	7.0	36.0	36.0
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	373	916	462	595	1659	648	105	1125	775	149	622	616
V/C Ratio(X)	0.63	0.81	0.81	0.90	0.42	0.10	0.79	0.55	0.69	0.72	0.90	0.90
Avail Cap(c_a), veh/h	374	916	462	634	1659	648	119	1125	775	178	622	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	41.0	41.0	48.7	31.7	21.8	55.8	34.0	10.2	53.6	37.0	37.1
Incr Delay (d2), s/veh	3.4	7.6	14.4	15.5	0.8	0.3	26.9	2.0	5.1	10.6	18.7	19.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	11.1	12.2	9.1	5.4	1.2	3.3	7.8	7.2	3.6	18.6	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	48.6	55.4	64.2	32.5	22.1	82.7	35.9	15.3	64.1	55.7	56.0
LnGrp LOS	D	D	E	E	C	C	F	D	B	E	E	E
Approach Vol, veh/h		1352			1302			1244			1224	
Approach Delay, s/veh		51.5			45.0			30.1			56.6	
Approach LOS		D			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	43.0	24.7	37.3	11.1	47.0	17.9	44.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	12.0	* 38	22.0	30.0	8.0	42.0	13.0	* 39
Max Q Clear Time (g_c+I1), s	9.0	21.2	20.2	26.5	7.5	38.0	9.8	14.9
Green Ext Time (p_c), s	0.1	6.0	0.4	2.2	0.0	2.5	0.2	5.4

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	695	144	144	455	126	127	969	88	250	1273	16
Future Volume (veh/h)	33	695	144	144	455	126	127	969	88	250	1273	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	695	144	144	455	126	127	969	88	250	1273	16
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	755	156	209	836	230	222	1329	121	318	1597	20
Arrive On Green	0.03	0.26	0.26	0.07	0.30	0.30	0.06	0.40	0.40	0.10	0.44	0.44
Sat Flow, veh/h	1781	2931	607	1781	2754	757	1781	3294	299	1781	3594	45
Grp Volume(v), veh/h	33	421	418	144	292	289	127	523	534	250	629	660
Grp Sat Flow(s),veh/h/ln	1781	1777	1761	1781	1777	1734	1781	1777	1817	1781	1777	1862
Q Serve(g_s), s	1.6	27.7	27.7	6.9	16.5	16.7	5.0	29.8	29.8	9.4	36.6	36.6
Cycle Q Clear(g_c), s	1.6	27.7	27.7	6.9	16.5	16.7	5.0	29.8	29.8	9.4	36.6	36.6
Prop In Lane	1.00		0.34	1.00		0.44	1.00		0.16	1.00		0.02
Lane Grp Cap(c), veh/h	246	458	454	209	539	526	222	717	733	318	790	828
V/C Ratio(X)	0.13	0.92	0.92	0.69	0.54	0.55	0.57	0.73	0.73	0.79	0.80	0.80
Avail Cap(c_a), veh/h	271	474	470	226	548	535	253	717	733	410	790	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	43.4	43.4	32.1	34.8	34.9	24.7	30.2	30.2	23.7	28.7	28.7
Incr Delay (d2), s/veh	0.2	22.9	23.2	7.8	1.1	1.2	2.3	6.4	6.3	7.5	8.2	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	15.0	14.9	3.4	7.3	7.2	2.2	13.9	14.1	4.5	17.0	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	66.3	66.6	39.9	35.9	36.1	27.0	36.7	36.5	31.2	36.9	36.5
LnGrp LOS	C	E	E	D	D	D	C	D	D	C	D	D
Approach Vol, veh/h		872			725			1184			1539	
Approach Delay, s/veh		65.1			36.8			35.6			35.8	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.8	53.4	13.8	35.9	11.9	58.3	8.3	41.4
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	18.0	40.0	10.0	32.0	9.0	49.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	11.4	31.8	8.9	29.7	7.0	38.6	3.6	18.7
Green Ext Time (p_c), s	0.4	4.2	0.0	1.2	0.1	6.1	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.935
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	121	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 3	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	207	1914	178	158	1495	211	363	543	162	176	549	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1914	178	158	1495	211	363	543	162	176	549	128
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	1914	178	158	1495	211	363	543	162	176	549	128
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	207	1914	178	158	1495	211	363	543	162	176	549	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1914	178	158	1495	211	363	543	162	176	549	128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	1914	178	158	1495	211	363	543	162	176	549	128
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.54	0.46	2.00	1.62	0.38
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2465	735	2880	2595	605
Capacity Analysis Module:												
Vol/Sat:	0.13	0.40	0.11	0.10	0.31	0.13	0.13	0.22	0.22	0.06	0.21	0.21
Crit Moves:		****			****			****			****	

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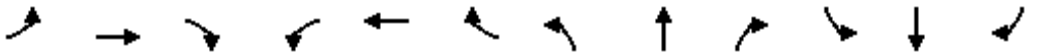


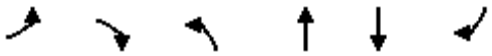
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	475	190	60	578	51	255	913	79	38	463	176
Future Volume (veh/h)	181	475	190	60	578	51	255	913	79	38	463	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	475	190	60	578	51	255	913	79	38	463	176
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	893	398	232	685	306	287	1570	700	183	1393	621
Arrive On Green	0.10	0.25	0.25	0.04	0.19	0.19	0.16	0.44	0.44	0.10	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	181	475	190	60	578	51	255	913	79	38	463	176
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.4	13.9	12.2	3.2	18.8	2.5	16.8	23.2	2.8	2.3	10.9	9.1
Cycle Q Clear(g_c), s	9.4	13.9	12.2	3.2	18.8	2.5	16.8	23.2	2.8	2.3	10.9	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	893	398	232	685	306	287	1570	700	183	1393	621
V/C Ratio(X)	0.70	0.53	0.48	0.26	0.84	0.17	0.89	0.58	0.11	0.21	0.33	0.28
Avail Cap(c_a), veh/h	297	1096	489	239	829	370	416	1570	700	183	1393	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	38.8	38.2	37.0	46.7	23.9	49.3	25.2	12.1	49.3	25.5	25.0
Incr Delay (d2), s/veh	5.9	0.5	0.9	0.6	6.8	0.3	15.2	1.6	0.3	0.6	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.1	4.9	1.4	8.9	1.3	8.7	10.0	1.4	1.1	4.7	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	39.3	39.1	37.6	53.5	24.2	64.5	26.8	12.4	49.9	26.2	26.1
LnGrp LOS	D	D	D	D	D	C	E	C	B	D	C	C
Approach Vol, veh/h		846			689			1247			677	
Approach Delay, s/veh		39.5			49.9			33.6			27.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	58.0	9.5	35.1	23.3	52.0	16.5	28.1
Change Period (Y+Rc), s	5.0	* 5	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	* 53	5.0	37.0	28.0	31.0	14.0	28.0
Max Q Clear Time (g_c+I1), s	4.3	25.2	5.2	15.9	18.8	12.9	11.4	20.8
Green Ext Time (p_c), s	0.0	7.7	0.0	3.8	0.5	3.5	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	37.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	193	422	613	967	557	182
Future Volume (veh/h)	193	422	613	967	557	182
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	193	422	613	967	557	182
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	313	1558	1617	2936	1125	502
Arrive On Green	0.09	0.09	0.47	0.83	0.32	0.32
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	193	422	613	967	557	182
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.5	0.0	13.8	7.8	15.2	10.6
Cycle Q Clear(g_c), s	6.5	0.0	13.8	7.8	15.2	10.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	313	1558	1617	2936	1125	502
V/C Ratio(X)	0.62	0.27	0.38	0.33	0.49	0.36
Avail Cap(c_a), veh/h	864	2002	1617	2936	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	13.8	20.7	2.5	33.2	31.7
Incr Delay (d2), s/veh	2.0	0.1	0.1	0.3	1.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.0	5.6	2.1	6.8	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.5	13.9	20.8	2.8	34.8	33.7
LnGrp LOS	D	B	C	A	C	C
Approach Vol, veh/h	615			1580	739	
Approach Delay, s/veh	26.6			9.8	34.5	
Approach LOS	C			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		104.1		15.9	61.1	43.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		80.0		30.0	38.0	* 38
Max Q Clear Time (g_c+I1), s		9.8		8.5	15.8	17.2
Green Ext Time (p_c), s		9.1		2.4	2.3	4.4

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	C

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	201	2065	47	60	1645	251	244	17	116	32	14	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	2065	47	60	1645	251	244	17	116	32	14	13
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	201	2065	47	60	1645	251	244	17	116	32	14	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	201	2065	47	60	1645	251	244	17	116	32	14	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	2065	47	60	1645	251	244	17	116	32	14	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	2065	47	60	1645	251	244	17	116	32	14	13
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	830	770
Capacity Analysis Module:												
Vol/Sat:	0.13	0.43	0.03	0.04	0.34	0.16	0.15	0.01	0.07	0.02	0.02	0.02
Crit Moves:	****			****			****			****		

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.503
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	83	Level Of Service:	A

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	3 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	28	2260	0	0	1990	35	15	0	16	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	2260	0	0	1990	35	15	0	16	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	2260	0	0	1990	35	15	0	16	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	2260	0	0	1990	35	15	0	16	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	2260	0	0	1990	35	15	0	16	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	2260	0	0	1990	35	15	0	16	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1700	5100	0	0	5100	1700	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.02	0.44	0.00	0.00	0.39	0.02	0.01	0.00	0.01	0.00	0.00	0.00
Crit Moves:	****								****			

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.528
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Prot+Permit					Split Phase					Split Phase				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	0	0	1	1	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	1013	54			142	696	0			0	0	0			28	0	137		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	0	1013	54			142	696	0			0	0	0			28	0	137		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	1013	54			142	696	0			0	0	0			28	0	137		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	0	1013	54			142	696	0			0	0	0			28	0	137		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	0	1013	54			142	696	0			0	0	0			28	0	137		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	0	1013	54			142	696	0			0	0	0			28	0	137		
Saturation Flow Module:																				
Sat/Lane:	1700	1700	1700			1700	1700	1700			1700	1700	1700			1700	1700	1700		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	0.00	1.90	0.10			1.00	2.00	0.00			0.00	0.00	0.00			1.00	0.00	1.00		
Final Sat.:	0	3228	172			1700	3400	0			0	0	0			1700	0	1700		
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.31	0.31			0.08	0.20	0.00			0.00	0.00	0.00			0.02	0.00	0.08		
Crit Moves:		****					****											****		

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Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	0	13	1	1	19	24	1033	2	37	720	38
Future Vol, veh/h	22	0	13	1	1	19	24	1033	2	37	720	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	0	13	1	1	19	24	1054	2	38	735	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1407	1935	387	1547	1953	528	774	0	0	1056	0	0
Stage 1	831	831	-	1103	1103	-	-	-	-	-	-	-
Stage 2	576	1104	-	444	850	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	99	65	611	78	63	495	837	-	-	655	-	-
Stage 1	330	383	-	225	285	-	-	-	-	-	-	-
Stage 2	470	285	-	563	375	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	88	59	611	71	58	495	837	-	-	655	-	-
Mov Cap-2 Maneuver	88	59	-	71	58	-	-	-	-	-	-	-
Stage 1	320	361	-	218	277	-	-	-	-	-	-	-
Stage 2	437	277	-	519	353	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	41.4	17.4	0.2	0.5
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	837	-	-	88	611	64	495	655	-	-
HCM Lane V/C Ratio	0.029	-	-	0.255	0.022	0.032	0.039	0.058	-	-
HCM Control Delay (s)	9.4	-	-	59.4	11	63.1	12.6	10.8	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.1	0.1	0.1	0.2	-	-

PM Existing Traffic Conditions
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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.871
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	87	Level Of Service:	D

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	167	696	218	149	485	95	118	1221	134	176	1016	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	167	696	218	149	485	95	118	1221	134	176	1016	129
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	167	696	218	149	485	95	118	1221	134	176	1016	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	167	696	218	149	485	95	118	1221	134	176	1016	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	167	696	218	149	485	95	118	1221	134	176	1016	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	167	696	218	149	485	95	118	1221	134	176	1016	129
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.67	0.33	1.00	2.70	0.30	1.00	2.66	0.34
Final Sat.:	1600	2437	763	1600	2676	524	1600	4325	475	1600	4259	541
Capacity Analysis Module:												
Vol/Sat:	0.10	0.29	0.29	0.09	0.18	0.18	0.07	0.28	0.28	0.11	0.24	0.24
Crit Moves:		****		****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.594
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	30	23	11	150	34	151	172	1310	20	13	1146	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	23	11	150	34	151	172	1310	20	13	1146	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	23	11	150	34	151	172	1310	20	13	1146	157
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	23	11	150	34	151	172	1310	20	13	1146	157
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	23	11	150	34	151	172	1310	20	13	1146	157
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	23	11	150	34	151	172	1310	20	13	1146	157
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.68	0.32	1.00	1.00	1.00	1.00	2.95	0.05	1.00	2.64	0.36
Final Sat.:	1600	1082	518	1600	1600	1600	1600	4728	72	1600	4222	578
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.09	0.02	0.09	0.11	0.28	0.28	0.01	0.27	0.27
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	D

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	288	1532	442	367	1283	185	222	1025	221	448	941	313
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	288	1532	442	367	1283	185	222	1025	221	448	941	313
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	288	1532	442	367	1283	185	222	1025	221	448	941	313
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	288	1532	442	367	1283	185	222	1025	221	448	941	313
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	288	1532	442	367	1283	185	222	1025	221	448	941	313
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	288	1532	442	367	1283	185	222	1025	221	448	941	313
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.47	0.53	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4195	905	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.13	0.11	0.25	0.11	0.07	0.24	0.24	0.13	0.18	0.18
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.653
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	B

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	56	36	197	84	38	136	200	1555	43	191	1477	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	36	197	84	38	136	200	1555	43	191	1477	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	36	197	84	38	136	200	1555	43	191	1477	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	36	197	84	38	136	200	1555	43	191	1477	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	36	197	84	38	136	200	1555	43	191	1477	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	36	197	84	38	136	200	1555	43	191	1477	60
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.22	0.78	1.00	0.69	0.31	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2070	1330	1700	1170	530	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.12	0.07	0.07	0.08	0.12	0.30	0.03	0.11	0.29	0.04
Crit Moves:			****			****	****				****	

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PM Existing Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.728
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	C

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	326	687	184	206	446	169	267	1508	237	160	1527	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	687	184	206	446	169	267	1508	237	160	1527	189
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	687	184	206	446	169	267	1508	237	160	1527	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	687	184	206	446	169	267	1508	237	160	1527	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	687	184	206	446	169	267	1508	237	160	1527	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	687	184	206	446	169	267	1508	237	160	1527	189
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.67	0.33
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4538	562
Capacity Analysis Module:												
Vol/Sat:	0.10	0.20	0.11	0.06	0.13	0.10	0.08	0.30	0.14	0.05	0.34	0.34
Crit Moves:	****			****			****				****	

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.715
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	C

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1	1 0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	312	661	164	130	486	66	122	1339	233	243	1731	183
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	312	661	164	130	486	66	122	1339	233	243	1731	183
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	312	661	164	130	486	66	122	1339	233	243	1731	183
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	312	661	164	130	486	66	122	1339	233	243	1731	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	661	164	130	486	66	122	1339	233	243	1731	183
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	661	164	130	486	66	122	1339	233	243	1731	183
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.76	0.24	2.00	2.56	0.44	2.00	2.71	0.29
Final Sat.:	3400	3400	1700	3400	2993	407	3400	4344	756	3400	4612	488
Capacity Analysis Module:												
Vol/Sat:	0.09	0.19	0.10	0.04	0.16	0.16	0.04	0.31	0.31	0.07	0.38	0.38
Crit Moves:	****			****			****			****		

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.683
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	351	1075	206	183	708	156	254	1126	205	366	1452	205
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	351	1075	206	183	708	156	254	1126	205	366	1452	205
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	351	1075	206	183	708	156	254	1126	205	366	1452	205
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	351	1075	206	183	708	156	254	1126	205	366	1452	205
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	351	1075	206	183	708	156	254	1126	205	366	1452	205
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	351	1075	206	183	708	156	254	1126	205	366	1452	205
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.54	0.46	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4315	785	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.12	0.05	0.14	0.09	0.07	0.26	0.26	0.11	0.28	0.12
Crit Moves:		****		****				****		****		

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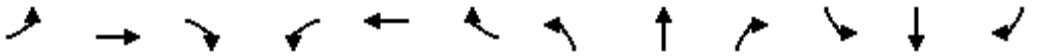

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	1126	205	366	1452	205	351	1075	206	183	708	156
Future Volume (veh/h)	254	1126	205	366	1452	205	351	1075	206	183	708	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	259	1149	209	373	1482	209	358	1097	210	187	722	159
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	1348	245	426	1709	531	426	1799	558	245	1489	462
Arrive On Green	0.09	0.31	0.31	0.12	0.33	0.33	0.12	0.35	0.35	0.07	0.29	0.29
Sat Flow, veh/h	3456	4343	790	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	259	901	457	373	1482	209	358	1097	210	187	722	159
Grp Sat Flow(s),veh/h/ln	1728	1702	1728	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	8.8	29.8	29.8	12.7	32.6	9.6	12.2	21.3	11.9	6.4	14.0	9.5
Cycle Q Clear(g_c), s	8.8	29.8	29.8	12.7	32.6	9.6	12.2	21.3	11.9	6.4	14.0	9.5
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	313	1057	536	426	1709	531	426	1799	558	245	1489	462
V/C Ratio(X)	0.83	0.85	0.85	0.88	0.87	0.39	0.84	0.61	0.38	0.76	0.48	0.34
Avail Cap(c_a), veh/h	317	1078	547	432	1787	555	426	1799	558	317	1489	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	38.8	38.8	51.7	37.4	19.1	51.5	32.1	29.0	54.8	35.1	33.5
Incr Delay (d2), s/veh	16.4	6.6	12.2	17.9	4.7	0.5	14.0	1.5	1.9	7.9	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	13.3	14.3	6.6	14.2	3.6	6.1	9.0	4.8	3.0	6.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	45.4	51.0	69.6	42.1	19.6	65.5	33.6	30.9	62.7	36.2	35.5
LnGrp LOS	E	D	D	E	D	B	E	C	C	E	D	D
Approach Vol, veh/h		1617			2064			1665			1068	
Approach Delay, s/veh		50.9			44.8			40.1			40.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	47.3	18.8	42.3	19.8	40.0	15.9	45.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	11.0	38.0	15.0	38.0	14.0	* 35	11.0	* 42
Max Q Clear Time (g_c+I1), s	8.4	23.3	14.7	31.8	14.2	16.0	10.8	34.6
Green Ext Time (p_c), s	0.1	7.4	0.0	4.2	0.0	5.5	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	44.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.900
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	86	Level Of Service:	D

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	376	1476	292	239	1183	90	179	936	267	461	1069	177
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	376	1476	292	239	1183	90	179	936	267	461	1069	177
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	376	1476	292	239	1183	90	179	936	267	461	1069	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	376	1476	292	239	1183	90	179	936	267	461	1069	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	376	1476	292	239	1183	90	179	936	267	461	1069	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	376	1476	292	239	1183	90	179	936	267	461	1069	177
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.79	0.21	2.00	1.56	0.44	2.00	1.72	0.28
Final Sat.:	3400	5100	1700	3400	4739	361	3400	2645	755	3400	2917	483
Capacity Analysis Module:												
Vol/Sat:	0.11	0.29	0.17	0.07	0.25	0.25	0.05	0.35	0.35	0.14	0.37	0.37
Crit Moves:	****				****			****			****	

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.775
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	217	672	226	80	526	106	73	1125	196	183	1313	92
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	672	226	80	526	106	73	1125	196	183	1313	92
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	217	672	226	80	526	106	73	1125	196	183	1313	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	672	226	80	526	106	73	1125	196	183	1313	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	672	226	80	526	106	73	1125	196	183	1313	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	672	226	80	526	106	73	1125	196	183	1313	92
OvlAdjVol:			134			70						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.70	0.30	2.00	1.87	0.13
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2896	504	3400	3177	223
Capacity Analysis Module:												
Vol/Sat:	0.13	0.20	0.13	0.05	0.15	0.06	0.02	0.39	0.39	0.05	0.41	0.41
OvlAdjV/S:			0.08			0.04						
Crit Moves:	****			****			****			****		

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.799
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	104	687	71	43	408	74	129	1088	130	95	1444	96
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	687	71	43	408	74	129	1088	130	95	1444	96
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	687	71	43	408	74	129	1088	130	95	1444	96
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	687	71	43	408	74	129	1088	130	95	1444	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	687	71	43	408	74	129	1088	130	95	1444	96
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	687	71	43	408	74	129	1088	130	95	1444	96
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.69	0.31	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3082	318	1700	2878	522	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.22	0.03	0.14	0.14	0.08	0.32	0.08	0.06	0.42	0.06
Crit Moves:		****			****			****			****	

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.777
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	220	1116	82	142	898	206	202	806	175	152	1313	276
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	220	1116	82	142	898	206	202	806	175	152	1313	276
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	220	1116	82	142	898	206	202	806	175	152	1313	276
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	220	1116	82	142	898	206	202	806	175	152	1313	276
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	1116	82	142	898	206	202	806	175	152	1313	276
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	220	1116	82	142	898	206	202	806	175	152	1313	276
OvlAdjVol:			6									205
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.44	0.56	2.00	2.46	0.54	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4148	952	3400	4190	910	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.05	0.04	0.22	0.22	0.06	0.19	0.19	0.04	0.39	0.16
OvlAdjV/S:			0.00									0.12
Crit Moves:	****			****			****				****	

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.859
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	83	Level Of Service:	D

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	2 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	362	797	130	260	738	79	107	1193	320	207	1035	119
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	362	797	130	260	738	79	107	1193	320	207	1035	119
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	362	797	130	260	738	79	107	1193	320	207	1035	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	362	797	130	260	738	79	107	1193	320	207	1035	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	362	797	130	260	738	79	107	1193	320	207	1035	119
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	362	797	130	260	738	79	107	1193	320	207	1035	119
OvlAdjVol:									119			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.72	0.28	2.00	1.81	0.19	1.00	3.00	1.00	1.00	2.69	0.31
Final Sat.:	2880	2751	449	2880	2891	309	1600	4800	1600	1600	4305	495
Capacity Analysis Module:												
Vol/Sat:	0.13	0.29	0.29	0.09	0.26	0.26	0.07	0.25	0.20	0.13	0.24	0.24
OvlAdjV/S:									0.07			
Crit Moves:	****			****			****			****		

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.805
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	1 0	3 0	1	2 0	2 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	555	1753	173	185	1290	164	306	632	433	239	860	222
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	555	1753	173	185	1290	164	306	632	433	239	860	222
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	555	1753	173	185	1290	164	306	632	433	239	860	222
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	555	1753	173	185	1290	164	306	632	433	239	860	222
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	555	1753	173	185	1290	164	306	632	433	239	860	222
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	555	1753	173	185	1290	164	306	632	433	239	860	222
OvlAdjVol:						11			155			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.38	0.62
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4054	1046
Capacity Analysis Module:												
Vol/Sat:	0.16	0.34	0.10	0.11	0.25	0.10	0.09	0.19	0.25	0.07	0.21	0.21
OvlAdjV/S:						0.01			0.09			
Crit Moves:	****			****			****				****	

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.801
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	D

Street Name:	Beach Blvd						La Habra Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	1 0	1	0 2	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	246	1265	300	181	1228	128	230	645	139	179	589	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	246	1265	300	181	1228	128	230	645	139	179	589	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	246	1265	300	181	1228	128	230	645	139	179	589	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	246	1265	300	181	1228	128	230	645	139	179	589	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	246	1265	300	181	1228	128	230	645	139	179	589	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	246	1265	300	181	1228	128	230	645	139	179	589	100
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.42	0.58	1.00	2.72	0.28	1.00	1.65	0.35	1.00	1.71	0.29
Final Sat.:	3400	4122	978	1700	4619	481	1700	2797	603	1700	2907	493
Capacity Analysis Module:												
Vol/Sat:	0.07	0.31	0.31	0.11	0.27	0.27	0.14	0.23	0.23	0.11	0.20	0.20
Crit Moves:		****			****			****			****	

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.876
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	89	Level Of Service:	D

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	235	838	187	84	719	57	135	1049	216	197	757	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	838	187	84	719	57	135	1049	216	197	757	74
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	838	187	84	719	57	135	1049	216	197	757	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	838	187	84	719	57	135	1049	216	197	757	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	838	187	84	719	57	135	1049	216	197	757	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	838	187	84	719	57	135	1049	216	197	757	74
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.85	0.15	1.00	2.49	0.51	1.00	2.73	0.27
Final Sat.:	1600	2616	584	1600	2965	235	1600	3980	820	1600	4373	427
Capacity Analysis Module:												
Vol/Sat:	0.15	0.32	0.32	0.05	0.24	0.24	0.08	0.26	0.26	0.12	0.17	0.17
Crit Moves:	****			****			****			****		

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Bouelvard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.748
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	C

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	87	1791	61	140	1630	303	513	562	78	100	485	222
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	1791	61	140	1630	303	513	562	78	100	485	222
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	1791	61	140	1630	303	513	562	78	100	485	222
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	87	1791	61	140	1630	303	513	562	78	100	485	222
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	1791	61	140	1630	303	513	562	78	100	485	222
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	87	1791	61	140	1630	303	513	562	78	100	485	222
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.90	0.10	2.00	2.53	0.47	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4932	168	3400	4301	799	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.36	0.36	0.04	0.38	0.38	0.15	0.17	0.05	0.03	0.14	0.13
Crit Moves:	****			****			****			****		

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.613
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	31	1765	126	79	1652	70	77	203	37	125	223	119
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1765	126	79	1652	70	77	203	37	125	223	119
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	1765	126	79	1652	70	77	203	37	125	223	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	1765	126	79	1652	70	77	203	37	125	223	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	1765	126	79	1652	70	77	203	37	125	223	119
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	1765	126	79	1652	70	77	203	37	125	223	119
OvlAdjVol:									6			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.80	0.20	1.00	2.88	0.12	1.00	2.00	1.00	2.00	1.30	0.70
Final Sat.:	1700	4760	340	1700	4893	207	1700	3400	1700	3400	2217	1183
Capacity Analysis Module:												
Vol/Sat:	0.02	0.37	0.37	0.05	0.34	0.34	0.05	0.06	0.02	0.04	0.10	0.10
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB ramps at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.477
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	23	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0	2 0 1 1 0
Volume Module:												
Base Vol:	517	12	354	25	7	13	7	131	47	126	111	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	517	12	354	25	7	13	7	131	47	126	111	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	517	12	354	25	7	13	7	131	47	126	111	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	517	12	354	25	7	13	7	131	47	126	111	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	517	12	354	25	7	13	7	131	47	126	111	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	517	12	354	25	7	13	7	131	47	126	111	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.98	0.02	1.00	0.56	0.15	0.29	1.00	1.47	0.53	2.00	1.90	0.10
Final Sat.:	1661	39	1700	944	264	491	1700	2502	898	3400	3226	174
Capacity Analysis Module:												
Vol/Sat:	0.31	0.31	0.21	0.03	0.03	0.03	0.00	0.05	0.05	0.04	0.03	0.03
Crit Moves:	****			****			****			****		

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.677
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Street Name:	Beach Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1	1 0	2 0	2 0	1
Volume Module:												
Base Vol:	85	1155	86	22	1753	37	312	58	157	113	112	408
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	1155	86	22	1753	37	312	58	157	113	112	408
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	1155	86	22	1753	37	312	58	157	113	112	408
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	85	1155	86	22	1753	37	312	58	157	113	112	408
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	1155	86	22	1753	37	312	58	157	113	112	408
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	85	1155	86	22	1753	37	312	58	157	113	112	408
OvlAdjVol:												386
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1700	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.23	0.05	0.01	0.26	0.02	0.09	0.03	0.09	0.03	0.03	0.24
OvlAdjV/S:												0.23
Crit Moves:	****			****			****					****

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.675
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Street Name:	Beach Boulevard						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1237	234	656	1377	0	77	0	245	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1237	234	656	1377	0	77	0	245	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1237	234	656	1377	0	77	0	245	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1237	234	656	1377	0	77	0	245	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1237	234	656	1377	0	77	0	245	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1237	234	656	1377	0	77	0	245	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.52	0.48	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4289	811	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.29	0.19	0.27	0.00	0.05	0.00	0.14	0.00	0.00	0.00
Crit Moves:		****		****					****			

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.758
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	C

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	409	69	1089	101	44	25	42	977	430	860	911	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	409	69	1089	101	44	25	42	977	430	860	911	21
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	409	69	1089	101	44	25	42	977	430	860	911	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	409	69	1089	101	44	25	42	977	430	860	911	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	409	69	1089	101	44	25	42	977	430	860	911	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	409	69	1089	101	44	25	42	977	430	860	911	21
OvlAdjVol:			516									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.71	0.29	2.00	0.59	0.26	0.15	1.00	2.00	1.00	3.00	1.95	0.05
Final Sat.:	2909	491	3400	1010	440	250	1700	3400	1700	5100	3323	77
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.32	0.10	0.10	0.10	0.02	0.29	0.25	0.17	0.27	0.27
OvlAdjV/S:			0.15									
Crit Moves:			****		****			****		****		

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	44	76	82	286	26	739	714	1286	12	83	1101	425
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	76	82	286	26	739	714	1286	12	83	1101	425
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	76	82	286	26	739	714	1286	12	83	1101	425
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	76	82	286	26	739	714	1286	12	83	1101	425
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	76	82	286	26	739	714	1286	12	83	1101	425
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	76	82	286	26	739	714	1286	12	83	1101	425
OvlAdjVol:						382						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.37	0.63	1.00	0.92	0.08	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	623	1077	1700	1558	142	1700	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.05	0.17	0.18	0.43	0.21	0.38	0.38	0.05	0.32	0.25
OvlAdjV/S:						0.22						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	7.9

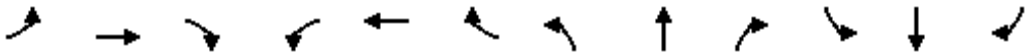
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	1696	2043	135	11	71
Future Vol, veh/h	113	1696	2043	135	11	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	1748	2106	139	11	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2245	0	-	0	3107	1123
Stage 1	-	-	-	-	2176	-
Stage 2	-	-	-	-	931	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 94	-	-	-	23	172
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	311	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	~ 94	-	-	-	0	172
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	311	-

Approach	EB	WB	SB
HCM Control Delay, s	15.8	0	44.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 94	-	-	-	172
HCM Lane V/C Ratio	1.239	-	-	-	0.491
HCM Control Delay (s)	252.9	-	-	-	44.6
HCM Lane LOS	F	-	-	-	E
HCM 95th %tile Q(veh)	8.2	-	-	-	2.4

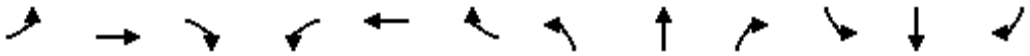
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	823	100	472	958	201	171	1085	582	94	544	175
Future Volume (veh/h)	385	823	100	472	958	201	171	1085	582	94	544	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	385	823	100	472	958	201	171	1085	582	94	544	175
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	444	1294	156	531	1561	589	206	1244	799	117	794	254
Arrive On Green	0.13	0.28	0.28	0.15	0.31	0.31	0.12	0.35	0.35	0.07	0.30	0.30
Sat Flow, veh/h	3456	4616	558	3456	5106	1585	1781	3554	1585	1781	2646	848
Grp Volume(v), veh/h	385	606	317	472	958	201	171	1085	582	94	365	354
Grp Sat Flow(s),veh/h/ln	1728	1702	1770	1728	1702	1585	1781	1777	1585	1781	1777	1718
Q Serve(g_s), s	13.1	18.7	18.9	16.1	19.2	2.8	11.3	34.3	22.4	6.2	21.7	21.8
Cycle Q Clear(g_c), s	13.1	18.7	18.9	16.1	19.2	2.8	11.3	34.3	22.4	6.2	21.7	21.8
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	444	954	496	531	1561	589	206	1244	799	117	533	515
V/C Ratio(X)	0.87	0.63	0.64	0.89	0.61	0.34	0.83	0.87	0.73	0.80	0.68	0.69
Avail Cap(c_a), veh/h	490	954	496	576	1561	589	223	1244	799	134	533	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	37.8	37.9	49.8	35.6	12.3	51.9	36.5	10.8	55.3	37.0	37.0
Incr Delay (d2), s/veh	14.3	3.2	6.2	14.9	1.8	1.6	21.1	8.6	5.8	25.8	7.0	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	8.2	9.0	8.0	8.2	2.6	6.2	16.1	8.5	3.6	10.4	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	41.0	44.0	64.6	37.4	13.9	73.0	45.1	16.6	81.1	44.0	44.4
LnGrp LOS	E	D	D	E	D	B	E	D	B	F	D	D
Approach Vol, veh/h		1308			1631			1838			813	
Approach Delay, s/veh		49.0			42.4			38.6			48.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	47.0	22.5	38.6	17.9	41.0	19.4	41.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	42.0	20.0	31.0	15.0	36.0	17.0	34.0
Max Q Clear Time (g_c+I1), s	8.2	36.3	18.1	20.9	13.3	23.8	15.1	21.2
Green Ext Time (p_c), s	0.0	4.2	0.4	4.3	0.1	3.7	0.3	6.0

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	577	162	151	717	187	184	1180	103	133	1048	32
Future Volume (veh/h)	42	577	162	151	717	187	184	1180	103	133	1048	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	577	162	151	717	187	184	1180	103	133	1048	32
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	642	180	221	784	204	302	1535	134	232	1577	48
Arrive On Green	0.03	0.23	0.23	0.08	0.28	0.28	0.07	0.46	0.46	0.06	0.45	0.45
Sat Flow, veh/h	1781	2741	768	1781	2789	727	1781	3307	288	1781	3520	107
Grp Volume(v), veh/h	42	373	366	151	457	447	184	633	650	133	529	551
Grp Sat Flow(s),veh/h/ln	1781	1777	1732	1781	1777	1739	1781	1777	1818	1781	1777	1851
Q Serve(g_s), s	2.1	24.5	24.6	7.5	29.8	29.9	6.6	35.6	35.7	4.8	28.1	28.1
Cycle Q Clear(g_c), s	2.1	24.5	24.6	7.5	29.8	29.9	6.6	35.6	35.7	4.8	28.1	28.1
Prop In Lane	1.00		0.44	1.00		0.42	1.00		0.16	1.00		0.06
Lane Grp Cap(c), veh/h	136	416	405	221	500	489	302	825	844	232	796	829
V/C Ratio(X)	0.31	0.90	0.90	0.68	0.91	0.91	0.61	0.77	0.77	0.57	0.66	0.66
Avail Cap(c_a), veh/h	154	444	433	229	518	507	350	825	844	265	796	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	44.6	44.6	33.0	41.7	41.7	20.4	26.8	26.8	22.8	26.0	26.0
Incr Delay (d2), s/veh	1.3	19.9	20.9	7.8	20.5	20.8	2.4	6.8	6.7	2.2	4.4	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	13.0	12.9	3.7	15.8	15.5	2.9	16.3	16.7	2.1	12.6	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	64.5	65.5	40.8	62.2	62.6	22.8	33.5	33.5	25.0	30.4	30.2
LnGrp LOS	D	E	E	D	E	E	C	C	C	C	C	C
Approach Vol, veh/h		781			1055			1467			1213	
Approach Delay, s/veh		63.5			59.3			32.2			29.7	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	60.7	14.4	33.1	13.8	58.7	8.8	38.7
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	9.0	51.0	10.0	30.0	12.0	48.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	6.8	37.7	9.5	26.6	8.6	30.1	4.1	31.9
Green Ext Time (p_c), s	0.1	7.2	0.0	1.5	0.2	7.0	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	43.3
HCM 6th LOS	D

APPENDIX C-II

SIGNAL WARRANTS WORKSHEETS

AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	20	484	4	8	1080	61	51	3	57	3	3	28
ApproachDel:	xxxxxx			xxxxxx			50.8			15.0		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.6]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=111]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1802]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=34]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1802]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	20	484	4	8	1080	61	51	3	57	3	3	28

Major Street Volume: 1657
Minor Approach Volume: 111
Minor Approach Volume Threshold: 157

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #34 Walnut St at Imperial Hwy

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Initial Vol:	0	0	0	17	0	120	70	1836	0	0	1811	48
ApproachDel:	xxxxxx			234.8			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=8.9]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=137]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3902]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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AM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #34 Walnut St at Imperial Hwy

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Initial Vol:	0	0	0	17	0	120	70	1836	0	0	1811	48

Major Street Volume: 3765
Minor Approach Volume: 137
Minor Approach Volume Threshold: -172 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 1	0	1 0	1 1	0	0 1	0 0	1	0 1	0 0	1
Initial Vol:	24	1033	2	37	720	38	22	0	13	1	1	19
ApproachDel:	xxxxxx			xxxxxx			38.2			16.8		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=35]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1910]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=21]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1910]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1	1 0	1 0	1	1 0	0 1	0	0 1	0 1	0	0 1
Initial Vol:	24	1033	2	37	720	38	22	0	13	1	1	19

Major Street Volume: 1854
Minor Approach Volume: 35
Minor Approach Volume Threshold: 109 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #34 Walnut St at Imperial Hwy

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Initial Vol:	0	0	0	11	0	71	113	1696	0	0	2043	135
ApproachDel:	xxxxxx			437.3			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=10.0]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=82]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=4069]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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PM Existing Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #34 Walnut St at Imperial Hwy

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Initial Vol:	0	0	0	11	0	71	113	1696	0	0	2043	135

Major Street Volume: 3987
Minor Approach Volume: 82
Minor Approach Volume Threshold: -192 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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APPENDIX D

EXISTING GOLF COURSE DATA

APPENDIX D-I

FINAL GOLF COURSE TRIP GENERATION

Table A

Final Golf Course Trip Generation

Segment	Day	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Golf Course	Tuesday (9/18/18)	595	25	2	27	21	8	29
	Wednesday (9/19/18)	451	5	13	18	10	22	32
	Thursday (9/20/18)	746	20	39	59	10	18	28
	Tuesday (9/25/18)	634	9	17	26	10	37	47
	Wednesday (9/26/18)	502	14	8	22	11	27	38
	Thursday (9/27/18)	352	10	27	37	9	18	27
Total Golf Course Trip Generation (Average)		**547**	**14**	**18**	**32**	**12**	**22**	**34**

Trip Gen Calculations for 9-18-18 thru 9-20-18 and 9-25-18 thru 9-27-18

Segment	Day	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
A. Golf Course Roadway s/o La Habra Hills Dr	Tuesday (9/18/18)	1,259	42	35	77	48	31	79
	Wednesday (9/19/18)	1,156	31	41	72	42	48	90
	Thursday (9/20/18)	1,409	53	46	99	54	55	109
	Tuesday (9/25/18)	1,093	31	33	64	31	45	76
	Wednesday (9/26/18)	1,114	42	30	72	48	36	84
	Thursday (9/27/18)	1,083	45	35	80	37	37	74
B. Golf Course Roadway n/o Residential Gate	Tuesday (9/18/18)	664	17	33	50	27	23	50
	Wednesday (9/19/18)	705	26	28	54	32	26	58
	Thursday (9/20/18)	663	33	7	40	44	37	81
	Tuesday (9/25/18)	459	22	16	38	21	8	29
	Wednesday (9/26/18)	612	28	22	50	37	9	46
	Thursday (9/27/18)	731	35	8	43	28	19	47

Segment	Day	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Golf Course	Tuesday (9/18/18)	595	25	2	27	21	8	29
	Wednesday (9/19/18)	451	5	13	18	10	22	32
	Thursday (9/20/18)	746	20	39	59	10	18	28
	Tuesday (9/25/18)	634	9	17	26	10	37	47
	Wednesday (9/26/18)	502	14	8	22	11	27	38
	Thursday (9/27/18)	352	10	27	37	9	18	27

APPENDIX D-II

WESTRIDGE GOLF CLUB EVENTS

Dan Kloos

From: Craig Hoffman <CHoffman@projectdimensions.com>
Sent: Thursday, September 13, 2018 4:50 PM
To: Richard E. Barretto; Dan Kloos
Cc: Andrew Han
Subject: Clubhouse Events

Rich, per your request, the following is a list of currently scheduled clubhouse events being conducted during the days traffic counts are being conducted:

9/18- City Lions Club meeting(20~40 people attending)
9/19 – No events scheduled
9/20 – Tournaments (approximately 150 people expected to attend)
Morning BNI meeting (20 attending)
9/25 - City Lions Club meeting (20~40 people attending)
9/26 – No events scheduled
9/27 - Morning BNI meeting (20 attending)
Lunch meeting (20 attending)

Craig Hoffman
PROJECT DIMENSIONS, INC.
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Irvine, CA 92614
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APPENDIX E

MODEL POST-PROCESSING WORKSHEETS

1. Beach Boulevard at Rosecrans Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	198	NORTHBOUND	
	THRU	1301	IN ...	1771
	RIGHT	183	OUT ...	2535
SOUTH BOUND	LEFT	188	SOUTHBOUND	
	THRU	2091	IN ...	2687
	RIGHT	306	OUT ...	1648
EAST BOUND	LEFT	154	EASTBOUND	
	THRU	630	IN ...	1010
	RIGHT	191	OUT ...	1092
WEST BOUND	LEFT	182	WESTBOUND	
	THRU	617	IN ...	851
	RIGHT	95	OUT ...	1044

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	198	233
	THRU	1,301	1,603
	RIGHT	183	226
SOUTH BOUND	LEFT	188	201
	THRU	2,091	2,442
	RIGHT	306	343
EAST BOUND	LEFT	154	175
	THRU	630	720
	RIGHT	191	225
WEST BOUND	LEFT	182	247
	THRU	617	734
	RIGHT	95	110

1. Beach Boulevard at Rosecrans Avenue

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	164.48	653.31	192.21	0	0	1010
INBOUNI	2	314.26	0	201.19	2171.55	0	0	2687
	3	581.47	96.09	0	173.44	0	0	851
LINK	4	196.44	1385.36	189.2	0	0	0	1771
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1092.17	1645.94	1043.7	2537.2	0	0	6319
FUTURE OUTFLO\		1092	1648	1044	2535	0	0	6319
DIFFERENCE (%)		0.0152	-0.1251	-0.0288	0.0867	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	165	653	192	0	0	1,010	1,010	0.0
INBOUNI	2	314	0	201	2,170	0	0	2,685	2,687	-0.1
	3	581	96	0	173	0	0	851	851	0.0
LINK	4	196	1,387	189	0	0	0	1,773	1,771	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,319	
STARTING		1,092	1,648	1,044	2,535	0	0	6,319		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	196	196	0
NBT	1,385	1,387	-2
NBR	189	189	0
SBL	201	201	0
SBT	2,172	2,170	2
SBR	314	314	0
EBL	164	165	0
EBT	653	653	0
EBR	192	192	0
WBL	173	173	0
WBT	581	581	0
WBR	96	96	0

2. Gilbert Street at Rosecrans Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	276	NORTHBOUND	
	THRU	331	IN ...	784
	RIGHT	89	OUT ...	1030
SOUTH BOUND	LEFT	96	SOUTHBOUND	
	THRU	634	IN ...	1070
	RIGHT	170	OUT ...	508
EAST BOUND	LEFT	63	EASTBOUND	
	THRU	757	IN ...	1094
	RIGHT	233	OUT ...	882
WEST BOUND	LEFT	96	WESTBOUND	
	THRU	457	IN ...	546
	RIGHT	47	OUT ...	1075

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	276	333
	THRU	331	394
	RIGHT	89	112
SOUTH BOUND	LEFT	96	138
	THRU	634	788
	RIGHT	170	195
EAST BOUND	LEFT	63	70
	THRU	757	825
	RIGHT	233	325
WEST BOUND	LEFT	96	107
	THRU	457	510
	RIGHT	47	50

2. Gilbert Street at Rosecrans Avenue

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	64.69	823.88	205.43	0	0	1094
INBOUNI	2	195.05	0	137.79	737.16	0	0	1070
	3	409.21	49.67	0	87.11	0	0	546
LINK	4	278.13	393.68	112.19	0	0	0	784
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		882.39	508.05	1073.86	1029.71	0	0	3494
FUTURE OUTFLO\		882	508	1075	1030	0	0	3495
DIFFERENCE (%)		0.0439	0.0089	-0.1061	-0.0284	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	65	825	205	0	0	1,095	1,094	0.1
INBOUNI	2	195	0	138	737	0	0	1,070	1,070	0.0
	3	409	50	0	87	0	0	546	546	0.0
LINK	4	278	394	112	0	0	0	784	784	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									3,494	
STARTING		882	508	1,075	1,030	0	0	3,495		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	278	278	0
NBT	394	394	0
NBR	112	112	0
SBL	138	138	0
SBT	737	737	0
SBR	195	195	0
EBL	65	65	0
EBT	824	825	-1
EBR	205	205	0
WBL	87	87	0
WBT	409	409	0
WBR	50	50	0

3. Euclid Street at Rosecrans Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	361	NORTHBOUND	
	THRU	424	IN ...	737
	RIGHT	0	OUT ...	1,896
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	943	IN ...	947
	RIGHT	178	OUT ...	604
EAST BOUND	LEFT	229	EASTBOUND	
	THRU	0	IN ...	1,327
	RIGHT	852	OUT ...	512
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	361	407
	THRU	424	502
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	943	1,077
	RIGHT	178	198
EAST BOUND	LEFT	229	254
	THRU	0	0
	RIGHT	852	1,092
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

3. Euclid Street at Rosecrans Avenue

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	236.15	0	1090.85	0	0	1327
INBOUNI	2	143.67	0	0	803.33	0	0	947
	3	0	0	0	0	0	0	0
LINK	4	368.79	368.21	0	0	0	0	737
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		512.45	604.36	0	1894.18	0	0	3011
FUTURE OUTFLO\		512	604	0	1896	0	0	3012
DIFFERENCE (%)		0.0884	0.06	0	-0.0957	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	236	0	1,092	0	0	1,328	1,327	0.1
INBOUNI	2	144	0	0	804	0	0	948	947	0.1
	3	0	0	0	0	0	0	0	0	0.0
LINK	4	368	368	0	0	0	0	736	737	-0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									3,011	
STARTING		512	604	0	1,896	0	0	3,012		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	369	368	0
NBT	368	368	0
NBR	0	0	0
SBL	0	0	0
SBT	803	804	-1
SBR	144	144	0
EBL	236	236	0
EBT	0	0	0
EBR	1,091	1,092	-1
WBL	0	0	0
WBT	0	0	0
WBR	0	0	0

4. Beach Boulevard at Hillsborough Drive

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	99	NORTHBOUND	
	THRU	1350	IN ...	1,577
	RIGHT	18	OUT ...	2,446
SOUTH BOUND	LEFT	24	SOUTHBOUND	
	THRU	2128	IN ...	2,344
	RIGHT	123	OUT ...	1,691
EAST BOUND	LEFT	203	EASTBOUND	
	THRU	15	IN ...	408
	RIGHT	190	OUT ...	251
WEST BOUND	LEFT	59	WESTBOUND	
	THRU	29	IN ...	116
	RIGHT	28	OUT ...	57

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	99	110
	THRU	1,350	1,665
	RIGHT	18	20
SOUTH BOUND	LEFT	24	27
	THRU	2,128	2,485
	RIGHT	123	137
EAST BOUND	LEFT	203	226
	THRU	15	17
	RIGHT	190	212
WEST BOUND	LEFT	59	66
	THRU	29	32
	RIGHT	28	31

4. Beach Boulevard at Hillsborough Drive

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	204.41	14.44	189.14	0	0	408
INBOUNI	2	121.76	0	23.98	2198.27	0	0	2344
	3	28	28.54	0	59.46	0	0	116
LINK	4	101.23	1457.19	18.58	0	0	0	1577
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		250.99	1690.15	57	2446.86	0	0	4445
FUTURE OUTFLO\		251	1691	57	2446	0	0	4445
DIFFERENCE (%)		-0.0029	-0.0506	-0.0046	0.0354	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

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*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	205	14	189	0	0	408	408	0.0
INBOUNI	2	122	0	24	2,197	0	0	2,343	2,344	0.0
	3	28	29	0	59	0	0	116	116	0.0
LINK	4	101	1,458	19	0	0	0	1,578	1,577	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,445	
STARTING		251	1,691	57	2,446	0	0	4,445		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	101	101	0
NBT	1,457	1,458	-1
NBR	19	19	0
SBL	24	24	0
SBT	2,198	2,197	1
SBR	122	122	0
EBL	204	205	0
EBT	14	14	0
EBR	189	189	0
WBL	59	59	0
WBT	28	28	0
WBR	29	29	0

5. Beach Boulevard at Hillsborough Park Apt.

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
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Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	9	NORTHBOUND	
	THRU	1709	IN ...	1,828
	RIGHT	0	OUT ...	2,380
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	2279	IN ...	2,363
	RIGHT	15	OUT ...	1,871
EAST BOUND	LEFT	52	EASTBOUND	
	THRU	0	IN ...	84
	RIGHT	32	OUT ...	24
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	9	10
	THRU	1,709	2,064
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	2,279	2,653
	RIGHT	15	17
EAST BOUND	LEFT	52	58
	THRU	0	0
	RIGHT	32	36
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

5. Beach Boulevard at Hillsborough Park Apt.

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	52.02	0	31.98	0	0	84
INBOUNI	2	14.82	0	0	2348.18	0	0	2363
	3	0	0	0	0	0	0	0
LINK	4	9.18	1818.82	0	0	0	0	1828
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		24	1870.84	0	2380.16	0	0	4275
FUTURE OUTFLO\		24	1871	0	2380	0	0	4275
DIFFERENCE (%)		0.0009	-0.0085	0	0.0067	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	52	0	32	0	0	84	84	0.0
INBOUNI	2	15	0	0	2,348	0	0	2,363	2,363	0.0
	3	0	0	0	0	0	0	0	0	0.0
LINK	4	9	1,819	0	0	0	0	1,828	1,828	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,275	
STARTING		24	1,871	0	2,380	0	0	4,275		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	9	9	0
NBT	1,819	1,819	0
NBR	0	0	0
SBL	0	0	0
SBT	2,348	2,348	0
SBR	15	15	0
EBL	52	52	0
EBT	0	0	0
EBR	32	32	0
WBL	0	0	0
WBT	0	0	0
WBR	0	0	0

6. Idaho Street at Sandlewood Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	527	IN ...	713
	RIGHT	32	OUT ...	1,205
SOUTH BOUND	LEFT	214	SOUTHBOUND	
	THRU	837	IN ...	1,305
	RIGHT	0	OUT ...	887
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	65	WESTBOUND	
	THRU	0	IN ...	305
	RIGHT	246	OUT ...	251

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	527	707
	RIGHT	32	43
SOUTH BOUND	LEFT	214	239
	THRU	837	1,120
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	65	85
	THRU	0	0
	RIGHT	246	273

6. Idaho Street at Sandlewood Avenue

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	0	0	0	0	0	0
INBOUNI	2	0	0	205.16	1099.84	0	0	1305
	3	0	222.05	0	82.95	0	0	305
LINK	4	0	670.98	42.02	0	0	0	713
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		0	893.03	247.18	1182.79	0	0	2323
FUTURE OUTFLO\		0	887	251	1205	0	0	2343
DIFFERENCE (%)		0	0.68	-1.5208	-1.8435	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	0	0	0	0	0	0	0	0.0
INBOUNI	2	0	0	208	1,120	0	0	1,329	1,305	1.8
	3	0	221	0	85	0	0	305	305	0.0
LINK	4	0	666	43	0	0	0	709	713	-0.5
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									2,323	
STARTING		0	887	251	1,205	0	0	2,343		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	0	0	0
NBT	671	666	5
NBR	42	43	-1
SBL	205	208	-3
SBT	1,100	1,120	-21
SBR	0	0	0
EBL	0	0	0
EBT	0	0	0
EBR	0	0	0
WBL	83	85	-2
WBT	0	0	0
WBR	222	221	1

7. Euclid Street at Sandlewood Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	20	NORTHBOUND	
	THRU	484	IN ...	479
	RIGHT	4	OUT ...	1,005
SOUTH BOUND	LEFT	8	SOUTHBOUND	
	THRU	1080	IN ...	1,050
	RIGHT	61	OUT ...	532
EAST BOUND	LEFT	51	EASTBOUND	
	THRU	3	IN ...	128
	RIGHT	57	OUT ...	94
WEST BOUND	LEFT	3	WESTBOUND	
	THRU	3	IN ...	31
	RIGHT	28	OUT ...	56

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	20	22
	THRU	484	593
	RIGHT	4	14
SOUTH BOUND	LEFT	8	30
	THRU	1,080	1,248
	RIGHT	61	70
EAST BOUND	LEFT	51	59
	THRU	3	13
	RIGHT	57	64
WEST BOUND	LEFT	3	3
	THRU	3	3
	RIGHT	28	31

7. Euclid Street at Sandlewood Avenue

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	58.32	12.68	57	0	0	128
INBOUNI	2	70.07	0	29.76	950.17	0	0	1050
	3	3.12	25.49	0	2.39	0	0	31
LINK	4	20.97	444.45	13.58	0	0	0	479
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		94.16	528.27	56.02	1009.56	0	0	1688
FUTURE OUTFLO\		94	532	56	1005	0	0	1687
DIFFERENCE (%)		0.169	-0.7021	0.0367	0.4533	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	59	13	57	0	0	128	128	0.1
INBOUNI	2	70	0	30	946	0	0	1,046	1,050	-0.4
	3	3	26	0	2	0	0	31	31	0.5
LINK	4	21	448	14	0	0	0	482	479	0.6
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									1,688	
STARTING		94	532	56	1,005	0	0	1,687		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	21	21	0
NBT	444	448	-3
NBR	14	14	0
SBL	30	30	0
SBT	950	946	4
SBR	70	70	0
EBL	58	59	0
EBT	13	13	0
EBR	57	57	0
WBL	2	2	0
WBT	3	3	0
WBR	25	26	0

8. Santa Gertrudes Avenue at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	173	NORTHBOUND	
	THRU	373	IN ...	749
	RIGHT	158	OUT ...	462
SOUTH BOUND	LEFT	122	SOUTHBOUND	
	THRU	659	IN ...	367
	RIGHT	135	OUT ...	594
EAST BOUND	LEFT	98	EASTBOUND	
	THRU	881	IN ...	1,485
	RIGHT	156	OUT ...	1,822
WEST BOUND	LEFT	195	WESTBOUND	
	THRU	1528	IN ...	1,822
	RIGHT	79	OUT ...	1,545

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	173	199
	THRU	373	420
	RIGHT	158	198
SOUTH BOUND	LEFT	122	139
	THRU	659	735
	RIGHT	135	151
EAST BOUND	LEFT	98	117
	THRU	881	1,265
	RIGHT	156	176
WEST BOUND	LEFT	195	223
	THRU	1,528	1,817
	RIGHT	79	90

8. Santa Gertrudes Avenue at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	116.36	1257.49	111.15	0	0	1485
INBOUNI	2	68.42	0	80.78	217.8	0	0	367
	3	1599.08	89.84	0	133.08	0	0	1822
LINK	4	165.12	386.88	197	0	0	0	749
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1832.61	593.09	1535.27	462.03	0	0	4423
FUTURE OUTFLO\		1822	594	1545	462	0	0	4423
DIFFERENCE (%)		0.5826	-0.1538	-0.6301	0.0073	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	117	1,265	111	0	0	1,493	1,485	0.5
INBOUNI	2	68	0	81	218	0	0	367	367	0.0
	3	1,590	90	0	133	0	0	1,813	1,822	-0.5
LINK	4	164	387	198	0	0	0	750	749	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,423	
STARTING		1,822	594	1,545	462	0	0	4,423		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	165	164	1
NBT	387	387	-1
NBR	197	198	-1
SBL	81	81	-1
SBT	218	218	0
SBR	68	68	0
EBL	116	117	0
EBT	1,257	1,265	-8
EBR	111	111	0
WBL	133	133	0
WBT	1,599	1,590	9
WBR	90	90	0

9. 1st Avenue at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	41	NORTHBOUND	
	THRU	20	IN ...	83
	RIGHT	22	OUT ...	37
SOUTH BOUND	LEFT	211	SOUTHBOUND	
	THRU	22	IN ...	556
	RIGHT	207	OUT ...	351
EAST BOUND	LEFT	143	EASTBOUND	
	THRU	944	IN ...	1475
	RIGHT	4	OUT ...	1812
WEST BOUND	LEFT	11	WESTBOUND	
	THRU	1544	IN ...	1712
	RIGHT	175	OUT ...	1626

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	41	46
	THRU	20	22
	RIGHT	22	25
SOUTH BOUND	LEFT	211	290
	THRU	22	24
	RIGHT	207	243
EAST BOUND	LEFT	143	165
	THRU	944	1,311
	RIGHT	4	4
WEST BOUND	LEFT	11	13
	THRU	1,544	1,838
	RIGHT	175	196

9. 1st Avenue at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	164.51	1306.26	4.24	0	0	1475
INBOUNI	2	244.16	0	288.79	23.06	0	0	556
	3	1534.5	167.78	0	9.71	0	0	1712
LINK	4	39.65	18.66	24.69	0	0	0	83
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1818.31	350.95	1619.73	37.01	0	0	3826
FUTURE OUTFLO\		1812	351	1626	37	0	0	3826
DIFFERENCE (%)		0.3485	-0.0149	-0.3855	0.0176	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	165	1,311	4	0	0	1,480	1,475	0.3
INBOUNI	2	243	0	290	23	0	0	556	556	0.0
	3	1,529	168	0	10	0	0	1,707	1,712	-0.3
LINK	4	40	19	25	0	0	0	83	83	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									3,826	
STARTING		1,812	351	1,626	37	0	0	3,826		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	40	40	0
NBT	19	19	0
NBR	25	25	0
SBL	289	290	-1
SBT	23	23	0
SBR	244	243	1
EBL	165	165	0
EBT	1,306	1,311	-5
EBR	4	4	0
WBL	10	10	0
WBT	1,535	1,529	5
WBR	168	168	0

10. Beach Boulevard at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	212	NORTHBOUND	
	THRU	990	IN ...	1824
	RIGHT	509	OUT ...	2329
SOUTH BOUND	LEFT	322	SOUTHBOUND	
	THRU	1606	IN ...	2129
	RIGHT	279	OUT ...	1201
EAST BOUND	LEFT	104	EASTBOUND	
	THRU	965	IN ...	1709
	RIGHT	184	OUT ...	1695
WEST BOUND	LEFT	454	WESTBOUND	
	THRU	1205	IN ...	2265
	RIGHT	260	OUT ...	2702

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	212	242
	THRU	990	1,163
	RIGHT	509	818
SOUTH BOUND	LEFT	322	440
	THRU	1,606	1,845
	RIGHT	279	321
EAST BOUND	LEFT	104	124
	THRU	965	1,444
	RIGHT	184	207
WEST BOUND	LEFT	454	652
	THRU	1,205	1,448
	RIGHT	260	288

10. Beach Boulevard at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	81.3	1440.44	187.25	0	0	1709
INBOUNI	2	198.05	0	438.81	1492.14	0	0	2129
	3	1324.51	287.34	0	653.15	0	0	2265
LINK	4	177.01	831.11	815.88	0	0	0	1824
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1699.57	1199.76	2695.13	2332.55	0	0	7927
FUTURE OUTFLO\		1695	1201	2702	2329	0	0	7927
DIFFERENCE (%)		0.2695	-0.1035	-0.2544	0.1524	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	81	1,444	187	0	0	1,712	1,709	0.2
INBOUNI	2	198	0	440	1,490	0	0	2,127	2,129	-0.1
	3	1,321	288	0	652	0	0	2,261	2,265	-0.2
LINK	4	177	832	818	0	0	0	1,826	1,824	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									7,927	
STARTING		1,695	1,201	2,702	2,329	0	0	7,927		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	177	177	0
NBT	831	832	-1
NBR	816	818	-2
SBL	439	440	-1
SBT	1,492	1,490	2
SBR	198	198	1
EBL	81	81	0
EBT	1,440	1,444	-4
EBR	187	187	0
WBL	653	652	1
WBT	1,325	1,321	4
WBR	287	288	0

11. La Habra Hills Drive at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	22	NORTHBOUND	
	THRU	14	IN ...	67
	RIGHT	31	OUT ...	110
SOUTH BOUND	LEFT	44	SOUTHBOUND	
	THRU	6	IN ...	101
	RIGHT	51	OUT ...	101
EAST BOUND	LEFT	57	EASTBOUND	
	THRU	1732	IN ...	2,714
	RIGHT	19	OUT ...	2,304
WEST BOUND	LEFT	85	WESTBOUND	
	THRU	1885	IN ...	2,346
	RIGHT	30	OUT ...	2,713

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	22	24
	THRU	14	16
	RIGHT	31	35
SOUTH BOUND	LEFT	44	49
	THRU	6	6
	RIGHT	51	57
EAST BOUND	LEFT	57	63
	THRU	1,732	2,634
	RIGHT	19	23
WEST BOUND	LEFT	85	94
	THRU	1,885	2,231
	RIGHT	30	34

11. La Habra Hills Drive at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	63.07	2628.15	22.77	0	0	2714
INBOUNI	2	50.75	0	45.36	4.89	0	0	101
	3	2236.59	26.89	0	82.52	0	0	2346
LINK	4	22.79	10.95	33.26	0	0	0	67
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2310.13	100.92	2706.78	110.17	0	0	5228
FUTURE OUTFLO\		2304	101	2713	110	0	0	5228
DIFFERENCE (%)		0.2661	-0.0794	-0.2294	0.158	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	63	2,634	23	0	0	2,720	2,714	0.2
INBOUNI	2	51	0	45	5	0	0	101	101	0.0
	3	2,231	27	0	82	0	0	2,340	2,346	-0.3
LINK	4	23	11	33	0	0	0	67	67	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									5,228	
STARTING		2,304	101	2,713	110	0	0	5,228		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	23	23	0
NBT	11	11	0
NBR	33	33	0
SBL	45	45	0
SBT	5	5	0
SBR	51	51	0
EBL	63	63	0
EBT	2,628	2,634	-6
EBR	23	23	0
WBL	83	82	0
WBT	2,237	2,231	6
WBR	27	27	0

12. Idaho Street at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	212	NORTHBOUND	
	THRU	476	IN ...	925
	RIGHT	123	OUT ...	1,281
SOUTH BOUND	LEFT	248	SOUTHBOUND	
	THRU	674	IN ...	1,174
	RIGHT	194	OUT ...	725
EAST BOUND	LEFT	96	EASTBOUND	
	THRU	1510	IN ...	2,742
	RIGHT	232	OUT ...	2,453
WEST BOUND	LEFT	121	WESTBOUND	
	THRU	1704	IN ...	2,195
	RIGHT	97	OUT ...	2,576

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	212	280
	THRU	476	549
	RIGHT	123	204
SOUTH BOUND	LEFT	248	276
	THRU	674	737
	RIGHT	194	207
EAST BOUND	LEFT	96	130
	THRU	1,510	2,206
	RIGHT	232	401
WEST BOUND	LEFT	121	164
	THRU	1,704	1,967
	RIGHT	97	108

12. Idaho Street at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	129.92	2211.07	401.01	0	0	2742
INBOUNI	2	206.3	0	229.96	737.74	0	0	1174
	3	1961.63	89.99	0	143.38	0	0	2195
LINK	4	279	504.85	141.15	0	0	0	925
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2446.92	724.77	2582.18	1282.13	0	0	7036
FUTURE OUTFLO\		2453	725	2576	1281	0	0	7035
DIFFERENCE (%)		-0.2479	-0.0315	0.2398	0.0883	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	130	2,206	401	0	0	2,736	2,742	-0.2
INBOUNI	2	207	0	229	737	0	0	1,173	1,174	-0.1
	3	1,967	90	0	143	0	0	2,200	2,195	0.2
LINK	4	280	505	141	0	0	0	926	925	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									7,036	
STARTING		2,453	725	2,576	1,281	0	0	7,035		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	279	280	-1
NBT	505	505	0
NBR	141	141	0
SBL	230	229	1
SBT	738	737	1
SBR	206	207	-1
EBL	130	130	0
EBT	2,211	2,206	5
EBR	401	401	0
WBL	143	143	0
WBT	1,962	1,967	-5
WBR	90	90	0

13. Euclid Street at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	218	NORTHBOUND	
	THRU	404	IN ...	797
	RIGHT	206	OUT ...	1,304
SOUTH BOUND	LEFT	183	SOUTHBOUND	
	THRU	871	IN ...	1,608
	RIGHT	54	OUT ...	1,093
EAST BOUND	LEFT	57	EASTBOUND	
	THRU	1435	IN ...	2,511
	RIGHT	293	OUT ...	1,825
WEST BOUND	LEFT	239	WESTBOUND	
	THRU	1646	IN ...	2,318
	RIGHT	59	OUT ...	3,012

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	218	243
	THRU	404	582
	RIGHT	206	275
SOUTH BOUND	LEFT	183	624
	THRU	871	988
	RIGHT	54	74
EAST BOUND	LEFT	57	168
	THRU	1,435	2,231
	RIGHT	293	326
WEST BOUND	LEFT	239	294
	THRU	1,646	1,995
	RIGHT	59	343

13. Euclid Street at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	168.79	2199.75	142.46	0	0	2511
INBOUNI	2	63.68	0	615.37	928.95	0	0	1608
	3	1744.46	344.45	0	229.09	0	0	2318
LINK	4	57.33	585.2	154.47	0	0	0	797
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1865.47	1098.44	2969.59	1300.5	0	0	7234
FUTURE OUTFLO\		1825	1093	3012	1304	0	0	7234
DIFFERENCE (%)		2.2173	0.4975	-1.4079	-0.2681	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	168	2,231	143	0	0	2,542	2,511	1.2
INBOUNI	2	62	0	624	931	0	0	1,618	1,608	0.6
	3	1,707	343	0	230	0	0	2,279	2,318	-1.7
LINK	4	56	582	157	0	0	0	795	797	-0.2
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									7,234	
STARTING		1,825	1,093	3,012	1,304	0	0	7,234		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	57	56	1
NBT	585	582	3
NBR	154	157	-2
SBL	615	624	-9
SBT	929	931	-2
SBR	64	62	1
EBL	169	168	1
EBT	2,200	2,231	-31
EBR	142	143	0
WBL	229	230	-1
WBT	1,744	1,707	38
WBR	344	343	2

14. Harbor Boulevard at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	312	NORTHBOUND	
	THRU	509	IN ...	1,428
	RIGHT	292	OUT ...	2,685
SOUTH BOUND	LEFT	248	SOUTHBOUND	
	THRU	1198	IN ...	1,894
	RIGHT	195	OUT ...	788
EAST BOUND	LEFT	124	EASTBOUND	
	THRU	1251	IN ...	2,858
	RIGHT	305	OUT ...	2,373
WEST BOUND	LEFT	261	WESTBOUND	
	THRU	1285	IN ...	2,055
	RIGHT	84	OUT ...	2,389

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	312	545
	THRU	509	672
	RIGHT	292	335
SOUTH BOUND	LEFT	248	310
	THRU	1,198	1,504
	RIGHT	195	302
EAST BOUND	LEFT	124	349
	THRU	1,251	1,877
	RIGHT	305	803
WEST BOUND	LEFT	261	378
	THRU	1,285	1,615
	RIGHT	84	346

14. Harbor Boulevard at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	174.74	1879.97	803.29	0	0	2858
INBOUNI	2	212.13	0	177.67	1504.19	0	0	1894
	3	1612.02	65.07	0	377.9	0	0	2055
LINK	4	544.25	548.31	335.44	0	0	0	1428
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2368.4	788.12	2393.09	2685.39	0	0	8235
FUTURE OUTFLO\		2373	788	2389	2685	0	0	8235
DIFFERENCE (%)		-0.1936	0.0148	0.1712	0.0145	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	175	1,877	803	0	0	2,855	2,858	-0.1
INBOUNI	2	213	0	177	1,504	0	0	1,894	1,894	0.0
	3	1,615	65	0	378	0	0	2,058	2,055	0.1
LINK	4	545	548	335	0	0	0	1,428	1,428	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									8,235	
STARTING		2,373	788	2,389	2,685	0	0	8,235		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	544	545	-1
NBT	548	548	0
NBR	335	335	1
SBL	178	177	0
SBT	1,504	1,504	0
SBR	212	213	0
EBL	175	175	0
EBT	1,880	1,877	3
EBR	803	803	0
WBL	378	378	0
WBT	1,612	1,615	-3
WBR	65	65	0

15. Beach Boulevard at Lambert Road

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	269	NORTHBOUND	
	THRU	852	IN ...	1,226
	RIGHT	254	OUT ...	2,084
SOUTH BOUND	LEFT	212	SOUTHBOUND	
	THRU	1543	IN ...	2,028
	RIGHT	242	OUT ...	1,555
EAST BOUND	LEFT	258	EASTBOUND	
	THRU	982	IN ...	1,424
	RIGHT	191	OUT ...	1,371
WEST BOUND	LEFT	424	WESTBOUND	
	THRU	1016	IN ...	1,520
	RIGHT	153	OUT ...	1,188

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	269	299
	THRU	852	1,017
	RIGHT	254	300
SOUTH BOUND	LEFT	212	236
	THRU	1,543	1,781
	RIGHT	242	265
EAST BOUND	LEFT	258	415
	THRU	982	1,132
	RIGHT	191	213
WEST BOUND	LEFT	424	489
	THRU	1,016	1,160
	RIGHT	153	231

15. Beach Boulevard at Lambert Road

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	413.49	838.64	171.88	0	0	1424
INBOUNI	2	265.6	0	203.3	1559.1	0	0	2028
	3	931.87	230.1	0	358.03	0	0	1520
LINK	4	174.69	907.2	144.12	0	0	0	1226
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1372.16	1550.78	1186.05	2089.01	0	0	6198
FUTURE OUTFLO\		1371	1555	1188	2084	0	0	6198
DIFFERENCE (%)		0.0846	-0.2714	-0.1641	0.2404	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	415	840	171	0	0	1,426	1,424	0.1
INBOUNI	2	265	0	204	1,555	0	0	2,024	2,028	-0.2
	3	931	231	0	357	0	0	1,519	1,520	-0.1
LINK	4	175	910	144	0	0	0	1,229	1,226	0.2
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,198	
STARTING		1,371	1,555	1,188	2,084	0	0	6,198		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	175	175	0
NBT	907	910	-2
NBR	144	144	0
SBL	203	204	0
SBT	1,559	1,555	4
SBR	266	265	0
EBL	413	415	-1
EBT	839	840	-1
EBR	172	171	0
WBL	358	357	1
WBT	932	931	1
WBR	230	231	-1

16. Idaho Street at Lambert Road

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	210	NORTHBOUND	
	THRU	379	IN ...	832
	RIGHT	192	OUT ...	1,032
SOUTH BOUND	LEFT	105	SOUTHBOUND	
	THRU	597	IN ...	1,009
	RIGHT	204	OUT ...	577
EAST BOUND	LEFT	82	EASTBOUND	
	THRU	1178	IN ...	1,183
	RIGHT	183	OUT ...	1,449
WEST BOUND	LEFT	220	WESTBOUND	
	THRU	1107	IN ...	1,324
	RIGHT	47	OUT ...	1,291

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	210	234
	THRU	379	444
	RIGHT	192	214
SOUTH BOUND	LEFT	105	125
	THRU	597	669
	RIGHT	204	227
EAST BOUND	LEFT	82	91
	THRU	1,178	1,367
	RIGHT	183	204
WEST BOUND	LEFT	220	245
	THRU	1,107	1,277
	RIGHT	47	57

16. Idaho Street at Lambert Road

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	76.23	965.54	141.24	0	0	1183
INBOUNI	2	214.38	0	125.06	669.56	0	0	1009
	3	1045.25	57.05	0	221.7	0	0	1324
LINK	4	190.99	443.1	197.92	0	0	0	832
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1450.61	576.38	1288.52	1032.49	0	0	4348
FUTURE OUTFLO\		1449	577	1291	1032	0	0	4349
DIFFERENCE (%)		0.1113	-0.108	-0.1923	0.0477	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	76	967	141	0	0	1,185	1,183	0.2
INBOUNI	2	214	0	125	669	0	0	1,009	1,009	0.0
	3	1,044	57	0	222	0	0	1,323	1,324	-0.1
LINK	4	191	444	198	0	0	0	833	832	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,348	
STARTING		1,449	577	1,291	1,032	0	0	4,349		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	191	191	0
NBT	443	444	0
NBR	198	198	0
SBL	125	125	0
SBT	670	669	0
SBR	214	214	0
EBL	76	76	0
EBT	966	967	-2
EBR	141	141	0
WBL	222	222	0
WBT	1,045	1,044	1
WBR	57	57	0

17. Euclid Street at Lambert Road

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	51	NORTHBOUND	
	THRU	382	IN ...	1123
	RIGHT	90	OUT ...	1414
SOUTH BOUND	LEFT	61	SOUTHBOUND	
	THRU	577	IN ...	1214
	RIGHT	67	OUT ...	675
EAST BOUND	LEFT	76	EASTBOUND	
	THRU	1253	IN ...	1345
	RIGHT	242	OUT ...	1459
WEST BOUND	LEFT	109	WESTBOUND	
	THRU	1028	IN ...	880
	RIGHT	52	OUT ...	1013

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	51	392
	THRU	382	608
	RIGHT	90	127
SOUTH BOUND	LEFT	61	88
	THRU	577	945
	RIGHT	67	229
EAST BOUND	LEFT	76	85
	THRU	1,253	1,436
	RIGHT	242	426
WEST BOUND	LEFT	109	121
	THRU	1,028	1,178
	RIGHT	52	66

17. Euclid Street at Lambert Road
AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	57.71	858.76	428.53	0	0	1345
INBOUNI	2	225.74	0	38.85	949.41	0	0	1214
	3	828.33	8.77	0	42.89	0	0	880
LINK	4	386.95	606.98	129.07	0	0	0	1123
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1441.02	673.47	1026.68	1420.83	0	0	4562
FUTURE OUTFLO\		1459	675	1013	1414	0	0	4561
DIFFERENCE (%)		-1.2322	-0.2269	1.3505	0.483	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	58	847	426	0	0	1,332	1,345	-1.0
INBOUNI	2	229	0	38	945	0	0	1,212	1,214	-0.2
	3	839	9	0	43	0	0	890	880	1.2
LINK	4	392	608	127	0	0	0	1,127	1,123	0.4
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,562	
STARTING		1,459	675	1,013	1,414	0	0	4,561		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	387	392	-5
NBT	607	608	-1
NBR	129	127	2
SBL	39	38	1
SBT	949	945	5
SBR	226	229	-3
EBL	58	58	0
EBT	859	847	11
EBR	429	426	2
WBL	43	43	0
WBT	828	839	-10
WBR	9	9	0

18. Harbor Boulevard at Lambert Road

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	89	NORTHBOUND	
	THRU	488	IN ...	658
	RIGHT	110	OUT ...	1840
SOUTH BOUND	LEFT	214	SOUTHBOUND	
	THRU	1348	IN ...	1619
	RIGHT	190	OUT ...	921
EAST BOUND	LEFT	171	EASTBOUND	
	THRU	1168	IN ...	1199
	RIGHT	225	OUT ...	674
WEST BOUND	LEFT	119	WESTBOUND	
	THRU	910	IN ...	1071
	RIGHT	197	OUT ...	1112

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	89	114
	THRU	488	614
	RIGHT	110	412
SOUTH BOUND	LEFT	214	276
	THRU	1,348	1,576
	RIGHT	190	212
EAST BOUND	LEFT	171	191
	THRU	1,168	1,345
	RIGHT	225	266
WEST BOUND	LEFT	119	219
	THRU	910	1,046
	RIGHT	197	281

18. Harbor Boulevard at Lambert Road

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	133	842.29	223.7	0	0	1199
INBOUNI	2	67.01	0	160.25	1391.73	0	0	1619
	3	570.13	282.63	0	218.24	0	0	1071
LINK	4	40.67	510.62	106.71	0	0	0	658
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		677.81	926.26	1109.26	1833.68	0	0	4547
FUTURE OUTFLO\		674	921	1112	1840	0	0	4547
DIFFERENCE (%)		0.5648	0.5706	-0.2463	-0.3436	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	132	844	224	0	0	1,201	1,199	0.2
INBOUNI	2	67	0	161	1,397	0	0	1,624	1,619	0.3
	3	567	281	0	219	0	0	1,067	1,071	-0.4
LINK	4	40	508	107	0	0	0	655	658	-0.4
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,547	
STARTING		674	921	1,112	1,840	0	0	4,547		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	41	40	0
NBT	511	508	3
NBR	107	107	0
SBL	160	161	0
SBT	1,392	1,397	-5
SBR	67	67	0
EBL	133	132	1
EBT	842	844	-2
EBR	224	224	-1
WBL	218	219	-1
WBT	570	567	3
WBR	283	281	2

19. La Mirada Boulevard at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	395	NORTHBOUND	
	THRU	748	IN ...	1,205
	RIGHT	55	OUT ...	2,046
SOUTH BOUND	LEFT	221	SOUTHBOUND	
	THRU	725	IN ...	1,862
	RIGHT	110	OUT ...	915
EAST BOUND	LEFT	99	EASTBOUND	
	THRU	1030	IN ...	1,914
	RIGHT	350	OUT ...	2,092
WEST BOUND	LEFT	118	WESTBOUND	
	THRU	1559	IN ...	1,736
	RIGHT	73	OUT ...	1,656

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	395	440
	THRU	748	855
	RIGHT	55	61
SOUTH BOUND	LEFT	221	333
	THRU	725	1,365
	RIGHT	110	165
EAST BOUND	LEFT	99	114
	THRU	1,030	1,265
	RIGHT	350	537
WEST BOUND	LEFT	118	144
	THRU	1,559	1,843
	RIGHT	73	90

19. La Mirada Boulevard at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	114.92	1263.11	535.97	0	0	1914
INBOUNI	2	165.78	0	332.82	1363.4	0	0	1862
	3	1524.49	67.52	0	143.98	0	0	1736
LINK	4	411.2	736.58	57.21	0	0	0	1205
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2101.48	919.03	1653.15	2043.35	0	0	6717
FUTURE OUTFLO\		2092	915	1656	2046	0	0	6709
DIFFERENCE (%)		0.453	0.4404	-0.1724	-0.1296	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	114	1,265	537	0	0	1,916	1,914	0.1
INBOUNI	2	165	0	333	1,365	0	0	1,864	1,862	0.1
	3	1,518	67	0	144	0	0	1,729	1,736	-0.4
LINK	4	409	733	57	0	0	0	1,200	1,205	-0.4
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,717	
STARTING		2,092	915	1,656	2,046	0	0	6,709		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	411	409	2
NBT	737	733	3
NBR	57	57	0
SBL	333	333	-1
SBT	1,363	1,365	-2
SBR	166	165	1
EBL	115	114	1
EBT	1,263	1,265	-2
EBR	536	537	-1
WBL	144	144	0
WBT	1,524	1,518	7
WBR	68	67	0

20. Beach Boulevard at La Mirada Boulevard/Malvern Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	372	NORTHBOUND	
	THRU	1268	IN ...	1,724
	RIGHT	250	OUT ...	2,683
SOUTH BOUND	LEFT	128	SOUTHBOUND	
	THRU	1586	IN ...	2,262
	RIGHT	477	OUT ...	1,544
EAST BOUND	LEFT	112	EASTBOUND	
	THRU	663	IN ...	1,741
	RIGHT	530	OUT ...	1,499
WEST BOUND	LEFT	312	WESTBOUND	
	THRU	683	IN ...	988
	RIGHT	75	OUT ...	989

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	372	434
	THRU	1,268	1,516
	RIGHT	250	286
SOUTH BOUND	LEFT	128	142
	THRU	1,586	1,865
	RIGHT	477	596
EAST BOUND	LEFT	112	209
	THRU	663	742
	RIGHT	530	790
WEST BOUND	LEFT	312	361
	THRU	683	773
	RIGHT	75	80

20. Beach Boulevard at La Mirada Boulevard/Malvern Avenue
AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	208.2	742.08	790.72	0	0	1741
INBOUNI	2	535.69	0	98.56	1627.75	0	0	2262
	3	640.52	80.09	0	267.39	0	0	988
LINK	4	322.72	1252.59	148.69	0	0	0	1724
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1498.93	1540.88	989.33	2685.86	0	0	6715
FUTURE OUTFLO\		1499	1544	989	2683	0	0	6715
DIFFERENCE (%)		-0.0049	-0.202	0.0332	0.1067	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	209	742	790	0	0	1,740	1,741	0.0
INBOUNI	2	536	0	99	1,626	0	0	2,260	2,262	-0.1
	3	641	80	0	267	0	0	988	988	0.0
LINK	4	323	1,255	149	0	0	0	1,727	1,724	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,715	
STARTING		1,499	1,544	989	2,683	0	0	6,715		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	323	323	0
NBT	1,253	1,255	-3
NBR	149	149	0
SBL	99	99	0
SBT	1,628	1,626	2
SBR	536	536	0
EBL	208	209	0
EBT	742	742	0
EBR	791	790	1
WBL	267	267	0
WBT	641	641	0
WBR	80	80	0

21. Beach Boulevard at La Habra Boulevard

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	258	NORTHBOUND	
	THRU	868	IN ...	1,614
	RIGHT	188	OUT ...	1,768
SOUTH BOUND	LEFT	143	SOUTHBOUND	
	THRU	1407	IN ...	1,772
	RIGHT	122	OUT ...	1,377
EAST BOUND	LEFT	152	EASTBOUND	
	THRU	470	IN ...	652
	RIGHT	100	OUT ...	1,004
WEST BOUND	LEFT	231	WESTBOUND	
	THRU	611	IN ...	949
	RIGHT	70	OUT ...	837

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	258	287
	THRU	868	1,134
	RIGHT	188	228
SOUTH BOUND	LEFT	143	181
	THRU	1,407	1,598
	RIGHT	122	136
EAST BOUND	LEFT	152	170
	THRU	470	529
	RIGHT	100	111
WEST BOUND	LEFT	231	288
	THRU	611	694
	RIGHT	70	93

21. Beach Boulevard at La Habra Boulevard

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	148.97	427.98	75.04	0	0	652
INBOUNI	2	126.74	0	180.63	1464.63	0	0	1772
	3	620.77	93.07	0	235.17	0	0	949
LINK	4	256.65	1129.96	227.39	0	0	0	1614
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1004.16	1371.99	836	1774.84	0	0	4987
FUTURE OUTFLO\		1004	1377	837	1768	0	0	4986
DIFFERENCE (%)		0.0161	-0.3636	-0.1194	0.3871	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	150	428	75	0	0	653	652	0.1
INBOUNI	2	127	0	181	1,459	0	0	1,767	1,772	-0.3
	3	621	93	0	234	0	0	948	949	-0.1
LINK	4	257	1,134	228	0	0	0	1,618	1,614	0.3
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,987	
STARTING		1,004	1,377	837	1,768	0	0	4,986		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	257	257	0
NBT	1,130	1,134	-4
NBR	227	228	0
SBL	181	181	0
SBT	1,465	1,459	6
SBR	127	127	0
EBL	149	150	-1
EBT	428	428	-1
EBR	75	75	0
WBL	235	234	1
WBT	621	621	0
WBR	93	93	0

22. Valley View Avenue at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	258	NORTHBOUND	
	THRU	727	IN ...	1,128
	RIGHT	144	OUT ...	1,144
SOUTH BOUND	LEFT	67	SOUTHBOUND	
	THRU	827	IN ...	978
	RIGHT	121	OUT ...	883
EAST BOUND	LEFT	77	EASTBOUND	
	THRU	637	IN ...	854
	RIGHT	155	OUT ...	1,740
WEST BOUND	LEFT	201	WESTBOUND	
	THRU	1391	IN ...	1,654
	RIGHT	38	OUT ...	848

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	258	326
	THRU	727	824
	RIGHT	144	178
SOUTH BOUND	LEFT	67	74
	THRU	827	934
	RIGHT	121	135
EAST BOUND	LEFT	77	86
	THRU	637	838
	RIGHT	155	212
WEST BOUND	LEFT	201	237
	THRU	1,391	1,640
	RIGHT	38	45

22. Valley View Avenue at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	80.01	632.75	141.24	0	0	854
INBOUNI	2	112.88	0	70.2	794.92	0	0	978
	3	1400.52	44.95	0	208.53	0	0	1654
LINK	4	228.45	756.34	143.22	0	0	0	1128
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1741.84	881.3	846.17	1144.69	0	0	4614
FUTURE OUTFLO\		1740	883	848	1144	0	0	4615
DIFFERENCE (%)		0.1058	-0.1927	-0.2155	0.0601	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	80	634	141	0	0	855	854	0.2
INBOUNI	2	113	0	70	794	0	0	978	978	0.0
	3	1,399	45	0	208	0	0	1,652	1,654	-0.1
LINK	4	228	758	144	0	0	0	1,130	1,128	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,614	
STARTING		1,740	883	848	1,144	0	0	4,615		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	228	228	0
NBT	756	758	-1
NBR	143	144	0
SBL	70	70	0
SBT	795	794	0
SBR	113	113	0
EBL	80	80	0
EBT	633	634	-1
EBR	141	141	0
WBL	209	208	0
WBT	1,401	1,399	1
WBR	45	45	0

23. Beach Boulevard at Artesia Boulevard

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	53	NORTHBOUND	
	THRU	1635	IN ...	1,900
	RIGHT	69	OUT ...	2,279
SOUTH BOUND	LEFT	79	SOUTHBOUND	
	THRU	1922	IN ...	2,560
	RIGHT	301	OUT ...	2,364
EAST BOUND	LEFT	380	EASTBOUND	
	THRU	446	IN ...	1,011
	RIGHT	49	OUT ...	1,142
WEST BOUND	LEFT	97	WESTBOUND	
	THRU	618	IN ...	935
	RIGHT	159	OUT ...	621

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	53	106
	THRU	1,635	1,945
	RIGHT	69	76
SOUTH BOUND	LEFT	79	88
	THRU	1,922	2,281
	RIGHT	301	378
EAST BOUND	LEFT	380	461
	THRU	446	513
	RIGHT	49	100
WEST BOUND	LEFT	97	110
	THRU	618	695
	RIGHT	159	177

23. Beach Boulevard at Artesia Boulevard

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	463.31	484.14	63.55	0	0	1011
INBOUNI	2	376.94	0	72.61	2110.46	0	0	2560
	3	692.74	146.91	0	95.34	0	0	935
LINK	4	69.38	1764.32	66.29	0	0	0	1900
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1139.06	2374.54	623.04	2269.35	0	0	6406
FUTURE OUTFLO\		1142	2364	621	2279	0	0	6406
DIFFERENCE (%)		-0.2572	0.446	0.329	-0.4234	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	461	483	64	0	0	1,008	1,011	-0.3
INBOUNI	2	378	0	72	2,119	0	0	2,570	2,560	0.4
	3	695	146	0	96	0	0	937	935	0.2
LINK	4	70	1,756	66	0	0	0	1,892	1,900	-0.4
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,406	
STARTING		1,142	2,364	621	2,279	0	0	6,406		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	69	70	0
NBT	1,764	1,756	8
NBR	66	66	0
SBL	73	72	0
SBT	2,110	2,119	-9
SBR	377	378	-1
EBL	463	461	2
EBT	484	483	2
EBR	64	64	0
WBL	95	96	0
WBT	693	695	-2
WBR	147	146	1

24. Beach Boulevard at Commonwealth Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	28	NORTHBOUND	
	THRU	1625	IN ...	1,871
	RIGHT	143	OUT ...	2,338
SOUTH BOUND	LEFT	30	SOUTHBOUND	
	THRU	1996	IN ...	2,325
	RIGHT	68	OUT ...	1,857
EAST BOUND	LEFT	55	EASTBOUND	
	THRU	168	IN ...	200
	RIGHT	25	OUT ...	251
WEST BOUND	LEFT	147	WESTBOUND	
	THRU	223	IN ...	384
	RIGHT	68	OUT ...	334

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	28	31
	THRU	1,625	1,965
	RIGHT	143	176
SOUTH BOUND	LEFT	30	43
	THRU	1,996	2,397
	RIGHT	68	87
EAST BOUND	LEFT	55	66
	THRU	168	194
	RIGHT	25	28
WEST BOUND	LEFT	147	188
	THRU	223	267
	RIGHT	68	86

24. Beach Boulevard at Commonwealth Avenue

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	45.42	138.43	16.15	0	0	200
INBOUNI	2	63.06	0	42.54	2219.41	0	0	2325
	3	170.09	79.47	0	134.44	0	0	384
LINK	4	19.14	1702.37	149.49	0	0	0	1871
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		252.29	1827.25	330.45	2370	0	0	4780
FUTURE OUTFLO\		251	1857	334	2338	0	0	4780
DIFFERENCE (%)		0.5141	-1.6019	-1.0616	1.3688	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	46	140	16	0	0	202	200	1.0
INBOUNI	2	63	0	43	2,189	0	0	2,295	2,325	-1.3
	3	169	81	0	133	0	0	383	384	-0.4
LINK	4	19	1,730	151	0	0	0	1,900	1,871	1.6
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,780	
STARTING		251	1,857	334	2,338	0	0	4,780		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	19	19	0
NBT	1,702	1,730	-28
NBR	149	151	-2
SBL	43	43	0
SBT	2,219	2,189	30
SBR	63	63	0
EBL	45	46	-1
EBT	138	140	-1
EBR	16	16	0
WBL	134	133	2
WBT	170	169	1
WBR	79	81	-1

25. I-5 NB ramps at Auto Center Drive

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	315	NORTHBOUND	
	THRU	9	IN ...	614
	RIGHT	242	OUT ...	298
SOUTH BOUND	LEFT	1	SOUTHBOUND	
	THRU	1	IN ...	3
	RIGHT	1	OUT ...	19
EAST BOUND	LEFT	5	EASTBOUND	
	THRU	102	IN ...	200
	RIGHT	79	OUT ...	424
WEST BOUND	LEFT	184	WESTBOUND	
	THRU	74	IN ...	290
	RIGHT	5	OUT ...	365

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	315	345
	THRU	9	10
	RIGHT	242	280
SOUTH BOUND	LEFT	1	1
	THRU	1	1
	RIGHT	1	1
EAST BOUND	LEFT	5	5
	THRU	102	117
	RIGHT	79	90
WEST BOUND	LEFT	184	228
	THRU	74	89
	RIGHT	5	5

25. I-5 NB ramps at Auto Center Drive

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	4.93	105.35	89.72	0	0	200
INBOUNI	2	0.98	0	0.96	1.06	0	0	3
	3	77.75	4.89	0	207.36	0	0	290
LINK	4	345.72	9.2	259.08	0	0	0	614
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		424.46	19.02	365.4	298.13	0	0	1107
FUTURE OUTFLO\		424	19	365	298	0	0	1106
DIFFERENCE (%)		0.1082	0.0864	0.1083	0.0434	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	5	105	90	0	0	200	200	-0.1
INBOUNI	2	1	0	1	1	0	0	3	3	-0.1
	3	78	5	0	207	0	0	290	290	-0.1
LINK	4	345	9	259	0	0	0	613	614	-0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									1,107	
STARTING		424	19	365	298	0	0	1,106		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	346	345	0
NBT	9	9	0
NBR	259	259	0
SBL	1	1	0
SBT	1	1	0
SBR	1	1	0
EBL	5	5	0
EBT	105	105	0
EBR	90	90	0
WBL	207	207	0
WBT	78	78	0
WBR	5	5	0

26. Beach Boulevard at Auto Center Drive

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	147	NORTHBOUND	
	THRU	1172	IN ...	1284
	RIGHT	94	OUT ...	2087
SOUTH BOUND	LEFT	32	SOUTHBOUND	
	THRU	2070	IN ...	2120
	RIGHT	32	OUT ...	1791
EAST BOUND	LEFT	224	EASTBOUND	
	THRU	72	IN ...	345
	RIGHT	56	OUT ...	135
WEST BOUND	LEFT	77	WESTBOUND	
	THRU	99	IN ...	646
	RIGHT	395	OUT ...	382

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	147	178
	THRU	1,172	1,470
	RIGHT	94	171
SOUTH BOUND	LEFT	32	88
	THRU	2,070	2,489
	RIGHT	32	51
EAST BOUND	LEFT	224	259
	THRU	72	123
	RIGHT	56	68
WEST BOUND	LEFT	77	86
	THRU	99	110
	RIGHT	395	526

26. Beach Boulevard at Auto Center Drive

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	189.52	121.87	33.61	0	0	345
INBOUNI	2	19.14	0	87.77	2013.09	0	0	2120
	3	56.61	517.8	0	71.59	0	0	646
LINK	4	57.81	1056.65	169.54	0	0	0	1284
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		133.56	1763.97	379.18	2118.29	0	0	4395
FUTURE OUTFLO\		135	1791	382	2087	0	0	4395
DIFFERENCE (%)		-1.0649	-1.5093	-0.7383	1.4993	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	192	123	33	0	0	348	345	1.0
INBOUNI	2	19	0	88	1,983	0	0	2,091	2,120	-1.4
	3	57	526	0	71	0	0	653	646	1.2
LINK	4	58	1,073	171	0	0	0	1,302	1,284	1.4
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,395	
STARTING		135	1,791	382	2,087	0	0	4,395		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	58	58	-1
NBT	1,057	1,073	-16
NBR	170	171	-1
SBL	88	88	-1
SBT	2,013	1,983	30
SBR	19	19	0
EBL	190	192	-3
EBT	122	123	-1
EBR	34	33	0
WBL	72	71	1
WBT	57	57	-1
WBR	518	526	-8

27. Beach Boulevard at I-5 SB Ramps

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	1230	IN ...	1,423
	RIGHT	159	OUT ...	1,645
SOUTH BOUND	LEFT	778	SOUTHBOUND	
	THRU	1442	IN ...	2,132
	RIGHT	0	OUT ...	1,267
EAST BOUND	LEFT	180	EASTBOUND	
	THRU	0	IN ...	444
	RIGHT	237	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	1,087

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	1,230	1,540
	RIGHT	159	280
SOUTH BOUND	LEFT	778	887
	THRU	1,442	1,773
	RIGHT	0	0
EAST BOUND	LEFT	180	208
	THRU	0	0
	RIGHT	237	308
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

27. Beach Boulevard at I-5 SB Ramps

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	138.4	0	305.6	0	0	444
INBOUNI	2	0	0	804.91	1327.09	0	0	2132
	3	0	0	0	0	0	0	0
LINK	4	0	1144.16	278.84	0	0	0	1423
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		0	1282.57	1083.75	1632.69	0	0	3999
FUTURE OUTFLO\		0	1267	1087	1645	0	0	3999
DIFFERENCE (%)		0	1.2285	-0.2992	-0.7485	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	137	0	308	0	0	445	444	0.1
INBOUNI	2	0	0	807	1,337	0	0	2,144	2,132	0.6
	3	0	0	0	0	0	0	0	0	0.0
LINK	4	0	1,130	280	0	0	0	1,410	1,423	-0.9
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									3,999	
STARTING		0	1,267	1,087	1,645	0	0	3,999		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	0	0	0
NBT	1,144	1,130	14
NBR	279	280	-1
SBL	805	807	-2
SBT	1,327	1,337	-10
SBR	0	0	0
EBL	138	137	2
EBT	0	0	0
EBR	306	308	-2
WBL	0	0	0
WBT	0	0	0
WBR	0	0	0

32. Beach Boulevard at Whittier Boulevard

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	346	NORTHBOUND	
	THRU	47	IN ...	1,274
	RIGHT	604	OUT ...	1,465
SOUTH BOUND	LEFT	55	SOUTHBOUND	
	THRU	41	IN ...	117
	RIGHT	21	OUT ...	98
EAST BOUND	LEFT	44	EASTBOUND	
	THRU	834	IN ...	1,587
	RIGHT	396	OUT ...	1,395
WEST BOUND	LEFT	1052	WESTBOUND	
	THRU	921	IN ...	1,687
	RIGHT	7	OUT ...	1,707

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	346	539
	THRU	47	52
	RIGHT	604	687
SOUTH BOUND	LEFT	55	61
	THRU	41	44
	RIGHT	21	25
EAST BOUND	LEFT	44	49
	THRU	834	972
	RIGHT	396	569
WEST BOUND	LEFT	1,052	1,190
	THRU	921	1,072
	RIGHT	7	7

32. Beach Boulevard at Whittier Boulevard

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	45.99	972.57	568.45	0	0	1587
INBOUNI	2	25.08	0	47.94	43.99	0	0	117
	3	830.51	4.13	0	852.36	0	0	1687
LINK	4	539.13	47.91	686.96	0	0	0	1274
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1394.71	98.02	1707.47	1464.8	0	0	4665
FUTURE OUTFLO\		1395	98	1707	1465	0	0	4665
DIFFERENCE (%)		-0.0204	0.0234	0.0273	-0.0139	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	46	972	569	0	0	1,587	1,587	0.0
INBOUNI	2	25	0	48	44	0	0	117	117	0.0
	3	831	4	0	852	0	0	1,687	1,687	0.0
LINK	4	539	48	687	0	0	0	1,274	1,274	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,665	
STARTING		1,395	98	1,707	1,465	0	0	4,665		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	539	539	0
NBT	48	48	0
NBR	687	687	0
SBL	48	48	0
SBT	44	44	0
SBR	25	25	0
EBL	46	46	0
EBT	973	972	0
EBR	568	569	0
WBL	852	852	0
WBT	831	831	0
WBR	4	4	0

33. Hacienda Road at Whittier Boulevard

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	11	NORTHBOUND	
	THRU	40	IN ...	104
	RIGHT	43	OUT ...	112
SOUTH BOUND	LEFT	373	SOUTHBOUND	
	THRU	43	IN ...	1,090
	RIGHT	715	OUT ...	960
EAST BOUND	LEFT	373	EASTBOUND	
	THRU	1084	IN ...	1,682
	RIGHT	11	OUT ...	1,699
WEST BOUND	LEFT	65	WESTBOUND	
	THRU	1266	IN ...	1,823
	RIGHT	274	OUT ...	1,926

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	11	13
	THRU	40	44
	RIGHT	43	54
SOUTH BOUND	LEFT	373	578
	THRU	43	48
	RIGHT	715	803
EAST BOUND	LEFT	373	434
	THRU	1,084	1,293
	RIGHT	11	13
WEST BOUND	LEFT	65	72
	THRU	1,266	1,468
	RIGHT	274	530

33. Hacienda Road at Whittier Boulevard

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	386.97	1288.46	6.57	0	0	1682
INBOUNI	2	480.27	0	576.33	33.4	0	0	1090
	3	1220.3	530.26	0	72.45	0	0	1823
LINK	4	6.01	43.91	54.08	0	0	0	104
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1706.58	961.13	1918.87	112.42	0	0	4699
FUTURE OUTFLO\		1699	960	1926	112	0	0	4697
DIFFERENCE (%)		0.4463	0.1181	-0.3702	0.3707	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	387	1,293	7	0	0	1,686	1,682	0.3
INBOUNI	2	478	0	578	33	0	0	1,090	1,090	0.0
	3	1,215	530	0	72	0	0	1,817	1,823	-0.3
LINK	4	6	44	54	0	0	0	104	104	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,699	
STARTING		1,699	960	1,926	112	0	0	4,697		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	6	6	0
NBT	44	44	0
NBR	54	54	0
SBL	576	578	-2
SBT	33	33	0
SBR	480	478	2
EBL	387	387	0
EBT	1,288	1,293	-5
EBR	7	7	0
WBL	72	72	0
WBT	1,220	1,215	5
WBR	530	530	1

34. Walnut Street at Imperial Highway

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	17	SOUTHBOUND	
	THRU	0	IN ...	499
	RIGHT	120	OUT ...	120
EAST BOUND	LEFT	70	EASTBOUND	
	THRU	1836	IN ...	2,634
	RIGHT	0	OUT ...	2,200
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	1811	IN ...	1,766
	RIGHT	48	OUT ...	2,579

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
SOUTH BOUND	LEFT	17	54
	THRU	0	0
	RIGHT	120	450
EAST BOUND	LEFT	70	85
	THRU	1,836	2,525
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	1,811	2,225
	RIGHT	48	57

34. Walnut Street at Imperial Highway

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	85.61	2548.39	0	0	0	2634
INBOUNI	2	444.77	0	54.23	0	0	0	499
	3	1731.2	34.8	0	0	0	0	1766
LINK	4	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2175.96	120.41	2602.62	0	0	0	4899
FUTURE OUTFLO\		2200	120	2579	0	0	0	4899
DIFFERENCE (%)		-1.0925	0.343	0.916	0	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	85	2,525	0	0	0	2,611	2,634	-0.9
INBOUNI	2	450	0	54	0	0	0	503	499	0.9
	3	1,750	35	0	0	0	0	1,785	1,766	1.1
LINK	4	0	0	0	0	0	0	0	0	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,899	
STARTING		2,200	120	2,579	0	0	0	4,899		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	0	0	0
NBT	0	0	0
NBR	0	0	0
SBL	54	54	0
SBT	0	0	0
SBR	445	450	-5
EBL	86	85	0
EBT	2,548	2,525	23
EBR	0	0	0
WBL	0	0	0
WBT	1,731	1,750	-19
WBR	35	35	0

35. Gilbert Street at Malvern Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	83	NORTHBOUND	
	THRU	623	IN ...	1,132
	RIGHT	538	OUT ...	1,910
SOUTH BOUND	LEFT	107	SOUTHBOUND	
	THRU	922	IN ...	1,316
	RIGHT	195	OUT ...	1,316
EAST BOUND	LEFT	236	EASTBOUND	
	THRU	931	IN ...	1,678
	RIGHT	185	OUT ...	929
WEST BOUND	LEFT	536	WESTBOUND	
	THRU	703	IN ...	1,390
	RIGHT	63	OUT ...	1,362

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	83	93
	THRU	623	745
	RIGHT	538	599
SOUTH BOUND	LEFT	107	165
	THRU	922	1,127
	RIGHT	195	217
EAST BOUND	LEFT	236	471
	THRU	931	1,040
	RIGHT	185	261
WEST BOUND	LEFT	536	608
	THRU	703	783
	RIGHT	63	101

35. Gilbert Street at Malvern Avenue

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	470.21	946.37	261.42	0	0	1678
INBOUNI	2	188.06	0	86.91	1041.03	0	0	1316
	3	681.19	100.77	0	608.04	0	0	1390
LINK	4	60.06	744.11	327.84	0	0	0	1132
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		929.31	1315.09	1361.11	1910.49	0	0	5516
FUTURE OUTFLO\		929	1316	1362	1910	0	0	5517
DIFFERENCE (%)		0.0332	-0.0693	-0.0654	0.0259	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	471	947	261	0	0	1,679	1,678	0.1
INBOUNI	2	188	0	87	1,041	0	0	1,316	1,316	0.0
	3	681	101	0	608	0	0	1,390	1,390	0.0
LINK	4	60	745	328	0	0	0	1,133	1,132	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									5,516	
STARTING		929	1,316	1,362	1,910	0	0	5,517		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	60	60	0
NBT	744	745	-1
NBR	328	328	0
SBL	87	87	0
SBT	1,041	1,041	0
SBR	188	188	0
EBL	470	471	0
EBT	946	947	-1
EBR	261	261	0
WBL	608	608	0
WBT	681	681	0
WBR	101	101	0

36. Euclid Street at Malvern Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	127	NORTHBOUND	
	THRU	969	IN ...	1,152
	RIGHT	88	OUT ...	1,507
SOUTH BOUND	LEFT	250	SOUTHBOUND	
	THRU	1273	IN ...	1,547
	RIGHT	16	OUT ...	1,080
EAST BOUND	LEFT	33	EASTBOUND	
	THRU	695	IN ...	828
	RIGHT	144	OUT ...	505
WEST BOUND	LEFT	144	WESTBOUND	
	THRU	455	IN ...	659
	RIGHT	126	OUT ...	1,094

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	127	153
	THRU	969	1,109
	RIGHT	88	109
SOUTH BOUND	LEFT	250	297
	THRU	1,273	1,445
	RIGHT	16	18
EAST BOUND	LEFT	33	37
	THRU	695	794
	RIGHT	144	189
WEST BOUND	LEFT	144	160
	THRU	455	515
	RIGHT	126	140

36. Euclid Street at Malvern Avenue

AM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	25.55	685.86	116.59	0	0	828
INBOUNI	2	12.92	0	296.28	1237.8	0	0	1547
	3	387.67	123.6	0	147.74	0	0	659
LINK	4	106.65	936.89	108.46	0	0	0	1152
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		507.24	1086.04	1090.59	1502.14	0	0	4186
FUTURE OUTFLO\		505	1080	1094	1507	0	0	4186
DIFFERENCE (%)		0.4431	0.5589	-0.3116	-0.3228	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	25	688	117	0	0	830	828	0.3
INBOUNI	2	13	0	297	1,242	0	0	1,552	1,547	0.3
	3	386	123	0	148	0	0	657	659	-0.3
LINK	4	106	932	109	0	0	0	1,147	1,152	-0.5
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,186	
STARTING		505	1,080	1,094	1,507	0	0	4,186		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	107	106	0
NBT	937	932	5
NBR	108	109	0
SBL	296	297	-1
SBT	1,238	1,242	-4
SBR	13	13	0
EBL	26	25	0
EBT	686	688	-2
EBR	117	117	0
WBL	148	148	0
WBT	388	386	2
WBR	124	123	1

1. Beach Boulevard at Rosecrans Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	207	NORTHBOUND	
	THRU	1914	IN ...	2384
	RIGHT	178	OUT ...	1987
SOUTH BOUND	LEFT	158	SOUTHBOUND	
	THRU	1495	IN ...	1985
	RIGHT	211	OUT ...	2474
EAST BOUND	LEFT	363	EASTBOUND	
	THRU	543	IN ...	1024
	RIGHT	162	OUT ...	1080
WEST BOUND	LEFT	176	WESTBOUND	
	THRU	549	IN ...	991
	RIGHT	128	OUT ...	1024

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	207	242
	THRU	1,914	2,238
	RIGHT	178	255
SOUTH BOUND	LEFT	158	204
	THRU	1,495	1,832
	RIGHT	211	249
EAST BOUND	LEFT	363	408
	THRU	543	664
	RIGHT	162	195
WEST BOUND	LEFT	176	237
	THRU	549	648
	RIGHT	128	152

1. Beach Boulevard at Rosecrans Avenue

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	308.23	572.36	143.41	0	0	1024
INBOUNI	2	211.27	0	198.26	1575.47	0	0	1985
	3	630.09	148.31	0	212.6	0	0	991
LINK	4	208.9	1949.99	225.11	0	0	0	2384
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1050.25	2406.54	995.73	1931.48	0	0	6384
FUTURE OUTFLO\		1080	2474	1024	1987	0	0	6565
DIFFERENCE (%)		-2.7544	-2.7269	-2.7607	-2.7941	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	317	589	148	0	0	1,053	1,024	2.8
INBOUNI	2	217	0	204	1,621	0	0	2,042	1,985	2.9
	3	648	152	0	219	0	0	1,019	991	2.8
LINK	4	215	2,005	232	0	0	0	2,451	2,384	2.8
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,384	
STARTING		1,080	2,474	1,024	1,987	0	0	6,565		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	209	215	-6
NBT	1,950	2,005	-55
NBR	225	232	-6
SBL	198	204	-6
SBT	1,575	1,621	-45
SBR	211	217	-6
EBL	308	317	-9
EBT	572	589	-16
EBR	143	148	-4
WBL	213	219	-6
WBT	630	648	-18
WBR	148	152	-4

2. Gilbert Street at Rosecrans Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	255	NORTHBOUND	
	THRU	913	IN ...	1387
	RIGHT	79	OUT ...	765
SOUTH BOUND	LEFT	38	SOUTHBOUND	
	THRU	463	IN ...	765
	RIGHT	176	OUT ...	1305
EAST BOUND	LEFT	181	EASTBOUND	
	THRU	475	IN ...	835
	RIGHT	190	OUT ...	1151
WEST BOUND	LEFT	60	WESTBOUND	
	THRU	578	IN ...	809
	RIGHT	51	OUT ...	574

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	255	368
	THRU	913	1,120
	RIGHT	79	88
SOUTH BOUND	LEFT	38	42
	THRU	463	583
	RIGHT	176	206
EAST BOUND	LEFT	181	199
	THRU	475	531
	RIGHT	190	267
WEST BOUND	LEFT	60	67
	THRU	578	677
	RIGHT	51	65

2. Gilbert Street at Rosecrans Avenue

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	198.67	453.75	182.58	0	0	835
INBOUNI	2	206.45	0	42.13	516.42	0	0	765
	3	677.25	64.9	0	66.85	0	0	809
LINK	4	267.67	1040.94	78.39	0	0	0	1387
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1151.37	1304.51	574.27	765.85	0	0	3796
FUTURE OUTFLO\		1151	1305	574	765	0	0	3795
DIFFERENCE (%)		0.0319	-0.0374	0.0476	0.1107	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	199	454	182	0	0	835	835	0.0
INBOUNI	2	206	0	42	516	0	0	764	765	-0.1
	3	677	65	0	67	0	0	809	809	0.0
LINK	4	268	1,041	78	0	0	0	1,387	1,387	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									3,796	
STARTING		1,151	1,305	574	765	0	0	3,795		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	268	268	0
NBT	1,041	1,041	0
NBR	78	78	0
SBL	42	42	0
SBT	516	516	1
SBR	206	206	0
EBL	199	199	0
EBT	454	454	0
EBR	183	182	0
WBL	67	67	0
WBT	677	677	0
WBR	65	65	0

3. Euclid Street at Rosecrans Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	613	NORTHBOUND	
	THRU	967	IN ...	2,127
	RIGHT	0	OUT ...	1,011
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	557	IN ...	755
	RIGHT	182	OUT ...	1,463
EAST BOUND	LEFT	193	EASTBOUND	
	THRU	0	IN ...	617
	RIGHT	422	OUT ...	1,027
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	613	847
	THRU	967	1,280
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	557	653
	RIGHT	182	202
EAST BOUND	LEFT	193	215
	THRU	0	0
	RIGHT	422	481
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

3. Euclid Street at Rosecrans Avenue

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	182.64	0	434.36	0	0	617
INBOUNI	2	180.16	0	0	574.84	0	0	755
	3	0	0	0	0	0	0	0
LINK	4	846.68	1280.32	0	0	0	0	2127
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1026.84	1462.96	0	1009.2	0	0	3499
FUTURE OUTFLO\		1027	1463	0	1011	0	0	3501
DIFFERENCE (%)		-0.0157	-0.0025	0	-0.1782	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	183	0	435	0	0	618	617	0.1
INBOUNI	2	180	0	0	576	0	0	756	755	0.1
	3	0	0	0	0	0	0	0	0	0.0
LINK	4	847	1,280	0	0	0	0	2,127	2,127	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									3,499	
STARTING		1,027	1,463	0	1,011	0	0	3,501		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	847	847	0
NBT	1,280	1,280	0
NBR	0	0	0
SBL	0	0	0
SBT	575	576	-1
SBR	180	180	0
EBL	183	183	0
EBT	0	0	0
EBR	434	435	-1
WBL	0	0	0
WBT	0	0	0
WBR	0	0	0

4. Beach Boulevard at Hillsborough Drive

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	201	NORTHBOUND	
	THRU	2065	IN ...	2,337
	RIGHT	47	OUT ...	1,906
SOUTH BOUND	LEFT	60	SOUTHBOUND	
	THRU	1645	IN ...	2,069
	RIGHT	251	OUT ...	2,346
EAST BOUND	LEFT	244	EASTBOUND	
	THRU	17	IN ...	377
	RIGHT	116	OUT ...	466
WEST BOUND	LEFT	32	WESTBOUND	
	THRU	14	IN ...	59
	RIGHT	13	OUT ...	124

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	201	224
	THRU	2,065	2,409
	RIGHT	47	52
SOUTH BOUND	LEFT	60	67
	THRU	1,645	2,016
	RIGHT	251	280
EAST BOUND	LEFT	244	271
	THRU	17	19
	RIGHT	116	129
WEST BOUND	LEFT	32	36
	THRU	14	16
	RIGHT	13	15

4. Beach Boulevard at Hillsborough Drive

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	242.44	16.5	118.06	0	0	377
INBOUNI	2	254.21	0	60.98	1753.81	0	0	2069
	3	13.53	12.91	0	32.56	0	0	59
LINK	4	198.18	2092.32	46.51	0	0	0	2337
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		465.92	2347.67	123.98	1904.43	0	0	4842
FUTURE OUTFLO\		466	2346	124	1906	0	0	4842
DIFFERENCE (%)		-0.0177	0.0712	-0.0123	-0.0825	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	242	16	118	0	0	377	377	0.0
INBOUNI	2	254	0	61	1,755	0	0	2,071	2,069	0.1
	3	14	13	0	33	0	0	59	59	0.0
LINK	4	198	2,091	47	0	0	0	2,336	2,337	-0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,842	
STARTING		466	2,346	124	1,906	0	0	4,842		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	198	198	0
NBT	2,092	2,091	1
NBR	47	47	0
SBL	61	61	0
SBT	1,754	1,755	-1
SBR	254	254	0
EBL	242	242	0
EBT	16	16	0
EBR	118	118	0
WBL	33	33	0
WBT	14	14	0
WBR	13	13	0

5. Beach Boulevard at Hillsborough Park Apt.

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	28	NORTHBOUND	
	THRU	2260	IN ...	2,312
	RIGHT	0	OUT ...	2,119
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	1990	IN ...	2,138
	RIGHT	35	OUT ...	2,299
EAST BOUND	LEFT	15	EASTBOUND	
	THRU	0	IN ...	31
	RIGHT	16	OUT ...	63
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	28	31
	THRU	2,260	2,627
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	1,990	2,401
	RIGHT	35	39
EAST BOUND	LEFT	15	17
	THRU	0	0
	RIGHT	16	18
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

5. Beach Boulevard at Hillsborough Park Apt.
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	14.97	0	16.03	0	0	31
INBOUNI	2	35.63	0	0	2102.37	0	0	2138
	3	0	0	0	0	0	0	0
LINK	4	27.37	2284.63	0	0	0	0	2312
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		63	2299.6	0	2118.4	0	0	4481
FUTURE OUTFLO\		63	2299	0	2119	0	0	4481
DIFFERENCE (%)		-0.0046	0.0261	0	-0.0282	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	15	0	16	0	0	31	31	0.0
INBOUNI	2	36	0	0	2,103	0	0	2,139	2,138	0.0
	3	0	0	0	0	0	0	0	0	0.0
LINK	4	27	2,284	0	0	0	0	2,311	2,312	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,481	
STARTING		63	2,299	0	2,119	0	0	4,481		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	27	27	0
NBT	2,285	2,284	1
NBR	0	0	0
SBL	0	0	0
SBT	2,102	2,103	-1
SBR	36	36	0
EBL	15	15	0
EBT	0	0	0
EBR	16	16	0
WBL	0	0	0
WBT	0	0	0
WBR	0	0	0

6. Idaho Street at Sandlewood Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	1013	IN ...	1,372
	RIGHT	54	OUT ...	917
SOUTH BOUND	LEFT	142	SOUTHBOUND	
	THRU	696	IN ...	989
	RIGHT	0	OUT ...	1,417
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	28	WESTBOUND	
	THRU	0	IN ...	175
	RIGHT	137	OUT ...	194

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	1,013	1,283
	RIGHT	54	69
SOUTH BOUND	LEFT	142	158
	THRU	696	878
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	28	39
	THRU	0	0
	RIGHT	137	153

6. Idaho Street at Sandlewood Avenue

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	0	0	0	0	0	0
INBOUNI	2	0	0	124.7	864.3	0	0	989
	3	0	136.26	0	38.74	0	0	175
LINK	4	0	1303.64	68.36	0	0	0	1372
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		0	1439.9	193.06	903.04	0	0	2536
FUTURE OUTFLO\		0	1417	194	917	0	0	2528
DIFFERENCE (%)		0	1.6158	-0.4845	-1.5218	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	0	0	0	0	0	0	0	0.0
INBOUNI	2	0	0	125	878	0	0	1,003	989	1.4
	3	0	134	0	39	0	0	173	175	-0.9
LINK	4	0	1,283	69	0	0	0	1,352	1,372	-1.5
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									2,536	
STARTING		0	1,417	194	917	0	0	2,528		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	0	0	0
NBT	1,304	1,283	21
NBR	68	69	0
SBL	125	125	-1
SBT	864	878	-13
SBR	0	0	0
EBL	0	0	0
EBT	0	0	0
EBR	0	0	0
WBL	39	39	-1
WBT	0	0	0
WBR	136	134	2

7. Euclid Street at Sandlewood Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	24	NORTHBOUND	
	THRU	1033	IN ...	1,153
	RIGHT	2	OUT ...	754
SOUTH BOUND	LEFT	37	SOUTHBOUND	
	THRU	720	IN ...	823
	RIGHT	38	OUT ...	1,205
EAST BOUND	LEFT	22	EASTBOUND	
	THRU	0	IN ...	33
	RIGHT	13	OUT ...	83
WEST BOUND	LEFT	1	WESTBOUND	
	THRU	1	IN ...	71
	RIGHT	19	OUT ...	38

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	24	31
	THRU	1,033	1,206
	RIGHT	2	2
SOUTH BOUND	LEFT	37	41
	THRU	720	866
	RIGHT	38	48
EAST BOUND	LEFT	22	24
	THRU	0	0
	RIGHT	13	15
WEST BOUND	LEFT	1	3
	THRU	1	4
	RIGHT	19	64

7. Euclid Street at Sandlewood Avenue

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	20.86	0	12.14	0	0	33
INBOUNI	2	47.69	0	36.01	739.3	0	0	823
	3	4.03	63.67	0	3.3	0	0	71
LINK	4	31.3	1119.67	2.02	0	0	0	1153
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		83.02	1204.2	38.03	754.74	0	0	2080
FUTURE OUTFLO\		83	1205	38	754	0	0	2080
DIFFERENCE (%)		0.0292	-0.0661	0.0913	0.0979	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	21	0	12	0	0	33	33	0.0
INBOUNI	2	48	0	36	739	0	0	822	823	-0.1
	3	4	64	0	3	0	0	71	71	0.1
LINK	4	31	1,120	2	0	0	0	1,154	1,153	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									2,080	
STARTING		83	1,205	38	754	0	0	2,080		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	31	31	0
NBT	1,120	1,120	-1
NBR	2	2	0
SBL	36	36	0
SBT	739	739	1
SBR	48	48	0
EBL	21	21	0
EBT	0	0	0
EBR	12	12	0
WBL	3	3	0
WBT	4	4	0
WBR	64	64	0

8. Santa Gertrudes Avenue at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	167	NORTHBOUND	
	THRU	696	IN ...	1,660
	RIGHT	218	OUT ...	841
SOUTH BOUND	LEFT	149	SOUTHBOUND	
	THRU	485	IN ...	781
	RIGHT	95	OUT ...	1,505
EAST BOUND	LEFT	118	EASTBOUND	
	THRU	1221	IN ...	1,453
	RIGHT	134	OUT ...	1,585
WEST BOUND	LEFT	176	WESTBOUND	
	THRU	1016	IN ...	1,658
	RIGHT	129	OUT ...	1,622

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	167	222
	THRU	696	1,158
	RIGHT	218	280
SOUTH BOUND	LEFT	149	162
	THRU	485	545
	RIGHT	95	107
EAST BOUND	LEFT	118	148
	THRU	1,221	1,505
	RIGHT	134	159
WEST BOUND	LEFT	176	204
	THRU	1,016	1,256
	RIGHT	129	199

8. Santa Gertrudes Avenue at Imperial Highway

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	147.39	1179.88	125.73	0	0	1453
INBOUNI	2	106.96	0	162.01	512.03	0	0	781
	3	1255.17	198.94	0	203.89	0	0	1658
LINK	4	222.42	1157.18	280.4	0	0	0	1660
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1584.55	1503.52	1622.28	841.65	0	0	5552
FUTURE OUTFLO\		1585	1505	1622	841	0	0	5553
DIFFERENCE (%)		-0.0284	-0.0984	0.0175	0.0771	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	148	1,180	126	0	0	1,453	1,453	0.0
INBOUNI	2	107	0	162	512	0	0	781	781	-0.1
	3	1,256	199	0	204	0	0	1,658	1,658	0.0
LINK	4	222	1,158	280	0	0	0	1,661	1,660	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									5,552	
STARTING		1,585	1,505	1,622	841	0	0	5,553		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	222	222	0
NBT	1,157	1,158	-1
NBR	280	280	0
SBL	162	162	0
SBT	512	512	0
SBR	107	107	0
EBL	147	148	0
EBT	1,180	1,180	0
EBR	126	126	0
WBL	204	204	0
WBT	1,255	1,256	0
WBR	199	199	0

9. 1st Avenue at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	30	NORTHBOUND	
	THRU	23	IN ...	64
	RIGHT	11	OUT ...	67
SOUTH BOUND	LEFT	150	SOUTHBOUND	
	THRU	34	IN ...	376
	RIGHT	151	OUT ...	458
EAST BOUND	LEFT	172	EASTBOUND	
	THRU	1310	IN ...	1536
	RIGHT	20	OUT ...	1664
WEST BOUND	LEFT	13	WESTBOUND	
	THRU	1146	IN ...	1688
	RIGHT	157	OUT ...	1475

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	30	34
	THRU	23	25
	RIGHT	11	13
SOUTH BOUND	LEFT	150	162
	THRU	34	38
	RIGHT	151	180
EAST BOUND	LEFT	172	210
	THRU	1,310	1,609
	RIGHT	20	22
WEST BOUND	LEFT	13	15
	THRU	1,146	1,455
	RIGHT	157	222

9. 1st Avenue at Imperial Highway

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	210.48	1306.9	18.63	0	0	1536
INBOUNI	2	179.23	0	162.4	34.37	0	0	376
	3	1451.49	222.49	0	14.02	0	0	1688
LINK	4	29.19	25.04	9.76	0	0	0	64
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1659.91	458.01	1479.06	67.02	0	0	3664
FUTURE OUTFLO\		1664	458	1475	67	0	0	3664
DIFFERENCE (%)		-0.2459	0.0014	0.2755	0.0309	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

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*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	210	1,303	19	0	0	1,532	1,536	-0.2
INBOUNI	2	180	0	162	34	0	0	376	376	0.0
	3	1,455	222	0	14	0	0	1,692	1,688	0.2
LINK	4	29	25	10	0	0	0	64	64	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									3,664	
STARTING		1,664	458	1,475	67	0	0	3,664		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	29	29	0
NBT	25	25	0
NBR	10	10	0
SBL	162	162	0
SBT	34	34	0
SBR	179	180	0
EBL	210	210	0
EBT	1,307	1,303	4
EBR	19	19	0
WBL	14	14	0
WBT	1,451	1,455	-4
WBR	222	222	0

10. Beach Boulevard at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	288	NORTHBOUND	
	THRU	1532	IN ...	2296
	RIGHT	442	OUT ...	2072
SOUTH BOUND	LEFT	367	SOUTHBOUND	
	THRU	1283	IN ...	2520
	RIGHT	185	OUT ...	1954
EAST BOUND	LEFT	222	EASTBOUND	
	THRU	1025	IN ...	1484
	RIGHT	221	OUT ...	1790
WEST BOUND	LEFT	448	WESTBOUND	
	THRU	941	IN ...	1703
	RIGHT	313	OUT ...	2186

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	288	354
	THRU	1,532	1,761
	RIGHT	442	545
SOUTH BOUND	LEFT	367	608
	THRU	1,283	1,563
	RIGHT	185	348
EAST BOUND	LEFT	222	262
	THRU	1,025	1,276
	RIGHT	221	252
WEST BOUND	LEFT	448	597
	THRU	941	1,216
	RIGHT	313	366

10. Beach Boulevard at Imperial Highway

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	209.9	1099.67	174.44	0	0	1484
INBOUNI	2	348.23	0	608	1563.77	0	0	2520
	3	1087.3	280.52	0	335.18	0	0	1703
LINK	4	354.5	1462.66	478.84	0	0	0	2296
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1790.04	1953.08	2186.5	2073.38	0	0	8003
FUTURE OUTFLO\		1790	1954	2186	2072	0	0	8002
DIFFERENCE (%)		0.002	-0.0473	0.023	0.0668	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	210	1,099	174	0	0	1,484	1,484	0.0
INBOUNI	2	348	0	608	1,563	0	0	2,519	2,520	0.0
	3	1,087	281	0	335	0	0	1,703	1,703	0.0
LINK	4	354	1,463	479	0	0	0	2,297	2,296	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									8,003	
STARTING		1,790	1,954	2,186	2,072	0	0	8,002		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	355	354	0
NBT	1,463	1,463	-1
NBR	479	479	0
SBL	608	608	0
SBT	1,564	1,563	1
SBR	348	348	0
EBL	210	210	0
EBT	1,100	1,099	0
EBR	174	174	0
WBL	335	335	0
WBT	1,087	1,087	0
WBR	281	281	0

11. La Habra Hills Drive at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	56	NORTHBOUND	
	THRU	36	IN ...	289
	RIGHT	197	OUT ...	272
SOUTH BOUND	LEFT	84	SOUTHBOUND	
	THRU	38	IN ...	258
	RIGHT	136	OUT ...	296
EAST BOUND	LEFT	200	EASTBOUND	
	THRU	1555	IN ...	2,150
	RIGHT	43	OUT ...	1,670
WEST BOUND	LEFT	191	WESTBOUND	
	THRU	1477	IN ...	1,729
	RIGHT	60	OUT ...	2,188

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	56	63
	THRU	36	40
	RIGHT	197	219
SOUTH BOUND	LEFT	84	93
	THRU	38	42
	RIGHT	136	152
EAST BOUND	LEFT	200	223
	THRU	1,555	1,897
	RIGHT	43	48
WEST BOUND	LEFT	191	213
	THRU	1,477	1,928
	RIGHT	60	67

11. La Habra Hills Drive at Imperial Highway
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	208.81	1893.08	48.11	0	0	2150
INBOUNI	2	133.69	0	87.81	36.51	0	0	258
	3	1486.12	55.06	0	187.82	0	0	1729
LINK	4	54.25	31.8	202.95	0	0	0	289
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1674.06	295.67	2183.84	272.44	0	0	4426
FUTURE OUTFLO\		1670	296	2188	272	0	0	4426
DIFFERENCE (%)		0.243	-0.1124	-0.1903	0.1615	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	209	1,897	48	0	0	2,154	2,150	0.2
INBOUNI	2	133	0	88	36	0	0	258	258	-0.1
	3	1,483	55	0	188	0	0	1,725	1,729	-0.2
LINK	4	54	32	203	0	0	0	289	289	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,426	
STARTING		1,670	296	2,188	272	0	0	4,426		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	54	54	0
NBT	32	32	0
NBR	203	203	0
SBL	88	88	0
SBT	37	36	0
SBR	134	133	0
EBL	209	209	0
EBT	1,893	1,897	-4
EBR	48	48	0
WBL	188	188	0
WBT	1,486	1,483	4
WBR	55	55	0

12. Idaho Street at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	326	NORTHBOUND	
	THRU	687	IN ...	1,464
	RIGHT	184	OUT ...	994
SOUTH BOUND	LEFT	206	SOUTHBOUND	
	THRU	446	IN ...	890
	RIGHT	169	OUT ...	1,395
EAST BOUND	LEFT	267	EASTBOUND	
	THRU	1508	IN ...	2,363
	RIGHT	237	OUT ...	2,025
WEST BOUND	LEFT	160	WESTBOUND	
	THRU	1527	IN ...	1,866
	RIGHT	189	OUT ...	2,169

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	326	375
	THRU	687	869
	RIGHT	184	260
SOUTH BOUND	LEFT	206	229
	THRU	446	511
	RIGHT	169	188
EAST BOUND	LEFT	267	324
	THRU	1,508	1,842
	RIGHT	237	303
WEST BOUND	LEFT	160	260
	THRU	1,527	1,954
	RIGHT	189	202

12. Idaho Street at Imperial Highway
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	324.39	1735.44	303.17	0	0	2363
INBOUNI	2	167.13	0	212.2	510.67	0	0	890
	3	1483.99	201.98	0	180.03	0	0	1866
LINK	4	374.88	868.73	220.39	0	0	0	1464
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2026	1395.1	2168.03	993.87	0	0	6583
FUTURE OUTFLO\		2025	1395	2169	994	0	0	6583
DIFFERENCE (%)		0.0494	0.0073	-0.0446	-0.0136	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	324	1,736	303	0	0	2,364	2,363	0.0
INBOUNI	2	167	0	212	511	0	0	890	890	0.0
	3	1,483	202	0	180	0	0	1,865	1,866	0.0
LINK	4	375	869	220	0	0	0	1,464	1,464	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,583	
STARTING		2,025	1,395	2,169	994	0	0	6,583		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	375	375	0
NBT	869	869	0
NBR	220	220	0
SBL	212	212	0
SBT	511	511	0
SBR	167	167	0
EBL	324	324	0
EBT	1,735	1,736	-1
EBR	303	303	0
WBL	180	180	0
WBT	1,484	1,483	1
WBR	202	202	0

13. Euclid Street at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	312	NORTHBOUND	
	THRU	661	IN ...	1,268
	RIGHT	164	OUT ...	990
SOUTH BOUND	LEFT	130	SOUTHBOUND	
	THRU	486	IN ...	709
	RIGHT	66	OUT ...	1,172
EAST BOUND	LEFT	122	EASTBOUND	
	THRU	1339	IN ...	1,968
	RIGHT	233	OUT ...	2,111
WEST BOUND	LEFT	243	WESTBOUND	
	THRU	1731	IN ...	2,169
	RIGHT	183	OUT ...	1,841

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	312	348
	THRU	661	789
	RIGHT	164	218
SOUTH BOUND	LEFT	130	183
	THRU	486	554
	RIGHT	66	96
EAST BOUND	LEFT	122	168
	THRU	1,339	1,696
	RIGHT	233	259
WEST BOUND	LEFT	243	322
	THRU	1,731	2,242
	RIGHT	183	248

13. Euclid Street at Imperial Highway
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	167.81	1540.67	259.51	0	0	1968
INBOUNI	2	71.04	0	138.12	499.83	0	0	709
	3	1722.97	214.94	0	231.1	0	0	2169
LINK	4	315.52	788.77	163.7	0	0	0	1268
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2109.53	1171.52	1842.5	990.44	0	0	6114
FUTURE OUTFLO\		2111	1172	1841	990	0	0	6114
DIFFERENCE (%)		-0.0696	-0.0406	0.0815	0.0449	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	168	1,539	259	0	0	1,967	1,968	-0.1
INBOUNI	2	71	0	138	500	0	0	709	709	0.0
	3	1,724	215	0	231	0	0	2,170	2,169	0.1
LINK	4	316	789	164	0	0	0	1,268	1,268	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,114	
STARTING		2,111	1,172	1,841	990	0	0	6,114		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	316	316	0
NBT	789	789	0
NBR	164	164	0
SBL	138	138	0
SBT	500	500	0
SBR	71	71	0
EBL	168	168	0
EBT	1,541	1,539	1
EBR	260	259	0
WBL	231	231	0
WBT	1,723	1,724	-1
WBR	215	215	0

14. Harbor Boulevard at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	351	NORTHBOUND	
	THRU	1075	IN ...	2,017
	RIGHT	206	OUT ...	1,557
SOUTH BOUND	LEFT	183	SOUTHBOUND	
	THRU	708	IN ...	1,129
	RIGHT	156	OUT ...	1,072
EAST BOUND	LEFT	254	EASTBOUND	
	THRU	1126	IN ...	1,641
	RIGHT	205	OUT ...	1,926
WEST BOUND	LEFT	366	WESTBOUND	
	THRU	1452	IN ...	1,332
	RIGHT	205	OUT ...	1,564

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	351	805
	THRU	1,075	1,234
	RIGHT	206	321
SOUTH BOUND	LEFT	183	313
	THRU	708	862
	RIGHT	156	373
EAST BOUND	LEFT	254	383
	THRU	1,126	1,430
	RIGHT	205	383
WEST BOUND	LEFT	366	419
	THRU	1,452	1,817
	RIGHT	205	315

14. Harbor Boulevard at Imperial Highway

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	134.67	1123.91	382.42	0	0	1641
INBOUNI	2	149.46	0	119.01	860.53	0	0	1129
	3	971.77	49.47	0	310.75	0	0	1332
LINK	4	805.93	890	321.07	0	0	0	2017
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1927.16	1074.15	1563.99	1553.7	0	0	6119
FUTURE OUTFLO\		1926	1072	1564	1557	0	0	6119
DIFFERENCE (%)		0.0602	0.2003	-0.0006	-0.2117	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	134	1,124	383	0	0	1,642	1,641	0.0
INBOUNI	2	149	0	119	862	0	0	1,131	1,129	0.2
	3	971	49	0	311	0	0	1,332	1,332	0.0
LINK	4	805	888	321	0	0	0	2,015	2,017	-0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,119	
STARTING		1,926	1,072	1,564	1,557	0	0	6,119		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	806	805	0
NBT	890	888	2
NBR	321	321	0
SBL	119	119	0
SBT	861	862	-2
SBR	149	149	0
EBL	135	134	0
EBT	1,124	1,124	0
EBR	382	383	-1
WBL	311	311	-1
WBT	972	971	1
WBR	49	49	0

15. Beach Boulevard at Lambert Road

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	376	NORTHBOUND	
	THRU	1476	IN ...	2,043
	RIGHT	292	OUT ...	2,596
SOUTH BOUND	LEFT	239	SOUTHBOUND	
	THRU	1183	IN ...	1,420
	RIGHT	90	OUT ...	1,716
EAST BOUND	LEFT	179	EASTBOUND	
	THRU	936	IN ...	1,419
	RIGHT	267	OUT ...	2,005
WEST BOUND	LEFT	461	WESTBOUND	
	THRU	1069	IN ...	2,652
	RIGHT	177	OUT ...	1,216

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	376	428
	THRU	1,476	1,713
	RIGHT	292	341
SOUTH BOUND	LEFT	239	266
	THRU	1,183	1,403
	RIGHT	90	101
EAST BOUND	LEFT	179	199
	THRU	936	1,076
	RIGHT	267	433
WEST BOUND	LEFT	461	939
	THRU	1,069	1,513
	RIGHT	177	202

15. Beach Boulevard at Lambert Road
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	162.9	823.62	432.48	0	0	1419
INBOUNI	2	64.63	0	134.04	1221.32	0	0	1420
	3	1512.25	202.24	0	937.51	0	0	2652
LINK	4	427.67	1355.96	259.37	0	0	0	2043
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2004.56	1721.09	1217.04	2591.31	0	0	7534
FUTURE OUTFLO\		2005	1716	1216	2596	0	0	7533
DIFFERENCE (%)		-0.0222	0.2969	0.0852	-0.1806	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	162	823	433	0	0	1,419	1,419	0.0
INBOUNI	2	65	0	134	1,224	0	0	1,422	1,420	0.1
	3	1,513	202	0	939	0	0	2,653	2,652	0.1
LINK	4	428	1,352	259	0	0	0	2,039	2,043	-0.2
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									7,534	
STARTING		2,005	1,716	1,216	2,596	0	0	7,533		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	428	428	0
NBT	1,356	1,352	4
NBR	259	259	0
SBL	134	134	0
SBT	1,221	1,224	-2
SBR	65	65	0
EBL	163	162	0
EBT	824	823	1
EBR	432	433	-1
WBL	938	939	-2
WBT	1,512	1,513	0
WBR	202	202	1

16. Idaho Street at Lambert Road

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	217	NORTHBOUND	
	THRU	672	IN ...	1,358
	RIGHT	226	OUT ...	1,011
SOUTH BOUND	LEFT	80	SOUTHBOUND	
	THRU	526	IN ...	785
	RIGHT	106	OUT ...	1,015
EAST BOUND	LEFT	73	EASTBOUND	
	THRU	1125	IN ...	1,144
	RIGHT	196	OUT ...	2,545
WEST BOUND	LEFT	183	WESTBOUND	
	THRU	1313	IN ...	2,484
	RIGHT	92	OUT ...	1,200

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	217	304
	THRU	672	819
	RIGHT	226	251
SOUTH BOUND	LEFT	80	89
	THRU	526	576
	RIGHT	106	134
EAST BOUND	LEFT	73	82
	THRU	1,125	1,301
	RIGHT	196	218
WEST BOUND	LEFT	183	254
	THRU	1,313	2,107
	RIGHT	92	128

16. Idaho Street at Lambert Road
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	67.92	894.79	181.29	0	0	1144
INBOUNI	2	133.7	0	75.33	575.97	0	0	785
	3	2101.21	128.56	0	254.23	0	0	2484
LINK	4	303.02	819.41	235.58	0	0	0	1358
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2537.93	1015.89	1205.69	1011.49	0	0	5771
FUTURE OUTFLO\		2545	1015	1200	1011	0	0	5771
DIFFERENCE (%)		-0.2778	0.0876	0.4742	0.0486	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	68	891	181	0	0	1,140	1,144	-0.4
INBOUNI	2	134	0	75	576	0	0	785	785	0.0
	3	2,107	128	0	254	0	0	2,490	2,484	0.2
LINK	4	304	819	234	0	0	0	1,357	1,358	-0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									5,771	
STARTING		2,545	1,015	1,200	1,011	0	0	5,771		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	303	304	-1
NBT	819	819	1
NBR	236	234	1
SBL	75	75	0
SBT	576	576	0
SBR	134	134	0
EBL	68	68	0
EBT	895	891	4
EBR	181	181	0
WBL	254	254	0
WBT	2,101	2,107	-6
WBR	129	128	0

17. Euclid Street at Lambert Road

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	104	NORTHBOUND	
	THRU	687	IN ...	1062
	RIGHT	71	OUT ...	656
SOUTH BOUND	LEFT	43	SOUTHBOUND	
	THRU	408	IN ...	956
	RIGHT	74	OUT ...	1289
EAST BOUND	LEFT	129	EASTBOUND	
	THRU	1088	IN ...	1102
	RIGHT	130	OUT ...	2525
WEST BOUND	LEFT	95	WESTBOUND	
	THRU	1444	IN ...	2564
	RIGHT	96	OUT ...	1212

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	104	129
	THRU	687	908
	RIGHT	71	82
SOUTH BOUND	LEFT	43	185
	THRU	408	552
	RIGHT	74	215
EAST BOUND	LEFT	129	143
	THRU	1,088	1,249
	RIGHT	130	159
WEST BOUND	LEFT	95	106
	THRU	1,444	2,229
	RIGHT	96	252

17. Euclid Street at Lambert Road
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	127.84	938.3	35.86	0	0	1102
INBOUNI	2	216.44	0	183.29	556.27	0	0	956
	3	2245.18	249.97	0	68.85	0	0	2564
LINK	4	81.33	899.75	80.92	0	0	0	1062
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2542.95	1277.56	1202.51	660.98	0	0	5684
FUTURE OUTFLO\		2525	1289	1212	656	0	0	5682
DIFFERENCE (%)		0.7108	-0.8873	-0.7829	0.7589	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	129	946	36	0	0	1,110	1,102	0.8
INBOUNI	2	215	0	185	552	0	0	952	956	-0.4
	3	2,229	252	0	68	0	0	2,550	2,564	-0.6
LINK	4	81	908	82	0	0	0	1,070	1,062	0.8
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									5,684	
STARTING		2,525	1,289	1,212	656	0	0	5,682		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	81	81	1
NBT	900	908	-8
NBR	81	82	-1
SBL	183	185	-1
SBT	556	552	4
SBR	216	215	2
EBL	128	129	-1
EBT	938	946	-7
EBR	36	36	0
WBL	69	68	1
WBT	2,245	2,229	16
WBR	250	252	-2

18. Harbor Boulevard at Lambert Road

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	220	NORTHBOUND	
	THRU	1116	IN ...	839
	RIGHT	82	OUT ...	1190
SOUTH BOUND	LEFT	142	SOUTHBOUND	
	THRU	898	IN ...	1328
	RIGHT	206	OUT ...	1488
EAST BOUND	LEFT	202	EASTBOUND	
	THRU	806	IN ...	1259
	RIGHT	175	OUT ...	2645
WEST BOUND	LEFT	152	WESTBOUND	
	THRU	1313	IN ...	3142
	RIGHT	276	OUT ...	1246

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	220	281
	THRU	1,116	1,331
	RIGHT	82	198
SOUTH BOUND	LEFT	142	241
	THRU	898	1,079
	RIGHT	206	235
EAST BOUND	LEFT	202	225
	THRU	806	946
	RIGHT	175	209
WEST BOUND	LEFT	152	338
	THRU	1,313	2,305
	RIGHT	276	612

18. Harbor Boulevard at Lambert Road

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	201.27	942.82	114.91	0	0	1259
INBOUNI	2	235.45	0	240.13	852.42	0	0	1328
	3	2308.51	611.54	0	221.95	0	0	3142
LINK	4	105.61	675.15	58.24	0	0	0	839
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2649.57	1487.97	1241.18	1189.28	0	0	6568
FUTURE OUTFLO\		2645	1488	1246	1190	0	0	6569
DIFFERENCE (%)		0.1726	-0.0023	-0.3865	-0.0601	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	201	946	115	0	0	1,263	1,259	0.3
INBOUNI	2	235	0	241	853	0	0	1,329	1,328	0.1
	3	2,305	612	0	222	0	0	3,138	3,142	-0.1
LINK	4	105	675	58	0	0	0	839	839	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,568	
STARTING		2,645	1,488	1,246	1,190	0	0	6,569		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	106	105	0
NBT	675	675	0
NBR	58	58	0
SBL	240	241	-1
SBT	852	853	-1
SBR	235	235	0
EBL	201	201	0
EBT	943	946	-4
EBR	115	115	0
WBL	222	222	0
WBT	2,309	2,305	4
WBR	612	612	0

19. La Mirada Boulevard at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	362	NORTHBOUND	
	THRU	797	IN ...	779
	RIGHT	130	OUT ...	1,292
SOUTH BOUND	LEFT	260	SOUTHBOUND	
	THRU	738	IN ...	1,081
	RIGHT	79	OUT ...	391
EAST BOUND	LEFT	107	EASTBOUND	
	THRU	1193	IN ...	1,649
	RIGHT	320	OUT ...	1,927
WEST BOUND	LEFT	207	WESTBOUND	
	THRU	1035	IN ...	1,668
	RIGHT	119	OUT ...	1,563

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	362	401
	THRU	797	920
	RIGHT	130	145
SOUTH BOUND	LEFT	260	305
	THRU	738	856
	RIGHT	79	109
EAST BOUND	LEFT	107	121
	THRU	1,193	1,469
	RIGHT	320	358
WEST BOUND	LEFT	207	230
	THRU	1,035	1,417
	RIGHT	119	151

19. La Mirada Boulevard at Imperial Highway

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	53.72	1236.54	358.75	0	0	1649
INBOUNI	2	108.79	0	238.86	733.35	0	0	1081
	3	1411.79	52.45	0	203.76	0	0	1668
LINK	4	399.28	284.06	95.66	0	0	0	779
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1919.86	390.22	1571.06	1295.85	0	0	5177
FUTURE OUTFLO\		1927	391	1563	1292	0	0	5173
DIFFERENCE (%)		-0.3706	-0.1984	0.5159	0.2983	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	54	1,230	358	0	0	1,642	1,649	-0.4
INBOUNI	2	109	0	238	731	0	0	1,078	1,081	-0.3
	3	1,417	53	0	203	0	0	1,673	1,668	0.3
LINK	4	401	285	95	0	0	0	781	779	0.2
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									5,177	
STARTING		1,927	391	1,563	1,292	0	0	5,173		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	399	401	-1
NBT	284	285	-1
NBR	96	95	0
SBL	239	238	1
SBT	733	731	2
SBR	109	109	0
EBL	54	54	0
EBT	1,237	1,230	6
EBR	359	358	1
WBL	204	203	1
WBT	1,412	1,417	-5
WBR	52	53	0

20. Beach Boulevard at La Mirada Boulevard/Malvern Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	555	NORTHBOUND	
	THRU	1753	IN ...	2,538
	RIGHT	173	OUT ...	1,984
SOUTH BOUND	LEFT	185	SOUTHBOUND	
	THRU	1290	IN ...	1,793
	RIGHT	164	OUT ...	2,366
EAST BOUND	LEFT	306	EASTBOUND	
	THRU	632	IN ...	1,345
	RIGHT	433	OUT ...	1,714
WEST BOUND	LEFT	239	WESTBOUND	
	THRU	860	IN ...	1,389
	RIGHT	222	OUT ...	1,002

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	555	664
	THRU	1,753	2,068
	RIGHT	173	206
SOUTH BOUND	LEFT	185	213
	THRU	1,290	1,562
	RIGHT	164	261
EAST BOUND	LEFT	306	388
	THRU	632	713
	RIGHT	433	514
WEST BOUND	LEFT	239	277
	THRU	860	932
	RIGHT	222	239

20. Beach Boulevard at La Mirada Boulevard/Malvern Avenue
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	326.17	624.44	394.39	0	0	1345
INBOUNI	2	206.23	0	213.62	1373.16	0	0	1793
	3	931.61	238.23	0	219.16	0	0	1389
LINK	4	574.84	1798.63	164.54	0	0	0	2538
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1712.67	2363.03	1002.6	1986.71	0	0	7065
FUTURE OUTFLO\		1714	2366	1002	1984	0	0	7066
DIFFERENCE (%)		-0.0775	-0.1257	0.0594	0.1365	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	327	624	394	0	0	1,345	1,345	0.0
INBOUNI	2	206	0	213	1,371	0	0	1,791	1,793	-0.1
	3	932	239	0	219	0	0	1,390	1,389	0.1
LINK	4	575	1,801	164	0	0	0	2,541	2,538	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									7,065	
STARTING		1,714	2,366	1,002	1,984	0	0	7,066		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	575	575	0
NBT	1,799	1,801	-2
NBR	165	164	0
SBL	214	213	0
SBT	1,373	1,371	2
SBR	206	206	0
EBL	326	327	0
EBT	624	624	0
EBR	394	394	1
WBL	219	219	0
WBT	932	932	-1
WBR	238	239	0

21. Beach Boulevard at La Habra Boulevard

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	246	NORTHBOUND	
BOUND	THRU	1265	IN ...	1,683
	RIGHT	300	OUT ...	1,454
SOUTH	LEFT	181	SOUTHBOUND	
BOUND	THRU	1228	IN ...	1,349
	RIGHT	128	OUT ...	1,284
EAST	LEFT	230	EASTBOUND	
BOUND	THRU	645	IN ...	1,047
	RIGHT	139	OUT ...	995
WEST	LEFT	179	WESTBOUND	
BOUND	THRU	589	IN ...	955
	RIGHT	100	OUT ...	1,302

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	246	273
BOUND	THRU	1,265	1,449
	RIGHT	300	392
SOUTH	LEFT	181	201
BOUND	THRU	1,228	1,425
	RIGHT	128	142
EAST	LEFT	230	257
BOUND	THRU	645	737
	RIGHT	139	155
WEST	LEFT	179	227
BOUND	THRU	589	643
	RIGHT	100	111

21. Beach Boulevard at La Habra Boulevard
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

		OUTBOUND LINK						FUT. IN-FLOW
		1	2	3	4	5	6	
	1	0	164.51	736.89	145.61	0	0	1047
INBOUNI	2	97.16	0	173.37	1078.47	0	0	1349
	3	642.77	86.21	0	226.01	0	0	955
LINK	4	254.95	1035.71	392.33	0	0	0	1683
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		994.88	1286.43	1302.59	1450.09	0	0	5034
FUTURE OUTFLO\		995	1284	1302	1454	0	0	5035
DIFFERENCE (%)		-0.0116	0.1895	0.0452	-0.2686	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
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*** RESULTS ***

		OUTBOUND LINK						ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
		1	2	3	4	5	6			
	1	0	164	737	146	0	0	1,047	1,047	0.0
INBOUNI	2	97	0	173	1,081	0	0	1,352	1,349	0.2
	3	643	86	0	227	0	0	956	955	0.1
LINK	4	255	1,034	392	0	0	0	1,681	1,683	-0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									5,034	
STARTING		995	1,284	1,302	1,454	0	0	5,035		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	255	255	0
NBT	1,036	1,034	2
NBR	392	392	0
SBL	173	173	0
SBT	1,078	1,081	-3
SBR	97	97	0
EBL	165	164	0
EBT	737	737	0
EBR	146	146	0
WBL	226	227	-1
WBT	643	643	0
WBR	86	86	0

22. Valley View Avenue at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	235	NORTHBOUND	
	THRU	838	IN ...	1,337
	RIGHT	187	OUT ...	1,195
SOUTH BOUND	LEFT	84	SOUTHBOUND	
	THRU	719	IN ...	951
	RIGHT	57	OUT ...	1,183
EAST BOUND	LEFT	135	EASTBOUND	
	THRU	1049	IN ...	1,102
	RIGHT	216	OUT ...	1,016
WEST BOUND	LEFT	197	WESTBOUND	
	THRU	757	IN ...	1,088
	RIGHT	74	OUT ...	1,085

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	235	292
	THRU	838	959
	RIGHT	187	231
SOUTH BOUND	LEFT	84	93
	THRU	719	801
	RIGHT	57	64
EAST BOUND	LEFT	135	151
	THRU	1,049	1,282
	RIGHT	216	289
WEST BOUND	LEFT	197	244
	THRU	757	987
	RIGHT	74	100

22. Valley View Avenue at Imperial Highway
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	123.66	810.52	167.82	0	0	1102
INBOUNI	2	55.67	0	93.2	802.13	0	0	951
	3	761.42	100.24	0	226.34	0	0	1088
LINK	4	199.36	957.42	180.21	0	0	0	1337
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1016.46	1181.33	1083.93	1196.28	0	0	4478
FUTURE OUTFLO\		1016	1183	1085	1195	0	0	4479
DIFFERENCE (%)		0.0448	-0.1415	-0.0982	0.1075	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	124	811	168	0	0	1,103	1,102	0.1
INBOUNI	2	56	0	93	801	0	0	950	951	-0.1
	3	761	100	0	226	0	0	1,088	1,088	0.0
LINK	4	199	959	180	0	0	0	1,338	1,337	0.1
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,478	
STARTING		1,016	1,183	1,085	1,195	0	0	4,479		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	199	199	0
NBT	957	959	-1
NBR	180	180	0
SBL	93	93	0
SBT	802	801	1
SBR	56	56	0
EBL	124	124	0
EBT	811	811	-1
EBR	168	168	0
WBL	226	226	0
WBT	761	761	0
WBR	100	100	0

23. Beach Boulevard at Artesia Boulevard

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	87	NORTHBOUND	
	THRU	1791	IN ...	2,163
	RIGHT	61	OUT ...	2,012
SOUTH BOUND	LEFT	140	SOUTHBOUND	
	THRU	1630	IN ...	2,297
	RIGHT	303	OUT ...	2,846
EAST BOUND	LEFT	513	EASTBOUND	
	THRU	562	IN ...	1,384
	RIGHT	78	OUT ...	1,031
WEST BOUND	LEFT	100	WESTBOUND	
	THRU	485	IN ...	875
	RIGHT	222	OUT ...	831

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	87	155
	THRU	1,791	2,160
	RIGHT	61	70
SOUTH BOUND	LEFT	140	156
	THRU	1,630	1,973
	RIGHT	303	366
EAST BOUND	LEFT	513	642
	THRU	562	637
	RIGHT	78	125
WEST BOUND	LEFT	100	112
	THRU	485	553
	RIGHT	222	249

23. Beach Boulevard at Artesia Boulevard

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	642.74	637.92	103.34	0	0	1384
INBOUNI	2	365.6	0	132.38	1799.02	0	0	2297
	3	552.21	218.64	0	104.15	0	0	875
LINK	4	111.74	1989.86	61.4	0	0	0	2163
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1029.55	2851.24	831.7	2006.51	0	0	6719
FUTURE OUTFLO\		1031	2846	831	2012	0	0	6720
DIFFERENCE (%)		-0.1408	0.1841	0.0842	-0.2727	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	642	637	104	0	0	1,383	1,384	-0.1
INBOUNI	2	366	0	132	1,804	0	0	2,302	2,297	0.2
	3	553	218	0	104	0	0	876	875	0.1
LINK	4	112	1,986	61	0	0	0	2,159	2,163	-0.2
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									6,719	
STARTING		1,031	2,846	831	2,012	0	0	6,720		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	112	112	0
NBT	1,990	1,986	4
NBR	61	61	0
SBL	132	132	0
SBT	1,799	1,804	-5
SBR	366	366	-1
EBL	643	642	1
EBT	638	637	1
EBR	103	104	0
WBL	104	104	0
WBT	552	553	-1
WBR	219	218	0

24. Beach Boulevard at Commonwealth Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	31	NORTHBOUND	
	THRU	1765	IN ...	2,044
	RIGHT	126	OUT ...	1,943
SOUTH BOUND	LEFT	79	SOUTHBOUND	
	THRU	1652	IN ...	1,985
	RIGHT	70	OUT ...	2,145
EAST BOUND	LEFT	77	EASTBOUND	
	THRU	203	IN ...	256
	RIGHT	37	OUT ...	236
WEST BOUND	LEFT	125	WESTBOUND	
	THRU	223	IN ...	419
	RIGHT	119	OUT ...	381

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	31	35
	THRU	1,765	2,168
	RIGHT	126	170
SOUTH BOUND	LEFT	79	100
	THRU	1,652	2,015
	RIGHT	70	88
EAST BOUND	LEFT	77	101
	THRU	203	250
	RIGHT	37	41
WEST BOUND	LEFT	125	165
	THRU	223	264
	RIGHT	119	146

24. Beach Boulevard at Commonwealth Avenue
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	69.49	160.86	25.65	0	0	256
INBOUNI	2	58.91	0	99.82	1826.27	0	0	1985
	3	158.19	144.34	0	116.47	0	0	419
LINK	4	19.57	1905.03	119.4	0	0	0	2044
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		236.67	2118.87	380.08	1968.39	0	0	4704
FUTURE OUTFLO\		236	2145	381	1943	0	0	4705
DIFFERENCE (%)		0.2821	-1.2184	-0.2417	1.3067	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	70	161	25	0	0	257	256	0.4
INBOUNI	2	59	0	100	1,803	0	0	1,962	1,985	-1.2
	3	158	146	0	115	0	0	419	419	0.0
LINK	4	20	1,929	120	0	0	0	2,068	2,044	1.2
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,704	
STARTING		236	2,145	381	1,943	0	0	4,705		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	20	20	0
NBT	1,905	1,929	-23
NBR	119	120	0
SBL	100	100	0
SBT	1,826	1,803	24
SBR	59	59	0
EBL	69	70	-1
EBT	161	161	0
EBR	26	25	0
WBL	116	115	2
WBT	158	158	0
WBR	144	146	-2

25. I-5 NB Ramps at Auto Center Drive

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	517	NORTHBOUND	
	THRU	12	IN ...	937
	RIGHT	354	OUT ...	214
SOUTH BOUND	LEFT	25	SOUTHBOUND	
	THRU	7	IN ...	45
	RIGHT	13	OUT ...	25
EAST BOUND	LEFT	7	EASTBOUND	
	THRU	131	IN ...	199
	RIGHT	47	OUT ...	675
WEST BOUND	LEFT	126	WESTBOUND	
	THRU	111	IN ...	263
	RIGHT	6	OUT ...	530

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	517	553
	THRU	12	14
	RIGHT	354	422
SOUTH BOUND	LEFT	25	28
	THRU	7	8
	RIGHT	13	15
EAST BOUND	LEFT	7	7
	THRU	131	151
	RIGHT	47	58
WEST BOUND	LEFT	126	184
	THRU	111	128
	RIGHT	6	6

25. I-5 NB Ramps at Auto Center Drive
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	6.99	133.95	58.06	0	0	199
INBOUNI	2	12.75	0	24.1	8.15	0	0	45
	3	109.59	5.69	0	147.72	0	0	263
LINK	4	552.7	12.32	371.99	0	0	0	937
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		675.03	25	530.03	213.94	0	0	1444
FUTURE OUTFLO\		675	25	530	214	0	0	1444
DIFFERENCE (%)		0.0047	-0.0055	0.0063	-0.0298	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	7	134	58	0	0	199	199	0.0
INBOUNI	2	13	0	24	8	0	0	45	45	0.0
	3	110	6	0	148	0	0	263	263	0.0
LINK	4	553	12	372	0	0	0	937	937	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									1,444	
STARTING		675	25	530	214	0	0	1,444		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	553	553	0
NBT	12	12	0
NBR	372	372	0
SBL	24	24	0
SBT	8	8	0
SBR	13	13	0
EBL	7	7	0
EBT	134	134	0
EBR	58	58	0
WBL	148	148	0
WBT	110	110	0
WBR	6	6	0

26. Beach Boulevard at Auto Center Drive

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	85	NORTHBOUND	
	THRU	1155	IN ...	1142
	RIGHT	86	OUT ...	1901
SOUTH BOUND	LEFT	22	SOUTHBOUND	
	THRU	1753	IN ...	1785
	RIGHT	37	OUT ...	1848
EAST BOUND	LEFT	312	EASTBOUND	
	THRU	58	IN ...	527
	RIGHT	157	OUT ...	241
WEST BOUND	LEFT	113	WESTBOUND	
	THRU	112	IN ...	735
	RIGHT	408	OUT ...	200

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	85	134
	THRU	1,155	1,495
	RIGHT	86	95
SOUTH BOUND	LEFT	22	36
	THRU	1,753	2,142
	RIGHT	37	54
EAST BOUND	LEFT	312	373
	THRU	58	75
	RIGHT	157	183
WEST BOUND	LEFT	113	126
	THRU	112	128
	RIGHT	408	513

26. Beach Boulevard at Auto Center Drive
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	333.67	74.44	118.89	0	0	527
INBOUNI	2	46.27	0	36.22	1702.52	0	0	1785
	3	127.17	508.17	0	99.65	0	0	735
LINK	4	66.25	987.51	88.24	0	0	0	1142
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		239.69	1829.35	198.9	1921.06	0	0	4189
FUTURE OUTFLO\		241	1848	200	1901	0	0	4190
DIFFERENCE (%)		-0.5445	-1.0091	-0.5493	1.0552	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	337	75	118	0	0	530	527	0.5
INBOUNI	2	47	0	36	1,685	0	0	1,768	1,785	-1.0
	3	128	513	0	99	0	0	740	735	0.7
LINK	4	67	998	89	0	0	0	1,153	1,142	1.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,189	
STARTING		241	1,848	200	1,901	0	0	4,190		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	66	67	0
NBT	988	998	-10
NBR	88	89	0
SBL	36	36	0
SBT	1,703	1,685	18
SBR	46	47	0
EBL	334	337	-3
EBT	74	75	0
EBR	119	118	1
WBL	100	99	1
WBT	127	128	-1
WBR	508	513	-5

27. Beach Boulevard at I-5 SB Ramps

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	1237	IN ...	1,457
	RIGHT	234	OUT ...	1,615
SOUTH BOUND	LEFT	656	SOUTHBOUND	
	THRU	1377	IN ...	1,931
	RIGHT	0	OUT ...	1,124
EAST BOUND	LEFT	77	EASTBOUND	
	THRU	0	IN ...	356
	RIGHT	245	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	1,006

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	1,237	1,606
	RIGHT	234	372
SOUTH BOUND	LEFT	656	746
	THRU	1,377	1,715
	RIGHT	0	0
EAST BOUND	LEFT	77	104
	THRU	0	0
	RIGHT	245	305
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

27. Beach Boulevard at I-5 SB Ramps
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	53.64	0	302.36	0	0	356
INBOUNI	2	0	0	633.02	1297.98	0	0	1931
	3	0	0	0	0	0	0	0
LINK	4	0	1084.82	372.18	0	0	0	1457
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		0	1138.46	1005.2	1600.35	0	0	3744
FUTURE OUTFLO\		0	1124	1006	1615	0	0	3745
DIFFERENCE (%)		0	1.2861	-0.0796	-0.9074	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	53	0	305	0	0	358	356	0.6
INBOUNI	2	0	0	634	1,310	0	0	1,943	1,931	0.6
	3	0	0	0	0	0	0	0	0	0.0
LINK	4	0	1,071	372	0	0	0	1,444	1,457	-0.9
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									3,744	
STARTING		0	1,124	1,006	1,615	0	0	3,745		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	0	0	0
NBT	1,085	1,071	14
NBR	372	372	0
SBL	633	634	-1
SBT	1,298	1,310	-12
SBR	0	0	0
EBL	54	53	1
EBT	0	0	0
EBR	302	305	-3
WBL	0	0	0
WBT	0	0	0
WBR	0	0	0

32. Beach Boulevard at Whittier Boulevard

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	409	NORTHBOUND	
	THRU	69	IN ...	1,219
	RIGHT	1089	OUT ...	1,120
SOUTH BOUND	LEFT	101	SOUTHBOUND	
	THRU	44	IN ...	170
	RIGHT	25	OUT ...	132
EAST BOUND	LEFT	42	EASTBOUND	
	THRU	977	IN ...	1,416
	RIGHT	430	OUT ...	1,165
WEST BOUND	LEFT	860	WESTBOUND	
	THRU	911	IN ...	1,602
	RIGHT	21	OUT ...	1,989

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	409	475
	THRU	69	76
	RIGHT	1,089	1,232
SOUTH BOUND	LEFT	101	108
	THRU	44	49
	RIGHT	25	28
EAST BOUND	LEFT	42	48
	THRU	977	1,145
	RIGHT	430	502
WEST BOUND	LEFT	860	991
	THRU	911	1,103
	RIGHT	21	24

32. Beach Boulevard at Whittier Boulevard
PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	47.58	1011.21	357.21	0	0	1416
INBOUNI	2	23.84	0	108.29	37.86	0	0	170
	3	852.06	24.17	0	725.77	0	0	1602
LINK	4	290.18	60.24	868.59	0	0	0	1219
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1166.08	131.98	1988.09	1120.85	0	0	4407
FUTURE OUTFLO\		1165	132	1989	1120	0	0	4406
DIFFERENCE (%)		0.0926	-0.012	-0.0457	0.0755	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	48	1,012	357	0	0	1,416	1,416	0.0
INBOUNI	2	24	0	108	38	0	0	170	170	0.0
	3	851	24	0	725	0	0	1,601	1,602	-0.1
LINK	4	290	60	869	0	0	0	1,219	1,219	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,407	
STARTING		1,165	132	1,989	1,120	0	0	4,406		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	290	290	0
NBT	60	60	0
NBR	869	869	0
SBL	108	108	0
SBT	38	38	0
SBR	24	24	0
EBL	48	48	0
EBT	1,011	1,012	0
EBR	357	357	0
WBL	726	725	1
WBT	852	851	1
WBR	24	24	0

33. Hacienda Road at Whittier Boulevard

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	44	NORTHBOUND	
	THRU	76	IN ...	214
	RIGHT	82	OUT ...	137
SOUTH BOUND	LEFT	286	SOUTHBOUND	
	THRU	26	IN ...	1,356
	RIGHT	739	OUT ...	1,735
EAST BOUND	LEFT	714	EASTBOUND	
	THRU	1286	IN ...	1,834
	RIGHT	12	OUT ...	1,694
WEST BOUND	LEFT	83	WESTBOUND	
	THRU	1101	IN ...	1,829
	RIGHT	425	OUT ...	1,667

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	44	49
	THRU	76	105
	RIGHT	82	91
SOUTH BOUND	LEFT	286	542
	THRU	26	37
	RIGHT	739	841
EAST BOUND	LEFT	714	786
	THRU	1,286	1,500
	RIGHT	12	14
WEST BOUND	LEFT	83	92
	THRU	1,101	1,331
	RIGHT	425	844

33. Hacienda Road at Whittier Boulevard

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	785.6	1041.01	7.39	0	0	1834
INBOUNI	2	777	0	541.55	37.45	0	0	1356
	3	892.98	843.79	0	92.23	0	0	1829
LINK	4	24.93	105.4	83.67	0	0	0	214
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1694.91	1734.79	1666.22	137.07	0	0	5233
FUTURE OUTFLO\		1694	1735	1667	137	0	0	5233
DIFFERENCE (%)		0.0539	-0.0119	-0.0467	0.0519	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	786	1,041	7	0	0	1,835	1,834	0.0
INBOUNI	2	777	0	542	37	0	0	1,356	1,356	0.0
	3	893	844	0	92	0	0	1,829	1,829	0.0
LINK	4	25	105	84	0	0	0	214	214	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									5,233	
STARTING		1,694	1,735	1,667	137	0	0	5,233		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	25	25	0
NBT	105	105	0
NBR	84	84	0
SBL	542	542	0
SBT	37	37	0
SBR	777	777	0
EBL	786	786	0
EBT	1,041	1,041	0
EBR	7	7	0
WBL	92	92	0
WBT	893	893	0
WBR	844	844	0

34. Walnut Street at Imperial Highway

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	11	SOUTHBOUND	
	THRU	0	IN ...	85
	RIGHT	71	OUT ...	249
EAST BOUND	LEFT	113	EASTBOUND	
	THRU	1696	IN ...	2,084
	RIGHT	0	OUT ...	2,119
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	2043	IN ...	2,180
	RIGHT	135	OUT ...	1,981

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
SOUTH BOUND	LEFT	11	18
	THRU	0	0
	RIGHT	71	80
EAST BOUND	LEFT	113	120
	THRU	1,696	2,134
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	2,043	2,583
	RIGHT	135	155

34. Walnut Street at Imperial Highway

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	119.91	1964.09	0	0	0	2084
INBOUNI	2	73.21	0	11.79	0	0	0	85
	3	2050.91	129.09	0	0	0	0	2180
LINK	4	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		2124.12	249	1975.88	0	0	0	4349
FUTURE OUTFLO\		2119	249	1981	0	0	0	4349
DIFFERENCE (%)		0.2418	-0.0001	-0.2586	0	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	120	1,969	0	0	0	2,089	2,084	0.2
INBOUNI	2	73	0	12	0	0	0	85	85	-0.2
	3	2,046	129	0	0	0	0	2,175	2,180	-0.2
LINK	4	0	0	0	0	0	0	0	0	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,349	
STARTING		2,119	249	1,981	0	0	0	4,349		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	0	0	0
NBT	0	0	0
NBR	0	0	0
SBL	12	12	0
SBT	0	0	0
SBR	73	73	0
EBL	120	120	0
EBT	1,964	1,969	-5
EBR	0	0	0
WBL	0	0	0
WBT	2,051	2,046	5
WBR	129	129	0

35. Gilbert Street at Malvern Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	171	NORTHBOUND	
	THRU	1085	IN ...	2,052
	RIGHT	582	OUT ...	1,020
SOUTH BOUND	LEFT	94	SOUTHBOUND	
	THRU	544	IN ...	895
	RIGHT	175	OUT ...	1,751
EAST BOUND	LEFT	385	EASTBOUND	
	THRU	823	IN ...	1,277
	RIGHT	100	OUT ...	1,584
WEST BOUND	LEFT	472	WESTBOUND	
	THRU	958	IN ...	1,692
	RIGHT	201	OUT ...	1,562

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	171	228
	THRU	1,085	1,336
	RIGHT	582	640
SOUTH BOUND	LEFT	94	144
	THRU	544	690
	RIGHT	175	244
EAST BOUND	LEFT	385	428
	THRU	823	918
	RIGHT	100	112
WEST BOUND	LEFT	472	526
	THRU	958	1,111
	RIGHT	201	283

35. Gilbert Street at Malvern Avenue

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	377.43	813.91	85.66	0	0	1277
INBOUNI	2	244.24	0	108.23	542.53	0	0	895
	3	1110.49	190.54	0	390.97	0	0	1692
LINK	4	228.08	1183.5	640.42	0	0	0	2052
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1582.81	1751.47	1562.56	1019.16	0	0	5916
FUTURE OUTFLO\		1584	1751	1562	1020	0	0	5917
DIFFERENCE (%)		-0.0751	0.0267	0.0356	-0.0819	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	377	814	86	0	0	1,277	1,277	0.0
INBOUNI	2	244	0	108	543	0	0	896	895	0.1
	3	1,111	190	0	391	0	0	1,693	1,692	0.1
LINK	4	228	1,183	640	0	0	0	2,052	2,052	0.0
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									5,916	
STARTING		1,584	1,751	1,562	1,020	0	0	5,917		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	228	228	0
NBT	1,183	1,183	0
NBR	640	640	0
SBL	108	108	0
SBT	543	543	0
SBR	244	244	0
EBL	377	377	0
EBT	814	814	0
EBR	86	86	0
WBL	391	391	0
WBT	1,110	1,111	-1
WBR	191	190	0

36. Euclid Street at Malvern Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	184	NORTHBOUND	
	THRU	1180	IN ...	1,585
	RIGHT	103	OUT ...	1,477
SOUTH BOUND	LEFT	133	SOUTHBOUND	
	THRU	1048	IN ...	1,284
	RIGHT	32	OUT ...	1,385
EAST BOUND	LEFT	42	EASTBOUND	
	THRU	577	IN ...	754
	RIGHT	162	OUT ...	1,011
WEST BOUND	LEFT	151	WESTBOUND	
	THRU	717	IN ...	1,070
	RIGHT	187	OUT ...	822

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	184	239
	THRU	1,180	1,342
	RIGHT	103	136
SOUTH BOUND	LEFT	133	148
	THRU	1,048	1,199
	RIGHT	32	36
EAST BOUND	LEFT	42	47
	THRU	577	659
	RIGHT	162	204
WEST BOUND	LEFT	151	175
	THRU	717	824
	RIGHT	187	208

36. Euclid Street at Malvern Avenue

PM PEAK HOUR

******* SEVENTH ROW ITERATION FOLLOWS *******

OUTBOUND LINK

		1	2	3	4	5	6	FUT. IN-FLOW
	1	0	31.34	552.77	169.89	0	0	754
INBOUNI	2	30.99	0	130.17	1122.84	0	0	1284
	3	743.93	152.73	0	173.34	0	0	1070
LINK	4	239.65	1209.77	135.58	0	0	0	1585
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
ADJ.FUT.OUTFLO\		1014.57	1393.84	818.52	1466.07	0	0	4693
FUTURE OUTFLO\		1011	1385	822	1477	0	0	4695
DIFFERENCE (%)		0.3528	0.6382	-0.4229	-0.74	0	0	

******* SEVENTH COLUMN ITERATION FOLLOWS *******

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

Modified by: COMSIS Corp. (M. Roskin) 2/13/86

*** RESULTS ***

OUTBOUND LINK

		1	2	3	4	5	6	ADJ FUTURE INFLOW	START FUTURE INFLOW	(%) DIFF
	1	0	31	555	171	0	0	757	754	0.5
INBOUNI	2	31	0	131	1,131	0	0	1,293	1,284	0.7
	3	741	152	0	175	0	0	1,068	1,070	-0.2
LINK	4	239	1,202	136	0	0	0	1,577	1,585	-0.5
	5	0	0	0	0	0	0	0	0	0.0
	6	0	0	0	0	0	0	0	0	0.0
OUTFLOWS:									4,693	
STARTING		1,011	1,385	822	1,477	0	0	4,695		

	BALANCING APPROACH	BALANCING DEPARTURE	DIFFERENCE (APP. -DEP.)
NBL	240	239	1
NBT	1,210	1,202	8
NBR	136	136	-1
SBL	130	131	-1
SBT	1,123	1,131	-8
SBR	31	31	0
EBL	31	31	0
EBT	553	555	-2
EBR	170	171	-1
WBL	173	175	-1
WBT	744	741	3
WBR	153	152	1

DATA FORMULATION FOR POST PROCESSING DAILY

Existing Count (2018 Conditions)			Model Growth Between Year 2018 & Year 2035			Related Projects Traffic Not Accounted For In model			Year 2035 Cumulative to be Post Process	
A. Lambert Road, between Beach Boulevard and Idaho Street			Cars	Trucks	Total					
NL	0	35,387	-3,094	0	-3,094	NL	0	0	NBA	40,747
B. Lambert Road, between Idaho Street and Euclid Street					Total					
NL	0	37,387	-1,444	0	-1,444	NL	0	0	NBA	42,973
C. Lambert Road, between Euclid Street and Harbor Boulevard					Total					
NL	0	36,014	1,355	0	1,355	NL	0	0	NBA	41,418
D. Beach Boulevard, between Lambert Road and Imperial Highway					Total					
NL	0	51,446	6,542	0	6,542	NL	0	0	NBA	57,988
E. Idaho Street, between Lambert Road and Imperial Highway					Total					
NL	0	23,702	2,710	0	2,710	NL	0	0	NBA	26,412
F. Euclid Street, between Lambert Road and Imperial Highway					Total					
NL	0	17,898	658	0	658	NL	0	0	NBA	21,804
G. Harbor Boulevard, between Lambert Road and Imperial Highway					Total					
NL	0	35,083	5,171	0	5,171	NL	0	0	NBA	44,336
H. Imperial Highway, between Santa Gertrues Avenue and 1st Avenue					Total					
NL	0	36,239	3,507	0	3,507	NL	0	0	NBA	44,560
I. Imperial Highway, between 1st Avenue and Beach Boulevard					Total					
NL	0	36,310	3,705	0	3,705	NL	0	0	NBA	44,190
J. Imperial Highway, between Beach Boulevard and La Habra Hills Drive					Total					
NL	0	49,867	11,778	0	11,778	NL	0	0	NBA	61,645
K. Imperial Highway, between La Habra Hills Drive and Idaho Street					Total					
NL	0	50,687	11,747	0	11,747	NL	0	0	NBA	62,434
L. Imperial Highway, between Idaho Street and Euclid Street					Total					
NL	0	50,844	11,634	0	11,634	NL	0	0	NBA	62,478
M. Imperial Highway, between Euclid Street and Harbor Boulevard					Total					
NL	0	52,284	9,811	0	9,811	NL	0	0	NBA	67,830
N. Idaho Street, between Imperial Highway and Sandlewood Avenue					Total					
NL	0	20,217	3,834	0	3,834	NL	0	0	NBA	24,051
O. Euclid Street, between Imperial Highway and Sandlewood Avenue					Total					
NL	0	21,596	1,585	0	1,585	NL	0	0	NBA	25,362
P. Gilbert Street, between Sandlewood Avenue and Rosecrans Avenue					Total					
NL	0	15,440	4,578	0	4,578	NL	0	0	NBA	20,018
Q. Euclid Street, between Sandlewood Avenue and Rosecrans Avenue					Total					
NL	0	22,344	1698	0	1698	NL	0	0	NBA	25,779
R. Beach Bulevard, between Imperial Highway and Hillsborough Drive					Total					
NL	0	55,337	3122	0	3122	NL	0	0	NBA	65,172
S. Beach Boulevard, between Hillsborough Dr and Apts					Total					
NL	0	58,110	2866	0	2866	NL	0	0	NBA	68,259
T. Beach Boulvard, between Hillsbourough Dr and Rosecrans Avenue					Total					
NL	0	53,636	3263	0	3263	NL	0	0	NBA	63,297
U. Rosecrans Avenue, between Beach Boulevard and Gilbert Street					Total					
NL	0	20,815	-67	0	-67	NL	0	0	NBA	26,598
V. Rosecrans Avenue, between Gilbert Street and Euclid Street					Total					
NL	0	15,137	1731	0	1731	NL	0	0	NBA	16,868
W-I. Sandlewood Avenue, east of Idaho Street					Total					
NL	0	3,600	134	0	134	NL	0	0	NBA	4,007
X. Beach Bouelvard, between Rosecrans Avenue and La Mirada Boulevard					Total					
NL	0	44,047	3880	0	3880	NL	0	0	NBA	53,379
Y. Imperial Highway, between Santa Gertrudes Avenue to La Mirada Boulevard					Total					
NL	0	31,542	2715	0	2715	NL	0	0	NBA	39,655
Z. Beach Boulevard, between Lambert Road and La Habra Boulevard					Total					
NL	0	42,893	2956	0	2956	NL	0	0	NBA	49,852
AA. Imperial Highway, between Valley View Avenue and La Mirada Boulevard					Total					
NL	0	30,552	4087	0	4087	NL	0	0	NBA	37,471
BB. Beach Boulevard, between La Mirada Boulevard/Malvern Ave and Artesia Blvd					Total					
NL	0	71,766	1867	0	1867	NL	0	0	NBA	83,614
CC. Beach Boulevard, between Artesia Boulevard and Commonwealth Avenue					Total					
NL	0	56,837	2205	0	2205	NL	0	0	NBA	68,094
DD. Beach Boulevard, between Commonwealth Avenue and Auto Center Drive					Total					
NL	0	58,783	1068	0	1068	NL	0	0	NBA	70,187

DATA FORMULATION FOR POST PROCESSING DAILY

Existing Count (2014 Conditions)			Model Growth Between Year 2014 & Year 2035			Related Projects Traffic Not Accounted For In model			Year 2035 Cumulative to be Post Process	
EE. Auto Center Drive between Beach Boulevard and I-5 NB Ramps			Cars	Trucks	Total					
NL	0	12,592	171	0	171	NL	0	0	NBA	14,656
FF. Beach Boulevard between Auto Center Drive and I-5 SB Ramps					Total					
NL	0	61,904	1,737	0	1,737	NL	0	0	NBA	74,088
GG. Beach Boulevard between Whittier Boulevard and La Habra Boulevard					Total					
NL	0	35,120	231	0	231	NL	0	0	NBA	40,400
HH. Whittier Boulevard between Beach Boulevard and Hacienda Road					Total					
NL	0	47,059	-732	0	-732	NL	0	0	NBA	54,664
II. Gilbert Street between Rosecrans Avenue and Malvern Avenue					Total					
NL	0	23,527	1,831	0	1,831	NL	0	0	NBA	29,332
JJ. Euclid Street between Rosecrans Avenue and Malvern Avenue					Total					
NL	0	31,442	3,502	0	3,502	NL	0	0	NBA	34,944
KK. Malvern Avenue between Gilbert Street and Euclid Street					Total					
NL	0	23,982	1,486	0	1,486	NL	0	0	NBA	27,753
W-II. Sandlewood Avenue between Idaho Street and Euclid Street					Total					
NL	0	1,931	134	0	134	NL	0	0	NBA	2,065
W-III. Sandlewood Avenue west of Euclid Street					Total					
NL	0	1,296	134	0	134	NL	0	0	NBA	1,430

APPENDIX F

EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX F-I

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

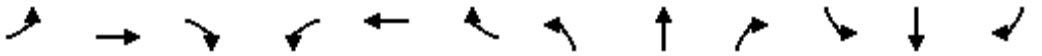
Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.996
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	198	1332	187	215	2149	320	165	631	191	194	619	110
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	198	1332	187	215	2149	320	165	631	191	194	619	110
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	198	1332	187	215	2149	320	165	631	191	194	619	110
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	1332	187	215	2149	320	165	631	191	194	619	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	1332	187	215	2149	320	165	631	191	194	619	110
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	198	1332	187	215	2149	320	165	631	191	194	619	110
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.54	0.46	2.00	1.70	0.30
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2456	744	2880	2717	483
Capacity Analysis Module:												
Vol/Sat:	0.12	0.28	0.12	0.13	0.45	0.20	0.06	0.26	0.26	0.07	0.23	0.23
Crit Moves:	****			****			****			****		

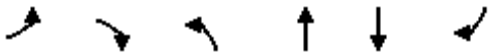
Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LLG Costa Mesa, CA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	764	254	96	464	48	285	339	89	97	651	184
Future Volume (veh/h)	68	764	254	96	464	48	285	339	89	97	651	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	764	254	96	464	48	285	339	89	97	651	184
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	893	398	182	943	421	317	1663	742	121	1274	568
Arrive On Green	0.04	0.25	0.25	0.05	0.27	0.27	0.18	0.47	0.47	0.07	0.36	0.36
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	68	764	254	96	464	48	285	339	89	97	651	184
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.4	24.6	17.1	4.7	13.2	2.8	18.8	6.7	3.8	6.4	17.3	10.1
Cycle Q Clear(g_c), s	3.4	24.6	17.1	4.7	13.2	2.8	18.8	6.7	3.8	6.4	17.3	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	893	398	182	943	421	317	1663	742	121	1274	568
V/C Ratio(X)	0.25	0.86	0.64	0.53	0.49	0.11	0.90	0.20	0.12	0.80	0.51	0.32
Avail Cap(c_a), veh/h	272	1007	449	204	1096	489	430	1663	742	193	1274	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	42.8	40.0	33.6	37.2	33.4	48.3	18.8	18.0	55.1	30.2	27.9
Incr Delay (d2), s/veh	0.5	6.7	2.5	2.4	0.4	0.1	17.3	0.3	0.3	11.5	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	11.6	6.9	2.2	5.8	1.1	9.8	2.8	1.5	3.3	7.6	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	49.6	42.5	36.0	37.6	33.5	65.6	19.0	18.3	66.6	31.7	29.5
LnGrp LOS	C	D	D	D	D	C	E	B	B	E	C	C
Approach Vol, veh/h		1086			608			713			932	
Approach Delay, s/veh		46.8			37.1			37.6			34.9	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	61.2	11.5	35.2	25.3	48.0	9.8	36.8
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	46.0	8.0	34.0	29.0	30.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	8.4	8.7	6.7	26.6	20.8	19.3	5.4	15.2
Green Ext Time (p_c), s	0.1	2.7	0.0	3.6	0.5	3.8	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	39.7
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	858	366	429	951	178
Future Volume (veh/h)	229	858	366	429	951	178
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	858	366	429	951	178
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	835	1033	445	2399	1823	813
Arrive On Green	0.24	0.24	0.13	0.68	0.51	0.51
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	229	858	366	429	951	178
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.5	29.0	12.4	5.4	21.4	7.4
Cycle Q Clear(g_c), s	6.5	29.0	12.4	5.4	21.4	7.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	835	1033	445	2399	1823	813
V/C Ratio(X)	0.27	0.83	0.82	0.18	0.52	0.22
Avail Cap(c_a), veh/h	835	1033	778	2399	1823	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	34.3	50.9	7.2	19.4	16.0
Incr Delay (d2), s/veh	0.2	5.8	3.9	0.2	1.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	24.1	5.6	2.0	8.9	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.1	40.2	54.8	7.4	20.5	16.7
LnGrp LOS	D	D	D	A	C	B
Approach Vol, veh/h	1087			795	1129	
Approach Delay, s/veh	39.5			29.2	19.9	
Approach LOS	D			C	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.0		34.0	19.4	66.6
Change Period (Y+Rc), s		5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		81.0		29.0	27.0	50.0
Max Q Clear Time (g_c+I1), s		7.4		31.0	14.4	23.4
Green Ext Time (p_c), s		3.2		0.0	1.1	8.5

Intersection Summary		
HCM 6th Ctrl Delay		29.4
HCM 6th LOS		C

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.793
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	99	1405	18	24	2227	128	210	15	190	59	29	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	1405	18	24	2227	128	210	15	190	59	29	28
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	1405	18	24	2227	128	210	15	190	59	29	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	1405	18	24	2227	128	210	15	190	59	29	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	1405	18	24	2227	128	210	15	190	59	29	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	1405	18	24	2227	128	210	15	190	59	29	28
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	814	786
Capacity Analysis Module:												
Vol/Sat:	0.06	0.29	0.01	0.02	0.46	0.08	0.13	0.01	0.12	0.04	0.04	0.04
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.565
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	9	1750	19	9	2321	15	52	0	32	61	0	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	1750	19	9	2321	15	52	0	32	61	0	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	1750	19	9	2321	15	52	0	32	61	0	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	1750	19	9	2321	15	52	0	32	61	0	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1750	19	9	2321	15	52	0	32	61	0	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1750	19	9	2321	15	52	0	32	61	0	30
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.97	0.03	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	5045	55	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.35	0.35	0.01	0.46	0.01	0.03	0.00	0.02	0.04	0.00	0.02
Crit Moves:	****			****					****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.507
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	7	533	32		219	846	7		21	2	23		65	1	253	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	7	533	32		219	846	7		21	2	23		65	1	253	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	7	533	32		219	846	7		21	2	23		65	1	253	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	7	533	32		219	846	7		21	2	23		65	1	253	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	7	533	32		219	846	7		21	2	23		65	1	253	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	7	533	32		219	846	7		21	2	23		65	1	253	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.89	0.11		1.00	1.98	0.02		1.00	0.08	0.92		1.00	0.01	0.99	
Final Sat.:	1700	3207	193		1700	3372	28		1700	136	1564		1700	7	1693	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.17	0.17		0.13	0.25	0.25		0.01	0.01	0.01		0.04	0.15	0.15	
Crit Moves:		****				****				****				****		

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Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	4	59	3	5	29	21	488	4	9	1086	61
Future Vol, veh/h	51	4	59	3	5	29	21	488	4	9	1086	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	4	62	3	5	31	22	514	4	9	1143	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1497	1755	604	1152	1785	259	1207	0	0	518	0	0
Stage 1	1193	1193	-	560	560	-	-	-	-	-	-	-
Stage 2	304	562	-	592	1225	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	85	84	441	153	81	740	574	-	-	1044	-	-
Stage 1	198	258	-	480	509	-	-	-	-	-	-	-
Stage 2	681	508	-	460	249	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	75	80	441	122	77	740	574	-	-	1044	-	-
Mov Cap-2 Maneuver	75	80	-	122	77	-	-	-	-	-	-	-
Stage 1	190	256	-	462	490	-	-	-	-	-	-	-
Stage 2	621	489	-	385	247	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	75.3	18.6	0.5	0.1
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	574	-	-	75	441	89	740	1044	-	-
HCM Lane V/C Ratio	0.039	-	-	0.772	0.141	0.095	0.041	0.009	-	-
HCM Control Delay (s)	11.5	-	-	140.6	14.5	49.6	10.1	8.5	-	-
HCM Lane LOS	B	-	-	F	B	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.7	0.5	0.3	0.1	0	-	-

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ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.861
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	84	Level Of Service:	D

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	173	373	158	125	659	135	98	901	156	195	1567	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	173	373	158	125	659	135	98	901	156	195	1567	82
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	173	373	158	125	659	135	98	901	156	195	1567	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	173	373	158	125	659	135	98	901	156	195	1567	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	173	373	158	125	659	135	98	901	156	195	1567	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	173	373	158	125	659	135	98	901	156	195	1567	82
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.40	0.60	1.00	1.66	0.34	1.00	2.56	0.44	1.00	2.85	0.15
Final Sat.:	1600	2248	952	1600	2656	544	1600	4092	708	1600	4561	239
Capacity Analysis Module:												
Vol/Sat:	0.11	0.17	0.17	0.08	0.25	0.25	0.06	0.22	0.22	0.12	0.34	0.34
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.716
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	41	20	22	213	22	207	143	968	4	11	1586	177
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	20	22	213	22	207	143	968	4	11	1586	177
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	20	22	213	22	207	143	968	4	11	1586	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	20	22	213	22	207	143	968	4	11	1586	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	20	22	213	22	207	143	968	4	11	1586	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	41	20	22	213	22	207	143	968	4	11	1586	177
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.00	1.00	1.00	1.00	2.99	0.01	1.00	2.70	0.30
Final Sat.:	1600	762	838	1600	1600	1600	1600	4780	20	1600	4318	482
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.13	0.01	0.13	0.09	0.20	0.20	0.01	0.37	0.37
Crit Moves:	****			****			****				****	

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AM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.813
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	D

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	234	1008	548	329	1621	279	104	975	200	497	1228	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	1008	548	329	1621	279	104	975	200	497	1228	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	1008	548	329	1621	279	104	975	200	497	1228	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	1008	548	329	1621	279	104	975	200	497	1228	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	1008	548	329	1621	279	104	975	200	497	1228	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	1008	548	329	1621	279	104	975	200	497	1228	274
OvlAdjVol:			51									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.49	0.51	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4232	868	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.16	0.10	0.32	0.16	0.03	0.23	0.23	0.15	0.24	0.16
OvlAdjV/S:			0.01									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.527
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	68	14	63	44	6	51	57	1761	46	104	1919	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	14	63	44	6	51	57	1761	46	104	1919	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	14	63	44	6	51	57	1761	46	104	1919	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	14	63	44	6	51	57	1761	46	104	1919	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	14	63	44	6	51	57	1761	46	104	1919	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	14	63	44	6	51	57	1761	46	104	1919	30
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.66	0.34	1.00	0.88	0.12	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2820	580	1700	1496	204	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.04	0.03	0.03	0.03	0.03	0.35	0.03	0.06	0.38	0.02
Crit Moves:			****			****	****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.705
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	237	476	132	248	674	198	99	1551	249	124	1728	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	237	476	132	248	674	198	99	1551	249	124	1728	97
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	237	476	132	248	674	198	99	1551	249	124	1728	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	237	476	132	248	674	198	99	1551	249	124	1728	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	476	132	248	674	198	99	1551	249	124	1728	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	237	476	132	248	674	198	99	1551	249	124	1728	97
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.84	0.16
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4829	271
Capacity Analysis Module:												
Vol/Sat:	0.07	0.14	0.08	0.07	0.20	0.12	0.03	0.30	0.15	0.04	0.36	0.36
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.807
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	D

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1 1	0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	223	404	206	183	871	56	59	1476	300	239	1664	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	223	404	206	183	871	56	59	1476	300	239	1664	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	223	404	206	183	871	56	59	1476	300	239	1664	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	223	404	206	183	871	56	59	1476	300	239	1664	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	404	206	183	871	56	59	1476	300	239	1664	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	404	206	183	871	56	59	1476	300	239	1664	59
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.88	0.12	2.00	2.49	0.51	2.00	2.90	0.10
Final Sat.:	3400	3400	1700	3400	3195	205	3400	4239	861	3400	4925	175
Capacity Analysis Module:												
Vol/Sat:	0.07	0.12	0.12	0.05	0.27	0.27	0.02	0.35	0.35	0.07	0.34	0.34
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.762
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	311	509	292	248	1198	203	145	1273	304	261	1297	84
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	311	509	292	248	1198	203	145	1273	304	261	1297	84
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	311	509	292	248	1198	203	145	1273	304	261	1297	84
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	311	509	292	248	1198	203	145	1273	304	261	1297	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	311	509	292	248	1198	203	145	1273	304	261	1297	84
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	311	509	292	248	1198	203	145	1273	304	261	1297	84
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.42	0.58	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4117	983	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.10	0.17	0.07	0.23	0.12	0.04	0.31	0.31	0.08	0.25	0.05
Crit Moves:	****			****			****			****		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	1273	304	261	1297	84	311	509	292	248	1198	203
Future Volume (veh/h)	145	1273	304	261	1297	84	311	509	292	248	1198	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	1299	310	266	1323	86	317	519	298	253	1222	207
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	1392	332	322	1620	503	410	1684	523	307	1489	462
Arrive On Green	0.11	0.34	0.34	0.09	0.32	0.32	0.12	0.33	0.33	0.09	0.29	0.29
Sat Flow, veh/h	3456	4116	982	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	148	1074	535	266	1323	86	317	519	298	253	1222	207
Grp Sat Flow(s),veh/h/ln	1728	1702	1694	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	4.8	36.6	36.7	9.1	28.7	3.6	10.7	9.1	18.6	8.6	26.7	12.8
Cycle Q Clear(g_c), s	4.8	36.6	36.7	9.1	28.7	3.6	10.7	9.1	18.6	8.6	26.7	12.8
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	1152	573	322	1620	503	410	1684	523	307	1489	462
V/C Ratio(X)	0.40	0.93	0.93	0.83	0.82	0.17	0.77	0.31	0.57	0.82	0.82	0.45
Avail Cap(c_a), veh/h	365	1163	579	346	1830	568	410	1684	523	317	1489	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	38.4	38.4	53.5	37.8	17.1	51.3	30.0	33.2	53.7	39.6	34.6
Incr Delay (d2), s/veh	0.7	13.3	22.3	14.4	2.7	0.2	8.9	0.5	4.5	15.6	5.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	17.2	18.5	4.6	12.2	1.8	5.1	3.8	7.8	4.4	11.8	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	51.6	60.7	67.9	40.5	17.2	60.2	30.5	37.7	69.4	44.8	37.7
LnGrp LOS	D	D	E	E	D	B	E	C	D	E	D	D
Approach Vol, veh/h		1757			1675			1134			1682	
Approach Delay, s/veh		54.3			43.6			40.7			47.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	44.6	15.2	45.6	19.2	40.0	17.7	43.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	11.0	38.0	12.0	41.0	14.0	* 35	10.0	* 43
Max Q Clear Time (g_c+I1), s	10.6	20.6	11.1	38.7	12.7	28.7	6.8	30.7
Green Ext Time (p_c), s	0.0	4.4	0.1	1.9	0.2	4.3	0.1	7.4

Intersection Summary	
HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.954
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	135	Level Of Service:	E

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	271	882	254	212	1563	242	258	982	193	424	1016	153
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	271	882	254	212	1563	242	258	982	193	424	1016	153
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	271	882	254	212	1563	242	258	982	193	424	1016	153
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	271	882	254	212	1563	242	258	982	193	424	1016	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	271	882	254	212	1563	242	258	982	193	424	1016	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	271	882	254	212	1563	242	258	982	193	424	1016	153
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.60	0.40	2.00	1.67	0.33	2.00	1.74	0.26
Final Sat.:	3400	5100	1700	3400	4416	684	3400	2842	558	3400	2955	445
Capacity Analysis Module:												
Vol/Sat:	0.08	0.17	0.15	0.06	0.35	0.35	0.08	0.35	0.35	0.12	0.34	0.34
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.815
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	D

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	210	382	192	105	601	204	82	1178	183	220	1107	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	210	382	192	105	601	204	82	1178	183	220	1107	47
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	210	382	192	105	601	204	82	1178	183	220	1107	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	210	382	192	105	601	204	82	1178	183	220	1107	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	210	382	192	105	601	204	82	1178	183	220	1107	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	210	382	192	105	601	204	82	1178	183	220	1107	47
OvlAdjVol:			82			163						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.73	0.27	2.00	1.92	0.08
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2943	457	3400	3262	138
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.06	0.18	0.12	0.02	0.40	0.40	0.06	0.34	0.34
OvlAdjV/S:			0.05			0.10						
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.703
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	C

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	51	384	90	61	579	67	76	1253	242	109	1028	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	51	384	90	61	579	67	76	1253	242	109	1028	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	384	90	61	579	67	76	1253	242	109	1028	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	384	90	61	579	67	76	1253	242	109	1028	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	384	90	61	579	67	76	1253	242	109	1028	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	384	90	61	579	67	76	1253	242	109	1028	52
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.62	0.38	1.00	1.79	0.21	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2754	646	1700	3047	353	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.14	0.04	0.19	0.19	0.04	0.37	0.14	0.06	0.30	0.03
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.697
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	B

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	89	500	118	214	1354	190	171	1168	225	122	910	197
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	500	118	214	1354	190	171	1168	225	122	910	197
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	500	118	214	1354	190	171	1168	225	122	910	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	500	118	214	1354	190	171	1168	225	122	910	197
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	500	118	214	1354	190	171	1168	225	122	910	197
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	500	118	214	1354	190	171	1168	225	122	910	197
OvlAdjVol:			57									90
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.63	0.37	2.00	2.52	0.48	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4472	628	3400	4276	824	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.07	0.06	0.30	0.30	0.05	0.27	0.27	0.04	0.27	0.12
OvlAdjV/S:			0.03									0.05
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.908
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	104	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	395	748	55	225	725	110	99	1046	350	118	1588	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	395	748	55	225	725	110	99	1046	350	118	1588	82
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	395	748	55	225	725	110	99	1046	350	118	1588	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	395	748	55	225	725	110	99	1046	350	118	1588	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	395	748	55	225	725	110	99	1046	350	118	1588	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	395	748	55	225	725	110	99	1046	350	118	1588	82
OvlAdjVol:									131			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.86	0.14	2.00	1.74	0.26	1.00	3.00	1.00	1.00	2.85	0.15
Final Sat.:	2880	2981	219	2880	2778	422	1600	4800	1600	1600	4564	236
Capacity Analysis Module:												
Vol/Sat:	0.14	0.25	0.25	0.08	0.26	0.26	0.06	0.22	0.22	0.07	0.35	0.35
OvlAdjV/S:									0.08			
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.768
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	1 0	3 0	1	2 0	2 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	372	1294	250	141	1642	477	112	663	530	312	683	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	372	1294	250	141	1642	477	112	663	530	312	683	85
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	372	1294	250	141	1642	477	112	663	530	312	683	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	372	1294	250	141	1642	477	112	663	530	312	683	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	372	1294	250	141	1642	477	112	663	530	312	683	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	372	1294	250	141	1642	477	112	663	530	312	683	85
OvlAdjVol:						421			344			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.67	0.33
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4536	564
Capacity Analysis Module:												
Vol/Sat:	0.11	0.25	0.15	0.08	0.32	0.28	0.03	0.20	0.31	0.09	0.15	0.15
OvlAdjV/S:						0.25			0.20			
Crit Moves:	****				****			****			****	

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.734
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	C

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	260	896	188	143	1425	122	152	470	102	231	611	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	896	188	143	1425	122	152	470	102	231	611	70
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	896	188	143	1425	122	152	470	102	231	611	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	260	896	188	143	1425	122	152	470	102	231	611	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	896	188	143	1425	122	152	470	102	231	611	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	260	896	188	143	1425	122	152	470	102	231	611	70
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.48	0.52	1.00	2.76	0.24	1.00	1.64	0.36	1.00	1.79	0.21
Final Sat.:	3400	4215	885	1700	4698	402	1700	2794	606	1700	3051	349
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.21	0.08	0.30	0.30	0.09	0.17	0.17	0.14	0.20	0.20
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.909
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	105	Level Of Service:	E

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	258	727	144	68	827	121	77	651	155	201	1419	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	258	727	144	68	827	121	77	651	155	201	1419	39
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	258	727	144	68	827	121	77	651	155	201	1419	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	258	727	144	68	827	121	77	651	155	201	1419	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	727	144	68	827	121	77	651	155	201	1419	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	258	727	144	68	827	121	77	651	155	201	1419	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.67	0.33	1.00	1.74	0.26	1.00	2.42	0.58	1.00	2.92	0.08
Final Sat.:	1600	2671	529	1600	2792	408	1600	3877	923	1600	4672	128
Capacity Analysis Module:												
Vol/Sat:	0.16	0.27	0.27	0.04	0.30	0.30	0.05	0.17	0.17	0.13	0.30	0.30
Crit Moves:	****				****		****				****	

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.808
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	D

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	53	1651	69	81	1965	313	386	446	49	97	618	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	1651	69	81	1965	313	386	446	49	97	618	161
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	1651	69	81	1965	313	386	446	49	97	618	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	1651	69	81	1965	313	386	446	49	97	618	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	1651	69	81	1965	313	386	446	49	97	618	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	1651	69	81	1965	313	386	446	49	97	618	161
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.88	0.12	2.00	2.59	0.41	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4895	205	3400	4399	701	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.34	0.34	0.02	0.45	0.45	0.11	0.13	0.03	0.03	0.18	0.09
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.598
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	28 1640		143	31 2038		68	55	168	25	147	223	69
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28 1640		143	31 2038		68	55	168	25	147	223	69
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28 1640		143	31 2038		68	55	168	25	147	223	69
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28 1640		143	31 2038		68	55	168	25	147	223	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28 1640		143	31 2038		68	55	168	25	147	223	69
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28 1640		143	31 2038		68	55	168	25	147	223	69
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1700 1700		1700	1700 1700		1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00 2.76		0.24	1.00 2.90		0.10	1.00	2.00	1.00	2.00	1.53	0.47
Final Sat.:	1700 4691		409	1700 4935		165	1700	3400	1700	3400	2597	803
Capacity Analysis Module:												
Vol/Sat:	0.02 0.35		0.35	0.02 0.41		0.41	0.03	0.05	0.01	0.04	0.09	0.09
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.350
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	19	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0 2	0 1	1 0
Volume Module:												
Base Vol:	315	9	246	1	1	1	5	102	79	184	74	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	9	246	1	1	1	5	102	79	184	74	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	9	246	1	1	1	5	102	79	184	74	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	315	9	246	1	1	1	5	102	79	184	74	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	9	246	1	1	1	5	102	79	184	74	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	9	246	1	1	1	5	102	79	184	74	5
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.97	0.03	1.00	0.34	0.33	0.33	1.00	1.13	0.87	2.00	1.87	0.13
Final Sat.:	1653	47	1700	567	567	567	1700	1916	1484	3400	3185	215
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.14	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.02	0.02
Crit Moves:	****			****				****		****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.730
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	C

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	147	1181	94	32	2112	32	228	72	56	77	99	399
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	147	1181	94	32	2112	32	228	72	56	77	99	399
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	147	1181	94	32	2112	32	228	72	56	77	99	399
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	1181	94	32	2112	32	228	72	56	77	99	399
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	1181	94	32	2112	32	228	72	56	77	99	399
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	1181	94	32	2112	32	228	72	56	77	99	399
OvlAdjVol:												367
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.12	0.88	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1913	1488	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.23	0.06	0.02	0.31	0.02	0.07	0.04	0.04	0.02	0.03	0.23
OvlAdjV/S:												0.22
Crit Moves:	****			****			****					****

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.698
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	B

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	1 0	2 0	3	0 0	1 0	0	0 1	0 0	0	0 0 0
Volume Module:												
Base Vol:	0	1239	159	798	1464	0	180	0	237	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1239	159	798	1464	0	180	0	237	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1239	159	798	1464	0	180	0	237	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1239	159	798	1464	0	180	0	237	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1239	159	798	1464	0	180	0	237	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1239	159	798	1464	0	180	0	237	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.66	0.34	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4520	580	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.27	0.23	0.29	0.00	0.11	0.00	0.14	0.00	0.00	0.00
Crit Moves:		****		****					****			

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.692
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	359	47	618	55	41	21	44	834	406	1062	921	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	359	47	618	55	41	21	44	834	406	1062	921	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	359	47	618	55	41	21	44	834	406	1062	921	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	359	47	618	55	41	21	44	834	406	1062	921	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	359	47	618	55	41	21	44	834	406	1062	921	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	359	47	618	55	41	21	44	834	406	1062	921	7
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.77	0.23	2.00	0.47	0.35	0.18	1.00	2.00	1.00	3.00	1.98	0.02
Final Sat.:	3006	394	3400	799	596	305	1700	3400	1700	5100	3374	26
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.18	0.07	0.07	0.07	0.03	0.25	0.24	0.21	0.27	0.27
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.855
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	11	40	43	373	43	725	387	1084	11	65	1266	274
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	11	40	43	373	43	725	387	1084	11	65	1266	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	40	43	373	43	725	387	1084	11	65	1266	274
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	11	40	43	373	43	725	387	1084	11	65	1266	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	40	43	373	43	725	387	1084	11	65	1266	274
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
FinalVolume:	11	40	43	373	43	725	387	1084	11	65	1266	274
OvlAdjVol:						532						
Saturation Flow Module:												
Sat/Lane:	1700 1700		1700	1700 1700		1700	1700 1700		1700	1700 1700		1700
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	0.22 0.78		1.00	0.90 0.10		1.00	2.00 1.98		0.02	1.00 2.00		1.00
Final Sat.:	367 1333		1700	1524 176		1700	3400 3366		34	1700 3400		1700
Capacity Analysis Module:												
Vol/Sat:	0.01 0.03		0.03	0.22 0.24		0.43	0.11 0.32		0.32	0.04 0.37		0.16
OvlAdjV/S:						0.31						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	45

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	1886	1838	48	17	120
Future Vol, veh/h	70	1886	1838	48	17	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2096	2042	53	19	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2095	0	-	0	3063	1048
Stage 1	-	-	-	-	2069	-
Stage 2	-	-	-	-	994	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	112	-	-	-	24	193
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	288	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	112	-	-	-	~ 7	193
Mov Cap-2 Maneuver	-	-	-	-	~ 7	-
Stage 1	-	-	-	-	~ 16	-
Stage 2	-	-	-	-	288	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	$ 1260.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	112	-	-	-	45
HCM Lane V/C Ratio	0.694	-	-	-	3.383
HCM Control Delay (s)	89.9	-	-	-	$ 1260.8
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	3.7	-	-	-	16.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

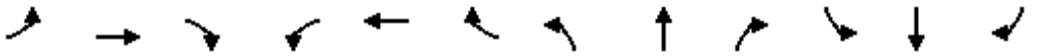
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	944	185	536	713	64	83	636	538	109	956	195
Future Volume (veh/h)	236	944	185	536	713	64	83	636	538	109	956	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	944	185	536	713	64	83	636	538	109	956	195
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	1118	218	595	1617	648	105	1125	775	164	1054	215
Arrive On Green	0.11	0.26	0.26	0.17	0.32	0.32	0.06	0.32	0.32	0.09	0.36	0.36
Sat Flow, veh/h	3456	4286	837	3456	5106	1585	1781	3554	1585	1781	2940	599
Grp Volume(v), veh/h	236	749	380	536	713	64	83	636	538	109	577	574
Grp Sat Flow(s),veh/h/ln	1728	1702	1720	1728	1702	1585	1781	1777	1585	1781	1777	1763
Q Serve(g_s), s	7.8	25.0	25.2	18.2	13.3	0.0	5.5	17.9	18.6	7.1	37.1	37.2
Cycle Q Clear(g_c), s	7.8	25.0	25.2	18.2	13.3	0.0	5.5	17.9	18.6	7.1	37.1	37.2
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	373	888	448	595	1617	648	105	1125	775	164	637	632
V/C Ratio(X)	0.63	0.84	0.85	0.90	0.44	0.10	0.79	0.57	0.69	0.66	0.91	0.91
Avail Cap(c_a), veh/h	374	888	448	634	1617	648	119	1125	775	193	637	632
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	42.0	42.1	48.7	32.6	21.9	55.8	34.1	9.9	52.7	36.6	36.6
Incr Delay (d2), s/veh	3.4	9.6	17.7	15.5	0.9	0.3	26.9	2.1	5.1	6.6	18.9	19.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	11.6	12.8	9.1	5.6	1.2	3.3	8.0	7.0	3.5	19.2	19.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	51.7	59.8	64.2	33.4	22.2	82.7	36.2	15.0	59.3	55.5	55.9
LnGrp LOS	D	D	E	E	C	C	F	D	B	E	E	E
Approach Vol, veh/h		1365			1313			1257			1260	
Approach Delay, s/veh		54.5			45.4			30.2			56.0	
Approach LOS		D			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	43.0	24.7	36.3	11.1	48.0	17.9	43.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	13.0	* 38	22.0	29.0	8.0	43.0	13.0	* 38
Max Q Clear Time (g_c+I1), s	9.1	20.6	20.2	27.2	7.5	39.2	9.8	15.3
Green Ext Time (p_c), s	0.1	6.2	0.4	1.2	0.0	2.5	0.2	5.4

Intersection Summary	
HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	708	144	144	463	126	127	976	88	250	1285	16
Future Volume (veh/h)	33	708	144	144	463	126	127	976	88	250	1285	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	708	144	144	463	126	127	976	88	250	1285	16
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	764	155	207	845	228	219	1323	119	315	1590	20
Arrive On Green	0.03	0.26	0.26	0.07	0.31	0.31	0.06	0.40	0.40	0.10	0.44	0.44
Sat Flow, veh/h	1781	2942	598	1781	2766	747	1781	3297	297	1781	3594	45
Grp Volume(v), veh/h	33	428	424	144	296	293	127	526	538	250	635	666
Grp Sat Flow(s),veh/h/ln	1781	1777	1763	1781	1777	1736	1781	1777	1817	1781	1777	1862
Q Serve(g_s), s	1.6	28.1	28.2	6.9	16.7	16.9	5.0	30.2	30.2	9.5	37.2	37.3
Cycle Q Clear(g_c), s	1.6	28.1	28.2	6.9	16.7	16.9	5.0	30.2	30.2	9.5	37.2	37.3
Prop In Lane	1.00		0.34	1.00		0.43	1.00		0.16	1.00		0.02
Lane Grp Cap(c), veh/h	246	461	458	207	543	530	219	713	729	315	786	824
V/C Ratio(X)	0.13	0.93	0.93	0.70	0.55	0.55	0.58	0.74	0.74	0.79	0.81	0.81
Avail Cap(c_a), veh/h	270	474	470	224	548	535	249	713	729	406	786	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	43.3	43.3	32.0	34.7	34.8	25.1	30.6	30.6	23.9	29.0	29.0
Incr Delay (d2), s/veh	0.2	24.1	24.4	8.2	1.1	1.2	2.6	6.7	6.6	8.0	8.8	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	15.4	15.3	3.4	7.4	7.3	2.2	14.1	14.4	4.5	17.4	18.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	67.4	67.7	40.2	35.9	36.0	27.7	37.3	37.1	31.9	37.8	37.4
LnGrp LOS	C	E	E	D	D	D	C	D	D	C	D	D
Approach Vol, veh/h		885			733			1191			1551	
Approach Delay, s/veh		66.2			36.8			36.2			36.7	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	53.1	13.8	36.2	11.9	58.1	8.3	41.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	18.0	40.0	10.0	32.0	9.0	49.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	11.5	32.2	8.9	30.2	7.0	39.3	3.6	18.9
Green Ext Time (p_c), s	0.4	4.1	0.0	1.0	0.1	5.8	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D

PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.982
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	169	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	207	1984	191	181	1540	224	380	546	162	184	551	163
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1984	191	181	1540	224	380	546	162	184	551	163
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	1984	191	181	1540	224	380	546	162	184	551	163
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	207	1984	191	181	1540	224	380	546	162	184	551	163
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1984	191	181	1540	224	380	546	162	184	551	163
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	1984	191	181	1540	224	380	546	162	184	551	163
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.54	0.46	2.00	1.54	0.46
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2468	732	2880	2469	731
Capacity Analysis Module:												
Vol/Sat:	0.13	0.41	0.12	0.11	0.32	0.14	0.13	0.22	0.22	0.06	0.22	0.22
Crit Moves:		****			****			****			****	

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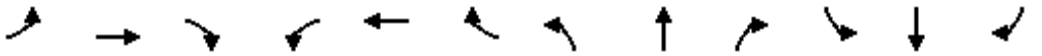


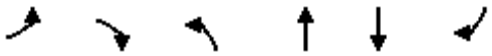
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	484	205	60	589	52	279	932	79	39	475	185
Future Volume (veh/h)	196	484	205	60	589	52	279	932	79	39	475	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	196	484	205	60	589	52	279	932	79	39	475	185
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	927	413	236	695	310	311	1481	660	211	1311	585
Arrive On Green	0.10	0.26	0.26	0.04	0.20	0.20	0.17	0.42	0.42	0.12	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	196	484	205	60	589	52	279	932	79	39	475	185
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.2	14.0	13.2	3.2	19.2	2.5	18.4	24.9	2.9	2.4	11.7	10.0
Cycle Q Clear(g_c), s	10.2	14.0	13.2	3.2	19.2	2.5	18.4	24.9	2.9	2.4	11.7	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	927	413	236	695	310	311	1481	660	211	1311	585
V/C Ratio(X)	0.72	0.52	0.50	0.25	0.85	0.17	0.90	0.63	0.12	0.19	0.36	0.32
Avail Cap(c_a), veh/h	326	1155	515	243	829	370	430	1481	660	211	1311	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	38.0	37.7	36.7	46.5	22.5	48.5	27.7	13.5	47.7	27.6	27.1
Incr Delay (d2), s/veh	6.2	0.5	0.9	0.6	7.1	0.3	16.7	2.0	0.4	0.4	0.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	6.2	5.2	1.4	9.1	1.3	9.6	10.9	1.4	1.1	5.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	38.4	38.6	37.3	53.7	22.8	65.2	29.7	13.9	48.1	28.4	28.5
LnGrp LOS	D	D	D	D	D	C	E	C	B	D	C	C
Approach Vol, veh/h		885			701			1290			699	
Approach Delay, s/veh		38.8			50.0			36.4			29.5	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	55.0	9.5	36.3	24.9	49.3	17.3	28.5
Change Period (Y+Rc), s	5.0	* 5	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	* 50	5.0	39.0	29.0	28.0	16.0	28.0
Max Q Clear Time (g_c+I1), s	4.4	26.9	5.2	16.0	20.4	13.7	12.2	21.2
Green Ext Time (p_c), s	0.0	7.4	0.0	4.0	0.5	3.3	0.2	2.3

Intersection Summary	
HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	193	428	621	977	563	182
Future Volume (veh/h)	193	428	621	977	563	182
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	193	428	621	977	563	182
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	314	1558	1616	2935	1125	502
Arrive On Green	0.09	0.09	0.47	0.83	0.32	0.32
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	193	428	621	977	563	182
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.5	0.0	14.0	7.9	15.4	10.6
Cycle Q Clear(g_c), s	6.5	0.0	14.0	7.9	15.4	10.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	314	1558	1616	2935	1125	502
V/C Ratio(X)	0.62	0.27	0.38	0.33	0.50	0.36
Avail Cap(c_a), veh/h	864	2002	1616	2935	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	13.8	20.7	2.5	33.3	31.7
Incr Delay (d2), s/veh	2.0	0.1	0.2	0.3	1.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.1	5.7	2.1	6.9	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.5	13.9	20.9	2.8	34.9	33.7
LnGrp LOS	D	B	C	A	C	C
Approach Vol, veh/h	621			1598	745	
Approach Delay, s/veh	26.5			9.8	34.6	
Approach LOS	C			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		104.1		15.9	61.1	43.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		80.0		30.0	38.0	* 38
Max Q Clear Time (g_c+I1), s		9.9		8.5	16.0	17.4
Green Ext Time (p_c), s		9.3		2.4	2.3	4.4

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.767
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	201	2188	47	60	1727	258	251	17	116	32	14	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	2188	47	60	1727	258	251	17	116	32	14	13
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	201	2188	47	60	1727	258	251	17	116	32	14	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	201	2188	47	60	1727	258	251	17	116	32	14	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	2188	47	60	1727	258	251	17	116	32	14	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	2188	47	60	1727	258	251	17	116	32	14	13
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	830	770
Capacity Analysis Module:												
Vol/Sat:	0.13	0.46	0.03	0.04	0.36	0.16	0.16	0.01	0.07	0.02	0.02	0.02
Crit Moves:		****			****			****			****	

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.568
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	28	2326	65	30	2040	35	15	0	16	38	0	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	2326	65	30	2040	35	15	0	16	38	0	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	2326	65	30	2040	35	15	0	16	38	0	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	2326	65	30	2040	35	15	0	16	38	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	2326	65	30	2040	35	15	0	16	38	0	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	2326	65	30	2040	35	15	0	16	38	0	18
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.92	0.08	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	4961	139	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.47	0.47	0.02	0.40	0.02	0.01	0.00	0.01	0.02	0.00	0.01
Crit Moves:	****			****					****	****		

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.549
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module:																
Base Vol:	25	1023		54		149	703		23		14		1	15		28		3	144	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
Initial Bse:	25	1023		54		149	703		23		14		1	15		28		3	144	
Added Vol:	0	0		0		0	0		0		0		0	0		0		0	0	
PasserByVol:	0	0		0		0	0		0		0		0	0		0		0	0	
Initial Fut:	25	1023		54		149	703		23		14		1	15		28		3	144	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
PHF Volume:	25	1023		54		149	703		23		14		1	15		28		3	144	
Reduct Vol:	0	0		0		0	0		0		0		0	0		0		0	0	
Reduced Vol:	25	1023		54		149	703		23		14		1	15		28		3	144	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
FinalVolume:	25	1023		54		149	703		23		14		1	15		28		3	144	
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700		1700	1700		1700		1700		1700	1700		1700		1700	1700	
Adjustment:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
Lanes:	1.00	1.90		0.10		1.00	1.94		0.06		1.00		0.06	0.94		1.00		0.02	0.98	
Final Sat.:	1700	3230		170		1700	3292		108		1700		106	1594		1700		35	1665	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.32		0.32		0.09	0.21		0.21		0.01		0.01	0.01		0.02		0.09	0.09	
Crit Moves:	****			****					****							****				

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Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	2	15	1	3	21	27	1040	2	39	724	38
Future Vol, veh/h	22	2	15	1	3	21	27	1040	2	39	724	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	2	15	1	3	21	28	1061	2	40	739	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1427	1958	389	1569	1976	532	778	0	0	1063	0	0
Stage 1	839	839	-	1118	1118	-	-	-	-	-	-	-
Stage 2	588	1119	-	451	858	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	96	63	610	75	61	492	834	-	-	651	-	-
Stage 1	326	379	-	221	281	-	-	-	-	-	-	-
Stage 2	462	280	-	557	372	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	57	610	66	55	492	834	-	-	651	-	-
Mov Cap-2 Maneuver	82	57	-	66	55	-	-	-	-	-	-	-
Stage 1	315	356	-	213	271	-	-	-	-	-	-	-
Stage 2	422	270	-	507	349	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.2	22.3	0.2	0.5
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	834	-	-	79	610	57	492	651	-	-
HCM Lane V/C Ratio	0.033	-	-	0.31	0.025	0.072	0.044	0.061	-	-
HCM Control Delay (s)	9.5	-	-	69.8	11.1	73	12.7	10.9	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.1	0.2	0.1	0.2	-	-

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ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.884
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	Level Of Service:	D

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	167	696	218	153	485	95	118	1271	134	176	1048	133
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	167	696	218	153	485	95	118	1271	134	176	1048	133
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	167	696	218	153	485	95	118	1271	134	176	1048	133
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	167	696	218	153	485	95	118	1271	134	176	1048	133
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	167	696	218	153	485	95	118	1271	134	176	1048	133
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	167	696	218	153	485	95	118	1271	134	176	1048	133
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.67	0.33	1.00	2.71	0.29	1.00	2.66	0.34
Final Sat.:	1600	2437	763	1600	2676	524	1600	4342	458	1600	4259	541
Capacity Analysis Module:												
Vol/Sat:	0.10	0.29	0.29	0.10	0.18	0.18	0.07	0.29	0.29	0.11	0.25	0.25
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.604
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	B

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	30	23	11	153	34	151	172	1363	20	13	1181	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	23	11	153	34	151	172	1363	20	13	1181	160
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	23	11	153	34	151	172	1363	20	13	1181	160
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	23	11	153	34	151	172	1363	20	13	1181	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	23	11	153	34	151	172	1363	20	13	1181	160
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	23	11	153	34	151	172	1363	20	13	1181	160
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.68	0.32	1.00	1.00	1.00	1.00	2.96	0.04	1.00	2.64	0.36
Final Sat.:	1600	1082	518	1600	1600	1600	1600	4731	69	1600	4227	573
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.10	0.02	0.09	0.11	0.29	0.29	0.01	0.28	0.28
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.870
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	311	1552	497	383	1310	185	222	1050	252	504	957	324
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	311	1552	497	383	1310	185	222	1050	252	504	957	324
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	311	1552	497	383	1310	185	222	1050	252	504	957	324
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	311	1552	497	383	1310	185	222	1050	252	504	957	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	311	1552	497	383	1310	185	222	1050	252	504	957	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	311	1552	497	383	1310	185	222	1050	252	504	957	324
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.42	0.58	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4113	987	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.30	0.15	0.11	0.26	0.11	0.07	0.26	0.26	0.15	0.19	0.19
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.710
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	92	36	219	84	38	136	200	1597	98	235	1523	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	92	36	219	84	38	136	200	1597	98	235	1523	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	92	36	219	84	38	136	200	1597	98	235	1523	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	92	36	219	84	38	136	200	1597	98	235	1523	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	219	84	38	136	200	1597	98	235	1523	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	36	219	84	38	136	200	1597	98	235	1523	60
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.44	0.56	1.00	0.69	0.31	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2444	956	1700	1170	530	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.13	0.07	0.07	0.08	0.12	0.31	0.06	0.14	0.30	0.04
Crit Moves:			****			****		****		****		

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ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.740
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	C

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 3	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	352	687	190	206	446	174	271	1539	264	170	1586	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	352	687	190	206	446	174	271	1539	264	170	1586	189
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	352	687	190	206	446	174	271	1539	264	170	1586	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	352	687	190	206	446	174	271	1539	264	170	1586	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	352	687	190	206	446	174	271	1539	264	170	1586	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	352	687	190	206	446	174	271	1539	264	170	1586	189
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.68	0.32
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4557	543
Capacity Analysis Module:												
Vol/Sat:	0.10	0.20	0.11	0.06	0.13	0.10	0.08	0.30	0.16	0.05	0.35	0.35
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.731
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	C

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 1	1 0	2	0 2	1 0	2	0 2	1 0
Volume Module:												
Base Vol:	321	661	164	130	486	69	125	1369	239	243	1787	183
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	321	661	164	130	486	69	125	1369	239	243	1787	183
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	321	661	164	130	486	69	125	1369	239	243	1787	183
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	321	661	164	130	486	69	125	1369	239	243	1787	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	321	661	164	130	486	69	125	1369	239	243	1787	183
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	321	661	164	130	486	69	125	1369	239	243	1787	183
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.75	0.25	2.00	2.55	0.45	2.00	2.72	0.28
Final Sat.:	3400	3400	1700	3400	2977	423	3400	4342	758	3400	4626	474
Capacity Analysis Module:												
Vol/Sat:	0.09	0.19	0.10	0.04	0.16	0.16	0.04	0.32	0.32	0.07	0.39	0.39
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.686
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	350	1075	206	183	708	180	268	1142	204	366	1483	205
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	350	1075	206	183	708	180	268	1142	204	366	1483	205
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	350	1075	206	183	708	180	268	1142	204	366	1483	205
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	350	1075	206	183	708	180	268	1142	204	366	1483	205
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	350	1075	206	183	708	180	268	1142	204	366	1483	205
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	350	1075	206	183	708	180	268	1142	204	366	1483	205
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.55	0.45	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4327	773	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.12	0.05	0.14	0.11	0.08	0.26	0.26	0.11	0.29	0.12
Crit Moves:	****			****				****		****		

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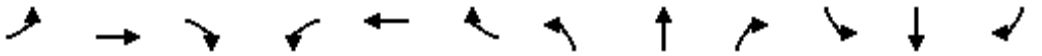

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	1142	204	366	1483	205	350	1075	206	183	708	180
Future Volume (veh/h)	268	1142	204	366	1483	205	350	1075	206	183	708	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	1165	208	373	1513	209	357	1097	210	187	722	184
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	1320	236	426	1734	538	403	1760	546	245	1526	474
Arrive On Green	0.09	0.30	0.30	0.12	0.34	0.34	0.12	0.34	0.34	0.07	0.30	0.30
Sat Flow, veh/h	3456	4357	778	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	273	910	463	373	1513	209	357	1097	210	187	722	184
Grp Sat Flow(s),veh/h/ln	1728	1702	1730	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	9.3	30.5	30.5	12.7	33.4	12.0	12.2	21.5	8.2	6.4	13.9	11.0
Cycle Q Clear(g_c), s	9.3	30.5	30.5	12.7	33.4	12.0	12.2	21.5	8.2	6.4	13.9	11.0
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	1031	524	426	1734	538	403	1760	546	245	1526	474
V/C Ratio(X)	0.83	0.88	0.88	0.88	0.87	0.39	0.89	0.62	0.38	0.76	0.47	0.39
Avail Cap(c_a), veh/h	346	1078	548	432	1745	542	403	1760	546	317	1526	474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	39.8	39.8	51.7	37.2	30.1	52.2	32.8	13.9	54.8	34.3	33.4
Incr Delay (d2), s/veh	15.2	8.5	15.2	17.9	5.2	0.5	20.3	1.7	2.0	7.9	1.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	13.9	15.1	6.6	14.5	4.7	6.4	9.1	3.2	3.0	5.9	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	48.3	55.0	69.6	42.4	30.6	72.5	34.5	16.0	62.7	35.4	35.8
LnGrp LOS	E	D	D	E	D	C	E	C	B	E	D	D
Approach Vol, veh/h		1646			2095			1664			1093	
Approach Delay, s/veh		53.6			46.0			40.3			40.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	46.4	19.8	41.4	18.0	40.9	15.4	45.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	38.0	15.0	* 38	14.0	35.0	12.0	41.0
Max Q Clear Time (g_c+I1), s	8.4	23.5	14.7	32.5	14.2	15.9	11.3	35.4
Green Ext Time (p_c), s	0.1	7.3	0.0	3.8	0.0	5.6	0.1	4.4

Intersection Summary	
HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.909
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	92	Level Of Service:	E

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	379	1504	292	239	1223	90	179	936	270	461	1069	177
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	379	1504	292	239	1223	90	179	936	270	461	1069	177
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	379	1504	292	239	1223	90	179	936	270	461	1069	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	379	1504	292	239	1223	90	179	936	270	461	1069	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	379	1504	292	239	1223	90	179	936	270	461	1069	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	379	1504	292	239	1223	90	179	936	270	461	1069	177
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.79	0.21	2.00	1.55	0.45	2.00	1.72	0.28
Final Sat.:	3400	5100	1700	3400	4750	350	3400	2639	761	3400	2917	483
Capacity Analysis Module:												
Vol/Sat:	0.11	0.29	0.17	0.07	0.26	0.26	0.05	0.35	0.35	0.14	0.37	0.37
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.776
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	217	676	226	80	531	106	73	1125	196	183	1313	92
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	676	226	80	531	106	73	1125	196	183	1313	92
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	217	676	226	80	531	106	73	1125	196	183	1313	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	676	226	80	531	106	73	1125	196	183	1313	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	676	226	80	531	106	73	1125	196	183	1313	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	676	226	80	531	106	73	1125	196	183	1313	92
OvlAdjVol:			134			70						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.70	0.30	2.00	1.87	0.13
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2896	504	3400	3177	223
Capacity Analysis Module:												
Vol/Sat:	0.13	0.20	0.13	0.05	0.16	0.06	0.02	0.39	0.39	0.05	0.41	0.41
OvlAdjV/S:			0.08			0.04						
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.800
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	104	690	71	43	411	74	129	1088	130	95	1444	96
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	690	71	43	411	74	129	1088	130	95	1444	96
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	690	71	43	411	74	129	1088	130	95	1444	96
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	690	71	43	411	74	129	1088	130	95	1444	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	690	71	43	411	74	129	1088	130	95	1444	96
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	690	71	43	411	74	129	1088	130	95	1444	96
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.69	0.31	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3083	317	1700	2881	519	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.22	0.03	0.14	0.14	0.08	0.32	0.08	0.06	0.42	0.06
Crit Moves:		****			****			****			****	

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.780
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	220	1126	87	142	913	206	202	806	175	163	1313	276
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	220	1126	87	142	913	206	202	806	175	163	1313	276
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	220	1126	87	142	913	206	202	806	175	163	1313	276
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	220	1126	87	142	913	206	202	806	175	163	1313	276
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	1126	87	142	913	206	202	806	175	163	1313	276
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	220	1126	87	142	913	206	202	806	175	163	1313	276
OvlAdjVol:			5									205
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.45	0.55	2.00	2.46	0.54	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4161	939	3400	4190	910	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.05	0.04	0.22	0.22	0.06	0.19	0.19	0.05	0.39	0.16
OvlAdjV/S:			0.00									0.12
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.866
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	86	Level Of Service:	D

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	362	797	130	271	738	79	107	1229	320	207	1059	127
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	362	797	130	271	738	79	107	1229	320	207	1059	127
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	362	797	130	271	738	79	107	1229	320	207	1059	127
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	362	797	130	271	738	79	107	1229	320	207	1059	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	362	797	130	271	738	79	107	1229	320	207	1059	127
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	362	797	130	271	738	79	107	1229	320	207	1059	127
OvlAdjVol:									119			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.72	0.28	2.00	1.81	0.19	1.00	3.00	1.00	1.00	2.68	0.32
Final Sat.:	2880	2751	449	2880	2891	309	1600	4800	1600	1600	4286	514
Capacity Analysis Module:												
Vol/Sat:	0.13	0.29	0.29	0.09	0.26	0.26	0.07	0.26	0.20	0.13	0.25	0.25
OvlAdjV/S:									0.07			
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.828
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	555	1822	173	197	1332	164	306	632	433	239	860	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	555	1822	173	197	1332	164	306	632	433	239	860	238
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	555	1822	173	197	1332	164	306	632	433	239	860	238
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	555	1822	173	197	1332	164	306	632	433	239	860	238
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	555	1822	173	197	1332	164	306	632	433	239	860	238
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	555	1822	173	197	1332	164	306	632	433	239	860	238
OvlAdjVol:						11			155			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.35	0.65
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	3995	1105
Capacity Analysis Module:												
Vol/Sat:	0.16	0.36	0.10	0.12	0.26	0.10	0.09	0.19	0.25	0.07	0.22	0.22
OvlAdjV/S:						0.01			0.09			
Crit Moves:	****			****			****				****	

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.806
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	D

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	249	1290	300	181	1265	128	230	645	142	179	589	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	249	1290	300	181	1265	128	230	645	142	179	589	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	249	1290	300	181	1265	128	230	645	142	179	589	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	249	1290	300	181	1265	128	230	645	142	179	589	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	249	1290	300	181	1265	128	230	645	142	179	589	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	249	1290	300	181	1265	128	230	645	142	179	589	100
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.43	0.57	1.00	2.72	0.28	1.00	1.64	0.36	1.00	1.71	0.29
Final Sat.:	3400	4138	962	1700	4631	469	1700	2787	613	1700	2907	493
Capacity Analysis Module:												
Vol/Sat:	0.07	0.31	0.31	0.11	0.27	0.27	0.14	0.23	0.23	0.11	0.20	0.20
Crit Moves:		****			****			****			****	

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PM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.883
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	92	Level Of Service:	D

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	235	838	187	86	719	57	135	1082	216	197	778	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	838	187	86	719	57	135	1082	216	197	778	76
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	838	187	86	719	57	135	1082	216	197	778	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	838	187	86	719	57	135	1082	216	197	778	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	838	187	86	719	57	135	1082	216	197	778	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	838	187	86	719	57	135	1082	216	197	778	76
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.85	0.15	1.00	2.50	0.50	1.00	2.73	0.27
Final Sat.:	1600	2616	584	1600	2965	235	1600	4001	799	1600	4373	427
Capacity Analysis Module:												
Vol/Sat:	0.15	0.32	0.32	0.05	0.24	0.24	0.08	0.27	0.27	0.12	0.18	0.18
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	87	1841	61	143	1660	313	528	562	78	100	485	225
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	1841	61	143	1660	313	528	562	78	100	485	225
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	1841	61	143	1660	313	528	562	78	100	485	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	87	1841	61	143	1660	313	528	562	78	100	485	225
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	1841	61	143	1660	313	528	562	78	100	485	225
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	87	1841	61	143	1660	313	528	562	78	100	485	225
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.90	0.10	2.00	2.52	0.48	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4936	164	3400	4291	809	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.04	0.39	0.39	0.16	0.17	0.05	0.03	0.14	0.13
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.624
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	B

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	31	1813	126	81	1680	70	77	203	37	125	223	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1813	126	81	1680	70	77	203	37	125	223	121
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	1813	126	81	1680	70	77	203	37	125	223	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	1813	126	81	1680	70	77	203	37	125	223	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	1813	126	81	1680	70	77	203	37	125	223	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	1813	126	81	1680	70	77	203	37	125	223	121
OvlAdjVol:									6			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.81	0.19	1.00	2.88	0.12	1.00	2.00	1.00	2.00	1.30	0.70
Final Sat.:	1700	4769	331	1700	4896	204	1700	3400	1700	3400	2204	1196
Capacity Analysis Module:												
Vol/Sat:	0.02	0.38	0.38	0.05	0.34	0.34	0.05	0.06	0.02	0.04	0.10	0.10
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.477
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	23	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0	2 0 1 1 0
Volume Module:												
Base Vol:	517	12	366	25	7	13	7	131	47	126	111	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	517	12	366	25	7	13	7	131	47	126	111	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	517	12	366	25	7	13	7	131	47	126	111	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	517	12	366	25	7	13	7	131	47	126	111	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	517	12	366	25	7	13	7	131	47	126	111	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	517	12	366	25	7	13	7	131	47	126	111	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.98	0.02	1.00	0.56	0.15	0.29	1.00	1.47	0.53	2.00	1.90	0.10
Final Sat.:	1661	39	1700	944	264	491	1700	2502	898	3400	3226	174
Capacity Analysis Module:												
Vol/Sat:	0.31	0.31	0.22	0.03	0.03	0.03	0.00	0.05	0.05	0.04	0.03	0.03
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.691
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1	1 0	2 0	2 0	1
Volume Module:												
Base Vol:	85	1180	86	22	1781	37	324	58	157	113	112	420
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	1180	86	22	1781	37	324	58	157	113	112	420
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	1180	86	22	1781	37	324	58	157	113	112	420
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	85	1180	86	22	1781	37	324	58	157	113	112	420
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	1180	86	22	1781	37	324	58	157	113	112	420
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	85	1180	86	22	1781	37	324	58	157	113	112	420
OvlAdjVol:												398
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1700	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.23	0.05	0.01	0.26	0.02	0.10	0.03	0.09	0.03	0.03	0.25
OvlAdjV/S:												0.23
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.684
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1262	234	668	1392	0	77	0	245	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1262	234	668	1392	0	77	0	245	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1262	234	668	1392	0	77	0	245	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1262	234	668	1392	0	77	0	245	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1262	234	668	1392	0	77	0	245	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1262	234	668	1392	0	77	0	245	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.53	0.47	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4302	798	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.29	0.20	0.27	0.00	0.05	0.00	0.14	0.00	0.00	0.00
Crit Moves:		****		****					****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.761
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	420	69	1101	101	44	25	42	977	448	878	911	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	420	69	1101	101	44	25	42	977	448	878	911	21
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	420	69	1101	101	44	25	42	977	448	878	911	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	420	69	1101	101	44	25	42	977	448	878	911	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	420	69	1101	101	44	25	42	977	448	878	911	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	420	69	1101	101	44	25	42	977	448	878	911	21
OvlAdjVol:			516									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.72	0.28	2.00	0.59	0.26	0.15	1.00	2.00	1.00	3.00	1.95	0.05
Final Sat.:	2920	480	3400	1010	440	250	1700	3400	1700	5100	3323	77
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.32	0.10	0.10	0.10	0.02	0.29	0.26	0.17	0.27	0.27
OvlAdjV/S:			0.15									
Crit Moves:			****		****			****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	44	76	82	286	26	757	726	1286	12	83	1101	425
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	76	82	286	26	757	726	1286	12	83	1101	425
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	76	82	286	26	757	726	1286	12	83	1101	425
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	76	82	286	26	757	726	1286	12	83	1101	425
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	76	82	286	26	757	726	1286	12	83	1101	425
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	76	82	286	26	757	726	1286	12	83	1101	425
OvlAdjVol:						394						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.37	0.63	1.00	0.92	0.08	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	623	1077	1700	1558	142	1700	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.05	0.17	0.18	0.45	0.21	0.38	0.38	0.05	0.32	0.25
OvlAdjV/S:						0.23						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	9.2

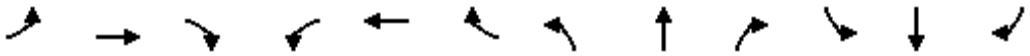
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	1733	2112	135	11	71
Future Vol, veh/h	113	1733	2112	135	11	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	1787	2177	139	11	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2316	0	-	0	3194	1158
Stage 1	-	-	-	-	2247	-
Stage 2	-	-	-	-	947	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 86	-	-	-	20	163
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	305	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 86	-	-	-	0	163
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	305	-

Approach	EB	WB	SB
HCM Control Delay, s	18.7	0	48.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 86	-	-	-	163
HCM Lane V/C Ratio	1.355	-	-	-	0.519
HCM Control Delay (s)	$ 305.2	-	-	-	48.7
HCM Lane LOS	F	-	-	-	E
HCM 95th %tile Q(veh)	8.8	-	-	-	2.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



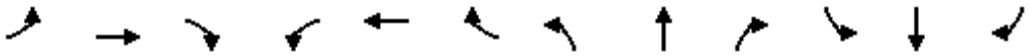
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	835	100	472	974	204	171	1124	582	96	568	175
Future Volume (veh/h)	385	835	100	472	974	204	171	1124	582	96	568	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	385	835	100	472	974	204	171	1124	582	96	568	175
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	440	1252	149	531	1518	578	198	1244	799	119	842	259
Arrive On Green	0.13	0.27	0.27	0.15	0.30	0.30	0.11	0.35	0.35	0.07	0.31	0.31
Sat Flow, veh/h	3456	4624	551	3456	5106	1585	1781	3554	1585	1781	2677	822
Grp Volume(v), veh/h	385	614	321	472	974	204	171	1124	582	96	376	367
Grp Sat Flow(s),veh/h/ln	1728	1702	1771	1728	1702	1585	1781	1777	1585	1781	1777	1722
Q Serve(g_s), s	13.1	19.2	19.4	16.1	19.9	2.8	11.3	36.1	21.8	6.4	22.1	22.2
Cycle Q Clear(g_c), s	13.1	19.2	19.4	16.1	19.9	2.8	11.3	36.1	21.8	6.4	22.1	22.2
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	440	922	480	531	1518	578	198	1244	799	119	559	542
V/C Ratio(X)	0.88	0.67	0.67	0.89	0.64	0.35	0.87	0.90	0.73	0.80	0.67	0.68
Avail Cap(c_a), veh/h	461	922	480	576	1518	578	208	1244	799	134	559	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	38.9	39.0	49.8	36.6	12.3	52.5	37.1	10.4	55.2	35.8	35.8
Incr Delay (d2), s/veh	16.5	3.8	7.3	14.9	2.1	1.7	28.7	10.9	5.8	26.5	6.4	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	8.5	9.4	8.0	8.5	2.7	6.6	17.3	8.2	3.7	10.5	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	42.7	46.2	64.6	38.7	14.0	81.1	47.9	16.2	81.7	42.2	42.5
LnGrp LOS	E	D	D	E	D	B	F	D	B	F	D	D
Approach Vol, veh/h		1320			1650			1877			839	
Approach Delay, s/veh		50.9			43.1			41.1			46.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	47.0	22.5	37.5	17.3	42.7	19.3	40.7
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 42	20.0	31.0	14.0	37.0	16.0	35.0
Max Q Clear Time (g_c+I1), s	8.4	38.1	18.1	21.4	13.3	24.2	15.1	21.9
Green Ext Time (p_c), s	0.0	3.0	0.4	4.2	0.0	3.9	0.1	6.2

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	589	162	151	734	187	184	1196	103	133	1058	32
Future Volume (veh/h)	42	589	162	151	734	187	184	1196	103	133	1058	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	589	162	151	734	187	184	1196	103	133	1058	32
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	660	181	222	802	204	296	1520	131	226	1557	47
Arrive On Green	0.03	0.24	0.24	0.08	0.29	0.29	0.07	0.46	0.46	0.06	0.44	0.44
Sat Flow, veh/h	1781	2755	756	1781	2804	714	1781	3311	285	1781	3522	107
Grp Volume(v), veh/h	42	379	372	151	465	456	184	641	658	133	534	556
Grp Sat Flow(s),veh/h/ln	1781	1777	1734	1781	1777	1742	1781	1777	1819	1781	1777	1851
Q Serve(g_s), s	2.1	24.8	24.9	7.4	30.4	30.4	6.7	36.6	36.8	4.9	28.8	28.8
Cycle Q Clear(g_c), s	2.1	24.8	24.9	7.4	30.4	30.4	6.7	36.6	36.8	4.9	28.8	28.8
Prop In Lane	1.00		0.44	1.00		0.41	1.00		0.16	1.00		0.06
Lane Grp Cap(c), veh/h	136	425	415	222	508	498	296	816	835	226	785	818
V/C Ratio(X)	0.31	0.89	0.90	0.68	0.91	0.92	0.62	0.79	0.79	0.59	0.68	0.68
Avail Cap(c_a), veh/h	154	459	448	231	533	523	358	816	835	258	785	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	44.1	44.2	32.7	41.4	41.4	21.0	27.5	27.5	23.6	26.7	26.7
Incr Delay (d2), s/veh	1.3	18.4	19.3	7.5	20.0	20.3	2.3	7.5	7.4	2.7	4.7	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	13.0	12.8	3.6	16.0	15.7	2.9	16.9	17.4	2.1	13.0	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	62.5	63.4	40.2	61.4	61.8	23.4	35.0	35.0	26.3	31.4	31.2
LnGrp LOS	D	E	E	D	E	E	C	C	C	C	C	C
Approach Vol, veh/h		793			1072			1483			1223	
Approach Delay, s/veh		61.6			58.6			33.5			30.8	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	60.1	14.4	33.7	13.9	58.0	8.8	39.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	9.0	50.0	10.0	31.0	13.0	46.0	5.0	36.0
Max Q Clear Time (g_c+I1), s	6.9	38.8	9.4	26.9	8.7	30.8	4.1	32.4
Green Ext Time (p_c), s	0.1	6.5	0.0	1.8	0.2	6.5	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

APPENDIX F-II

EXISTING PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS

[MIT] AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.707
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	11	40	43	373	43	725	387	1084	11	65	1266	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	40	43	373	43	725	387	1084	11	65	1266	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	40	43	373	43	725	387	1084	11	65	1266	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	40	43	373	43	725	387	1084	11	65	1266	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	40	43	373	43	725	387	1084	11	65	1266	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	40	43	373	43	725	387	1084	11	65	1266	274
OvlAdjVol:						338						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.79	0.21	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	819	881	3049	351	3400	3400	3366	34	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.05	0.12	0.12	0.21	0.11	0.32	0.32	0.04	0.37	0.16
OvlAdjV/S:						0.10						
Crit Moves:		****	****				****				****	

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[MIT] AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnt St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.542
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	17	0	120	70	1886	0	0	1838	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	0	120	70	1886	0	0	1838	48
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	17	0	120	70	1886	0	0	1838	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	17	0	120	70	1886	0	0	1838	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	17	0	120	70	1886	0	0	1838	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	17	0	120	70	1886	0	0	1838	48
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.12	0.00	0.88	1.00	3.00	0.00	0.00	2.92	0.08
Final Sat.:	0	0	0	211	0	1489	1700	5100	0	0	4970	130
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.08	0.00	0.08	0.04	0.37	0.00	0.00	0.37	0.37
Crit Moves:						****	****				****	

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[MIT] PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.772
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	44	76	82	286	26	757	726	1286	12	83	1101	425
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	76	82	286	26	757	726	1286	12	83	1101	425
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	76	82	286	26	757	726	1286	12	83	1101	425
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	76	82	286	26	757	726	1286	12	83	1101	425
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	76	82	286	26	757	726	1286	12	83	1101	425
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	76	82	286	26	757	726	1286	12	83	1101	425
OvlAdjVol:						31						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.83	0.17	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	818	882	3117	283	3400	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.09	0.09	0.22	0.21	0.38	0.38	0.05	0.32	0.25
OvlAdjV/S:						0.01						
Crit Moves:		****		****			****				****	

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[MIT] PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.605
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	B

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	11	0	71	113	1733	0	0	2112	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	0	71	113	1733	0	0	2112	135
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	11	0	71	113	1733	0	0	2112	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	11	0	71	113	1733	0	0	2112	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	0	71	113	1733	0	0	2112	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	11	0	71	113	1733	0	0	2112	135
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.13	0.00	0.87	1.00	3.00	0.00	0.00	2.82	0.18
Final Sat.:	0	0	0	228	0	1472	1700	5100	0	0	4794	306
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.07	0.34	0.00	0.00	0.44	0.44
Crit Moves:				****			****				****	

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APPENDIX F-III

SIGNAL WARRANTS WORKSHEETS

AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	21	488	4	9	1086	61	51	4	59	3	5	29
ApproachDel:	xxxxxx			xxxxxx			54.7			17.0		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=114]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1820]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=37]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1820]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Euclid Street at Sandlewood Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	21	488	4	9	1086	61	51	4	59	3	5	29

Major Street Volume: 1669
Minor Approach Volume: 114
Minor Approach Volume Threshold: 154

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	27	1040	2	39	724	38	22	2	15	1	3	21
ApproachDel:	xxxxxx			xxxxxx			42.9			21.0		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=39]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1934]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=25]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1934]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	27	1040	2	39	724	38	22	2	15	1	3	21

Major Street Volume: 1870
Minor Approach Volume: 39
Minor Approach Volume Threshold: 105 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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APPENDIX G

YEAR 2023 INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX G-I

YEAR 2023 CUMULATIVE TRAFFIC CONDITIONS

AM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.077
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	220	1512	213	198	2304	324	165	679	212	233	692	104
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	220	1512	213	198	2304	324	165	679	212	233	692	104
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	220	1512	213	198	2304	324	165	679	212	233	692	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	220	1512	213	198	2304	324	165	679	212	233	692	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	1512	213	198	2304	324	165	679	212	233	692	104
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	220	1512	213	198	2304	324	165	679	212	233	692	104
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.52	0.48	2.00	1.74	0.26
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2439	761	2880	2782	418
Capacity Analysis Module:												
Vol/Sat:	0.14	0.32	0.13	0.12	0.48	0.20	0.06	0.28	0.28	0.08	0.25	0.25
Crit Moves:	****			****			****			****		

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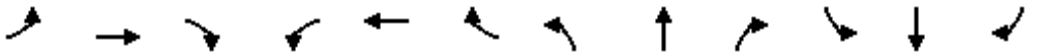
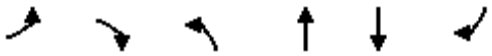


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	798	307	101	481	49	314	377	93	101	743	179
Future Volume (veh/h)	66	798	307	101	481	49	314	377	93	101	743	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	798	307	101	481	49	314	377	93	101	743	179
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	910	406	180	970	433	344	1631	728	126	1196	533
Arrive On Green	0.04	0.26	0.26	0.06	0.27	0.27	0.19	0.46	0.46	0.07	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	66	798	307	101	481	49	314	377	93	101	743	179
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.3	25.9	21.4	5.0	13.7	2.8	20.7	7.7	4.0	6.7	21.0	10.1
Cycle Q Clear(g_c), s	3.3	25.9	21.4	5.0	13.7	2.8	20.7	7.7	4.0	6.7	21.0	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	910	406	180	970	433	344	1631	728	126	1196	533
V/C Ratio(X)	0.25	0.88	0.76	0.56	0.50	0.11	0.91	0.23	0.13	0.80	0.62	0.34
Avail Cap(c_a), veh/h	273	977	436	185	1036	462	416	1631	728	193	1196	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	42.8	41.2	33.5	36.7	32.7	47.4	19.6	18.7	54.9	33.4	29.8
Incr Delay (d2), s/veh	0.5	8.7	7.0	3.6	0.4	0.1	21.7	0.3	0.4	12.9	2.4	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	12.4	9.1	2.3	6.0	1.1	11.2	3.3	1.6	3.5	9.4	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	51.5	48.1	37.2	37.1	32.8	69.1	20.0	19.0	67.8	35.8	31.5
LnGrp LOS	C	D	D	D	D	C	E	B	B	E	D	C
Approach Vol, veh/h		1171			631			784			1023	
Approach Delay, s/veh		49.5			36.7			39.5			38.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	60.1	11.7	35.7	27.2	45.4	9.7	37.8
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	48.0	7.0	33.0	28.0	33.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	8.7	9.7	7.0	27.9	22.7	23.0	5.3	15.7
Green Ext Time (p_c), s	0.1	3.0	0.0	2.9	0.5	4.1	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	240	909	384	474	1016	187
Future Volume (veh/h)	240	909	384	474	1016	187
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	909	384	474	1016	187
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	806	1026	464	2428	1832	817
Arrive On Green	0.23	0.23	0.13	0.68	0.52	0.52
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	240	909	384	474	1016	187
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.9	28.0	13.0	5.8	23.3	7.8
Cycle Q Clear(g_c), s	6.9	28.0	13.0	5.8	23.3	7.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	806	1026	464	2428	1832	817
V/C Ratio(X)	0.30	0.89	0.83	0.20	0.55	0.23
Avail Cap(c_a), veh/h	806	1026	806	2428	1832	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	35.6	50.6	6.9	19.7	16.0
Incr Delay (d2), s/veh	0.2	9.5	3.8	0.2	1.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	26.1	5.9	2.2	9.7	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.1	45.0	54.4	7.1	20.9	16.6
LnGrp LOS	D	D	D	A	C	B
Approach Vol, veh/h	1149			858	1203	
Approach Delay, s/veh	43.6			28.3	20.3	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		33.0	20.1	66.9
Change Period (Y+Rc), s		5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		82.0		28.0	28.0	50.0
Max Q Clear Time (g_c+I1), s		7.8		30.0	15.0	25.3
Green Ext Time (p_c), s		3.6		0.0	1.1	8.9

Intersection Summary		
HCM 6th Ctrl Delay		30.8
HCM 6th LOS		C

AM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.823
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	104	1571	19	25	2344	129	213	16	200	62	30	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	1571	19	25	2344	129	213	16	200	62	30	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	1571	19	25	2344	129	213	16	200	62	30	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	1571	19	25	2344	129	213	16	200	62	30	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	1571	19	25	2344	129	213	16	200	62	30	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	1571	19	25	2344	129	213	16	200	62	30	29
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	814	786
Capacity Analysis Module:												
Vol/Sat:	0.07	0.33	0.01	0.02	0.49	0.08	0.13	0.01	0.13	0.04	0.04	0.04
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.578
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	3 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	9	1947	0	0	2503	16	55	0	34	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	1947	0	0	2503	16	55	0	34	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	1947	0	0	2503	16	55	0	34	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	1947	0	0	2503	16	55	0	34	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1947	0	0	2503	16	55	0	34	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1947	0	0	2503	16	55	0	34	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1700	5100	0	0	5100	1700	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.38	0.00	0.00	0.49	0.01	0.03	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****				****		****					

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AM Year 2023 Cumulative Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.540
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Prot+Permit					Split Phase					Split Phase				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	0	0	1	1	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	667	34			225	926	0			0	0	0			68	0	258		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	0	667	34			225	926	0			0	0	0			68	0	258		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	667	34			225	926	0			0	0	0			68	0	258		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	0	667	34			225	926	0			0	0	0			68	0	258		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	0	667	34			225	926	0			0	0	0			68	0	258		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	0	667	34			225	926	0			0	0	0			68	0	258		
Saturation Flow Module:																				
Sat/Lane:	1700	1700	1700			1700	1700	1700			1700	1700	1700			1700	1700	1700		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	0.00	1.90	0.10			1.00	2.00	0.00			0.00	0.00	0.00			1.00	0.00	1.00		
Final Sat.:	0	3235	165			1700	3400	0			0	0	0			1700	0	1700		
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.21	0.21			0.13	0.27	0.00			0.00	0.00	0.00			0.04	0.00	0.15		
Crit Moves:		****				****												****		

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Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	3	60	3	3	29	21	559	4	8	1177	64
Future Vol, veh/h	54	3	60	3	3	29	21	559	4	8	1177	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	3	63	3	3	31	22	588	4	8	1239	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1629	1925	653	1271	1956	296	1306	0	0	592	0	0
Stage 1	1289	1289	-	634	634	-	-	-	-	-	-	-
Stage 2	340	636	-	637	1322	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	67	66	410	125	63	700	526	-	-	980	-	-
Stage 1	173	232	-	434	471	-	-	-	-	-	-	-
Stage 2	648	470	-	432	224	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	59	63	410	98	60	700	526	-	-	980	-	-
Mov Cap-2 Maneuver	59	63	-	98	60	-	-	-	-	-	-	-
Stage 1	166	230	-	416	451	-	-	-	-	-	-	-
Stage 2	590	450	-	357	222	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	123.4	18.6	0.4	0.1
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	526	-	-	59	410	74	700	980	-	-
HCM Lane V/C Ratio	0.042	-	-	1.017	0.154	0.085	0.044	0.009	-	-
HCM Control Delay (s)	12.1	-	-	237	15.4	58.1	10.4	8.7	-	-
HCM Lane LOS	B	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.8	0.5	0.3	0.1	0	-	-

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.918
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	110	Level Of Service:	E

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	188	396	171	131	693	142	103	1077	166	210	1714	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	396	171	131	693	142	103	1077	166	210	1714	86
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	396	171	131	693	142	103	1077	166	210	1714	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	188	396	171	131	693	142	103	1077	166	210	1714	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	188	396	171	131	693	142	103	1077	166	210	1714	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	188	396	171	131	693	142	103	1077	166	210	1714	86
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.40	0.60	1.00	1.66	0.34	1.00	2.60	0.40	1.00	2.86	0.14
Final Sat.:	1600	2235	965	1600	2656	544	1600	4159	641	1600	4571	229
Capacity Analysis Module:												
Vol/Sat:	0.12	0.18	0.18	0.08	0.26	0.26	0.06	0.26	0.26	0.13	0.37	0.38
Crit Moves:	****				****		****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	43	21	23	222	23	217	150	1145	4	12	1734	185
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	21	23	222	23	217	150	1145	4	12	1734	185
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	21	23	222	23	217	150	1145	4	12	1734	185
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	21	23	222	23	217	150	1145	4	12	1734	185
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	21	23	222	23	217	150	1145	4	12	1734	185
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	43	21	23	222	23	217	150	1145	4	12	1734	185
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.00	1.00	1.00	1.00	2.99	0.01	1.00	2.71	0.29
Final Sat.:	1600	764	836	1600	1600	1600	1600	4783	17	1600	4337	463
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.14	0.01	0.14	0.09	0.24	0.24	0.01	0.40	0.40
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.880
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	Level Of Service:	D

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	228	1097	622	349	1741	303	117	1159	195	529	1366	287
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	1097	622	349	1741	303	117	1159	195	529	1366	287
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	1097	622	349	1741	303	117	1159	195	529	1366	287
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	1097	622	349	1741	303	117	1159	195	529	1366	287
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	1097	622	349	1741	303	117	1159	195	529	1366	287
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	1097	622	349	1741	303	117	1159	195	529	1366	287
OvlAdjVol:			93									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.57	0.43	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4366	734	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.22	0.18	0.10	0.34	0.18	0.03	0.27	0.27	0.16	0.27	0.17
OvlAdjV/S:			0.03									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.558
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0 1	0	0 1	1 0	3	0 1	1 0	3	0 1
Volume Module:												
Base Vol:	23	15	33	46	6	54	60	2063	20	89	2148	32
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	23	15	33	46	6	54	60	2063	20	89	2148	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	15	33	46	6	54	60	2063	20	89	2148	32
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	23	15	33	46	6	54	60	2063	20	89	2148	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	15	33	46	6	54	60	2063	20	89	2148	32
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
FinalVolume:	23	15	33	46	6	54	60	2063	20	89	2148	32
Saturation Flow Module:												
Sat/Lane:	1700 1700	1700		1700 1700	1700		1700 1700	1700		1700 1700	1700	
Adjustment:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	1.21 0.79	1.00		0.88 0.12	1.00		1.00 3.00	1.00		1.00 3.00	1.00	
Final Sat.:	2058 1342	1700		1504 196	1700		1700 5100	1700		1700 5100	1700	
Capacity Analysis Module:												
Vol/Sat:	0.01 0.01	0.02		0.03 0.03	0.03		0.04 0.40	0.01		0.05 0.42	0.02	
Crit Moves:		****			****		****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.763
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	256	518	192	260	715	204	101	1817	257	155	1925	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	256	518	192	260	715	204	101	1817	257	155	1925	102
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	256	518	192	260	715	204	101	1817	257	155	1925	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	256	518	192	260	715	204	101	1817	257	155	1925	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	256	518	192	260	715	204	101	1817	257	155	1925	102
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	256	518	192	260	715	204	101	1817	257	155	1925	102
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.85	0.15
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4843	257
Capacity Analysis Module:												
Vol/Sat:	0.08	0.15	0.11	0.08	0.21	0.12	0.03	0.36	0.15	0.05	0.40	0.40
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.904
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	89	Level Of Service:	E

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1 1	0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	229	433	259	238	932	70	77	1786	308	277	1882	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	229	433	259	238	932	70	77	1786	308	277	1882	94
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	229	433	259	238	932	70	77	1786	308	277	1882	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	229	433	259	238	932	70	77	1786	308	277	1882	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	229	433	259	238	932	70	77	1786	308	277	1882	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	229	433	259	238	932	70	77	1786	308	277	1882	94
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.86	0.14	2.00	2.56	0.44	2.00	2.86	0.14
Final Sat.:	3400	3400	1700	3400	3162	238	3400	4350	750	3400	4857	243
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.15	0.07	0.29	0.29	0.02	0.41	0.41	0.08	0.39	0.39
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.841
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	D

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	345	634	313	292	1284	285	329	1461	340	289	1487	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	345	634	313	292	1284	285	329	1461	340	289	1487	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	345	634	313	292	1284	285	329	1461	340	289	1487	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	345	634	313	292	1284	285	329	1461	340	289	1487	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	345	634	313	292	1284	285	329	1461	340	289	1487	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	345	634	313	292	1284	285	329	1461	340	289	1487	326
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.43	0.57	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4137	963	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.12	0.18	0.09	0.25	0.17	0.10	0.35	0.35	0.09	0.29	0.19
Crit Moves:	****			****			****			****		

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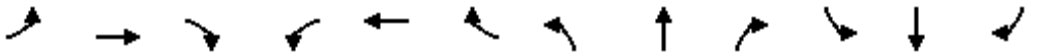

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	329	1461	340	289	1487	326	345	634	313	292	1284	285
Future Volume (veh/h)	329	1461	340	289	1487	326	345	634	313	292	1284	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	336	1491	347	295	1517	333	352	647	319	298	1310	291
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1462	338	288	1674	520	374	2178	676	288	2050	636
Arrive On Green	0.10	0.35	0.35	0.08	0.33	0.33	0.11	0.43	0.43	0.08	0.40	0.40
Sat Flow, veh/h	3456	4143	959	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	336	1224	614	295	1517	333	352	647	319	298	1310	291
Grp Sat Flow(s),veh/h/ln	1728	1702	1698	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	11.6	42.3	42.3	10.0	34.1	19.5	12.1	10.0	17.3	10.0	24.8	13.8
Cycle Q Clear(g_c), s	11.6	42.3	42.3	10.0	34.1	19.5	12.1	10.0	17.3	10.0	24.8	13.8
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1201	599	288	1674	520	374	2178	676	288	2050	636
V/C Ratio(X)	0.97	1.02	1.03	1.02	0.91	0.64	0.94	0.30	0.47	1.03	0.64	0.46
Avail Cap(c_a), veh/h	346	1201	599	288	1702	528	374	2178	676	288	2050	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	38.8	38.8	55.0	38.6	28.2	53.1	22.6	24.7	55.0	28.9	19.2
Incr Delay (d2), s/veh	40.9	30.8	43.3	59.4	7.3	2.6	31.6	0.3	2.4	62.3	1.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	22.5	24.5	6.7	15.2	7.7	6.9	4.1	6.9	6.8	10.3	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.7	69.6	82.2	114.4	45.9	30.8	84.7	22.9	27.1	117.3	30.4	21.6
LnGrp LOS	F	F	F	F	D	C	F	C	C	F	C	C
Approach Vol, veh/h		2174			2145			1318			1899	
Approach Delay, s/veh		77.1			53.0			40.4			42.7	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	56.5	14.0	47.3	17.0	53.5	17.0	44.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	40.0	10.0	42.0	13.0	37.0	12.0	* 40
Max Q Clear Time (g_c+I1), s	12.0	19.3	12.0	44.3	14.1	26.8	13.6	36.1
Green Ext Time (p_c), s	0.0	5.7	0.0	0.0	0.0	6.8	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	55.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.021
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	282	959	283	223	1680	254	271	1068	201	461	1094	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	282	959	283	223	1680	254	271	1068	201	461	1094	161
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	282	959	283	223	1680	254	271	1068	201	461	1094	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	282	959	283	223	1680	254	271	1068	201	461	1094	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	282	959	283	223	1680	254	271	1068	201	461	1094	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	282	959	283	223	1680	254	271	1068	201	461	1094	161
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.61	0.39	2.00	1.68	0.32	2.00	1.74	0.26
Final Sat.:	3400	5100	1700	3400	4430	670	3400	2861	539	3400	2964	436
Capacity Analysis Module:												
Vol/Sat:	0.08	0.19	0.17	0.07	0.38	0.38	0.08	0.37	0.37	0.14	0.37	0.37
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.870
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Street Name:	Idaho St							Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Ovl			Ovl			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0	
Volume Module:													
Base Vol:	221	416	202	110	634	214	86	1290	192	231	1205	49	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	221	416	202	110	634	214	86	1290	192	231	1205	49	
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	221	416	202	110	634	214	86	1290	192	231	1205	49	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Volume:	221	416	202	110	634	214	86	1290	192	231	1205	49	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	221	416	202	110	634	214	86	1290	192	231	1205	49	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
FinalVolume:	221	416	202	110	634	214	86	1290	192	231	1205	49	
OvlAdjVol:			86			171							
Saturation Flow Module:													
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.74	0.26	2.00	1.92	0.08	
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2960	440	3400	3267	133	
Capacity Analysis Module:													
Vol/Sat:	0.13	0.12	0.12	0.06	0.19	0.13	0.03	0.44	0.44	0.07	0.37	0.37	
OvlAdjV/S:			0.05			0.10							
Crit Moves:	****			****			****			****			

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AM Year 2023 Cumulative Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.771
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	67	445	95	83	666	70	80	1355	269	114	1111	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	67	445	95	83	666	70	80	1355	269	114	1111	62
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	67	445	95	83	666	70	80	1355	269	114	1111	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	67	445	95	83	666	70	80	1355	269	114	1111	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	67	445	95	83	666	70	80	1355	269	114	1111	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	67	445	95	83	666	70	80	1355	269	114	1111	62
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	1.81	0.19	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2802	598	1700	3077	323	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.16	0.05	0.22	0.22	0.05	0.40	0.16	0.07	0.33	0.04
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.763
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	108	579	389	260	1487	200	180	1269	251	178	987	214
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	579	389	260	1487	200	180	1269	251	178	987	214
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	579	389	260	1487	200	180	1269	251	178	987	214
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	108	579	389	260	1487	200	180	1269	251	178	987	214
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	579	389	260	1487	200	180	1269	251	178	987	214
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	108	579	389	260	1487	200	180	1269	251	178	987	214
OvlAdjVol:			300									84
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.64	0.36	2.00	2.50	0.50	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4495	605	3400	4258	842	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.23	0.08	0.33	0.33	0.05	0.30	0.30	0.05	0.29	0.13
OvlAdjV/S:			0.18									0.05
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.975
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	160	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	415	807	58	248	796	117	105	1223	368	124	1739	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	415	807	58	248	796	117	105	1223	368	124	1739	85
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	415	807	58	248	796	117	105	1223	368	124	1739	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	415	807	58	248	796	117	105	1223	368	124	1739	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	415	807	58	248	796	117	105	1223	368	124	1739	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	415	807	58	248	796	117	105	1223	368	124	1739	85
OvlAdjVol:									137			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.87	0.13	2.00	1.74	0.26	1.00	3.00	1.00	1.00	2.86	0.14
Final Sat.:	2880	2985	215	2880	2790	410	1600	4800	1600	1600	4576	224
Capacity Analysis Module:												
Vol/Sat:	0.14	0.27	0.27	0.09	0.29	0.29	0.07	0.25	0.23	0.08	0.38	0.38
OvlAdjV/S:									0.09			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.843
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	409	1430	270	134	1759	562	177	708	591	341	729	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	409	1430	270	134	1759	562	177	708	591	341	729	79
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	409	1430	270	134	1759	562	177	708	591	341	729	79
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	409	1430	270	134	1759	562	177	708	591	341	729	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	409	1430	270	134	1759	562	177	708	591	341	729	79
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	409	1430	270	134	1759	562	177	708	591	341	729	79
OvlAdjVol:						473			387			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.71	0.29
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4601	499
Capacity Analysis Module:												
Vol/Sat:	0.12	0.28	0.16	0.08	0.34	0.33	0.05	0.21	0.35	0.10	0.16	0.16
OvlAdjV/S:						0.28			0.23			
Crit Moves:	****				****				****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Beach Blvd						La Habra Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	1 0	1	0 2	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	271	959	216	150	1508	128	160	499	105	272	655	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	271	959	216	150	1508	128	160	499	105	272	655	74
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	271	959	216	150	1508	128	160	499	105	272	655	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	271	959	216	150	1508	128	160	499	105	272	655	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	271	959	216	150	1508	128	160	499	105	272	655	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	271	959	216	150	1508	128	160	499	105	272	655	74
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.45	0.55	1.00	2.77	0.23	1.00	1.65	0.35	1.00	1.80	0.20
Final Sat.:	3400	4162	938	1700	4701	399	1700	2809	591	1700	3055	345
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.23	0.09	0.32	0.32	0.09	0.18	0.18	0.16	0.21	0.21
Crit Moves:	****			****			****			****		

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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.989
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	308	777	168	70	881	127	81	791	200	224	1547	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	308	777	168	70	881	127	81	791	200	224	1547	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	308	777	168	70	881	127	81	791	200	224	1547	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	308	777	168	70	881	127	81	791	200	224	1547	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	308	777	168	70	881	127	81	791	200	224	1547	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	308	777	168	70	881	127	81	791	200	224	1547	40
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.75	0.25	1.00	2.39	0.61	1.00	2.92	0.08
Final Sat.:	1600	2631	569	1600	2797	403	1600	3831	969	1600	4679	121
Capacity Analysis Module:												
Vol/Sat:	0.19	0.30	0.30	0.04	0.31	0.32	0.05	0.21	0.21	0.14	0.33	0.33
Crit Moves:	****					****	****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Bouelvard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.876
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	100	1835	72	83	2152	316	399	484	94	104	664	167
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	1835	72	83	2152	316	399	484	94	104	664	167
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	100	1835	72	83	2152	316	399	484	94	104	664	167
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	100	1835	72	83	2152	316	399	484	94	104	664	167
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	1835	72	83	2152	316	399	484	94	104	664	167
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	100	1835	72	83	2152	316	399	484	94	104	664	167
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.89	0.11	2.00	2.62	0.38	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4907	193	3400	4447	653	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.02	0.48	0.48	0.12	0.14	0.06	0.03	0.20	0.10
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.661
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	B

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	29	1854	166	36	2261	82	62	183	26	177	252	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	1854	166	36	2261	82	62	183	26	177	252	81
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	1854	166	36	2261	82	62	183	26	177	252	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	1854	166	36	2261	82	62	183	26	177	252	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	1854	166	36	2261	82	62	183	26	177	252	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	1854	166	36	2261	82	62	183	26	177	252	81
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.75	0.25	1.00	2.90	0.10	1.00	2.00	1.00	2.00	1.51	0.49
Final Sat.:	1700	4681	419	1700	4922	178	1700	3400	1700	3400	2573	827
Capacity Analysis Module:												
Vol/Sat:	0.02	0.40	0.40	0.02	0.46	0.46	0.04	0.05	0.02	0.05	0.10	0.10
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB ramps at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.372
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	19	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	1 1	0	2 0	1 1 0
Volume Module:												
Base Vol:	331	9	264	1	1	1	5	110	83	215	84	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	9	264	1	1	1	5	110	83	215	84	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	9	264	1	1	1	5	110	83	215	84	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	331	9	264	1	1	1	5	110	83	215	84	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	9	264	1	1	1	5	110	83	215	84	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	331	9	264	1	1	1	5	110	83	215	84	5
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.97	0.03	1.00	0.34	0.33	0.33	1.00	1.14	0.86	2.00	1.89	0.11
Final Sat.:	1655	45	1700	567	567	567	1700	1938	1462	3400	3209	191
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.16	0.00	0.00	0.00	0.00	0.06	0.06	0.06	0.03	0.03
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.790
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Beach Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 4	0 1	2	0 1	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	168	1387	99	34	2348	48	244	76	64	81	104	415
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	168	1387	99	34	2348	48	244	76	64	81	104	415
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	168	1387	99	34	2348	48	244	76	64	81	104	415
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	168	1387	99	34	2348	48	244	76	64	81	104	415
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	168	1387	99	34	2348	48	244	76	64	81	104	415
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	168	1387	99	34	2348	48	244	76	64	81	104	415
OvlAdjVol:												381
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.09	0.91	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1846	1554	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.27	0.06	0.02	0.35	0.03	0.07	0.04	0.04	0.02	0.03	0.24
OvlAdjV/S:												0.22
Crit Moves:	****				****		****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.785
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	C

Street Name:	Beach Boulevard						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1453	169	837	1673	0	196	0	291	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1453	169	837	1673	0	196	0	291	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1453	169	837	1673	0	196	0	291	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1453	169	837	1673	0	196	0	291	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1453	169	837	1673	0	196	0	291	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1453	169	837	1673	0	196	0	291	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.69	0.31	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4569	531	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.25	0.33	0.00	0.12	0.00	0.17	0.00	0.00	0.00
Crit Moves:		****		****					****			

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.753
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	C

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	382	49	662	58	43	22	46	963	430	1123	1011	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	382	49	662	58	43	22	46	963	430	1123	1011	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	382	49	662	58	43	22	46	963	430	1123	1011	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	382	49	662	58	43	22	46	963	430	1123	1011	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	382	49	662	58	43	22	46	963	430	1123	1011	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	382	49	662	58	43	22	46	963	430	1123	1011	7
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.77	0.23	2.00	0.47	0.35	0.18	1.00	2.00	1.00	3.00	1.99	0.01
Final Sat.:	3013	387	3400	802	594	304	1700	3400	1700	5100	3377	23
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.19	0.07	0.07	0.07	0.03	0.28	0.25	0.22	0.30	0.30
OvlAdjV/S:			0.00									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.910
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	Level Of Service:	E

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	12	42	45	395	45	758	409	1234	12	68	1385	293
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	12	42	45	395	45	758	409	1234	12	68	1385	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	42	45	395	45	758	409	1234	12	68	1385	293
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	12	42	45	395	45	758	409	1234	12	68	1385	293
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	42	45	395	45	758	409	1234	12	68	1385	293
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
FinalVolume:	12	42	45	395	45	758	409	1234	12	68	1385	293
OvlAdjVol:						554						
Saturation Flow Module:												
Sat/Lane:	1700 1700	1700		1700 1700	1700		1700 1700	1700		1700 1700	1700	
Adjustment:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	0.22 0.78	1.00		0.90 0.10	1.00		2.00 1.98	0.02		1.00 2.00	1.00	
Final Sat.:	378 1322	1700		1526 174	1700		3400 3367	33		1700 3400	1700	
Capacity Analysis Module:												
Vol/Sat:	0.01 0.03	0.03		0.23 0.26	0.45		0.12 0.37	0.37		0.04 0.41	0.17	
OvlAdjV/S:						0.33						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	178.7

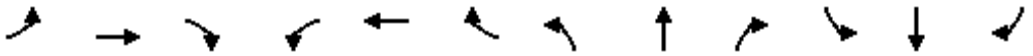
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	74	2187	2099	54	21	126
Future Vol, veh/h	74	2187	2099	54	21	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2302	2209	57	22	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2266	0	-	0	3315	1133
Stage 1	-	-	-	-	2238	-
Stage 2	-	-	-	-	1077	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	91	-	-	-	~ 17	169
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	260	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	91	-	-	-	~ 2	169
Mov Cap-2 Maneuver	-	-	-	-	~ 2	-
Stage 1	-	-	-	-	~ 6	-
Stage 2	-	-	-	-	260	-

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	$ 5473.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	91	-	-	-	13
HCM Lane V/C Ratio	0.856	-	-	-	11.903
HCM Control Delay (s)	139.8	-	-	-	$ 5473.9
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	4.6	-	-	-	20.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



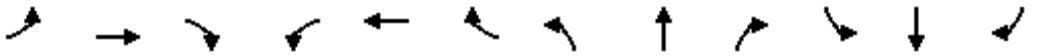
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	981	195	563	739	83	88	690	565	156	1063	205
Future Volume (veh/h)	248	981	195	563	739	83	88	690	565	156	1063	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	981	195	563	739	83	88	690	565	156	1063	205
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1325	2280	452	576	1574	651	104	1176	789	183	1090	210
Arrive On Green	0.38	0.53	0.53	0.17	0.31	0.31	0.06	0.33	0.33	0.10	0.37	0.37
Sat Flow, veh/h	3456	4274	848	3456	5106	1585	1781	3554	1585	1781	2973	572
Grp Volume(v), veh/h	248	781	395	563	739	83	88	690	565	156	634	634
Grp Sat Flow(s),veh/h/ln	1728	1702	1718	1728	1702	1585	1781	1777	1585	1781	1777	1767
Q Serve(g_s), s	5.7	16.7	16.7	19.5	14.0	2.5	5.9	19.3	33.4	10.3	42.2	42.5
Cycle Q Clear(g_c), s	5.7	16.7	16.7	19.5	14.0	2.5	5.9	19.3	33.4	10.3	42.2	42.5
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	1325	1815	916	576	1574	651	104	1176	789	183	652	648
V/C Ratio(X)	0.19	0.43	0.43	0.98	0.47	0.13	0.85	0.59	0.72	0.85	0.97	0.98
Avail Cap(c_a), veh/h	1325	1815	916	576	1574	651	104	1176	789	193	652	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	17.0	17.0	49.8	33.6	20.2	56.0	33.3	23.5	53.0	37.4	37.5
Incr Delay (d2), s/veh	0.1	0.7	1.5	31.7	1.0	0.4	44.3	2.1	5.5	28.3	29.3	30.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	6.6	6.9	10.9	5.9	1.1	3.9	8.7	13.4	6.1	23.2	23.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	17.7	18.5	81.5	34.6	20.6	100.3	35.5	29.1	81.3	66.7	67.9
LnGrp LOS	C	B	B	F	C	C	F	D	C	F	E	E
Approach Vol, veh/h		1424			1385			1343			1424	
Approach Delay, s/veh		19.1			52.8			37.0			68.8	
Approach LOS		B			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	44.7	24.0	70.0	12.0	49.0	52.0	42.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	13.0	38.0	20.0	31.0	7.0	* 44	14.0	* 37
Max Q Clear Time (g_c+I1), s	12.3	35.4	21.5	18.7	7.9	44.5	7.7	16.0
Green Ext Time (p_c), s	0.0	1.7	0.0	6.3	0.0	0.0	0.4	5.5

Intersection Summary	
HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	749	178	151	486	132	144	1046	92	263	1363	17
Future Volume (veh/h)	35	749	178	151	486	132	144	1046	92	263	1363	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	749	178	151	486	132	144	1046	92	263	1363	17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	783	186	174	843	227	203	1314	116	301	1587	20
Arrive On Green	0.03	0.28	0.28	0.06	0.30	0.30	0.06	0.40	0.40	0.10	0.44	0.44
Sat Flow, veh/h	1781	2848	677	1781	2766	747	1781	3304	291	1781	3594	45
Grp Volume(v), veh/h	35	467	460	151	311	307	144	562	576	263	674	706
Grp Sat Flow(s),veh/h/ln	1781	1777	1749	1781	1777	1736	1781	1777	1818	1781	1777	1862
Q Serve(g_s), s	1.7	31.0	31.0	7.0	17.7	17.9	5.7	33.5	33.5	10.0	40.9	41.0
Cycle Q Clear(g_c), s	1.7	31.0	31.0	7.0	17.7	17.9	5.7	33.5	33.5	10.0	40.9	41.0
Prop In Lane	1.00		0.39	1.00		0.43	1.00		0.16	1.00		0.02
Lane Grp Cap(c), veh/h	236	489	481	174	541	529	203	707	723	301	785	823
V/C Ratio(X)	0.15	0.96	0.96	0.87	0.57	0.58	0.71	0.80	0.80	0.87	0.86	0.86
Avail Cap(c_a), veh/h	259	489	481	174	541	529	203	707	723	341	785	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	42.8	42.8	34.4	35.2	35.2	27.2	31.8	31.9	25.2	30.1	30.1
Incr Delay (d2), s/veh	0.3	29.8	30.1	34.5	1.5	1.6	10.8	9.0	8.9	19.7	11.7	11.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	17.5	17.3	4.8	7.9	7.8	3.0	15.9	16.3	5.7	19.6	20.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	72.6	72.9	68.9	36.7	36.8	37.9	40.9	40.7	44.9	41.9	41.4
LnGrp LOS	C	E	E	E	D	D	D	D	D	D	D	D
Approach Vol, veh/h		962			769			1282			1643	
Approach Delay, s/veh		71.2			43.1			40.5			42.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	52.7	12.0	38.0	12.0	58.0	8.4	41.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	45.0	7.0	33.0	7.0	53.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	12.0	35.5	9.0	33.0	7.7	43.0	3.7	19.9
Green Ext Time (p_c), s	0.2	5.0	0.0	0.0	0.0	6.3	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.015
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	228	2111	241	171	1728	235	385	626	184	224	613	137
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	2111	241	171	1728	235	385	626	184	224	613	137
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	2111	241	171	1728	235	385	626	184	224	613	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	2111	241	171	1728	235	385	626	184	224	613	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	2111	241	171	1728	235	385	626	184	224	613	137
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	2111	241	171	1728	235	385	626	184	224	613	137
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.55	0.45	2.00	1.63	0.37
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2473	727	2880	2615	585
Capacity Analysis Module:												
Vol/Sat:	0.14	0.44	0.15	0.11	0.36	0.15	0.13	0.25	0.25	0.08	0.23	0.23
Crit Moves:	****			****			****				****	

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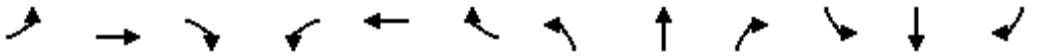


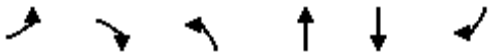
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	501	252	63	610	54	347	1057	83	40	550	185
Future Volume (veh/h)	190	501	252	63	610	54	347	1057	83	40	550	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	190	501	252	63	610	54	347	1057	83	40	550	185
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	925	412	228	713	318	379	1570	700	165	1172	523
Arrive On Green	0.10	0.26	0.26	0.04	0.20	0.20	0.21	0.44	0.44	0.09	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	190	501	252	63	610	54	347	1057	83	40	550	185
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.8	14.6	16.8	3.3	19.9	2.6	22.9	28.4	2.9	2.5	14.7	10.6
Cycle Q Clear(g_c), s	9.8	14.6	16.8	3.3	19.9	2.6	22.9	28.4	2.9	2.5	14.7	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	925	412	228	713	318	379	1570	700	165	1172	523
V/C Ratio(X)	0.72	0.54	0.61	0.28	0.86	0.17	0.92	0.67	0.12	0.24	0.47	0.35
Avail Cap(c_a), veh/h	280	1066	476	233	829	370	475	1570	700	165	1172	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	38.2	39.0	36.2	46.3	24.2	46.2	26.6	12.0	50.6	31.9	30.5
Incr Delay (d2), s/veh	8.3	0.5	1.8	0.6	7.8	0.3	19.7	2.3	0.3	0.8	1.4	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	6.4	6.7	1.5	9.5	1.3	12.1	12.3	1.4	1.2	6.6	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	38.7	40.8	36.9	54.1	24.4	65.9	29.0	12.4	51.3	33.2	32.4
LnGrp LOS	D	D	D	D	D	C	E	C	B	D	C	C
Approach Vol, veh/h		943			727			1487			775	
Approach Delay, s/veh		40.0			50.4			36.7			34.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	58.0	9.7	36.2	29.5	44.6	16.8	29.1
Change Period (Y+Rc), s	5.0	* 5	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	* 53	5.0	36.0	32.0	28.0	13.0	28.0
Max Q Clear Time (g_c+I1), s	4.5	30.4	5.3	18.8	24.9	16.7	11.8	21.9
Green Ext Time (p_c), s	0.0	8.6	0.0	4.0	0.6	3.3	0.1	2.2

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	203	454	661	1042	616	191
Future Volume (veh/h)	203	454	661	1042	616	191
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	454	661	1042	616	191
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	327	1558	1602	2921	1125	502
Arrive On Green	0.09	0.09	0.46	0.82	0.32	0.32
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	203	454	661	1042	616	191
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.8	0.0	15.2	8.9	17.2	11.2
Cycle Q Clear(g_c), s	6.8	0.0	15.2	8.9	17.2	11.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	327	1558	1602	2921	1125	502
V/C Ratio(X)	0.62	0.29	0.41	0.36	0.55	0.38
Avail Cap(c_a), veh/h	864	1991	1602	2921	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	14.0	21.3	2.7	33.9	31.9
Incr Delay (d2), s/veh	1.9	0.1	0.2	0.3	1.9	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	7.6	6.2	2.4	7.7	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.2	14.1	21.5	3.0	35.8	34.0
LnGrp LOS	D	B	C	A	D	C
Approach Vol, veh/h	657			1703	807	
Approach Delay, s/veh	26.5			10.2	35.4	
Approach LOS	C			B	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.6		16.4	60.6	43.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		80.0		30.0	38.0	* 38
Max Q Clear Time (g_c+I1), s		10.9		8.8	17.2	19.2
Green Ext Time (p_c), s		10.2		2.6	2.5	4.7

Intersection Summary		
HCM 6th Ctrl Delay		20.0
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.806
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	68	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	211	2273	49	63	1902	264	256	18	122	34	15	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	211	2273	49	63	1902	264	256	18	122	34	15	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	211	2273	49	63	1902	264	256	18	122	34	15	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	211	2273	49	63	1902	264	256	18	122	34	15	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	2273	49	63	1902	264	256	18	122	34	15	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	211	2273	49	63	1902	264	256	18	122	34	15	14
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	828	772
Capacity Analysis Module:												
Vol/Sat:	0.13	0.47	0.03	0.04	0.40	0.17	0.16	0.01	0.08	0.02	0.02	0.02
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.546
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	A

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	3 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	29	2478	0	0	2265	37	16	0	17	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	2478	0	0	2265	37	16	0	17	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	2478	0	0	2265	37	16	0	17	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	2478	0	0	2265	37	16	0	17	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	2478	0	0	2265	37	16	0	17	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	2478	0	0	2265	37	16	0	17	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1700	5100	0	0	5100	1700	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.02	0.49	0.00	0.00	0.44	0.02	0.01	0.00	0.01	0.00	0.00	0.00
Crit Moves:	****								****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.580
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	Idaho St								Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Prot+Permit				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	1	1 0	1	0	2	0 0	0	0	0	0 0	1	0	0	0 1
Volume Module:																
Base Vol:	0	1159	57		149	873	0		0	0	0		29	0	144	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	1159	57		149	873	0		0	0	0		29	0	144	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	1159	57		149	873	0		0	0	0		29	0	144	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1159	57		149	873	0		0	0	0		29	0	144	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1159	57		149	873	0		0	0	0		29	0	144	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1159	57		149	873	0		0	0	0		29	0	144	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	1.91	0.09		1.00	2.00	0.00		0.00	0.00	0.00		1.00	0.00	1.00	
Final Sat.:	0	3241	159		1700	3400	0		0	0	0		1700	0	1700	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.36	0.36		0.09	0.26	0.00		0.00	0.00	0.00		0.02	0.00	0.08	
Crit Moves:		****				****									****	

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Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	0	14	1	1	20	25	1138	2	39	817	40
Future Vol, veh/h	23	0	14	1	1	20	25	1138	2	39	817	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	0	14	1	1	20	26	1161	2	40	834	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1568	2150	438	1711	2169	582	875	0	0	1163	0	0
Stage 1	935	935	-	1214	1214	-	-	-	-	-	-	-
Stage 2	633	1215	-	497	955	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	75	48	567	59	46	456	767	-	-	596	-	-
Stage 1	285	342	-	193	253	-	-	-	-	-	-	-
Stage 2	434	252	-	523	335	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	65	43	567	53	41	456	767	-	-	596	-	-
Mov Cap-2 Maneuver	65	43	-	53	41	-	-	-	-	-	-	-
Stage 1	275	319	-	186	244	-	-	-	-	-	-	-
Stage 2	399	243	-	476	313	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	59.6	20	0.2	0.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	767	-	-	65	567	46	456	596	-	-
HCM Lane V/C Ratio	0.033	-	-	0.361	0.025	0.044	0.045	0.067	-	-
HCM Control Delay (s)	9.9	-	-	88.9	11.5	86.9	13.3	11.5	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	0.1	0.1	0.1	0.2	-	-

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.948
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	131	Level Of Service:	E

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	182	734	234	159	514	100	124	1420	150	190	1233	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	182	734	234	159	514	100	124	1420	150	190	1233	138
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	182	734	234	159	514	100	124	1420	150	190	1233	138
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	182	734	234	159	514	100	124	1420	150	190	1233	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	734	234	159	514	100	124	1420	150	190	1233	138
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	182	734	234	159	514	100	124	1420	150	190	1233	138
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.67	0.33	1.00	2.71	0.29	1.00	2.70	0.30
Final Sat.:	1600	2426	774	1600	2679	521	1600	4341	459	1600	4317	483
Capacity Analysis Module:												
Vol/Sat:	0.11	0.30	0.30	0.10	0.19	0.19	0.08	0.33	0.33	0.12	0.29	0.29
Crit Moves:		****		****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.656
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Street Name:	1st Ave							Imperial Hwy							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	0	1 0	1	0	1	0 1	1	0	2	1 0	1	0	2	1 0
Volume Module:																
Base Vol:	32	24	12		159	36	160		181	1518	21		14	1373	166	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	32	24	12		159	36	160		181	1518	21		14	1373	166	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	32	24	12		159	36	160		181	1518	21		14	1373	166	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	32	24	12		159	36	160		181	1518	21		14	1373	166	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	32	24	12		159	36	160		181	1518	21		14	1373	166	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	32	24	12		159	36	160		181	1518	21		14	1373	166	
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600		1600	1600	1600		1600	1600	1600		1600	1600	1600	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	0.67	0.33		1.00	1.00	1.00		1.00	2.96	0.04		1.00	2.68	0.32	
Final Sat.:	1600	1067	533		1600	1600	1600		1600	4735	65		1600	4282	518	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.02	0.02		0.10	0.02	0.10		0.11	0.32	0.32		0.01	0.32	0.32	
Crit Moves:	****				****				****					****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.942
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	121	Level Of Service:	E

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	305	1661	514	402	1421	208	247	1204	238	563	1147	345
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	305	1661	514	402	1421	208	247	1204	238	563	1147	345
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	305	1661	514	402	1421	208	247	1204	238	563	1147	345
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	305	1661	514	402	1421	208	247	1204	238	563	1147	345
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	1661	514	402	1421	208	247	1204	238	563	1147	345
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	305	1661	514	402	1421	208	247	1204	238	563	1147	345
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.50	0.50	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4258	842	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.33	0.15	0.12	0.28	0.12	0.07	0.28	0.28	0.17	0.22	0.20
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.736
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	C

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	59	38	207	88	40	143	210	1830	45	201	1819	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	38	207	88	40	143	210	1830	45	201	1819	63
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	38	207	88	40	143	210	1830	45	201	1819	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	38	207	88	40	143	210	1830	45	201	1819	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	38	207	88	40	143	210	1830	45	201	1819	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	38	207	88	40	143	210	1830	45	201	1819	63
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.22	0.78	1.00	0.69	0.31	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2068	1332	1700	1169	531	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.12	0.08	0.08	0.08	0.12	0.36	0.03	0.12	0.36	0.04
Crit Moves:			****			****	****				****	

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.813
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	D

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	370	736	245	216	491	177	280	1738	291	245	1843	198
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	370	736	245	216	491	177	280	1738	291	245	1843	198
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	370	736	245	216	491	177	280	1738	291	245	1843	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	370	736	245	216	491	177	280	1738	291	245	1843	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	370	736	245	216	491	177	280	1738	291	245	1843	198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	370	736	245	216	491	177	280	1738	291	245	1843	198
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.71	0.29
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4605	495
Capacity Analysis Module:												
Vol/Sat:	0.11	0.22	0.14	0.06	0.14	0.10	0.08	0.34	0.17	0.07	0.40	0.40
Crit Moves:	****			****			****				****	

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PM Year 2023 Cumulative Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.831
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	D

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1 1	0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	328	713	206	173	523	91	147	1600	245	304	2115	234
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	328	713	206	173	523	91	147	1600	245	304	2115	234
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	328	713	206	173	523	91	147	1600	245	304	2115	234
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	328	713	206	173	523	91	147	1600	245	304	2115	234
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	328	713	206	173	523	91	147	1600	245	304	2115	234
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	328	713	206	173	523	91	147	1600	245	304	2115	234
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.70	0.30	2.00	2.60	0.40	2.00	2.70	0.30
Final Sat.:	3400	3400	1700	3400	2896	504	3400	4423	677	3400	4592	508
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.12	0.05	0.18	0.18	0.04	0.36	0.36	0.09	0.46	0.46
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.814
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	D

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	389	1164	232	295	835	352	361	1349	232	395	1714	297
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	389	1164	232	295	835	352	361	1349	232	395	1714	297
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	389	1164	232	295	835	352	361	1349	232	395	1714	297
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	389	1164	232	295	835	352	361	1349	232	395	1714	297
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	389	1164	232	295	835	352	361	1349	232	395	1714	297
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	389	1164	232	295	835	352	361	1349	232	395	1714	297
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.56	0.44	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4352	748	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.23	0.14	0.09	0.16	0.21	0.11	0.31	0.31	0.12	0.34	0.17
Crit Moves:	****					****	****				****	

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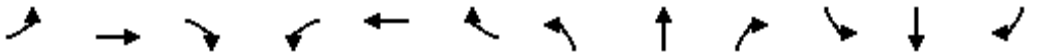

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	361	1349	232	395	1714	297	389	1164	232	295	835	352
Future Volume (veh/h)	361	1349	232	395	1714	297	389	1164	232	295	835	352
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	368	1377	237	403	1749	303	397	1188	237	301	852	359
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	1388	239	403	1702	528	403	3064	951	317	2936	911
Arrive On Green	0.11	0.32	0.32	0.12	0.33	0.33	0.12	0.60	0.60	0.09	0.57	0.57
Sat Flow, veh/h	3456	4385	754	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	368	1069	545	403	1749	303	397	1188	237	301	852	359
Grp Sat Flow(s),veh/h/ln	1728	1702	1735	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.8	37.5	37.6	14.0	40.0	18.9	13.8	14.6	10.2	10.4	10.2	14.9
Cycle Q Clear(g_c), s	12.8	37.5	37.6	14.0	40.0	18.9	13.8	14.6	10.2	10.4	10.2	14.9
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	1078	549	403	1702	528	403	3064	951	317	2936	911
V/C Ratio(X)	0.98	0.99	0.99	1.00	1.03	0.57	0.98	0.39	0.25	0.95	0.29	0.39
Avail Cap(c_a), veh/h	374	1078	549	403	1702	528	403	3064	951	317	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	40.8	40.9	53.0	40.0	33.0	52.9	12.5	16.5	54.2	13.0	14.0
Incr Delay (d2), s/veh	41.8	25.3	36.4	44.7	29.2	1.5	40.6	0.4	0.6	37.4	0.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	19.3	21.4	8.6	21.1	7.5	8.2	5.5	3.8	6.2	3.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.2	66.1	77.2	97.7	69.2	34.5	93.5	12.9	17.1	91.7	13.3	15.3
LnGrp LOS	F	E	E	F	F	C	F	B	B	F	B	B
Approach Vol, veh/h		1982			2455			1822			1512	
Approach Delay, s/veh		74.6			69.6			31.0			29.3	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	78.0	19.0	43.0	18.0	75.0	17.0	45.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	39.0	14.0	* 38	14.0	36.0	13.0	39.0
Max Q Clear Time (g_c+I1), s	12.4	16.6	16.0	39.6	15.8	16.9	14.8	42.0
Green Ext Time (p_c), s	0.0	10.2	0.0	0.0	0.0	7.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.974
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	172	Level Of Service:	E

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	395	1616	322	251	1324	95	188	1015	280	507	1161	186
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	395	1616	322	251	1324	95	188	1015	280	507	1161	186
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	395	1616	322	251	1324	95	188	1015	280	507	1161	186
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	395	1616	322	251	1324	95	188	1015	280	507	1161	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	395	1616	322	251	1324	95	188	1015	280	507	1161	186
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	395	1616	322	251	1324	95	188	1015	280	507	1161	186
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.80	0.20	2.00	1.57	0.43	2.00	1.72	0.28
Final Sat.:	3400	5100	1700	3400	4759	341	3400	2665	735	3400	2931	469
Capacity Analysis Module:												
Vol/Sat:	0.12	0.32	0.19	0.07	0.28	0.28	0.06	0.38	0.38	0.15	0.40	0.40
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.831
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	D

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	228	721	237	84	575	111	77	1227	206	192	1440	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	721	237	84	575	111	77	1227	206	192	1440	97
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	721	237	84	575	111	77	1227	206	192	1440	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	721	237	84	575	111	77	1227	206	192	1440	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	721	237	84	575	111	77	1227	206	192	1440	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	721	237	84	575	111	77	1227	206	192	1440	97
OvlAdjVol:			141			73						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.71	0.29	2.00	1.87	0.13
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2911	489	3400	3185	215
Capacity Analysis Module:												
Vol/Sat:	0.13	0.21	0.14	0.05	0.17	0.07	0.02	0.42	0.42	0.06	0.45	0.45
OvlAdjV/S:			0.08			0.04						
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.876
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	122	787	75	55	485	78	135	1178	150	100	1566	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	122	787	75	55	485	78	135	1178	150	100	1566	121
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	122	787	75	55	485	78	135	1178	150	100	1566	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	122	787	75	55	485	78	135	1178	150	100	1566	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	122	787	75	55	485	78	135	1178	150	100	1566	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	122	787	75	55	485	78	135	1178	150	100	1566	121
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.72	0.28	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3104	296	1700	2929	471	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.25	0.25	0.03	0.17	0.17	0.08	0.35	0.09	0.06	0.46	0.07
Crit Moves:		****			****			****			****	

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.850
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	D

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	265	1256	187	161	1018	216	212	884	197	319	1419	314
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	265	1256	187	161	1018	216	212	884	197	319	1419	314
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	265	1256	187	161	1018	216	212	884	197	319	1419	314
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	265	1256	187	161	1018	216	212	884	197	319	1419	314
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	265	1256	187	161	1018	216	212	884	197	319	1419	314
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	265	1256	187	161	1018	216	212	884	197	319	1419	314
OvlAdjVol:			27									233
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.47	0.53	2.00	2.45	0.55	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4207	893	3400	4171	929	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.25	0.11	0.05	0.24	0.24	0.06	0.21	0.21	0.09	0.42	0.18
OvlAdjV/S:			0.02									0.14
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.935
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	121	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	3 0	1	1 0	2 1	0
Volume Module:												
Base Vol:	380	868	137	288	808	84	114	1386	336	217	1249	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	380	868	137	288	808	84	114	1386	336	217	1249	142
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	380	868	137	288	808	84	114	1386	336	217	1249	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	380	868	137	288	808	84	114	1386	336	217	1249	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	868	137	288	808	84	114	1386	336	217	1249	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	380	868	137	288	808	84	114	1386	336	217	1249	142
OvlAdjVol:									125			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.73	0.27	2.00	1.81	0.19	1.00	3.00	1.00	1.00	2.69	0.31
Final Sat.:	2880	2764	436	2880	2899	301	1600	4800	1600	1600	4310	490
Capacity Analysis Module:												
Vol/Sat:	0.13	0.31	0.31	0.10	0.28	0.28	0.07	0.29	0.21	0.14	0.29	0.29
OvlAdjV/S:									0.08			
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.880
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	77	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	626	1951	194	194	1474	246	366	673	485	261	920	233
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	626	1951	194	194	1474	246	366	673	485	261	920	233
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	626	1951	194	194	1474	246	366	673	485	261	920	233
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	626	1951	194	194	1474	246	366	673	485	261	920	233
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	626	1951	194	194	1474	246	366	673	485	261	920	233
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	626	1951	194	194	1474	246	366	673	485	261	920	233
OvlAdjVol:						63			172			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.39	0.61
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4069	1031
Capacity Analysis Module:												
Vol/Sat:	0.18	0.38	0.11	0.11	0.29	0.14	0.11	0.20	0.29	0.08	0.23	0.23
OvlAdjV/S:						0.04			0.10			
Crit Moves:	****			****			****				****	

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.871
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Street Name:	Beach Blvd						La Habra Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	1 0	1	0 2	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	258	1367	342	190	1344	134	242	691	146	217	625	105
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	258	1367	342	190	1344	134	242	691	146	217	625	105
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	258	1367	342	190	1344	134	242	691	146	217	625	105
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	258	1367	342	190	1344	134	242	691	146	217	625	105
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	1367	342	190	1344	134	242	691	146	217	625	105
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	258	1367	342	190	1344	134	242	691	146	217	625	105
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.40	0.60	1.00	2.73	0.27	1.00	1.65	0.35	1.00	1.71	0.29
Final Sat.:	3400	4079	1021	1700	4638	462	1700	2807	593	1700	2911	489
Capacity Analysis Module:												
Vol/Sat:	0.08	0.34	0.34	0.11	0.29	0.29	0.14	0.25	0.25	0.13	0.21	0.21
Crit Moves:		****			****			****			****	

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.985
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	174	Level Of Service:	E

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	275	890	218	88	774	60	142	1209	273	230	931	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	275	890	218	88	774	60	142	1209	273	230	931	78
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	275	890	218	88	774	60	142	1209	273	230	931	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	275	890	218	88	774	60	142	1209	273	230	931	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	275	890	218	88	774	60	142	1209	273	230	931	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	275	890	218	88	774	60	142	1209	273	230	931	78
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.86	0.14	1.00	2.45	0.55	1.00	2.77	0.23
Final Sat.:	1600	2570	630	1600	2970	230	1600	3916	884	1600	4429	371
Capacity Analysis Module:												
Vol/Sat:	0.17	0.35	0.35	0.06	0.26	0.26	0.09	0.31	0.31	0.14	0.21	0.21
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Bouelvard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	D

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	146	2038	66	147	1861	318	539	602	118	106	529	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	146	2038	66	147	1861	318	539	602	118	106	529	235
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	146	2038	66	147	1861	318	539	602	118	106	529	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	146	2038	66	147	1861	318	539	602	118	106	529	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	2038	66	147	1861	318	539	602	118	106	529	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	2038	66	147	1861	318	539	602	118	106	529	235
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.91	0.09	2.00	2.56	0.44	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4940	160	3400	4356	744	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.41	0.41	0.04	0.43	0.43	0.16	0.18	0.07	0.03	0.16	0.14
Crit Moves:	****			****			****				****	

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PM Year 2023 Cumulative Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.705
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	33	2045	160	93	1901	83	95	236	39	156	249	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	2045	160	93	1901	83	95	236	39	156	249	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	2045	160	93	1901	83	95	236	39	156	249	132
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	33	2045	160	93	1901	83	95	236	39	156	249	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	2045	160	93	1901	83	95	236	39	156	249	132
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	2045	160	93	1901	83	95	236	39	156	249	132
OvlAdjVol:									6			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.78	0.22	1.00	2.87	0.13	1.00	2.00	1.00	2.00	1.31	0.69
Final Sat.:	1700	4730	370	1700	4887	213	1700	3400	1700	3400	2222	1178
Capacity Analysis Module:												
Vol/Sat:	0.02	0.43	0.43	0.05	0.39	0.39	0.06	0.07	0.02	0.05	0.11	0.11
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB ramps at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.512
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0	2 0 1 1 0
Volume Module:												
Base Vol:	543	13	398	26	7	14	7	142	49	174	121	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	543	13	398	26	7	14	7	142	49	174	121	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	543	13	398	26	7	14	7	142	49	174	121	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	543	13	398	26	7	14	7	142	49	174	121	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	543	13	398	26	7	14	7	142	49	174	121	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	543	13	398	26	7	14	7	142	49	174	121	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.98	0.02	1.00	0.55	0.15	0.30	1.00	1.49	0.51	2.00	1.91	0.09
Final Sat.:	1660	40	1700	940	253	506	1700	2528	872	3400	3239	161
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.23	0.03	0.03	0.03	0.00	0.06	0.06	0.05	0.04	0.04
Crit Moves:	****			****				****		****		

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.763
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Beach Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 4	0 1	2	0 1	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	126	1410	90	23	2021	51	352	61	173	119	118	428
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	126	1410	90	23	2021	51	352	61	173	119	118	428
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	126	1410	90	23	2021	51	352	61	173	119	118	428
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	126	1410	90	23	2021	51	352	61	173	119	118	428
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	1410	90	23	2021	51	352	61	173	119	118	428
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	126	1410	90	23	2021	51	352	61	173	119	118	428
OvlAdjVol:												405
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1700	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.28	0.05	0.01	0.30	0.03	0.10	0.04	0.10	0.04	0.03	0.25
OvlAdjV/S:												0.24
Crit Moves:	****			****			****					****

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.767
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Beach Boulevard						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	1 0	2 0	3	0 0	1 0	0	0 1	0 0	0	0 0 0
Volume Module:												
Base Vol:	0	1515	247	704	1618	0	98	0	279	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1515	247	704	1618	0	98	0	279	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1515	247	704	1618	0	98	0	279	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1515	247	704	1618	0	98	0	279	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1515	247	704	1618	0	98	0	279	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1515	247	704	1618	0	98	0	279	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.58	0.42	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4385	715	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.35	0.21	0.32	0.00	0.06	0.00	0.16	0.00	0.00	0.00
Crit Moves:		****		****					****			

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PM Year 2023 Cumulative Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.814
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	D

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	448	72	1162	106	46	26	44	1080	474	935	1041	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	448	72	1162	106	46	26	44	1080	474	935	1041	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	448	72	1162	106	46	26	44	1080	474	935	1041	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	448	72	1162	106	46	26	44	1080	474	935	1041	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	448	72	1162	106	46	26	44	1080	474	935	1041	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	448	72	1162	106	46	26	44	1080	474	935	1041	22
OvlAdjVol:			539									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.72	0.28	2.00	0.59	0.26	0.15	1.00	2.00	1.00	3.00	1.96	0.04
Final Sat.:	2929	471	3400	1012	439	248	1700	3400	1700	5100	3330	70
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.34	0.10	0.10	0.10	0.03	0.32	0.28	0.18	0.31	0.31
OvlAdjV/S:			0.16									
Crit Moves:			****		****			****		****		

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PM Year 2023 Cumulative Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.913
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	95	Level Of Service:	E

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	46	80	86	305	27	793	759	1415	13	87	1256	450
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	80	86	305	27	793	759	1415	13	87	1256	450
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	80	86	305	27	793	759	1415	13	87	1256	450
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	80	86	305	27	793	759	1415	13	87	1256	450
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	80	86	305	27	793	759	1415	13	87	1256	450
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	80	86	305	27	793	759	1415	13	87	1256	450
OvlAdjVol:						414						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.37	0.63	1.00	0.92	0.08	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	621	1079	1700	1562	138	1700	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.05	0.18	0.20	0.47	0.22	0.42	0.42	0.05	0.37	0.26
OvlAdjV/S:						0.24						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	18.8

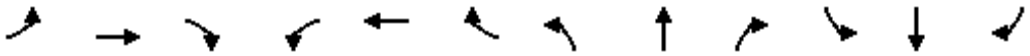
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	2013	2437	146	17	75
Future Vol, veh/h	119	2013	2437	146	17	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	2075	2512	151	18	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2663	0	-	0	3664	1332
Stage 1	-	-	-	-	2588	-
Stage 2	-	-	-	-	1076	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 57	-	-	-	~ 11	124
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	260	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 57	-	-	-	0	124
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	260	-

Approach	EB	WB	SB
HCM Control Delay, s	38.3	0	94.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 57	-	-	-	124
HCM Lane V/C Ratio	2.152	-	-	-	0.765
HCM Control Delay (s)	$ 685.7	-	-	-	94.2
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12	-	-	-	4.4

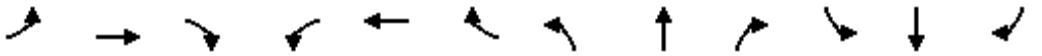
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	866	106	496	1009	267	181	1260	611	136	651	184
Future Volume (veh/h)	404	866	106	496	1009	267	181	1260	611	136	651	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	404	866	106	496	1009	267	181	1260	611	136	651	184
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	456	1153	140	518	1369	557	238	1303	819	148	866	245
Arrive On Green	0.13	0.25	0.25	0.15	0.27	0.27	0.13	0.37	0.37	0.08	0.32	0.32
Sat Flow, veh/h	3456	4611	562	3456	5106	1585	1781	3554	1585	1781	2736	772
Grp Volume(v), veh/h	404	638	334	496	1009	267	181	1260	611	136	423	412
Grp Sat Flow(s),veh/h/ln	1728	1702	1769	1728	1702	1585	1781	1777	1585	1781	1777	1731
Q Serve(g_s), s	13.8	20.8	20.9	17.1	21.6	4.0	11.8	41.7	22.0	9.1	25.6	25.6
Cycle Q Clear(g_c), s	13.8	20.8	20.9	17.1	21.6	4.0	11.8	41.7	22.0	9.1	25.6	25.6
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	456	851	442	518	1369	557	238	1303	819	148	563	548
V/C Ratio(X)	0.89	0.75	0.75	0.96	0.74	0.48	0.76	0.97	0.75	0.92	0.75	0.75
Avail Cap(c_a), veh/h	461	851	442	518	1369	557	238	1303	819	148	563	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	41.5	41.6	50.6	40.1	14.0	50.2	37.3	9.6	54.6	36.8	36.8
Incr Delay (d2), s/veh	18.3	6.0	11.3	28.9	3.6	2.9	13.5	18.2	6.1	49.7	8.9	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	9.4	10.5	9.4	9.5	3.9	6.1	21.1	8.2	6.1	12.4	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	47.6	52.9	79.5	43.6	16.9	63.7	55.5	15.8	104.3	45.7	46.0
LnGrp LOS	E	D	D	E	D	B	E	E	B	F	D	D
Approach Vol, veh/h		1376			1772			2052			971	
Approach Delay, s/veh		55.3			49.6			44.4			54.0	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	49.0	22.0	35.0	20.0	43.0	19.8	37.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	44.0	18.0	30.0	16.0	38.0	16.0	32.0
Max Q Clear Time (g_c+I1), s	11.1	43.7	19.1	22.9	13.8	27.6	15.8	23.6
Green Ext Time (p_c), s	0.0	0.2	0.0	3.5	0.1	3.9	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	49.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	622	192	159	777	196	227	1266	108	140	1131	34
Future Volume (veh/h)	44	622	192	159	777	196	227	1266	108	140	1131	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	622	192	159	777	196	227	1266	108	140	1131	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	689	212	215	845	213	284	1466	125	202	1447	43
Arrive On Green	0.03	0.26	0.26	0.08	0.30	0.30	0.09	0.44	0.44	0.06	0.41	0.41
Sat Flow, veh/h	1781	2674	824	1781	2811	709	1781	3314	282	1781	3522	106
Grp Volume(v), veh/h	44	413	401	159	491	482	227	677	697	140	570	595
Grp Sat Flow(s),veh/h/ln	1781	1777	1722	1781	1777	1743	1781	1777	1820	1781	1777	1851
Q Serve(g_s), s	2.2	27.0	27.0	7.7	32.1	32.1	8.6	41.2	41.5	5.4	33.4	33.4
Cycle Q Clear(g_c), s	2.2	27.0	27.0	7.7	32.1	32.1	8.6	41.2	41.5	5.4	33.4	33.4
Prop In Lane	1.00		0.48	1.00		0.41	1.00		0.16	1.00		0.06
Lane Grp Cap(c), veh/h	136	458	444	215	534	524	284	786	805	202	730	761
V/C Ratio(X)	0.32	0.90	0.90	0.74	0.92	0.92	0.80	0.86	0.87	0.69	0.78	0.78
Avail Cap(c_a), veh/h	153	489	474	215	548	537	317	786	805	202	730	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	43.1	43.1	32.1	40.6	40.6	24.9	30.1	30.2	26.9	30.7	30.7
Incr Delay (d2), s/veh	1.4	19.1	19.9	12.6	20.6	20.9	12.4	12.0	12.0	9.8	8.1	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	14.2	13.9	4.0	16.9	16.7	4.5	19.8	20.4	2.8	15.7	16.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	62.2	63.0	44.8	61.2	61.5	37.3	42.1	42.3	36.7	38.8	38.5
LnGrp LOS	D	E	E	D	E	E	D	D	D	D	D	D
Approach Vol, veh/h		858			1132			1601			1305	
Approach Delay, s/veh		61.2			59.0			41.5			38.5	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	58.1	14.0	35.9	15.8	54.3	8.8	41.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	51.0	9.0	33.0	13.0	45.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	7.4	43.5	9.7	29.0	10.6	35.4	4.2	34.1
Green Ext Time (p_c), s	0.0	5.0	0.0	1.9	0.2	5.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	48.2
HCM 6th LOS	D

APPENDIX G-II

YEAR 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.093
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	220	1543	217	225	2362	338	176	680	212	245	694	119
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	220	1543	217	225	2362	338	176	680	212	245	694	119
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	220	1543	217	225	2362	338	176	680	212	245	694	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	220	1543	217	225	2362	338	176	680	212	245	694	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	1543	217	225	2362	338	176	680	212	245	694	119
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	220	1543	217	225	2362	338	176	680	212	245	694	119
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.52	0.48	2.00	1.71	0.29
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2439	761	2880	2732	468
Capacity Analysis Module:												
Vol/Sat:	0.14	0.32	0.14	0.14	0.49	0.21	0.06	0.28	0.28	0.09	0.25	0.25
Crit Moves:	****			****			****			****		

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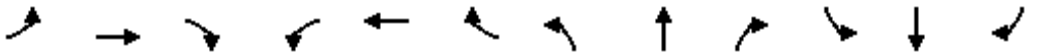
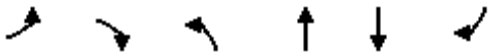


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	805	328	101	488	50	323	385	93	102	760	193
Future Volume (veh/h)	71	805	328	101	488	50	323	385	93	102	760	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	805	328	101	488	50	323	385	93	102	760	193
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	915	408	169	945	422	353	1645	734	127	1195	533
Arrive On Green	0.04	0.26	0.26	0.05	0.27	0.27	0.20	0.46	0.46	0.07	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	71	805	328	101	488	50	323	385	93	102	760	193
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.5	26.1	23.2	5.0	14.0	2.9	21.3	7.8	4.0	6.8	21.7	11.0
Cycle Q Clear(g_c), s	3.5	26.1	23.2	5.0	14.0	2.9	21.3	7.8	4.0	6.8	21.7	11.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	915	408	169	945	422	353	1645	734	127	1195	533
V/C Ratio(X)	0.27	0.88	0.80	0.60	0.52	0.12	0.92	0.23	0.13	0.80	0.64	0.36
Avail Cap(c_a), veh/h	278	977	436	169	977	436	416	1645	734	193	1195	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	42.8	41.7	34.0	37.5	33.4	47.1	19.4	18.4	54.9	33.6	30.1
Incr Delay (d2), s/veh	0.5	8.9	9.9	5.7	0.4	0.1	22.6	0.3	0.4	13.2	2.6	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	12.5	10.2	2.4	6.2	1.1	11.6	3.3	1.6	3.5	9.7	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	51.7	51.6	39.7	37.9	33.5	69.8	19.7	18.7	68.1	36.2	32.0
LnGrp LOS	C	D	D	D	D	C	E	B	B	E	D	C
Approach Vol, veh/h		1204			639			801			1055	
Approach Delay, s/veh		50.5			37.8			39.8			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	60.6	11.0	35.9	27.8	45.3	10.0	36.9
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	49.0	6.0	33.0	28.0	34.0	6.0	33.0
Max Q Clear Time (g_c+I1), s	8.8	9.8	7.0	28.1	23.3	23.7	5.5	16.0
Green Ext Time (p_c), s	0.1	3.1	0.0	2.8	0.4	4.3	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	240	915	389	479	1024	187
Future Volume (veh/h)	240	915	389	479	1024	187
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	915	389	479	1024	187
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	806	1030	470	2428	1827	815
Arrive On Green	0.23	0.23	0.14	0.68	0.51	0.51
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	240	915	389	479	1024	187
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.9	28.0	13.2	5.9	23.6	7.8
Cycle Q Clear(g_c), s	6.9	28.0	13.2	5.9	23.6	7.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	806	1030	470	2428	1827	815
V/C Ratio(X)	0.30	0.89	0.83	0.20	0.56	0.23
Avail Cap(c_a), veh/h	806	1030	806	2428	1827	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	35.5	50.5	7.0	19.9	16.1
Incr Delay (d2), s/veh	0.2	9.6	3.8	0.2	1.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	26.2	5.9	2.2	9.9	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.1	45.2	54.3	7.1	21.1	16.7
LnGrp LOS	D	D	D	A	C	B
Approach Vol, veh/h	1155			868	1211	
Approach Delay, s/veh	43.7			28.3	20.5	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		33.0	20.3	66.7
Change Period (Y+Rc), s		5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		82.0		28.0	28.0	50.0
Max Q Clear Time (g_c+I1), s		7.9		30.0	15.2	25.6
Green Ext Time (p_c), s		3.7		0.0	1.2	9.0

Intersection Summary		
HCM 6th Ctrl Delay		30.9
HCM 6th LOS		C

AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.848
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	79	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 3	0 1	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	104	1626	19	25	2443	134	220	16	200	62	30	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	1626	19	25	2443	134	220	16	200	62	30	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	1626	19	25	2443	134	220	16	200	62	30	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	1626	19	25	2443	134	220	16	200	62	30	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	1626	19	25	2443	134	220	16	200	62	30	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	1626	19	25	2443	134	220	16	200	62	30	29
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	814	786
Capacity Analysis Module:												
Vol/Sat:	0.07	0.34	0.01	0.02	0.51	0.08	0.14	0.01	0.13	0.04	0.04	0.04
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.610
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	9	1988	19	9	2545	16	55	0	34	61	0	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	1988	19	9	2545	16	55	0	34	61	0	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	1988	19	9	2545	16	55	0	34	61	0	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	1988	19	9	2545	16	55	0	34	61	0	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1988	19	9	2545	16	55	0	34	61	0	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1988	19	9	2545	16	55	0	34	61	0	30
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.97	0.03	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	5052	48	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.39	0.39	0.01	0.50	0.01	0.03	0.00	0.02	0.04	0.00	0.02
Crit Moves:	****			****					****	****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.562
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	7	673	34		230	935	7		21	2	23		68	1	265	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	7	673	34		230	935	7		21	2	23		68	1	265	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	7	673	34		230	935	7		21	2	23		68	1	265	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	7	673	34		230	935	7		21	2	23		68	1	265	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	7	673	34		230	935	7		21	2	23		68	1	265	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	7	673	34		230	935	7		21	2	23		68	1	265	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.90	0.10		1.00	1.99	0.01		1.00	0.08	0.92		1.00	0.01	0.99	
Final Sat.:	1700	3236	164		1700	3375	25		1700	136	1564		1700	6	1694	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.21	0.21		0.14	0.28	0.28		0.01	0.01	0.01		0.04	0.16	0.16	
Crit Moves:		****				****				****				****		

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Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	4	62	3	5	30	22	563	4	9	1183	64
Future Vol, veh/h	54	4	62	3	5	30	22	563	4	9	1183	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	4	65	3	5	32	23	593	4	9	1245	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1642	1940	656	1284	1971	299	1312	0	0	597	0	0
Stage 1	1297	1297	-	641	641	-	-	-	-	-	-	-
Stage 2	345	643	-	643	1330	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	66	65	408	122	62	697	523	-	-	976	-	-
Stage 1	171	230	-	430	468	-	-	-	-	-	-	-
Stage 2	644	467	-	428	222	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 56	62	408	93	59	697	523	-	-	976	-	-
Mov Cap-2 Maneuver	~ 56	62	-	93	59	-	-	-	-	-	-	-
Stage 1	163	228	-	411	447	-	-	-	-	-	-	-
Stage 2	581	446	-	350	220	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	137.7	22	0.5	0.1
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	523	-	-	56	408	68	697	976	-	-
HCM Lane V/C Ratio	0.044	-	-	1.09	0.16	0.124	0.045	0.01	-	-
HCM Control Delay (s)	12.2	-	-	268.3	15.5	65.3	10.4	8.7	-	-
HCM Lane LOS	B	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.1	0.6	0.4	0.1	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.927
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	115	Level Of Service:	E

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	188	396	171	134	693	142	103	1097	166	210	1753	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	396	171	134	693	142	103	1097	166	210	1753	89
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	396	171	134	693	142	103	1097	166	210	1753	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	188	396	171	134	693	142	103	1097	166	210	1753	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	188	396	171	134	693	142	103	1097	166	210	1753	89
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	188	396	171	134	693	142	103	1097	166	210	1753	89
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.40	0.60	1.00	1.66	0.34	1.00	2.61	0.39	1.00	2.86	0.14
Final Sat.:	1600	2235	965	1600	2656	544	1600	4169	631	1600	4568	232
Capacity Analysis Module:												
Vol/Sat:	0.12	0.18	0.18	0.08	0.26	0.26	0.06	0.26	0.26	0.13	0.38	0.38
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.770
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	43	21	23	224	23	217	150	1169	4	12	1776	187
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	21	23	224	23	217	150	1169	4	12	1776	187
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	21	23	224	23	217	150	1169	4	12	1776	187
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	21	23	224	23	217	150	1169	4	12	1776	187
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	21	23	224	23	217	150	1169	4	12	1776	187
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	43	21	23	224	23	217	150	1169	4	12	1776	187
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.00	1.00	1.00	1.00	2.99	0.01	1.00	2.71	0.29
Final Sat.:	1600	764	836	1600	1600	1600	1600	4784	16	1600	4343	457
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.14	0.01	0.14	0.09	0.24	0.24	0.01	0.41	0.41
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.907
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	91	Level Of Service:	E

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	250	1115	661	356	1756	303	117	1169	211	572	1389	301
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	250	1115	661	356	1756	303	117	1169	211	572	1389	301
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	250	1115	661	356	1756	303	117	1169	211	572	1389	301
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	250	1115	661	356	1756	303	117	1169	211	572	1389	301
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	250	1115	661	356	1756	303	117	1169	211	572	1389	301
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	250	1115	661	356	1756	303	117	1169	211	572	1389	301
OvlAdjVol:			89									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.54	0.46	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4320	780	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.22	0.19	0.10	0.34	0.18	0.03	0.27	0.27	0.17	0.27	0.18
OvlAdjV/S:			0.03									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.594
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	69	15	65	46	6	54	60	2092	47	108	2182	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	15	65	46	6	54	60	2092	47	108	2182	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	15	65	46	6	54	60	2092	47	108	2182	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	15	65	46	6	54	60	2092	47	108	2182	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	15	65	46	6	54	60	2092	47	108	2182	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	15	65	46	6	54	60	2092	47	108	2182	32
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.64	0.36	1.00	0.88	0.12	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2793	607	1700	1504	196	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.04	0.03	0.03	0.03	0.04	0.41	0.03	0.06	0.43	0.02
Crit Moves:			****			****		****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.776
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	281	518	201	260	715	208	104	1858	274	158	1949	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	518	201	260	715	208	104	1858	274	158	1949	102
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	518	201	260	715	208	104	1858	274	158	1949	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	518	201	260	715	208	104	1858	274	158	1949	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	518	201	260	715	208	104	1858	274	158	1949	102
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	281	518	201	260	715	208	104	1858	274	158	1949	102
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.85	0.15
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4846	254
Capacity Analysis Module:												
Vol/Sat:	0.08	0.15	0.12	0.08	0.21	0.12	0.03	0.36	0.16	0.05	0.40	0.40
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.916
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	E

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1 1	0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	234	433	259	238	932	72	79	1827	315	277	1900	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	433	259	238	932	72	79	1827	315	277	1900	94
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	433	259	238	932	72	79	1827	315	277	1900	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	433	259	238	932	72	79	1827	315	277	1900	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	433	259	238	932	72	79	1827	315	277	1900	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	433	259	238	932	72	79	1827	315	277	1900	94
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.86	0.14	2.00	2.56	0.44	2.00	2.86	0.14
Final Sat.:	3400	3400	1700	3400	3156	244	3400	4350	750	3400	4860	240
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.15	0.07	0.30	0.30	0.02	0.42	0.42	0.08	0.39	0.39
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	D

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	344	634	313	292	1284	293	350	1483	339	289	1499	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	344	634	313	292	1284	293	350	1483	339	289	1499	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	344	634	313	292	1284	293	350	1483	339	289	1499	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	344	634	313	292	1284	293	350	1483	339	289	1499	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	344	634	313	292	1284	293	350	1483	339	289	1499	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	344	634	313	292	1284	293	350	1483	339	289	1499	326
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.44	0.56	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4151	949	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.12	0.18	0.09	0.25	0.17	0.10	0.36	0.36	0.09	0.29	0.19
Crit Moves:	****			****			****			****		

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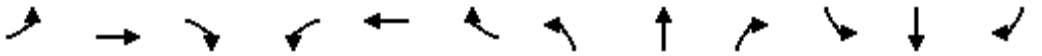

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	1483	339	289	1499	326	344	634	313	292	1284	293
Future Volume (veh/h)	350	1483	339	289	1499	326	344	634	313	292	1284	293
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	357	1513	346	295	1530	333	351	647	319	298	1310	299
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1471	334	288	1678	521	374	2311	717	288	2183	678
Arrive On Green	0.10	0.35	0.35	0.08	0.33	0.33	0.11	0.45	0.45	0.08	0.43	0.43
Sat Flow, veh/h	3456	4159	946	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	357	1237	622	295	1530	333	351	647	319	298	1310	299
Grp Sat Flow(s),veh/h/ln	1728	1702	1700	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	42.4	42.4	10.0	34.5	20.3	12.1	9.5	16.6	10.0	23.7	14.3
Cycle Q Clear(g_c), s	12.0	42.4	42.4	10.0	34.5	20.3	12.1	9.5	16.6	10.0	23.7	14.3
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1204	601	288	1678	521	374	2311	717	288	2183	678
V/C Ratio(X)	1.03	1.03	1.03	1.02	0.91	0.64	0.94	0.28	0.44	1.03	0.60	0.44
Avail Cap(c_a), veh/h	346	1204	601	288	1702	528	374	2311	717	288	2183	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	38.8	38.8	55.0	38.6	30.7	53.1	20.6	22.5	55.0	26.4	19.4
Incr Delay (d2), s/veh	57.2	33.2	45.9	59.4	7.8	2.5	31.0	0.3	2.0	62.3	1.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	22.9	25.0	6.7	15.4	8.1	6.9	3.9	6.5	6.8	9.8	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.2	72.0	84.7	114.4	46.4	33.3	84.1	20.9	24.5	117.3	27.7	21.5
LnGrp LOS	F	F	F	F	D	C	F	C	C	F	C	C
Approach Vol, veh/h		2216			2158			1317			1907	
Approach Delay, s/veh		81.9			53.7			38.6			40.7	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	59.7	14.0	47.4	17.0	56.7	17.0	44.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	40.0	10.0	42.0	13.0	37.0	12.0	* 40
Max Q Clear Time (g_c+I1), s	12.0	18.6	12.0	44.4	14.1	25.7	14.0	36.5
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	7.4	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	56.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.026
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	284	989	283	223	1700	254	271	1068	203	461	1094	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	284	989	283	223	1700	254	271	1068	203	461	1094	161
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	284	989	283	223	1700	254	271	1068	203	461	1094	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	284	989	283	223	1700	254	271	1068	203	461	1094	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	284	989	283	223	1700	254	271	1068	203	461	1094	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	284	989	283	223	1700	254	271	1068	203	461	1094	161
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.61	0.39	2.00	1.68	0.32	2.00	1.74	0.26
Final Sat.:	3400	5100	1700	3400	4437	663	3400	2857	543	3400	2964	436
Capacity Analysis Module:												
Vol/Sat:	0.08	0.19	0.17	0.07	0.38	0.38	0.08	0.37	0.37	0.14	0.37	0.37
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.871
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	D

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	221	419	202	110	638	214	86	1290	192	231	1205	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	221	419	202	110	638	214	86	1290	192	231	1205	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	221	419	202	110	638	214	86	1290	192	231	1205	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	221	419	202	110	638	214	86	1290	192	231	1205	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	419	202	110	638	214	86	1290	192	231	1205	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	221	419	202	110	638	214	86	1290	192	231	1205	49
OvlAdjVol:			86			171						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.74	0.26	2.00	1.92	0.08
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2960	440	3400	3267	133
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.06	0.19	0.13	0.03	0.44	0.44	0.07	0.37	0.37
OvlAdjV/S:			0.05			0.10						
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.772
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	67	447	95	83	668	70	80	1355	269	114	1111	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	67	447	95	83	668	70	80	1355	269	114	1111	62
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	67	447	95	83	668	70	80	1355	269	114	1111	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	67	447	95	83	668	70	80	1355	269	114	1111	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	67	447	95	83	668	70	80	1355	269	114	1111	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	67	447	95	83	668	70	80	1355	269	114	1111	62
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	1.81	0.19	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2804	596	1700	3078	322	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.16	0.05	0.22	0.22	0.05	0.40	0.16	0.07	0.33	0.04
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.765
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	108	591	397	260	1493	200	180	1269	251	181	987	214
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	591	397	260	1493	200	180	1269	251	181	987	214
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	591	397	260	1493	200	180	1269	251	181	987	214
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	108	591	397	260	1493	200	180	1269	251	181	987	214
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	591	397	260	1493	200	180	1269	251	181	987	214
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	108	591	397	260	1493	200	180	1269	251	181	987	214
OvlAdjVol:			307									84
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.65	0.35	2.00	2.50	0.50	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4498	602	3400	4258	842	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.23	0.08	0.33	0.33	0.05	0.30	0.30	0.05	0.29	0.13
OvlAdjV/S:			0.18									0.05
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.983
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	171	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	415	807	58	252	796	117	105	1239	368	124	1768	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	415	807	58	252	796	117	105	1239	368	124	1768	94
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	415	807	58	252	796	117	105	1239	368	124	1768	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	415	807	58	252	796	117	105	1239	368	124	1768	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	415	807	58	252	796	117	105	1239	368	124	1768	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	415	807	58	252	796	117	105	1239	368	124	1768	94
OvlAdjVol:									137			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.87	0.13	2.00	1.74	0.26	1.00	3.00	1.00	1.00	2.85	0.15
Final Sat.:	2880	2985	215	2880	2790	410	1600	4800	1600	1600	4558	242
Capacity Analysis Module:												
Vol/Sat:	0.14	0.27	0.27	0.09	0.29	0.29	0.07	0.26	0.23	0.08	0.39	0.39
OvlAdjV/S:									0.09			
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.854
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	409	1456	270	147	1815	562	177	708	591	341	729	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	409	1456	270	147	1815	562	177	708	591	341	729	89
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	409	1456	270	147	1815	562	177	708	591	341	729	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	409	1456	270	147	1815	562	177	708	591	341	729	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	409	1456	270	147	1815	562	177	708	591	341	729	89
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	409	1456	270	147	1815	562	177	708	591	341	729	89
OvlAdjVol:						473			387			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.67	0.33
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4545	555
Capacity Analysis Module:												
Vol/Sat:	0.12	0.29	0.16	0.09	0.36	0.33	0.05	0.21	0.35	0.10	0.16	0.16
OvlAdjV/S:						0.28			0.23			
Crit Moves:	****				****				****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.793
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	273	987	216	150	1526	128	160	499	107	272	655	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	273	987	216	150	1526	128	160	499	107	272	655	74
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	273	987	216	150	1526	128	160	499	107	272	655	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	273	987	216	150	1526	128	160	499	107	272	655	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	273	987	216	150	1526	128	160	499	107	272	655	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	273	987	216	150	1526	128	160	499	107	272	655	74
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.46	0.54	1.00	2.77	0.23	1.00	1.65	0.35	1.00	1.80	0.20
Final Sat.:	3400	4184	916	1700	4705	395	1700	2800	600	1700	3055	345
Capacity Analysis Module:												
Vol/Sat:	0.08	0.24	0.24	0.09	0.32	0.32	0.09	0.18	0.18	0.16	0.21	0.21
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.995
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	308	777	168	71	881	127	81	805	200	224	1575	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	308	777	168	71	881	127	81	805	200	224	1575	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	308	777	168	71	881	127	81	805	200	224	1575	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	308	777	168	71	881	127	81	805	200	224	1575	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	308	777	168	71	881	127	81	805	200	224	1575	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	308	777	168	71	881	127	81	805	200	224	1575	41
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.75	0.25	1.00	2.40	0.60	1.00	2.92	0.08
Final Sat.:	1600	2631	569	1600	2797	403	1600	3845	955	1600	4678	122
Capacity Analysis Module:												
Vol/Sat:	0.19	0.30	0.30	0.04	0.31	0.32	0.05	0.21	0.21	0.14	0.34	0.34
Crit Moves:	****					****	****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.889
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	81	Level Of Service:	D

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	100	1851	72	85	2195	328	405	484	94	104	664	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	1851	72	85	2195	328	405	484	94	104	664	169
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	100	1851	72	85	2195	328	405	484	94	104	664	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	100	1851	72	85	2195	328	405	484	94	104	664	169
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	1851	72	85	2195	328	405	484	94	104	664	169
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	100	1851	72	85	2195	328	405	484	94	104	664	169
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.89	0.11	2.00	2.61	0.39	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4909	191	3400	4437	663	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.38	0.38	0.03	0.49	0.49	0.12	0.14	0.06	0.03	0.20	0.10
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.669
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	B

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	29	1869	166	37	2303	82	62	183	26	177	252	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	1869	166	37	2303	82	62	183	26	177	252	82
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	1869	166	37	2303	82	62	183	26	177	252	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	1869	166	37	2303	82	62	183	26	177	252	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	1869	166	37	2303	82	62	183	26	177	252	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	1869	166	37	2303	82	62	183	26	177	252	82
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.76	0.24	1.00	2.90	0.10	1.00	2.00	1.00	2.00	1.51	0.49
Final Sat.:	1700	4684	416	1700	4925	175	1700	3400	1700	3400	2565	835
Capacity Analysis Module:												
Vol/Sat:	0.02	0.40	0.40	0.02	0.47	0.47	0.04	0.05	0.02	0.05	0.10	0.10
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.372
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	19	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	1 1	0	2 0	1 1 0
Volume Module:												
Base Vol:	331	9	268	1	1	1	5	110	83	215	84	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	9	268	1	1	1	5	110	83	215	84	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	9	268	1	1	1	5	110	83	215	84	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	331	9	268	1	1	1	5	110	83	215	84	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	9	268	1	1	1	5	110	83	215	84	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	331	9	268	1	1	1	5	110	83	215	84	5
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.97	0.03	1.00	0.34	0.33	0.33	1.00	1.14	0.86	2.00	1.89	0.11
Final Sat.:	1655	45	1700	567	567	567	1700	1938	1462	3400	3209	191
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.16	0.00	0.00	0.00	0.00	0.06	0.06	0.06	0.03	0.03
Crit Moves:	****			****				****		****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.800
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	168	1396	99	34	2390	48	248	76	64	81	104	419
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	168	1396	99	34	2390	48	248	76	64	81	104	419
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	168	1396	99	34	2390	48	248	76	64	81	104	419
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	168	1396	99	34	2390	48	248	76	64	81	104	419
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	168	1396	99	34	2390	48	248	76	64	81	104	419
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	168	1396	99	34	2390	48	248	76	64	81	104	419
OvlAdjVol:												385
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.09	0.91	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1846	1554	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.27	0.06	0.02	0.35	0.03	0.07	0.04	0.04	0.02	0.03	0.25
OvlAdjV/S:												0.23
Crit Moves:	****			****			****					****

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.793
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0 2	1	0	2 0	3	0 0	1 0	0	0 1	0 0	0	0 0 0
Volume Module:												
Base Vol:	0 1462		169	857	1695	0	196		0 291	0		0 0
Growth Adj:	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0 1462		169	857	1695	0	196		0 291	0		0 0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0 1462		169	857	1695	0	196		0 291	0		0 0
User Adj:	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0 1462		169	857	1695	0	196		0 291	0		0 0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0 1462		169	857	1695	0	196		0 291	0		0 0
PCE Adj:	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0 1462		169	857	1695	0	196		0 291	0		0 0
Saturation Flow Module:												
Sat/Lane:	1700 1700		1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00 2.69		0.31	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0 4572		528	3400	5100	0	1700		0 1700	0		0 0
Capacity Analysis Module:												
Vol/Sat:	0.00 0.32		0.32	0.25	0.33	0.00	0.12	0.00	0.17	0.00	0.00	0.00
Crit Moves:	****			****					****			

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AM Year 2023 Cumulative Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.758
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	395	49	676	58	43	22	46	963	440	1133	1011	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	395	49	676	58	43	22	46	963	440	1133	1011	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	395	49	676	58	43	22	46	963	440	1133	1011	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	395	49	676	58	43	22	46	963	440	1133	1011	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	395	49	676	58	43	22	46	963	440	1133	1011	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	395	49	676	58	43	22	46	963	440	1133	1011	7
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.78	0.22	2.00	0.47	0.35	0.18	1.00	2.00	1.00	3.00	1.99	0.01
Final Sat.:	3025	375	3400	802	594	304	1700	3400	1700	5100	3377	23
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.20	0.07	0.07	0.07	0.03	0.28	0.26	0.22	0.30	0.30
OvlAdjV/S:			0.00									
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.916
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	E

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0	1 1	1	0	2 0 1
Volume Module:												
Base Vol:	12	42	45	395	45	768	423	1234	12	68	1385	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	42	45	395	45	768	423	1234	12	68	1385	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	42	45	395	45	768	423	1234	12	68	1385	293
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	42	45	395	45	768	423	1234	12	68	1385	293
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	42	45	395	45	768	423	1234	12	68	1385	293
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	42	45	395	45	768	423	1234	12	68	1385	293
OvlAdjVol:						557						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.78	1.00	0.90	0.10	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	378	1322	1700	1526	174	1700	3400	3367	33	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.23	0.26	0.45	0.12	0.37	0.37	0.04	0.41	0.17
OvlAdjV/S:						0.33						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	175.9

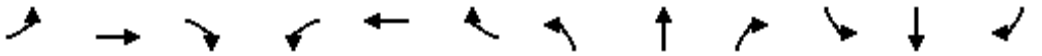
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	74	2237	2126	54	21	126
Future Vol, veh/h	74	2237	2126	54	21	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2355	2238	57	22	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2295	0	-	0	3365	1148
Stage 1	-	-	-	-	2267	-
Stage 2	-	-	-	-	1098	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	88	-	-	-	~ 16	165
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	253	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	88	-	-	-	~ 2	165
Mov Cap-2 Maneuver	-	-	-	-	~ 2	-
Stage 1	-	-	-	-	~ 4	-
Stage 2	-	-	-	-	253	-

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	$ 5473.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	88	-	-	-	13
HCM Lane V/C Ratio	0.885	-	-	-	11.903
HCM Control Delay (s)	150.3	-	-	-	$ 5473.9
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	4.8	-	-	-	20.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



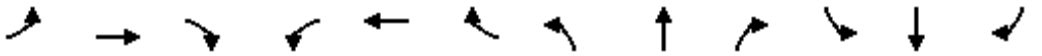
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	994	195	563	749	84	88	703	565	158	1097	205
Future Volume (veh/h)	248	994	195	563	749	84	88	703	565	158	1097	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	994	195	563	749	84	88	703	565	158	1097	205
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1325	2249	440	576	1532	640	104	1202	800	184	1121	209
Arrive On Green	0.38	0.52	0.52	0.17	0.30	0.30	0.06	0.34	0.34	0.10	0.38	0.38
Sat Flow, veh/h	3456	4285	839	3456	5106	1585	1781	3554	1585	1781	2990	557
Grp Volume(v), veh/h	248	789	400	563	749	84	88	703	565	158	650	652
Grp Sat Flow(s),veh/h/ln	1728	1702	1719	1728	1702	1585	1781	1777	1585	1781	1777	1770
Q Serve(g_s), s	5.7	17.2	17.3	19.5	14.4	2.6	5.9	19.6	32.9	10.5	43.3	43.7
Cycle Q Clear(g_c), s	5.7	17.2	17.3	19.5	14.4	2.6	5.9	19.6	32.9	10.5	43.3	43.7
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	1325	1787	903	576	1532	640	104	1202	800	184	666	664
V/C Ratio(X)	0.19	0.44	0.44	0.98	0.49	0.13	0.85	0.59	0.71	0.86	0.98	0.98
Avail Cap(c_a), veh/h	1325	1787	903	576	1532	640	104	1202	800	193	666	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	17.6	17.6	49.8	34.5	20.6	56.0	32.8	22.9	52.9	37.0	37.1
Incr Delay (d2), s/veh	0.1	0.8	1.6	31.7	1.1	0.4	44.3	2.1	5.2	28.8	29.4	30.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	6.8	7.1	10.9	6.1	1.1	3.9	8.8	13.1	6.2	23.8	24.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	18.4	19.2	81.5	35.6	21.0	100.3	34.9	28.1	81.7	66.4	67.9
LnGrp LOS	C	B	B	F	D	C	F	C	C	F	E	E
Approach Vol, veh/h		1437			1396			1356			1460	
Approach Delay, s/veh		19.7			53.2			36.3			68.7	
Approach LOS		B			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	45.6	24.0	69.0	12.0	50.0	52.0	41.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	13.0	39.0	20.0	30.0	7.0	* 45	14.0	* 36
Max Q Clear Time (g_c+I1), s	12.5	34.9	21.5	19.3	7.9	45.7	7.7	16.4
Green Ext Time (p_c), s	0.0	2.5	0.0	5.8	0.0	0.0	0.4	5.4

Intersection Summary	
HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	762	178	151	494	132	144	1053	92	263	1375	17
Future Volume (veh/h)	35	762	178	151	494	132	144	1053	92	263	1375	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	762	178	151	494	132	144	1053	92	263	1375	17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	786	184	171	846	225	201	1315	115	299	1588	20
Arrive On Green	0.03	0.28	0.28	0.06	0.30	0.30	0.06	0.40	0.40	0.10	0.44	0.44
Sat Flow, veh/h	1781	2859	668	1781	2777	738	1781	3306	289	1781	3595	44
Grp Volume(v), veh/h	35	474	466	151	315	311	144	566	579	263	679	713
Grp Sat Flow(s),veh/h/ln	1781	1777	1750	1781	1777	1738	1781	1777	1818	1781	1777	1862
Q Serve(g_s), s	1.7	31.6	31.6	7.0	18.0	18.2	5.7	33.8	33.8	10.0	41.5	41.5
Cycle Q Clear(g_c), s	1.7	31.6	31.6	7.0	18.0	18.2	5.7	33.8	33.8	10.0	41.5	41.5
Prop In Lane	1.00		0.38	1.00		0.42	1.00		0.16	1.00		0.02
Lane Grp Cap(c), veh/h	233	489	481	171	541	529	201	707	723	299	785	823
V/C Ratio(X)	0.15	0.97	0.97	0.88	0.58	0.59	0.72	0.80	0.80	0.88	0.87	0.87
Avail Cap(c_a), veh/h	257	489	481	171	541	529	201	707	723	340	785	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	43.0	43.0	34.5	35.3	35.3	27.3	31.9	31.9	25.2	30.3	30.3
Incr Delay (d2), s/veh	0.3	32.8	33.1	38.0	1.6	1.7	11.5	9.3	9.1	20.5	12.3	11.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	18.2	17.9	5.0	8.0	7.9	3.0	16.1	16.4	5.8	20.0	20.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	75.8	76.1	72.5	36.8	37.0	38.8	41.2	41.0	45.7	42.6	42.1
LnGrp LOS	C	E	E	E	D	D	D	D	D	D	D	D
Approach Vol, veh/h		975			777			1289			1655	
Approach Delay, s/veh		74.3			43.8			40.9			42.9	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	52.7	12.0	38.0	12.0	58.0	8.4	41.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	45.0	7.0	33.0	7.0	53.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	12.0	35.8	9.0	33.6	7.7	43.5	3.7	20.2
Green Ext Time (p_c), s	0.2	5.0	0.0	0.0	0.0	6.1	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	49.0
HCM 6th LOS	D

PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.061
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	228	2181	254	194	1773	248	402	629	184	232	615	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	2181	254	194	1773	248	402	629	184	232	615	172
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	2181	254	194	1773	248	402	629	184	232	615	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	2181	254	194	1773	248	402	629	184	232	615	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	2181	254	194	1773	248	402	629	184	232	615	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	2181	254	194	1773	248	402	629	184	232	615	172
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.55	0.45	2.00	1.56	0.44
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2476	724	2880	2501	699
Capacity Analysis Module:												
Vol/Sat:	0.14	0.45	0.16	0.12	0.37	0.16	0.14	0.25	0.25	0.08	0.25	0.25
Crit Moves:		****			****			****			****	

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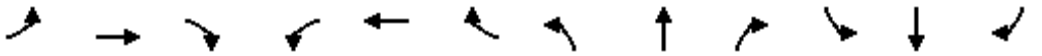


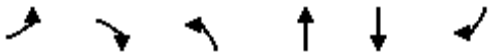
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	510	267	63	621	55	371	1076	83	41	562	194
Future Volume (veh/h)	205	510	267	63	621	55	371	1076	83	41	562	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	205	510	267	63	621	55	371	1076	83	41	562	194
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	939	419	227	722	322	401	1599	713	143	1114	497
Arrive On Green	0.10	0.26	0.26	0.04	0.20	0.20	0.22	0.45	0.45	0.08	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	205	510	267	63	621	55	371	1076	83	41	562	194
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.6	14.8	17.9	3.3	20.2	2.7	24.5	28.7	2.8	2.6	15.5	11.5
Cycle Q Clear(g_c), s	10.6	14.8	17.9	3.3	20.2	2.7	24.5	28.7	2.8	2.6	15.5	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	939	419	227	722	322	401	1599	713	143	1114	497
V/C Ratio(X)	0.78	0.54	0.64	0.28	0.86	0.17	0.93	0.67	0.12	0.29	0.50	0.39
Avail Cap(c_a), veh/h	264	1036	462	232	829	370	460	1599	713	143	1114	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	37.9	39.1	36.0	46.2	24.9	45.5	26.0	11.6	52.0	33.6	32.2
Incr Delay (d2), s/veh	13.4	0.5	2.5	0.7	8.2	0.2	23.1	2.3	0.3	1.1	1.6	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	6.5	7.2	1.5	9.7	1.4	13.3	12.4	1.4	1.2	6.9	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	38.4	41.6	36.6	54.4	25.2	68.6	28.3	11.9	53.1	35.2	34.5
LnGrp LOS	D	D	D	D	D	C	E	C	B	D	D	C
Approach Vol, veh/h		982			739			1530			797	
Approach Delay, s/veh		41.2			50.7			37.2			36.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	59.0	9.7	36.7	31.0	42.6	17.0	29.4
Change Period (Y+Rc), s	5.0	* 5	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	* 54	5.0	35.0	31.0	30.0	12.0	28.0
Max Q Clear Time (g_c+I1), s	4.6	30.7	5.3	19.9	26.5	17.5	12.6	22.2
Green Ext Time (p_c), s	0.0	8.9	0.0	3.9	0.5	3.6	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	203	460	669	1052	622	191
Future Volume (veh/h)	203	460	669	1052	622	191
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	460	669	1052	622	191
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	328	1558	1601	2920	1125	502
Arrive On Green	0.09	0.09	0.46	0.82	0.32	0.32
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	203	460	669	1052	622	191
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.8	0.0	15.5	9.0	17.4	11.2
Cycle Q Clear(g_c), s	6.8	0.0	15.5	9.0	17.4	11.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	328	1558	1601	2920	1125	502
V/C Ratio(X)	0.62	0.30	0.42	0.36	0.55	0.38
Avail Cap(c_a), veh/h	864	1990	1601	2920	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	14.0	21.4	2.7	34.0	31.9
Incr Delay (d2), s/veh	1.9	0.1	0.2	0.3	2.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	7.7	6.3	2.4	7.8	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.1	14.1	21.6	3.1	35.9	34.0
LnGrp LOS	D	B	C	A	D	C
Approach Vol, veh/h	663			1721	813	
Approach Delay, s/veh	26.4			10.3	35.5	
Approach LOS	C			B	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.6		16.4	60.6	43.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		80.0		30.0	38.0	* 38
Max Q Clear Time (g_c+I1), s		11.0		8.8	17.5	19.4
Green Ext Time (p_c), s		10.4		2.6	2.5	4.8

Intersection Summary		
HCM 6th Ctrl Delay		20.0
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.828
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	211	2396	49	63	1984	271	263	18	122	34	15	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	211	2396	49	63	1984	271	263	18	122	34	15	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	211	2396	49	63	1984	271	263	18	122	34	15	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	211	2396	49	63	1984	271	263	18	122	34	15	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	2396	49	63	1984	271	263	18	122	34	15	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	211	2396	49	63	1984	271	263	18	122	34	15	14
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	828	772
Capacity Analysis Module:												
Vol/Sat:	0.13	0.50	0.03	0.04	0.41	0.17	0.16	0.01	0.08	0.02	0.02	0.02
Crit Moves:	****				****		****				****	

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.612
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	29	2544	65	30	2315	37	16	0	17	38	0	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	2544	65	30	2315	37	16	0	17	38	0	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	2544	65	30	2315	37	16	0	17	38	0	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	2544	65	30	2315	37	16	0	17	38	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	2544	65	30	2315	37	16	0	17	38	0	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	2544	65	30	2315	37	16	0	17	38	0	18
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.93	0.07	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	4973	127	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.51	0.51	0.02	0.45	0.02	0.01	0.00	0.01	0.02	0.00	0.01
Crit Moves:		****		****					****	****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.601
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	B

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module:																
Base Vol:	25	1169		57		156	880		23		14		1	15		29		3	151	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
Initial Bse:	25	1169		57		156	880		23		14		1	15		29		3	151	
Added Vol:	0	0		0		0	0		0		0		0	0		0		0	0	
PasserByVol:	0	0		0		0	0		0		0		0	0		0		0	0	
Initial Fut:	25	1169		57		156	880		23		14		1	15		29		3	151	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
PHF Volume:	25	1169		57		156	880		23		14		1	15		29		3	151	
Reduct Vol:	0	0		0		0	0		0		0		0	0		0		0	0	
Reduced Vol:	25	1169		57		156	880		23		14		1	15		29		3	151	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
FinalVolume:	25	1169		57		156	880		23		14		1	15		29		3	151	
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700		1700	1700		1700		1700		1700	1700		1700		1700	1700	
Adjustment:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
Lanes:	1.00	1.91		0.09		1.00	1.95		0.05		1.00		0.06	0.94		1.00		0.02	0.98	
Final Sat.:	1700	3242		158		1700	3313		87		1700		106	1594		1700		33	1667	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.36		0.36		0.09	0.27		0.27		0.01		0.01	0.01		0.02		0.09	0.09	
Crit Moves:		****					****					****					****			

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Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	2	16	1	3	22	28	1145	2	41	821	40
Future Vol, veh/h	23	2	16	1	3	22	28	1145	2	41	821	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	2	16	1	3	22	29	1168	2	42	838	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1587	2171	440	1731	2190	585	879	0	0	1170	0	0
Stage 1	943	943	-	1227	1227	-	-	-	-	-	-	-
Stage 2	644	1228	-	504	963	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	73	46	565	57	45	454	764	-	-	593	-	-
Stage 1	282	339	-	189	249	-	-	-	-	-	-	-
Stage 2	428	249	-	518	332	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	60	41	565	49	40	454	764	-	-	593	-	-
Mov Cap-2 Maneuver	60	41	-	49	40	-	-	-	-	-	-	-
Stage 1	271	315	-	182	240	-	-	-	-	-	-	-
Stage 2	386	240	-	464	308	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	70.9	26.6	0.2	0.5
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	764	-	-	58	565	42	454	593	-	-
HCM Lane V/C Ratio	0.037	-	-	0.44	0.029	0.097	0.049	0.071	-	-
HCM Control Delay (s)	9.9	-	-	108.9	11.6	99.7	13.3	11.5	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	0.1	0.3	0.2	0.2	-	-

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.961
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	143	Level Of Service:	E

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	182	734	234	163	514	100	124	1470	150	190	1265	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	182	734	234	163	514	100	124	1470	150	190	1265	142
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	182	734	234	163	514	100	124	1470	150	190	1265	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	182	734	234	163	514	100	124	1470	150	190	1265	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	734	234	163	514	100	124	1470	150	190	1265	142
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	182	734	234	163	514	100	124	1470	150	190	1265	142
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.67	0.33	1.00	2.72	0.28	1.00	2.70	0.30
Final Sat.:	1600	2426	774	1600	2679	521	1600	4356	444	1600	4316	484
Capacity Analysis Module:												
Vol/Sat:	0.11	0.30	0.30	0.10	0.19	0.19	0.08	0.34	0.34	0.12	0.29	0.29
Crit Moves:		****		****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.665
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	B

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	32	24	12	162	36	160	181	1571	21	14	1408	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	24	12	162	36	160	181	1571	21	14	1408	169
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	24	12	162	36	160	181	1571	21	14	1408	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	24	12	162	36	160	181	1571	21	14	1408	169
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	24	12	162	36	160	181	1571	21	14	1408	169
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	24	12	162	36	160	181	1571	21	14	1408	169
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.67	0.33	1.00	1.00	1.00	1.00	2.96	0.04	1.00	2.68	0.32
Final Sat.:	1600	1067	533	1600	1600	1600	1600	4737	63	1600	4286	514
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.10	0.02	0.10	0.11	0.33	0.33	0.01	0.33	0.33
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.978
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	328	1681	569	418	1448	208	247	1229	269	619	1163	356
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	328	1681	569	418	1448	208	247	1229	269	619	1163	356
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	328	1681	569	418	1448	208	247	1229	269	619	1163	356
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	328	1681	569	418	1448	208	247	1229	269	619	1163	356
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	328	1681	569	418	1448	208	247	1229	269	619	1163	356
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	328	1681	569	418	1448	208	247	1229	269	619	1163	356
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.46	0.54	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4184	916	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.33	0.17	0.12	0.28	0.12	0.07	0.29	0.29	0.18	0.23	0.21
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.780
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	95	38	229	88	40	143	210	1872	100	245	1865	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	38	229	88	40	143	210	1872	100	245	1865	63
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	95	38	229	88	40	143	210	1872	100	245	1865	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	38	229	88	40	143	210	1872	100	245	1865	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	38	229	88	40	143	210	1872	100	245	1865	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	38	229	88	40	143	210	1872	100	245	1865	63
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.43	0.57	1.00	0.69	0.31	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2429	971	1700	1169	531	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.13	0.08	0.08	0.08	0.12	0.37	0.06	0.14	0.37	0.04
Crit Moves:			****			****		****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.825
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	D

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 3	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	396	736	251	216	491	182	284	1769	318	255	1902	198
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	396	736	251	216	491	182	284	1769	318	255	1902	198
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	396	736	251	216	491	182	284	1769	318	255	1902	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	396	736	251	216	491	182	284	1769	318	255	1902	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	396	736	251	216	491	182	284	1769	318	255	1902	198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	396	736	251	216	491	182	284	1769	318	255	1902	198
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.72	0.28
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4619	481
Capacity Analysis Module:												
Vol/Sat:	0.12	0.22	0.15	0.06	0.14	0.11	0.08	0.35	0.19	0.08	0.41	0.41
Crit Moves:		****			****			****			****	

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.846
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	D

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 1	1 0	2	0 2	1 0	2	0 2	1 0
Volume Module:												
Base Vol:	337	713	206	173	523	94	150	1630	251	304	2171	234
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	337	713	206	173	523	94	150	1630	251	304	2171	234
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	337	713	206	173	523	94	150	1630	251	304	2171	234
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	337	713	206	173	523	94	150	1630	251	304	2171	234
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	337	713	206	173	523	94	150	1630	251	304	2171	234
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	337	713	206	173	523	94	150	1630	251	304	2171	234
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.70	0.30	2.00	2.60	0.40	2.00	2.71	0.29
Final Sat.:	3400	3400	1700	3400	2882	518	3400	4419	681	3400	4604	496
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.12	0.05	0.18	0.18	0.04	0.37	0.37	0.09	0.47	0.47
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.838
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	D

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	388	1164	232	295	835	376	375	1365	231	395	1745	297
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	388	1164	232	295	835	376	375	1365	231	395	1745	297
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	388	1164	232	295	835	376	375	1365	231	395	1745	297
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	388	1164	232	295	835	376	375	1365	231	395	1745	297
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	388	1164	232	295	835	376	375	1365	231	395	1745	297
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	388	1164	232	295	835	376	375	1365	231	395	1745	297
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.57	0.43	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4362	738	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.23	0.14	0.09	0.16	0.22	0.11	0.31	0.31	0.12	0.34	0.17
Crit Moves:	****					****	****				****	

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	1365	231	395	1745	297	388	1164	232	295	835	376
Future Volume (veh/h)	375	1365	231	395	1745	297	388	1164	232	295	835	376
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	1393	236	403	1781	303	396	1188	237	301	852	384
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1392	236	432	1702	528	403	3021	938	317	2893	898
Arrive On Green	0.12	0.32	0.32	0.13	0.33	0.33	0.12	0.59	0.59	0.09	0.57	0.57
Sat Flow, veh/h	3456	4396	744	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	383	1078	551	403	1781	303	396	1188	237	301	852	384
Grp Sat Flow(s),veh/h/ln	1728	1702	1736	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	13.2	38.0	38.0	13.9	40.0	18.9	13.7	14.9	10.2	10.4	10.4	16.6
Cycle Q Clear(g_c), s	13.2	38.0	38.0	13.9	40.0	18.9	13.7	14.9	10.2	10.4	10.4	16.6
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	1078	550	432	1702	528	403	3021	938	317	2893	898
V/C Ratio(X)	0.95	1.00	1.00	0.93	1.05	0.57	0.98	0.39	0.25	0.95	0.29	0.43
Avail Cap(c_a), veh/h	403	1078	550	432	1702	528	403	3021	938	317	2893	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	41.0	41.0	52.0	40.0	33.0	52.9	13.0	16.5	54.2	13.5	14.9
Incr Delay (d2), s/veh	32.2	27.5	38.7	27.3	35.1	1.5	40.0	0.4	0.6	37.4	0.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	19.8	21.9	7.6	22.0	7.5	8.2	5.6	3.8	6.2	4.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.8	68.5	79.7	79.3	75.1	34.5	92.9	13.4	17.1	91.7	13.8	16.4
LnGrp LOS	F	F	F	E	F	C	F	B	B	F	B	B
Approach Vol, veh/h		2012			2487			1821			1537	
Approach Delay, s/veh		74.7			70.8			31.2			29.7	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	77.0	20.0	43.0	18.0	74.0	18.0	45.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	38.0	15.0	* 38	14.0	35.0	14.0	39.0
Max Q Clear Time (g_c+I1), s	12.4	16.9	15.9	40.0	15.7	18.6	15.2	42.0
Green Ext Time (p_c), s	0.0	9.9	0.0	0.0	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.984
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	398	1644	322	251	1364	95	188	1015	283	507	1161	186
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	398	1644	322	251	1364	95	188	1015	283	507	1161	186
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	398	1644	322	251	1364	95	188	1015	283	507	1161	186
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	398	1644	322	251	1364	95	188	1015	283	507	1161	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	398	1644	322	251	1364	95	188	1015	283	507	1161	186
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	398	1644	322	251	1364	95	188	1015	283	507	1161	186
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.80	0.20	2.00	1.56	0.44	2.00	1.72	0.28
Final Sat.:	3400	5100	1700	3400	4768	332	3400	2659	741	3400	2931	469
Capacity Analysis Module:												
Vol/Sat:	0.12	0.32	0.19	0.07	0.29	0.29	0.06	0.38	0.38	0.15	0.40	0.40
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.833
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	D

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	228	725	237	84	580	111	77	1227	206	192	1440	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	725	237	84	580	111	77	1227	206	192	1440	97
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	725	237	84	580	111	77	1227	206	192	1440	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	725	237	84	580	111	77	1227	206	192	1440	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	725	237	84	580	111	77	1227	206	192	1440	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	725	237	84	580	111	77	1227	206	192	1440	97
OvlAdjVol:			141			73						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.71	0.29	2.00	1.87	0.13
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2911	489	3400	3185	215
Capacity Analysis Module:												
Vol/Sat:	0.13	0.21	0.14	0.05	0.17	0.07	0.02	0.42	0.42	0.06	0.45	0.45
OvlAdjV/S:			0.08			0.04						
Crit Moves:	****			****			****			****		

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.877
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	122	790	75	55	488	78	135	1178	150	100	1566	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	122	790	75	55	488	78	135	1178	150	100	1566	121
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	122	790	75	55	488	78	135	1178	150	100	1566	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	122	790	75	55	488	78	135	1178	150	100	1566	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	122	790	75	55	488	78	135	1178	150	100	1566	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	122	790	75	55	488	78	135	1178	150	100	1566	121
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.72	0.28	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3105	295	1700	2931	469	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.25	0.25	0.03	0.17	0.17	0.08	0.35	0.09	0.06	0.46	0.07
Crit Moves:		****			****			****			****	

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PM Year 2023 Cumulative Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.853
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	D

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	265	1266	192	161	1033	216	212	884	197	330	1419	314
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	265	1266	192	161	1033	216	212	884	197	330	1419	314
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	265	1266	192	161	1033	216	212	884	197	330	1419	314
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	265	1266	192	161	1033	216	212	884	197	330	1419	314
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	265	1266	192	161	1033	216	212	884	197	330	1419	314
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	265	1266	192	161	1033	216	212	884	197	330	1419	314
OvlAdjVol:			27									233
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.48	0.52	2.00	2.45	0.55	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4218	882	3400	4171	929	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.25	0.11	0.05	0.24	0.24	0.06	0.21	0.21	0.10	0.42	0.18
OvlAdjV/S:			0.02									0.14
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.943
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	127	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	380	868	137	299	808	84	114	1422	336	217	1273	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	380	868	137	299	808	84	114	1422	336	217	1273	150
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	380	868	137	299	808	84	114	1422	336	217	1273	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	380	868	137	299	808	84	114	1422	336	217	1273	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	868	137	299	808	84	114	1422	336	217	1273	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	380	868	137	299	808	84	114	1422	336	217	1273	150
OvlAdjVol:									125			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.73	0.27	2.00	1.81	0.19	1.00	3.00	1.00	1.00	2.68	0.32
Final Sat.:	2880	2764	436	2880	2899	301	1600	4800	1600	1600	4294	506
Capacity Analysis Module:												
Vol/Sat:	0.13	0.31	0.31	0.10	0.28	0.28	0.07	0.30	0.21	0.14	0.30	0.30
OvlAdjV/S:									0.08			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.904
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	89	Level Of Service:	E

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	626	2020	194	206	1516	246	366	673	485	261	920	249
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	626	2020	194	206	1516	246	366	673	485	261	920	249
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	626	2020	194	206	1516	246	366	673	485	261	920	249
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	626	2020	194	206	1516	246	366	673	485	261	920	249
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	626	2020	194	206	1516	246	366	673	485	261	920	249
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	626	2020	194	206	1516	246	366	673	485	261	920	249
OvlAdjVol:						63			172			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.36	0.64
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4014	1086
Capacity Analysis Module:												
Vol/Sat:	0.18	0.40	0.11	0.12	0.30	0.14	0.11	0.20	0.29	0.08	0.23	0.23
OvlAdjV/S:						0.04			0.10			
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.876
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	1 0	1	0 2	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	261	1392	342	190	1381	134	242	691	149	217	625	105
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	261	1392	342	190	1381	134	242	691	149	217	625	105
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	261	1392	342	190	1381	134	242	691	149	217	625	105
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	261	1392	342	190	1381	134	242	691	149	217	625	105
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	261	1392	342	190	1381	134	242	691	149	217	625	105
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	261	1392	342	190	1381	134	242	691	149	217	625	105
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.41	0.59	1.00	2.73	0.27	1.00	1.65	0.35	1.00	1.71	0.29
Final Sat.:	3400	4094	1006	1700	4649	451	1700	2797	603	1700	2911	489
Capacity Analysis Module:												
Vol/Sat:	0.08	0.34	0.34	0.11	0.30	0.30	0.14	0.25	0.25	0.13	0.21	0.21
Crit Moves:		****		****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.992
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	275	890	218	90	774	60	142	1242	273	230	952	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	275	890	218	90	774	60	142	1242	273	230	952	80
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	275	890	218	90	774	60	142	1242	273	230	952	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	275	890	218	90	774	60	142	1242	273	230	952	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	275	890	218	90	774	60	142	1242	273	230	952	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	275	890	218	90	774	60	142	1242	273	230	952	80
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.86	0.14	1.00	2.46	0.54	1.00	2.77	0.23
Final Sat.:	1600	2570	630	1600	2970	230	1600	3935	865	1600	4428	372
Capacity Analysis Module:												
Vol/Sat:	0.17	0.35	0.35	0.06	0.26	0.26	0.09	0.32	0.32	0.14	0.21	0.22
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.847
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	D

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	146	2088	66	150	1891	328	554	602	118	106	529	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	146	2088	66	150	1891	328	554	602	118	106	529	238
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	146	2088	66	150	1891	328	554	602	118	106	529	238
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	146	2088	66	150	1891	328	554	602	118	106	529	238
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	2088	66	150	1891	328	554	602	118	106	529	238
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	2088	66	150	1891	328	554	602	118	106	529	238
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.91	0.09	2.00	2.56	0.44	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4944	156	3400	4346	754	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.42	0.42	0.04	0.44	0.44	0.16	0.18	0.07	0.03	0.16	0.14
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.716
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	C

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	33	2093	160	95	1929	83	95	236	39	156	249	134
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	2093	160	95	1929	83	95	236	39	156	249	134
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	2093	160	95	1929	83	95	236	39	156	249	134
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	33	2093	160	95	1929	83	95	236	39	156	249	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	2093	160	95	1929	83	95	236	39	156	249	134
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	2093	160	95	1929	83	95	236	39	156	249	134
OvlAdjVol:									6			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.79	0.21	1.00	2.88	0.12	1.00	2.00	1.00	2.00	1.30	0.70
Final Sat.:	1700	4738	362	1700	4890	210	1700	3400	1700	3400	2210	1190
Capacity Analysis Module:												
Vol/Sat:	0.02	0.44	0.44	0.06	0.39	0.39	0.06	0.07	0.02	0.05	0.11	0.11
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.512
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0	2 0 1 1 0
Volume Module:												
Base Vol:	543	13	410	26	7	14	7	142	49	174	121	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	543	13	410	26	7	14	7	142	49	174	121	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	543	13	410	26	7	14	7	142	49	174	121	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	543	13	410	26	7	14	7	142	49	174	121	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	543	13	410	26	7	14	7	142	49	174	121	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	543	13	410	26	7	14	7	142	49	174	121	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.98	0.02	1.00	0.55	0.15	0.30	1.00	1.49	0.51	2.00	1.91	0.09
Final Sat.:	1660	40	1700	940	253	506	1700	2528	872	3400	3239	161
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.24	0.03	0.03	0.03	0.00	0.06	0.06	0.05	0.04	0.04
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.778
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	126	1435	90	23	2049	51	364	61	173	119	118	440
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	126	1435	90	23	2049	51	364	61	173	119	118	440
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	126	1435	90	23	2049	51	364	61	173	119	118	440
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	126	1435	90	23	2049	51	364	61	173	119	118	440
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	1435	90	23	2049	51	364	61	173	119	118	440
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	126	1435	90	23	2049	51	364	61	173	119	118	440
OvlAdjVol:												417
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1700	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.28	0.05	0.01	0.30	0.03	0.11	0.04	0.10	0.04	0.03	0.26
OvlAdjV/S:												0.25
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.775
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1540	247	716	1633	0	98	0	279	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1540	247	716	1633	0	98	0	279	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1540	247	716	1633	0	98	0	279	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1540	247	716	1633	0	98	0	279	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1540	247	716	1633	0	98	0	279	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1540	247	716	1633	0	98	0	279	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.59	0.41	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4395	705	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.35	0.21	0.32	0.00	0.06	0.00	0.16	0.00	0.00	0.00
Crit Moves:		****		****					****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.818
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	D

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	459	72	1174	106	46	26	44	1080	492	953	1041	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	459	72	1174	106	46	26	44	1080	492	953	1041	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	459	72	1174	106	46	26	44	1080	492	953	1041	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	459	72	1174	106	46	26	44	1080	492	953	1041	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	459	72	1174	106	46	26	44	1080	492	953	1041	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	459	72	1174	106	46	26	44	1080	492	953	1041	22
OvlAdjVol:			539									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.73	0.27	2.00	0.59	0.26	0.15	1.00	2.00	1.00	3.00	1.96	0.04
Final Sat.:	2939	461	3400	1012	439	248	1700	3400	1700	5100	3330	70
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.35	0.10	0.10	0.10	0.03	0.32	0.29	0.19	0.31	0.31
OvlAdjV/S:			0.16									
Crit Moves:			****		****			****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.924
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	103	Level Of Service:	E

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	46	80	86	305	27	811	771	1415	13	87	1256	450
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	80	86	305	27	811	771	1415	13	87	1256	450
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	80	86	305	27	811	771	1415	13	87	1256	450
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	80	86	305	27	811	771	1415	13	87	1256	450
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	80	86	305	27	811	771	1415	13	87	1256	450
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	80	86	305	27	811	771	1415	13	87	1256	450
OvlAdjVol:						425						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.37	0.63	1.00	0.92	0.08	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	621	1079	1700	1562	138	1700	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.05	0.18	0.20	0.48	0.23	0.42	0.42	0.05	0.37	0.26
OvlAdjV/S:						0.25						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	21.1

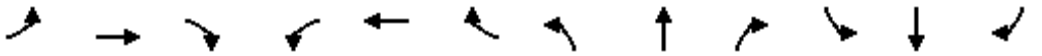
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	2050	2506	146	17	75
Future Vol, veh/h	119	2050	2506	146	17	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	2113	2584	151	18	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2735	0	-	0	3751	1368
Stage 1	-	-	-	-	2660	-
Stage 2	-	-	-	-	1091	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 52	-	-	-	~ 10	117
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	255	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 52	-	-	-	0	117
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	255	-

Approach	EB	WB	SB
HCM Control Delay, s	43.3	0	107.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 52	-	-	-	117
HCM Lane V/C Ratio	2.359	-	-	-	0.811
HCM Control Delay (s)	$ 788.8	-	-	-	107.4
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.5	-	-	-	4.7

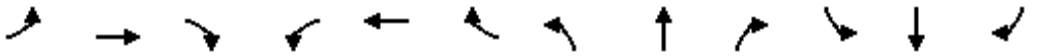
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	878	106	496	1025	270	181	1299	611	138	675	184
Future Volume (veh/h)	404	878	106	496	1025	270	181	1299	611	138	675	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	404	878	106	496	1025	270	181	1299	611	138	675	184
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	456	1116	134	518	1326	544	238	1333	832	148	897	244
Arrive On Green	0.13	0.24	0.24	0.15	0.26	0.26	0.13	0.38	0.38	0.08	0.32	0.32
Sat Flow, veh/h	3456	4619	555	3456	5106	1585	1781	3554	1585	1781	2760	752
Grp Volume(v), veh/h	404	646	338	496	1025	270	181	1299	611	138	434	425
Grp Sat Flow(s),veh/h/ln	1728	1702	1770	1728	1702	1585	1781	1777	1585	1781	1777	1735
Q Serve(g_s), s	13.8	21.3	21.5	17.1	22.3	4.3	11.8	43.2	21.3	9.2	26.2	26.2
Cycle Q Clear(g_c), s	13.8	21.3	21.5	17.1	22.3	4.3	11.8	43.2	21.3	9.2	26.2	26.2
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	456	823	428	518	1326	544	238	1333	832	148	577	564
V/C Ratio(X)	0.89	0.79	0.79	0.96	0.77	0.50	0.76	0.97	0.73	0.93	0.75	0.75
Avail Cap(c_a), veh/h	461	823	428	518	1326	544	238	1333	832	148	577	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	42.6	42.6	50.6	41.1	14.8	50.2	36.9	9.2	54.7	36.2	36.2
Incr Delay (d2), s/veh	18.3	7.4	13.8	28.9	4.4	3.2	13.5	19.3	5.7	53.2	8.8	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	9.8	11.0	9.4	9.9	4.1	6.1	21.9	7.8	6.3	12.7	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	50.0	56.4	79.5	45.6	18.0	63.7	56.3	14.9	107.8	45.0	45.2
LnGrp LOS	E	D	E	E	D	B	E	E	B	F	D	D
Approach Vol, veh/h		1388			1791			2091			997	
Approach Delay, s/veh		57.3			50.8			44.8			53.8	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	50.0	22.0	34.0	20.0	44.0	19.8	36.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	45.0	18.0	29.0	16.0	39.0	16.0	31.0
Max Q Clear Time (g_c+I1), s	11.2	45.2	19.1	23.5	13.8	28.2	15.8	24.3
Green Ext Time (p_c), s	0.0	0.0	0.0	3.0	0.1	4.1	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	634	192	159	794	196	227	1282	108	140	1141	34
Future Volume (veh/h)	44	634	192	159	794	196	227	1282	108	140	1141	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	634	192	159	794	196	227	1282	108	140	1141	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	761	230	190	850	210	281	1457	122	202	1448	43
Arrive On Green	0.03	0.28	0.28	0.05	0.30	0.30	0.09	0.44	0.44	0.06	0.41	0.41
Sat Flow, veh/h	1781	2688	813	1781	2824	697	1781	3318	279	1781	3523	105
Grp Volume(v), veh/h	44	419	407	159	499	491	227	685	705	140	575	600
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1777	1745	1781	1777	1820	1781	1777	1851
Q Serve(g_s), s	2.1	26.5	26.6	6.0	32.8	32.8	8.7	42.2	42.6	5.4	33.8	33.9
Cycle Q Clear(g_c), s	2.1	26.5	26.6	6.0	32.8	32.8	8.7	42.2	42.6	5.4	33.8	33.9
Prop In Lane	1.00		0.47	1.00		0.40	1.00		0.15	1.00		0.06
Lane Grp Cap(c), veh/h	133	503	488	190	535	525	281	780	799	202	730	761
V/C Ratio(X)	0.33	0.83	0.83	0.84	0.93	0.93	0.81	0.88	0.88	0.69	0.79	0.79
Avail Cap(c_a), veh/h	150	533	517	190	548	538	285	780	799	211	730	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	40.3	40.4	38.3	40.8	40.8	25.2	30.7	30.8	27.1	30.8	30.8
Incr Delay (d2), s/veh	1.4	10.4	10.8	26.7	23.0	23.3	15.7	13.4	13.5	8.9	8.4	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	13.0	12.7	3.3	17.6	17.3	4.8	20.5	21.2	2.7	15.9	16.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	50.7	51.2	65.0	63.8	64.1	40.8	44.1	44.3	36.0	39.2	38.9
LnGrp LOS	C	D	D	E	E	E	D	D	D	D	D	D
Approach Vol, veh/h		870			1149			1617			1315	
Approach Delay, s/veh		50.1			64.1			43.7			38.7	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	57.7	11.0	39.0	15.7	54.3	8.8	41.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	50.0	6.0	36.0	11.0	47.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	7.4	44.6	8.0	28.6	10.7	35.9	4.1	34.8
Green Ext Time (p_c), s	0.0	3.9	0.0	3.1	0.0	5.8	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	48.3
HCM 6th LOS	D

APPENDIX G-III

YEAR 2023 CUMULATIVE PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS

[MIT] AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.970
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	154	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	4 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	220	1543	217	225	2362	338	176	680	212	245	694	119
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	220	1543	217	225	2362	338	176	680	212	245	694	119
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	220	1543	217	225	2362	338	176	680	212	245	694	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	220	1543	217	225	2362	338	176	680	212	245	694	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	1543	217	225	2362	338	176	680	212	245	694	119
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	220	1543	217	225	2362	338	176	680	212	245	694	119
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	4.00	1.00	1.00	4.00	1.00	2.00	1.52	0.48	2.00	2.00	1.00
Final Sat.:	1600	6400	1600	1600	6400	1600	2880	2439	761	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.24	0.14	0.14	0.37	0.21	0.06	0.28	0.28	0.09	0.22	0.07
Crit Moves:	****			****			****			****		

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[MIT] AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.776
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 4	0 1	1	0 4	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	409	1456	270	147	1815	562	177	708	591	341	729	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	409	1456	270	147	1815	562	177	708	591	341	729	89
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	409	1456	270	147	1815	562	177	708	591	341	729	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	409	1456	270	147	1815	562	177	708	591	341	729	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	409	1456	270	147	1815	562	177	708	591	341	729	89
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	409	1456	270	147	1815	562	177	708	591	341	729	89
OvlAdjVol:						473			387			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	2.00	2.00	1.00	2.00	2.67	0.33
Final Sat.:	3400	6800	1700	1700	6800	1700	3400	3400	1700	3400	4545	555
Capacity Analysis Module:												
Vol/Sat:	0.12	0.21	0.16	0.09	0.27	0.33	0.05	0.21	0.35	0.10	0.16	0.16
OvlAdjV/S:						0.28			0.23			
Crit Moves:	****					****			****	****		

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[MIT] AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.762
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	12	42	45	395	45	768	423	1234	12	68	1385	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	42	45	395	45	768	423	1234	12	68	1385	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	42	45	395	45	768	423	1234	12	68	1385	293
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	42	45	395	45	768	423	1234	12	68	1385	293
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	42	45	395	45	768	423	1234	12	68	1385	293
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	42	45	395	45	768	423	1234	12	68	1385	293
OvlAdjVol:						345						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.80	0.20	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	821	879	3052	348	3400	3400	3367	33	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.05	0.13	0.13	0.23	0.12	0.37	0.37	0.04	0.41	0.17
OvlAdjV/S:						0.10						
Crit Moves:		****			****			****				****

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[MIT] AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.607
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	B

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	21	0	126	74	2237	0	0	2126	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	21	0	126	74	2237	0	0	2126	54
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	21	0	126	74	2237	0	0	2126	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	21	0	126	74	2237	0	0	2126	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	21	0	126	74	2237	0	0	2126	54
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	21	0	126	74	2237	0	0	2126	54
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.14	0.00	0.86	1.00	3.00	0.00	0.00	2.93	0.07
Final Sat.:	0	0	0	243	0	1457	1700	5100	0	0	4974	126
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.09	0.04	0.44	0.00	0.00	0.43	0.43
Crit Moves:				****			****				****	

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.894
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	D

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	4 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	228	2181	254	194	1773	248	402	629	184	232	615	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	2181	254	194	1773	248	402	629	184	232	615	172
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	2181	254	194	1773	248	402	629	184	232	615	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	2181	254	194	1773	248	402	629	184	232	615	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	2181	254	194	1773	248	402	629	184	232	615	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	2181	254	194	1773	248	402	629	184	232	615	172
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	4.00	1.00	1.00	4.00	1.00	2.00	1.55	0.45	2.00	2.00	1.00
Final Sat.:	1600	6400	1600	1600	6400	1600	2880	2476	724	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.34	0.16	0.12	0.28	0.16	0.14	0.25	0.25	0.08	0.19	0.11
Crit Moves:		****			****			****			****	

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[MIT] PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.805
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	4 0	1	1 0	4 0	1	2 0	2 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	626	2020	194	206	1516	246	366	673	485	261	920	249
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	626	2020	194	206	1516	246	366	673	485	261	920	249
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	626	2020	194	206	1516	246	366	673	485	261	920	249
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	626	2020	194	206	1516	246	366	673	485	261	920	249
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	626	2020	194	206	1516	246	366	673	485	261	920	249
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	626	2020	194	206	1516	246	366	673	485	261	920	249
OvlAdjVol:						63			172			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	2.00	2.00	1.00	2.00	2.36	0.64
Final Sat.:	3400	6800	1700	1700	6800	1700	3400	3400	1700	3400	4014	1086
Capacity Analysis Module:												
Vol/Sat:	0.18	0.30	0.11	0.12	0.22	0.14	0.11	0.20	0.29	0.08	0.23	0.23
OvlAdjV/S:						0.04			0.10			
Crit Moves:	****			****			****				****	

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[MIT] PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.841
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	46	80	86	305	27	811	771	1415	13	87	1256	450
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	80	86	305	27	811	771	1415	13	87	1256	450
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	80	86	305	27	811	771	1415	13	87	1256	450
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	80	86	305	27	811	771	1415	13	87	1256	450
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	80	86	305	27	811	771	1415	13	87	1256	450
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	80	86	305	27	811	771	1415	13	87	1256	450
OvlAdjVol:						40						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.84	0.16	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	819	881	3123	277	3400	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.10	0.10	0.24	0.23	0.42	0.42	0.05	0.37	0.26
OvlAdjV/S:						0.01						
Crit Moves:		****			****			****			****	

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[MIT] PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.694
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	B

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	17	0	75	119	2050	0	0	2506	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	0	75	119	2050	0	0	2506	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	17	0	75	119	2050	0	0	2506	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	17	0	75	119	2050	0	0	2506	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	17	0	75	119	2050	0	0	2506	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	17	0	75	119	2050	0	0	2506	146
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.18	0.00	0.82	1.00	3.00	0.00	0.00	2.83	0.17
Final Sat.:	0	0	0	314	0	1386	1700	5100	0	0	4819	281
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.07	0.40	0.00	0.00	0.52	0.52
Crit Moves:				****			****				****	

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APPENDIX G-IV

SIGNAL WARRANT WORKSHEETS

AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

****

Intersection #7 Euclid Street at Sandlewood Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	22	563	4	9	1183	64	54	4	62	3	5	30
ApproachDel:	xxxxxx			xxxxxx			90.7			19.6		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=120]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2003]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=38]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2003]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	22	563	4	9	1183	64	54	4	62	3	5	30

Major Street Volume: 1845
Minor Approach Volume: 120
Minor Approach Volume Threshold: 111 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	28	1145	2	41	821	40	23	2	16	1	3	22
ApproachDel:	xxxxxx			xxxxxx			62.4			24.9		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=41]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2144]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=26]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2144]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	28	1145	2	41	821	40	23	2	16	1	3	22

Major Street Volume: 2077
Minor Approach Volume: 41
Minor Approach Volume Threshold: 60 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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APPENDIX H

YEAR 2035 INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX H-I

YEAR 2035 BUILDOUT TRAFFIC CONDITIONS

AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.135
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	233	1603	226	201	2442	343	175	720	225	247	734	110
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	1603	226	201	2442	343	175	720	225	247	734	110
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	1603	226	201	2442	343	175	720	225	247	734	110
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	1603	226	201	2442	343	175	720	225	247	734	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	1603	226	201	2442	343	175	720	225	247	734	110
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	1603	226	201	2442	343	175	720	225	247	734	110
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.52	0.48	2.00	1.74	0.26
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2438	762	2880	2783	417
Capacity Analysis Module:												
Vol/Sat:	0.15	0.33	0.14	0.13	0.51	0.21	0.06	0.30	0.30	0.09	0.26	0.26
Crit Moves:	****			****			****			****		

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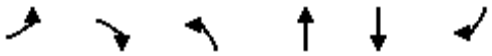
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	825	325	107	510	50	333	394	112	138	788	195
Future Volume (veh/h)	70	825	325	107	510	50	333	394	112	138	788	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	825	325	107	510	50	333	394	112	138	788	195
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	927	413	167	959	428	363	1555	694	166	1162	518
Arrive On Green	0.04	0.26	0.26	0.05	0.27	0.27	0.20	0.44	0.44	0.09	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	70	825	325	107	510	50	333	394	112	138	788	195
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.4	26.8	22.9	5.3	14.7	2.9	22.0	8.4	5.1	9.1	23.0	11.3
Cycle Q Clear(g_c), s	3.4	26.8	22.9	5.3	14.7	2.9	22.0	8.4	5.1	9.1	23.0	11.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	927	413	167	959	428	363	1555	694	166	1162	518
V/C Ratio(X)	0.27	0.89	0.79	0.64	0.53	0.12	0.92	0.25	0.16	0.83	0.68	0.38
Avail Cap(c_a), veh/h	275	977	436	167	977	436	430	1555	694	252	1162	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	42.7	41.2	34.0	37.3	33.0	46.8	21.3	20.4	53.5	34.9	31.0
Incr Delay (d2), s/veh	0.6	9.9	8.8	7.9	0.5	0.1	22.2	0.4	0.5	13.2	3.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.9	9.9	2.6	6.5	1.1	11.9	3.6	2.0	4.7	10.4	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	52.6	50.0	41.9	37.9	33.1	69.0	21.7	20.9	66.7	38.1	33.1
LnGrp LOS	C	D	D	D	D	C	E	C	C	E	D	C
Approach Vol, veh/h		1220			667			839			1121	
Approach Delay, s/veh		50.7			38.2			40.4			40.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	57.5	11.0	36.3	28.5	44.2	9.9	37.4
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	17.0	45.0	6.0	33.0	29.0	33.0	6.0	33.0
Max Q Clear Time (g_c+I1), s	11.1	10.4	7.3	28.8	24.0	25.0	5.4	16.7
Green Ext Time (p_c), s	0.2	3.2	0.0	2.5	0.5	3.7	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	254	1092	407	502	1077	198
Future Volume (veh/h)	254	1092	407	502	1077	198
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	254	1092	407	502	1077	198
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	806	1048	491	2428	1804	805
Arrive On Green	0.23	0.23	0.14	0.68	0.51	0.51
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	254	1092	407	502	1077	198
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	7.3	28.0	13.7	6.3	25.7	8.4
Cycle Q Clear(g_c), s	7.3	28.0	13.7	6.3	25.7	8.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	806	1048	491	2428	1804	805
V/C Ratio(X)	0.32	1.04	0.83	0.21	0.60	0.25
Avail Cap(c_a), veh/h	806	1048	922	2428	1804	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	37.5	50.0	7.0	20.9	16.6
Incr Delay (d2), s/veh	0.2	39.5	3.6	0.2	1.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	34.1	6.2	2.3	10.8	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.3	76.9	53.7	7.2	22.3	17.3
LnGrp LOS	D	F	D	A	C	B
Approach Vol, veh/h	1346			909	1275	
Approach Delay, s/veh	69.6			28.0	21.5	
Approach LOS	E			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		33.0	21.1	65.9
Change Period (Y+Rc), s		5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		82.0		28.0	32.0	46.0
Max Q Clear Time (g_c+I1), s		8.3		30.0	15.7	27.7
Green Ext Time (p_c), s		3.9		0.0	1.3	8.3

Intersection Summary	
HCM 6th Ctrl Delay	41.5
HCM 6th LOS	D

AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.867
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	86	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 3	0 1	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	110	1665	20	27	2485	137	226	17	212	66	32	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	110	1665	20	27	2485	137	226	17	212	66	32	31
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	110	1665	20	27	2485	137	226	17	212	66	32	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	110	1665	20	27	2485	137	226	17	212	66	32	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	1665	20	27	2485	137	226	17	212	66	32	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	1665	20	27	2485	137	226	17	212	66	32	31
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	813	787
Capacity Analysis Module:												
Vol/Sat:	0.07	0.35	0.01	0.02	0.52	0.09	0.14	0.01	0.13	0.04	0.04	0.04
Crit Moves:	****			****			****			****		

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AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.610
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	3 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	10 2064		0	0 2653		17	58		0	36	0	0	0
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	10 2064		0	0 2653		17	58		0	36	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10 2064		0	0 2653		17	58		0	36	0	0	0
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	10 2064		0	0 2653		17	58		0	36	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10 2064		0	0 2653		17	58		0	36	0	0	0
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
FinalVolume:	10 2064		0	0 2653		17	58		0	36	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700 1700		1700	1700 1700		1700	1700 1700		1700	1700 1700		1700
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	1.00 3.00		0.00	0.00 3.00		1.00	1.00 0.00		1.00	0.00 0.00		0.00
Final Sat.:	1700 5100		0	0 5100		1700	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.01 0.40		0.00	0.00 0.52		0.01	0.03 0.00		0.02	0.00 0.00		0.00
Crit Moves:	****			****			****					

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AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.572
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Prot+Permit					Split Phase					Split Phase				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	0	0	1	1	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	707	43			239	1120	0			0	0	0			85	0	273		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	0	707	43			239	1120	0			0	0	0			85	0	273		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	707	43			239	1120	0			0	0	0			85	0	273		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	0	707	43			239	1120	0			0	0	0			85	0	273		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	0	707	43			239	1120	0			0	0	0			85	0	273		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	0	707	43			239	1120	0			0	0	0			85	0	273		
Saturation Flow Module:																				
Sat/Lane:	1700	1700	1700			1700	1700	1700			1700	1700	1700			1700	1700	1700		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	0.00	1.89	0.11			1.00	2.00	0.00			0.00	0.00	0.00			1.00	0.00	1.00		
Final Sat.:	0	3205	195			1700	3400	0			0	0	0			1700	0	1700		
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.22	0.22			0.14	0.33	0.00			0.00	0.00	0.00			0.05	0.00	0.16		
Crit Moves:		****					****											****		

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Intersection	
Int Delay, s/veh	13.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	13	64	3	3	31	22	593	14	30	1248	70
Future Vol, veh/h	59	13	64	3	3	31	22	593	14	30	1248	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	13	64	3	3	31	22	593	14	30	1248	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1685	1994	659	1335	2022	304	1318	0	0	607	0	0
Stage 1	1343	1343	-	644	644	-	-	-	-	-	-	-
Stage 2	342	651	-	691	1378	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	61	60	406	112	57	692	520	-	-	967	-	-
Stage 1	160	219	-	428	466	-	-	-	-	-	-	-
Stage 2	646	463	-	401	210	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 53	56	406	73	53	692	520	-	-	967	-	-
Mov Cap-2 Maneuver	~ 53	56	-	73	53	-	-	-	-	-	-	-
Stage 1	153	212	-	410	446	-	-	-	-	-	-	-
Stage 2	587	444	-	307	203	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	198	20.1	0.4	0.2
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	520	-	-	54	406	61	692	967	-	-
HCM Lane V/C Ratio	0.042	-	-	1.333	0.158	0.098	0.045	0.031	-	-
HCM Control Delay (s)	12.2	-	-	$ 360.3	15.5	70.4	10.4	8.8	-	-
HCM Lane LOS	B	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.4	0.6	0.3	0.1	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.972
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	156	Level Of Service:	E

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	199	420	198	139	735	151	117	1265	176	223	1817	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	199	420	198	139	735	151	117	1265	176	223	1817	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	199	420	198	139	735	151	117	1265	176	223	1817	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	199	420	198	139	735	151	117	1265	176	223	1817	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	199	420	198	139	735	151	117	1265	176	223	1817	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	199	420	198	139	735	151	117	1265	176	223	1817	90
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.36	0.64	1.00	1.66	0.34	1.00	2.63	0.37	1.00	2.86	0.14
Final Sat.:	1600	2175	1025	1600	2655	545	1600	4214	586	1600	4573	227
Capacity Analysis Module:												
Vol/Sat:	0.12	0.19	0.19	0.09	0.28	0.28	0.07	0.30	0.30	0.14	0.40	0.40
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.837
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	Level Of Service:	D

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	46	22	25	290	24	243	165	1311	4	13	1838	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	22	25	290	24	243	165	1311	4	13	1838	196
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	22	25	290	24	243	165	1311	4	13	1838	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	22	25	290	24	243	165	1311	4	13	1838	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	22	25	290	24	243	165	1311	4	13	1838	196
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	22	25	290	24	243	165	1311	4	13	1838	196
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.47	0.53	1.00	1.00	1.00	1.00	2.99	0.01	1.00	2.71	0.29
Final Sat.:	1600	749	851	1600	1600	1600	1600	4785	15	1600	4337	463
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.18	0.02	0.15	0.10	0.27	0.27	0.01	0.42	0.42
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.998
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	242	1163	818	440	1845	321	124	1444	207	652	1448	288
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	242	1163	818	440	1845	321	124	1444	207	652	1448	288
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	242	1163	818	440	1845	321	124	1444	207	652	1448	288
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	242	1163	818	440	1845	321	124	1444	207	652	1448	288
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	242	1163	818	440	1845	321	124	1444	207	652	1448	288
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	242	1163	818	440	1845	321	124	1444	207	652	1448	288
OvlAdjVol:			166									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.62	0.38	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4461	639	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.23	0.24	0.13	0.36	0.19	0.04	0.32	0.32	0.19	0.28	0.17
OvlAdjV/S:			0.05									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.676
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0 1	0	0 1	1 0	3	0 1	1 0	3	0 1
Volume Module:												
Base Vol:	24	16	35	49	6	57	63	2634	23	94	2231	34
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	24	16	35	49	6	57	63	2634	23	94	2231	34
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	16	35	49	6	57	63	2634	23	94	2231	34
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	24	16	35	49	6	57	63	2634	23	94	2231	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	16	35	49	6	57	63	2634	23	94	2231	34
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
FinalVolume:	24	16	35	49	6	57	63	2634	23	94	2231	34
Saturation Flow Module:												
Sat/Lane:	1700 1700	1700		1700 1700	1700		1700 1700	1700		1700 1700	1700	
Adjustment:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	1.20 0.80	1.00		0.89 0.11	1.00		1.00 3.00	1.00		1.00 3.00	1.00	
Final Sat.:	2040 1360	1700		1515 185	1700		1700 5100	1700		1700 5100	1700	
Capacity Analysis Module:												
Vol/Sat:	0.01 0.01	0.02		0.03 0.03	0.03		0.04 0.52	0.01		0.06 0.44	0.02	
Crit Moves:		****			****			****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.830
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	D

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	280	549	204	276	737	207	130	2206	401	164	1967	108
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	280	549	204	276	737	207	130	2206	401	164	1967	108
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	280	549	204	276	737	207	130	2206	401	164	1967	108
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	280	549	204	276	737	207	130	2206	401	164	1967	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	280	549	204	276	737	207	130	2206	401	164	1967	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	280	549	204	276	737	207	130	2206	401	164	1967	108
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.84	0.16
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4835	265
Capacity Analysis Module:												
Vol/Sat:	0.08	0.16	0.12	0.08	0.22	0.12	0.04	0.43	0.24	0.05	0.41	0.41
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.022
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1	1 0	2 0	2	1 0	2 0	2	1 0
Volume Module:												
Base Vol:	243	582	275	624	988	74	168	2231	326	294	1995	343
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	243	582	275	624	988	74	168	2231	326	294	1995	343
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	243	582	275	624	988	74	168	2231	326	294	1995	343
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	243	582	275	624	988	74	168	2231	326	294	1995	343
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	243	582	275	624	988	74	168	2231	326	294	1995	343
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	243	582	275	624	988	74	168	2231	326	294	1995	343
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.86	0.14	2.00	2.62	0.38	2.00	2.56	0.44
Final Sat.:	3400	3400	1700	3400	3163	237	3400	4450	650	3400	4352	748
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.16	0.18	0.31	0.31	0.05	0.50	0.50	0.09	0.46	0.46
Crit Moves:	****			****			****			****		

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AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.142
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	545	672	335	310	1504	302	349	1877	803	378	1615	346
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	545	672	335	310	1504	302	349	1877	803	378	1615	346
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	545	672	335	310	1504	302	349	1877	803	378	1615	346
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	545	672	335	310	1504	302	349	1877	803	378	1615	346
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	545	672	335	310	1504	302	349	1877	803	378	1615	346
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	545	672	335	310	1504	302	349	1877	803	378	1615	346
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.10	0.90	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	3572	1528	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.16	0.13	0.20	0.09	0.29	0.18	0.10	0.53	0.53	0.11	0.32	0.20
Crit Moves:	****			****			****			****		

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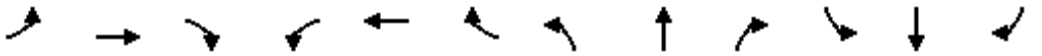

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	1877	803	378	1615	346	545	672	335	310	1504	302
Future Volume (veh/h)	349	1877	803	378	1615	346	545	672	335	310	1504	302
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	349	1877	803	378	1615	346	545	672	335	310	1504	302
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1399	545	230	1765	548	740	1787	555	625	1617	502
Arrive On Green	0.10	0.39	0.39	0.07	0.35	0.35	0.21	0.35	0.35	0.18	0.32	0.32
Sat Flow, veh/h	3456	3613	1408	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	349	1758	922	378	1615	346	545	672	335	310	1504	302
Grp Sat Flow(s),veh/h/ln	1728	1702	1617	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	46.5	46.5	8.0	36.3	21.9	17.7	11.8	20.7	9.7	34.2	19.3
Cycle Q Clear(g_c), s	12.0	46.5	46.5	8.0	36.3	21.9	17.7	11.8	20.7	9.7	34.2	19.3
Prop In Lane	1.00		0.87	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1318	626	230	1765	548	740	1787	555	625	1617	502
V/C Ratio(X)	1.01	1.33	1.47	1.64	0.92	0.63	0.74	0.38	0.60	0.50	0.93	0.60
Avail Cap(c_a), veh/h	346	1318	626	230	1787	555	740	1787	555	625	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.8	36.8	56.0	37.6	32.9	44.0	29.2	31.5	44.2	39.7	34.6
Incr Delay (d2), s/veh	50.9	155.2	221.3	307.1	7.8	2.3	3.9	0.6	4.8	0.6	11.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	47.3	56.4	13.3	16.2	8.7	7.9	4.9	8.6	4.2	15.8	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.9	192.0	258.1	363.1	45.3	35.1	47.9	29.8	36.3	44.9	50.7	39.9
LnGrp LOS	F	F	F	F	D	D	D	C	D	D	D	D
Approach Vol, veh/h		3029			2339			1552			2116	
Approach Delay, s/veh		202.1			95.2			37.5			48.3	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.2	47.0	12.0	51.5	30.2	43.0	17.0	46.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	42.0	8.0	46.0	10.0	38.0	12.0	* 42
Max Q Clear Time (g_c+I1), s	11.7	22.7	10.0	48.5	19.7	36.2	14.0	38.3
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	1.5	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	110.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.079
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	299	1017	300	236	1781	265	415	1132	213	489	1160	231
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	299	1017	300	236	1781	265	415	1132	213	489	1160	231
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	299	1017	300	236	1781	265	415	1132	213	489	1160	231
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	299	1017	300	236	1781	265	415	1132	213	489	1160	231
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	299	1017	300	236	1781	265	415	1132	213	489	1160	231
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	299	1017	300	236	1781	265	415	1132	213	489	1160	231
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.61	0.39	2.00	1.68	0.32	2.00	1.67	0.33
Final Sat.:	3400	5100	1700	3400	4439	661	3400	2862	538	3400	2835	565
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.18	0.07	0.40	0.40	0.12	0.40	0.40	0.14	0.41	0.41
Crit Moves:	****			****			****			****		

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AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.919
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	E

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	234	444	214	125	669	227	91	1367	204	245	1277	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	444	214	125	669	227	91	1367	204	245	1277	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	444	214	125	669	227	91	1367	204	245	1277	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	444	214	125	669	227	91	1367	204	245	1277	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	444	214	125	669	227	91	1367	204	245	1277	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	444	214	125	669	227	91	1367	204	245	1277	57
OvlAdjVol:			92			181						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.74	0.26	2.00	1.91	0.09
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2958	442	3400	3255	145
Capacity Analysis Module:												
Vol/Sat:	0.14	0.13	0.13	0.07	0.20	0.13	0.03	0.46	0.46	0.07	0.39	0.39
OvlAdjV/S:			0.05			0.11						
Crit Moves:	****			****			****			****		

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AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.119
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	392	608	127	88	945	229	85	1436	426	121	1178	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	392	608	127	88	945	229	85	1436	426	121	1178	66
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	392	608	127	88	945	229	85	1436	426	121	1178	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	392	608	127	88	945	229	85	1436	426	121	1178	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	392	608	127	88	945	229	85	1436	426	121	1178	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	392	608	127	88	945	229	85	1436	426	121	1178	66
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	1.61	0.39	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2813	587	1700	2737	663	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.23	0.22	0.22	0.05	0.35	0.35	0.05	0.42	0.25	0.07	0.35	0.04
Crit Moves:	****				****			****			****	

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AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.814
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	D

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	114	614	412	276	1576	212	191	1345	266	219	1046	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	614	412	276	1576	212	191	1345	266	219	1046	281
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	114	614	412	276	1576	212	191	1345	266	219	1046	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	614	412	276	1576	212	191	1345	266	219	1046	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	614	412	276	1576	212	191	1345	266	219	1046	281
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	114	614	412	276	1576	212	191	1345	266	219	1046	281
OvlAdjVol:			302									143
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.64	0.36	2.00	2.50	0.50	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4495	605	3400	4258	842	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.24	0.08	0.35	0.35	0.06	0.32	0.32	0.06	0.31	0.17
OvlAdjV/S:			0.18									0.08
Crit Moves:	****			****			****			****		

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AM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.205
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	3 0	1	1 0	2 1	0
Volume Module:												
Base Vol:	440	855	61	333	1365	165	114	1265	537	144	1843	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	440	855	61	333	1365	165	114	1265	537	144	1843	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	440	855	61	333	1365	165	114	1265	537	144	1843	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	440	855	61	333	1365	165	114	1265	537	144	1843	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	440	855	61	333	1365	165	114	1265	537	144	1843	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	440	855	61	333	1365	165	114	1265	537	144	1843	90
OvlAdjVol:									293			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.87	0.13	2.00	1.78	0.22	1.00	3.00	1.00	1.00	2.86	0.14
Final Sat.:	2880	2987	213	2880	2855	345	1600	4800	1600	1600	4577	223
Capacity Analysis Module:												
Vol/Sat:	0.15	0.29	0.29	0.12	0.48	0.48	0.07	0.26	0.34	0.09	0.40	0.40
OvlAdjV/S:									0.18			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.987
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	434	1516	286	142	1865	596	209	742	790	361	773	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	434	1516	286	142	1865	596	209	742	790	361	773	80
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	434	1516	286	142	1865	596	209	742	790	361	773	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	434	1516	286	142	1865	596	209	742	790	361	773	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	434	1516	286	142	1865	596	209	742	790	361	773	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	434	1516	286	142	1865	596	209	742	790	361	773	80
OvlAdjVol:						492			573			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.72	0.28
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4622	478
Capacity Analysis Module:												
Vol/Sat:	0.13	0.30	0.17	0.08	0.37	0.35	0.06	0.22	0.46	0.11	0.17	0.17
OvlAdjV/S:						0.29			0.34			
Crit Moves:	****				****				****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.832
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	D

Street Name:	Beach Blvd						La Habra Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	287	1134	228	181	1598	136	170	529	111	288	694	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	1134	228	181	1598	136	170	529	111	288	694	93
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	1134	228	181	1598	136	170	529	111	288	694	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	287	1134	228	181	1598	136	170	529	111	288	694	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	1134	228	181	1598	136	170	529	111	288	694	93
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	1134	228	181	1598	136	170	529	111	288	694	93
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.50	0.50	1.00	2.76	0.24	1.00	1.65	0.35	1.00	1.76	0.24
Final Sat.:	3400	4246	854	1700	4700	400	1700	2810	590	1700	2998	402
Capacity Analysis Module:												
Vol/Sat:	0.08	0.27	0.27	0.11	0.34	0.34	0.10	0.19	0.19	0.17	0.23	0.23
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	1.043
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	326	824	178	74	934	135	86	838	212	237	1640	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	824	178	74	934	135	86	838	212	237	1640	45
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	824	178	74	934	135	86	838	212	237	1640	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	824	178	74	934	135	86	838	212	237	1640	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	824	178	74	934	135	86	838	212	237	1640	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	824	178	74	934	135	86	838	212	237	1640	45
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.75	0.25	1.00	2.39	0.61	1.00	2.92	0.08
Final Sat.:	1600	2632	568	1600	2796	404	1600	3831	969	1600	4672	128
Capacity Analysis Module:												
Vol/Sat:	0.20	0.31	0.31	0.05	0.33	0.33	0.05	0.22	0.22	0.15	0.35	0.35
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Bouelvard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.943
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	121	Level Of Service:	E

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	106	1945	76	88	2281	378	461	513	100	110	695	177
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	1945	76	88	2281	378	461	513	100	110	695	177
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	106	1945	76	88	2281	378	461	513	100	110	695	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	106	1945	76	88	2281	378	461	513	100	110	695	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	1945	76	88	2281	378	461	513	100	110	695	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	1945	76	88	2281	378	461	513	100	110	695	177
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.89	0.11	2.00	2.57	0.43	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4908	192	3400	4375	725	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.40	0.40	0.03	0.52	0.52	0.14	0.15	0.06	0.03	0.20	0.10
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.698
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	B

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	31	1965	176	43	2397	87	66	194	28	188	267	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1965	176	43	2397	87	66	194	28	188	267	86
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	1965	176	43	2397	87	66	194	28	188	267	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	1965	176	43	2397	87	66	194	28	188	267	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	1965	176	43	2397	87	66	194	28	188	267	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	1965	176	43	2397	87	66	194	28	188	267	86
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.75	0.25	1.00	2.89	0.11	1.00	2.00	1.00	2.00	1.51	0.49
Final Sat.:	1700	4681	419	1700	4921	179	1700	3400	1700	3400	2572	828
Capacity Analysis Module:												
Vol/Sat:	0.02	0.42	0.42	0.03	0.49	0.49	0.04	0.06	0.02	0.06	0.10	0.10
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB ramps at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.389
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	20	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	1 1	0	2 0	1 1 0
Volume Module:												
Base Vol:	345	10	280	1	1	1	5	117	90	228	89	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	345	10	280	1	1	1	5	117	90	228	89	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	345	10	280	1	1	1	5	117	90	228	89	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	345	10	280	1	1	1	5	117	90	228	89	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	345	10	280	1	1	1	5	117	90	228	89	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	345	10	280	1	1	1	5	117	90	228	89	5
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.97	0.03	1.00	0.34	0.33	0.33	1.00	1.13	0.87	2.00	1.89	0.11
Final Sat.:	1652	48	1700	567	567	567	1700	1922	1478	3400	3219	181
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.16	0.00	0.00	0.00	0.00	0.06	0.06	0.07	0.03	0.03
Crit Moves:	****			****				****		****		

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AM Year 2035 Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.855
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Beach Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	178	1470	171	88	2489	51	259	123	68	86	110	526
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	1470	171	88	2489	51	259	123	68	86	110	526
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	1470	171	88	2489	51	259	123	68	86	110	526
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	1470	171	88	2489	51	259	123	68	86	110	526
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	1470	171	88	2489	51	259	123	68	86	110	526
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	1470	171	88	2489	51	259	123	68	86	110	526
OvlAdjVol:												438
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.29	0.71	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	2190	1210	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.29	0.10	0.05	0.37	0.03	0.08	0.06	0.06	0.03	0.03	0.31
OvlAdjV/S:												0.26
Crit Moves:	****				****		****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	D

Street Name:	Beach Boulevard						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1540	280	887	1773	0	208	0	308	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1540	280	887	1773	0	208	0	308	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1540	280	887	1773	0	208	0	308	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1540	280	887	1773	0	208	0	308	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1540	280	887	1773	0	208	0	308	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1540	280	887	1773	0	208	0	308	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.54	0.46	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4315	785	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.36	0.26	0.35	0.00	0.12	0.00	0.18	0.00	0.00	0.00
Crit Moves:		****		****					****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.868
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	539	52	687	61	44	25	49	972	569	1190	1072	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	539	52	687	61	44	25	49	972	569	1190	1072	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	539	52	687	61	44	25	49	972	569	1190	1072	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	539	52	687	61	44	25	49	972	569	1190	1072	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	539	52	687	61	44	25	49	972	569	1190	1072	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	539	52	687	61	44	25	49	972	569	1190	1072	7
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.82	0.18	2.00	0.47	0.34	0.19	1.00	2.00	1.00	3.00	1.99	0.01
Final Sat.:	3101	299	3400	798	575	327	1700	3400	1700	5100	3378	22
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.20	0.08	0.08	0.08	0.03	0.29	0.33	0.23	0.32	0.32
OvlAdjV/S:			0.00									
Crit Moves:	****			****					****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.985
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	13	44	54	578	48	803	434	1293	13	72	1468	530
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	13	44	54	578	48	803	434	1293	13	72	1468	530
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	44	54	578	48	803	434	1293	13	72	1468	530
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	13	44	54	578	48	803	434	1293	13	72	1468	530
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	44	54	578	48	803	434	1293	13	72	1468	530
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
FinalVolume:	13	44	54	578	48	803	434	1293	13	72	1468	530
OvlAdjVol:						586						
Saturation Flow Module:												
Sat/Lane:	1700 1700	1700		1700 1700	1700		1700 1700	1700		1700 1700	1700	
Adjustment:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	0.23 0.77	1.00		0.92 0.08	1.00		2.00 1.98	0.02		1.00 2.00	1.00	
Final Sat.:	388 1312	1700		1570 130	1700		3400 3366	34		1700 3400	1700	
Capacity Analysis Module:												
Vol/Sat:	0.01 0.03	0.03		0.34 0.37	0.47		0.13 0.38	0.38		0.04 0.43	0.31	
OvlAdjV/S:						0.34						
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	1845

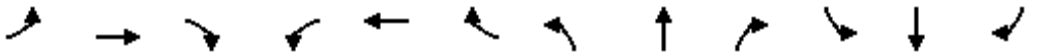
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	2525	2225	57	54	300
Future Vol, veh/h	85	2525	2225	57	54	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	2525	2225	57	54	300

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2282	0	-	0	3434	1141
Stage 1	-	-	-	-	2254	-
Stage 2	-	-	-	-	1180	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	90	-	-	-	~ 15	~ 167
Stage 1	-	-	-	-	~ 39	-
Stage 2	-	-	-	-	228	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	90	-	-	-	~ 1	~ 167
Mov Cap-2 Maneuver	-	-	-	-	~ 1	-
Stage 1	-	-	-	-	~ 2	-
Stage 2	-	-	-	-	228	-

Approach	EB	WB	SB
HCM Control Delay, s	5.3	0	$ 27301.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	90	-	-	-	6
HCM Lane V/C Ratio	0.944	-	-	-	59
HCM Control Delay (s)	163.5	-	-	$ 27301.7	
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	5.3	-	-	-	46.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



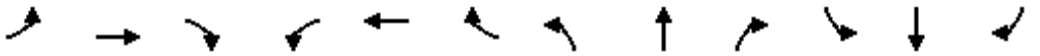
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1040	261	608	783	101	93	745	599	165	1127	217
Future Volume (veh/h)	471	1040	261	608	783	101	93	745	599	165	1127	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	471	1040	261	608	783	101	93	745	599	165	1127	217
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1613	2137	536	605	1149	515	104	1155	793	178	1115	214
Arrive On Green	0.47	0.52	0.52	0.17	0.22	0.22	0.06	0.32	0.32	0.10	0.38	0.38
Sat Flow, veh/h	3456	4070	1020	3456	5106	1585	1781	3554	1585	1781	2975	570
Grp Volume(v), veh/h	471	870	431	608	783	101	93	745	599	165	671	673
Grp Sat Flow(s),veh/h/ln	1728	1702	1687	1728	1702	1585	1781	1777	1585	1781	1777	1768
Q Serve(g_s), s	10.1	19.6	19.6	21.0	16.8	0.0	6.2	21.5	39.0	11.0	45.0	45.0
Cycle Q Clear(g_c), s	10.1	19.6	19.6	21.0	16.8	0.0	6.2	21.5	39.0	11.0	45.0	45.0
Prop In Lane	1.00		0.61	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	1613	1787	886	605	1149	515	104	1155	793	178	666	663
V/C Ratio(X)	0.29	0.49	0.49	1.01	0.68	0.20	0.90	0.65	0.76	0.93	1.01	1.02
Avail Cap(c_a), veh/h	1613	1787	886	605	1149	515	104	1155	793	178	666	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	18.2	18.2	49.5	42.6	29.2	56.1	34.6	33.8	53.6	37.5	37.5
Incr Delay (d2), s/veh	0.1	1.0	1.9	37.9	3.3	0.9	56.3	2.8	6.6	46.7	36.6	38.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	7.8	8.0	12.2	7.4	2.2	4.4	9.7	16.9	7.2	25.9	26.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	19.1	20.1	87.4	45.8	30.0	112.4	37.4	40.4	100.2	74.1	76.3
LnGrp LOS	B	B	C	F	D	C	F	D	D	F	F	F
Approach Vol, veh/h		1772			1492			1437			1509	
Approach Delay, s/veh		19.6			61.7			43.5			77.9	
Approach LOS		B			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	44.0	25.0	69.0	11.0	50.0	62.0	32.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	12.0	* 39	21.0	30.0	7.0	44.0	24.0	* 27
Max Q Clear Time (g_c+I1), s	13.0	41.0	23.0	21.6	8.2	47.0	12.1	18.8
Green Ext Time (p_c), s	0.0	0.0	0.0	5.2	0.0	0.0	1.4	3.5

Intersection Summary	
HCM 6th Ctrl Delay	49.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	794	189	160	515	140	153	1109	109	297	1445	18
Future Volume (veh/h)	37	794	189	160	515	140	153	1109	109	297	1445	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	794	189	160	515	140	153	1109	109	297	1445	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	783	186	164	840	227	188	1198	118	316	1588	20
Arrive On Green	0.03	0.28	0.28	0.06	0.30	0.30	0.06	0.37	0.37	0.13	0.44	0.44
Sat Flow, veh/h	1781	2847	678	1781	2765	748	1781	3269	321	1781	3594	45
Grp Volume(v), veh/h	37	495	488	160	330	325	153	602	616	297	714	749
Grp Sat Flow(s),veh/h/ln	1781	1777	1748	1781	1777	1736	1781	1777	1813	1781	1777	1862
Q Serve(g_s), s	1.8	33.0	33.0	7.0	19.1	19.2	6.5	39.0	39.1	14.4	45.0	45.1
Cycle Q Clear(g_c), s	1.8	33.0	33.0	7.0	19.1	19.2	6.5	39.0	39.1	14.4	45.0	45.1
Prop In Lane	1.00		0.39	1.00		0.43	1.00		0.18	1.00		0.02
Lane Grp Cap(c), veh/h	224	489	481	164	540	527	188	652	665	316	785	823
V/C Ratio(X)	0.17	1.01	1.01	0.98	0.61	0.62	0.81	0.92	0.93	0.94	0.91	0.91
Avail Cap(c_a), veh/h	246	489	481	164	540	527	188	652	665	316	785	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	43.5	43.5	36.0	35.7	35.8	29.1	36.4	36.4	33.9	31.3	31.3
Incr Delay (d2), s/veh	0.3	44.3	44.6	63.0	2.0	2.2	23.3	20.9	20.9	34.9	16.5	16.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	20.3	20.1	6.2	8.5	8.4	3.9	20.4	20.8	7.8	22.3	23.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	87.8	88.1	99.0	37.7	37.9	52.5	57.3	57.3	68.8	47.7	47.3
LnGrp LOS	C	F	F	F	D	D	D	E	E	E	D	D
Approach Vol, veh/h		1020			815			1371			1760	
Approach Delay, s/veh		85.9			49.8			56.8			51.1	
Approach LOS		F			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	49.0	12.0	38.0	12.0	58.0	8.5	41.5
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	16.0	44.0	7.0	33.0	7.0	53.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	16.4	41.1	9.0	35.0	8.5	47.1	3.8	21.2
Green Ext Time (p_c), s	0.0	2.0	0.0	0.0	0.0	4.3	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	59.6
HCM 6th LOS	E

PM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.085
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 3	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	242	2238	255	204	1832	249	408	664	195	237	648	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	242	2238	255	204	1832	249	408	664	195	237	648	152
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	242	2238	255	204	1832	249	408	664	195	237	648	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	242	2238	255	204	1832	249	408	664	195	237	648	152
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	242	2238	255	204	1832	249	408	664	195	237	648	152
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	242	2238	255	204	1832	249	408	664	195	237	648	152
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.55	0.45	2.00	1.62	0.38
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2474	726	2880	2592	608
Capacity Analysis Module:												
Vol/Sat:	0.15	0.47	0.16	0.13	0.38	0.16	0.14	0.27	0.27	0.08	0.25	0.25
Crit Moves:		****			****			****			****	

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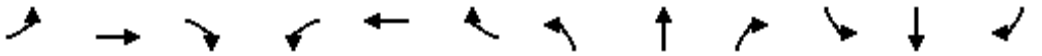
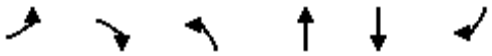


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	531	267	67	677	65	368	1120	88	42	583	206
Future Volume (veh/h)	199	531	267	67	677	65	368	1120	88	42	583	206
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	531	267	67	677	65	368	1120	88	42	583	206
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	976	435	233	765	341	398	1759	784	56	1077	480
Arrive On Green	0.10	0.27	0.27	0.04	0.22	0.22	0.22	0.49	0.49	0.03	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	199	531	267	67	677	65	368	1120	88	42	583	206
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.1	15.3	17.6	3.5	22.2	4.0	24.3	27.9	3.6	2.8	16.4	12.5
Cycle Q Clear(g_c), s	10.1	15.3	17.6	3.5	22.2	4.0	24.3	27.9	3.6	2.8	16.4	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	976	435	233	765	341	398	1759	784	56	1077	480
V/C Ratio(X)	0.76	0.54	0.61	0.29	0.88	0.19	0.93	0.64	0.11	0.75	0.54	0.43
Avail Cap(c_a), veh/h	260	1036	462	234	829	370	460	1759	784	104	1077	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	37.1	38.0	34.8	45.6	38.5	45.6	22.4	16.2	57.7	34.9	33.5
Incr Delay (d2), s/veh	12.7	0.5	2.2	0.7	10.6	0.3	22.8	1.8	0.3	18.1	2.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	6.7	7.1	1.6	10.9	1.6	13.2	11.9	1.4	1.5	7.4	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	37.6	40.2	35.5	56.3	38.8	68.5	24.1	16.5	75.7	36.8	36.3
LnGrp LOS	D	D	D	D	E	D	E	C	B	E	D	D
Approach Vol, veh/h		997			809			1576			831	
Approach Delay, s/veh		40.0			53.1			34.1			38.7	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	64.4	9.9	37.9	30.8	41.4	17.0	30.8
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	54.0	5.0	35.0	31.0	30.0	12.0	28.0
Max Q Clear Time (g_c+I1), s	4.8	29.9	5.5	19.6	26.3	18.4	12.1	24.2
Green Ext Time (p_c), s	0.0	9.5	0.0	4.1	0.5	3.6	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	215	481	847	1280	653	202
Future Volume (veh/h)	215	481	847	1280	653	202
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	215	481	847	1280	653	202
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	342	1604	1645	2906	1066	476
Arrive On Green	0.10	0.10	0.48	0.82	0.30	0.30
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	215	481	847	1280	653	202
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	7.2	0.0	20.4	12.3	18.9	12.3
Cycle Q Clear(g_c), s	7.2	0.0	20.4	12.3	18.9	12.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	342	1604	1645	2906	1066	476
V/C Ratio(X)	0.63	0.30	0.51	0.44	0.61	0.42
Avail Cap(c_a), veh/h	806	1979	1645	2906	1066	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	13.1	21.8	3.1	36.0	33.7
Incr Delay (d2), s/veh	1.9	0.1	0.3	0.5	2.6	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	8.0	8.2	3.4	8.6	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.9	13.2	22.1	3.6	38.6	36.5
LnGrp LOS	D	B	C	A	D	D
Approach Vol, veh/h	696			2127	855	
Approach Delay, s/veh	25.8			11.0	38.1	
Approach LOS	C			B	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.1		16.9	62.1	41.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		82.0		28.0	42.0	* 36
Max Q Clear Time (g_c+I1), s		14.3		9.2	22.4	20.9
Green Ext Time (p_c), s		14.4		2.7	3.3	4.6

Intersection Summary		
HCM 6th Ctrl Delay		20.1
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	80	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	224	2409	52	67	2016	280	271	19	129	36	16	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	224	2409	52	67	2016	280	271	19	129	36	16	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	224	2409	52	67	2016	280	271	19	129	36	16	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	224	2409	52	67	2016	280	271	19	129	36	16	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	224	2409	52	67	2016	280	271	19	129	36	16	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	224	2409	52	67	2016	280	271	19	129	36	16	15
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	826	774
Capacity Analysis Module:												
Vol/Sat:	0.14	0.50	0.03	0.04	0.42	0.17	0.17	0.01	0.08	0.02	0.02	0.02
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.576
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	A

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	0	0 0	3 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	31	2627	0	0	2401	39	17	0	18	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	2627	0	0	2401	39	17	0	18	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	2627	0	0	2401	39	17	0	18	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	2627	0	0	2401	39	17	0	18	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	2627	0	0	2401	39	17	0	18	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	2627	0	0	2401	39	17	0	18	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1700	5100	0	0	5100	1700	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.02	0.52	0.00	0.00	0.47	0.02	0.01	0.00	0.01	0.00	0.00	0.00
Crit Moves:	****								****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.631
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	B

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Prot+Permit					Split Phase					Split Phase				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	0	0	1	1	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	1283	69			158	878	0			0	0	0			39	0	153		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	0	1283	69			158	878	0			0	0	0			39	0	153		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	1283	69			158	878	0			0	0	0			39	0	153		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	0	1283	69			158	878	0			0	0	0			39	0	153		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	0	1283	69			158	878	0			0	0	0			39	0	153		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	0	1283	69			158	878	0			0	0	0			39	0	153		
Saturation Flow Module:																				
Sat/Lane:	1700	1700	1700			1700	1700	1700			1700	1700	1700			1700	1700	1700		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	0.00	1.90	0.10			1.00	2.00	0.00			0.00	0.00	0.00			1.00	0.00	1.00		
Final Sat.:	0	3226	174			1700	3400	0			0	0	0			1700	0	1700		
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.40	0.40			0.09	0.26	0.00			0.00	0.00	0.00			0.02	0.00	0.09		
Crit Moves:		****				****												****		

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Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	0	15	3	4	64	31	1206	2	41	866	48
Future Vol, veh/h	24	0	15	3	4	64	31	1206	2	41	866	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	15	3	4	64	31	1206	2	41	866	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1639	2242	457	1784	2265	604	914	0	0	1208	0	0
Stage 1	972	972	-	1269	1269	-	-	-	-	-	-	-
Stage 2	667	1270	-	515	996	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	66	42	551	52	40	441	742	-	-	573	-	-
Stage 1	271	329	-	178	238	-	-	-	-	-	-	-
Stage 2	414	237	-	511	320	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	37	551	46	36	441	742	-	-	573	-	-
Mov Cap-2 Maneuver	47	37	-	46	36	-	-	-	-	-	-	-
Stage 1	260	305	-	171	228	-	-	-	-	-	-	-
Stage 2	333	227	-	462	297	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	93.1	24.2	0.3	0.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	742	-	-	47	551	40	441	573	-	-
HCM Lane V/C Ratio	0.042	-	-	0.511	0.027	0.175	0.145	0.072	-	-
HCM Control Delay (s)	10.1	-	-	143.9	11.7	113.2	14.5	11.8	-	-
HCM Lane LOS	B	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	0.1	0.6	0.5	0.2	-	-

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.125
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	222	1158	280	162	545	107	148	1505	159	204	1256	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	222	1158	280	162	545	107	148	1505	159	204	1256	199
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	222	1158	280	162	545	107	148	1505	159	204	1256	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	222	1158	280	162	545	107	148	1505	159	204	1256	199
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	222	1158	280	162	545	107	148	1505	159	204	1256	199
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	222	1158	280	162	545	107	148	1505	159	204	1256	199
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.67	0.33	1.00	2.71	0.29	1.00	2.59	0.41
Final Sat.:	1600	2577	623	1600	2675	525	1600	4341	459	1600	4144	656
Capacity Analysis Module:												
Vol/Sat:	0.14	0.45	0.45	0.10	0.20	0.20	0.09	0.35	0.35	0.13	0.30	0.30
Crit Moves:		****		****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.714
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	34	25	13	162	38	180	210	1609	22	15	1455	222
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	25	13	162	38	180	210	1609	22	15	1455	222
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	25	13	162	38	180	210	1609	22	15	1455	222
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	25	13	162	38	180	210	1609	22	15	1455	222
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	25	13	162	38	180	210	1609	22	15	1455	222
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	25	13	162	38	180	210	1609	22	15	1455	222
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.66	0.34	1.00	1.00	1.00	1.00	2.96	0.04	1.00	2.60	0.40
Final Sat.:	1600	1053	547	1600	1600	1600	1600	4735	65	1600	4165	635
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.10	0.02	0.11	0.13	0.34	0.34	0.01	0.35	0.35
Crit Moves:	****					****	****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.049
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	354	1761	545	608	1563	348	262	1276	252	597	1216	366
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	354	1761	545	608	1563	348	262	1276	252	597	1216	366
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	354	1761	545	608	1563	348	262	1276	252	597	1216	366
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	354	1761	545	608	1563	348	262	1276	252	597	1216	366
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	354	1761	545	608	1563	348	262	1276	252	597	1216	366
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	354	1761	545	608	1563	348	262	1276	252	597	1216	366
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.51	0.49	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4259	841	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.35	0.16	0.18	0.31	0.20	0.08	0.30	0.30	0.18	0.24	0.22
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.777
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	63	40	219	93	42	152	223	1897	48	213	1928	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	40	219	93	42	152	223	1897	48	213	1928	67
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	40	219	93	42	152	223	1897	48	213	1928	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	40	219	93	42	152	223	1897	48	213	1928	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	40	219	93	42	152	223	1897	48	213	1928	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	40	219	93	42	152	223	1897	48	213	1928	67
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.22	0.78	1.00	0.69	0.31	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2080	1320	1700	1171	529	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.13	0.08	0.08	0.09	0.13	0.37	0.03	0.13	0.38	0.04
Crit Moves:			****			****	****				****	

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PM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.891
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	82	Level Of Service:	D

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	375	869	260	229	511	188	324	1842	303	260	1954	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	375	869	260	229	511	188	324	1842	303	260	1954	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	375	869	260	229	511	188	324	1842	303	260	1954	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	375	869	260	229	511	188	324	1842	303	260	1954	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	375	869	260	229	511	188	324	1842	303	260	1954	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	375	869	260	229	511	188	324	1842	303	260	1954	202
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.72	0.28
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4622	478
Capacity Analysis Module:												
Vol/Sat:	0.11	0.26	0.15	0.07	0.15	0.11	0.10	0.36	0.18	0.08	0.42	0.42
Crit Moves:	****			****			****				****	

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PM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.881
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	77	Level Of Service:	D

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1	1 0	2 0	2	1 0	2 0	2	1 0
Volume Module:												
Base Vol:	348	789	218	183	554	96	168	1696	259	322	2242	248
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	348	789	218	183	554	96	168	1696	259	322	2242	248
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	348	789	218	183	554	96	168	1696	259	322	2242	248
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	348	789	218	183	554	96	168	1696	259	322	2242	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	348	789	218	183	554	96	168	1696	259	322	2242	248
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	348	789	218	183	554	96	168	1696	259	322	2242	248
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.70	0.30	2.00	2.60	0.40	2.00	2.70	0.30
Final Sat.:	3400	3400	1700	3400	2898	502	3400	4424	676	3400	4592	508
Capacity Analysis Module:												
Vol/Sat:	0.10	0.23	0.13	0.05	0.19	0.19	0.05	0.38	0.38	0.09	0.49	0.49
Crit Moves:	****				****		****				****	

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PM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.985
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	805	1234	321	313	862	373	383	1430	383	419	1817	315
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	805	1234	321	313	862	373	383	1430	383	419	1817	315
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	805	1234	321	313	862	373	383	1430	383	419	1817	315
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	805	1234	321	313	862	373	383	1430	383	419	1817	315
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	805	1234	321	313	862	373	383	1430	383	419	1817	315
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	805	1234	321	313	862	373	383	1430	383	419	1817	315
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.37	0.63	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4023	1077	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.19	0.09	0.17	0.22	0.11	0.36	0.36	0.12	0.36	0.19
Crit Moves:	****					****		****		****		

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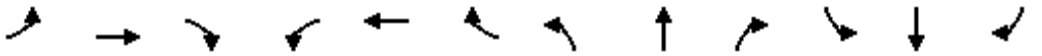

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	383	1430	383	419	1817	315	805	1234	321	313	862	373
Future Volume (veh/h)	383	1430	383	419	1817	315	805	1234	321	313	862	373
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	1430	383	419	1817	315	805	1234	321	313	862	373
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	1271	339	259	1659	515	1440	1830	568	1296	1617	502
Arrive On Green	0.08	0.32	0.32	0.08	0.32	0.32	0.42	0.36	0.36	0.38	0.32	0.32
Sat Flow, veh/h	3456	4013	1069	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	383	1212	601	419	1817	315	805	1234	321	313	862	373
Grp Sat Flow(s),veh/h/ln	1728	1702	1678	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	9.0	38.0	38.0	9.0	39.0	15.1	21.3	24.5	19.6	7.5	16.7	30.2
Cycle Q Clear(g_c), s	9.0	38.0	38.0	9.0	39.0	15.1	21.3	24.5	19.6	7.5	16.7	30.2
Prop In Lane	1.00		0.64	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1078	531	259	1659	515	1440	1830	568	1296	1617	502
V/C Ratio(X)	1.48	1.12	1.13	1.62	1.09	0.61	0.56	0.67	0.57	0.24	0.53	0.74
Avail Cap(c_a), veh/h	259	1078	531	259	1659	515	1440	1830	568	1296	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	41.0	41.0	55.5	40.5	19.3	26.6	32.6	31.0	25.8	33.7	52.3
Incr Delay (d2), s/veh	234.7	68.3	80.5	294.6	52.8	2.1	0.5	2.0	4.0	0.1	1.3	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	25.9	27.3	14.5	24.2	5.8	8.8	10.4	8.1	3.1	7.1	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	290.2	109.3	121.5	350.1	93.3	21.5	27.1	34.6	35.0	25.9	35.0	61.9
LnGrp LOS	F	F	F	F	F	C	C	C	D	C	C	E
Approach Vol, veh/h		2196			2551			2360			1548	
Approach Delay, s/veh		144.2			126.6			32.1			39.6	
Approach LOS		F			F			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	50.0	48.0	14.0	43.0	55.0	43.0	13.0	44.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	43.0	9.0	* 38	17.0	38.0	9.0	38.0
Max Q Clear Time (g_c+I1), s	9.5	26.5	11.0	40.0	23.3	32.2	11.0	41.0
Green Ext Time (p_c), s	0.3	9.2	0.0	0.0	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	89.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.184
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	428	1713	341	266	1403	101	199	1076	433	939	1513	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	428	1713	341	266	1403	101	199	1076	433	939	1513	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	428	1713	341	266	1403	101	199	1076	433	939	1513	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	428	1713	341	266	1403	101	199	1076	433	939	1513	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	428	1713	341	266	1403	101	199	1076	433	939	1513	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	428	1713	341	266	1403	101	199	1076	433	939	1513	202
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.80	0.20	2.00	1.43	0.57	2.00	1.76	0.24
Final Sat.:	3400	5100	1700	3400	4758	342	3400	2424	976	3400	3000	400
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.20	0.08	0.29	0.29	0.06	0.44	0.44	0.28	0.50	0.50
Crit Moves:		****		****				****		****		

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PM Year 2035 Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.080
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	304	819	251	89	576	134	82	1301	218	254	2107	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	304	819	251	89	576	134	82	1301	218	254	2107	128
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	304	819	251	89	576	134	82	1301	218	254	2107	128
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	304	819	251	89	576	134	82	1301	218	254	2107	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	304	819	251	89	576	134	82	1301	218	254	2107	128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	304	819	251	89	576	134	82	1301	218	254	2107	128
OvlAdjVol:			124			93						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.71	0.29	2.00	1.89	0.11
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2912	488	3400	3205	195
Capacity Analysis Module:												
Vol/Sat:	0.18	0.24	0.15	0.05	0.17	0.08	0.02	0.45	0.45	0.07	0.66	0.66
OvlAdjV/S:			0.07			0.05						
Crit Moves:	****			****			****				****	

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PM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.190
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	129	908	82	185	552	215	143	1249	159	106	2229	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	908	82	185	552	215	143	1249	159	106	2229	252
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	908	82	185	552	215	143	1249	159	106	2229	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	908	82	185	552	215	143	1249	159	106	2229	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	908	82	185	552	215	143	1249	159	106	2229	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	908	82	185	552	215	143	1249	159	106	2229	252
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.44	0.56	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3118	282	1700	2447	953	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.29	0.29	0.11	0.23	0.23	0.08	0.37	0.09	0.06	0.66	0.15
Crit Moves:		****			****			****			****	

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PM Year 2035 Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.134
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	281	1331	198	241	1079	235	225	946	209	338	2305	612
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	1331	198	241	1079	235	225	946	209	338	2305	612
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	1331	198	241	1079	235	225	946	209	338	2305	612
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	1331	198	241	1079	235	225	946	209	338	2305	612
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	1331	198	241	1079	235	225	946	209	338	2305	612
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	281	1331	198	241	1079	235	225	946	209	338	2305	612
OvlAdjVol:			29									492
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.46	0.54	2.00	2.46	0.54	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4188	912	3400	4177	923	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.26	0.12	0.07	0.26	0.26	0.07	0.23	0.23	0.10	0.68	0.36
OvlAdjV/S:			0.02									0.29
Crit Moves:	****			****			****			****		

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PM Year 2035 Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.991
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	2 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	401	920	145	305	856	109	121	1469	358	230	1417	151
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	401	920	145	305	856	109	121	1469	358	230	1417	151
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	401	920	145	305	856	109	121	1469	358	230	1417	151
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	401	920	145	305	856	109	121	1469	358	230	1417	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	401	920	145	305	856	109	121	1469	358	230	1417	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	401	920	145	305	856	109	121	1469	358	230	1417	151
OvlAdjVol:									135			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.73	0.27	2.00	1.77	0.23	1.00	3.00	1.00	1.00	2.71	0.29
Final Sat.:	2880	2764	436	2880	2839	361	1600	4800	1600	1600	4338	462
Capacity Analysis Module:												
Vol/Sat:	0.14	0.33	0.33	0.11	0.30	0.30	0.08	0.31	0.22	0.14	0.33	0.33
OvlAdjV/S:									0.08			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.925
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	104	Level Of Service:	E

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	664	2068	206	213	1562	261	388	713	514	277	932	239
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	664	2068	206	213	1562	261	388	713	514	277	932	239
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	664	2068	206	213	1562	261	388	713	514	277	932	239
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	664	2068	206	213	1562	261	388	713	514	277	932	239
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	664	2068	206	213	1562	261	388	713	514	277	932	239
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	664	2068	206	213	1562	261	388	713	514	277	932	239
OvlAdjVol:						67			182			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.39	0.61
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4059	1041
Capacity Analysis Module:												
Vol/Sat:	0.20	0.41	0.12	0.13	0.31	0.15	0.11	0.21	0.30	0.08	0.23	0.23
OvlAdjV/S:						0.04			0.11			
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.925
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	104	Level Of Service:	E

Street Name:	Beach Blvd						La Habra Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 1	0	1 0	2 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	273	1449	392	201	1425	142	257	737	155	227	643	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	273	1449	392	201	1425	142	257	737	155	227	643	111
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	273	1449	392	201	1425	142	257	737	155	227	643	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	273	1449	392	201	1425	142	257	737	155	227	643	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	273	1449	392	201	1425	142	257	737	155	227	643	111
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	273	1449	392	201	1425	142	257	737	155	227	643	111
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.36	0.64	1.00	2.73	0.27	1.00	1.65	0.35	1.00	1.71	0.29
Final Sat.:	3400	4014	1086	1700	4638	462	1700	2809	591	1700	2899	501
Capacity Analysis Module:												
Vol/Sat:	0.08	0.36	0.36	0.12	0.31	0.31	0.15	0.26	0.26	0.13	0.22	0.22
Crit Moves:	****			****				****		****		

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PM Year 2035 Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	1.033
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	292	959	231	93	801	64	151	1282	289	244	987	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	959	231	93	801	64	151	1282	289	244	987	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	959	231	93	801	64	151	1282	289	244	987	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	292	959	231	93	801	64	151	1282	289	244	987	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	292	959	231	93	801	64	151	1282	289	244	987	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	292	959	231	93	801	64	151	1282	289	244	987	100
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.85	0.15	1.00	2.45	0.55	1.00	2.72	0.28
Final Sat.:	1600	2579	621	1600	2963	237	1600	3917	883	1600	4358	442
Capacity Analysis Module:												
Vol/Sat:	0.18	0.37	0.37	0.06	0.27	0.27	0.09	0.33	0.33	0.15	0.23	0.23
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Bouelvard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.906
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	90	Level Of Service:	E

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	155	2160	70	156	1973	366	642	637	125	112	553	249
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	155	2160	70	156	1973	366	642	637	125	112	553	249
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	155	2160	70	156	1973	366	642	637	125	112	553	249
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	2160	70	156	1973	366	642	637	125	112	553	249
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	2160	70	156	1973	366	642	637	125	112	553	249
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	2160	70	156	1973	366	642	637	125	112	553	249
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.91	0.09	2.00	2.53	0.47	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4940	160	3400	4302	798	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.44	0.44	0.05	0.46	0.46	0.19	0.19	0.07	0.03	0.16	0.15
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.747
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	C

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	35	2168	170	100	2015	88	101	250	41	165	264	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	2168	170	100	2015	88	101	250	41	165	264	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	2168	170	100	2015	88	101	250	41	165	264	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	2168	170	100	2015	88	101	250	41	165	264	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	2168	170	100	2015	88	101	250	41	165	264	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	2168	170	100	2015	88	101	250	41	165	264	146
OvlAdjVol:									6			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.78	0.22	1.00	2.87	0.13	1.00	2.00	1.00	2.00	1.29	0.71
Final Sat.:	1700	4729	371	1700	4887	213	1700	3400	1700	3400	2189	1211
Capacity Analysis Module:												
Vol/Sat:	0.02	0.46	0.46	0.06	0.41	0.41	0.06	0.07	0.02	0.05	0.12	0.12
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB ramps at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.529
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0	2 0 1 1 0
Volume Module:												
Base Vol:	553	14	422	28	8	15	7	151	58	184	128	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	553	14	422	28	8	15	7	151	58	184	128	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	553	14	422	28	8	15	7	151	58	184	128	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	553	14	422	28	8	15	7	151	58	184	128	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	553	14	422	28	8	15	7	151	58	184	128	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	553	14	422	28	8	15	7	151	58	184	128	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.98	0.02	1.00	0.55	0.16	0.29	1.00	1.44	0.56	2.00	1.91	0.09
Final Sat.:	1658	42	1700	933	267	500	1700	2456	944	3400	3248	152
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.25	0.03	0.03	0.03	0.00	0.06	0.06	0.05	0.04	0.04
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	D

Street Name:	Beach Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	134	1495	95	36	2142	54	373	75	183	126	128	513
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	1495	95	36	2142	54	373	75	183	126	128	513
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	1495	95	36	2142	54	373	75	183	126	128	513
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	1495	95	36	2142	54	373	75	183	126	128	513
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	1495	95	36	2142	54	373	75	183	126	128	513
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	1495	95	36	2142	54	373	75	183	126	128	513
OvlAdjVol:												477
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1700	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.29	0.06	0.02	0.32	0.03	0.11	0.04	0.11	0.04	0.04	0.30
OvlAdjV/S:												0.28
Crit Moves:	****				****		****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.837
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	D

Street Name:	Beach Boulevard						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1606	372	746	1715	0	104	0	305	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1606	372	746	1715	0	104	0	305	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1606	372	746	1715	0	104	0	305	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1606	372	746	1715	0	104	0	305	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1606	372	746	1715	0	104	0	305	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1606	372	746	1715	0	104	0	305	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.44	0.56	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4141	959	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.39	0.22	0.34	0.00	0.06	0.00	0.18	0.00	0.00	0.00
Crit Moves:		****		****					****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.858
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	68	Level Of Service:	D

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	475	76	1232	108	49	28	48	1145	502	991	1103	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	475	76	1232	108	49	28	48	1145	502	991	1103	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	475	76	1232	108	49	28	48	1145	502	991	1103	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	475	76	1232	108	49	28	48	1145	502	991	1103	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	475	76	1232	108	49	28	48	1145	502	991	1103	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	475	76	1232	108	49	28	48	1145	502	991	1103	24
OvlAdjVol:			571									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.72	0.28	2.00	0.59	0.26	0.15	1.00	2.00	1.00	3.00	1.96	0.04
Final Sat.:	2931	469	3400	992	450	257	1700	3400	1700	5100	3328	72
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.36	0.11	0.11	0.11	0.03	0.34	0.30	0.19	0.33	0.33
OvlAdjV/S:			0.17									
Crit Moves:			****	****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.187
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	49	105	91	542	37	841	786	1500	14	92	1331	844
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	105	91	542	37	841	786	1500	14	92	1331	844
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	105	91	542	37	841	786	1500	14	92	1331	844
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	105	91	542	37	841	786	1500	14	92	1331	844
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	105	91	542	37	841	786	1500	14	92	1331	844
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	105	91	542	37	841	786	1500	14	92	1331	844
OvlAdjVol:						448						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.32	0.68	1.00	0.94	0.06	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	541	1159	1700	1591	109	1700	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.05	0.32	0.34	0.49	0.23	0.45	0.45	0.05	0.39	0.50
OvlAdjV/S:						0.26						
Crit Moves:	****			****			****					****

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Intersection	
Int Delay, s/veh	20.2

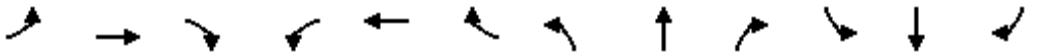
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	2134	2583	155	18	80
Future Vol, veh/h	120	2134	2583	155	18	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	2134	2583	155	18	80

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2738	0	-	0	3755	1369
Stage 1	-	-	-	-	2661	-
Stage 2	-	-	-	-	1094	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 52	-	-	-	~ 10	117
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	254	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 52	-	-	-	0	117
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	254	-

Approach	EB	WB	SB
HCM Control Delay, s	40.8	0	113
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 52	-	-	-	117
HCM Lane V/C Ratio	2.308	-	-	-	0.838
HCM Control Delay (s)	$ 766.5	-	-	-	113
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.2	-	-	-	5

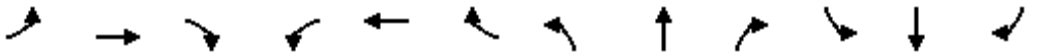
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	428	918	112	526	1111	283	228	1336	640	144	690	244
Future Volume (veh/h)	428	918	112	526	1111	283	228	1336	640	144	690	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	428	918	112	526	1111	283	228	1336	640	144	690	244
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	480	1076	131	518	1247	519	267	1362	845	148	815	288
Arrive On Green	0.14	0.23	0.23	0.15	0.24	0.24	0.15	0.38	0.38	0.08	0.32	0.32
Sat Flow, veh/h	3456	4613	561	3456	5106	1585	1781	3554	1585	1781	2573	910
Grp Volume(v), veh/h	428	677	353	526	1111	283	228	1336	640	144	476	458
Grp Sat Flow(s),veh/h/ln	1728	1702	1769	1728	1702	1585	1781	1777	1585	1781	1777	1707
Q Serve(g_s), s	14.6	22.8	23.0	18.0	25.2	5.6	15.0	44.6	22.3	9.7	30.0	30.0
Cycle Q Clear(g_c), s	14.6	22.8	23.0	18.0	25.2	5.6	15.0	44.6	22.3	9.7	30.0	30.0
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	480	794	413	518	1247	519	267	1362	845	148	563	540
V/C Ratio(X)	0.89	0.85	0.86	1.01	0.89	0.54	0.85	0.98	0.76	0.97	0.85	0.85
Avail Cap(c_a), veh/h	490	794	413	518	1247	519	267	1362	845	148	563	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	44.0	44.1	51.0	43.8	16.4	49.7	36.6	9.0	54.9	38.3	38.3
Incr Delay (d2), s/veh	18.0	11.2	19.8	43.3	9.8	4.1	22.5	20.2	6.3	64.6	14.6	15.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	10.8	12.3	10.9	11.7	4.5	8.3	22.7	8.2	7.0	15.2	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.7	55.2	63.9	94.3	53.6	20.5	72.2	56.8	15.3	119.5	52.9	53.4
LnGrp LOS	E	E	E	F	D	C	E	E	B	F	D	D
Approach Vol, veh/h		1458			1920			2204			1078	
Approach Delay, s/veh		61.3			59.9			46.3			62.0	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	51.0	22.0	33.0	22.0	43.0	20.7	34.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	46.0	18.0	28.0	18.0	38.0	17.0	29.0
Max Q Clear Time (g_c+I1), s	11.7	46.6	20.0	25.0	17.0	32.0	16.6	27.2
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.1	3.0	0.1	1.3

Intersection Summary	
HCM 6th Ctrl Delay	56.0
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	659	204	175	824	208	239	1342	136	148	1199	36
Future Volume (veh/h)	47	659	204	175	824	208	239	1342	136	148	1199	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	659	204	175	824	208	239	1342	136	148	1199	36
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	712	220	210	868	219	267	1412	142	176	1398	42
Arrive On Green	0.03	0.27	0.27	0.08	0.31	0.31	0.09	0.43	0.43	0.06	0.40	0.40
Sat Flow, veh/h	1781	2672	827	1781	2810	709	1781	3259	329	1781	3522	106
Grp Volume(v), veh/h	47	438	425	175	521	511	239	729	749	148	605	630
Grp Sat Flow(s),veh/h/ln	1781	1777	1722	1781	1777	1743	1781	1777	1811	1781	1777	1851
Q Serve(g_s), s	2.3	28.8	28.8	8.4	34.4	34.4	9.2	47.3	48.0	5.9	37.3	37.4
Cycle Q Clear(g_c), s	2.3	28.8	28.8	8.4	34.4	34.4	9.2	47.3	48.0	5.9	37.3	37.4
Prop In Lane	1.00		0.48	1.00		0.41	1.00		0.18	1.00		0.06
Lane Grp Cap(c), veh/h	131	474	459	210	549	538	267	770	785	176	705	735
V/C Ratio(X)	0.36	0.92	0.93	0.83	0.95	0.95	0.89	0.95	0.95	0.84	0.86	0.86
Avail Cap(c_a), veh/h	146	489	473	210	549	538	292	770	785	176	705	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	42.8	42.8	32.1	40.6	40.6	26.3	32.7	32.9	28.7	33.1	33.1
Incr Delay (d2), s/veh	1.7	23.2	23.9	23.7	26.4	26.8	26.3	21.7	22.8	29.0	12.8	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	15.6	15.2	5.0	18.9	18.6	5.7	24.4	25.4	3.9	18.3	19.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	66.0	66.7	55.7	66.9	67.3	52.6	54.4	55.7	57.7	45.8	45.5
LnGrp LOS	D	E	E	E	E	E	D	D	E	E	D	D
Approach Vol, veh/h		910			1207			1717			1383	
Approach Delay, s/veh		64.8			65.5			54.7			46.9	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	57.0	14.0	37.0	16.4	52.6	9.0	42.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	51.0	9.0	33.0	13.0	45.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	7.9	50.0	10.4	30.8	11.2	39.4	4.3	36.4
Green Ext Time (p_c), s	0.0	0.8	0.0	1.2	0.1	3.6	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	56.9
HCM 6th LOS	E

APPENDIX H-II

YEAR 2035 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS

AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.152
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	233	1634	230	228	2500	357	186	721	225	259	736	125
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	1634	230	228	2500	357	186	721	225	259	736	125
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	1634	230	228	2500	357	186	721	225	259	736	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	1634	230	228	2500	357	186	721	225	259	736	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	1634	230	228	2500	357	186	721	225	259	736	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	1634	230	228	2500	357	186	721	225	259	736	125
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.52	0.48	2.00	1.71	0.29
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2439	761	2880	2735	465
Capacity Analysis Module:												
Vol/Sat:	0.15	0.34	0.14	0.14	0.52	0.22	0.06	0.30	0.30	0.09	0.27	0.27
Crit Moves:	****			****			****			****		

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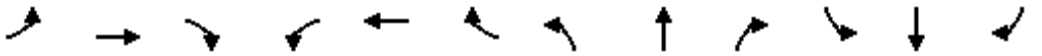
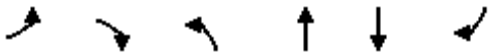


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	832	346	107	517	51	342	402	112	139	805	209
Future Volume (veh/h)	75	832	346	107	517	51	342	402	112	139	805	209
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	832	346	107	517	51	342	402	112	139	805	209
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	918	409	164	941	420	371	1563	697	167	1155	515
Arrive On Green	0.04	0.26	0.26	0.05	0.26	0.26	0.21	0.44	0.44	0.09	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	75	832	346	107	517	51	342	402	112	139	805	209
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.7	27.2	24.9	5.3	15.0	2.9	22.6	8.6	5.1	9.2	23.7	12.3
Cycle Q Clear(g_c), s	3.7	27.2	24.9	5.3	15.0	2.9	22.6	8.6	5.1	9.2	23.7	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	918	409	164	941	420	371	1563	697	167	1155	515
V/C Ratio(X)	0.29	0.91	0.85	0.65	0.55	0.12	0.92	0.26	0.16	0.83	0.70	0.41
Avail Cap(c_a), veh/h	267	948	423	164	948	423	430	1563	697	252	1155	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	43.1	42.2	34.3	38.0	33.5	46.5	21.2	20.3	53.4	35.4	31.5
Incr Delay (d2), s/veh	0.6	12.0	14.3	8.9	0.7	0.1	23.1	0.4	0.5	13.4	3.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.4	11.3	2.7	6.6	1.2	12.3	3.7	2.0	4.7	10.8	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	55.1	56.5	43.2	38.6	33.6	69.6	21.6	20.8	66.9	38.9	33.9
LnGrp LOS	C	E	E	D	D	C	E	C	C	E	D	C
Approach Vol, veh/h		1253			675			856			1153	
Approach Delay, s/veh		54.1			39.0			40.7			41.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	57.8	11.0	36.0	29.0	44.0	10.2	36.8
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	17.0	46.0	6.0	32.0	29.0	34.0	6.0	32.0
Max Q Clear Time (g_c+I1), s	11.2	10.6	7.3	29.2	24.6	25.7	5.7	17.0
Green Ext Time (p_c), s	0.2	3.3	0.0	1.8	0.5	3.9	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	44.9
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	254	1098	412	507	1085	198
Future Volume (veh/h)	254	1098	412	507	1085	198
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	254	1098	412	507	1085	198
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	806	1052	497	2428	1799	802
Arrive On Green	0.23	0.23	0.14	0.68	0.51	0.51
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	254	1098	412	507	1085	198
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	7.3	28.0	13.9	6.3	26.0	8.5
Cycle Q Clear(g_c), s	7.3	28.0	13.9	6.3	26.0	8.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	806	1052	497	2428	1799	802
V/C Ratio(X)	0.32	1.04	0.83	0.21	0.60	0.25
Avail Cap(c_a), veh/h	806	1052	922	2428	1799	802
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	37.4	49.9	7.0	21.1	16.7
Incr Delay (d2), s/veh	0.2	39.9	3.6	0.2	1.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	34.3	6.3	2.3	11.0	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.3	77.3	53.6	7.2	22.6	17.4
LnGrp LOS	D	F	D	A	C	B
Approach Vol, veh/h	1352			919	1283	
Approach Delay, s/veh	69.9			28.0	21.8	
Approach LOS	E			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		33.0	21.2	65.8
Change Period (Y+Rc), s		5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		82.0		28.0	32.0	46.0
Max Q Clear Time (g_c+I1), s		8.3		30.0	15.9	28.0
Green Ext Time (p_c), s		3.9		0.0	1.3	8.3

Intersection Summary	
HCM 6th Ctrl Delay	41.7
HCM 6th LOS	D

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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.892
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	96	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	110	1720	20	27	2584	142	233	17	212	66	32	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	110	1720	20	27	2584	142	233	17	212	66	32	31
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	110	1720	20	27	2584	142	233	17	212	66	32	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	110	1720	20	27	2584	142	233	17	212	66	32	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	1720	20	27	2584	142	233	17	212	66	32	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	1720	20	27	2584	142	233	17	212	66	32	31
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	813	787
Capacity Analysis Module:												
Vol/Sat:	0.07	0.36	0.01	0.02	0.54	0.09	0.15	0.01	0.13	0.04	0.04	0.04
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.641
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	B

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	10	2105	19	9	2695	17	58	0	36	61	0	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2105	19	9	2695	17	58	0	36	61	0	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	2105	19	9	2695	17	58	0	36	61	0	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2105	19	9	2695	17	58	0	36	61	0	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	2105	19	9	2695	17	58	0	36	61	0	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	2105	19	9	2695	17	58	0	36	61	0	30
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.97	0.03	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	5054	46	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.42	0.42	0.01	0.53	0.01	0.03	0.00	0.02	0.04	0.00	0.02
Crit Moves:	****			****					****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.594
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	7	713	43		244	1129	7		21	2	23		85	1	280	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	7	713	43		244	1129	7		21	2	23		85	1	280	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	7	713	43		244	1129	7		21	2	23		85	1	280	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	7	713	43		244	1129	7		21	2	23		85	1	280	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	7	713	43		244	1129	7		21	2	23		85	1	280	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	7	713	43		244	1129	7		21	2	23		85	1	280	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.89	0.11		1.00	1.99	0.01		1.00	0.08	0.92		1.00	0.01	0.99	
Final Sat.:	1700	3207	193		1700	3379	21		1700	136	1564		1700	6	1694	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.22	0.22		0.14	0.33	0.33		0.01	0.01	0.01		0.05	0.17	0.17	
Crit Moves:		****				****				****				****		

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Intersection	
Int Delay, s/veh	14.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	14	66	3	5	32	23	597	14	31	1254	70
Future Vol, veh/h	59	14	66	3	5	32	23	597	14	31	1254	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	14	66	3	5	32	23	597	14	31	1254	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1698	2008	662	1346	2036	306	1324	0	0	611	0	0
Stage 1	1351	1351	-	650	650	-	-	-	-	-	-	-
Stage 2	347	657	-	696	1386	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	60	59	404	110	56	690	518	-	-	964	-	-
Stage 1	158	217	-	424	463	-	-	-	-	-	-	-
Stage 2	642	460	-	398	209	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 50	55	404	70	52	690	518	-	-	964	-	-
Mov Cap-2 Maneuver	~ 50	55	-	70	52	-	-	-	-	-	-	-
Stage 1	151	210	-	405	443	-	-	-	-	-	-	-
Stage 2	578	440	-	301	202	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	221.1	23.8	0.4	0.2
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	518	-	-	51	404	58	690	964	-	-
HCM Lane V/C Ratio	0.044	-	-	1.431	0.163	0.138	0.046	0.032	-	-
HCM Control Delay (s)	12.3	-	-	$ 406.9	15.6	76.8	10.5	8.9	-	-
HCM Lane LOS	B	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.8	0.6	0.4	0.1	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.980
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	167	Level Of Service:	E

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	199	420	198	142	735	151	117	1285	176	223	1856	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	199	420	198	142	735	151	117	1285	176	223	1856	93
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	199	420	198	142	735	151	117	1285	176	223	1856	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	199	420	198	142	735	151	117	1285	176	223	1856	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	199	420	198	142	735	151	117	1285	176	223	1856	93
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	199	420	198	142	735	151	117	1285	176	223	1856	93
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.36	0.64	1.00	1.66	0.34	1.00	2.64	0.36	1.00	2.86	0.14
Final Sat.:	1600	2175	1025	1600	2655	545	1600	4222	578	1600	4571	229
Capacity Analysis Module:												
Vol/Sat:	0.12	0.19	0.19	0.09	0.28	0.28	0.07	0.30	0.30	0.14	0.41	0.41
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.848
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	79	Level Of Service:	D

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	46	22	25	292	24	243	165	1335	4	13	1880	198
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	22	25	292	24	243	165	1335	4	13	1880	198
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	22	25	292	24	243	165	1335	4	13	1880	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	22	25	292	24	243	165	1335	4	13	1880	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	22	25	292	24	243	165	1335	4	13	1880	198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	22	25	292	24	243	165	1335	4	13	1880	198
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.47	0.53	1.00	1.00	1.00	1.00	2.99	0.01	1.00	2.71	0.29
Final Sat.:	1600	749	851	1600	1600	1600	1600	4786	14	1600	4343	457
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.18	0.02	0.15	0.10	0.28	0.28	0.01	0.43	0.43
Crit Moves:	****			****			****				****	

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.026
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
OvlAdjVol:			162									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.60	0.40	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4422	678	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.25	0.13	0.36	0.19	0.04	0.33	0.33	0.20	0.29	0.18
OvlAdjV/S:			0.05									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.712
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	70	16	67	49	6	57	63	2663	50	113	2265	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	16	67	49	6	57	63	2663	50	113	2265	34
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	70	16	67	49	6	57	63	2663	50	113	2265	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	16	67	49	6	57	63	2663	50	113	2265	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	16	67	49	6	57	63	2663	50	113	2265	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	16	67	49	6	57	63	2663	50	113	2265	34
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.63	0.37	1.00	0.89	0.11	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2767	633	1700	1515	185	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.52	0.03	0.07	0.44	0.02
Crit Moves:			****			****		****			****	

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.846
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	D

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	305	549	213	276	737	211	133	2247	418	167	1991	108
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	305	549	213	276	737	211	133	2247	418	167	1991	108
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	305	549	213	276	737	211	133	2247	418	167	1991	108
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	305	549	213	276	737	211	133	2247	418	167	1991	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	549	213	276	737	211	133	2247	418	167	1991	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	305	549	213	276	737	211	133	2247	418	167	1991	108
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.85	0.15
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4838	262
Capacity Analysis Module:												
Vol/Sat:	0.09	0.16	0.13	0.08	0.22	0.12	0.04	0.44	0.25	0.05	0.41	0.41
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.033
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1	1 0	2 0	2	1 0	2 0	2	1 0
Volume Module:												
Base Vol:	248	582	275	624	988	76	170	2272	333	294	2013	343
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	582	275	624	988	76	170	2272	333	294	2013	343
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	248	582	275	624	988	76	170	2272	333	294	2013	343
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	248	582	275	624	988	76	170	2272	333	294	2013	343
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	582	275	624	988	76	170	2272	333	294	2013	343
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	248	582	275	624	988	76	170	2272	333	294	2013	343
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.86	0.14	2.00	2.62	0.38	2.00	2.56	0.44
Final Sat.:	3400	3400	1700	3400	3157	243	3400	4448	652	3400	4358	742
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.16	0.18	0.31	0.31	0.05	0.51	0.51	0.09	0.46	0.46
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.146
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	544	672	335	310	1504	310	370	1899	802	378	1627	346
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	544	672	335	310	1504	310	370	1899	802	378	1627	346
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	544	672	335	310	1504	310	370	1899	802	378	1627	346
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	544	672	335	310	1504	310	370	1899	802	378	1627	346
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	544	672	335	310	1504	310	370	1899	802	378	1627	346
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	544	672	335	310	1504	310	370	1899	802	378	1627	346
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.11	0.89	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	3586	1514	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.16	0.13	0.20	0.09	0.29	0.18	0.11	0.53	0.53	0.11	0.32	0.20
Crit Moves:	****			****			****			****		

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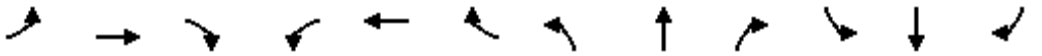

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1899	802	378	1627	346	544	672	335	310	1504	310
Future Volume (veh/h)	370	1899	802	378	1627	346	544	672	335	310	1504	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	1899	802	378	1627	346	544	672	335	310	1504	310
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1408	541	230	1768	549	812	1787	555	697	1617	502
Arrive On Green	0.10	0.39	0.39	0.07	0.35	0.35	0.24	0.35	0.35	0.20	0.32	0.32
Sat Flow, veh/h	3456	3630	1394	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	370	1769	932	378	1627	346	544	672	335	310	1504	310
Grp Sat Flow(s),veh/h/ln	1728	1702	1620	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	46.6	46.6	8.0	36.7	21.9	17.1	11.8	21.4	9.4	34.2	19.9
Cycle Q Clear(g_c), s	12.0	46.6	46.6	8.0	36.7	21.9	17.1	11.8	21.4	9.4	34.2	19.9
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1321	628	230	1768	549	812	1787	555	697	1617	502
V/C Ratio(X)	1.07	1.34	1.48	1.64	0.92	0.63	0.67	0.38	0.60	0.44	0.93	0.62
Avail Cap(c_a), veh/h	346	1321	628	230	1787	555	812	1787	555	697	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.7	36.7	56.0	37.6	32.8	41.7	29.2	33.6	42.0	39.7	34.8
Incr Delay (d2), s/veh	68.5	158.0	226.0	307.1	8.2	2.3	2.1	0.6	4.8	0.4	11.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	47.9	57.4	13.3	16.4	8.7	7.5	4.9	8.9	4.1	15.8	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.5	194.7	262.7	363.1	45.8	35.1	43.8	29.8	38.4	42.4	50.7	40.4
LnGrp LOS	F	F	F	F	D	D	D	C	D	D	D	D
Approach Vol, veh/h		3071			2351			1551			2124	
Approach Delay, s/veh		206.6			95.3			36.6			48.0	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.8	47.0	12.0	51.6	32.8	43.0	17.0	46.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	42.0	8.0	46.0	10.0	38.0	12.0	* 42
Max Q Clear Time (g_c+I1), s	11.4	23.4	10.0	48.6	19.1	36.2	14.0	38.7
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	1.5	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	111.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.084
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.62	0.38	2.00	1.68	0.32	2.00	1.67	0.33
Final Sat.:	3400	5100	1700	3400	4446	654	3400	2857	543	3400	2835	565
Capacity Analysis Module:												
Vol/Sat:	0.09	0.21	0.18	0.07	0.41	0.41	0.12	0.40	0.40	0.14	0.41	0.41
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.920
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	E

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	234	447	214	125	673	227	91	1367	204	245	1277	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	447	214	125	673	227	91	1367	204	245	1277	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	447	214	125	673	227	91	1367	204	245	1277	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	447	214	125	673	227	91	1367	204	245	1277	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	447	214	125	673	227	91	1367	204	245	1277	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	447	214	125	673	227	91	1367	204	245	1277	57
OvlAdjVol:			92			181						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.74	0.26	2.00	1.91	0.09
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2958	442	3400	3255	145
Capacity Analysis Module:												
Vol/Sat:	0.14	0.13	0.13	0.07	0.20	0.13	0.03	0.46	0.46	0.07	0.39	0.39
OvlAdjV/S:			0.05			0.11						
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.120
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	392	610	127	88	947	229	85	1436	426	121	1178	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	392	610	127	88	947	229	85	1436	426	121	1178	66
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	392	610	127	88	947	229	85	1436	426	121	1178	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	392	610	127	88	947	229	85	1436	426	121	1178	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	392	610	127	88	947	229	85	1436	426	121	1178	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	392	610	127	88	947	229	85	1436	426	121	1178	66
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.66	0.34	1.00	1.61	0.39	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2814	586	1700	2738	662	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.23	0.22	0.22	0.05	0.35	0.35	0.05	0.42	0.25	0.07	0.35	0.04
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.816
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	D

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	114	626	420	276	1582	212	191	1345	266	222	1046	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	626	420	276	1582	212	191	1345	266	222	1046	281
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	114	626	420	276	1582	212	191	1345	266	222	1046	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	626	420	276	1582	212	191	1345	266	222	1046	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	626	420	276	1582	212	191	1345	266	222	1046	281
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	114	626	420	276	1582	212	191	1345	266	222	1046	281
OvlAdjVol:			309									143
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.65	0.35	2.00	2.50	0.50	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4497	603	3400	4258	842	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.25	0.08	0.35	0.35	0.06	0.32	0.32	0.07	0.31	0.17
OvlAdjV/S:			0.18									0.08
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.213
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	440	855	61	337	1365	165	114	1281	537	144	1872	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	440	855	61	337	1365	165	114	1281	537	144	1872	99
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	440	855	61	337	1365	165	114	1281	537	144	1872	99
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	440	855	61	337	1365	165	114	1281	537	144	1872	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	440	855	61	337	1365	165	114	1281	537	144	1872	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	440	855	61	337	1365	165	114	1281	537	144	1872	99
OvlAdjVol:									293			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.87	0.13	2.00	1.78	0.22	1.00	3.00	1.00	1.00	2.85	0.15
Final Sat.:	2880	2987	213	2880	2855	345	1600	4800	1600	1600	4559	241
Capacity Analysis Module:												
Vol/Sat:	0.15	0.29	0.29	0.12	0.48	0.48	0.07	0.27	0.34	0.09	0.41	0.41
OvlAdjV/S:									0.18			
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.998
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	434	1542	286	155	1921	596	209	742	790	361	773	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	434	1542	286	155	1921	596	209	742	790	361	773	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	434	1542	286	155	1921	596	209	742	790	361	773	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	434	1542	286	155	1921	596	209	742	790	361	773	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	434	1542	286	155	1921	596	209	742	790	361	773	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	434	1542	286	155	1921	596	209	742	790	361	773	90
OvlAdjVol:						492			573			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.69	0.31
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4568	532
Capacity Analysis Module:												
Vol/Sat:	0.13	0.30	0.17	0.09	0.38	0.35	0.06	0.22	0.46	0.11	0.17	0.17
OvlAdjV/S:						0.29			0.34			
Crit Moves:	****				****				****	****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.837
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	D

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	289	1162	228	181	1616	136	170	529	113	288	694	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	289	1162	228	181	1616	136	170	529	113	288	694	93
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	289	1162	228	181	1616	136	170	529	113	288	694	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	289	1162	228	181	1616	136	170	529	113	288	694	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	289	1162	228	181	1616	136	170	529	113	288	694	93
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	289	1162	228	181	1616	136	170	529	113	288	694	93
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.51	0.49	1.00	2.77	0.23	1.00	1.65	0.35	1.00	1.76	0.24
Final Sat.:	3400	4263	837	1700	4704	396	1700	2802	598	1700	2998	402
Capacity Analysis Module:												
Vol/Sat:	0.09	0.27	0.27	0.11	0.34	0.34	0.10	0.19	0.19	0.17	0.23	0.23
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	1.049
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	326	824	178	75	934	135	86	852	212	237	1668	46
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	824	178	75	934	135	86	852	212	237	1668	46
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	824	178	75	934	135	86	852	212	237	1668	46
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	824	178	75	934	135	86	852	212	237	1668	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	824	178	75	934	135	86	852	212	237	1668	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	824	178	75	934	135	86	852	212	237	1668	46
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.75	0.25	1.00	2.40	0.60	1.00	2.92	0.08
Final Sat.:	1600	2632	568	1600	2796	404	1600	3844	956	1600	4671	129
Capacity Analysis Module:												
Vol/Sat:	0.20	0.31	0.31	0.05	0.33	0.33	0.05	0.22	0.22	0.15	0.36	0.36
Crit Moves:	****			****			****				****	

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.955
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	137	Level Of Service:	E

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	106	1961	76	90	2324	390	467	513	100	110	695	179
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	1961	76	90	2324	390	467	513	100	110	695	179
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	106	1961	76	90	2324	390	467	513	100	110	695	179
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	106	1961	76	90	2324	390	467	513	100	110	695	179
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	1961	76	90	2324	390	467	513	100	110	695	179
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	1961	76	90	2324	390	467	513	100	110	695	179
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.89	0.11	2.00	2.57	0.43	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4910	190	3400	4367	733	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.40	0.40	0.03	0.53	0.53	0.14	0.15	0.06	0.03	0.20	0.11
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.706
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	31	1980	176	44	2439	87	66	194	28	188	267	87
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1980	176	44	2439	87	66	194	28	188	267	87
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	1980	176	44	2439	87	66	194	28	188	267	87
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	1980	176	44	2439	87	66	194	28	188	267	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	1980	176	44	2439	87	66	194	28	188	267	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	1980	176	44	2439	87	66	194	28	188	267	87
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.76	0.24	1.00	2.90	0.10	1.00	2.00	1.00	2.00	1.51	0.49
Final Sat.:	1700	4684	416	1700	4924	176	1700	3400	1700	3400	2564	836
Capacity Analysis Module:												
Vol/Sat:	0.02	0.42	0.42	0.03	0.50	0.50	0.04	0.06	0.02	0.06	0.10	0.10
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.389
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	20	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	1 1	0	2 0	1 1 0
Volume Module:												
Base Vol:	345	10	284	1	1	1	5	117	90	228	89	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	345	10	284	1	1	1	5	117	90	228	89	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	345	10	284	1	1	1	5	117	90	228	89	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	345	10	284	1	1	1	5	117	90	228	89	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	345	10	284	1	1	1	5	117	90	228	89	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	345	10	284	1	1	1	5	117	90	228	89	5
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.97	0.03	1.00	0.34	0.33	0.33	1.00	1.13	0.87	2.00	1.89	0.11
Final Sat.:	1652	48	1700	567	567	567	1700	1922	1478	3400	3219	181
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.17	0.00	0.00	0.00	0.00	0.06	0.06	0.07	0.03	0.03
Crit Moves:	****			****				****		****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.864
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	178	1479	171	88	2531	51	263	123	68	86	110	530
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	1479	171	88	2531	51	263	123	68	86	110	530
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	1479	171	88	2531	51	263	123	68	86	110	530
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	1479	171	88	2531	51	263	123	68	86	110	530
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	1479	171	88	2531	51	263	123	68	86	110	530
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	1479	171	88	2531	51	263	123	68	86	110	530
OvlAdjVol:												442
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.29	0.71	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	2190	1210	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.29	0.10	0.05	0.37	0.03	0.08	0.06	0.06	0.03	0.03	0.31
OvlAdjV/S:												0.26
Crit Moves:	****				****		****					****

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.857
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1549	280	907	1795	0	208	0	308	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1549	280	907	1795	0	208	0	308	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1549	280	907	1795	0	208	0	308	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1549	280	907	1795	0	208	0	308	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1549	280	907	1795	0	208	0	308	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1549	280	907	1795	0	208	0	308	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.54	0.46	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4319	781	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.36	0.27	0.35	0.00	0.12	0.00	0.18	0.00	0.00	0.00
Crit Moves:		****		****					****			

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.880
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	Level Of Service:	D

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	552	52	701	61	44	25	49	972	579	1200	1072	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	552	52	701	61	44	25	49	972	579	1200	1072	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	552	52	701	61	44	25	49	972	579	1200	1072	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	552	52	701	61	44	25	49	972	579	1200	1072	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	552	52	701	61	44	25	49	972	579	1200	1072	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	552	52	701	61	44	25	49	972	579	1200	1072	7
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.83	0.17	2.00	0.47	0.34	0.19	1.00	2.00	1.00	3.00	1.99	0.01
Final Sat.:	3107	293	3400	798	575	327	1700	3400	1700	5100	3378	22
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.21	0.08	0.08	0.08	0.03	0.29	0.34	0.24	0.32	0.32
OvlAdjV/S:			0.00									
Crit Moves:	****			****					****	****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.989
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	13	44	54	578	48	813	448	1293	13	72	1468	530
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	44	54	578	48	813	448	1293	13	72	1468	530
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	44	54	578	48	813	448	1293	13	72	1468	530
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	44	54	578	48	813	448	1293	13	72	1468	530
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	44	54	578	48	813	448	1293	13	72	1468	530
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	44	54	578	48	813	448	1293	13	72	1468	530
OvlAdjVol:						589						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.23	0.77	1.00	0.92	0.08	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	388	1312	1700	1570	130	1700	3400	3366	34	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.34	0.37	0.48	0.13	0.38	0.38	0.04	0.43	0.31
OvlAdjV/S:						0.35						
Crit Moves:	****			****			****				****	

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Intersection	
Int Delay, s/veh	42.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	2575	2252	57	54	300
Future Vol, veh/h	85	2575	2252	57	54	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	2575	2252	57	54	300

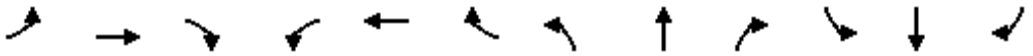
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2309	0	-	0	3481	1155
Stage 1	-	-	-	-	2281	-
Stage 2	-	-	-	-	1200	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	87	-	-	-	~ 14	~ 163
Stage 1	-	-	-	-	~ 37	-
Stage 2	-	-	-	-	223	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	87	-	-	-	0	~ 163
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	~ 1	-
Stage 2	-	-	-	-	223	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	27,301.7
HCM LOS			F

*The intersection delay calculated exceeded the capabilities of HCM 6th edition, therefore the "without Project" delay is reported.

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	87	-	-	-	163
HCM Lane V/C Ratio	0.977	-	-	-	2.172
HCM Control Delay (s)	176.2	-	-	-	$ 592.6
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	5.5	-	-	-	28.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



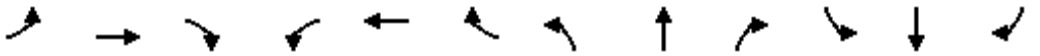
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1053	261	608	793	102	93	758	599	167	1161	217
Future Volume (veh/h)	471	1053	261	608	793	102	93	758	599	167	1161	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	471	1053	261	608	793	102	93	758	599	167	1161	217
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1584	2177	539	576	1191	528	104	1155	779	178	1122	208
Arrive On Green	0.46	0.53	0.53	0.17	0.23	0.23	0.06	0.32	0.32	0.10	0.38	0.38
Sat Flow, veh/h	3456	4082	1011	3456	5106	1585	1781	3554	1585	1781	2991	556
Grp Volume(v), veh/h	471	878	436	608	793	102	93	758	599	167	687	691
Grp Sat Flow(s),veh/h/ln	1728	1702	1688	1728	1702	1585	1781	1777	1585	1781	1777	1770
Q Serve(g_s), s	10.3	19.5	19.5	20.0	16.9	0.0	6.2	22.0	39.0	11.2	45.0	45.0
Cycle Q Clear(g_c), s	10.3	19.5	19.5	20.0	16.9	0.0	6.2	22.0	39.0	11.2	45.0	45.0
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	1584	1815	900	576	1191	528	104	1155	779	178	666	664
V/C Ratio(X)	0.30	0.48	0.48	1.06	0.67	0.19	0.90	0.66	0.77	0.94	1.03	1.04
Avail Cap(c_a), veh/h	1584	1815	900	576	1191	528	104	1155	779	178	666	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	17.6	17.6	50.0	41.8	28.5	56.1	34.7	34.9	53.6	37.5	37.5
Incr Delay (d2), s/veh	0.1	0.9	1.9	53.0	2.9	0.8	56.3	2.9	7.2	49.5	43.1	46.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	7.7	7.9	12.8	7.4	2.2	4.4	9.9	17.2	7.4	27.1	27.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	18.5	19.5	103.0	44.7	29.3	112.4	37.7	42.1	103.2	80.6	83.5
LnGrp LOS	C	B	B	F	D	C	F	D	D	F	F	F
Approach Vol, veh/h		1785			1503			1450			1545	
Approach Delay, s/veh		19.3			67.3			44.3			84.3	
Approach LOS		B			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	44.0	24.0	70.0	11.0	50.0	61.0	33.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	12.0	* 39	20.0	31.0	7.0	44.0	23.0	* 28
Max Q Clear Time (g_c+I1), s	13.2	41.0	22.0	21.5	8.2	47.0	12.3	18.9
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8	0.0	0.0	1.3	3.9

Intersection Summary	
HCM 6th Ctrl Delay	52.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	807	189	160	523	140	153	1116	109	297	1457	18
Future Volume (veh/h)	37	807	189	160	523	140	153	1116	109	297	1457	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	807	189	160	523	140	153	1116	109	297	1457	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	786	184	164	843	225	186	1199	117	315	1588	20
Arrive On Green	0.03	0.28	0.28	0.06	0.30	0.30	0.06	0.37	0.37	0.13	0.44	0.44
Sat Flow, veh/h	1781	2858	669	1781	2775	739	1781	3271	319	1781	3595	44
Grp Volume(v), veh/h	37	502	494	160	334	329	153	606	619	297	720	755
Grp Sat Flow(s),veh/h/ln	1781	1777	1750	1781	1777	1737	1781	1777	1813	1781	1777	1862
Q Serve(g_s), s	1.8	33.0	33.0	7.0	19.3	19.5	6.5	39.3	39.4	14.6	45.6	45.7
Cycle Q Clear(g_c), s	1.8	33.0	33.0	7.0	19.3	19.5	6.5	39.3	39.4	14.6	45.6	45.7
Prop In Lane	1.00		0.38	1.00		0.43	1.00		0.18	1.00		0.02
Lane Grp Cap(c), veh/h	222	489	481	164	540	528	186	652	665	315	785	823
V/C Ratio(X)	0.17	1.03	1.03	0.98	0.62	0.62	0.82	0.93	0.93	0.94	0.92	0.92
Avail Cap(c_a), veh/h	243	489	481	164	540	528	186	652	665	315	785	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	43.5	43.5	36.0	35.8	35.9	29.2	36.5	36.6	34.2	31.4	31.5
Incr Delay (d2), s/veh	0.4	47.8	48.1	63.0	2.2	2.3	25.0	21.7	21.7	36.0	17.3	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	20.8	20.5	6.2	8.7	8.6	4.0	20.7	21.1	7.8	22.8	23.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	91.3	91.6	99.0	38.0	38.2	54.2	58.2	58.2	70.2	48.8	48.3
LnGrp LOS	C	F	F	F	D	D	D	E	E	E	D	D
Approach Vol, veh/h		1033			823			1378			1772	
Approach Delay, s/veh		89.3			49.9			57.8			52.2	
Approach LOS		F			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	49.0	12.0	38.0	12.0	58.0	8.5	41.5
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	16.0	44.0	7.0	33.0	7.0	53.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	16.6	41.4	9.0	35.0	8.5	47.7	3.8	21.5
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0	3.9	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	61.0
HCM 6th LOS	E

PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.132
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 3	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	242	2308	268	227	1877	262	425	667	195	245	650	187
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	242	2308	268	227	1877	262	425	667	195	245	650	187
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	242	2308	268	227	1877	262	425	667	195	245	650	187
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	242	2308	268	227	1877	262	425	667	195	245	650	187
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	242	2308	268	227	1877	262	425	667	195	245	650	187
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	242	2308	268	227	1877	262	425	667	195	245	650	187
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.55	0.45	2.00	1.55	0.45
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2476	724	2880	2485	715
Capacity Analysis Module:												
Vol/Sat:	0.15	0.48	0.17	0.14	0.39	0.16	0.15	0.27	0.27	0.09	0.26	0.26
Crit Moves:		****			****			****			****	

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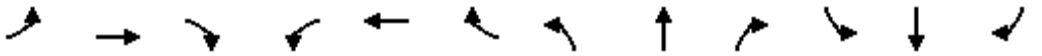
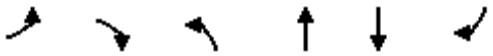


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	540	282	67	688	66	392	1139	88	43	595	215
Future Volume (veh/h)	214	540	282	67	688	66	392	1139	88	43	595	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	214	540	282	67	688	66	392	1139	88	43	595	215
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	1008	449	236	773	345	421	1726	770	57	998	445
Arrive On Green	0.11	0.28	0.28	0.04	0.22	0.22	0.24	0.49	0.49	0.03	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	214	540	282	67	688	66	392	1139	88	43	595	215
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.8	15.4	18.6	3.5	22.5	4.1	25.9	29.1	3.6	2.9	17.4	13.5
Cycle Q Clear(g_c), s	10.8	15.4	18.6	3.5	22.5	4.1	25.9	29.1	3.6	2.9	17.4	13.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	1008	449	236	773	345	421	1726	770	57	998	445
V/C Ratio(X)	0.79	0.54	0.63	0.28	0.89	0.19	0.93	0.66	0.11	0.76	0.60	0.48
Avail Cap(c_a), veh/h	274	1066	476	238	829	370	475	1726	770	104	998	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	36.3	37.5	34.6	45.5	38.3	44.8	23.4	16.8	57.6	37.3	35.9
Incr Delay (d2), s/veh	14.2	0.5	2.4	0.7	11.2	0.3	23.7	2.0	0.3	18.7	2.6	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	6.7	7.5	1.6	11.1	1.6	14.1	12.4	1.4	1.6	7.9	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	36.8	39.9	35.2	56.8	38.6	68.5	25.4	17.1	76.3	39.9	39.6
LnGrp LOS	D	D	D	D	E	D	E	C	B	E	D	D
Approach Vol, veh/h		1036			821			1619			853	
Approach Delay, s/veh		39.7			53.6			35.4			41.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	63.3	9.9	39.0	32.4	38.7	17.8	31.1
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	53.0	5.0	36.0	32.0	28.0	13.0	28.0
Max Q Clear Time (g_c+I1), s	4.9	31.1	5.5	20.6	27.9	19.4	12.8	24.5
Green Ext Time (p_c), s	0.0	9.2	0.0	4.2	0.5	3.1	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	215	487	855	1290	659	202
Future Volume (veh/h)	215	487	855	1290	659	202
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	215	487	855	1290	659	202
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	342	1604	1645	2905	1066	476
Arrive On Green	0.10	0.10	0.48	0.82	0.30	0.30
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	215	487	855	1290	659	202
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	7.2	0.0	20.7	12.5	19.1	12.3
Cycle Q Clear(g_c), s	7.2	0.0	20.7	12.5	19.1	12.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	342	1604	1645	2905	1066	476
V/C Ratio(X)	0.63	0.30	0.52	0.44	0.62	0.42
Avail Cap(c_a), veh/h	806	1979	1645	2905	1066	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.9	13.1	21.9	3.1	36.1	33.7
Incr Delay (d2), s/veh	1.9	0.1	0.3	0.5	2.7	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	8.1	8.3	3.4	8.7	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.8	13.2	22.2	3.6	38.8	36.5
LnGrp LOS	D	B	C	A	D	D
Approach Vol, veh/h	702			2145	861	
Approach Delay, s/veh	25.7			11.0	38.2	
Approach LOS	C			B	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.1		16.9	62.1	41.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		82.0		28.0	42.0	* 36
Max Q Clear Time (g_c+I1), s		14.5		9.2	22.7	21.1
Green Ext Time (p_c), s		14.6		2.7	3.3	4.6

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.870
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	87	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	224	2532	52	67	2098	287	278	19	129	36	16	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	224	2532	52	67	2098	287	278	19	129	36	16	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	224	2532	52	67	2098	287	278	19	129	36	16	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	224	2532	52	67	2098	287	278	19	129	36	16	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	224	2532	52	67	2098	287	278	19	129	36	16	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	224	2532	52	67	2098	287	278	19	129	36	16	15
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	826	774
Capacity Analysis Module:												
Vol/Sat:	0.14	0.53	0.03	0.04	0.44	0.18	0.17	0.01	0.08	0.02	0.02	0.02
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.641
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	B

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	31	2693	65	30	2451	39	17	0	18	38	0	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	2693	65	30	2451	39	17	0	18	38	0	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	2693	65	30	2451	39	17	0	18	38	0	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	2693	65	30	2451	39	17	0	18	38	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	2693	65	30	2451	39	17	0	18	38	0	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	2693	65	30	2451	39	17	0	18	38	0	18
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.93	0.07	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	4980	120	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.54	0.54	0.02	0.48	0.02	0.01	0.00	0.01	0.02	0.00	0.01
Crit Moves:	****			****					****	****		

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.652
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	B

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module:																
Base Vol:	25	1293	69		165	885	23		14	1	15		39	3	160	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	25	1293	69		165	885	23		14	1	15		39	3	160	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	25	1293	69		165	885	23		14	1	15		39	3	160	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	25	1293	69		165	885	23		14	1	15		39	3	160	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	25	1293	69		165	885	23		14	1	15		39	3	160	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	25	1293	69		165	885	23		14	1	15		39	3	160	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.90	0.10		1.00	1.95	0.05		1.00	0.06	0.94		1.00	0.02	0.98	
Final Sat.:	1700	3228	172		1700	3314	86		1700	106	1594		1700	31	1669	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.40	0.40		0.10	0.27	0.27		0.01	0.01	0.01		0.02	0.10	0.10	
Crit Moves:		****				****				****				****		

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Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	2	17	3	6	66	34	1213	2	43	870	48
Future Vol, veh/h	24	2	17	3	6	66	34	1213	2	43	870	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	2	17	3	6	66	34	1213	2	43	870	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1658	2263	459	1804	2286	608	918	0	0	1215	0	0
Stage 1	980	980	-	1282	1282	-	-	-	-	-	-	-
Stage 2	678	1283	-	522	1004	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	64	40	549	50	39	439	739	-	-	570	-	-
Stage 1	268	326	-	175	234	-	-	-	-	-	-	-
Stage 2	408	234	-	506	318	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	43	35	549	42	34	439	739	-	-	570	-	-
Mov Cap-2 Maneuver	43	35	-	42	34	-	-	-	-	-	-	-
Stage 1	256	302	-	167	223	-	-	-	-	-	-	-
Stage 2	322	223	-	450	294	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	114.5	29.1	0.3	0.5
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	739	-	-	42	549	36	439	570	-	-
HCM Lane V/C Ratio	0.046	-	-	0.619	0.031	0.25	0.15	0.075	-	-
HCM Control Delay (s)	10.1	-	-	181.7	11.8	135.6	14.6	11.8	-	-
HCM Lane LOS	B	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.3	0.1	0.8	0.5	0.2	-	-

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.138
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	222	1158	280	166	545	107	148	1555	159	204	1288	203
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	222	1158	280	166	545	107	148	1555	159	204	1288	203
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	222	1158	280	166	545	107	148	1555	159	204	1288	203
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	222	1158	280	166	545	107	148	1555	159	204	1288	203
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	222	1158	280	166	545	107	148	1555	159	204	1288	203
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	222	1158	280	166	545	107	148	1555	159	204	1288	203
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.67	0.33	1.00	2.72	0.28	1.00	2.59	0.41
Final Sat.:	1600	2577	623	1600	2675	525	1600	4355	445	1600	4146	654
Capacity Analysis Module:												
Vol/Sat:	0.14	0.45	0.45	0.10	0.20	0.20	0.09	0.36	0.36	0.13	0.31	0.31
Crit Moves:		****		****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.722
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	C

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1	0 1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	34	25	13	165	38	180	210	1662	22	15	1490	225
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	25	13	165	38	180	210	1662	22	15	1490	225
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	25	13	165	38	180	210	1662	22	15	1490	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	25	13	165	38	180	210	1662	22	15	1490	225
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	25	13	165	38	180	210	1662	22	15	1490	225
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	25	13	165	38	180	210	1662	22	15	1490	225
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.66	0.34	1.00	1.00	1.00	1.00	2.96	0.04	1.00	2.61	0.39
Final Sat.:	1600	1053	547	1600	1600	1600	1600	4737	63	1600	4170	630
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.10	0.02	0.11	0.13	0.35	0.35	0.01	0.36	0.36
Crit Moves:	****					****	****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.085
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.46	0.54	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4189	911	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.35	0.18	0.18	0.31	0.20	0.08	0.31	0.31	0.19	0.24	0.22
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.813
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	D

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	99	40	241	93	42	152	223	1939	103	257	1974	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	40	241	93	42	152	223	1939	103	257	1974	67
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	40	241	93	42	152	223	1939	103	257	1974	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	40	241	93	42	152	223	1939	103	257	1974	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	40	241	93	42	152	223	1939	103	257	1974	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	40	241	93	42	152	223	1939	103	257	1974	67
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.42	0.58	1.00	0.69	0.31	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2422	978	1700	1171	529	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.14	0.08	0.08	0.09	0.13	0.38	0.06	0.15	0.39	0.04
Crit Moves:			****			****		****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.904
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	89	Level Of Service:	E

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	401	869	266	229	511	193	328	1873	330	270	2013	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	401	869	266	229	511	193	328	1873	330	270	2013	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	401	869	266	229	511	193	328	1873	330	270	2013	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	401	869	266	229	511	193	328	1873	330	270	2013	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	401	869	266	229	511	193	328	1873	330	270	2013	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	401	869	266	229	511	193	328	1873	330	270	2013	202
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.73	0.27
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4635	465
Capacity Analysis Module:												
Vol/Sat:	0.12	0.26	0.16	0.07	0.15	0.11	0.10	0.37	0.19	0.08	0.43	0.43
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.897
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	85	Level Of Service:	D

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1	1 0	2 0	2	1 0	2 0	2	1 0
Volume Module:												
Base Vol:	357	789	218	183	554	99	171	1726	265	322	2298	248
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	357	789	218	183	554	99	171	1726	265	322	2298	248
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	357	789	218	183	554	99	171	1726	265	322	2298	248
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	357	789	218	183	554	99	171	1726	265	322	2298	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	357	789	218	183	554	99	171	1726	265	322	2298	248
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	357	789	218	183	554	99	171	1726	265	322	2298	248
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.70	0.30	2.00	2.60	0.40	2.00	2.71	0.29
Final Sat.:	3400	3400	1700	3400	2885	515	3400	4421	679	3400	4603	497
Capacity Analysis Module:												
Vol/Sat:	0.11	0.23	0.13	0.05	0.19	0.19	0.05	0.39	0.39	0.09	0.50	0.50
Crit Moves:	****				****		****				****	

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.999
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	804	1234	321	313	862	397	397	1446	382	419	1848	315
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	804	1234	321	313	862	397	397	1446	382	419	1848	315
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	804	1234	321	313	862	397	397	1446	382	419	1848	315
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	804	1234	321	313	862	397	397	1446	382	419	1848	315
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	804	1234	321	313	862	397	397	1446	382	419	1848	315
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	804	1234	321	313	862	397	397	1446	382	419	1848	315
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.37	0.63	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4034	1066	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.19	0.09	0.17	0.23	0.12	0.36	0.36	0.12	0.36	0.19
Crit Moves:	****					****	****				****	

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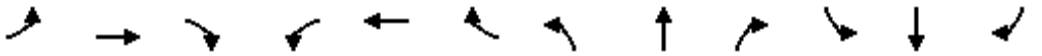

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	397	1446	382	419	1848	315	804	1234	321	313	862	397
Future Volume (veh/h)	397	1446	382	419	1848	315	804	1234	321	313	862	397
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	397	1446	382	419	1848	315	804	1234	321	313	862	397
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1342	353	230	1659	515	1440	1787	555	1296	1574	489
Arrive On Green	0.08	0.33	0.33	0.07	0.32	0.32	0.42	0.35	0.35	0.38	0.31	0.31
Sat Flow, veh/h	3456	4026	1058	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	397	1221	607	419	1848	315	804	1234	321	313	862	397
Grp Sat Flow(s),veh/h/ln	1728	1702	1680	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.0	40.0	40.0	8.0	39.0	15.1	21.2	24.9	19.8	7.5	16.9	32.7
Cycle Q Clear(g_c), s	10.0	40.0	40.0	8.0	39.0	15.1	21.2	24.9	19.8	7.5	16.9	32.7
Prop In Lane	1.00		0.63	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1135	560	230	1659	515	1440	1787	555	1296	1574	489
V/C Ratio(X)	1.38	1.08	1.08	1.82	1.11	0.61	0.56	0.69	0.58	0.24	0.55	0.81
Avail Cap(c_a), veh/h	288	1135	560	230	1659	515	1440	1787	555	1296	1574	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	40.0	40.0	56.0	40.5	19.3	26.6	33.4	31.8	25.8	34.5	53.4
Incr Delay (d2), s/veh	190.7	49.8	62.6	385.0	60.2	2.1	0.5	2.2	4.4	0.1	1.4	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	24.3	26.0	15.8	25.3	5.8	8.8	10.5	8.2	3.1	7.2	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	245.7	89.8	102.6	441.0	100.7	21.5	27.1	35.6	36.1	25.9	35.9	67.1
LnGrp LOS	F	F	F	F	F	C	C	D	D	C	D	E
Approach Vol, veh/h		2225			2582			2359			1572	
Approach Delay, s/veh		121.1			146.2			32.8			41.8	
Approach LOS		F			F			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	50.0	47.0	13.0	45.0	55.0	42.0	14.0	44.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	42.0	8.0	* 40	17.0	37.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	9.5	26.9	10.0	42.0	23.2	34.7	12.0	41.0
Green Ext Time (p_c), s	0.3	8.7	0.0	0.0	0.0	1.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	90.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.200
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.80	0.20	2.00	1.42	0.58	2.00	1.76	0.24
Final Sat.:	3400	5100	1700	3400	4766	334	3400	2420	980	3400	3000	400
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.20	0.08	0.30	0.30	0.06	0.44	0.44	0.28	0.50	0.50
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.081
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	304	823	251	89	581	134	82	1301	218	254	2107	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	304	823	251	89	581	134	82	1301	218	254	2107	128
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	304	823	251	89	581	134	82	1301	218	254	2107	128
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	304	823	251	89	581	134	82	1301	218	254	2107	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	304	823	251	89	581	134	82	1301	218	254	2107	128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	304	823	251	89	581	134	82	1301	218	254	2107	128
OvlAdjVol:			124			93						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.71	0.29	2.00	1.89	0.11
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2912	488	3400	3205	195
Capacity Analysis Module:												
Vol/Sat:	0.18	0.24	0.15	0.05	0.17	0.08	0.02	0.45	0.45	0.07	0.66	0.66
OvlAdjV/S:			0.07			0.05						
Crit Moves:	****				****			****				****

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.191
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	129	911	82	185	555	215	143	1249	159	106	2229	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	911	82	185	555	215	143	1249	159	106	2229	252
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	911	82	185	555	215	143	1249	159	106	2229	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	911	82	185	555	215	143	1249	159	106	2229	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	911	82	185	555	215	143	1249	159	106	2229	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	911	82	185	555	215	143	1249	159	106	2229	252
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.44	0.56	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3119	281	1700	2451	949	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.29	0.29	0.11	0.23	0.23	0.08	0.37	0.09	0.06	0.66	0.15
Crit Moves:		****			****			****			****	

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.137
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	281	1341	203	241	1094	235	225	946	209	349	2305	612
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	1341	203	241	1094	235	225	946	209	349	2305	612
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	1341	203	241	1094	235	225	946	209	349	2305	612
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	1341	203	241	1094	235	225	946	209	349	2305	612
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	1341	203	241	1094	235	225	946	209	349	2305	612
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	281	1341	203	241	1094	235	225	946	209	349	2305	612
OvlAdjVol:			29									492
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.47	0.53	2.00	2.46	0.54	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4198	902	3400	4177	923	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.26	0.12	0.07	0.26	0.26	0.07	0.23	0.23	0.10	0.68	0.36
OvlAdjV/S:			0.02									0.29
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.998
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	3 0	1	1 0	2 1	0
Volume Module:												
Base Vol:	401	920	145	316	856	109	121	1505	358	230	1441	159
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	401	920	145	316	856	109	121	1505	358	230	1441	159
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	401	920	145	316	856	109	121	1505	358	230	1441	159
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	401	920	145	316	856	109	121	1505	358	230	1441	159
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	401	920	145	316	856	109	121	1505	358	230	1441	159
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	401	920	145	316	856	109	121	1505	358	230	1441	159
OvlAdjVol:									135			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.73	0.27	2.00	1.77	0.23	1.00	3.00	1.00	1.00	2.70	0.30
Final Sat.:	2880	2764	436	2880	2839	361	1600	4800	1600	1600	4323	477
Capacity Analysis Module:												
Vol/Sat:	0.14	0.33	0.33	0.11	0.30	0.30	0.08	0.31	0.22	0.14	0.33	0.33
OvlAdjV/S:									0.08			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.948
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	128	Level Of Service:	E

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	664	2137	206	225	1604	261	388	713	514	277	932	255
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	664	2137	206	225	1604	261	388	713	514	277	932	255
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	664	2137	206	225	1604	261	388	713	514	277	932	255
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	664	2137	206	225	1604	261	388	713	514	277	932	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	664	2137	206	225	1604	261	388	713	514	277	932	255
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	664	2137	206	225	1604	261	388	713	514	277	932	255
OvlAdjVol:						67			182			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.36	0.64
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4004	1096
Capacity Analysis Module:												
Vol/Sat:	0.20	0.42	0.12	0.13	0.31	0.15	0.11	0.21	0.30	0.08	0.23	0.23
OvlAdjV/S:						0.04			0.11			
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.931
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	109	Level Of Service:	E

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	1 0	1	0 2	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	276	1474	392	201	1462	142	257	737	158	227	643	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	276	1474	392	201	1462	142	257	737	158	227	643	111
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	276	1474	392	201	1462	142	257	737	158	227	643	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	276	1474	392	201	1462	142	257	737	158	227	643	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	276	1474	392	201	1462	142	257	737	158	227	643	111
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	276	1474	392	201	1462	142	257	737	158	227	643	111
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.37	0.63	1.00	2.73	0.27	1.00	1.65	0.35	1.00	1.71	0.29
Final Sat.:	3400	4029	1071	1700	4649	451	1700	2800	600	1700	2899	501
Capacity Analysis Module:												
Vol/Sat:	0.08	0.37	0.37	0.12	0.31	0.31	0.15	0.26	0.26	0.13	0.22	0.22
Crit Moves:		****			****			****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	1.039
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	292	959	231	95	801	64	151	1315	289	244	1008	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	959	231	95	801	64	151	1315	289	244	1008	102
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	959	231	95	801	64	151	1315	289	244	1008	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	292	959	231	95	801	64	151	1315	289	244	1008	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	292	959	231	95	801	64	151	1315	289	244	1008	102
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	292	959	231	95	801	64	151	1315	289	244	1008	102
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.85	0.15	1.00	2.46	0.54	1.00	2.72	0.28
Final Sat.:	1600	2579	621	1600	2963	237	1600	3935	865	1600	4359	441
Capacity Analysis Module:												
Vol/Sat:	0.18	0.37	0.37	0.06	0.27	0.27	0.09	0.33	0.33	0.15	0.23	0.23
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.918
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	98	Level Of Service:	E

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	155	2210	70	159	2003	376	657	637	125	112	553	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	155	2210	70	159	2003	376	657	637	125	112	553	252
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	155	2210	70	159	2003	376	657	637	125	112	553	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	2210	70	159	2003	376	657	637	125	112	553	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	2210	70	159	2003	376	657	637	125	112	553	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	2210	70	159	2003	376	657	637	125	112	553	252
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.91	0.09	2.00	2.53	0.47	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4943	157	3400	4294	806	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.45	0.45	0.05	0.47	0.47	0.19	0.19	0.07	0.03	0.16	0.15
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.758
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	35	2216	170	102	2043	88	101	250	41	165	264	148
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	2216	170	102	2043	88	101	250	41	165	264	148
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	2216	170	102	2043	88	101	250	41	165	264	148
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	2216	170	102	2043	88	101	250	41	165	264	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	2216	170	102	2043	88	101	250	41	165	264	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	2216	170	102	2043	88	101	250	41	165	264	148
OvlAdjVol:									6			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.79	0.21	1.00	2.88	0.12	1.00	2.00	1.00	2.00	1.28	0.72
Final Sat.:	1700	4737	363	1700	4889	211	1700	3400	1700	3400	2179	1221
Capacity Analysis Module:												
Vol/Sat:	0.02	0.47	0.47	0.06	0.42	0.42	0.06	0.07	0.02	0.05	0.12	0.12
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.529
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	1	1 0	2 0	1 1 0
Volume Module:												
Base Vol:	553	14	434	28	8	15	7	151	58	184	128	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	553	14	434	28	8	15	7	151	58	184	128	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	553	14	434	28	8	15	7	151	58	184	128	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	553	14	434	28	8	15	7	151	58	184	128	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	553	14	434	28	8	15	7	151	58	184	128	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	553	14	434	28	8	15	7	151	58	184	128	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.98	0.02	1.00	0.55	0.16	0.29	1.00	1.44	0.56	2.00	1.91	0.09
Final Sat.:	1658	42	1700	933	267	500	1700	2456	944	3400	3248	152
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.26	0.03	0.03	0.03	0.00	0.06	0.06	0.05	0.04	0.04
Crit Moves:	****			****				****		****		

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PM Year 2035 Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	D

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1	1 0	2 0	2 0	1
Volume Module:												
Base Vol:	134	1520	95	36	2170	54	385	75	183	126	128	525
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	1520	95	36	2170	54	385	75	183	126	128	525
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	1520	95	36	2170	54	385	75	183	126	128	525
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	1520	95	36	2170	54	385	75	183	126	128	525
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	1520	95	36	2170	54	385	75	183	126	128	525
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	1520	95	36	2170	54	385	75	183	126	128	525
OvlAdjVol:												489
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1700	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.06	0.02	0.32	0.03	0.11	0.04	0.11	0.04	0.04	0.31
OvlAdjV/S:												0.29
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	D

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	1 0	2 0	3	0 0	1 0	0	0 1	0 0	0	0 0 0
Volume Module:												
Base Vol:	0	1631	372	758	1730	0	104	0	305	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1631	372	758	1730	0	104	0	305	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1631	372	758	1730	0	104	0	305	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1631	372	758	1730	0	104	0	305	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1631	372	758	1730	0	104	0	305	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1631	372	758	1730	0	104	0	305	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.44	0.56	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4153	947	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.39	0.22	0.34	0.00	0.06	0.00	0.18	0.00	0.00	0.00
Crit Moves:		****		****					****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.861
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	D

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	486	76	1244	108	49	28	48	1145	520	1009	1103	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	486	76	1244	108	49	28	48	1145	520	1009	1103	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	486	76	1244	108	49	28	48	1145	520	1009	1103	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	486	76	1244	108	49	28	48	1145	520	1009	1103	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	486	76	1244	108	49	28	48	1145	520	1009	1103	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	486	76	1244	108	49	28	48	1145	520	1009	1103	24
OvlAdjVol:			571									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.73	0.27	2.00	0.59	0.26	0.15	1.00	2.00	1.00	3.00	1.96	0.04
Final Sat.:	2940	460	3400	992	450	257	1700	3400	1700	5100	3328	72
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.37	0.11	0.11	0.11	0.03	0.34	0.31	0.20	0.33	0.33
OvlAdjV/S:			0.17									
Crit Moves:			****	****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.191
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	49	105	91	542	37	859	798	1500	14	92	1331	844
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	105	91	542	37	859	798	1500	14	92	1331	844
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	105	91	542	37	859	798	1500	14	92	1331	844
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	105	91	542	37	859	798	1500	14	92	1331	844
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	105	91	542	37	859	798	1500	14	92	1331	844
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	105	91	542	37	859	798	1500	14	92	1331	844
OvlAdjVol:						460						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.32	0.68	1.00	0.94	0.06	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	541	1159	1700	1591	109	1700	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.05	0.32	0.34	0.51	0.23	0.45	0.45	0.05	0.39	0.50
OvlAdjV/S:						0.27						
Crit Moves:	****			****			****					****

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Intersection	
Int Delay, s/veh	22.3

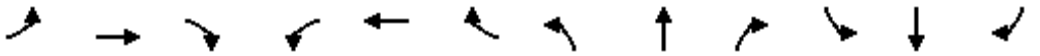
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	2171	2652	155	18	80
Future Vol, veh/h	120	2171	2652	155	18	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	2171	2652	155	18	80

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2807	0	-	0	3838	1404
Stage 1	-	-	-	-	2730	-
Stage 2	-	-	-	-	1108	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 48	-	-	-	~ 9	111
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	250	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 48	-	-	-	0	111
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	250	-

Approach	EB	WB	SB
HCM Control Delay, s	45.2	0	127.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 48	-	-	-	111
HCM Lane V/C Ratio	2.5	-	-	-	0.883
HCM Control Delay (s)	$ 862.8	-	-	-	127.6
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.6	-	-	-	5.3

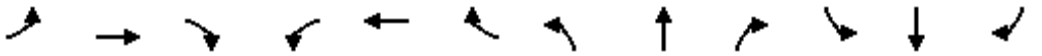
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	428	930	112	526	1127	286	228	1375	640	146	714	244
Future Volume (veh/h)	428	930	112	526	1127	286	228	1375	640	146	714	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	428	930	112	526	1127	286	228	1375	640	146	714	244
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	461	1155	139	518	1362	542	238	1333	832	134	823	281
Arrive On Green	0.13	0.25	0.25	0.15	0.27	0.27	0.13	0.38	0.38	0.08	0.32	0.32
Sat Flow, veh/h	3456	4620	555	3456	5106	1585	1781	3554	1585	1781	2599	888
Grp Volume(v), veh/h	428	684	358	526	1127	286	228	1375	640	146	488	470
Grp Sat Flow(s),veh/h/ln	1728	1702	1771	1728	1702	1585	1781	1777	1585	1781	1777	1710
Q Serve(g_s), s	14.7	22.7	22.8	18.0	24.9	6.4	15.3	45.0	23.7	9.0	31.1	31.1
Cycle Q Clear(g_c), s	14.7	22.7	22.8	18.0	24.9	6.4	15.3	45.0	23.7	9.0	31.1	31.1
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	461	851	443	518	1362	542	238	1333	832	134	563	542
V/C Ratio(X)	0.93	0.80	0.81	1.01	0.83	0.53	0.96	1.03	0.77	1.09	0.87	0.87
Avail Cap(c_a), veh/h	461	851	443	518	1362	542	238	1333	832	134	563	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	42.2	42.3	51.0	41.4	16.6	51.7	37.5	9.7	55.5	38.6	38.6
Incr Delay (d2), s/veh	25.3	8.0	14.6	43.3	5.9	3.7	47.1	33.2	6.8	104.9	16.4	16.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	10.4	11.7	10.9	11.1	4.4	9.9	25.3	8.9	7.9	15.9	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.8	50.2	56.9	94.3	47.3	20.3	98.8	70.7	16.5	160.4	55.0	55.6
LnGrp LOS	E	D	E	F	D	C	F	F	B	F	E	E
Approach Vol, veh/h		1470			1939			2243			1104	
Approach Delay, s/veh		59.6			56.1			58.1			69.2	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	50.0	22.0	35.0	20.0	43.0	20.0	37.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	45.0	18.0	30.0	16.0	38.0	16.0	32.0
Max Q Clear Time (g_c+I1), s	11.0	47.0	20.0	24.8	17.3	33.1	16.7	26.9
Green Ext Time (p_c), s	0.0	0.0	0.0	3.0	0.0	2.6	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	59.6
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	671	204	175	841	208	239	1358	136	148	1209	36
Future Volume (veh/h)	47	671	204	175	841	208	239	1358	136	148	1209	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	671	204	175	841	208	239	1358	136	148	1209	36
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	730	222	212	887	219	266	1397	139	170	1366	41
Arrive On Green	0.03	0.27	0.27	0.08	0.31	0.31	0.10	0.43	0.43	0.06	0.39	0.39
Sat Flow, veh/h	1781	2685	816	1781	2823	698	1781	3263	325	1781	3523	105
Grp Volume(v), veh/h	47	444	431	175	529	520	239	736	758	148	609	636
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1777	1745	1781	1777	1812	1781	1777	1851
Q Serve(g_s), s	2.3	29.1	29.1	8.3	34.9	34.9	9.7	48.6	49.3	6.0	38.4	38.4
Cycle Q Clear(g_c), s	2.3	29.1	29.1	8.3	34.9	34.9	9.7	48.6	49.3	6.0	38.4	38.4
Prop In Lane	1.00		0.47	1.00		0.40	1.00		0.18	1.00		0.06
Lane Grp Cap(c), veh/h	131	483	469	212	558	548	266	760	775	170	689	718
V/C Ratio(X)	0.36	0.92	0.92	0.82	0.95	0.95	0.90	0.97	0.98	0.87	0.88	0.89
Avail Cap(c_a), veh/h	147	503	488	212	563	552	283	760	775	170	689	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	42.4	42.4	31.8	40.2	40.2	28.2	33.5	33.7	29.1	34.2	34.3
Incr Delay (d2), s/veh	1.6	21.5	22.1	22.5	25.5	25.9	28.1	25.8	27.2	35.6	15.5	15.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	15.5	15.2	4.9	19.0	18.7	6.1	25.8	27.0	4.2	19.2	19.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	63.9	64.5	54.3	65.7	66.1	56.3	59.3	61.0	64.6	49.7	49.3
LnGrp LOS	D	E	E	D	E	E	E	E	E	E	D	D
Approach Vol, veh/h		922			1224			1733			1393	
Approach Delay, s/veh		62.8			64.3			59.6			51.1	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	56.4	14.0	37.6	16.8	51.5	9.0	42.7
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	50.0	9.0	34.0	13.0	44.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	8.0	51.3	10.3	31.1	11.7	40.4	4.3	36.9
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.1	2.5	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	59.0
HCM 6th LOS	E

APPENDIX H-III

YEAR 2035 BUILDOUT PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS

[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.022
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	4 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	233	1634	230	228	2500	357	186	721	225	259	736	125
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	1634	230	228	2500	357	186	721	225	259	736	125
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	1634	230	228	2500	357	186	721	225	259	736	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	1634	230	228	2500	357	186	721	225	259	736	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	1634	230	228	2500	357	186	721	225	259	736	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	1634	230	228	2500	357	186	721	225	259	736	125
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	4.00	1.00	1.00	4.00	1.00	2.00	1.52	0.48	2.00	2.00	1.00
Final Sat.:	1600	6400	1600	1600	6400	1600	2880	2439	761	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.15	0.26	0.14	0.14	0.39	0.22	0.06	0.30	0.30	0.09	0.23	0.08
Crit Moves:	****			****			****			****		

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[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.934
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	112	Level Of Service:	E

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	4 0	2	2 0	4 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	264	1181	857	447	1860	321	124	1454	223	695	1471	302
OvlAdjVol:			162									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	4.00	2.00	2.00	4.00	1.00	2.00	2.60	0.40	2.00	3.00	1.00
Final Sat.:	3400	6800	3400	3400	6800	1700	3400	4422	678	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.17	0.25	0.13	0.27	0.19	0.04	0.33	0.33	0.20	0.29	0.18
OvlAdjV/S:			0.05									
Crit Moves:	****			****			****			****		

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[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.011
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 2	1 0	2	0 2	1 0
Volume Module:												
Base Vol:	248	582	275	624	988	76	170	2272	333	294	2013	343
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	582	275	624	988	76	170	2272	333	294	2013	343
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	248	582	275	624	988	76	170	2272	333	294	2013	343
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	248	582	275	624	988	76	170	2272	333	294	2013	343
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	582	275	624	988	76	170	2272	333	294	2013	343
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	248	582	275	624	988	76	170	2272	333	294	2013	343
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.62	0.38	2.00	2.56	0.44
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	4448	652	3400	4358	742
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.16	0.18	0.29	0.04	0.05	0.51	0.51	0.09	0.46	0.46
Crit Moves:	****			****			****			****		

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[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.075
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	0 1	2	0 1	1 0
Volume Module:												
Base Vol:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	301	1047	300	236	1801	265	415	1132	215	489	1160	231
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.62	0.38	2.00	2.00	1.00	2.00	1.67	0.33
Final Sat.:	3400	5100	1700	3400	4446	654	3400	3400	1700	3400	2835	565
Capacity Analysis Module:												
Vol/Sat:	0.09	0.21	0.18	0.07	0.41	0.41	0.12	0.33	0.13	0.14	0.41	0.41
Crit Moves:	****				****		****				****	

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[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.910
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	Level Of Service:	E

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	4 0	1	1 0	4 0	1	2 0	2 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	434	1542	286	155	1921	596	209	742	790	361	773	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	434	1542	286	155	1921	596	209	742	790	361	773	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	434	1542	286	155	1921	596	209	742	790	361	773	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	434	1542	286	155	1921	596	209	742	790	361	773	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	434	1542	286	155	1921	596	209	742	790	361	773	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	434	1542	286	155	1921	596	209	742	790	361	773	90
OvlAdjVol:						492			573			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	2.00	2.00	1.00	2.00	2.69	0.31
Final Sat.:	3400	6800	1700	1700	6800	1700	3400	3400	1700	3400	4568	532
Capacity Analysis Module:												
Vol/Sat:	0.13	0.23	0.17	0.09	0.28	0.35	0.06	0.22	0.46	0.11	0.17	0.17
OvlAdjV/S:						0.29			0.34			
Crit Moves:	****					****			****	****		

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[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.855
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	13	44	54	578	48	813	448	1293	13	72	1468	530
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	44	54	578	48	813	448	1293	13	72	1468	530
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	44	54	578	48	813	448	1293	13	72	1468	530
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	44	54	578	48	813	448	1293	13	72	1468	530
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	44	54	578	48	813	448	1293	13	72	1468	530
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	44	54	578	48	813	448	1293	13	72	1468	530
OvlAdjVol:						365						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.45	0.55	1.85	0.15	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	763	937	3139	261	3400	3400	3366	34	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.18	0.18	0.24	0.13	0.38	0.38	0.04	0.43	0.31
OvlAdjV/S:						0.11						
Crit Moves:		****	****				****				****	

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[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.761
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	54	0	300	85	2575	0	0	2252	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	54	0	300	85	2575	0	0	2252	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	54	0	300	85	2575	0	0	2252	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	54	0	300	85	2575	0	0	2252	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	54	0	300	85	2575	0	0	2252	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	54	0	300	85	2575	0	0	2252	57
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.15	0.00	0.85	1.00	3.00	0.00	0.00	2.93	0.07
Final Sat.:	0	0	0	259	0	1441	1700	5100	0	0	4974	126
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.21	0.00	0.21	0.05	0.50	0.00	0.00	0.45	0.45
Crit Moves:				****			****				****	

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.957
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	140	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	4 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	242	2308	268	227	1877	262	425	667	195	245	650	187
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	242	2308	268	227	1877	262	425	667	195	245	650	187
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	242	2308	268	227	1877	262	425	667	195	245	650	187
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	242	2308	268	227	1877	262	425	667	195	245	650	187
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	242	2308	268	227	1877	262	425	667	195	245	650	187
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	242	2308	268	227	1877	262	425	667	195	245	650	187
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	4.00	1.00	1.00	4.00	1.00	2.00	1.55	0.45	2.00	2.00	1.00
Final Sat.:	1600	6400	1600	1600	6400	1600	2880	2476	724	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.15	0.36	0.17	0.14	0.29	0.16	0.15	0.27	0.27	0.09	0.20	0.12
Crit Moves:		****			****				****		****	

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.998
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	4 0	2	2 0	4 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	377	1781	600	624	1590	348	262	1301	283	653	1232	377
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	4.00	2.00	2.00	4.00	1.00	2.00	2.46	0.54	2.00	3.00	1.00
Final Sat.:	3400	6800	3400	3400	6800	1700	3400	4189	911	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.26	0.18	0.18	0.23	0.20	0.08	0.31	0.31	0.19	0.24	0.22
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.885
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	79	Level Of Service:	D

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 2	1 0	2	0 2	1 0
Volume Module:												
Base Vol:	357	789	218	183	554	99	171	1726	265	322	2298	248
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	357	789	218	183	554	99	171	1726	265	322	2298	248
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	357	789	218	183	554	99	171	1726	265	322	2298	248
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	357	789	218	183	554	99	171	1726	265	322	2298	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	357	789	218	183	554	99	171	1726	265	322	2298	248
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	357	789	218	183	554	99	171	1726	265	322	2298	248
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.60	0.40	2.00	2.71	0.29
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	4421	679	3400	4603	497
Capacity Analysis Module:												
Vol/Sat:	0.11	0.23	0.13	0.05	0.16	0.06	0.05	0.39	0.39	0.09	0.50	0.50
Crit Moves:	****			****			****				****	

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.072
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	0 1	2	0 1	1 0
Volume Module:												
Base Vol:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	431	1741	341	266	1443	101	199	1076	436	939	1513	202
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.80	0.20	2.00	2.00	1.00	2.00	1.76	0.24
Final Sat.:	3400	5100	1700	3400	4766	334	3400	3400	1700	3400	3000	400
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.20	0.08	0.30	0.30	0.06	0.32	0.26	0.28	0.50	0.50
Crit Moves:	****			****			****			****		

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.828
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 4	0 1	1	0 4	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	664	2137	206	225	1604	261	388	713	514	277	932	255
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	664	2137	206	225	1604	261	388	713	514	277	932	255
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	664	2137	206	225	1604	261	388	713	514	277	932	255
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	664	2137	206	225	1604	261	388	713	514	277	932	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	664	2137	206	225	1604	261	388	713	514	277	932	255
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	664	2137	206	225	1604	261	388	713	514	277	932	255
OvlAdjVol:						67			182			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	2.00	2.00	1.00	2.00	2.36	0.64
Final Sat.:	3400	6800	1700	1700	6800	1700	3400	3400	1700	3400	4004	1096
Capacity Analysis Module:												
Vol/Sat:	0.20	0.31	0.12	0.13	0.24	0.15	0.11	0.21	0.30	0.08	0.23	0.23
OvlAdjV/S:						0.04			0.11			
Crit Moves:	****			****			****			****		

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.067
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 1	0	0 2	2 0	1	1 0	1 0	2 0	1
Volume Module:												
Base Vol:	49	105	91	542	37	859	798	1500	14	92	1331	844
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	105	91	542	37	859	798	1500	14	92	1331	844
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	105	91	542	37	859	798	1500	14	92	1331	844
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	105	91	542	37	859	798	1500	14	92	1331	844
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	105	91	542	37	859	798	1500	14	92	1331	844
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	105	91	542	37	859	798	1500	14	92	1331	844
OvlAdjVol:						61						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.54	0.46	1.87	0.13	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	911	789	3183	217	3400	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.12	0.17	0.17	0.25	0.23	0.45	0.45	0.05	0.39	0.50
OvlAdjV/S:						0.02						
Crit Moves:		****	****				****					****

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.729
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	C

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	18	0	80	120	2171	0	0	2652	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	18	0	80	120	2171	0	0	2652	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	18	0	80	120	2171	0	0	2652	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	18	0	80	120	2171	0	0	2652	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	18	0	80	120	2171	0	0	2652	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	18	0	80	120	2171	0	0	2652	155
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.18	0.00	0.82	1.00	3.00	0.00	0.00	2.83	0.17
Final Sat.:	0	0	0	312	0	1388	1700	5100	0	0	4818	282
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.06	0.07	0.43	0.00	0.00	0.55	0.55
Crit Moves:						****	****				****	

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APPENDIX H-IV

SIGNAL WARRANT WORKSHEETS

AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 1	0	1 0	1 1	0	0 1	0 0	1	0 1	0 0	1
Initial Vol:	23	597	14	31	1254	70	59	14	66	3	5	32
ApproachDel:	xxxxxx			xxxxxx			214.5			23.4		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=8.3]
SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=139]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2168]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=40]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2168]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Euclid Street at Sandlewood Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	23	597	14	31	1254	70	59	14	66	3	5	32

Major Street Volume: 1989
Minor Approach Volume: 139
Minor Approach Volume Threshold: 78 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	34	1213	2	43	870	48	24	2	17	3	6	66
ApproachDel:	xxxxxx			xxxxxx			108.0			28.2		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=43]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2328]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=75]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2328]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	34	1213	2	43	870	48	24	2	17	3	6	66

Major Street Volume: 2210
Minor Approach Volume: 75
Minor Approach Volume Threshold: 33 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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APPENDIX I

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS - CALTRANS

APPENDIX I-I

EXISTING TRAFFIC CONDITIONS

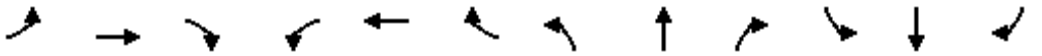
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	630	191	182	617	95	198	1301	183	188	2091	306
Future Volume (veh/h)	154	630	191	182	617	95	198	1301	183	188	2091	306
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	670	203	194	656	101	211	1384	195	200	2224	326
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	721	218	230	905	139	193	2197	682	227	2296	713
Arrive On Green	0.05	0.27	0.27	0.07	0.29	0.29	0.11	0.43	0.43	0.13	0.45	0.45
Sat Flow, veh/h	3456	2687	814	3456	3087	475	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	164	443	430	194	377	380	211	1384	195	200	2224	326
Grp Sat Flow(s),veh/h/ln	1728	1777	1724	1728	1777	1785	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.7	29.2	29.2	6.7	22.9	22.9	13.0	25.4	7.9	13.2	51.0	17.1
Cycle Q Clear(g_c), s	5.7	29.2	29.2	6.7	22.9	22.9	13.0	25.4	7.9	13.2	51.0	17.1
Prop In Lane	1.00		0.47	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	173	477	462	230	521	523	193	2197	682	227	2296	713
V/C Ratio(X)	0.95	0.93	0.93	0.84	0.72	0.73	1.09	0.63	0.29	0.88	0.97	0.46
Avail Cap(c_a), veh/h	173	489	474	230	521	523	193	2197	682	252	2296	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	42.8	42.8	55.4	38.0	38.1	53.5	26.7	15.2	51.4	32.2	22.9
Incr Delay (d2), s/veh	53.6	24.1	24.8	23.5	4.9	5.0	91.9	1.4	1.1	26.3	12.8	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	15.9	15.5	3.7	10.6	10.7	10.7	10.5	3.0	7.6	23.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.4	66.9	67.6	78.9	43.0	43.1	145.4	28.1	16.2	77.7	45.0	25.0
LnGrp LOS	F	E	E	E	D	D	F	C	B	E	D	C
Approach Vol, veh/h		1037			951			1790			2750	
Approach Delay, s/veh		74.1			50.3			40.6			45.0	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.3	56.8	13.0	37.2	17.0	59.1	10.0	40.2
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	17.0	44.0	8.0	* 33	13.0	48.0	6.0	35.0
Max Q Clear Time (g_c+I1), s	15.2	27.4	8.7	31.2	15.0	53.0	7.7	24.9
Green Ext Time (p_c), s	0.1	9.8	0.0	1.0	0.0	0.0	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	49.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



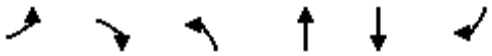
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	15	190	59	29	28	99	1350	18	24	2128	123
Future Volume (veh/h)	203	15	190	59	29	28	99	1350	18	24	2128	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	16	198	61	30	29	103	1406	19	25	2217	128
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	387	328	294	181	175	128	2766	859	225	3087	958
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.07	0.54	0.54	0.25	1.00	1.00
Sat Flow, veh/h	1344	1870	1585	1167	874	845	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	211	16	198	61	0	59	103	1406	19	25	2217	128
Grp Sat Flow(s),veh/h/ln	1344	1870	1585	1167	0	1718	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.3	0.8	13.6	5.3	0.0	3.4	6.8	20.9	0.7	1.3	0.0	0.0
Cycle Q Clear(g_c), s	21.7	0.8	13.6	6.1	0.0	3.4	6.8	20.9	0.7	1.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	301	387	328	294	0	356	128	2766	859	225	3087	958
V/C Ratio(X)	0.70	0.04	0.60	0.21	0.00	0.17	0.81	0.51	0.02	0.11	0.72	0.13
Avail Cap(c_a), veh/h	414	546	462	393	0	501	163	2766	859	225	3087	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	48.0	38.0	43.1	40.5	0.0	39.1	54.9	17.4	12.8	39.7	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	1.8	0.3	0.0	0.2	20.2	0.7	0.0	0.2	1.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.4	5.5	1.6	0.0	1.5	3.8	8.2	0.2	0.6	0.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	38.1	44.9	40.8	0.0	39.3	75.1	18.1	12.8	39.9	1.2	0.2
LnGrp LOS	D	D	D	D	A	D	E	B	B	D	A	A
Approach Vol, veh/h		425			120			1528			2370	
Approach Delay, s/veh		47.7			40.1			21.8			1.5	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.1	70.0		29.9	12.6	77.5		29.9				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 65		35.0	11.0	60.0		35.0				
Max Q Clear Time (g_c+I1), s	3.3	22.9		23.7	8.8	2.0		8.1				
Green Ext Time (p_c), s	0.0	14.7		1.1	0.0	35.6		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		14.0	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	32	9	1709	2279	15
Future Volume (veh/h)	52	32	9	1709	2279	15
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	33	9	1780	2374	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	84	75	450	4439	2936	911
Arrive On Green	0.05	0.05	0.25	0.87	0.57	0.57
Sat Flow, veh/h	1781	1585	1781	5274	5274	1585
Grp Volume(v), veh/h	54	33	9	1780	2374	16
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1702	1585
Q Serve(g_s), s	3.6	2.4	0.5	8.4	44.3	0.4
Cycle Q Clear(g_c), s	3.6	2.4	0.5	8.4	44.3	0.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	84	75	450	4439	2936	911
V/C Ratio(X)	0.64	0.44	0.02	0.40	0.81	0.02
Avail Cap(c_a), veh/h	460	409	450	4439	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.88	0.88	0.77	0.77
Uniform Delay (d), s/veh	56.2	55.6	33.7	1.6	20.3	5.3
Incr Delay (d2), s/veh	7.9	4.0	0.0	0.2	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.2	0.2	1.4	17.2	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	64.1	59.6	33.7	1.8	22.2	5.3
LnGrp LOS	E	E	C	A	C	A
Approach Vol, veh/h	87			1789	2390	
Approach Delay, s/veh	62.4			2.0	22.1	
Approach LOS	E			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		109.3		10.7	35.3	74.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		79.0		31.0	6.0	* 69
Max Q Clear Time (g_c+I1), s		10.4		5.6	2.5	46.3
Green Ext Time (p_c), s		24.8		0.2	0.0	18.8

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

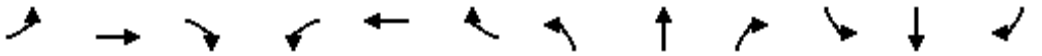
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	965	184	454	1205	260	212	990	509	322	1606	279
Future Volume (veh/h)	104	965	184	454	1205	260	212	990	509	322	1606	279
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	1027	196	483	1282	277	226	1053	541	343	1709	297
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1272	242	346	1647	511	391	1939	1338	259	1702	528
Arrive On Green	0.06	0.30	0.30	0.10	0.32	0.32	0.11	0.38	0.38	0.08	0.33	0.33
Sat Flow, veh/h	3456	4306	820	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	111	811	412	483	1282	277	226	1053	541	343	1709	297
Grp Sat Flow(s),veh/h/ln	1728	1702	1723	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	3.7	26.5	26.5	12.0	27.3	13.4	7.4	19.3	15.0	9.0	40.0	18.4
Cycle Q Clear(g_c), s	3.7	26.5	26.5	12.0	27.3	13.4	7.4	19.3	15.0	9.0	40.0	18.4
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	1005	509	346	1647	511	391	1939	1338	259	1702	528
V/C Ratio(X)	0.50	0.81	0.81	1.40	0.78	0.54	0.58	0.54	0.40	1.32	1.00	0.56
Avail Cap(c_a), veh/h	230	1191	603	346	1957	608	391	1939	1338	259	1702	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	39.1	39.1	54.0	36.8	20.2	50.5	29.1	20.2	55.5	40.0	32.8
Incr Delay (d2), s/veh	1.7	3.6	7.0	195.7	1.7	0.9	1.9	1.0	0.8	169.9	22.8	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	11.5	12.1	14.6	11.5	5.1	3.3	8.0	5.0	10.0	20.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	42.7	46.1	249.7	38.5	21.1	52.4	30.1	21.0	225.4	62.8	37.1
LnGrp LOS	E	D	D	F	D	C	D	C	C	F	F	D
Approach Vol, veh/h		1334			2042			1820			2349	
Approach Delay, s/veh		44.9			86.1			30.2			83.3	
Approach LOS		D			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	50.6	16.0	40.4	18.6	45.0	12.7	43.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	9.0	39.0	12.0	42.0	8.0	* 40	8.0	* 46
Max Q Clear Time (g_c+I1), s	11.0	21.3	14.0	28.5	9.4	42.0	5.7	29.3
Green Ext Time (p_c), s	0.0	9.4	0.0	6.9	0.0	0.0	0.1	9.4

Intersection Summary	
HCM 6th Ctrl Delay	64.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1732	19	85	1885	30	22	14	31	44	6	51
Future Volume (veh/h)	57	1732	19	85	1885	30	22	14	31	44	6	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	1804	20	89	1964	31	19	21	32	46	6	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	2052	637	113	2199	683	137	143	122	462	60	462
Arrive On Green	0.04	0.40	0.40	0.06	0.43	0.43	0.08	0.08	0.08	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1584	207	1585
Grp Volume(v), veh/h	59	1804	20	89	1964	31	19	21	32	52	0	53
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1791	0	1585
Q Serve(g_s), s	3.9	39.2	0.9	5.9	42.7	1.4	1.2	1.3	2.3	2.5	0.0	2.9
Cycle Q Clear(g_c), s	3.9	39.2	0.9	5.9	42.7	1.4	1.2	1.3	2.3	2.5	0.0	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.88		1.00
Lane Grp Cap(c), veh/h	76	2052	637	113	2199	683	137	143	122	522	0	462
V/C Ratio(X)	0.78	0.88	0.03	0.79	0.89	0.05	0.14	0.15	0.26	0.10	0.00	0.11
Avail Cap(c_a), veh/h	104	2128	660	148	2255	700	137	143	122	522	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.9	33.2	21.7	55.4	31.6	19.8	51.7	51.7	52.2	31.0	0.0	31.1
Incr Delay (d2), s/veh	21.9	4.5	0.0	18.7	4.9	0.0	2.1	2.1	5.2	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	16.7	0.3	3.2	18.1	0.5	0.6	0.7	1.1	1.2	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.8	37.7	21.8	74.1	36.5	19.9	53.8	53.9	57.4	31.4	0.0	31.6
LnGrp LOS	E	D	C	E	D	B	D	D	E	C	A	C
Approach Vol, veh/h		1883			2084			72			105	
Approach Delay, s/veh		38.8			37.9			55.4			31.5	
Approach LOS		D			D			E			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.2	12.6	53.2		40.0	9.1	56.7				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		6.0	10.0	* 50		35.0	7.0	53.0				
Max Q Clear Time (g_c+I1), s		4.3	7.9	41.2		4.9	5.9	44.7				
Green Ext Time (p_c), s		0.0	0.0	7.0		0.4	0.0	7.0				

Intersection Summary												
HCM 6th Ctrl Delay			38.5									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

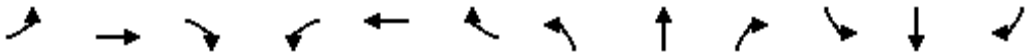
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1510	232	121	1704	97	212	476	123	248	674	194
Future Volume (veh/h)	96	1510	232	121	1704	97	212	476	123	248	674	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	1589	244	127	1794	102	223	501	129	261	709	204
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	2003	622	181	1950	111	702	1583	706	314	1155	515
Arrive On Green	0.04	0.39	0.39	0.05	0.39	0.39	0.20	0.45	0.45	0.09	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	4943	281	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	101	1589	244	127	1234	662	223	501	129	261	709	204
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1820	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.5	32.9	9.9	4.3	41.3	41.5	6.6	10.9	5.9	8.9	20.2	12.0
Cycle Q Clear(g_c), s	3.5	32.9	9.9	4.3	41.3	41.5	6.6	10.9	5.9	8.9	20.2	12.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	2003	622	181	1343	718	702	1583	706	314	1155	515
V/C Ratio(X)	0.70	0.79	0.39	0.70	0.92	0.92	0.32	0.32	0.18	0.83	0.61	0.40
Avail Cap(c_a), veh/h	144	2003	622	202	1362	728	702	1583	706	317	1155	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	32.2	14.5	56.0	34.5	34.6	40.7	21.5	20.1	53.6	34.2	31.4
Incr Delay (d2), s/veh	14.1	2.3	0.4	9.3	10.2	17.0	0.3	0.5	0.6	16.6	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	13.8	3.6	2.1	18.6	21.4	2.8	4.7	2.3	4.6	9.1	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	34.4	14.9	65.2	44.7	51.6	41.0	22.0	20.7	70.3	36.6	33.6
LnGrp LOS	E	C	B	E	D	D	D	C	C	E	D	C
Approach Vol, veh/h		1934			2023			853			1174	
Approach Delay, s/veh		33.9			48.2			26.8			43.6	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	58.7	10.3	52.1	29.6	44.0	10.0	52.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	11.0	38.0	7.0	46.0	10.0	* 39	5.0	* 48
Max Q Clear Time (g_c+I1), s	10.9	12.9	6.3	34.9	8.6	22.2	5.5	43.5
Green Ext Time (p_c), s	0.0	4.0	0.0	8.2	0.1	5.3	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



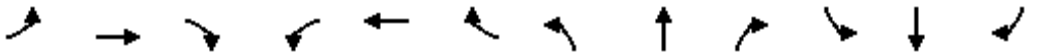
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1435	293	239	1646	59	218	404	206	183	871	54
Future Volume (veh/h)	57	1435	293	239	1646	59	218	404	206	183	871	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	1495	305	249	1715	61	227	421	215	191	907	56
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	1586	322	288	1994	71	259	1145	511	247	1084	67
Arrive On Green	0.05	0.37	0.37	0.08	0.39	0.39	0.08	0.32	0.32	0.07	0.32	0.32
Sat Flow, veh/h	3456	4254	865	3456	5062	180	3456	3554	1585	3456	3400	210
Grp Volume(v), veh/h	59	1195	605	249	1153	623	227	421	215	191	474	489
Grp Sat Flow(s),veh/h/ln	1728	1702	1715	1728	1702	1838	1728	1777	1585	1728	1777	1833
Q Serve(g_s), s	2.0	40.7	41.0	8.5	37.3	37.3	7.8	10.9	12.8	6.5	29.7	29.7
Cycle Q Clear(g_c), s	2.0	40.7	41.0	8.5	37.3	37.3	7.8	10.9	12.8	6.5	29.7	29.7
Prop In Lane	1.00		0.50	1.00		0.10	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	187	1269	639	288	1341	724	259	1145	511	247	566	584
V/C Ratio(X)	0.32	0.94	0.95	0.86	0.86	0.86	0.88	0.37	0.42	0.77	0.84	0.84
Avail Cap(c_a), veh/h	187	1277	643	288	1418	766	259	1145	511	288	566	584
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	36.4	36.5	54.3	33.3	33.3	54.9	31.3	31.9	54.7	38.0	38.0
Incr Delay (d2), s/veh	1.0	13.6	23.0	22.9	5.4	9.4	26.7	0.9	2.5	10.5	13.7	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	19.0	20.9	4.6	16.1	18.2	4.4	4.9	5.3	3.2	15.0	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	49.9	59.4	77.2	38.7	42.8	81.6	32.2	34.4	65.3	51.7	51.4
LnGrp LOS	E	D	E	E	D	D	F	C	C	E	D	D
Approach Vol, veh/h		1859			2025			863			1154	
Approach Delay, s/veh		53.2			44.7			45.8			53.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	43.7	14.0	49.7	13.0	43.3	11.5	52.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	37.0	10.0	45.0	9.0	38.0	5.0	* 50
Max Q Clear Time (g_c+I1), s	8.5	14.8	10.5	43.0	9.8	31.7	4.0	39.3
Green Ext Time (p_c), s	0.1	3.6	0.0	1.7	0.0	3.1	0.0	8.0

Intersection Summary	
HCM 6th Ctrl Delay	49.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



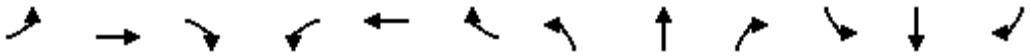
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1251	305	261	1285	84	312	509	292	248	1198	195
Future Volume (veh/h)	124	1251	305	261	1285	84	312	509	292	248	1198	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	1277	311	266	1311	86	318	519	298	253	1222	199
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1357	330	322	1940	602	371	1659	515	515	1915	594
Arrive On Green	0.05	0.33	0.33	0.09	0.38	0.38	0.11	0.32	0.32	0.15	0.37	0.37
Sat Flow, veh/h	3456	4098	997	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	127	1061	527	266	1311	86	318	519	298	253	1222	199
Grp Sat Flow(s),veh/h/ln	1728	1702	1691	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	4.3	36.3	36.4	9.1	25.7	3.1	10.9	9.2	18.8	8.1	23.6	10.8
Cycle Q Clear(g_c), s	4.3	36.3	36.4	9.1	25.7	3.1	10.9	9.2	18.8	8.1	23.6	10.8
Prop In Lane	1.00		0.59	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	1127	560	322	1940	602	371	1659	515	515	1915	594
V/C Ratio(X)	0.70	0.94	0.94	0.83	0.68	0.14	0.86	0.31	0.58	0.49	0.64	0.33
Avail Cap(c_a), veh/h	230	1135	564	346	1940	602	374	1659	515	515	1915	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	39.0	39.0	53.5	31.0	13.0	52.7	30.4	33.7	46.9	30.8	26.8
Incr Delay (d2), s/veh	6.6	14.7	24.3	14.4	0.9	0.1	17.5	0.5	4.7	0.7	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	17.3	18.6	4.6	10.6	1.6	5.6	3.8	7.9	3.5	9.9	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.5	53.7	63.3	67.9	32.0	13.1	70.2	30.9	38.3	47.6	32.5	28.3
LnGrp LOS	E	D	E	E	C	B	E	C	D	D	C	C
Approach Vol, veh/h		1715			1663			1135			1674	
Approach Delay, s/veh		57.3			36.7			43.9			34.3	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.9	44.0	16.2	44.7	16.9	50.0	10.3	50.6
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	* 39	12.0	* 40	13.0	37.0	8.0	44.0
Max Q Clear Time (g_c+I1), s	10.1	20.8	11.1	38.4	12.9	25.6	6.3	27.7
Green Ext Time (p_c), s	0.1	4.4	0.1	1.4	0.0	6.8	0.1	8.9

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



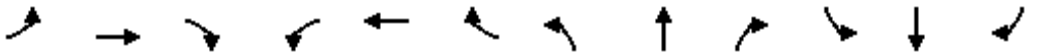
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	982	191	424	1016	153	269	852	254	212	1543	242
Future Volume (veh/h)	258	982	191	424	1016	153	269	852	254	212	1543	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	1012	197	437	1047	158	277	878	262	219	1591	249
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	940	183	403	1110	167	259	3119	968	279	2747	428
Arrive On Green	0.08	0.32	0.32	0.12	0.36	0.36	0.08	0.61	0.61	0.08	0.62	0.62
Sat Flow, veh/h	3456	2967	576	3456	3097	467	3456	5106	1585	3456	4455	695
Grp Volume(v), veh/h	266	605	604	437	600	605	277	878	262	219	1214	626
Grp Sat Flow(s),veh/h/ln	1728	1777	1767	1728	1777	1786	1728	1702	1585	1728	1702	1745
Q Serve(g_s), s	9.2	38.0	38.0	14.0	39.3	39.4	9.0	9.7	11.2	7.5	25.5	25.7
Cycle Q Clear(g_c), s	9.2	38.0	38.0	14.0	39.3	39.4	9.0	9.7	11.2	7.5	25.5	25.7
Prop In Lane	1.00		0.33	1.00		0.26	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	288	563	559	403	637	640	259	3119	968	279	2099	1076
V/C Ratio(X)	0.92	1.08	1.08	1.08	0.94	0.94	1.07	0.28	0.27	0.78	0.58	0.58
Avail Cap(c_a), veh/h	288	563	559	403	637	640	259	3119	968	374	2099	1076
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	41.0	41.0	53.0	37.3	37.4	55.5	11.0	16.0	54.1	13.7	13.7
Incr Delay (d2), s/veh	33.6	59.9	61.2	69.2	22.5	22.9	75.3	0.2	0.7	7.6	1.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	25.7	25.8	9.9	20.7	21.0	6.6	3.6	4.2	3.5	9.7	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.3	100.9	102.2	122.2	59.8	60.3	130.8	11.2	16.7	61.7	14.9	16.0
LnGrp LOS	F	F	F	F	E	E	F	B	B	E	B	B
Approach Vol, veh/h		1475			1642			1417			2059	
Approach Delay, s/veh		99.2			76.6			35.6			20.2	
Approach LOS		F			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	79.3	19.0	43.0	13.0	80.0	14.0	48.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	37.0	14.0	* 38	9.0	41.0	10.0	42.0
Max Q Clear Time (g_c+I1), s	9.5	13.2	16.0	40.0	11.0	27.7	11.2	41.4
Green Ext Time (p_c), s	0.2	7.7	0.0	0.0	0.0	9.8	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	55.2
HCM 6th LOS	E

Notes

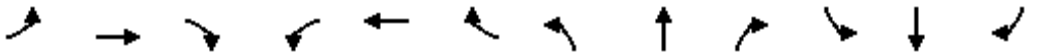
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	663	530	312	683	75	372	1268	250	128	1586	477
Future Volume (veh/h)	112	663	530	312	683	75	372	1268	250	128	1586	477
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	705	564	332	727	80	396	1349	266	136	1687	507
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	897	687	317	1370	150	625	1745	542	293	1659	596
Arrive On Green	0.05	0.25	0.25	0.09	0.29	0.29	0.18	0.34	0.34	0.16	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	3456	4672	510	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	119	705	564	332	528	279	396	1349	266	136	1687	507
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1778	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	4.1	22.2	10.9	11.0	15.6	15.8	12.7	28.4	11.9	8.3	39.0	24.9
Cycle Q Clear(g_c), s	4.1	22.2	10.9	11.0	15.6	15.8	12.7	28.4	11.9	8.3	39.0	24.9
Prop In Lane	1.00		1.00	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	897	687	317	998	522	625	1745	542	293	1659	596
V/C Ratio(X)	0.68	0.79	0.82	1.05	0.53	0.53	0.63	0.77	0.49	0.46	1.02	0.85
Avail Cap(c_a), veh/h	346	1125	789	317	1050	548	625	1745	542	293	1659	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	41.8	14.9	54.5	35.5	35.5	45.5	35.3	17.4	45.4	40.5	20.2
Incr Delay (d2), s/veh	4.5	3.0	6.2	63.7	0.4	0.9	2.1	3.4	3.2	1.1	26.3	14.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.1	9.3	7.6	6.5	7.0	5.6	12.2	4.8	3.8	20.1	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	44.8	21.1	118.2	35.9	36.4	47.6	38.7	20.6	46.5	66.8	34.5
LnGrp LOS	E	D	C	F	D	D	D	D	C	D	F	C
Approach Vol, veh/h		1388			1139			2011			2330	
Approach Delay, s/veh		36.5			60.0			38.1			58.6	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.7	46.0	15.0	35.3	25.7	44.0	10.1	40.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	41.0	11.0	38.0	14.0	39.0	12.0	37.0
Max Q Clear Time (g_c+I1), s	10.3	30.4	13.0	24.2	14.7	41.0	6.1	17.8
Green Ext Time (p_c), s	0.1	7.1	0.0	6.1	0.0	0.0	0.1	5.3

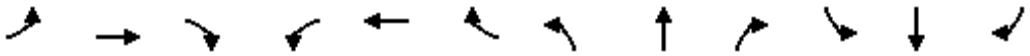
Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	470	100	231	611	70	258	868	188	143	1407	122
Future Volume (veh/h)	152	470	100	231	611	70	258	868	188	143	1407	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	495	105	243	643	74	272	914	198	151	1481	128
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	601	127	252	775	89	585	1261	272	361	1595	138
Arrive On Green	0.11	0.21	0.21	0.14	0.24	0.24	0.17	0.30	0.30	0.20	0.33	0.33
Sat Flow, veh/h	1781	2920	616	1781	3212	369	3456	4204	907	1781	4786	414
Grp Volume(v), veh/h	160	300	300	243	355	362	272	739	373	151	1053	556
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1804	1728	1702	1707	1781	1702	1796
Q Serve(g_s), s	10.6	19.4	19.6	16.3	22.8	22.8	8.5	23.3	23.5	8.9	35.8	35.9
Cycle Q Clear(g_c), s	10.6	19.4	19.6	16.3	22.8	22.8	8.5	23.3	23.5	8.9	35.8	35.9
Prop In Lane	1.00		0.35	1.00		0.20	1.00		0.53	1.00		0.23
Lane Grp Cap(c), veh/h	189	366	362	252	429	435	585	1021	512	361	1135	599
V/C Ratio(X)	0.85	0.82	0.83	0.96	0.83	0.83	0.47	0.72	0.73	0.42	0.93	0.93
Avail Cap(c_a), veh/h	282	518	513	252	489	496	585	1021	512	361	1135	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	45.5	45.6	51.2	43.2	43.2	44.9	37.6	37.6	41.7	38.6	38.6
Incr Delay (d2), s/veh	14.0	7.1	7.6	46.3	10.3	10.3	0.6	4.5	8.8	0.8	14.2	22.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	9.2	9.3	10.5	11.2	11.4	3.7	10.3	11.0	4.0	17.0	19.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	52.6	53.2	97.4	53.4	53.5	45.5	42.0	46.4	42.5	52.8	61.5
LnGrp LOS	E	D	D	F	D	D	D	D	D	D	D	E
Approach Vol, veh/h		760			960			1384			1760	
Approach Delay, s/veh		55.8			64.6			43.9			54.7	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.3	41.0	21.0	29.7	24.3	45.0	16.7	34.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	36.0	17.0	35.0	10.0	40.0	19.0	33.0
Max Q Clear Time (g_c+I1), s	10.9	25.5	18.3	21.6	10.5	37.9	12.6	24.8
Green Ext Time (p_c), s	0.1	5.4	0.0	3.1	0.0	1.8	0.2	2.8

Intersection Summary	
HCM 6th Ctrl Delay	53.7
HCM 6th LOS	D



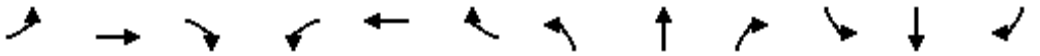
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	446	49	97	618	159	53	1635	69	79	1922	301
Future Volume (veh/h)	380	446	49	97	618	159	53	1635	69	79	1922	301
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	409	480	53	104	665	171	57	1758	74	85	2067	324
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	993	443	167	810	361	147	2052	86	364	2142	329
Arrive On Green	0.10	0.28	0.28	0.05	0.23	0.23	0.04	0.41	0.41	0.11	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5025	211	3456	4465	686
Grp Volume(v), veh/h	409	480	53	104	665	171	57	1190	642	85	1565	826
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1832	1728	1702	1747
Q Serve(g_s), s	12.0	13.5	3.0	3.5	21.3	8.5	1.9	38.2	38.3	2.7	53.2	56.0
Cycle Q Clear(g_c), s	12.0	13.5	3.0	3.5	21.3	8.5	1.9	38.2	38.3	2.7	53.2	56.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.39
Lane Grp Cap(c), veh/h	346	993	443	167	810	361	147	1390	748	364	1633	838
V/C Ratio(X)	1.18	0.48	0.12	0.62	0.82	0.47	0.39	0.86	0.86	0.23	0.96	0.99
Avail Cap(c_a), veh/h	346	1185	528	202	1036	462	173	1390	748	364	1633	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.0	32.2	56.0	44.0	22.9	55.9	32.3	32.3	49.2	30.1	30.8
Incr Delay (d2), s/veh	108.2	0.4	0.1	4.2	4.2	1.0	1.7	7.0	12.2	0.3	14.4	27.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	5.9	1.2	1.6	9.8	3.3	0.9	16.7	19.1	1.2	24.2	29.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	162.2	36.4	32.4	60.2	48.3	23.8	57.6	39.3	44.5	49.5	44.5	58.5
LnGrp LOS	F	D	C	E	D	C	E	D	D	D	D	E
Approach Vol, veh/h		942			940			1889			2476	
Approach Delay, s/veh		90.8			45.1			41.6			49.4	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	54.0	9.8	38.5	9.1	62.6	16.0	32.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 49	7.0	40.0	6.0	49.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	4.7	40.3	5.5	15.5	3.9	58.0	14.0	23.3
Green Ext Time (p_c), s	0.0	6.9	0.0	3.5	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	52.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



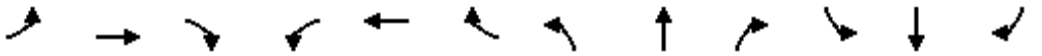
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	168	25	147	223	68	28	1625	143	30	1996	68
Future Volume (veh/h)	55	168	25	147	223	68	28	1625	143	30	1996	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	181	27	158	240	73	30	1747	154	32	2146	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	270	458	268	321	95	380	2270	200	380	2409	82
Arrive On Green	0.04	0.08	0.08	0.08	0.12	0.12	0.21	0.47	0.47	0.21	0.47	0.47
Sat Flow, veh/h	1781	3554	1585	3456	2701	802	1781	4779	420	1781	5071	172
Grp Volume(v), veh/h	59	181	27	158	156	157	30	1243	658	32	1438	781
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1726	1781	1702	1795	1781	1702	1839
Q Serve(g_s), s	3.9	6.0	0.0	5.3	10.2	10.6	1.6	36.2	36.5	1.7	46.1	46.5
Cycle Q Clear(g_c), s	3.9	6.0	0.0	5.3	10.2	10.6	1.6	36.2	36.5	1.7	46.1	46.5
Prop In Lane	1.00		1.00	1.00		0.46	1.00		0.23	1.00		0.09
Lane Grp Cap(c), veh/h	77	270	458	268	211	205	380	1617	852	380	1617	874
V/C Ratio(X)	0.77	0.67	0.06	0.59	0.74	0.77	0.08	0.77	0.77	0.08	0.89	0.89
Avail Cap(c_a), veh/h	119	918	747	268	459	446	380	1617	852	380	1617	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	54.0	30.9	53.5	51.1	51.2	37.8	26.1	26.1	37.8	28.6	28.7
Incr Delay (d2), s/veh	14.9	2.9	0.1	3.3	5.0	5.8	0.1	3.6	6.7	0.1	7.8	13.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.8	0.6	2.4	4.8	4.9	0.7	15.1	16.8	0.8	19.9	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	56.9	30.9	56.8	56.0	57.1	37.9	29.6	32.8	37.9	36.4	42.2
LnGrp LOS	E	E	C	E	E	E	D	C	C	D	D	D
Approach Vol, veh/h		267			471			1931			2251	
Approach Delay, s/veh		57.5			56.7			30.8			38.4	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.6	62.0	14.3	14.1	29.6	62.0	9.2	19.3
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	57.0	8.0	* 31	6.0	57.0	8.0	31.0
Max Q Clear Time (g_c+I1), s	3.7	38.5	7.3	8.0	3.6	48.5	5.9	12.6
Green Ext Time (p_c), s	0.0	13.0	0.0	1.2	0.0	7.5	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	102	79	184	74	5	315	9	242	1	1	1
Future Volume (veh/h)	5	102	79	184	74	5	315	9	242	1	1	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	112	87	202	81	5	346	10	266	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	395	283	374	879	54	578	17	528	116	116	116
Arrive On Green	0.05	0.20	0.20	0.11	0.26	0.26	0.33	0.33	0.33	0.20	0.20	0.20
Sat Flow, veh/h	1781	1976	1416	3456	3402	208	1734	50	1585	579	579	579
Grp Volume(v), veh/h	5	100	99	202	42	44	356	0	266	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1615	1728	1777	1833	1784	0	1585	1737	0	0
Q Serve(g_s), s	0.3	5.7	6.3	6.6	2.2	2.2	19.9	0.0	16.1	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	5.7	6.3	6.6	2.2	2.2	19.9	0.0	16.1	0.2	0.0	0.0
Prop In Lane	1.00		0.88	1.00		0.11	0.97		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	89	355	323	374	459	473	595	0	528	347	0	0
V/C Ratio(X)	0.06	0.28	0.31	0.54	0.09	0.09	0.60	0.00	0.50	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	355	323	374	459	473	595	0	528	347	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.3	40.7	40.9	50.7	33.8	33.8	33.3	0.0	32.0	38.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	2.0	2.5	1.6	0.4	0.4	4.4	0.0	3.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.7	2.7	3.0	1.0	1.0	9.3	0.0	6.7	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	42.6	43.4	52.2	34.2	34.2	37.7	0.0	35.4	38.5	0.0	0.0
LnGrp LOS	D	D	D	D	C	C	D	A	D	D	A	A
Approach Vol, veh/h		204			288			622			3	
Approach Delay, s/veh		43.3			46.8			36.8			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		45.0	17.0	29.0		29.0	10.0	36.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		40.0	13.0	24.0		24.0	6.0	31.0				
Max Q Clear Time (g_c+I1), s		21.9	8.6	8.3		2.2	2.3	4.2				
Green Ext Time (p_c), s		3.0	0.2	0.9		0.0	0.0	0.4				

Intersection Summary												
HCM 6th Ctrl Delay			40.6									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	72	56	77	99	395	147	1172	94	32	2070	32
Future Volume (veh/h)	224	72	56	77	99	395	147	1172	94	32	2070	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	76	59	81	104	416	155	1234	0	34	2179	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	128	90	972	961	483	216	2360		60	2359	
Arrive On Green	0.08	0.06	0.06	0.28	0.27	0.27	0.12	0.46	0.00	0.03	0.37	0.00
Sat Flow, veh/h	3456	1989	1405	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	236	67	68	81	104	416	155	1234	0	34	2179	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1617	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	8.1	4.4	4.9	2.1	2.6	29.7	10.1	20.6	0.0	2.3	38.9	0.0
Cycle Q Clear(g_c), s	8.1	4.4	4.9	2.1	2.6	29.7	10.1	20.6	0.0	2.3	38.9	0.0
Prop In Lane	1.00		0.87	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	114	104	972	961	483	216	2360		60	2359	
V/C Ratio(X)	0.82	0.59	0.65	0.08	0.11	0.86	0.72	0.52		0.56	0.92	
Avail Cap(c_a), veh/h	288	577	526	972	1036	516	216	2360		252	2359	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.1	54.6	54.9	31.7	32.9	39.4	50.8	22.9	0.0	57.1	36.4	0.0
Incr Delay (d2), s/veh	16.9	4.8	6.8	0.0	0.0	13.4	10.9	0.8	0.0	8.0	7.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.1	2.2	0.9	1.2	13.2	5.1	8.3	0.0	1.1	16.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	59.4	61.6	31.8	32.9	52.7	61.7	23.7	0.0	65.1	44.0	0.0
LnGrp LOS	E	E	E	C	C	D	E	C		E	D	
Approach Vol, veh/h		371			601			1389	A		2213	A
Approach Delay, s/veh		67.2			46.5			27.9			44.3	
Approach LOS		E			D			C			D	

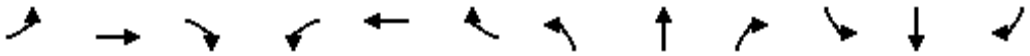
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	60.5	38.8	12.7	19.5	49.0	14.0	37.5
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	17.0	40.0	6.0	* 39	13.0	* 44	10.0	35.0
Max Q Clear Time (g_c+I1), s	4.3	22.6	4.1	6.9	12.1	40.9	10.1	31.7
Green Ext Time (p_c), s	0.0	8.4	0.0	0.8	0.0	2.9	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	41.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	0	237	0	0	0	0	1230	159	778	1442	0
Future Volume (veh/h)	180	0	237	0	0	0	0	1230	159	778	1442	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	191	0	252				0	1309	169	828	1534	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	316	0	281				0	2016	260	917	3774	0
Arrive On Green	0.18	0.00	0.18				0.00	0.44	0.44	0.27	0.74	0.00
Sat Flow, veh/h	1781	0	1585				0	4745	591	3456	5274	0
Grp Volume(v), veh/h	191	0	252				0	974	504	828	1534	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1764	1728	1702	0
Q Serve(g_s), s	11.9	0.0	18.7				0.0	26.9	26.9	27.8	13.4	0.0
Cycle Q Clear(g_c), s	11.9	0.0	18.7				0.0	26.9	26.9	27.8	13.4	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	316	0	281				0	1499	777	917	3774	0
V/C Ratio(X)	0.60	0.00	0.90				0.00	0.65	0.65	0.90	0.41	0.00
Avail Cap(c_a), veh/h	371	0	330				0	1499	777	1066	3774	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.5	0.0	48.3				0.0	26.3	26.3	42.6	5.8	0.0
Incr Delay (d2), s/veh	2.1	0.0	23.1				0.0	2.2	4.2	9.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	9.1				0.0	11.2	12.0	13.0	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	0.0	71.4				0.0	28.5	30.5	52.3	6.2	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		443						1478			2362	
Approach Delay, s/veh		61.1						29.2			22.3	
Approach LOS		E						C			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	35.9	57.8		26.3		93.7						
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0						
Max Green Setting (Gmax), s	37.0	44.0		25.0		85.0						
Max Q Clear Time (g_c+I1), s	29.8	28.9		20.7		15.4						
Green Ext Time (p_c), s	2.1	8.9		0.6		18.8						

Intersection Summary												
HCM 6th Ctrl Delay			28.7									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	834	396	1052	921	7	346	47	604	55	41	21
Future Volume (veh/h)	44	834	396	1052	921	7	346	47	604	55	41	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	869	412	1096	959	7	395	0	629	57	43	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1015	453	1203	1657	12	534	0	1234	138	104	53
Arrive On Green	0.06	0.29	0.29	0.24	0.46	0.46	0.15	0.00	0.15	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3616	26	3563	0	3170	828	624	319
Grp Volume(v), veh/h	46	869	412	1096	471	495	395	0	629	122	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1866	1781	0	1585	1771	0	0
Q Serve(g_s), s	3.0	27.7	30.1	25.5	23.5	23.5	12.7	0.0	18.0	7.4	0.0	0.0
Cycle Q Clear(g_c), s	3.0	27.7	30.1	25.5	23.5	23.5	12.7	0.0	18.0	7.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.47		0.18
Lane Grp Cap(c), veh/h	104	1015	453	1203	814	855	534	0	1234	295	0	0
V/C Ratio(X)	0.44	0.86	0.91	0.91	0.58	0.58	0.74	0.00	0.51	0.41	0.00	0.00
Avail Cap(c_a), veh/h	119	1015	453	1256	814	855	534	0	1234	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.6	40.5	41.4	44.4	24.0	24.0	48.8	0.0	27.9	44.7	0.0	0.0
Incr Delay (d2), s/veh	2.9	9.2	24.9	9.9	3.0	2.8	8.9	0.0	1.5	4.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	13.3	14.8	11.6	10.4	10.9	6.3	0.0	7.1	3.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	49.8	66.3	54.3	26.9	26.8	57.6	0.0	29.4	49.0	0.0	0.0
LnGrp LOS	E	D	E	D	C	C	E	A	C	D	A	A
Approach Vol, veh/h		1327			2062			1024			122	
Approach Delay, s/veh		55.2			41.4			40.3			49.0	
Approach LOS		E			D			D			D	

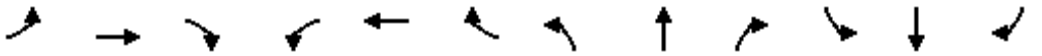
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.0	32.7	39.3	25.0	12.0	60.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	18.0	30.0	33.0	20.0	8.0	* 55
Max Q Clear Time (g_c+I1), s	20.0	27.5	32.1	9.4	5.0	25.5
Green Ext Time (p_c), s	0.0	1.3	0.6	0.4	0.0	7.2

Intersection Summary	
HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	1084	11	65	1266	274	11	40	43	373	43	715
Future Volume (veh/h)	373	1084	11	65	1266	274	11	40	43	373	43	715
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	393	1141	12	68	1333	288	12	42	45	393	45	753
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	1641	17	99	1421	634	49	142	511	76	0	704
Arrive On Green	0.12	0.46	0.46	0.06	0.40	0.40	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	3456	3602	38	1781	3554	1585	0	440	1585	0	0	1585
Grp Volume(v), veh/h	393	563	590	68	1333	288	54	0	45	438	0	753
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	440	0	1585	0	0	1585
Q Serve(g_s), s	10.1	22.7	22.7	3.4	32.4	12.0	0.0	0.0	1.8	0.0	0.0	29.0
Cycle Q Clear(g_c), s	10.1	22.7	22.7	3.4	32.4	12.0	29.0	0.0	1.8	29.0	0.0	29.0
Prop In Lane	1.00		0.02	1.00		1.00	0.22		1.00	0.90		1.00
Lane Grp Cap(c), veh/h	422	809	849	99	1421	634	191	0	511	76	0	704
V/C Ratio(X)	0.93	0.70	0.70	0.69	0.94	0.45	0.28	0.00	0.09	5.77	0.00	1.07
Avail Cap(c_a), veh/h	422	809	849	119	1421	634	191	0	511	76	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.1	19.5	19.5	41.7	25.9	19.8	24.0	0.0	21.3	45.0	0.0	25.0
Incr Delay (d2), s/veh	27.2	4.9	4.7	12.1	13.0	2.3	3.7	0.0	0.3	2175.5	0.0	53.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	9.9	10.4	1.8	15.5	4.7	1.0	0.0	0.7	47.5	0.0	24.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.3	24.4	24.2	53.9	38.9	22.1	27.7	0.0	21.6	2220.5	0.0	78.8
LnGrp LOS	E	C	C	D	D	C	C	A	C	F	A	F
Approach Vol, veh/h		1546			1689			99			1191	
Approach Delay, s/veh		35.0			36.7			24.9			866.4	
Approach LOS		C			D			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.0	10.0	46.0		34.0	15.0	41.0				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		29.0	6.0	* 41		29.0	11.0	36.0				
Max Q Clear Time (g_c+I1), s		31.0	5.4	24.7		31.0	12.1	34.4				
Green Ext Time (p_c), s		0.0	0.0	7.2		0.0	0.0	1.3				

Intersection Summary		
HCM 6th Ctrl Delay		254.2
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	35.1

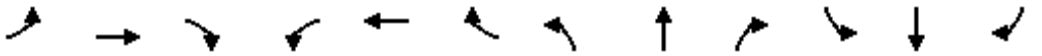
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	1836	1811	48	17	120
Future Vol, veh/h	70	1836	1811	48	17	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2040	2012	53	19	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2065	0	-	0	3011	1033
Stage 1	-	-	-	-	2039	-
Stage 2	-	-	-	-	972	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	116	-	-	-	26	197
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	296	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	116	-	-	-	~ 9	197
Mov Cap-2 Maneuver	-	-	-	-	~ 9	-
Stage 1	-	-	-	-	~ 18	-
Stage 2	-	-	-	-	296	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	$ 957.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	116	-	-	-	55
HCM Lane V/C Ratio	0.67	-	-	-	2.768
HCM Control Delay (s)	83.8	-	-	-	-$ 957.8
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	3.5	-	-	-	15.8

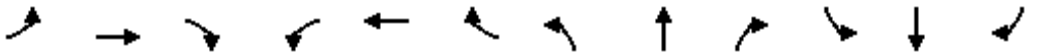
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	543	162	176	549	128	207	1914	178	158	1495	211
Future Volume (veh/h)	363	543	162	176	549	128	207	1914	178	158	1495	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	554	165	180	560	131	211	1953	182	161	1526	215
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	709	210	238	661	154	330	1915	594	256	1702	528
Arrive On Green	0.10	0.26	0.26	0.07	0.23	0.23	0.19	0.38	0.38	0.14	0.33	0.33
Sat Flow, veh/h	3456	2701	802	3456	2860	667	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	370	364	355	180	347	344	211	1953	182	161	1526	215
Grp Sat Flow(s),veh/h/ln	1728	1777	1726	1728	1777	1750	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	12.0	22.8	22.9	6.1	22.4	22.6	13.1	45.0	7.5	10.2	34.1	9.3
Cycle Q Clear(g_c), s	12.0	22.8	22.9	6.1	22.4	22.6	13.1	45.0	7.5	10.2	34.1	9.3
Prop In Lane	1.00		0.46	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	466	453	238	411	405	330	1915	594	256	1702	528
V/C Ratio(X)	1.07	0.78	0.78	0.76	0.85	0.85	0.64	1.02	0.31	0.63	0.90	0.41
Avail Cap(c_a), veh/h	346	533	518	317	518	511	330	1915	594	256	1702	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	41.1	41.1	54.9	44.1	44.1	45.2	37.5	15.7	48.4	38.0	16.8
Incr Delay (d2), s/veh	68.5	6.5	6.9	7.1	10.1	10.6	4.1	25.7	1.3	4.8	7.8	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	10.8	10.6	2.9	11.0	10.9	6.2	22.9	2.9	4.9	15.3	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.5	47.5	48.0	62.0	54.1	54.7	49.2	63.2	17.0	53.2	45.9	19.1
LnGrp LOS	F	D	D	E	D	D	D	F	B	D	D	B
Approach Vol, veh/h		1089			871			2346			1902	
Approach Delay, s/veh		73.1			56.0			58.4			43.5	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.3	50.0	12.3	36.5	26.3	45.0	16.0	32.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	45.0	11.0	36.0	15.0	40.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	12.2	47.0	8.1	24.9	15.1	36.1	14.0	24.6
Green Ext Time (p_c), s	0.0	0.0	0.1	3.5	0.0	3.2	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	56.1
HCM 6th LOS	E



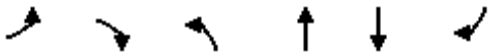
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	17	116	32	14	13	201	2065	47	60	1645	251
Future Volume (veh/h)	244	17	116	32	14	13	201	2065	47	60	1645	251
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	252	18	120	33	14	13	207	2129	48	62	1696	259
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	340	402	340	319	192	178	237	2638	819	256	2735	849
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.52	0.52	0.29	1.00	1.00
Sat Flow, veh/h	1383	1870	1585	1251	892	829	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	252	18	120	33	0	27	207	2129	48	62	1696	259
Grp Sat Flow(s),veh/h/ln	1383	1870	1585	1251	0	1721	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	21.3	0.9	7.7	2.6	0.0	1.5	13.7	41.5	1.8	3.2	0.0	0.0
Cycle Q Clear(g_c), s	22.8	0.9	7.7	3.5	0.0	1.5	13.7	41.5	1.8	3.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	340	402	340	319	0	370	237	2638	819	256	2735	849
V/C Ratio(X)	0.74	0.04	0.35	0.10	0.00	0.07	0.87	0.81	0.06	0.24	0.62	0.31
Avail Cap(c_a), veh/h	446	546	462	415	0	502	327	2638	819	256	2735	849
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	46.7	37.4	40.0	38.7	0.0	37.6	51.0	24.0	14.5	37.8	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.0	0.6	0.1	0.0	0.1	17.2	2.8	0.1	0.4	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.4	3.1	0.8	0.0	0.6	7.2	16.8	0.7	1.4	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	37.4	40.7	38.9	0.0	37.7	68.2	26.8	14.6	38.2	0.9	0.8
LnGrp LOS	D	D	D	D	A	D	E	C	B	D	A	A
Approach Vol, veh/h		390			60			2384			2017	
Approach Delay, s/veh		47.4			38.3			30.2			2.1	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.2	67.0		30.8	20.0	69.3		30.8				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	* 62		35.0	22.0	49.0		35.0				
Max Q Clear Time (g_c+I1), s	5.2	43.5		24.8	15.7	2.0		5.5				
Green Ext Time (p_c), s	0.0	14.7		0.9	0.3	22.3		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		20.0	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



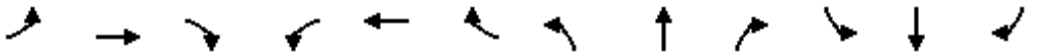
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	16	28	2260	1990	35
Future Volume (veh/h)	15	16	28	2260	1990	35
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	16	29	2330	2052	36
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	57	51	477	4516	2936	911
Arrive On Green	0.03	0.03	0.27	0.88	0.57	0.57
Sat Flow, veh/h	1781	1585	1781	5274	5274	1585
Grp Volume(v), veh/h	15	16	29	2330	2052	36
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1702	1585
Q Serve(g_s), s	1.0	1.2	1.5	11.6	34.3	0.9
Cycle Q Clear(g_c), s	1.0	1.2	1.5	11.6	34.3	0.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	57	51	477	4516	2936	911
V/C Ratio(X)	0.26	0.31	0.06	0.52	0.70	0.04
Avail Cap(c_a), veh/h	460	409	477	4516	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.64	0.64	0.80	0.80
Uniform Delay (d), s/veh	56.7	56.8	32.7	1.5	18.1	5.9
Incr Delay (d2), s/veh	2.4	3.4	0.0	0.3	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.1	0.6	1.5	13.2	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.1	60.2	32.7	1.7	19.2	5.9
LnGrp LOS	E	E	C	A	B	A
Approach Vol, veh/h	31			2359	2088	
Approach Delay, s/veh	59.7			2.1	19.0	
Approach LOS	E			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		111.1		8.9	37.1	74.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		79.0		31.0	6.0	* 69
Max Q Clear Time (g_c+I1), s		13.6		3.2	3.5	36.3
Green Ext Time (p_c), s		39.9		0.1	0.0	21.9

Intersection Summary		
HCM 6th Ctrl Delay		10.4
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



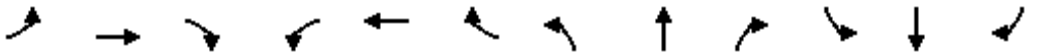
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	1025	221	448	941	313	288	1532	442	367	1283	185
Future Volume (veh/h)	222	1025	221	448	941	313	288	1532	442	367	1283	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	1035	223	453	951	316	291	1547	446	371	1296	187
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1269	273	317	1631	506	484	1864	1274	288	1532	476
Arrive On Green	0.08	0.30	0.30	0.09	0.32	0.32	0.14	0.37	0.37	0.08	0.30	0.30
Sat Flow, veh/h	3456	4206	905	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	224	837	421	453	951	316	291	1547	446	371	1296	187
Grp Sat Flow(s),veh/h/ln	1728	1702	1707	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	7.6	27.3	27.4	11.0	18.7	20.3	9.5	33.1	2.7	10.0	28.6	8.7
Cycle Q Clear(g_c), s	7.6	27.3	27.4	11.0	18.7	20.3	9.5	33.1	2.7	10.0	28.6	8.7
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	1027	515	317	1631	506	484	1864	1274	288	1532	476
V/C Ratio(X)	0.79	0.82	0.82	1.43	0.58	0.62	0.60	0.83	0.35	1.29	0.85	0.39
Avail Cap(c_a), veh/h	374	1191	598	317	1702	528	484	1864	1274	288	1532	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.60	0.60	0.60	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	38.8	38.8	54.5	34.1	34.7	48.5	34.7	9.4	55.0	39.4	20.0
Incr Delay (d2), s/veh	8.1	3.9	7.6	210.9	0.5	2.2	1.3	2.7	0.5	153.4	5.9	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	11.9	12.5	14.1	7.8	8.1	4.2	14.0	2.3	10.5	12.7	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	42.8	46.5	265.4	34.6	36.9	49.7	37.4	9.8	208.4	45.3	22.5
LnGrp LOS	E	D	D	F	C	D	D	D	A	F	D	C
Approach Vol, veh/h		1482			1720			2284			1854	
Approach Delay, s/veh		46.7			95.8			33.6			75.7	
Approach LOS		D			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	48.8	16.0	41.2	21.8	41.0	13.9	43.3
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	10.0	39.0	11.0	* 42	13.0	* 36	13.0	40.0
Max Q Clear Time (g_c+I1), s	12.0	35.1	13.0	29.4	11.5	30.6	9.6	22.3
Green Ext Time (p_c), s	0.0	3.3	0.0	6.8	0.2	3.9	0.2	7.6

Intersection Summary	
HCM 6th Ctrl Delay	61.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	1555	43	191	1477	60	56	36	197	84	38	136
Future Volume (veh/h)	200	1555	43	191	1477	60	56	36	197	84	38	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	1571	43	193	1492	61	46	51	199	85	38	137
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	1655	514	211	1609	499	482	506	429	398	178	504
Arrive On Green	0.12	0.32	0.32	0.12	0.32	0.32	0.27	0.27	0.27	0.32	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1249	559	1585
Grp Volume(v), veh/h	202	1571	43	193	1492	61	46	51	199	123	0	137
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1808	0	1585
Q Serve(g_s), s	12.4	33.0	2.1	11.8	31.1	3.0	2.1	2.2	11.5	5.5	0.0	7.1
Cycle Q Clear(g_c), s	12.4	33.0	2.1	11.8	31.1	3.0	2.1	2.2	11.5	5.5	0.0	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	211	1655	514	211	1609	499	482	506	429	575	0	504
V/C Ratio(X)	0.96	0.95	0.08	0.92	0.93	0.12	0.10	0.10	0.46	0.21	0.00	0.27
Avail Cap(c_a), veh/h	211	1655	514	211	1625	504	482	506	429	575	0	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.2	36.3	25.8	48.0	36.5	26.8	30.0	30.1	33.5	27.4	0.0	28.0
Incr Delay (d2), s/veh	50.4	12.2	0.1	39.7	9.6	0.1	0.4	0.4	3.6	0.8	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	15.3	0.8	7.5	14.1	1.2	1.0	1.1	4.8	2.5	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.6	48.5	25.9	87.7	46.1	26.9	30.4	30.5	37.1	28.3	0.0	29.3
LnGrp LOS	F	D	C	F	D	C	C	C	D	C	A	C
Approach Vol, veh/h		1816			1746			296			260	
Approach Delay, s/veh		53.5			50.0			34.9			28.8	
Approach LOS		D			D			C			C	

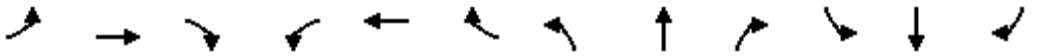
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		35.4	17.0	40.7		40.0	18.0	39.7				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		8.0	13.0	35.0		35.0	13.0	* 35				
Max Q Clear Time (g_c+I1), s		13.5	13.8	35.0		9.1	14.4	33.1				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.1	0.0	1.6				

Intersection Summary												
HCM 6th Ctrl Delay			49.1									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



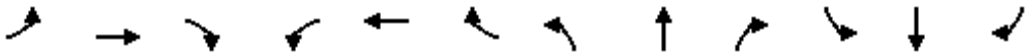
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	1508	237	160	1527	189	326	687	184	206	446	169
Future Volume (veh/h)	267	1508	237	160	1527	189	326	687	184	206	446	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	275	1555	244	165	1574	195	336	708	190	212	460	174
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1931	599	219	1611	199	346	2181	973	269	2103	938
Arrive On Green	0.08	0.38	0.38	0.06	0.35	0.35	0.10	0.61	0.61	0.08	0.59	0.59
Sat Flow, veh/h	3456	5106	1585	3456	4603	569	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	275	1555	244	165	1163	606	336	708	190	212	460	174
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1768	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.5	32.7	13.6	5.6	40.5	40.6	11.6	11.5	6.3	7.2	7.3	7.8
Cycle Q Clear(g_c), s	9.5	32.7	13.6	5.6	40.5	40.6	11.6	11.5	6.3	7.2	7.3	7.8
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1931	599	219	1191	619	346	2181	973	269	2103	938
V/C Ratio(X)	0.95	0.81	0.41	0.75	0.98	0.98	0.97	0.32	0.20	0.79	0.22	0.19
Avail Cap(c_a), veh/h	288	1931	599	230	1191	619	346	2181	973	317	2103	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	33.4	27.4	55.3	38.5	38.6	53.8	11.2	10.2	54.4	11.5	18.6
Incr Delay (d2), s/veh	40.8	2.6	0.4	12.4	20.5	30.8	40.9	0.4	0.4	10.7	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	13.8	5.2	2.8	20.0	22.6	7.0	4.5	2.3	3.5	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.6	36.0	27.9	67.7	59.0	69.3	94.7	11.6	10.6	65.1	11.7	19.0
LnGrp LOS	F	D	C	E	E	E	F	B	B	E	B	B
Approach Vol, veh/h		2074			1934			1234			846	
Approach Delay, s/veh		42.9			63.0			34.1			26.6	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	79.7	11.6	50.4	16.0	77.0	15.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	11.0	39.0	8.0	44.0	12.0	38.0	10.0	* 42
Max Q Clear Time (g_c+I1), s	9.2	13.5	7.6	34.7	13.6	9.8	11.5	42.6
Green Ext Time (p_c), s	0.1	6.0	0.0	7.0	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	45.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



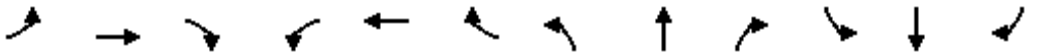
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	1339	233	243	1731	183	312	661	164	130	486	66
Future Volume (veh/h)	122	1339	233	243	1731	183	312	661	164	130	486	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	1380	240	251	1785	189	322	681	169	134	501	68
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1529	266	310	1903	201	374	1236	551	190	926	125
Arrive On Green	0.04	0.35	0.35	0.09	0.41	0.41	0.11	0.35	0.35	0.05	0.29	0.29
Sat Flow, veh/h	3456	4377	761	3456	4691	495	3456	3554	1585	3456	3145	425
Grp Volume(v), veh/h	126	1073	547	251	1293	681	322	681	169	134	282	287
Grp Sat Flow(s),veh/h/ln	1728	1702	1733	1728	1702	1781	1728	1777	1585	1728	1777	1794
Q Serve(g_s), s	4.4	35.9	36.0	8.6	43.7	44.1	11.0	18.6	6.9	4.6	16.0	16.1
Cycle Q Clear(g_c), s	4.4	35.9	36.0	8.6	43.7	44.1	11.0	18.6	6.9	4.6	16.0	16.1
Prop In Lane	1.00		0.44	1.00		0.28	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	144	1189	606	310	1381	723	374	1236	551	190	523	528
V/C Ratio(X)	0.88	0.90	0.90	0.81	0.94	0.94	0.86	0.55	0.31	0.71	0.54	0.54
Avail Cap(c_a), veh/h	144	1220	621	317	1390	727	374	1236	551	259	523	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	37.1	37.1	53.6	34.2	34.3	52.6	31.6	15.4	55.8	35.5	35.6
Incr Delay (d2), s/veh	40.8	9.4	16.4	14.3	12.0	20.4	18.0	1.8	1.4	5.3	4.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	16.3	17.8	4.3	20.0	22.8	5.7	8.2	2.7	2.1	7.5	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.0	46.5	53.5	67.9	46.2	54.7	70.6	33.3	16.9	61.1	39.5	39.5
LnGrp LOS	F	D	D	E	D	D	E	C	B	E	D	D
Approach Vol, veh/h		1746			2225			1172			703	
Approach Delay, s/veh		52.4			51.3			41.2			43.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	46.7	15.8	46.9	17.0	40.3	9.0	53.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	11.0	* 43	13.0	35.0	5.0	49.0
Max Q Clear Time (g_c+I1), s	6.6	20.6	10.6	38.0	13.0	18.1	6.4	46.1
Green Ext Time (p_c), s	0.1	5.1	0.0	3.9	0.0	3.2	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



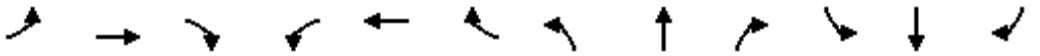
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	1126	205	366	1452	205	351	1075	206	183	708	156
Future Volume (veh/h)	254	1126	205	366	1452	205	351	1075	206	183	708	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	259	1149	209	373	1482	209	358	1097	210	187	722	159
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	1348	245	426	1709	531	426	1799	558	245	1489	462
Arrive On Green	0.09	0.31	0.31	0.12	0.33	0.33	0.12	0.35	0.35	0.07	0.29	0.29
Sat Flow, veh/h	3456	4343	790	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	259	901	457	373	1482	209	358	1097	210	187	722	159
Grp Sat Flow(s),veh/h/ln	1728	1702	1728	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	8.8	29.8	29.8	12.7	32.6	9.6	12.2	21.3	11.9	6.4	14.0	9.5
Cycle Q Clear(g_c), s	8.8	29.8	29.8	12.7	32.6	9.6	12.2	21.3	11.9	6.4	14.0	9.5
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	313	1057	536	426	1709	531	426	1799	558	245	1489	462
V/C Ratio(X)	0.83	0.85	0.85	0.88	0.87	0.39	0.84	0.61	0.38	0.76	0.48	0.34
Avail Cap(c_a), veh/h	317	1078	547	432	1787	555	426	1799	558	317	1489	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	38.8	38.8	51.7	37.4	19.1	51.5	32.1	29.0	54.8	35.1	33.5
Incr Delay (d2), s/veh	16.4	6.6	12.2	17.9	4.7	0.5	14.0	1.5	1.9	7.9	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	13.3	14.3	6.6	14.2	3.6	6.1	9.0	4.8	3.0	6.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	45.4	51.0	69.6	42.1	19.6	65.5	33.6	30.9	62.7	36.2	35.5
LnGrp LOS	E	D	D	E	D	B	E	C	C	E	D	D
Approach Vol, veh/h		1617			2064			1665			1068	
Approach Delay, s/veh		50.9			44.8			40.1			40.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	47.3	18.8	42.3	19.8	40.0	15.9	45.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	11.0	38.0	15.0	38.0	14.0	* 35	11.0	* 42
Max Q Clear Time (g_c+I1), s	8.4	23.3	14.7	31.8	14.2	16.0	10.8	34.6
Green Ext Time (p_c), s	0.1	7.4	0.0	4.2	0.0	5.5	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	44.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



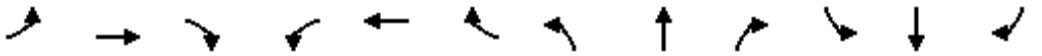
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	936	267	461	1069	177	376	1476	292	239	1183	90
Future Volume (veh/h)	179	936	267	461	1069	177	376	1476	292	239	1183	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	985	281	485	1125	186	396	1554	307	252	1245	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	926	263	451	1275	210	391	3019	937	240	2651	202
Arrive On Green	0.06	0.34	0.34	0.13	0.42	0.42	0.11	0.59	0.59	0.07	0.55	0.55
Sat Flow, veh/h	3456	2732	776	3456	3054	503	3456	5106	1585	3456	4839	369
Grp Volume(v), veh/h	188	639	627	485	653	658	396	1554	307	252	876	464
Grp Sat Flow(s),veh/h/ln	1728	1777	1731	1728	1777	1780	1728	1702	1585	1728	1702	1804
Q Serve(g_s), s	6.2	39.0	39.0	15.0	38.9	39.3	13.0	20.6	13.5	8.0	18.0	18.0
Cycle Q Clear(g_c), s	6.2	39.0	39.0	15.0	38.9	39.3	13.0	20.6	13.5	8.0	18.0	18.0
Prop In Lane	1.00		0.45	1.00		0.28	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	210	603	587	451	742	743	391	3019	937	240	1865	988
V/C Ratio(X)	0.89	1.06	1.07	1.08	0.88	0.89	1.01	0.51	0.33	1.05	0.47	0.47
Avail Cap(c_a), veh/h	210	603	587	451	742	743	391	3019	937	240	1865	988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	38.0	38.0	50.0	30.9	31.0	51.0	13.8	16.9	53.5	15.8	15.8
Incr Delay (d2), s/veh	34.7	53.8	56.6	64.3	11.9	12.4	49.0	0.6	0.9	71.3	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	25.6	25.4	10.5	18.7	19.0	8.3	7.7	5.1	5.8	7.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.4	91.8	94.6	114.3	42.8	43.4	100.0	14.4	17.8	124.8	16.7	17.4
LnGrp LOS	F	F	F	F	D	D	F	B	B	F	B	B
Approach Vol, veh/h		1454			1796			2257			1592	
Approach Delay, s/veh		92.6			62.3			29.9			34.0	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	74.0	20.0	44.0	17.0	69.0	11.0	53.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	35.0	15.0	* 39	13.0	30.0	7.0	47.0
Max Q Clear Time (g_c+I1), s	10.0	22.6	17.0	41.0	15.0	20.0	8.2	41.3
Green Ext Time (p_c), s	0.0	9.0	0.0	0.0	0.0	6.1	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	51.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



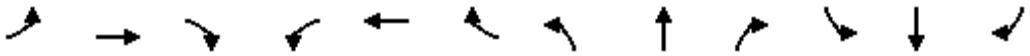
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	306	632	433	239	860	222	555	1753	173	185	1290	164
Future Volume (veh/h)	306	632	433	239	860	222	555	1753	173	185	1290	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	312	645	442	244	878	227	566	1789	177	189	1316	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1014	753	259	1053	271	655	1947	604	193	1489	621
Arrive On Green	0.10	0.29	0.29	0.08	0.26	0.26	0.19	0.38	0.38	0.11	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	4046	1041	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	312	645	442	244	738	367	566	1789	177	189	1316	167
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1683	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	10.7	19.0	5.0	8.4	24.6	24.8	19.0	40.0	9.3	12.7	29.5	4.3
Cycle Q Clear(g_c), s	10.7	19.0	5.0	8.4	24.6	24.8	19.0	40.0	9.3	12.7	29.5	4.3
Prop In Lane	1.00		1.00	1.00		0.62	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1014	753	259	886	438	655	1947	604	193	1489	621
V/C Ratio(X)	0.90	0.64	0.59	0.94	0.83	0.84	0.86	0.92	0.29	0.98	0.88	0.27
Avail Cap(c_a), veh/h	346	1125	803	259	993	491	655	1947	604	193	1489	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	37.4	10.2	55.2	41.9	42.0	47.1	35.4	25.9	53.4	40.6	9.7
Incr Delay (d2), s/veh	25.8	1.0	1.0	40.2	5.6	11.1	11.5	8.5	1.2	58.6	8.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	8.4	5.2	5.1	11.0	11.6	9.2	17.8	3.7	8.8	13.3	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.2	38.5	11.2	95.4	47.5	53.1	58.6	43.8	27.1	112.0	48.5	10.8
LnGrp LOS	E	D	B	F	D	D	E	D	C	F	D	B
Approach Vol, veh/h		1399			1349			2532			1672	
Approach Delay, s/veh		38.9			57.7			46.0			51.9	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	50.8	13.0	39.2	27.8	40.0	16.0	36.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	13.0	42.0	9.0	38.0	20.0	* 35	12.0	35.0
Max Q Clear Time (g_c+I1), s	14.7	42.0	10.4	21.0	21.0	31.5	12.7	26.8
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8	0.0	2.6	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	48.3
HCM 6th LOS	D

Notes

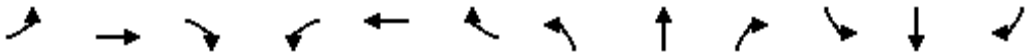
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	645	139	179	589	100	246	1265	300	181	1228	128
Future Volume (veh/h)	230	645	139	179	589	100	246	1265	300	181	1228	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	672	145	186	614	104	256	1318	312	189	1279	133
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	765	165	193	699	118	415	1409	333	244	1683	175
Arrive On Green	0.14	0.26	0.26	0.11	0.23	0.23	0.12	0.34	0.34	0.14	0.36	0.36
Sat Flow, veh/h	1781	2908	627	1781	3041	514	3456	4124	975	1781	4698	489
Grp Volume(v), veh/h	240	410	407	186	358	360	256	1088	542	189	927	485
Grp Sat Flow(s),veh/h/ln	1781	1777	1758	1781	1777	1778	1728	1702	1695	1781	1702	1782
Q Serve(g_s), s	16.0	26.6	26.6	12.5	23.3	23.4	8.4	37.1	37.2	12.3	28.8	28.8
Cycle Q Clear(g_c), s	16.0	26.6	26.6	12.5	23.3	23.4	8.4	37.1	37.2	12.3	28.8	28.8
Prop In Lane	1.00		0.36	1.00		0.29	1.00		0.58	1.00		0.27
Lane Grp Cap(c), veh/h	252	468	463	193	409	409	415	1163	579	244	1220	639
V/C Ratio(X)	0.95	0.88	0.88	0.96	0.88	0.88	0.62	0.94	0.94	0.78	0.76	0.76
Avail Cap(c_a), veh/h	252	518	513	193	459	459	415	1163	579	244	1220	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	42.3	42.4	53.3	44.6	44.6	50.2	38.2	38.2	50.0	33.9	33.9
Incr Delay (d2), s/veh	43.2	14.7	15.0	54.2	16.0	16.4	2.7	14.8	24.6	14.5	4.5	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	13.5	13.4	8.5	12.0	12.1	3.8	17.6	19.1	6.5	12.5	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.3	57.0	57.3	107.4	60.6	61.0	52.9	53.0	62.9	64.5	38.4	42.2
LnGrp LOS	F	E	E	F	E	E	D	D	E	E	D	D
Approach Vol, veh/h		1057			904			1886			1601	
Approach Delay, s/veh		65.6			70.4			55.8			42.7	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.4	46.0	17.0	36.6	18.4	48.0	21.0	32.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	41.0	13.0	35.0	11.0	43.0	17.0	31.0
Max Q Clear Time (g_c+I1), s	14.3	39.2	14.5	28.6	10.4	30.8	18.0	25.4
Green Ext Time (p_c), s	0.0	1.5	0.0	2.7	0.1	7.3	0.0	2.2

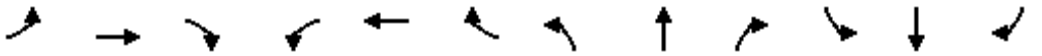
Intersection Summary	
HCM 6th Ctrl Delay	56.3
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	513	562	78	100	485	222	87	1791	61	140	1630	303
Future Volume (veh/h)	513	562	78	100	485	222	87	1791	61	140	1630	303
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	523	573	80	102	495	227	89	1828	62	143	1663	309
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	976	435	167	644	287	555	1860	63	555	1588	293
Arrive On Green	0.14	0.27	0.27	0.05	0.18	0.18	0.16	0.37	0.37	0.16	0.37	0.37
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5072	172	3456	4332	799
Grp Volume(v), veh/h	523	573	80	102	495	227	89	1226	664	143	1304	668
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1839	1728	1702	1727
Q Serve(g_s), s	17.0	16.7	3.1	3.5	15.9	11.7	2.7	42.8	42.9	4.3	44.0	44.0
Cycle Q Clear(g_c), s	17.0	16.7	3.1	3.5	15.9	11.7	2.7	42.8	42.9	4.3	44.0	44.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	490	976	435	167	644	287	555	1248	674	555	1248	633
V/C Ratio(X)	1.07	0.59	0.18	0.61	0.77	0.79	0.16	0.98	0.98	0.26	1.04	1.05
Avail Cap(c_a), veh/h	490	1333	594	202	1036	462	555	1248	674	555	1248	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	37.6	15.2	56.0	46.7	23.8	43.4	37.6	37.7	44.1	38.0	38.0
Incr Delay (d2), s/veh	60.1	0.6	0.2	3.7	2.0	4.9	0.1	21.6	31.0	0.2	38.0	51.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	7.4	1.8	1.6	7.2	4.8	1.2	21.2	24.7	1.9	24.5	27.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.6	38.2	15.4	59.7	48.7	28.7	43.5	59.2	68.6	44.4	76.0	89.1
LnGrp LOS	F	D	B	E	D	C	D	E	E	D	F	F
Approach Vol, veh/h		1176			824			1979			2115	
Approach Delay, s/veh		69.3			44.6			61.7			78.0	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.3	49.0	9.8	37.9	23.3	49.0	21.0	26.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	44.0	7.0	45.0	6.0	44.0	17.0	35.0
Max Q Clear Time (g_c+I1), s	6.3	44.9	5.5	18.7	4.7	46.0	19.0	17.9
Green Ext Time (p_c), s	0.0	0.0	0.0	4.4	0.0	0.0	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	66.5
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	203	37	125	223	119	31	1765	126	79	1652	70
Future Volume (veh/h)	77	203	37	125	223	119	31	1765	126	79	1652	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	81	214	39	132	235	125	33	1858	133	83	1739	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	497	509	187	310	159	323	2230	159	352	2386	101
Arrive On Green	0.06	0.14	0.14	0.05	0.14	0.14	0.18	0.46	0.46	0.20	0.47	0.47
Sat Flow, veh/h	1781	3554	1585	3456	2271	1166	1781	4865	347	1781	5022	214
Grp Volume(v), veh/h	81	214	39	132	182	178	33	1298	693	83	1178	635
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1660	1781	1702	1808	1781	1702	1832
Q Serve(g_s), s	5.4	6.6	0.3	4.5	11.8	12.4	1.9	40.1	40.4	4.7	33.3	33.4
Cycle Q Clear(g_c), s	5.4	6.6	0.3	4.5	11.8	12.4	1.9	40.1	40.4	4.7	33.3	33.4
Prop In Lane	1.00		1.00	1.00		0.70	1.00		0.19	1.00		0.12
Lane Grp Cap(c), veh/h	102	497	509	187	242	227	323	1560	829	352	1617	870
V/C Ratio(X)	0.79	0.43	0.08	0.71	0.75	0.79	0.10	0.83	0.84	0.24	0.73	0.73
Avail Cap(c_a), veh/h	119	918	696	230	459	429	323	1560	829	352	1617	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	47.2	16.9	55.8	49.8	50.1	41.0	28.5	28.5	40.5	25.3	25.3
Incr Delay (d2), s/veh	26.1	0.6	0.1	7.3	4.6	5.9	0.1	5.3	9.8	0.3	2.9	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.0	0.6	2.2	5.6	5.5	0.8	17.1	19.3	2.1	13.8	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.9	47.8	17.0	63.1	54.5	56.0	41.1	33.8	38.3	40.8	28.2	30.7
LnGrp LOS	F	D	B	E	D	E	D	C	D	D	C	C
Approach Vol, veh/h		334			492			2024			1896	
Approach Delay, s/veh		52.5			57.4			35.5			29.6	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	60.0	10.5	21.8	25.7	62.0	10.9	21.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	55.0	8.0	31.0	6.0	57.0	8.0	31.0
Max Q Clear Time (g_c+I1), s	6.7	42.4	6.5	8.6	3.9	35.4	7.4	14.4
Green Ext Time (p_c), s	0.0	9.9	0.1	1.4	0.0	13.8	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

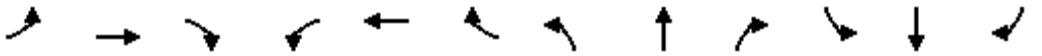
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	131	47	126	111	6	517	12	354	25	7	13
Future Volume (veh/h)	7	131	47	126	111	6	517	12	354	25	7	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	138	49	133	117	6	544	13	373	26	7	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	477	163	450	1072	55	697	17	634	191	52	103
Arrive On Green	0.01	0.18	0.18	0.13	0.31	0.31	0.40	0.40	0.40	0.20	0.20	0.20
Sat Flow, veh/h	1781	2600	888	3456	3440	175	1742	42	1585	957	258	515
Grp Volume(v), veh/h	7	93	94	133	60	63	557	0	373	47	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1711	1728	1777	1839	1783	0	1585	1730	0	0
Q Serve(g_s), s	0.5	5.4	5.7	4.2	2.9	2.9	32.7	0.0	22.2	2.7	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.4	5.7	4.2	2.9	2.9	32.7	0.0	22.2	2.7	0.0	0.0
Prop In Lane	1.00		0.52	1.00		0.10	0.98		1.00	0.55		0.30
Lane Grp Cap(c), veh/h	19	326	314	450	553	573	713	0	634	346	0	0
V/C Ratio(X)	0.38	0.28	0.30	0.30	0.11	0.11	0.78	0.00	0.59	0.14	0.00	0.00
Avail Cap(c_a), veh/h	89	326	314	450	553	573	713	0	634	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.0	42.2	42.4	47.2	29.4	29.5	31.4	0.0	28.2	39.5	0.0	0.0
Incr Delay (d2), s/veh	12.2	2.2	2.5	0.4	0.4	0.4	8.3	0.0	4.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.6	1.8	1.3	1.4	15.5	0.0	9.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	44.4	44.8	47.6	29.8	29.8	39.7	0.0	32.2	40.3	0.0	0.0
LnGrp LOS	E	D	D	D	C	C	D	A	C	D	A	A
Approach Vol, veh/h		194			256			930			47	
Approach Delay, s/veh		45.6			39.0			36.7			40.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		53.0	20.8	27.0		29.0	5.2	42.5				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		48.0	7.0	* 22		24.0	6.0	23.0				
Max Q Clear Time (g_c+I1), s		34.7	6.2	7.7		4.7	2.5	4.9				
Green Ext Time (p_c), s		4.4	0.0	0.8		0.2	0.0	0.5				

Intersection Summary												
HCM 6th Ctrl Delay			38.4									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



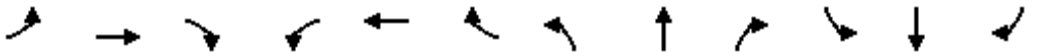
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	312	58	157	113	112	408	85	1155	86	22	1753	37
Future Volume (veh/h)	312	58	157	113	112	408	85	1155	86	22	1753	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	325	60	164	118	117	425	89	1203	0	23	1826	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	383	267	238	172	317	683	519	1574		608	2306	
Arrive On Green	0.11	0.15	0.15	0.05	0.09	0.09	0.29	0.31	0.00	0.34	0.36	0.00
Sat Flow, veh/h	3456	1777	1585	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	325	60	164	118	117	425	89	1203	0	23	1826	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	11.1	3.6	11.8	4.0	3.7	6.3	4.5	25.6	0.0	1.0	30.5	0.0
Cycle Q Clear(g_c), s	11.1	3.6	11.8	4.0	3.7	6.3	4.5	25.6	0.0	1.0	30.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	383	267	238	172	317	683	519	1574		608	2306	
V/C Ratio(X)	0.85	0.22	0.69	0.69	0.37	0.62	0.17	0.76		0.04	0.79	
Avail Cap(c_a), veh/h	432	622	555	230	1036	1004	519	1574		608	2306	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.3	44.8	48.3	56.1	51.5	11.7	31.7	37.6	0.0	26.4	34.5	0.0
Incr Delay (d2), s/veh	13.4	0.4	3.5	5.2	0.7	0.9	0.2	3.6	0.0	0.0	2.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	1.6	4.9	1.9	1.7	5.3	2.0	11.1	0.0	0.4	12.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	45.2	51.8	61.3	52.2	12.7	31.9	41.1	0.0	26.4	37.4	0.0
LnGrp LOS	E	D	D	E	D	B	C	D		C	D	
Approach Vol, veh/h		549			660			1292	A		1849	A
Approach Delay, s/veh		59.3			28.4			40.5			37.2	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.0	42.0	10.0	23.0	39.0	48.0	17.3	15.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	15.0	37.0	8.0	42.0	9.0	43.0	15.0	35.0
Max Q Clear Time (g_c+I1), s	3.0	27.6	6.0	13.8	6.5	32.5	13.1	8.3
Green Ext Time (p_c), s	0.0	5.5	0.1	1.4	0.0	8.2	0.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	39.7
HCM 6th LOS	D

Notes

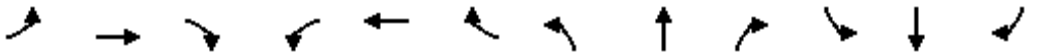
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	0	245	0	0	0	0	1237	234	656	1377	0
Future Volume (veh/h)	77	0	245	0	0	0	0	1237	234	656	1377	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	79	0	250				0	1262	239	669	1405	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	312	0	277				0	2113	400	754	3787	0
Arrive On Green	0.18	0.00	0.18				0.00	0.49	0.49	0.22	0.74	0.00
Sat Flow, veh/h	1781	0	1585				0	4479	816	3456	5274	0
Grp Volume(v), veh/h	79	0	250				0	996	505	669	1405	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1723	1728	1702	0
Q Serve(g_s), s	4.6	0.0	18.5				0.0	25.3	25.3	22.5	11.8	0.0
Cycle Q Clear(g_c), s	4.6	0.0	18.5				0.0	25.3	25.3	22.5	11.8	0.0
Prop In Lane	1.00		1.00				0.00		0.47	1.00		0.00
Lane Grp Cap(c), veh/h	312	0	277				0	1668	845	754	3787	0
V/C Ratio(X)	0.25	0.00	0.90				0.00	0.60	0.60	0.89	0.37	0.00
Avail Cap(c_a), veh/h	371	0	330				0	1668	845	922	3787	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.7	0.0	48.5				0.0	22.1	22.1	45.5	5.5	0.0
Incr Delay (d2), s/veh	0.4	0.0	23.9				0.0	1.6	3.1	9.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	9.1				0.0	10.3	10.8	10.6	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.0	72.3				0.0	23.6	25.2	54.6	5.8	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		329						1501			2074	
Approach Delay, s/veh		65.3						24.2			21.5	
Approach LOS		E						C			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.2	63.8		26.0		94.0						
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0						
Max Green Setting (Gmax), s	32.0	49.0		25.0		85.0						
Max Q Clear Time (g_c+I1), s	24.5	27.3		20.5		13.8						
Green Ext Time (p_c), s	1.7	11.4		0.5		16.1						

Intersection Summary												
HCM 6th Ctrl Delay			26.2									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	977	430	860	911	21	409	69	1089	101	44	25
Future Volume (veh/h)	42	977	430	860	911	21	409	69	1089	101	44	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	1007	443	887	939	22	473	0	1123	104	45	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	1096	489	879	1508	35	683	0	1162	175	76	44
Arrive On Green	0.05	0.31	0.31	0.17	0.43	0.43	0.19	0.00	0.19	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3549	83	3563	0	3170	1052	455	263
Grp Volume(v), veh/h	43	1007	443	887	470	491	473	0	1123	175	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1855	1781	0	1585	1770	0	0
Q Serve(g_s), s	2.8	32.8	32.2	21.0	24.8	24.8	14.9	0.0	23.0	11.0	0.0	0.0
Cycle Q Clear(g_c), s	2.8	32.8	32.2	21.0	24.8	24.8	14.9	0.0	23.0	11.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.59		0.15
Lane Grp Cap(c), veh/h	89	1096	489	879	755	789	683	0	1162	295	0	0
V/C Ratio(X)	0.48	0.92	0.91	1.01	0.62	0.62	0.69	0.00	0.97	0.59	0.00	0.00
Avail Cap(c_a), veh/h	104	1096	489	879	755	789	683	0	1162	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	55.5	40.1	39.8	49.5	27.0	27.0	45.2	0.0	37.3	46.2	0.0	0.0
Incr Delay (d2), s/veh	4.0	13.6	23.1	32.6	3.8	3.7	5.7	0.0	19.4	8.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	16.2	15.5	11.4	11.2	11.7	7.1	0.0	19.0	5.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	53.6	62.9	82.1	30.8	30.7	50.9	0.0	56.7	54.7	0.0	0.0
LnGrp LOS	E	D	E	F	C	C	D	A	E	D	A	A
Approach Vol, veh/h		1493			1848			1596			175	
Approach Delay, s/veh		56.6			55.4			55.0			54.7	
Approach LOS		E			E			D			D	

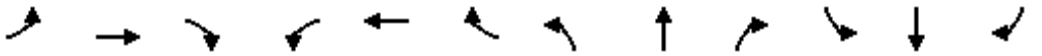
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	28.0	25.0	42.0	25.0	11.0	56.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	23.0	21.0	37.0	20.0	7.0	* 51
Max Q Clear Time (g_c+I1), s	25.0	23.0	34.8	13.0	4.8	26.8
Green Ext Time (p_c), s	0.0	0.0	1.6	0.5	0.0	6.8

Intersection Summary	
HCM 6th Ctrl Delay	55.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	714	1286	12	83	1101	425	44	76	82	286	26	739
Future Volume (veh/h)	714	1286	12	83	1101	425	44	76	82	286	26	739
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	736	1326	12	86	1135	438	45	78	85	295	27	762
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	768	1862	17	110	1264	564	55	72	405	77	0	757
Arrive On Green	0.22	0.52	0.52	0.06	0.36	0.36	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	3456	3609	33	1781	3554	1585	0	280	1585	0	0	1585
Grp Volume(v), veh/h	736	653	685	86	1135	438	123	0	85	322	0	762
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	280	0	1585	0	0	1585
Q Serve(g_s), s	18.9	25.3	25.3	4.3	27.2	22.1	0.0	0.0	3.8	0.0	0.0	23.0
Cycle Q Clear(g_c), s	18.9	25.3	25.3	4.3	27.2	22.1	23.0	0.0	3.8	23.0	0.0	23.0
Prop In Lane	1.00		0.02	1.00		1.00	0.37		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	768	917	962	110	1264	564	126	0	405	77	0	757
V/C Ratio(X)	0.96	0.71	0.71	0.78	0.90	0.78	0.97	0.00	0.21	4.20	0.00	1.01
Avail Cap(c_a), veh/h	768	917	962	139	1264	564	126	0	405	77	0	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.6	16.7	16.7	41.6	27.5	25.8	32.6	0.0	26.4	45.0	0.0	23.5
Incr Delay (d2), s/veh	22.8	4.7	4.5	19.7	10.3	10.1	73.4	0.0	1.2	1470.7	0.0	34.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	10.7	11.2	2.5	12.8	9.6	5.3	0.0	1.5	33.0	0.0	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	21.3	21.1	61.4	37.7	35.9	106.0	0.0	27.5	1515.7	0.0	57.7
LnGrp LOS	E	C	C	E	D	D	F	A	C	F	A	F
Approach Vol, veh/h		2074			1659			208			1084	
Approach Delay, s/veh		34.1			38.5			73.9			490.8	
Approach LOS		C			D			E			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	10.6	51.4		28.0	25.0	37.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		23.0	7.0	45.0		23.0	20.0	32.0				
Max Q Clear Time (g_c+I1), s		25.0	6.3	27.3		25.0	20.9	29.2				
Green Ext Time (p_c), s		0.0	0.0	8.9		0.0	0.0	2.2				

Intersection Summary												
HCM 6th Ctrl Delay			135.7									
HCM 6th LOS			F									

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	1696	2043	135	11	71
Future Vol, veh/h	113	1696	2043	135	11	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	1748	2106	139	11	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2245	0	-	0	3107	1123
Stage 1	-	-	-	-	2176	-
Stage 2	-	-	-	-	931	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 94	-	-	-	23	172
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	311	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 94	-	-	-	0	172
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	311	-

Approach	EB	WB	SB
HCM Control Delay, s	15.8	0	44.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 94	-	-	-	172
HCM Lane V/C Ratio	1.239	-	-	-	0.491
HCM Control Delay (s)	252.9	-	-	-	44.6
HCM Lane LOS	F	-	-	-	E
HCM 95th %tile Q(veh)	8.2	-	-	-	2.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX I-II

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

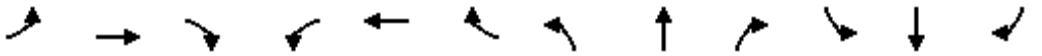
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	631	191	194	619	110	198	1332	187	215	2149	320
Future Volume (veh/h)	165	631	191	194	619	110	198	1332	187	215	2149	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	671	203	206	659	117	211	1417	199	229	2286	340
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	721	218	230	885	157	193	2152	668	252	2322	721
Arrive On Green	0.05	0.27	0.27	0.07	0.29	0.29	0.11	0.42	0.42	0.14	0.45	0.45
Sat Flow, veh/h	3456	2688	813	3456	3016	535	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	176	443	431	206	388	388	211	1417	199	229	2286	340
Grp Sat Flow(s),veh/h/ln	1728	1777	1724	1728	1777	1774	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.0	29.2	29.2	7.1	23.7	23.7	13.0	26.7	8.4	15.2	53.0	17.9
Cycle Q Clear(g_c), s	6.0	29.2	29.2	7.1	23.7	23.7	13.0	26.7	8.4	15.2	53.0	17.9
Prop In Lane	1.00		0.47	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	173	477	463	230	521	520	193	2152	668	252	2322	721
V/C Ratio(X)	1.02	0.93	0.93	0.89	0.74	0.75	1.09	0.66	0.30	0.91	0.98	0.47
Avail Cap(c_a), veh/h	173	489	474	230	521	520	193	2152	668	252	2322	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	42.8	42.8	55.6	38.3	38.3	53.5	27.8	16.1	50.7	32.3	22.7
Incr Delay (d2), s/veh	73.4	24.2	24.9	32.7	5.7	5.8	91.9	1.6	1.1	33.3	15.4	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	15.9	15.5	4.1	11.1	11.1	10.7	11.1	3.2	9.1	24.4	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	130.4	67.0	67.7	88.2	44.1	44.1	145.4	29.4	17.3	84.0	47.7	24.9
LnGrp LOS	F	E	E	F	D	D	F	C	B	F	D	C
Approach Vol, veh/h		1050			982			1827			2855	
Approach Delay, s/veh		77.9			53.4			41.5			47.9	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	55.8	13.0	37.2	17.0	59.8	10.0	40.2
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	17.0	44.0	8.0	* 33	13.0	48.0	6.0	35.0
Max Q Clear Time (g_c+I1), s	17.2	28.7	9.1	31.2	15.0	55.0	8.0	25.7
Green Ext Time (p_c), s	0.0	9.5	0.0	1.0	0.0	0.0	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	51.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



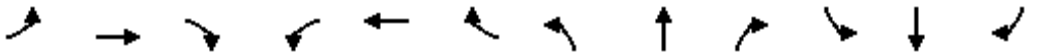
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	15	190	59	29	28	99	1405	18	24	2227	128
Future Volume (veh/h)	210	15	190	59	29	28	99	1405	18	24	2227	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	219	16	198	61	30	29	103	1464	19	25	2320	133
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	398	337	300	186	180	127	2766	859	215	3059	950
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.07	0.54	0.54	0.24	1.00	1.00
Sat Flow, veh/h	1344	1870	1585	1167	874	845	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	219	16	198	61	0	59	103	1464	19	25	2320	133
Grp Sat Flow(s),veh/h/ln	1344	1870	1585	1167	0	1718	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.0	0.8	13.5	5.3	0.0	3.4	6.8	22.1	0.7	1.3	0.0	0.0
Cycle Q Clear(g_c), s	22.4	0.8	13.5	6.1	0.0	3.4	6.8	22.1	0.7	1.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	308	398	337	300	0	365	127	2766	859	215	3059	950
V/C Ratio(X)	0.71	0.04	0.59	0.20	0.00	0.16	0.81	0.53	0.02	0.12	0.76	0.14
Avail Cap(c_a), veh/h	414	546	462	393	0	501	148	2766	859	215	3059	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	47.6	37.5	42.5	39.9	0.0	38.5	54.9	17.7	12.8	40.5	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	1.6	0.3	0.0	0.2	24.3	0.7	0.0	0.2	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.4	5.4	1.5	0.0	1.4	3.9	8.7	0.2	0.6	0.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	37.6	44.1	40.3	0.0	38.7	79.2	18.4	12.8	40.7	1.4	0.2
LnGrp LOS	D	D	D	D	A	D	E	B	B	D	A	A
Approach Vol, veh/h		433			120			1586			2478	
Approach Delay, s/veh		47.5			39.5			22.3			1.8	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.5	70.0		30.5	12.6	76.9		30.5				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 65		35.0	10.0	61.0		35.0				
Max Q Clear Time (g_c+I1), s	3.3	24.1		24.4	8.8	2.0		8.1				
Green Ext Time (p_c), s	0.0	15.4		1.1	0.0	38.6		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		14.1	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



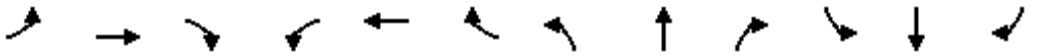
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	0	32	61	0	30	9	1750	19	9	2321	15
Future Volume (veh/h)	52	0	32	61	0	30	9	1750	19	9	2321	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	0	33	64	0	31	9	1823	20	9	2418	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	0	133	149	0	133	385	4095	45	23	2936	911
Arrive On Green	0.08	0.00	0.08	0.08	0.00	0.08	0.22	0.79	0.79	0.01	0.57	0.57
Sat Flow, veh/h	1378	0	1585	1376	0	1585	1781	5207	57	1781	5106	1585
Grp Volume(v), veh/h	54	0	33	64	0	31	9	1192	651	9	2418	16
Grp Sat Flow(s),veh/h/ln	1378	0	1585	1376	0	1585	1781	1702	1860	1781	1702	1585
Q Serve(g_s), s	4.6	0.0	2.3	5.5	0.0	2.2	0.5	13.8	13.8	0.6	45.9	0.5
Cycle Q Clear(g_c), s	6.8	0.0	2.3	7.8	0.0	2.2	0.5	13.8	13.8	0.6	45.9	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	151	0	133	149	0	133	385	2677	1463	23	2936	911
V/C Ratio(X)	0.36	0.00	0.25	0.43	0.00	0.23	0.02	0.45	0.45	0.39	0.82	0.02
Avail Cap(c_a), veh/h	391	0	409	389	0	409	385	2677	1463	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	51.4	55.1	0.0	51.4	37.1	4.2	4.2	58.8	20.6	10.9
Incr Delay (d2), s/veh	1.4	0.0	1.0	2.0	0.0	0.9	0.0	0.5	0.9	10.4	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.0	2.0	0.0	0.9	0.2	4.1	4.6	0.3	18.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	0.0	52.4	57.0	0.0	52.2	37.1	4.7	5.1	69.1	23.4	11.0
LnGrp LOS	E	A	D	E	A	D	D	A	A	E	C	B
Approach Vol, veh/h		87			95			1852			2443	
Approach Delay, s/veh		54.6			55.5			5.0			23.4	
Approach LOS		D			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	99.4		15.1	30.9	74.0		15.1				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	2.6	15.8		8.8	2.5	47.9		9.8				
Green Ext Time (p_c), s	0.0	22.7		0.3	0.0	17.9		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		17.1	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



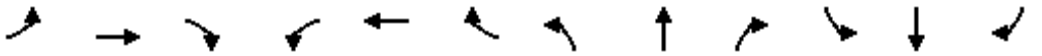
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	975	200	497	1228	274	234	1008	548	329	1621	279
Future Volume (veh/h)	104	975	200	497	1228	274	234	1008	548	329	1621	279
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	1037	213	529	1306	291	249	1072	583	350	1724	297
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	1274	261	346	1837	570	345	1872	1302	259	1702	528
Arrive On Green	0.05	0.30	0.30	0.10	0.36	0.36	0.10	0.37	0.37	0.08	0.33	0.33
Sat Flow, veh/h	3456	4247	871	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	111	831	419	529	1306	291	249	1072	583	350	1724	297
Grp Sat Flow(s),veh/h/ln	1728	1702	1714	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	3.8	27.1	27.2	12.0	26.4	17.3	8.4	20.2	3.4	9.0	40.0	15.0
Cycle Q Clear(g_c), s	3.8	27.1	27.2	12.0	26.4	17.3	8.4	20.2	3.4	9.0	40.0	15.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	1022	514	346	1837	570	345	1872	1302	259	1702	528
V/C Ratio(X)	0.66	0.81	0.81	1.53	0.71	0.51	0.72	0.57	0.45	1.35	1.01	0.56
Avail Cap(c_a), veh/h	230	1191	600	346	1957	608	345	1872	1302	259	1702	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	38.9	38.9	54.0	33.1	30.1	52.4	30.5	9.8	55.5	40.0	21.8
Incr Delay (d2), s/veh	4.3	3.9	7.5	253.0	1.1	0.7	6.5	1.2	1.0	181.0	25.1	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	11.8	12.4	17.3	11.0	6.7	4.0	8.4	3.3	10.4	20.4	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	42.7	46.4	307.0	34.2	30.8	58.9	31.6	10.8	236.5	65.1	26.0
LnGrp LOS	E	D	D	F	C	C	E	C	B	F	F	C
Approach Vol, veh/h		1361			2126			1904			2371	
Approach Delay, s/veh		45.3			101.6			28.8			85.5	
Approach LOS		D			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	49.0	17.0	41.0	17.0	45.0	9.9	48.2
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	8.0	* 40	8.0	46.0
Max Q Clear Time (g_c+I1), s	11.0	22.2	14.0	29.2	10.4	42.0	5.8	28.4
Green Ext Time (p_c), s	0.0	9.4	0.0	6.8	0.0	0.0	0.1	10.0

Intersection Summary	
HCM 6th Ctrl Delay	69.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1761	46	104	1919	30	68	14	63	44	6	51
Future Volume (veh/h)	57	1761	46	104	1919	30	68	14	63	44	6	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	1834	48	108	1999	31	82	0	66	46	6	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	2066	641	133	2271	705	223	0	99	462	60	462
Arrive On Green	0.04	0.40	0.40	0.07	0.44	0.44	0.06	0.00	0.06	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3563	0	1585	1584	207	1585
Grp Volume(v), veh/h	59	1834	48	108	1999	31	82	0	66	52	0	53
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	0	1585	1791	0	1585
Q Serve(g_s), s	3.9	40.0	2.2	7.2	42.9	1.3	2.7	0.0	4.9	2.5	0.0	2.9
Cycle Q Clear(g_c), s	3.9	40.0	2.2	7.2	42.9	1.3	2.7	0.0	4.9	2.5	0.0	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.88		1.00
Lane Grp Cap(c), veh/h	76	2066	641	133	2271	705	223	0	99	522	0	462
V/C Ratio(X)	0.78	0.89	0.07	0.81	0.88	0.04	0.37	0.00	0.66	0.10	0.00	0.11
Avail Cap(c_a), veh/h	104	2128	660	148	2271	705	223	0	99	522	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.9	33.2	21.9	54.7	30.4	18.9	54.0	0.0	55.0	31.0	0.0	31.1
Incr Delay (d2), s/veh	21.9	4.9	0.0	26.0	4.4	0.0	4.6	0.0	30.0	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	17.1	0.8	4.2	18.0	0.5	1.3	0.0	2.8	1.2	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.8	38.1	22.0	80.7	34.8	18.9	58.6	0.0	85.0	31.4	0.0	31.6
LnGrp LOS	E	D	C	F	C	B	E	A	F	C	A	C
Approach Vol, veh/h		1941			2138			148			105	
Approach Delay, s/veh		39.0			36.9			70.4			31.5	
Approach LOS		D			D			E			C	

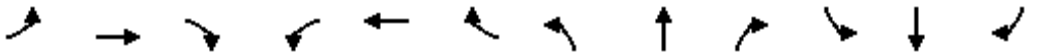
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.5	13.9	53.5		40.0	9.1	58.4				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		6.0	10.0	* 50		35.0	7.0	53.0				
Max Q Clear Time (g_c+I1), s		6.9	9.2	42.0		4.9	5.9	44.9				
Green Ext Time (p_c), s		0.0	0.0	6.5		0.4	0.0	6.9				

Intersection Summary												
HCM 6th Ctrl Delay			38.8									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	1551	249	124	1728	97	237	476	132	248	674	198
Future Volume (veh/h)	99	1551	249	124	1728	97	237	476	132	248	674	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	1633	262	131	1819	102	249	501	139	261	709	208
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	2004	622	185	1959	110	1097	2046	913	259	1155	515
Arrive On Green	0.04	0.39	0.39	0.05	0.40	0.40	0.32	0.58	0.58	0.08	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	4948	277	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	104	1633	262	131	1250	671	249	501	139	261	709	208
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1821	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.6	34.3	10.8	4.5	42.1	42.3	6.4	8.4	4.9	9.0	20.2	12.2
Cycle Q Clear(g_c), s	3.6	34.3	10.8	4.5	42.1	42.3	6.4	8.4	4.9	9.0	20.2	12.2
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	2004	622	185	1348	721	1097	2046	913	259	1155	515
V/C Ratio(X)	0.72	0.81	0.42	0.71	0.93	0.93	0.23	0.24	0.15	1.01	0.61	0.40
Avail Cap(c_a), veh/h	144	2004	622	202	1362	728	1097	2046	913	259	1155	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	32.6	14.8	55.9	34.6	34.7	30.1	12.6	11.8	55.5	34.2	31.5
Incr Delay (d2), s/veh	16.2	2.7	0.5	10.0	11.1	18.4	0.1	0.3	0.4	57.7	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	14.4	3.9	2.2	19.1	22.0	2.7	3.4	1.8	6.0	9.1	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.1	35.3	15.2	65.9	45.7	53.0	30.2	12.9	12.2	113.2	36.6	33.8
LnGrp LOS	E	D	B	E	D	D	C	B	B	F	D	C
Approach Vol, veh/h		1999			2052			889			1178	
Approach Delay, s/veh		34.6			49.4			17.6			53.1	
Approach LOS		C			D			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	74.6	10.4	52.1	43.6	44.0	10.0	52.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	9.0	40.0	7.0	46.0	10.0	* 39	5.0	* 48
Max Q Clear Time (g_c+I1), s	11.0	10.4	6.5	36.3	8.4	22.2	5.6	44.3
Green Ext Time (p_c), s	0.0	4.1	0.0	7.5	0.1	5.3	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1476	300	239	1664	59	223	404	206	183	871	56
Future Volume (veh/h)	59	1476	300	239	1664	59	223	404	206	183	871	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	1538	312	249	1733	61	232	421	215	191	907	58
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	1596	322	288	2005	71	259	1138	508	247	1075	69
Arrive On Green	0.05	0.37	0.37	0.08	0.40	0.40	0.08	0.32	0.32	0.07	0.32	0.32
Sat Flow, veh/h	3456	4260	860	3456	5064	178	3456	3554	1585	3456	3391	217
Grp Volume(v), veh/h	61	1228	622	249	1165	629	232	421	215	191	475	490
Grp Sat Flow(s),veh/h/ln	1728	1702	1716	1728	1702	1838	1728	1777	1585	1728	1777	1831
Q Serve(g_s), s	2.0	42.3	42.7	8.5	37.7	37.8	8.0	11.0	12.8	6.5	29.9	29.9
Cycle Q Clear(g_c), s	2.0	42.3	42.7	8.5	37.7	37.8	8.0	11.0	12.8	6.5	29.9	29.9
Prop In Lane	1.00		0.50	1.00		0.10	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	186	1276	643	288	1347	728	259	1138	508	247	563	580
V/C Ratio(X)	0.33	0.96	0.97	0.86	0.86	0.87	0.90	0.37	0.42	0.77	0.84	0.84
Avail Cap(c_a), veh/h	186	1277	643	288	1418	766	259	1138	508	288	563	580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	36.7	36.8	54.3	33.3	33.3	55.0	31.4	32.1	54.7	38.2	38.2
Incr Delay (d2), s/veh	1.0	16.9	27.6	22.9	5.6	9.8	30.2	0.9	2.6	10.5	14.4	14.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	20.2	22.5	4.6	16.3	18.5	4.6	4.9	5.3	3.2	15.1	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	53.6	64.4	77.2	38.9	43.1	85.2	32.4	34.6	65.3	52.6	52.2
LnGrp LOS	E	D	E	E	D	D	F	C	C	E	D	D
Approach Vol, veh/h		1911			2043			868			1156	
Approach Delay, s/veh		57.2			44.9			47.1			54.5	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	43.4	14.0	50.0	13.0	43.0	11.5	52.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	37.0	10.0	45.0	9.0	38.0	5.0	* 50
Max Q Clear Time (g_c+I1), s	8.5	14.8	10.5	44.7	10.0	31.9	4.0	39.8
Green Ext Time (p_c), s	0.1	3.6	0.0	0.3	0.0	3.1	0.0	7.7

Intersection Summary	
HCM 6th Ctrl Delay	51.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	1273	304	261	1297	84	311	509	292	248	1198	203
Future Volume (veh/h)	145	1273	304	261	1297	84	311	509	292	248	1198	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	1299	310	266	1323	86	317	519	298	253	1222	207
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	1392	332	322	1620	503	410	1684	523	307	1489	462
Arrive On Green	0.11	0.34	0.34	0.09	0.32	0.32	0.12	0.33	0.33	0.09	0.29	0.29
Sat Flow, veh/h	3456	4116	982	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	148	1074	535	266	1323	86	317	519	298	253	1222	207
Grp Sat Flow(s),veh/h/ln	1728	1702	1694	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	4.8	36.6	36.7	9.1	28.7	3.6	10.7	9.1	18.6	8.6	26.7	12.8
Cycle Q Clear(g_c), s	4.8	36.6	36.7	9.1	28.7	3.6	10.7	9.1	18.6	8.6	26.7	12.8
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	1152	573	322	1620	503	410	1684	523	307	1489	462
V/C Ratio(X)	0.40	0.93	0.93	0.83	0.82	0.17	0.77	0.31	0.57	0.82	0.82	0.45
Avail Cap(c_a), veh/h	365	1163	579	346	1830	568	410	1684	523	317	1489	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	38.4	38.4	53.5	37.8	17.1	51.3	30.0	33.2	53.7	39.6	34.6
Incr Delay (d2), s/veh	0.7	13.3	22.3	14.4	2.7	0.2	8.9	0.5	4.5	15.6	5.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	17.2	18.5	4.6	12.2	1.8	5.1	3.8	7.8	4.4	11.8	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	51.6	60.7	67.9	40.5	17.2	60.2	30.5	37.7	69.4	44.8	37.7
LnGrp LOS	D	D	E	E	D	B	E	C	D	E	D	D
Approach Vol, veh/h		1757			1675			1134			1682	
Approach Delay, s/veh		54.3			43.6			40.7			47.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	44.6	15.2	45.6	19.2	40.0	17.7	43.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	11.0	38.0	12.0	41.0	14.0	* 35	10.0	* 43
Max Q Clear Time (g_c+I1), s	10.6	20.6	11.1	38.7	12.7	28.7	6.8	30.7
Green Ext Time (p_c), s	0.0	4.4	0.1	1.9	0.2	4.3	0.1	7.4

Intersection Summary	
HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

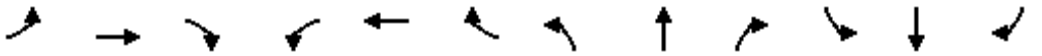
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	982	193	424	1016	153	271	882	254	212	1563	242
Future Volume (veh/h)	258	982	193	424	1016	153	271	882	254	212	1563	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	1012	199	437	1047	158	279	909	262	219	1611	249
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	938	184	403	1110	167	259	3119	968	279	2752	424
Arrive On Green	0.08	0.32	0.32	0.12	0.36	0.36	0.08	0.61	0.61	0.08	0.62	0.62
Sat Flow, veh/h	3456	2961	581	3456	3097	467	3456	5106	1585	3456	4463	687
Grp Volume(v), veh/h	266	606	605	437	600	605	279	909	262	219	1227	633
Grp Sat Flow(s),veh/h/ln	1728	1777	1766	1728	1777	1786	1728	1702	1585	1728	1702	1747
Q Serve(g_s), s	9.2	38.0	38.0	14.0	39.3	39.4	9.0	10.1	11.2	7.5	25.9	26.1
Cycle Q Clear(g_c), s	9.2	38.0	38.0	14.0	39.3	39.4	9.0	10.1	11.2	7.5	25.9	26.1
Prop In Lane	1.00		0.33	1.00		0.26	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	288	563	559	403	637	640	259	3119	968	279	2099	1077
V/C Ratio(X)	0.92	1.08	1.08	1.08	0.94	0.94	1.08	0.29	0.27	0.78	0.58	0.59
Avail Cap(c_a), veh/h	288	563	559	403	637	640	259	3119	968	374	2099	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	41.0	41.0	53.0	37.3	37.4	55.5	11.1	16.0	54.1	13.8	13.8
Incr Delay (d2), s/veh	33.6	60.6	61.9	69.2	22.5	22.9	77.7	0.2	0.7	7.6	1.2	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	25.8	25.9	9.9	20.7	21.0	6.7	3.8	4.2	3.5	9.8	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.3	101.6	102.9	122.2	59.8	60.3	133.2	11.3	16.7	61.7	15.0	16.2
LnGrp LOS	F	F	F	F	E	E	F	B	B	E	B	B
Approach Vol, veh/h		1477			1642			1450			2079	
Approach Delay, s/veh		99.7			76.6			35.7			20.3	
Approach LOS		F			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	79.3	19.0	43.0	13.0	80.0	14.0	48.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	37.0	14.0	* 38	9.0	41.0	10.0	42.0
Max Q Clear Time (g_c+I1), s	9.5	13.2	16.0	40.0	11.0	28.1	11.2	41.4
Green Ext Time (p_c), s	0.2	8.0	0.0	0.0	0.0	9.6	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	55.2
HCM 6th LOS	E

Notes

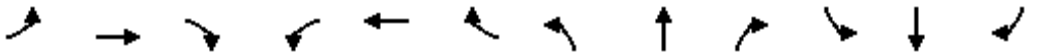
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	663	530	312	683	85	372	1294	250	141	1642	477
Future Volume (veh/h)	112	663	530	312	683	85	372	1294	250	141	1642	477
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	705	564	332	727	90	396	1377	266	150	1747	507
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	897	687	317	1351	166	625	1745	542	293	1659	596
Arrive On Green	0.05	0.25	0.25	0.09	0.29	0.29	0.18	0.34	0.34	0.16	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	3456	4607	566	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	119	705	564	332	536	281	396	1377	266	150	1747	507
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1769	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	4.1	22.2	10.9	11.0	15.8	16.0	12.7	29.2	11.9	9.2	39.0	24.9
Cycle Q Clear(g_c), s	4.1	22.2	10.9	11.0	15.8	16.0	12.7	29.2	11.9	9.2	39.0	24.9
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	897	687	317	998	519	625	1745	542	293	1659	596
V/C Ratio(X)	0.68	0.79	0.82	1.05	0.54	0.54	0.63	0.79	0.49	0.51	1.05	0.85
Avail Cap(c_a), veh/h	346	1125	789	317	1050	545	625	1745	542	293	1659	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	41.8	14.9	54.5	35.6	35.6	45.5	35.6	17.4	45.8	40.5	20.2
Incr Delay (d2), s/veh	4.5	3.0	6.2	63.7	0.5	1.0	2.1	3.7	3.2	1.5	37.5	14.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.1	9.3	7.6	6.6	7.1	5.6	12.6	4.8	4.2	21.8	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	44.8	21.1	118.2	36.0	36.6	47.6	39.3	20.6	47.3	78.0	34.5
LnGrp LOS	E	D	C	F	D	D	D	D	C	D	F	C
Approach Vol, veh/h		1388			1149			2039			2404	
Approach Delay, s/veh		36.5			59.9			38.5			66.9	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.7	46.0	15.0	35.3	25.7	44.0	10.1	40.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	41.0	11.0	38.0	14.0	39.0	12.0	37.0
Max Q Clear Time (g_c+I1), s	11.2	31.2	13.0	24.2	14.7	41.0	6.1	18.0
Green Ext Time (p_c), s	0.0	6.8	0.0	6.1	0.0	0.0	0.1	5.3

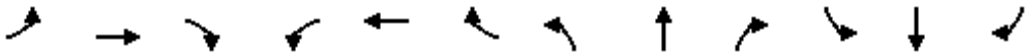
Intersection Summary	
HCM 6th Ctrl Delay	51.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	470	102	231	611	70	260	896	188	143	1425	122
Future Volume (veh/h)	152	470	102	231	611	70	260	896	188	143	1425	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	495	107	243	643	74	274	943	198	151	1500	128
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	600	129	252	777	89	583	1269	266	360	1597	136
Arrive On Green	0.11	0.21	0.21	0.14	0.24	0.24	0.17	0.30	0.30	0.20	0.33	0.33
Sat Flow, veh/h	1781	2909	625	1781	3212	369	3456	4230	885	1781	4792	409
Grp Volume(v), veh/h	160	301	301	243	355	362	274	758	383	151	1065	563
Grp Sat Flow(s),veh/h/ln	1781	1777	1758	1781	1777	1804	1728	1702	1711	1781	1702	1797
Q Serve(g_s), s	10.6	19.4	19.7	16.3	22.7	22.8	8.6	24.1	24.2	8.9	36.4	36.5
Cycle Q Clear(g_c), s	10.6	19.4	19.7	16.3	22.7	22.8	8.6	24.1	24.2	8.9	36.4	36.5
Prop In Lane	1.00		0.36	1.00		0.20	1.00		0.52	1.00		0.23
Lane Grp Cap(c), veh/h	189	367	363	252	430	436	583	1021	513	360	1135	599
V/C Ratio(X)	0.85	0.82	0.83	0.96	0.83	0.83	0.47	0.74	0.75	0.42	0.94	0.94
Avail Cap(c_a), veh/h	282	518	513	252	489	496	583	1021	513	360	1135	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	45.5	45.6	51.2	43.1	43.1	45.0	37.8	37.9	41.8	38.8	38.8
Incr Delay (d2), s/veh	14.0	7.1	7.7	46.3	10.1	10.1	0.6	4.9	9.5	0.8	15.6	24.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	9.3	9.3	10.5	11.1	11.4	3.7	10.7	11.4	4.0	17.4	19.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	52.6	53.3	97.4	53.2	53.3	45.6	42.7	47.4	42.5	54.4	63.4
LnGrp LOS	E	D	D	F	D	D	D	D	D	D	D	E
Approach Vol, veh/h		762			960			1415			1779	
Approach Delay, s/veh		55.8			64.4			44.5			56.2	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.2	41.0	21.0	29.8	24.2	45.0	16.7	34.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	36.0	17.0	35.0	10.0	40.0	19.0	33.0
Max Q Clear Time (g_c+I1), s	10.9	26.2	18.3	21.7	10.6	38.5	12.6	24.8
Green Ext Time (p_c), s	0.1	5.2	0.0	3.1	0.0	1.3	0.2	2.8

Intersection Summary	
HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D



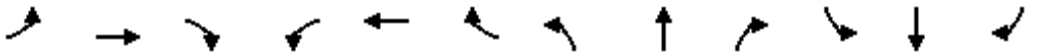
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	446	49	97	618	161	53	1651	69	81	1965	313
Future Volume (veh/h)	386	446	49	97	618	161	53	1651	69	81	1965	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	480	53	104	665	173	57	1775	74	87	2113	337
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	993	443	167	810	361	147	2053	85	364	2137	333
Arrive On Green	0.10	0.28	0.28	0.05	0.23	0.23	0.04	0.41	0.41	0.11	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5027	209	3456	4456	694
Grp Volume(v), veh/h	415	480	53	104	665	173	57	1201	648	87	1602	848
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1833	1728	1702	1745
Q Serve(g_s), s	12.0	13.5	3.0	3.5	21.3	8.6	1.9	38.7	38.8	2.8	55.5	57.5
Cycle Q Clear(g_c), s	12.0	13.5	3.0	3.5	21.3	8.6	1.9	38.7	38.8	2.8	55.5	57.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.40
Lane Grp Cap(c), veh/h	346	993	443	167	810	361	147	1390	748	364	1632	837
V/C Ratio(X)	1.20	0.48	0.12	0.62	0.82	0.48	0.39	0.86	0.87	0.24	0.98	1.01
Avail Cap(c_a), veh/h	346	1185	528	202	1036	462	173	1390	748	364	1632	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.0	32.2	56.0	44.0	22.9	55.9	32.5	32.5	49.3	30.7	31.2
Incr Delay (d2), s/veh	114.9	0.4	0.1	4.2	4.2	1.0	1.7	7.4	12.8	0.3	18.3	34.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	5.9	1.2	1.6	9.8	3.3	0.9	17.0	19.5	1.2	26.0	31.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	168.9	36.4	32.3	60.2	48.2	23.9	57.6	39.8	45.3	49.6	49.0	65.5
LnGrp LOS	F	D	C	E	D	C	E	D	D	D	D	F
Approach Vol, veh/h		948			942			1906			2537	
Approach Delay, s/veh		94.2			45.1			42.2			54.5	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	54.0	9.8	38.5	9.1	62.5	16.0	32.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 49	7.0	40.0	6.0	49.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	4.8	40.8	5.5	15.5	3.9	59.5	14.0	23.3
Green Ext Time (p_c), s	0.0	6.5	0.0	3.5	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	55.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



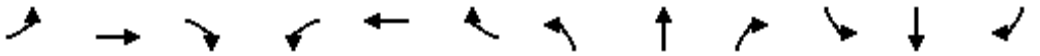
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	168	25	147	223	69	28	1640	143	31	2038	68
Future Volume (veh/h)	55	168	25	147	223	69	28	1640	143	31	2038	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	181	27	158	240	74	30	1763	154	33	2191	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	270	457	270	321	97	379	2272	198	379	2411	80
Arrive On Green	0.04	0.08	0.08	0.08	0.12	0.12	0.21	0.47	0.47	0.21	0.47	0.47
Sat Flow, veh/h	1781	3554	1585	3456	2691	810	1781	4783	417	1781	5076	169
Grp Volume(v), veh/h	59	181	27	158	156	158	30	1253	664	33	1467	797
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1725	1781	1702	1795	1781	1702	1840
Q Serve(g_s), s	3.9	6.0	0.0	5.3	10.2	10.6	1.6	36.7	36.9	1.8	47.7	48.1
Cycle Q Clear(g_c), s	3.9	6.0	0.0	5.3	10.2	10.6	1.6	36.7	36.9	1.8	47.7	48.1
Prop In Lane	1.00		1.00	1.00		0.47	1.00		0.23	1.00		0.09
Lane Grp Cap(c), veh/h	77	270	457	270	212	206	379	1617	853	379	1617	874
V/C Ratio(X)	0.77	0.67	0.06	0.59	0.74	0.77	0.08	0.78	0.78	0.09	0.91	0.91
Avail Cap(c_a), veh/h	119	918	747	270	459	446	379	1617	853	379	1617	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	54.0	30.9	53.4	51.0	51.2	37.8	26.2	26.2	37.9	29.1	29.2
Incr Delay (d2), s/veh	14.9	2.9	0.1	3.2	5.0	5.9	0.1	3.7	6.9	0.1	9.0	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.8	0.6	2.4	4.8	4.9	0.7	15.3	17.0	0.8	20.8	24.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	56.9	30.9	56.7	56.0	57.1	37.9	29.9	33.2	38.0	38.0	44.5
LnGrp LOS	E	E	C	E	E	E	D	C	C	D	D	D
Approach Vol, veh/h		267			472			1947			2297	
Approach Delay, s/veh		57.5			56.6			31.1			40.3	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.5	62.0	14.4	14.1	29.5	62.0	9.2	19.3
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	57.0	8.0	* 31	6.0	57.0	8.0	31.0
Max Q Clear Time (g_c+I1), s	3.8	38.9	7.3	8.0	3.6	50.1	5.9	12.6
Green Ext Time (p_c), s	0.0	12.8	0.0	1.2	0.0	6.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

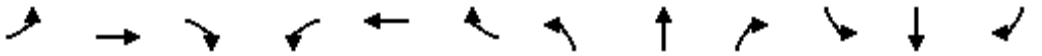
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	102	79	184	74	5	315	9	246	1	1	1
Future Volume (veh/h)	5	102	79	184	74	5	315	9	246	1	1	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	112	87	202	81	5	346	10	270	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	395	283	374	879	54	578	17	528	116	116	116
Arrive On Green	0.05	0.20	0.20	0.11	0.26	0.26	0.33	0.33	0.33	0.20	0.20	0.20
Sat Flow, veh/h	1781	1976	1416	3456	3402	208	1734	50	1585	579	579	579
Grp Volume(v), veh/h	5	100	99	202	42	44	356	0	270	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1615	1728	1777	1833	1784	0	1585	1737	0	0
Q Serve(g_s), s	0.3	5.7	6.3	6.6	2.2	2.2	19.9	0.0	16.4	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	5.7	6.3	6.6	2.2	2.2	19.9	0.0	16.4	0.2	0.0	0.0
Prop In Lane	1.00		0.88	1.00		0.11	0.97		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	89	355	323	374	459	473	595	0	528	347	0	0
V/C Ratio(X)	0.06	0.28	0.31	0.54	0.09	0.09	0.60	0.00	0.51	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	355	323	374	459	473	595	0	528	347	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.3	40.7	40.9	50.7	33.8	33.8	33.3	0.0	32.1	38.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	2.0	2.5	1.6	0.4	0.4	4.4	0.0	3.5	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.7	2.7	3.0	1.0	1.0	9.3	0.0	6.8	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	42.6	43.4	52.2	34.2	34.2	37.7	0.0	35.6	38.5	0.0	0.0
LnGrp LOS	D	D	D	D	C	C	D	A	D	D	A	A
Approach Vol, veh/h		204			288			626			3	
Approach Delay, s/veh		43.3			46.8			36.8			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		45.0	17.0	29.0		29.0	10.0	36.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		40.0	13.0	24.0		24.0	6.0	31.0				
Max Q Clear Time (g_c+I1), s		21.9	8.6	8.3		2.2	2.3	4.2				
Green Ext Time (p_c), s		3.0	0.2	0.9		0.0	0.0	0.4				

Intersection Summary												
HCM 6th Ctrl Delay			40.6									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	72	56	77	99	399	147	1181	94	32	2112	32
Future Volume (veh/h)	228	72	56	77	99	399	147	1181	94	32	2112	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	76	59	81	104	420	155	1243	0	34	2223	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	128	90	979	969	486	212	2350		60	2359	
Arrive On Green	0.08	0.06	0.06	0.28	0.27	0.27	0.12	0.46	0.00	0.03	0.37	0.00
Sat Flow, veh/h	3456	1989	1405	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	240	67	68	81	104	420	155	1243	0	34	2223	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1617	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	8.2	4.4	4.9	2.1	2.6	30.0	10.1	20.8	0.0	2.3	40.1	0.0
Cycle Q Clear(g_c), s	8.2	4.4	4.9	2.1	2.6	30.0	10.1	20.8	0.0	2.3	40.1	0.0
Prop In Lane	1.00		0.87	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	114	104	979	969	486	212	2350		60	2359	
V/C Ratio(X)	0.83	0.59	0.65	0.08	0.11	0.86	0.73	0.53		0.56	0.94	
Avail Cap(c_a), veh/h	288	577	526	979	1036	516	212	2350		252	2359	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.2	54.6	54.9	31.5	32.7	39.3	51.0	23.1	0.0	57.1	36.8	0.0
Incr Delay (d2), s/veh	18.5	4.8	6.8	0.0	0.0	13.7	12.1	0.9	0.0	8.0	9.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	2.1	2.2	0.9	1.2	13.4	5.2	8.5	0.0	1.1	17.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	59.4	61.6	31.6	32.8	52.9	63.1	24.0	0.0	65.1	46.0	0.0
LnGrp LOS	E	E	E	C	C	D	E	C		E	D	
Approach Vol, veh/h		375			605			1398	A		2257	A
Approach Delay, s/veh		68.3			46.6			28.3			46.3	
Approach LOS		E			D			C			D	

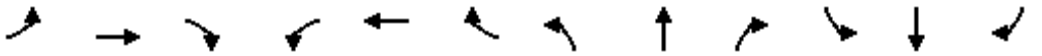
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	60.2	39.0	12.7	19.3	49.0	14.0	37.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	17.0	40.0	6.0	* 39	13.0	* 44	10.0	35.0
Max Q Clear Time (g_c+I1), s	4.3	22.8	4.1	6.9	12.1	42.1	10.2	32.0
Green Ext Time (p_c), s	0.0	8.4	0.0	0.8	0.0	1.8	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

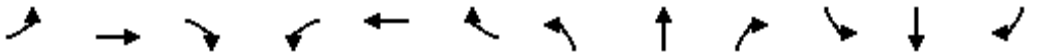
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	0	237	0	0	0	0	1239	159	798	1464	0
Future Volume (veh/h)	180	0	237	0	0	0	0	1239	159	798	1464	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	191	0	252				0	1318	169	849	1557	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	316	0	281				0	1993	256	936	3774	0
Arrive On Green	0.18	0.00	0.18				0.00	0.43	0.43	0.27	0.74	0.00
Sat Flow, veh/h	1781	0	1585				0	4750	587	3456	5274	0
Grp Volume(v), veh/h	191	0	252				0	979	508	849	1557	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1765	1728	1702	0
Q Serve(g_s), s	11.9	0.0	18.7				0.0	27.4	27.4	28.5	13.7	0.0
Cycle Q Clear(g_c), s	11.9	0.0	18.7				0.0	27.4	27.4	28.5	13.7	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	316	0	281				0	1481	768	936	3774	0
V/C Ratio(X)	0.60	0.00	0.90				0.00	0.66	0.66	0.91	0.41	0.00
Avail Cap(c_a), veh/h	371	0	330				0	1481	768	1066	3774	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.5	0.0	48.3				0.0	26.9	26.9	42.3	5.9	0.0
Incr Delay (d2), s/veh	2.1	0.0	23.1				0.0	2.3	4.5	10.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	9.1				0.0	11.5	12.3	13.4	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	0.0	71.4				0.0	29.2	31.3	52.6	6.2	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		443						1487			2406	
Approach Delay, s/veh		61.1						30.0			22.6	
Approach LOS		E						C			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	36.5	57.2		26.3		93.7						
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0						
Max Green Setting (Gmax), s	37.0	44.0		25.0		85.0						
Max Q Clear Time (g_c+I1), s	30.5	29.4		20.7		15.7						
Green Ext Time (p_c), s	2.0	8.8		0.6		19.3						

Intersection Summary												
HCM 6th Ctrl Delay			29.0									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	834	406	1062	921	7	359	47	618	55	41	21
Future Volume (veh/h)	44	834	406	1062	921	7	359	47	618	55	41	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	869	423	1106	959	7	409	0	644	57	43	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1023	456	1192	1657	12	534	0	1228	138	104	53
Arrive On Green	0.06	0.29	0.29	0.24	0.46	0.46	0.15	0.00	0.15	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3616	26	3563	0	3170	828	624	319
Grp Volume(v), veh/h	46	869	423	1106	471	495	409	0	644	122	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1866	1781	0	1585	1771	0	0
Q Serve(g_s), s	3.0	27.7	31.1	25.8	23.5	23.5	13.2	0.0	18.0	7.4	0.0	0.0
Cycle Q Clear(g_c), s	3.0	27.7	31.1	25.8	23.5	23.5	13.2	0.0	18.0	7.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.47		0.18
Lane Grp Cap(c), veh/h	104	1023	456	1192	814	855	534	0	1228	295	0	0
V/C Ratio(X)	0.44	0.85	0.93	0.93	0.58	0.58	0.77	0.00	0.52	0.41	0.00	0.00
Avail Cap(c_a), veh/h	119	1023	456	1214	814	855	534	0	1228	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.6	40.3	41.5	44.8	24.0	24.0	49.0	0.0	28.3	44.7	0.0	0.0
Incr Delay (d2), s/veh	2.9	8.8	27.4	12.2	3.0	2.8	10.0	0.0	1.6	4.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	13.2	15.5	12.0	10.4	10.9	6.6	0.0	7.4	3.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	49.1	68.9	57.0	26.9	26.8	59.0	0.0	29.9	49.0	0.0	0.0
LnGrp LOS	E	D	E	E	C	C	E	A	C	D	A	A
Approach Vol, veh/h		1338			2072			1053			122	
Approach Delay, s/veh		55.7			42.9			41.2			49.0	
Approach LOS		E			D			D			D	

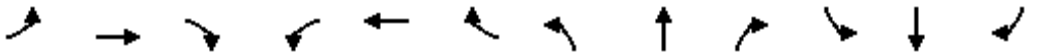
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.0	32.5	39.5	25.0	12.0	60.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	18.0	29.0	34.0	20.0	8.0	* 55
Max Q Clear Time (g_c+I1), s	20.0	27.8	33.1	9.4	5.0	25.5
Green Ext Time (p_c), s	0.0	0.6	0.6	0.4	0.0	7.2

Intersection Summary	
HCM 6th Ctrl Delay	46.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	387	1084	11	65	1266	274	11	40	43	373	43	725
Future Volume (veh/h)	387	1084	11	65	1266	274	11	40	43	373	43	725
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	407	1141	12	68	1333	288	12	42	45	393	45	763
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	1641	17	99	1421	634	49	142	511	76	0	704
Arrive On Green	0.12	0.46	0.46	0.06	0.40	0.40	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	3456	3602	38	1781	3554	1585	0	440	1585	0	0	1585
Grp Volume(v), veh/h	407	563	590	68	1333	288	54	0	45	438	0	763
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	440	0	1585	0	0	1585
Q Serve(g_s), s	10.5	22.7	22.7	3.4	32.4	12.0	0.0	0.0	1.8	0.0	0.0	29.0
Cycle Q Clear(g_c), s	10.5	22.7	22.7	3.4	32.4	12.0	29.0	0.0	1.8	29.0	0.0	29.0
Prop In Lane	1.00		0.02	1.00		1.00	0.22		1.00	0.90		1.00
Lane Grp Cap(c), veh/h	422	809	849	99	1421	634	191	0	511	76	0	704
V/C Ratio(X)	0.96	0.70	0.70	0.69	0.94	0.45	0.28	0.00	0.09	5.77	0.00	1.08
Avail Cap(c_a), veh/h	422	809	849	119	1421	634	191	0	511	76	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.3	19.5	19.5	41.7	25.9	19.8	24.0	0.0	21.3	45.0	0.0	25.0
Incr Delay (d2), s/veh	34.4	4.9	4.7	12.1	13.0	2.3	3.7	0.0	0.3	2175.5	0.0	58.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	9.9	10.4	1.8	15.5	4.7	1.0	0.0	0.7	47.5	0.0	25.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.7	24.4	24.2	53.9	38.9	22.1	27.7	0.0	21.6	2220.5	0.0	83.6
LnGrp LOS	E	C	C	D	D	C	C	A	C	F	A	F
Approach Vol, veh/h		1560			1689			99			1201	
Approach Delay, s/veh		37.2			36.7			24.9			862.9	
Approach LOS		D			D			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.0	10.0	46.0		34.0	15.0	41.0				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		29.0	6.0	* 41		29.0	11.0	36.0				
Max Q Clear Time (g_c+I1), s		31.0	5.4	24.7		31.0	12.5	34.4				
Green Ext Time (p_c), s		0.0	0.0	7.2		0.0	0.0	1.3				

Intersection Summary												
HCM 6th Ctrl Delay			254.7									
HCM 6th LOS			F									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	45

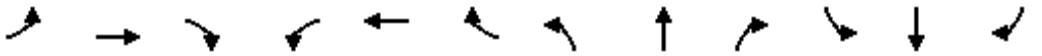
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	1886	1838	48	17	120
Future Vol, veh/h	70	1886	1838	48	17	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2096	2042	53	19	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2095	0	-	0	3063	1048
Stage 1	-	-	-	-	2069	-
Stage 2	-	-	-	-	994	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	112	-	-	-	24	193
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	288	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	112	-	-	-	~ 7	193
Mov Cap-2 Maneuver	-	-	-	-	~ 7	-
Stage 1	-	-	-	-	~ 16	-
Stage 2	-	-	-	-	288	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	$ 1260.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	112	-	-	-	45
HCM Lane V/C Ratio	0.694	-	-	-	3.383
HCM Control Delay (s)	89.9	-	-	-	$ 1260.8
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	3.7	-	-	-	16.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	546	162	184	551	163	207	1984	191	181	1540	224
Future Volume (veh/h)	380	546	162	184	551	163	207	1984	191	181	1540	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	388	557	165	188	562	166	211	2024	195	185	1571	229
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	714	211	246	659	194	309	2161	671	163	1702	528
Arrive On Green	0.09	0.26	0.26	0.07	0.24	0.24	0.17	0.42	0.42	0.09	0.33	0.33
Sat Flow, veh/h	3456	2705	799	3456	2707	797	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	388	365	357	188	368	360	211	2024	195	185	1571	229
Grp Sat Flow(s),veh/h/ln	1728	1777	1727	1728	1777	1727	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	11.0	22.9	23.0	6.4	23.7	23.9	13.3	45.5	9.7	11.0	35.6	10.1
Cycle Q Clear(g_c), s	11.0	22.9	23.0	6.4	23.7	23.9	13.3	45.5	9.7	11.0	35.6	10.1
Prop In Lane	1.00		0.46	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	469	456	246	433	420	309	2161	671	163	1702	528
V/C Ratio(X)	1.22	0.78	0.78	0.76	0.85	0.86	0.68	0.94	0.29	1.13	0.92	0.43
Avail Cap(c_a), veh/h	317	533	518	317	533	518	309	2161	671	163	1702	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	40.9	41.0	54.7	43.3	43.4	46.5	33.1	22.8	54.5	38.5	17.5
Incr Delay (d2), s/veh	126.0	6.4	6.8	8.0	10.6	11.3	6.1	9.3	1.1	110.6	9.9	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	10.8	10.6	3.1	11.6	11.5	6.4	20.1	3.8	9.9	16.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	180.5	47.3	47.8	62.7	53.9	54.6	52.6	42.4	23.9	165.1	48.4	20.1
LnGrp LOS	F	D	D	E	D	D	D	D	C	F	D	C
Approach Vol, veh/h		1110			916			2430			1985	
Approach Delay, s/veh		94.0			56.0			41.8			56.0	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	55.8	12.5	36.7	25.8	45.0	15.0	34.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	11.0	44.0	11.0	36.0	15.0	* 40	11.0	36.0
Max Q Clear Time (g_c+I1), s	13.0	47.5	8.4	25.0	15.3	37.6	13.0	25.9
Green Ext Time (p_c), s	0.0	0.0	0.1	3.5	0.0	2.1	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	57.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

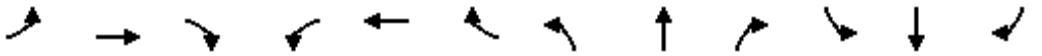
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	17	116	32	14	13	201	2188	47	60	1727	258
Future Volume (veh/h)	251	17	116	32	14	13	201	2188	47	60	1727	258
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	259	18	120	33	14	13	207	2256	48	62	1780	266
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	411	348	325	196	182	236	2681	832	232	2712	842
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.13	0.52	0.52	0.26	1.00	1.00
Sat Flow, veh/h	1383	1870	1585	1251	892	829	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	259	18	120	33	0	27	207	2256	48	62	1780	266
Grp Sat Flow(s),veh/h/ln	1383	1870	1585	1251	0	1721	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	21.9	0.9	7.7	2.6	0.0	1.5	13.7	45.1	1.8	3.3	0.0	0.0
Cycle Q Clear(g_c), s	23.4	0.9	7.7	3.5	0.0	1.5	13.7	45.1	1.8	3.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	411	348	325	0	378	236	2681	832	232	2712	842
V/C Ratio(X)	0.75	0.04	0.34	0.10	0.00	0.07	0.88	0.84	0.06	0.27	0.66	0.32
Avail Cap(c_a), veh/h	446	546	462	415	0	502	312	2681	832	232	2712	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	46.4	36.9	39.5	38.3	0.0	37.1	51.1	24.3	14.0	39.8	0.0	0.0
Incr Delay (d2), s/veh	5.0	0.0	0.6	0.1	0.0	0.1	18.9	3.4	0.1	0.5	1.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.4	3.1	0.8	0.0	0.6	7.3	18.3	0.7	1.4	0.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	36.9	40.1	38.4	0.0	37.2	70.0	27.7	14.1	40.3	1.1	0.8
LnGrp LOS	D	D	D	D	A	D	E	C	B	D	A	A
Approach Vol, veh/h		397			60			2511			2108	
Approach Delay, s/veh		47.4			37.9			30.9			2.2	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.7	68.0		31.3	19.9	68.7		31.3				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	* 63		35.0	21.0	50.0		35.0				
Max Q Clear Time (g_c+I1), s	5.3	47.1		25.4	15.7	2.0		5.5				
Green Ext Time (p_c), s	0.0	13.4		0.9	0.3	24.3		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		20.3	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



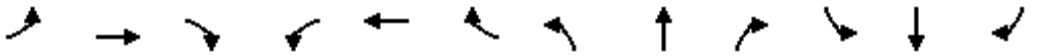
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	16	38	0	18	28	2326	65	30	2040	35
Future Volume (veh/h)	15	0	16	38	0	18	28	2326	65	30	2040	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	0	16	39	0	19	29	2398	67	31	2103	36
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	0	83	120	0	83	441	4080	113	57	2936	911
Arrive On Green	0.05	0.00	0.05	0.05	0.00	0.05	0.25	0.80	0.80	0.03	0.57	0.57
Sat Flow, veh/h	1393	0	1585	1397	0	1585	1781	5107	142	1781	5106	1585
Grp Volume(v), veh/h	15	0	16	39	0	19	29	1595	870	31	2103	36
Grp Sat Flow(s),veh/h/ln	1393	0	1585	1397	0	1585	1781	1702	1845	1781	1702	1585
Q Serve(g_s), s	1.3	0.0	1.2	3.3	0.0	1.4	1.5	21.3	21.5	2.1	35.7	1.2
Cycle Q Clear(g_c), s	2.6	0.0	1.2	4.5	0.0	1.4	1.5	21.3	21.5	2.1	35.7	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	117	0	83	120	0	83	441	2719	1474	57	2936	911
V/C Ratio(X)	0.13	0.00	0.19	0.33	0.00	0.23	0.07	0.59	0.59	0.54	0.72	0.04
Avail Cap(c_a), veh/h	404	0	409	407	0	409	441	2719	1474	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.59	0.59	0.59	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	0.0	54.4	56.6	0.0	54.5	34.5	4.6	4.6	57.2	18.4	11.1
Incr Delay (d2), s/veh	0.5	0.0	1.1	1.6	0.0	1.4	0.0	0.6	1.0	7.7	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	1.2	0.0	0.6	0.7	5.9	6.7	1.0	13.9	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	0.0	55.6	58.1	0.0	55.9	34.6	5.1	5.6	64.9	20.0	11.2
LnGrp LOS	E	A	E	E	A	E	C	A	A	E	B	B
Approach Vol, veh/h		31			58			2494			2170	
Approach Delay, s/veh		55.9			57.4			5.6			20.5	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	100.9		11.3	34.7	74.0		11.3				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	4.1	23.5		4.6	3.5	37.7		6.5				
Green Ext Time (p_c), s	0.0	32.5		0.1	0.0	21.8		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		13.4	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



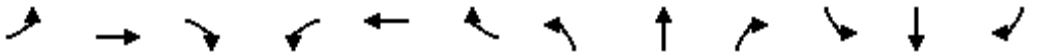
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	1050	252	504	957	324	311	1552	497	383	1310	185
Future Volume (veh/h)	222	1050	252	504	957	324	311	1552	497	383	1310	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	1061	255	509	967	327	314	1568	502	387	1323	187
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1279	307	346	1722	535	422	1815	1271	259	1532	476
Arrive On Green	0.08	0.31	0.31	0.10	0.34	0.34	0.12	0.36	0.36	0.08	0.30	0.30
Sat Flow, veh/h	3456	4110	987	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	224	879	437	509	967	327	314	1568	502	387	1323	187
Grp Sat Flow(s),veh/h/ln	1728	1702	1693	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	7.6	28.8	28.8	12.0	18.6	20.7	10.5	34.3	2.9	9.0	29.4	8.7
Cycle Q Clear(g_c), s	7.6	28.8	28.8	12.0	18.6	20.7	10.5	34.3	2.9	9.0	29.4	8.7
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	1059	527	346	1722	535	422	1815	1271	259	1532	476
V/C Ratio(X)	0.79	0.83	0.83	1.47	0.56	0.61	0.74	0.86	0.40	1.49	0.86	0.39
Avail Cap(c_a), veh/h	374	1191	592	346	1745	542	422	1815	1271	259	1532	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	38.4	38.4	54.0	32.5	33.2	50.9	36.0	10.0	55.5	39.7	20.0
Incr Delay (d2), s/veh	8.1	4.6	8.8	228.0	0.4	2.0	3.9	3.3	0.5	241.3	6.7	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	12.6	13.1	16.1	7.7	8.2	4.8	14.6	2.8	12.6	13.1	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	43.0	47.2	282.0	32.9	35.2	54.8	39.3	10.5	296.8	46.4	22.5
LnGrp LOS	E	D	D	F	C	D	D	D	B	F	D	C
Approach Vol, veh/h		1540			1803			2384			1897	
Approach Delay, s/veh		47.0			103.6			35.2			95.1	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	47.7	17.0	42.3	19.7	41.0	13.9	45.5
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	12.0	* 36	13.0	41.0
Max Q Clear Time (g_c+I1), s	11.0	36.3	14.0	30.8	12.5	31.4	9.6	22.7
Green Ext Time (p_c), s	0.0	2.4	0.0	6.5	0.0	3.4	0.2	7.9

Intersection Summary	
HCM 6th Ctrl Delay	68.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	1597	98	235	1523	60	92	36	219	84	38	136
Future Volume (veh/h)	200	1597	98	235	1523	60	92	36	219	84	38	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	1613	99	237	1538	61	64	76	221	85	38	137
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	1667	517	211	1620	503	615	646	547	398	178	504
Arrive On Green	0.12	0.33	0.33	0.12	0.32	0.32	0.35	0.35	0.35	0.32	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1249	559	1585
Grp Volume(v), veh/h	202	1613	99	237	1538	61	64	76	221	123	0	137
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1808	0	1585
Q Serve(g_s), s	12.4	34.2	4.9	13.0	32.4	3.0	2.7	3.1	11.7	5.5	0.0	7.1
Cycle Q Clear(g_c), s	12.4	34.2	4.9	13.0	32.4	3.0	2.7	3.1	11.7	5.5	0.0	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	211	1667	517	211	1620	503	615	646	547	575	0	504
V/C Ratio(X)	0.96	0.97	0.19	1.13	0.95	0.12	0.10	0.12	0.40	0.21	0.00	0.27
Avail Cap(c_a), veh/h	211	1667	517	211	1625	504	615	646	547	575	0	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.2	36.5	26.6	48.5	36.7	26.7	24.5	24.6	27.4	27.4	0.0	28.0
Incr Delay (d2), s/veh	50.4	15.1	0.2	99.9	12.3	0.1	0.3	0.4	2.2	0.8	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	16.2	1.9	11.6	15.0	1.2	1.2	1.4	4.7	2.5	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.6	51.6	26.8	148.4	49.0	26.8	24.8	25.0	29.6	28.3	0.0	29.3
LnGrp LOS	F	D	C	F	D	C	C	C	C	C	A	C
Approach Vol, veh/h		1914			1836			361			260	
Approach Delay, s/veh		55.2			61.1			27.8			28.8	
Approach LOS		E			E			C			C	

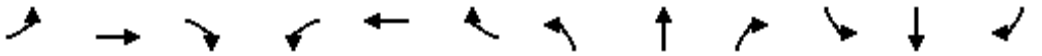
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		43.9	17.0	40.9		40.0	18.0	39.9				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		8.0	13.0	35.0		35.0	13.0	* 35				
Max Q Clear Time (g_c+I1), s		13.7	15.0	36.2		9.1	14.4	34.4				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.1	0.0	0.5				

Intersection Summary												
HCM 6th Ctrl Delay			53.9									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



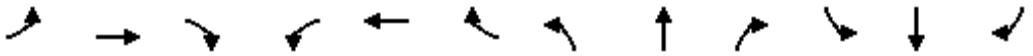
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	1539	264	170	1586	189	352	687	190	206	446	174
Future Volume (veh/h)	271	1539	264	170	1586	189	352	687	190	206	446	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	279	1587	272	175	1635	195	363	708	196	212	460	179
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1917	595	229	1619	193	346	2181	973	269	2103	938
Arrive On Green	0.08	0.38	0.38	0.07	0.35	0.35	0.10	0.61	0.61	0.08	0.59	0.59
Sat Flow, veh/h	3456	5106	1585	3456	4625	550	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	279	1587	272	175	1202	628	363	708	196	212	460	179
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1771	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.7	33.8	15.5	6.0	42.0	42.0	12.0	11.5	6.5	7.2	7.3	8.0
Cycle Q Clear(g_c), s	9.7	33.8	15.5	6.0	42.0	42.0	12.0	11.5	6.5	7.2	7.3	8.0
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1917	595	229	1191	620	346	2181	973	269	2103	938
V/C Ratio(X)	0.97	0.83	0.46	0.76	1.01	1.01	1.05	0.32	0.20	0.79	0.22	0.19
Avail Cap(c_a), veh/h	288	1917	595	230	1191	620	346	2181	973	317	2103	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	34.0	28.3	55.1	39.0	39.0	54.0	11.2	10.2	54.4	11.5	18.6
Incr Delay (d2), s/veh	44.4	3.2	0.5	14.0	28.3	39.3	62.2	0.4	0.5	10.7	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	14.3	6.0	3.0	21.9	24.7	8.2	4.5	2.4	3.5	2.9	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.2	37.1	28.8	69.1	67.3	78.3	116.2	11.6	10.7	65.1	11.7	19.1
LnGrp LOS	F	D	C	E	F	F	F	B	B	E	B	B
Approach Vol, veh/h		2138			2005			1267			851	
Approach Delay, s/veh		44.2			70.9			41.4			26.6	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	79.7	12.0	50.0	16.0	77.0	15.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	11.0	39.0	8.0	44.0	12.0	38.0	10.0	* 42
Max Q Clear Time (g_c+I1), s	9.2	13.5	8.0	35.8	14.0	10.0	11.7	44.0
Green Ext Time (p_c), s	0.1	6.0	0.0	6.4	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	49.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



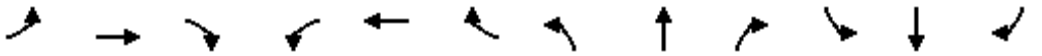
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	1369	239	243	1787	183	321	661	164	130	486	69
Future Volume (veh/h)	125	1369	239	243	1787	183	321	661	164	130	486	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	1411	246	251	1842	189	331	681	169	134	501	71
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1541	268	307	1919	196	374	1229	548	190	914	129
Arrive On Green	0.04	0.35	0.35	0.09	0.41	0.41	0.11	0.35	0.35	0.05	0.29	0.29
Sat Flow, veh/h	3456	4375	762	3456	4707	481	3456	3554	1585	3456	3127	441
Grp Volume(v), veh/h	129	1097	560	251	1329	702	331	681	169	134	284	288
Grp Sat Flow(s),veh/h/ln	1728	1702	1733	1728	1702	1784	1728	1777	1585	1728	1777	1791
Q Serve(g_s), s	4.5	37.0	37.1	8.6	45.5	46.1	11.3	18.6	6.9	4.6	16.1	16.3
Cycle Q Clear(g_c), s	4.5	37.0	37.1	8.6	45.5	46.1	11.3	18.6	6.9	4.6	16.1	16.3
Prop In Lane	1.00		0.44	1.00		0.27	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	144	1199	610	307	1388	727	374	1229	548	190	519	523
V/C Ratio(X)	0.90	0.92	0.92	0.82	0.96	0.96	0.88	0.55	0.31	0.71	0.55	0.55
Avail Cap(c_a), veh/h	144	1220	621	317	1390	728	374	1229	548	259	519	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	37.2	37.2	53.7	34.5	34.7	52.8	31.8	15.6	55.8	35.8	35.8
Incr Delay (d2), s/veh	45.6	10.7	18.4	14.9	15.2	24.8	21.3	1.8	1.5	5.3	4.1	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	16.9	18.6	4.4	21.3	24.5	6.0	8.3	2.7	2.1	7.6	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.9	47.9	55.6	68.6	49.8	59.5	74.1	33.6	17.1	61.1	39.9	39.9
LnGrp LOS	F	D	E	E	D	E	E	C	B	E	D	D
Approach Vol, veh/h		1786			2282			1181			706	
Approach Delay, s/veh		54.3			54.8			42.6			43.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	46.5	15.7	47.3	17.0	40.1	9.0	53.9
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	11.0	* 43	13.0	35.0	5.0	49.0
Max Q Clear Time (g_c+I1), s	6.6	20.6	10.6	39.1	13.3	18.3	6.5	48.1
Green Ext Time (p_c), s	0.1	5.1	0.0	3.2	0.0	3.2	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	50.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	1142	204	366	1483	205	350	1075	206	183	708	180
Future Volume (veh/h)	268	1142	204	366	1483	205	350	1075	206	183	708	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	1165	208	373	1513	209	357	1097	210	187	722	184
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	1320	236	426	1734	538	403	1760	546	245	1526	474
Arrive On Green	0.09	0.30	0.30	0.12	0.34	0.34	0.12	0.34	0.34	0.07	0.30	0.30
Sat Flow, veh/h	3456	4357	778	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	273	910	463	373	1513	209	357	1097	210	187	722	184
Grp Sat Flow(s),veh/h/ln	1728	1702	1730	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	9.3	30.5	30.5	12.7	33.4	12.0	12.2	21.5	8.2	6.4	13.9	11.0
Cycle Q Clear(g_c), s	9.3	30.5	30.5	12.7	33.4	12.0	12.2	21.5	8.2	6.4	13.9	11.0
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	1031	524	426	1734	538	403	1760	546	245	1526	474
V/C Ratio(X)	0.83	0.88	0.88	0.88	0.87	0.39	0.89	0.62	0.38	0.76	0.47	0.39
Avail Cap(c_a), veh/h	346	1078	548	432	1745	542	403	1760	546	317	1526	474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	39.8	39.8	51.7	37.2	30.1	52.2	32.8	13.9	54.8	34.3	33.4
Incr Delay (d2), s/veh	15.2	8.5	15.2	17.9	5.2	0.5	20.3	1.7	2.0	7.9	1.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	13.9	15.1	6.6	14.5	4.7	6.4	9.1	3.2	3.0	5.9	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	48.3	55.0	69.6	42.4	30.6	72.5	34.5	16.0	62.7	35.4	35.8
LnGrp LOS	E	D	D	E	D	C	E	C	B	E	D	D
Approach Vol, veh/h		1646			2095			1664			1093	
Approach Delay, s/veh		53.6			46.0			40.3			40.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	46.4	19.8	41.4	18.0	40.9	15.4	45.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	38.0	15.0	* 38	14.0	35.0	12.0	41.0
Max Q Clear Time (g_c+I1), s	8.4	23.5	14.7	32.5	14.2	15.9	11.3	35.4
Green Ext Time (p_c), s	0.1	7.3	0.0	3.8	0.0	5.6	0.1	4.4

Intersection Summary	
HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

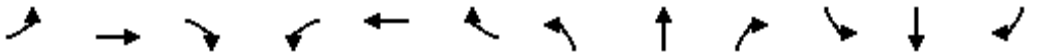
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	936	270	461	1069	177	379	1504	292	239	1223	90
Future Volume (veh/h)	179	936	270	461	1069	177	379	1504	292	239	1223	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	985	284	485	1125	186	399	1583	307	252	1287	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	924	265	451	1275	210	391	3019	937	240	2658	196
Arrive On Green	0.06	0.34	0.34	0.13	0.42	0.42	0.11	0.59	0.59	0.07	0.55	0.55
Sat Flow, veh/h	3456	2724	782	3456	3054	503	3456	5106	1585	3456	4852	358
Grp Volume(v), veh/h	188	641	628	485	653	658	399	1583	307	252	903	479
Grp Sat Flow(s),veh/h/ln	1728	1777	1730	1728	1777	1780	1728	1702	1585	1728	1702	1806
Q Serve(g_s), s	6.2	39.0	39.0	15.0	38.9	39.3	13.0	21.1	13.5	8.0	18.8	18.8
Cycle Q Clear(g_c), s	6.2	39.0	39.0	15.0	38.9	39.3	13.0	21.1	13.5	8.0	18.8	18.8
Prop In Lane	1.00		0.45	1.00		0.28	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	210	603	587	451	742	743	391	3019	937	240	1865	989
V/C Ratio(X)	0.89	1.06	1.07	1.08	0.88	0.89	1.02	0.52	0.33	1.05	0.48	0.48
Avail Cap(c_a), veh/h	210	603	587	451	742	743	391	3019	937	240	1865	989
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	38.0	38.0	50.0	30.9	31.0	51.0	13.9	16.9	53.5	16.0	16.0
Incr Delay (d2), s/veh	34.7	54.7	57.6	64.3	11.9	12.4	51.1	0.7	0.9	71.3	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	25.8	25.5	10.5	18.7	19.0	8.4	8.0	5.1	5.8	7.3	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.4	92.7	95.6	114.3	42.8	43.4	102.1	14.6	17.8	124.8	16.9	17.7
LnGrp LOS	F	F	F	F	D	D	F	B	B	F	B	B
Approach Vol, veh/h		1457			1796			2289			1634	
Approach Delay, s/veh		93.4			62.3			30.3			33.8	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	74.0	20.0	44.0	17.0	69.0	11.0	53.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	35.0	15.0	* 39	13.0	30.0	7.0	47.0
Max Q Clear Time (g_c+I1), s	10.0	23.1	17.0	41.0	15.0	20.8	8.2	41.3
Green Ext Time (p_c), s	0.0	8.8	0.0	0.0	0.0	5.9	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	51.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



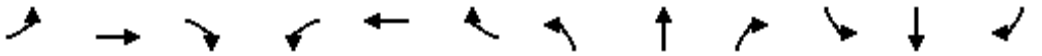
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	306	632	433	239	860	238	555	1822	173	197	1332	164
Future Volume (veh/h)	306	632	433	239	860	238	555	1822	173	197	1332	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	312	645	442	244	878	243	566	1859	177	201	1359	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1023	753	259	1047	288	646	1934	600	193	1489	621
Arrive On Green	0.10	0.29	0.29	0.08	0.26	0.26	0.19	0.38	0.38	0.11	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	3981	1096	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	312	645	442	244	750	371	566	1859	177	201	1359	167
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1673	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	10.7	18.9	5.0	8.4	25.0	25.2	19.1	42.7	9.4	13.0	30.8	4.3
Cycle Q Clear(g_c), s	10.7	18.9	5.0	8.4	25.0	25.2	19.1	42.7	9.4	13.0	30.8	4.3
Prop In Lane	1.00		1.00	1.00		0.66	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1023	753	259	895	440	646	1934	600	193	1489	621
V/C Ratio(X)	0.90	0.63	0.59	0.94	0.84	0.84	0.88	0.96	0.29	1.04	0.91	0.27
Avail Cap(c_a), veh/h	346	1125	798	259	993	488	646	1934	600	193	1489	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	37.2	10.2	55.2	41.8	41.9	47.4	36.4	26.1	53.5	41.0	9.7
Incr Delay (d2), s/veh	25.8	1.0	1.0	40.2	5.9	11.7	12.8	13.2	1.2	76.1	10.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	8.4	5.2	5.1	11.2	11.8	9.3	19.7	3.8	9.9	14.2	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.2	38.2	11.2	95.4	47.7	53.6	60.3	49.6	27.3	129.6	51.1	10.8
LnGrp LOS	E	D	B	F	D	D	E	D	C	F	D	B
Approach Vol, veh/h		1399			1365			2602			1727	
Approach Delay, s/veh		38.8			57.9			50.4			56.3	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	50.4	13.0	39.6	27.4	40.0	16.0	36.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	13.0	42.0	9.0	38.0	20.0	* 35	12.0	35.0
Max Q Clear Time (g_c+I1), s	15.0	44.7	10.4	20.9	21.1	32.8	12.7	27.2
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8	0.0	1.7	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	51.0
HCM 6th LOS	D

Notes

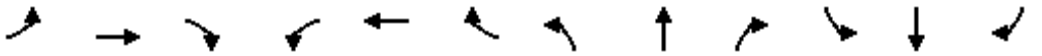
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	645	142	179	589	100	249	1290	300	181	1265	128
Future Volume (veh/h)	230	645	142	179	589	100	249	1290	300	181	1265	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	672	148	186	614	104	259	1344	312	189	1318	133
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	762	168	193	699	118	415	1415	328	244	1689	170
Arrive On Green	0.14	0.26	0.26	0.11	0.23	0.23	0.12	0.34	0.34	0.14	0.36	0.36
Sat Flow, veh/h	1781	2895	637	1781	3041	514	3456	4142	960	1781	4713	476
Grp Volume(v), veh/h	240	412	408	186	358	360	259	1104	552	189	952	499
Grp Sat Flow(s),veh/h/ln	1781	1777	1756	1781	1777	1778	1728	1702	1698	1781	1702	1785
Q Serve(g_s), s	16.0	26.7	26.8	12.5	23.3	23.4	8.6	37.9	38.0	12.3	29.9	29.9
Cycle Q Clear(g_c), s	16.0	26.7	26.8	12.5	23.3	23.4	8.6	37.9	38.0	12.3	29.9	29.9
Prop In Lane	1.00		0.36	1.00		0.29	1.00		0.57	1.00		0.27
Lane Grp Cap(c), veh/h	252	468	462	193	409	409	415	1163	580	244	1220	640
V/C Ratio(X)	0.95	0.88	0.88	0.96	0.88	0.88	0.62	0.95	0.95	0.78	0.78	0.78
Avail Cap(c_a), veh/h	252	518	512	193	459	459	415	1163	580	244	1220	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	42.4	42.4	53.3	44.6	44.6	50.2	38.5	38.5	50.0	34.3	34.3
Incr Delay (d2), s/veh	43.2	15.1	15.4	54.2	16.0	16.4	2.9	16.8	27.1	14.5	5.0	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	13.6	13.5	8.5	12.0	12.1	3.9	18.3	19.9	6.5	13.1	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.3	57.5	57.8	107.4	60.6	61.0	53.1	55.2	65.6	64.5	39.3	43.4
LnGrp LOS	F	E	E	F	E	E	D	E	E	E	D	D
Approach Vol, veh/h		1060			904			1915			1640	
Approach Delay, s/veh		66.0			70.4			57.9			43.5	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.4	46.0	17.0	36.6	18.4	48.0	21.0	32.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	41.0	13.0	35.0	11.0	43.0	17.0	31.0
Max Q Clear Time (g_c+I1), s	14.3	40.0	14.5	28.8	10.6	31.9	18.0	25.4
Green Ext Time (p_c), s	0.0	0.8	0.0	2.7	0.0	7.0	0.0	2.2

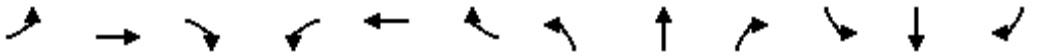
Intersection Summary	
HCM 6th Ctrl Delay	57.2
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	528	562	78	100	485	225	87	1841	61	143	1660	313
Future Volume (veh/h)	528	562	78	100	485	225	87	1841	61	143	1660	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	539	573	80	102	495	230	89	1879	62	146	1694	319
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	976	435	167	644	287	554	1862	61	554	1585	296
Arrive On Green	0.14	0.27	0.27	0.05	0.18	0.18	0.16	0.37	0.37	0.16	0.37	0.37
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5077	167	3456	4322	807
Grp Volume(v), veh/h	539	573	80	102	495	230	89	1259	682	146	1331	682
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1840	1728	1702	1725
Q Serve(g_s), s	17.0	16.7	3.1	3.5	15.9	11.9	2.7	44.0	44.0	4.4	44.0	44.0
Cycle Q Clear(g_c), s	17.0	16.7	3.1	3.5	15.9	11.9	2.7	44.0	44.0	4.4	44.0	44.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.47
Lane Grp Cap(c), veh/h	490	976	435	167	644	287	554	1248	675	554	1248	633
V/C Ratio(X)	1.10	0.59	0.18	0.61	0.77	0.80	0.16	1.01	1.01	0.26	1.07	1.08
Avail Cap(c_a), veh/h	490	1333	594	202	1036	462	554	1248	675	554	1248	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	37.6	15.2	56.0	46.7	23.9	43.4	38.0	38.0	44.2	38.0	38.0
Incr Delay (d2), s/veh	71.1	0.6	0.2	3.7	2.0	5.1	0.1	27.6	37.3	0.3	45.2	58.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	7.4	1.8	1.6	7.2	4.9	1.2	22.7	26.4	1.9	25.8	28.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.6	38.2	15.4	59.7	48.7	29.0	43.5	65.6	75.3	44.4	83.2	96.8
LnGrp LOS	F	D	B	E	D	C	D	F	F	D	F	F
Approach Vol, veh/h		1192			827			2030			2159	
Approach Delay, s/veh		74.8			44.6			67.9			84.8	
Approach LOS		E			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.2	49.0	9.8	38.0	23.2	49.0	21.0	26.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	44.0	7.0	45.0	6.0	44.0	17.0	35.0
Max Q Clear Time (g_c+I1), s	6.4	46.0	5.5	18.7	4.7	46.0	19.0	17.9
Green Ext Time (p_c), s	0.0	0.0	0.0	4.4	0.0	0.0	0.0	3.9

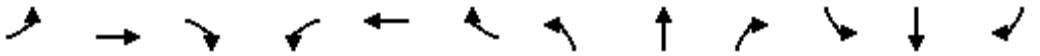
Intersection Summary	
HCM 6th Ctrl Delay	72.0
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	203	37	125	223	121	31	1813	126	81	1680	70
Future Volume (veh/h)	77	203	37	125	223	121	31	1813	126	81	1680	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	81	214	39	132	235	127	33	1908	133	85	1768	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	500	509	187	310	161	321	2234	155	351	2388	100
Arrive On Green	0.06	0.14	0.14	0.05	0.14	0.14	0.18	0.46	0.46	0.20	0.47	0.47
Sat Flow, veh/h	1781	3554	1585	3456	2258	1177	1781	4875	339	1781	5026	210
Grp Volume(v), veh/h	81	214	39	132	183	179	33	1330	711	85	1197	645
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1658	1781	1702	1809	1781	1702	1833
Q Serve(g_s), s	5.4	6.6	0.3	4.5	11.9	12.5	1.9	41.7	42.1	4.8	34.2	34.2
Cycle Q Clear(g_c), s	5.4	6.6	0.3	4.5	11.9	12.5	1.9	41.7	42.1	4.8	34.2	34.2
Prop In Lane	1.00		1.00	1.00		0.71	1.00		0.19	1.00		0.11
Lane Grp Cap(c), veh/h	102	500	509	187	244	227	321	1560	829	351	1617	870
V/C Ratio(X)	0.79	0.43	0.08	0.71	0.75	0.79	0.10	0.85	0.86	0.24	0.74	0.74
Avail Cap(c_a), veh/h	119	918	695	230	459	428	321	1560	829	351	1617	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	47.1	16.9	55.8	49.8	50.1	41.1	28.9	29.0	40.6	25.5	25.5
Incr Delay (d2), s/veh	26.1	0.6	0.1	7.3	4.6	5.9	0.1	6.1	11.1	0.4	3.1	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.0	0.6	2.2	5.6	5.6	0.8	17.9	20.3	2.2	14.2	15.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.9	47.7	17.0	63.1	54.4	56.0	41.2	35.0	40.1	41.0	28.6	31.2
LnGrp LOS	F	D	B	E	D	E	D	D	D	D	C	C
Approach Vol, veh/h		334			494			2074			1927	
Approach Delay, s/veh		52.4			57.3			36.8			30.0	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.6	60.0	10.5	21.9	25.6	62.0	10.9	21.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	55.0	8.0	31.0	6.0	57.0	8.0	31.0
Max Q Clear Time (g_c+I1), s	6.8	44.1	6.5	8.6	3.9	36.2	7.4	14.5
Green Ext Time (p_c), s	0.0	8.9	0.1	1.4	0.0	13.6	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D



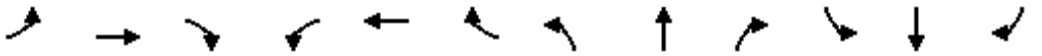
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	131	47	126	111	6	517	12	366	25	7	13
Future Volume (veh/h)	7	131	47	126	111	6	517	12	366	25	7	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	138	49	133	117	6	544	13	385	26	7	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	477	163	450	1072	55	697	17	634	191	52	103
Arrive On Green	0.01	0.18	0.18	0.13	0.31	0.31	0.40	0.40	0.40	0.20	0.20	0.20
Sat Flow, veh/h	1781	2600	888	3456	3440	175	1742	42	1585	957	258	515
Grp Volume(v), veh/h	7	93	94	133	60	63	557	0	385	47	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1711	1728	1777	1839	1783	0	1585	1730	0	0
Q Serve(g_s), s	0.5	5.4	5.7	4.2	2.9	2.9	32.7	0.0	23.1	2.7	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.4	5.7	4.2	2.9	2.9	32.7	0.0	23.1	2.7	0.0	0.0
Prop In Lane	1.00		0.52	1.00		0.10	0.98		1.00	0.55		0.30
Lane Grp Cap(c), veh/h	19	326	314	450	553	573	713	0	634	346	0	0
V/C Ratio(X)	0.38	0.28	0.30	0.30	0.11	0.11	0.78	0.00	0.61	0.14	0.00	0.00
Avail Cap(c_a), veh/h	89	326	314	450	553	573	713	0	634	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.0	42.2	42.4	47.2	29.4	29.5	31.4	0.0	28.5	39.5	0.0	0.0
Incr Delay (d2), s/veh	12.2	2.2	2.5	0.4	0.4	0.4	8.3	0.0	4.3	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.6	1.8	1.3	1.4	15.5	0.0	9.4	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	44.4	44.8	47.6	29.8	29.8	39.7	0.0	32.8	40.3	0.0	0.0
LnGrp LOS	E	D	D	D	C	C	D	A	C	D	A	A
Approach Vol, veh/h		194			256			942			47	
Approach Delay, s/veh		45.6			39.0			36.9			40.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		53.0	20.8	27.0		29.0	5.2	42.5				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		48.0	7.0	* 22		24.0	6.0	23.0				
Max Q Clear Time (g_c+I1), s		34.7	6.2	7.7		4.7	2.5	4.9				
Green Ext Time (p_c), s		4.4	0.0	0.8		0.2	0.0	0.5				

Intersection Summary	
HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



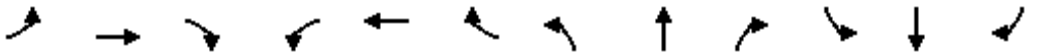
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	58	157	113	112	420	85	1180	86	22	1781	37
Future Volume (veh/h)	324	58	157	113	112	420	85	1180	86	22	1781	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	338	60	164	118	117	438	89	1229	0	23	1855	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	280	250	172	331	677	506	1574		595	2306	
Arrive On Green	0.11	0.16	0.16	0.05	0.09	0.09	0.28	0.31	0.00	0.33	0.36	0.00
Sat Flow, veh/h	3456	1777	1585	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	338	60	164	118	117	438	89	1229	0	23	1855	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	11.5	3.5	11.7	4.0	3.7	6.8	4.5	26.3	0.0	1.0	31.2	0.0
Cycle Q Clear(g_c), s	11.5	3.5	11.7	4.0	3.7	6.8	4.5	26.3	0.0	1.0	31.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	280	250	172	331	677	506	1574		595	2306	
V/C Ratio(X)	0.86	0.21	0.66	0.69	0.35	0.65	0.18	0.78		0.04	0.80	
Avail Cap(c_a), veh/h	432	622	555	230	1036	992	506	1574		595	2306	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.2	44.0	47.5	56.1	51.0	12.0	32.4	37.8	0.0	26.9	34.7	0.0
Incr Delay (d2), s/veh	14.5	0.4	2.9	5.2	0.6	1.0	0.2	3.9	0.0	0.0	3.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	1.6	4.8	1.9	1.7	5.5	2.0	11.4	0.0	0.5	12.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	44.4	50.4	61.3	51.7	13.0	32.5	41.7	0.0	27.0	37.8	0.0
LnGrp LOS	E	D	D	E	D	B	C	D		C	D	
Approach Vol, veh/h		562			673			1318	A		1878	A
Approach Delay, s/veh		59.6			28.2			41.1			37.7	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	44.1	42.0	10.0	23.9	38.1	48.0	17.7	16.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	15.0	37.0	8.0	42.0	9.0	43.0	15.0	35.0
Max Q Clear Time (g_c+I1), s	3.0	28.3	6.0	13.7	6.5	33.2	13.5	8.8
Green Ext Time (p_c), s	0.0	5.2	0.1	1.4	0.0	7.8	0.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

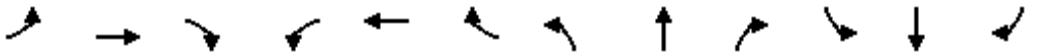
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	0	245	0	0	0	0	1262	234	668	1392	0
Future Volume (veh/h)	77	0	245	0	0	0	0	1262	234	668	1392	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	79	0	250				0	1288	239	682	1420	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	312	0	277				0	2106	391	766	3787	0
Arrive On Green	0.18	0.00	0.18				0.00	0.49	0.49	0.22	0.74	0.00
Sat Flow, veh/h	1781	0	1585				0	4495	803	3456	5274	0
Grp Volume(v), veh/h	79	0	250				0	1013	514	682	1420	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1726	1728	1702	0
Q Serve(g_s), s	4.6	0.0	18.5				0.0	26.1	26.1	23.0	11.9	0.0
Cycle Q Clear(g_c), s	4.6	0.0	18.5				0.0	26.1	26.1	23.0	11.9	0.0
Prop In Lane	1.00		1.00				0.00		0.47	1.00		0.00
Lane Grp Cap(c), veh/h	312	0	277				0	1656	840	766	3787	0
V/C Ratio(X)	0.25	0.00	0.90				0.00	0.61	0.61	0.89	0.37	0.00
Avail Cap(c_a), veh/h	371	0	330				0	1656	840	922	3787	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.7	0.0	48.5				0.0	22.5	22.5	45.3	5.5	0.0
Incr Delay (d2), s/veh	0.4	0.0	23.9				0.0	1.7	3.3	9.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	9.1				0.0	10.7	11.2	10.8	3.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.0	72.3				0.0	24.2	25.8	54.7	5.8	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		329						1527			2102	
Approach Delay, s/veh		65.3						24.8			21.7	
Approach LOS		E						C			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	30.6	63.4		26.0		94.0
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	32.0	49.0		25.0		85.0
Max Q Clear Time (g_c+I1), s	25.0	28.1		20.5		13.9
Green Ext Time (p_c), s	1.6	11.4		0.5		16.4

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	977	448	878	911	21	420	69	1101	101	44	25
Future Volume (veh/h)	42	977	448	878	911	21	420	69	1101	101	44	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	1007	462	905	939	22	484	0	1135	104	45	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1066	476	913	1516	36	583	0	1095	191	83	48
Arrive On Green	0.05	0.30	0.30	0.18	0.43	0.43	0.16	0.00	0.16	0.18	0.18	0.18
Sat Flow, veh/h	1781	3554	1585	5023	3549	83	3563	0	3170	1052	455	263
Grp Volume(v), veh/h	43	1007	462	905	470	491	484	0	1135	175	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1855	1781	0	1585	1770	0	0
Q Serve(g_s), s	2.6	30.4	31.7	19.8	22.7	22.7	14.5	0.0	18.0	9.9	0.0	0.0
Cycle Q Clear(g_c), s	2.6	30.4	31.7	19.8	22.7	22.7	14.5	0.0	18.0	9.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.59		0.15
Lane Grp Cap(c), veh/h	81	1066	476	913	759	793	583	0	1095	322	0	0
V/C Ratio(X)	0.53	0.94	0.97	0.99	0.62	0.62	0.83	0.00	1.04	0.54	0.00	0.00
Avail Cap(c_a), veh/h	97	1066	476	913	759	793	583	0	1095	322	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	51.4	37.6	38.0	44.9	24.5	24.5	44.5	0.0	36.0	40.9	0.0	0.0
Incr Delay (d2), s/veh	5.3	17.1	34.8	27.5	3.8	3.6	12.9	0.0	37.1	6.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	15.5	16.6	10.4	10.1	10.5	7.4	0.0	20.0	4.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.7	54.7	72.8	72.4	28.3	28.1	57.4	0.0	73.1	47.3	0.0	0.0
LnGrp LOS	E	D	E	E	C	C	E	A	F	D	A	A
Approach Vol, veh/h		1512			1866			1619			175	
Approach Delay, s/veh		60.3			49.6			68.4			47.3	
Approach LOS		E			D			E			D	

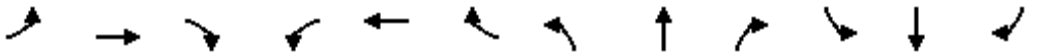
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.0	24.0	38.0	25.0	10.0	52.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	18.0	20.0	33.0	20.0	6.0	* 47
Max Q Clear Time (g_c+I1), s	20.0	21.8	33.7	11.9	4.6	24.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	6.6

Intersection Summary	
HCM 6th Ctrl Delay	58.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	726	1286	12	83	1101	425	44	76	82	286	26	757
Future Volume (veh/h)	726	1286	12	83	1101	425	44	76	82	286	26	757
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	748	1326	12	86	1135	438	45	78	85	295	27	780
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	785	1837	17	130	1260	562	45	59	447	63	0	807
Arrive On Green	0.23	0.51	0.51	0.07	0.35	0.35	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	3456	3609	33	1781	3554	1585	0	209	1585	0	0	1585
Grp Volume(v), veh/h	748	653	685	86	1135	438	123	0	85	322	0	780
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	209	0	1585	0	0	1585
Q Serve(g_s), s	23.5	31.4	31.4	5.2	33.3	27.1	0.0	0.0	4.5	0.0	0.0	31.0
Cycle Q Clear(g_c), s	23.5	31.4	31.4	5.2	33.3	27.1	31.0	0.0	4.5	31.0	0.0	31.0
Prop In Lane	1.00		0.02	1.00		1.00	0.37		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	785	905	949	130	1260	562	104	0	447	63	0	807
V/C Ratio(X)	0.95	0.72	0.72	0.66	0.90	0.78	1.19	0.00	0.19	5.13	0.00	0.97
Avail Cap(c_a), veh/h	785	905	949	130	1260	562	104	0	447	63	0	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.9	21.0	21.0	49.7	33.7	31.7	38.4	0.0	30.0	55.0	0.0	26.1
Incr Delay (d2), s/veh	21.3	5.0	4.7	12.0	10.5	10.3	147.3	0.0	0.9	1895.6	0.0	24.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	13.7	14.4	2.7	15.9	11.8	7.1	0.0	1.8	34.8	0.0	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.2	25.9	25.7	61.7	44.2	41.9	185.7	0.0	30.9	1950.6	0.0	50.6
LnGrp LOS	E	C	C	E	D	D	F	A	C	F	A	D
Approach Vol, veh/h		2086			1659			208			1102	
Approach Delay, s/veh		39.2			44.5			122.4			605.8	
Approach LOS		D			D			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		36.0	13.0	61.0		36.0	30.0	44.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		31.0	8.0	56.0		31.0	25.0	39.0				
Max Q Clear Time (g_c+I1), s		33.0	7.2	33.4		33.0	25.5	35.3				
Green Ext Time (p_c), s		0.0	0.0	10.2		0.0	0.0	2.8				

Intersection Summary	
HCM 6th Ctrl Delay	167.9
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	1733	2112	135	11	71
Future Vol, veh/h	113	1733	2112	135	11	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	1787	2177	139	11	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2316	0	-	0	3194	1158
Stage 1	-	-	-	-	2247	-
Stage 2	-	-	-	-	947	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 86	-	-	-	20	163
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	305	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 86	-	-	-	0	163
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	305	-

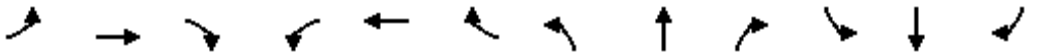
Approach	EB	WB	SB
HCM Control Delay, s	18.7	0	48.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 86	-	-	-	163
HCM Lane V/C Ratio	1.355	-	-	-	0.519
HCM Control Delay (s)	$ 305.2	-	-	-	48.7
HCM Lane LOS	F	-	-	-	E
HCM 95th %tile Q(veh)	8.8	-	-	-	2.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX I-III

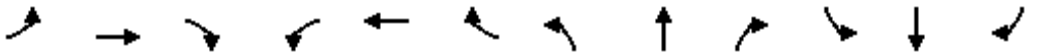
EXISTING PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	446	49	97	618	161	53	1651	69	81	1965	313
Future Volume (veh/h)	386	446	49	97	618	161	53	1651	69	81	1965	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	480	53	104	665	173	57	1775	74	87	2113	337
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	1035	462	167	823	442	147	2327	97	163	2388	741
Arrive On Green	0.11	0.29	0.29	0.05	0.23	0.23	0.04	0.46	0.46	0.05	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5027	209	3456	5106	1585
Grp Volume(v), veh/h	415	480	53	104	665	173	57	1201	648	87	2113	337
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1833	1728	1702	1585
Q Serve(g_s), s	13.0	13.3	2.9	3.5	21.2	10.6	1.9	35.1	35.2	3.0	45.1	17.2
Cycle Q Clear(g_c), s	13.0	13.3	2.9	3.5	21.2	10.6	1.9	35.1	35.2	3.0	45.1	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	374	1035	462	167	823	442	147	1576	848	163	2388	741
V/C Ratio(X)	1.11	0.46	0.11	0.62	0.81	0.39	0.39	0.76	0.76	0.53	0.88	0.45
Avail Cap(c_a), veh/h	374	1303	581	202	1125	577	173	1576	848	173	2388	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	34.8	31.2	56.0	43.6	35.0	55.9	26.7	26.8	55.9	29.0	21.6
Incr Delay (d2), s/veh	79.1	0.3	0.1	4.2	3.2	0.6	1.7	3.5	6.5	2.7	5.3	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	5.8	1.1	1.6	9.7	4.2	0.9	14.7	16.6	1.4	19.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.6	35.2	31.3	60.2	46.8	35.6	57.6	30.3	33.2	58.6	34.3	23.6
LnGrp LOS	F	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		948			942			1906			2537	
Approach Delay, s/veh		77.6			46.2			32.1			33.7	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	60.6	9.8	40.0	9.1	61.1	17.0	32.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	45.0	7.0	44.0	6.0	45.0	13.0	38.0
Max Q Clear Time (g_c+I1), s	5.0	37.2	5.5	15.3	3.9	47.1	15.0	23.2
Green Ext Time (p_c), s	0.0	6.2	0.0	3.6	0.0	0.0	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	387	1084	11	65	1266	274	11	40	43	373	43	725
Future Volume (veh/h)	387	1084	11	65	1266	274	11	40	43	373	43	725
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	407	1141	12	68	1333	288	12	42	45	425	0	763
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	900	2293	24	87	1481	660	119	55	59	831	0	1565
Arrive On Green	0.26	0.64	0.64	0.05	0.42	0.42	0.07	0.07	0.07	0.23	0.00	0.23
Sat Flow, veh/h	3456	3602	38	1781	3554	1585	1781	826	885	3563	0	3170
Grp Volume(v), veh/h	407	563	590	68	1333	288	12	0	87	425	0	763
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1711	1781	0	1585
Q Serve(g_s), s	11.8	20.2	20.2	4.5	42.0	15.5	0.8	0.0	6.0	12.5	0.0	0.0
Cycle Q Clear(g_c), s	11.8	20.2	20.2	4.5	42.0	15.5	0.8	0.0	6.0	12.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	900	1131	1186	87	1481	660	119	0	114	831	0	1565
V/C Ratio(X)	0.45	0.50	0.50	0.78	0.90	0.44	0.10	0.00	0.76	0.51	0.00	0.49
Avail Cap(c_a), veh/h	900	1131	1186	119	1481	660	119	0	114	831	0	1565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.2	11.6	11.6	56.4	32.7	25.0	52.6	0.0	55.1	40.0	0.0	20.3
Incr Delay (d2), s/veh	0.4	1.6	1.5	20.2	9.1	2.1	1.7	0.0	37.5	2.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.1	8.5	2.5	19.5	6.2	0.4	0.0	3.8	5.7	0.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	13.2	13.1	76.6	41.8	27.0	54.3	0.0	92.6	42.3	0.0	21.3
LnGrp LOS	D	B	B	E	D	C	D	A	F	D	A	C
Approach Vol, veh/h		1560			1689			99			1188	
Approach Delay, s/veh		19.5			40.7			88.0			28.8	
Approach LOS		B			D			F			C	

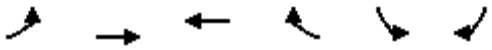
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.0	9.9	81.4		33.0	36.3	55.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		8.0	8.0	57.0		28.0	15.0	* 50				
Max Q Clear Time (g_c+I1), s		8.0	6.5	22.2		14.5	13.8	44.0				
Green Ext Time (p_c), s		0.0	0.0	9.7		4.4	0.2	4.5				

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



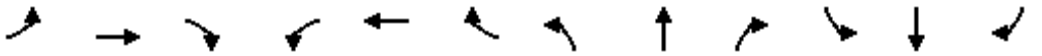
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	1886	1838	48	17	120
Future Volume (veh/h)	70	1886	1838	48	17	120
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	78	2096	2042	53	19	133
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	99	3106	2657	69	63	438
Arrive On Green	0.06	0.61	0.52	0.52	0.31	0.31
Sat Flow, veh/h	1781	5274	5286	133	203	1421
Grp Volume(v), veh/h	78	2096	1357	738	153	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1846	1634	0
Q Serve(g_s), s	5.2	32.7	38.3	38.4	8.6	0.0
Cycle Q Clear(g_c), s	5.2	32.7	38.3	38.4	8.6	0.0
Prop In Lane	1.00			0.07	0.12	0.87
Lane Grp Cap(c), veh/h	99	3106	1767	959	504	0
V/C Ratio(X)	0.78	0.67	0.77	0.77	0.30	0.00
Avail Cap(c_a), veh/h	163	3106	1767	959	504	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.9	15.6	23.1	23.1	31.7	0.0
Incr Delay (d2), s/veh	12.6	1.2	3.3	5.9	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	12.4	15.6	17.7	3.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	68.6	16.8	26.3	29.0	33.2	0.0
LnGrp LOS	E	B	C	C	C	A
Approach Vol, veh/h		2174	2095		153	
Approach Delay, s/veh		18.7	27.3		33.2	
Approach LOS		B	C		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	78.0	42.0	10.7	67.3
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	73.0	37.0	11.0	58.0
Max Q Clear Time (g_c+I1), s	34.7	10.6	7.2	40.4
Green Ext Time (p_c), s	24.7	0.5	0.0	13.5

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	528	562	78	100	485	225	87	1841	61	143	1660	313
Future Volume (veh/h)	528	562	78	100	485	225	87	1841	61	143	1660	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	539	573	80	102	495	230	89	1879	62	146	1694	319
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	1011	451	167	650	369	164	2372	78	173	2398	745
Arrive On Green	0.14	0.28	0.28	0.05	0.18	0.18	0.05	0.47	0.47	0.05	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5077	167	3456	5106	1585
Grp Volume(v), veh/h	539	573	80	102	495	230	89	1259	682	146	1694	319
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1840	1728	1702	1585
Q Serve(g_s), s	17.0	16.5	4.6	3.5	15.9	10.4	3.0	37.5	37.6	5.0	31.6	9.2
Cycle Q Clear(g_c), s	17.0	16.5	4.6	3.5	15.9	10.4	3.0	37.5	37.6	5.0	31.6	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	490	1011	451	167	650	369	164	1590	860	173	2398	745
V/C Ratio(X)	1.10	0.57	0.18	0.61	0.76	0.62	0.54	0.79	0.79	0.84	0.71	0.43
Avail Cap(c_a), veh/h	490	1392	621	230	1125	581	173	1590	860	173	2398	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	36.6	32.3	56.0	46.5	20.5	55.9	27.0	27.1	56.5	25.2	7.0
Incr Delay (d2), s/veh	71.1	0.5	0.2	3.6	1.9	1.7	3.1	4.1	7.4	30.0	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	7.2	1.8	1.6	7.2	4.0	1.4	15.8	17.9	2.9	12.9	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.6	37.1	32.5	59.6	48.4	22.3	59.0	31.2	34.5	86.6	27.0	8.8
LnGrp LOS	F	D	C	E	D	C	E	C	C	F	C	A
Approach Vol, veh/h		1192			827			2030			2159	
Approach Delay, s/veh		75.5			42.5			33.5			28.4	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	61.1	9.8	39.1	9.7	61.4	22.0	26.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	41.0	8.0	47.0	6.0	41.0	17.0	* 38
Max Q Clear Time (g_c+I1), s	7.0	39.6	5.5	18.5	5.0	33.6	19.0	17.9
Green Ext Time (p_c), s	0.0	1.2	0.1	4.5	0.0	6.1	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	726	1286	12	83	1101	425	44	76	82	286	26	757
Future Volume (veh/h)	726	1286	12	83	1101	425	44	76	82	286	26	757
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	748	1326	12	86	1135	438	45	78	85	314	0	780
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1218	2226	20	108	1125	502	148	68	74	831	0	1857
Arrive On Green	0.35	0.62	0.62	0.06	0.32	0.32	0.08	0.08	0.08	0.23	0.00	0.23
Sat Flow, veh/h	3456	3609	33	1781	3554	1585	1781	818	892	3563	0	3170
Grp Volume(v), veh/h	748	653	685	86	1135	438	45	0	163	314	0	780
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1710	1781	0	1585
Q Serve(g_s), s	21.5	26.7	26.7	5.7	38.0	31.3	2.9	0.0	10.0	8.9	0.0	0.0
Cycle Q Clear(g_c), s	21.5	26.7	26.7	5.7	38.0	31.3	2.9	0.0	10.0	8.9	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	1218	1096	1150	108	1125	502	148	0	142	831	0	1857
V/C Ratio(X)	0.61	0.60	0.60	0.80	1.01	0.87	0.30	0.00	1.14	0.38	0.00	0.42
Avail Cap(c_a), veh/h	1218	1096	1150	119	1125	502	148	0	142	831	0	1857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.1	13.9	13.9	55.6	41.0	38.7	51.7	0.0	55.0	38.7	0.0	13.7
Incr Delay (d2), s/veh	0.9	2.4	2.3	28.1	28.9	18.6	5.2	0.0	119.3	1.3	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	10.9	11.4	3.4	20.9	14.6	1.5	0.0	9.0	4.0	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	16.3	16.2	83.8	69.9	57.3	56.9	0.0	174.3	40.0	0.0	14.4
LnGrp LOS	C	B	B	F	F	E	E	A	F	D	A	B
Approach Vol, veh/h		2086			1659			208			1094	
Approach Delay, s/veh		22.3			67.3			148.9			21.7	
Approach LOS		C			E			F			C	

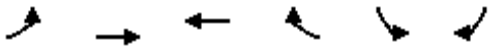
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.0	11.3	79.0		33.0	47.3	43.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		10.0	8.0	55.0		28.0	25.0	* 38				
Max Q Clear Time (g_c+I1), s		12.0	7.7	28.7		10.9	23.5	40.0				
Green Ext Time (p_c), s		0.0	0.0	11.0		4.4	0.5	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	113	1733	2112	135	11	71
Future Volume (veh/h)	113	1733	2112	135	11	71
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	116	1787	2177	139	11	73
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	142	3276	2593	164	58	386
Arrive On Green	0.08	0.64	0.53	0.53	0.28	0.28
Sat Flow, veh/h	1781	5274	5076	311	212	1405
Grp Volume(v), veh/h	116	1787	1505	811	85	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1814	1636	0
Q Serve(g_s), s	7.7	23.2	44.9	45.7	4.8	0.0
Cycle Q Clear(g_c), s	7.7	23.2	44.9	45.7	4.8	0.0
Prop In Lane	1.00			0.17	0.13	0.86
Lane Grp Cap(c), veh/h	142	3276	1799	959	450	0
V/C Ratio(X)	0.81	0.55	0.84	0.85	0.19	0.00
Avail Cap(c_a), veh/h	223	3276	1799	959	450	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.3	11.9	23.9	24.1	33.3	0.0
Incr Delay (d2), s/veh	12.1	0.7	4.8	9.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	8.5	18.5	21.2	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	66.4	12.5	28.7	33.2	34.2	0.0
LnGrp LOS	E	B	C	C	C	A
Approach Vol, veh/h		1903	2316		85	
Approach Delay, s/veh		15.8	30.3		34.2	
Approach LOS		B	C		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	82.0	38.0	13.6	68.4
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	77.0	33.0	15.0	58.0
Max Q Clear Time (g_c+I1), s	25.2	6.8	9.7	47.7
Green Ext Time (p_c), s	22.8	0.2	0.1	9.0

Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX I-IV

YEAR 2023 CUMULATIVE TRAFFIC CONDITIONS

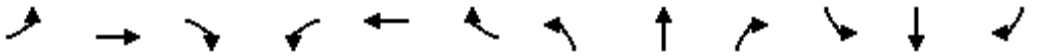
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	679	212	233	692	104	220	1512	213	198	2304	324
Future Volume (veh/h)	165	679	212	233	692	104	220	1512	213	198	2304	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	174	715	223	245	728	109	232	1592	224	208	2425	341
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	689	215	259	930	139	193	1872	581	742	3489	1083
Arrive On Green	0.04	0.26	0.26	0.08	0.30	0.30	0.11	0.37	0.37	0.42	0.68	0.68
Sat Flow, veh/h	3456	2666	831	3456	3100	464	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	174	477	461	245	417	420	232	1592	224	208	2425	341
Grp Sat Flow(s),veh/h/ln	1728	1777	1721	1728	1777	1787	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.0	31.0	31.0	8.5	25.8	25.8	13.0	34.4	12.5	9.3	34.4	10.4
Cycle Q Clear(g_c), s	5.0	31.0	31.0	8.5	25.8	25.8	13.0	34.4	12.5	9.3	34.4	10.4
Prop In Lane	1.00		0.48	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	459	445	259	533	536	193	1872	581	742	3489	1083
V/C Ratio(X)	1.21	1.04	1.04	0.95	0.78	0.78	1.20	0.85	0.39	0.28	0.70	0.31
Avail Cap(c_a), veh/h	144	459	445	259	533	536	193	1872	581	742	3489	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	44.5	44.5	55.3	38.4	38.4	53.5	35.0	28.0	23.1	11.5	7.7
Incr Delay (d2), s/veh	141.8	52.2	52.9	41.1	7.4	7.4	129.9	5.1	1.9	0.2	1.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	20.2	19.6	5.2	12.2	12.3	12.8	14.9	5.1	3.9	12.2	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	199.3	96.7	97.4	96.4	45.9	45.9	183.4	40.0	30.0	23.3	12.6	8.4
LnGrp LOS	F	F	F	F	D	D	F	D	C	C	B	A
Approach Vol, veh/h		1112			1082			2048			2974	
Approach Delay, s/veh		113.1			57.3			55.2			12.9	
Approach LOS		F			E			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	56.0	49.0	14.0	36.0	17.0	88.0	9.0	41.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	18.0	* 44	9.0	* 31	13.0	49.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	11.3	36.4	10.5	33.0	15.0	36.4	7.0	27.8
Green Ext Time (p_c), s	0.3	5.9	0.0	0.0	0.0	11.6	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	47.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



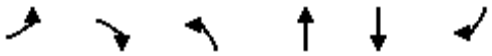
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	16	200	62	30	29	104	1571	19	25	2344	129
Future Volume (veh/h)	213	16	200	62	30	29	104	1571	19	25	2344	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	222	17	208	65	31	30	108	1636	20	26	2442	134
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	311	404	343	302	189	183	132	2766	859	209	3027	940
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.07	0.54	0.54	0.23	1.00	1.00
Sat Flow, veh/h	1341	1870	1585	1156	873	845	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	222	17	208	65	0	61	108	1636	20	26	2442	134
Grp Sat Flow(s),veh/h/ln	1341	1870	1585	1156	0	1718	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.3	0.9	14.2	5.7	0.0	3.5	7.2	25.9	0.7	1.4	0.0	0.0
Cycle Q Clear(g_c), s	22.8	0.9	14.2	6.5	0.0	3.5	7.2	25.9	0.7	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	311	404	343	302	0	371	132	2766	859	209	3027	940
V/C Ratio(X)	0.71	0.04	0.61	0.22	0.00	0.16	0.82	0.59	0.02	0.12	0.81	0.14
Avail Cap(c_a), veh/h	413	546	462	389	0	501	134	2766	859	209	3027	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	47.5	37.2	42.4	39.8	0.0	38.2	54.7	18.5	12.8	41.1	0.0	0.0
Incr Delay (d2), s/veh	3.8	0.0	1.7	0.4	0.0	0.2	30.7	0.9	0.0	0.2	1.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.4	5.7	1.6	0.0	1.5	4.3	10.2	0.3	0.6	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	37.2	44.2	40.1	0.0	38.4	85.5	19.5	12.8	41.3	1.8	0.2
LnGrp LOS	D	D	D	D	A	D	F	B	B	D	A	A
Approach Vol, veh/h		447			126			1764			2602	
Approach Delay, s/veh		47.5			39.3			23.4			2.1	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.1	70.0		30.9	12.9	76.1		30.9				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 65		35.0	9.0	62.0		35.0				
Max Q Clear Time (g_c+I1), s	3.4	27.9		24.8	9.2	2.0		8.5				
Green Ext Time (p_c), s	0.0	17.4		1.1	0.0	41.9		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		14.8	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



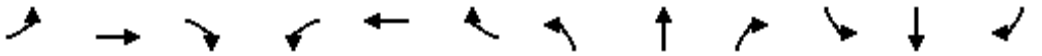
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	34	9	1947	2503	16
Future Volume (veh/h)	55	34	9	1947	2503	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	35	9	2028	2607	17
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	85	76	449	4437	2936	911
Arrive On Green	0.05	0.05	0.25	0.87	0.57	0.57
Sat Flow, veh/h	1781	1585	1781	5274	5274	1585
Grp Volume(v), veh/h	57	35	9	2028	2607	17
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1702	1585
Q Serve(g_s), s	3.8	2.6	0.5	10.4	53.2	0.4
Cycle Q Clear(g_c), s	3.8	2.6	0.5	10.4	53.2	0.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	85	76	449	4437	2936	911
V/C Ratio(X)	0.67	0.46	0.02	0.46	0.89	0.02
Avail Cap(c_a), veh/h	460	409	449	4437	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.84	0.84	0.70	0.70
Uniform Delay (d), s/veh	56.2	55.6	33.7	1.7	22.1	5.2
Incr Delay (d2), s/veh	8.8	4.4	0.0	0.3	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.4	0.2	1.8	20.9	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	65.0	60.0	33.7	2.0	25.3	5.3
LnGrp LOS	E	E	C	A	C	A
Approach Vol, veh/h	92			2037	2624	
Approach Delay, s/veh	63.1			2.1	25.2	
Approach LOS	E			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		109.3		10.7	35.3	74.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		79.0		31.0	6.0	* 69
Max Q Clear Time (g_c+I1), s		12.4		5.8	2.5	55.2
Green Ext Time (p_c), s		31.5		0.2	0.0	12.7

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



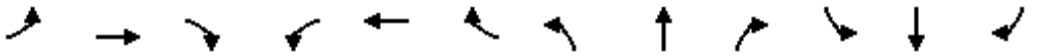
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1159	195	529	1366	287	228	1097	622	349	1741	303
Future Volume (veh/h)	117	1159	195	529	1366	287	228	1097	622	349	1741	303
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	1220	205	557	1438	302	240	1155	655	367	1833	319
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1429	240	346	1948	605	232	1747	1233	259	1745	542
Arrive On Green	0.05	0.32	0.32	0.10	0.38	0.38	0.07	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	3456	4402	740	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	123	943	482	557	1438	302	240	1155	655	367	1833	319
Grp Sat Flow(s),veh/h/ln	1728	1702	1737	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	4.2	31.1	31.1	12.0	29.1	17.5	8.0	23.1	5.5	9.0	41.0	16.1
Cycle Q Clear(g_c), s	4.2	31.1	31.1	12.0	29.1	17.5	8.0	23.1	5.5	9.0	41.0	16.1
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1105	564	346	1948	605	232	1747	1233	259	1745	542
V/C Ratio(X)	0.69	0.85	0.85	1.61	0.74	0.50	1.04	0.66	0.53	1.42	1.05	0.59
Avail Cap(c_a), veh/h	259	1191	608	346	1948	605	232	1747	1233	259	1745	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.9	37.9	54.0	32.0	28.4	56.0	33.6	12.1	55.5	39.5	21.2
Incr Delay (d2), s/veh	4.7	5.9	10.8	288.4	1.5	0.6	64.7	1.7	1.4	208.4	36.3	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	13.7	14.8	19.0	12.1	6.7	5.6	9.8	4.2	11.4	22.7	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	43.7	48.7	342.4	33.5	29.0	120.7	35.3	13.6	263.9	75.8	25.9
LnGrp LOS	E	D	D	F	C	C	F	D	B	F	F	C
Approach Vol, veh/h		1548			2297			2050			2519	
Approach Delay, s/veh		46.6			107.8			38.3			96.9	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	46.0	17.0	44.0	13.0	46.0	10.2	50.8
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	7.0	* 41	9.0	45.0
Max Q Clear Time (g_c+I1), s	11.0	25.1	14.0	33.1	10.0	43.0	6.2	31.1
Green Ext Time (p_c), s	0.0	9.0	0.0	5.9	0.0	0.0	0.1	9.2

Intersection Summary	
HCM 6th Ctrl Delay	76.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	2063	20	89	2148	32	23	15	33	46	6	54
Future Volume (veh/h)	60	2063	20	89	2148	32	23	15	33	46	6	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	2149	21	93	2238	33	20	22	34	48	6	56
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	2249	698	104	2376	738	505	530	449	464	58	462
Arrive On Green	0.04	0.44	0.44	0.06	0.47	0.47	0.28	0.28	0.28	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1592	199	1585
Grp Volume(v), veh/h	62	2149	21	93	2238	33	20	22	34	54	0	56
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1791	0	1585
Q Serve(g_s), s	4.1	48.8	0.9	6.2	50.1	1.4	1.0	1.0	1.9	2.6	0.0	3.1
Cycle Q Clear(g_c), s	4.1	48.8	0.9	6.2	50.1	1.4	1.0	1.0	1.9	2.6	0.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	74	2249	698	104	2376	738	505	530	449	522	0	462
V/C Ratio(X)	0.84	0.96	0.03	0.90	0.94	0.04	0.04	0.04	0.08	0.10	0.00	0.12
Avail Cap(c_a), veh/h	74	2255	700	104	2376	738	505	530	449	522	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.1	32.4	19.0	56.1	30.5	17.5	31.2	31.2	31.5	31.0	0.0	31.2
Incr Delay (d2), s/veh	53.1	10.5	0.0	56.3	8.4	0.0	0.1	0.1	0.3	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	21.7	0.3	4.4	21.7	0.5	0.4	0.5	0.8	1.2	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.2	42.9	19.1	112.4	38.9	17.5	31.3	31.3	31.8	31.4	0.0	31.7
LnGrp LOS	F	D	B	F	D	B	C	C	C	C	A	C
Approach Vol, veh/h		2232			2364			76			110	
Approach Delay, s/veh		44.6			41.5			31.5			31.6	
Approach LOS		D			D			C			C	

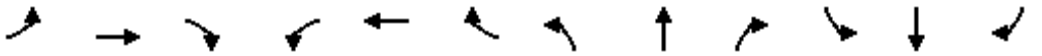
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		39.9	12.0	57.8		40.0	9.0	60.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		6.0	7.0	* 53		35.0	5.0	55.0				
Max Q Clear Time (g_c+I1), s		3.9	8.2	50.8		5.1	6.1	52.1				
Green Ext Time (p_c), s		0.0	0.0	2.0		0.4	0.0	2.8				

Intersection Summary		
HCM 6th Ctrl Delay		42.6
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



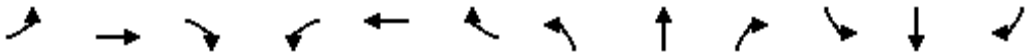
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	1817	257	155	1925	102	256	518	192	260	715	204
Future Volume (veh/h)	101	1817	257	155	1925	102	256	518	192	260	715	204
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	106	1913	271	163	2026	107	269	545	202	274	753	215
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	2042	634	202	2028	107	1584	2488	1110	288	1125	502
Arrive On Green	0.04	0.40	0.40	0.06	0.41	0.41	0.46	0.70	0.70	0.08	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	4966	261	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	106	1913	271	163	1386	747	269	545	202	274	753	215
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1823	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.6	43.1	11.1	5.6	48.8	49.0	5.5	6.5	5.3	9.5	22.0	12.9
Cycle Q Clear(g_c), s	3.6	43.1	11.1	5.6	48.8	49.0	5.5	6.5	5.3	9.5	22.0	12.9
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	2042	634	202	1390	745	1584	2488	1110	288	1125	502
V/C Ratio(X)	0.74	0.94	0.43	0.81	1.00	1.00	0.17	0.22	0.18	0.95	0.67	0.43
Avail Cap(c_a), veh/h	144	2042	634	202	1390	745	1584	2488	1110	288	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	34.5	14.7	55.8	35.4	35.5	19.1	6.4	6.2	54.8	35.5	32.4
Incr Delay (d2), s/veh	17.8	8.9	0.5	21.2	23.5	33.7	0.1	0.2	0.4	40.0	3.2	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	19.1	4.0	3.0	24.2	28.1	2.2	2.4	1.7	5.7	10.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	43.5	15.1	77.0	58.9	69.2	19.1	6.6	6.5	94.7	38.7	35.1
LnGrp LOS	E	D	B	E	E	F	B	A	A	F	D	D
Approach Vol, veh/h		2290			2296			1016			1242	
Approach Delay, s/veh		41.6			63.5			9.9			50.4	
Approach LOS		D			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	90.0	11.0	53.0	61.0	43.0	10.0	54.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	10.0	38.0	7.0	47.0	10.0	* 38	5.0	* 49
Max Q Clear Time (g_c+I1), s	11.5	8.5	7.6	45.1	7.5	24.0	5.6	51.0
Green Ext Time (p_c), s	0.0	4.8	0.0	1.7	0.2	5.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



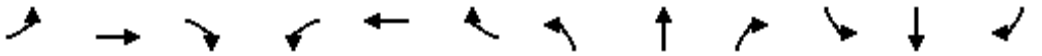
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	1786	308	277	1882	94	229	433	259	238	932	70
Future Volume (veh/h)	77	1786	308	277	1882	94	229	433	259	238	932	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	1860	321	289	1960	98	239	451	270	248	971	73
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1757	299	288	2161	108	259	1036	462	1093	1814	136
Arrive On Green	0.04	0.40	0.40	0.08	0.43	0.43	0.08	0.29	0.29	0.32	0.54	0.54
Sat Flow, veh/h	3456	4392	748	3456	4981	248	3456	3554	1585	3456	3350	252
Grp Volume(v), veh/h	80	1436	745	289	1338	720	239	451	270	248	515	529
Grp Sat Flow(s),veh/h/ln	1728	1702	1736	1728	1702	1826	1728	1777	1585	1728	1777	1825
Q Serve(g_s), s	2.7	48.0	48.0	10.0	44.0	44.3	8.2	12.4	19.7	6.3	22.5	22.5
Cycle Q Clear(g_c), s	2.7	48.0	48.0	10.0	44.0	44.3	8.2	12.4	19.7	6.3	22.5	22.5
Prop In Lane	1.00		0.43	1.00		0.14	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	142	1362	694	288	1477	792	259	1036	462	1093	962	988
V/C Ratio(X)	0.56	1.05	1.07	1.00	0.91	0.91	0.92	0.44	0.58	0.23	0.54	0.54
Avail Cap(c_a), veh/h	144	1362	694	288	1503	806	259	1036	462	1093	962	988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	36.0	36.0	55.0	31.7	31.8	55.2	34.5	46.2	30.2	17.8	17.8
Incr Delay (d2), s/veh	4.8	40.1	55.5	53.9	8.1	14.1	35.7	1.3	5.3	0.1	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	27.0	30.5	6.5	19.3	22.1	4.9	5.5	8.4	2.7	9.6	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	76.1	91.5	108.9	39.8	45.9	90.9	35.8	51.6	30.3	19.9	19.9
LnGrp LOS	E	F	F	F	D	D	F	D	D	C	B	B
Approach Vol, veh/h		2261			2347			960			1292	
Approach Delay, s/veh		80.7			50.2			54.0			21.9	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.4	40.0	14.0	53.0	13.0	70.4	9.9	57.1
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	9.0	* 35	10.0	48.0	9.0	35.0	5.0	* 53
Max Q Clear Time (g_c+I1), s	8.3	21.7	12.0	50.0	10.2	24.5	4.7	46.3
Green Ext Time (p_c), s	0.1	3.3	0.0	0.0	0.0	5.0	0.0	5.8

Intersection Summary	
HCM 6th Ctrl Delay	55.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



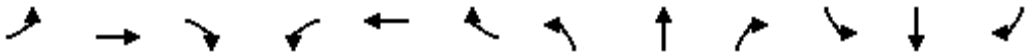
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	329	1461	340	289	1487	326	345	634	313	292	1284	285
Future Volume (veh/h)	329	1461	340	289	1487	326	345	634	313	292	1284	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	336	1491	347	295	1517	333	352	647	319	298	1310	291
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1462	338	288	1674	520	374	2178	676	288	2050	636
Arrive On Green	0.10	0.35	0.35	0.08	0.33	0.33	0.11	0.43	0.43	0.08	0.40	0.40
Sat Flow, veh/h	3456	4143	959	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	336	1224	614	295	1517	333	352	647	319	298	1310	291
Grp Sat Flow(s),veh/h/ln	1728	1702	1698	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	11.6	42.3	42.3	10.0	34.1	19.5	12.1	10.0	17.3	10.0	24.8	13.8
Cycle Q Clear(g_c), s	11.6	42.3	42.3	10.0	34.1	19.5	12.1	10.0	17.3	10.0	24.8	13.8
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1201	599	288	1674	520	374	2178	676	288	2050	636
V/C Ratio(X)	0.97	1.02	1.03	1.02	0.91	0.64	0.94	0.30	0.47	1.03	0.64	0.46
Avail Cap(c_a), veh/h	346	1201	599	288	1702	528	374	2178	676	288	2050	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	38.8	38.8	55.0	38.6	28.2	53.1	22.6	24.7	55.0	28.9	19.2
Incr Delay (d2), s/veh	40.9	30.8	43.3	59.4	7.3	2.6	31.6	0.3	2.4	62.3	1.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	22.5	24.5	6.7	15.2	7.7	6.9	4.1	6.9	6.8	10.3	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.7	69.6	82.2	114.4	45.9	30.8	84.7	22.9	27.1	117.3	30.4	21.6
LnGrp LOS	F	F	F	F	D	C	F	C	C	F	C	C
Approach Vol, veh/h		2174			2145			1318			1899	
Approach Delay, s/veh		77.1			53.0			40.4			42.7	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	56.5	14.0	47.3	17.0	53.5	17.0	44.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	40.0	10.0	42.0	13.0	37.0	12.0	* 40
Max Q Clear Time (g_c+I1), s	12.0	19.3	12.0	44.3	14.1	26.8	13.6	36.1
Green Ext Time (p_c), s	0.0	5.7	0.0	0.0	0.0	6.8	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	55.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



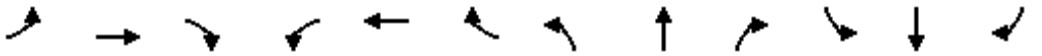
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	1068	201	461	1094	161	282	959	283	223	1680	254
Future Volume (veh/h)	271	1068	201	461	1094	161	282	959	283	223	1680	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	279	1101	207	475	1128	166	291	989	292	230	1732	262
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	971	182	374	1088	160	344	3066	952	288	2617	393
Arrive On Green	0.08	0.32	0.32	0.11	0.35	0.35	0.10	0.60	0.60	0.08	0.58	0.58
Sat Flow, veh/h	3456	2987	559	3456	3109	456	3456	5106	1585	3456	4480	673
Grp Volume(v), veh/h	279	653	655	475	643	651	291	989	292	230	1313	681
Grp Sat Flow(s),veh/h/ln	1728	1777	1770	1728	1777	1788	1728	1702	1585	1728	1702	1749
Q Serve(g_s), s	9.0	39.0	39.0	13.0	42.0	42.0	9.9	11.5	10.8	7.8	31.3	31.8
Cycle Q Clear(g_c), s	9.0	39.0	39.0	13.0	42.0	42.0	9.9	11.5	10.8	7.8	31.3	31.8
Prop In Lane	1.00		0.32	1.00		0.26	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	259	577	575	374	622	626	344	3066	952	288	1989	1022
V/C Ratio(X)	1.08	1.13	1.14	1.27	1.03	1.04	0.85	0.32	0.31	0.80	0.66	0.67
Avail Cap(c_a), veh/h	259	577	575	374	622	626	346	3066	952	346	1989	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	40.5	40.5	53.5	39.0	39.0	53.1	11.9	11.7	54.0	16.9	17.0
Incr Delay (d2), s/veh	77.7	79.1	81.9	140.5	45.3	46.6	17.3	0.3	0.8	10.6	1.7	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	29.5	29.8	12.9	25.8	26.2	5.1	4.3	3.9	3.8	12.2	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.2	119.6	122.4	194.0	84.3	85.6	70.4	12.2	12.6	64.6	18.6	20.4
LnGrp LOS	F	F	F	F	F	F	E	B	B	E	B	C
Approach Vol, veh/h		1587			1769			1572			2224	
Approach Delay, s/veh		123.1			114.2			23.0			23.9	
Approach LOS		F			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	78.0	17.0	44.0	15.9	76.0	14.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	12.0	39.0	13.0	38.0	12.0	39.0	9.0	* 42
Max Q Clear Time (g_c+I1), s	9.8	13.5	15.0	41.0	11.9	33.8	11.0	44.0
Green Ext Time (p_c), s	0.2	9.1	0.0	0.0	0.0	4.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	68.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



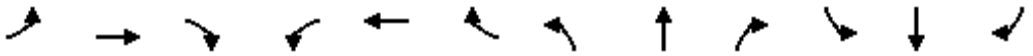
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	708	591	341	729	79	409	1430	270	134	1759	562
Future Volume (veh/h)	177	708	591	341	729	79	409	1430	270	134	1759	562
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	745	622	359	767	83	431	1505	284	141	1852	592
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	614	1125	727	288	1001	108	492	2042	634	579	3018	1219
Arrive On Green	0.18	0.32	0.32	0.08	0.21	0.21	0.14	0.40	0.40	0.33	0.59	0.59
Sat Flow, veh/h	3456	3554	1585	3456	4680	503	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	186	745	622	359	557	293	431	1505	284	141	1852	592
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1780	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.6	21.8	38.0	10.0	18.4	18.6	14.7	30.1	19.0	7.0	27.9	12.6
Cycle Q Clear(g_c), s	5.6	21.8	38.0	10.0	18.4	18.6	14.7	30.1	19.0	7.0	27.9	12.6
Prop In Lane	1.00		1.00	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	614	1125	727	288	728	381	492	2042	634	579	3018	1219
V/C Ratio(X)	0.30	0.66	0.85	1.25	0.76	0.77	0.88	0.74	0.45	0.24	0.61	0.49
Avail Cap(c_a), veh/h	614	1125	727	288	1021	534	547	2042	634	579	3018	1219
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	35.4	28.9	55.0	44.3	44.4	50.4	30.6	38.4	29.7	15.7	9.2
Incr Delay (d2), s/veh	0.3	1.5	9.8	136.6	2.2	4.5	13.9	2.4	2.3	0.2	0.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	9.6	17.5	9.8	8.0	8.7	7.3	12.6	7.8	3.0	10.7	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	36.9	38.7	191.6	46.6	48.9	64.3	33.0	40.7	29.9	16.7	10.6
LnGrp LOS	D	D	D	F	D	D	E	C	D	C	B	B
Approach Vol, veh/h		1553			1209			2220			2585	
Approach Delay, s/veh		38.4			90.2			40.1			16.0	
Approach LOS		D			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.0	53.0	14.0	43.0	21.1	76.9	26.3	30.7
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	* 48	10.0	38.0	19.0	35.0	12.0	* 36
Max Q Clear Time (g_c+I1), s	9.0	32.1	12.0	40.0	16.7	29.9	7.6	20.6
Green Ext Time (p_c), s	0.0	10.5	0.0	0.0	0.4	4.6	0.2	5.0

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



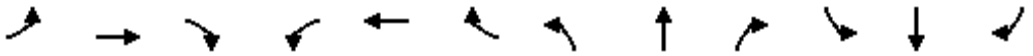
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	499	105	272	655	74	271	959	216	150	1508	128
Future Volume (veh/h)	160	499	105	272	655	74	271	959	216	150	1508	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	525	111	286	689	78	285	1009	227	158	1587	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	639	134	252	807	91	288	1251	281	323	1948	166
Arrive On Green	0.11	0.22	0.22	0.14	0.25	0.25	0.08	0.30	0.30	0.18	0.41	0.41
Sat Flow, veh/h	1781	2921	615	1781	3218	364	3456	4169	936	1781	4794	407
Grp Volume(v), veh/h	168	318	318	286	380	387	285	823	413	158	1127	595
Grp Sat Flow(s),veh/h/ln	1781	1777	1760	1781	1777	1805	1728	1702	1702	1781	1702	1797
Q Serve(g_s), s	11.1	20.5	20.6	17.0	24.5	24.5	9.9	26.8	26.9	9.6	35.2	35.3
Cycle Q Clear(g_c), s	11.1	20.5	20.6	17.0	24.5	24.5	9.9	26.8	26.9	9.6	35.2	35.3
Prop In Lane	1.00		0.35	1.00		0.20	1.00		0.55	1.00		0.23
Lane Grp Cap(c), veh/h	195	388	385	252	445	452	288	1021	511	323	1383	730
V/C Ratio(X)	0.86	0.82	0.83	1.13	0.85	0.85	0.99	0.81	0.81	0.49	0.81	0.82
Avail Cap(c_a), veh/h	223	518	513	252	548	556	288	1021	511	323	1383	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	44.6	44.7	51.5	42.9	42.9	54.9	38.8	38.8	44.1	31.6	31.6
Incr Delay (d2), s/veh	25.0	7.6	8.1	97.4	10.6	10.5	50.1	6.8	12.9	1.1	5.4	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	9.8	9.8	14.4	12.0	12.2	6.3	12.1	13.0	4.3	15.3	17.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	52.2	52.8	148.9	53.4	53.4	105.0	45.6	51.7	45.3	37.0	41.4
LnGrp LOS	E	D	D	F	D	D	F	D	D	D	D	D
Approach Vol, veh/h		804			1053			1521			1880	
Approach Delay, s/veh		57.7			79.3			58.4			39.1	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.8	41.0	21.0	31.2	14.0	53.8	17.2	35.1
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 36	17.0	35.0	10.0	40.0	15.0	37.0
Max Q Clear Time (g_c+I1), s	11.6	28.9	19.0	22.6	11.9	37.3	13.1	26.5
Green Ext Time (p_c), s	0.1	4.4	0.0	3.2	0.0	2.3	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	55.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



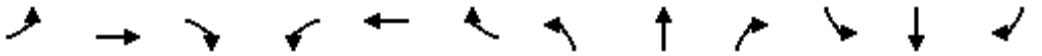
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	399	484	94	104	664	167	100	1835	72	83	2152	316
Future Volume (veh/h)	399	484	94	104	664	167	100	1835	72	83	2152	316
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	420	509	99	109	699	176	105	1932	76	87	2265	333
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	964	430	168	841	375	168	2142	84	334	2173	310
Arrive On Green	0.08	0.27	0.27	0.05	0.24	0.24	0.05	0.43	0.43	0.10	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5041	198	3456	4514	645
Grp Volume(v), veh/h	420	509	99	109	699	176	105	1304	704	87	1692	906
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1754
Q Serve(g_s), s	10.0	14.6	5.8	3.7	22.4	8.7	3.6	42.8	43.0	2.8	57.8	57.8
Cycle Q Clear(g_c), s	10.0	14.6	5.8	3.7	22.4	8.7	3.6	42.8	43.0	2.8	57.8	57.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.37
Lane Grp Cap(c), veh/h	288	964	430	168	841	375	168	1447	780	334	1639	845
V/C Ratio(X)	1.46	0.53	0.23	0.65	0.83	0.47	0.63	0.90	0.90	0.26	1.03	1.07
Avail Cap(c_a), veh/h	288	1096	489	230	1036	462	173	1447	780	334	1639	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	37.2	34.0	56.1	43.5	23.0	56.0	32.1	32.2	50.2	31.1	31.1
Incr Delay (d2), s/veh	224.6	0.4	0.3	4.1	4.8	0.9	6.7	9.4	15.8	0.4	31.0	52.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	6.4	2.3	1.7	10.4	3.4	1.7	19.1	22.0	1.2	29.8	35.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	279.6	37.6	34.2	60.2	48.4	23.9	62.7	41.5	48.0	50.6	62.1	83.5
LnGrp LOS	F	D	C	E	D	C	E	D	D	D	F	F
Approach Vol, veh/h		1028			984			2113			2685	
Approach Delay, s/veh		136.2			45.3			44.7			69.0	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	56.0	9.8	37.6	9.8	62.8	14.0	33.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 51	8.0	37.0	6.0	51.0	10.0	35.0
Max Q Clear Time (g_c+I1), s	4.8	45.0	5.7	16.6	5.6	59.8	12.0	24.4
Green Ext Time (p_c), s	0.0	5.2	0.1	3.7	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	68.2
HCM 6th LOS	E

Notes

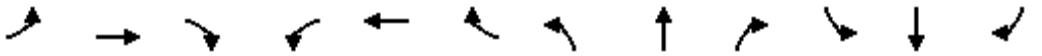
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	183	26	177	252	81	29	1854	166	36	2261	82
Future Volume (veh/h)	62	183	26	177	252	81	29	1854	166	36	2261	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	193	27	186	265	85	31	1952	175	38	2380	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	424	489	202	348	109	337	2307	206	337	2446	88
Arrive On Green	0.05	0.12	0.12	0.06	0.13	0.13	0.19	0.48	0.48	0.19	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2662	835	1781	4773	425	1781	5060	182
Grp Volume(v), veh/h	65	193	27	186	175	175	31	1389	738	38	1597	869
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1720	1781	1702	1794	1781	1702	1838
Q Serve(g_s), s	4.3	6.1	0.2	6.4	11.4	11.8	1.7	42.7	43.4	2.1	54.8	55.7
Cycle Q Clear(g_c), s	4.3	6.1	0.2	6.4	11.4	11.8	1.7	42.7	43.4	2.1	54.8	55.7
Prop In Lane	1.00		1.00	1.00		0.49	1.00		0.24	1.00		0.10
Lane Grp Cap(c), veh/h	83	424	489	202	232	225	337	1645	867	337	1645	888
V/C Ratio(X)	0.78	0.46	0.06	0.92	0.75	0.78	0.09	0.84	0.85	0.11	0.97	0.98
Avail Cap(c_a), veh/h	104	918	709	202	459	444	337	1645	867	337	1645	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	49.2	17.3	56.2	50.3	50.5	40.2	27.1	27.2	40.3	30.2	30.4
Incr Delay (d2), s/veh	25.2	0.8	0.0	42.3	4.9	5.7	0.1	5.5	10.3	0.1	16.2	25.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.7	0.4	4.0	5.4	5.4	0.8	18.1	20.4	1.0	25.2	29.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	50.0	17.4	98.5	55.2	56.2	40.3	32.5	37.5	40.5	46.4	55.8
LnGrp LOS	F	D	B	F	E	E	D	C	D	D	D	E
Approach Vol, veh/h		285			536			2158			2504	
Approach Delay, s/veh		54.2			70.5			34.4			49.6	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.7	63.0	11.0	19.3	26.7	63.0	9.6	20.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	58.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	4.1	45.4	8.4	8.1	3.7	57.7	6.3	13.8
Green Ext Time (p_c), s	0.0	10.4	0.0	1.2	0.0	0.3	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D



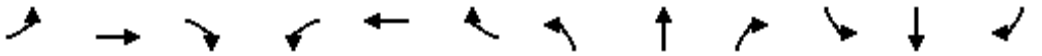
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	110	83	215	84	5	331	9	264	1	1	1
Future Volume (veh/h)	5	110	83	215	84	5	331	9	264	1	1	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	116	87	226	88	5	348	9	278	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	14	368	255	432	1057	60	565	15	515	116	116	116
Arrive On Green	0.01	0.18	0.18	0.12	0.31	0.31	0.32	0.32	0.32	0.20	0.20	0.20
Sat Flow, veh/h	1781	2005	1392	3456	3420	193	1738	45	1585	579	579	579
Grp Volume(v), veh/h	5	102	101	226	45	48	357	0	278	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1620	1728	1777	1836	1783	0	1585	1737	0	0
Q Serve(g_s), s	0.3	6.0	6.5	7.3	2.2	2.2	20.3	0.0	17.2	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	6.0	6.5	7.3	2.2	2.2	20.3	0.0	17.2	0.2	0.0	0.0
Prop In Lane	1.00		0.86	1.00		0.11	0.97		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	14	326	297	432	549	567	580	0	515	347	0	0
V/C Ratio(X)	0.37	0.31	0.34	0.52	0.08	0.08	0.62	0.00	0.54	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	326	297	461	549	567	580	0	515	347	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.2	42.4	42.7	49.2	29.4	29.4	34.2	0.0	33.2	38.5	0.0	0.0
Incr Delay (d2), s/veh	15.6	2.5	3.1	1.0	0.3	0.3	4.8	0.0	4.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.9	2.9	3.2	1.0	1.0	9.5	0.0	7.2	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	44.9	45.8	50.1	29.7	29.7	39.0	0.0	37.2	38.5	0.0	0.0
LnGrp LOS	E	D	D	D	C	C	D	A	D	D	A	A
Approach Vol, veh/h		208			319			635			3	
Approach Delay, s/veh		46.1			44.2			38.2			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	20.0	27.0		29.0	4.9	42.1				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		39.0	16.0	* 22		24.0	6.0	32.0				
Max Q Clear Time (g_c+I1), s		22.3	9.3	8.5		2.2	2.3	4.2				
Green Ext Time (p_c), s		3.0	0.4	0.9		0.0	0.0	0.4				

Intersection Summary		
HCM 6th Ctrl Delay		41.2
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	76	64	81	104	415	168	1387	99	34	2348	48
Future Volume (veh/h)	244	76	64	81	104	415	168	1387	99	34	2348	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	257	80	67	85	109	437	177	1460	0	36	2472	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	132	100	262	276	634	193	1872		574	3790	
Arrive On Green	0.08	0.07	0.07	0.08	0.08	0.08	0.11	0.37	0.00	0.32	0.59	0.00
Sat Flow, veh/h	3456	1924	1460	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	257	73	74	85	109	437	177	1460	0	36	2472	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1607	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	8.9	4.8	5.4	2.8	3.5	4.9	11.8	30.4	0.0	1.7	30.8	0.0
Cycle Q Clear(g_c), s	8.9	4.8	5.4	2.8	3.5	4.9	11.8	30.4	0.0	1.7	30.8	0.0
Prop In Lane	1.00		0.91	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	122	110	262	276	634	193	1872		574	3790	
V/C Ratio(X)	0.99	0.60	0.67	0.32	0.39	0.69	0.92	0.78		0.06	0.65	
Avail Cap(c_a), veh/h	259	563	509	262	1036	973	193	1872		574	3790	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.5	54.3	54.6	52.5	52.7	14.8	53.0	33.7	0.0	28.1	16.5	0.0
Incr Delay (d2), s/veh	53.4	4.7	6.8	0.7	0.9	1.3	42.2	3.3	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	2.3	2.4	1.2	1.6	6.7	7.5	13.0	0.0	0.7	11.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.9	59.0	61.4	53.3	53.6	16.1	95.1	37.0	0.0	28.2	17.3	0.0
LnGrp LOS	F	E	E	D	D	B	F	D		C	B	
Approach Vol, veh/h		404			631			1637	A		2508	A
Approach Delay, s/veh		91.2			27.6			43.3			17.5	
Approach LOS		F			C			D			B	

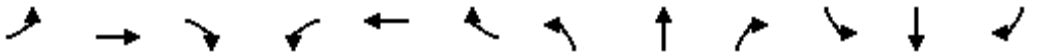
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.7	49.0	14.1	13.2	17.0	75.7	13.0	14.3
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 44	6.0	* 38	13.0	45.0	9.0	35.0
Max Q Clear Time (g_c+I1), s	3.7	32.4	4.8	7.4	13.8	32.8	10.9	6.9
Green Ext Time (p_c), s	0.0	7.5	0.0	0.8	0.0	11.1	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



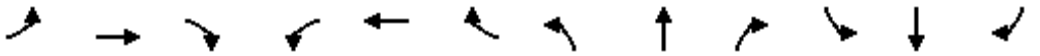
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	0	291	0	0	0	0	1453	169	837	1673	0
Future Volume (veh/h)	196	0	291	0	0	0	0	1453	169	837	1673	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	206	0	306				0	1529	178	881	1761	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	321	0	285				0	1855	216	1004	3781	0
Arrive On Green	0.18	0.00	0.18				0.00	0.40	0.40	0.29	0.74	0.00
Sat Flow, veh/h	1781	0	1585				0	4806	539	3456	5274	0
Grp Volume(v), veh/h	206	0	306				0	1122	585	881	1761	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1773	1728	1702	0
Q Serve(g_s), s	10.7	0.0	18.0				0.0	29.5	29.6	24.3	13.7	0.0
Cycle Q Clear(g_c), s	10.7	0.0	18.0				0.0	29.5	29.6	24.3	13.7	0.0
Prop In Lane	1.00		1.00				0.00		0.30	1.00		0.00
Lane Grp Cap(c), veh/h	321	0	285				0	1362	709	1004	3781	0
V/C Ratio(X)	0.64	0.00	1.07				0.00	0.82	0.83	0.88	0.47	0.00
Avail Cap(c_a), veh/h	321	0	285				0	1362	709	1004	3781	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.0	0.0	41.0				0.0	26.8	26.9	33.8	5.1	0.0
Incr Delay (d2), s/veh	4.3	0.0	73.9				0.0	5.8	10.6	8.9	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	12.8				0.0	12.6	14.1	11.2	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	0.0	114.9				0.0	32.6	37.4	42.7	5.6	0.0
LnGrp LOS	D	A	F				A	C	D	D	A	A
Approach Vol, veh/h		512						1707			2642	
Approach Delay, s/veh		85.7						34.3			17.9	
Approach LOS		F						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.1	45.0		23.0		79.1
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	28.0	* 40		18.0		72.0
Max Q Clear Time (g_c+I1), s	26.3	31.6		20.0		15.7
Green Ext Time (p_c), s	0.7	6.4		0.0		22.9

Intersection Summary	
HCM 6th Ctrl Delay	30.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	963	430	1123	1011	7	382	49	662	58	43	22
Future Volume (veh/h)	46	963	430	1123	1011	7	382	49	662	58	43	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	1003	448	1170	1053	7	434	0	690	60	45	23
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1036	462	1214	1689	11	505	0	1215	138	104	53
Arrive On Green	0.06	0.29	0.29	0.24	0.47	0.47	0.14	0.00	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3619	24	3563	0	3170	830	623	318
Grp Volume(v), veh/h	48	1003	448	1170	517	543	434	0	690	128	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1866	1781	0	1585	1772	0	0
Q Serve(g_s), s	3.1	33.4	33.5	27.6	26.3	26.3	14.3	0.0	17.0	7.8	0.0	0.0
Cycle Q Clear(g_c), s	3.1	33.4	33.5	27.6	26.3	26.3	14.3	0.0	17.0	7.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.47		0.18
Lane Grp Cap(c), veh/h	104	1036	462	1214	829	871	505	0	1215	295	0	0
V/C Ratio(X)	0.46	0.97	0.97	0.96	0.62	0.62	0.86	0.00	0.57	0.43	0.00	0.00
Avail Cap(c_a), veh/h	119	1036	462	1214	829	871	505	0	1215	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.7	41.9	42.0	45.0	24.1	24.1	50.3	0.0	29.2	44.9	0.0	0.0
Incr Delay (d2), s/veh	3.2	21.2	34.8	17.8	3.5	3.4	17.2	0.0	1.9	4.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	17.5	17.4	13.4	11.7	12.2	7.6	0.0	8.1	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	63.1	76.8	62.8	27.6	27.4	67.5	0.0	31.1	49.5	0.0	0.0
LnGrp LOS	E	E	E	E	C	C	E	A	C	D	A	A
Approach Vol, veh/h		1499			2230			1124			128	
Approach Delay, s/veh		67.0			46.0			45.2			49.5	
Approach LOS		E			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.0	33.0	40.0		25.0	12.0	61.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		17.0	29.0	35.0		20.0	8.0	* 56				
Max Q Clear Time (g_c+I1), s		19.0	29.6	35.5		9.8	5.1	28.3				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.4	0.0	8.1				

Intersection Summary	
HCM 6th Ctrl Delay	52.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	409	1234	12	68	1385	293	12	42	45	395	45	758
Future Volume (veh/h)	409	1234	12	68	1385	293	12	42	45	395	45	758
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	431	1299	13	72	1458	308	13	44	47	416	47	798
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	1642	16	104	1432	639	49	137	511	76	0	704
Arrive On Green	0.12	0.46	0.46	0.06	0.40	0.40	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	3456	3605	36	1781	3554	1585	0	426	1585	0	0	1585
Grp Volume(v), veh/h	431	640	672	72	1458	308	57	0	47	463	0	798
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	426	0	1585	0	0	1585
Q Serve(g_s), s	11.0	27.6	27.6	3.6	36.3	13.0	0.0	0.0	1.9	0.0	0.0	29.0
Cycle Q Clear(g_c), s	11.0	27.6	27.6	3.6	36.3	13.0	29.0	0.0	1.9	29.0	0.0	29.0
Prop In Lane	1.00		0.02	1.00		1.00	0.23		1.00	0.90		1.00
Lane Grp Cap(c), veh/h	422	809	849	104	1432	639	187	0	511	76	0	704
V/C Ratio(X)	1.02	0.79	0.79	0.69	1.02	0.48	0.31	0.00	0.09	6.10	0.00	1.13
Avail Cap(c_a), veh/h	422	809	849	119	1432	639	187	0	511	76	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.5	20.9	20.9	41.6	26.9	19.9	24.1	0.0	21.3	45.0	0.0	25.0
Incr Delay (d2), s/veh	49.1	7.8	7.4	13.3	28.3	2.6	4.2	0.0	0.4	2321.6	0.0	76.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	12.5	13.0	1.9	20.1	5.1	1.0	0.0	0.7	50.7	0.0	28.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.6	28.6	28.3	54.9	55.2	22.5	28.3	0.0	21.7	2366.6	0.0	101.7
LnGrp LOS	F	C	C	D	F	C	C	A	C	F	A	F
Approach Vol, veh/h		1743			1838			104			1261	
Approach Delay, s/veh		43.3			49.7			25.3			933.3	
Approach LOS		D			D			C			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	34.0	10.3	46.0	34.0	15.0	41.3
Change Period (Y+Rc), s	5.0	5.0	* 5	5.0	4.0	5.0
Max Green Setting (Gmax), s	29.0	6.0	* 41	29.0	11.0	36.0
Max Q Clear Time (g_c+I1), s	31.0	5.6	29.6	31.0	13.0	38.3
Green Ext Time (p_c), s	0.0	0.0	6.6	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	272.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	178.7

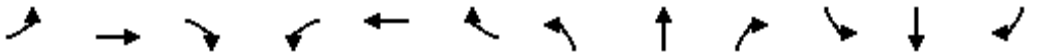
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	74	2187	2099	54	21	126
Future Vol, veh/h	74	2187	2099	54	21	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2302	2209	57	22	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2266	0	-	0	3315	1133
Stage 1	-	-	-	-	2238	-
Stage 2	-	-	-	-	1077	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	91	-	-	-	~ 17	169
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	260	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	91	-	-	-	~ 2	169
Mov Cap-2 Maneuver	-	-	-	-	~ 2	-
Stage 1	-	-	-	-	~ 6	-
Stage 2	-	-	-	-	260	-

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	$ 5473.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	91	-	-	-	13
HCM Lane V/C Ratio	0.856	-	-	-	11.903
HCM Control Delay (s)	139.8	-	-	-	$ 5473.9
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	4.6	-	-	-	20.5

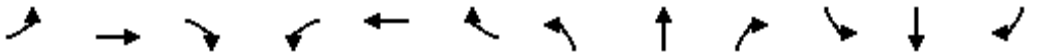
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	626	184	224	613	137	228	2111	241	171	1728	235
Future Volume (veh/h)	385	626	184	224	613	137	228	2111	241	171	1728	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	393	639	188	229	626	140	233	2154	246	174	1763	240
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	338	718	211	285	721	161	223	2181	677	134	1926	598
Arrive On Green	0.10	0.27	0.27	0.08	0.25	0.25	0.13	0.43	0.43	0.08	0.38	0.38
Sat Flow, veh/h	3456	2708	796	3456	2887	644	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	393	419	408	229	385	381	233	2154	246	174	1763	240
Grp Sat Flow(s),veh/h/ln	1728	1777	1727	1728	1777	1754	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	11.7	27.2	27.3	7.8	24.9	25.0	15.0	50.2	9.2	9.0	39.4	9.6
Cycle Q Clear(g_c), s	11.7	27.2	27.3	7.8	24.9	25.0	15.0	50.2	9.2	9.0	39.4	9.6
Prop In Lane	1.00		0.46	1.00		0.37	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	338	471	458	285	444	438	223	2181	677	134	1926	598
V/C Ratio(X)	1.16	0.89	0.89	0.80	0.87	0.87	1.05	0.99	0.36	1.30	0.92	0.40
Avail Cap(c_a), veh/h	338	518	504	317	518	512	223	2181	677	134	1926	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	42.4	42.4	54.1	43.1	43.1	52.5	34.0	12.2	55.5	35.5	14.3
Incr Delay (d2), s/veh	100.7	16.2	16.7	12.7	12.9	13.3	73.0	16.5	1.5	180.0	8.3	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	14.0	13.7	3.9	12.5	12.4	11.2	23.5	3.5	10.7	17.5	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	154.8	58.6	59.2	66.8	56.0	56.5	125.5	50.6	13.8	235.5	43.8	16.3
LnGrp LOS	F	E	E	E	E	E	F	D	B	F	D	B
Approach Vol, veh/h		1220			995			2633			2177	
Approach Delay, s/veh		89.8			58.7			53.8			56.1	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	56.3	13.9	36.8	19.0	50.3	15.7	35.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	47.0	11.0	35.0	15.0	41.0	11.0	35.0
Max Q Clear Time (g_c+I1), s	11.0	52.2	9.8	29.3	17.0	41.4	13.7	27.0
Green Ext Time (p_c), s	0.0	0.0	0.1	2.6	0.0	0.0	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	61.4
HCM 6th LOS	E



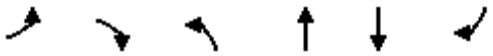
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	18	122	34	15	14	211	2273	49	63	1902	264
Future Volume (veh/h)	256	18	122	34	15	14	211	2273	49	63	1902	264
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	264	19	126	35	15	14	218	2343	51	65	1961	272
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	420	356	329	200	186	246	2723	845	209	2660	826
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.14	0.53	0.53	0.23	1.00	1.00
Sat Flow, veh/h	1381	1870	1585	1243	890	831	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	264	19	126	35	0	29	218	2343	51	65	1961	272
Grp Sat Flow(s),veh/h/ln	1381	1870	1585	1243	0	1721	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	22.4	1.0	8.0	2.7	0.0	1.6	14.4	47.5	1.9	3.6	0.0	0.0
Cycle Q Clear(g_c), s	24.0	1.0	8.0	3.7	0.0	1.6	14.4	47.5	1.9	3.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	351	420	356	329	0	386	246	2723	845	209	2660	826
V/C Ratio(X)	0.75	0.05	0.35	0.11	0.00	0.08	0.89	0.86	0.06	0.31	0.74	0.33
Avail Cap(c_a), veh/h	444	546	462	413	0	502	282	2723	845	209	2660	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	46.2	36.5	39.2	37.9	0.0	36.7	50.8	24.1	13.5	41.9	0.0	0.0
Incr Delay (d2), s/veh	5.4	0.0	0.6	0.1	0.0	0.1	24.8	3.8	0.1	0.7	1.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.4	3.2	0.8	0.0	0.7	8.1	19.2	0.7	1.6	0.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	36.5	39.8	38.1	0.0	36.8	75.6	28.0	13.6	42.6	1.5	0.9
LnGrp LOS	D	D	D	D	A	D	E	C	B	D	A	A
Approach Vol, veh/h		409			64			2612			2298	
Approach Delay, s/veh		47.2			37.5			31.7			2.6	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.1	69.0		31.9	20.6	67.5		31.9				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	7.0	* 64		35.0	19.0	52.0		35.0				
Max Q Clear Time (g_c+I1), s	5.6	49.5		26.0	16.4	2.0		5.7				
Green Ext Time (p_c), s	0.0	12.7		0.9	0.2	28.5		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		20.5	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



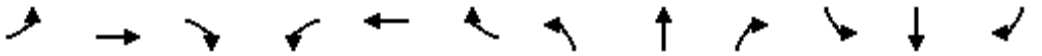
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	17	29	2478	2265	37
Future Volume (veh/h)	16	17	29	2478	2265	37
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	18	30	2555	2335	38
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	60	54	474	4507	2936	911
Arrive On Green	0.03	0.03	0.27	0.88	0.57	0.57
Sat Flow, veh/h	1781	1585	1781	5274	5274	1585
Grp Volume(v), veh/h	16	18	30	2555	2335	38
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1702	1585
Q Serve(g_s), s	1.1	1.3	1.5	14.1	43.0	0.9
Cycle Q Clear(g_c), s	1.1	1.3	1.5	14.1	43.0	0.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	60	54	474	4507	2936	911
V/C Ratio(X)	0.26	0.33	0.06	0.57	0.80	0.04
Avail Cap(c_a), veh/h	460	409	474	4507	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.56	0.56	0.71	0.71
Uniform Delay (d), s/veh	56.5	56.6	32.9	1.7	20.0	5.8
Incr Delay (d2), s/veh	2.3	3.6	0.0	0.3	1.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.2	0.7	1.9	16.6	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	58.8	60.2	32.9	1.9	21.6	5.9
LnGrp LOS	E	E	C	A	C	A
Approach Vol, veh/h	34			2585	2373	
Approach Delay, s/veh	59.6			2.3	21.4	
Approach LOS	E			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		110.9		9.1	36.9	74.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		79.0		31.0	6.0	* 69
Max Q Clear Time (g_c+I1), s		16.1		3.3	3.5	45.0
Green Ext Time (p_c), s		44.9		0.1	0.0	19.5

Intersection Summary	
HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



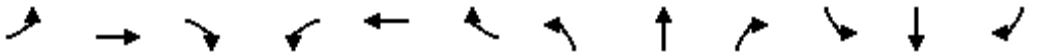
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	1204	238	563	1147	345	305	1661	514	402	1421	208
Future Volume (veh/h)	247	1204	238	563	1147	345	305	1661	514	402	1421	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	249	1216	240	569	1159	348	308	1678	519	406	1435	210
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	467	1407	278	346	1458	452	346	1659	1186	303	1639	509
Arrive On Green	0.14	0.33	0.33	0.10	0.29	0.29	0.10	0.32	0.32	0.09	0.32	0.32
Sat Flow, veh/h	3456	4278	844	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	249	968	488	569	1159	348	308	1678	519	406	1435	210
Grp Sat Flow(s),veh/h/ln	1728	1702	1718	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	8.1	32.0	32.0	12.0	25.2	24.1	10.6	39.0	10.2	10.5	31.8	8.4
Cycle Q Clear(g_c), s	8.1	32.0	32.0	12.0	25.2	24.1	10.6	39.0	10.2	10.5	31.8	8.4
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	467	1120	565	346	1458	452	346	1659	1186	303	1639	509
V/C Ratio(X)	0.53	0.86	0.86	1.65	0.80	0.77	0.89	1.01	0.44	1.34	0.88	0.41
Avail Cap(c_a), veh/h	467	1191	601	346	1659	515	346	1659	1186	303	1639	509
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.49	0.49	0.49	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	37.8	37.8	54.0	39.6	39.3	53.4	40.5	11.4	54.7	38.5	14.7
Incr Delay (d2), s/veh	1.2	6.5	12.0	303.7	2.5	6.1	13.6	18.3	0.6	173.2	6.9	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	14.2	15.2	19.8	10.8	10.1	5.2	18.9	3.1	11.9	14.2	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	44.3	49.7	357.7	42.1	45.4	66.9	58.8	11.9	228.0	45.3	17.1
LnGrp LOS	D	D	D	F	D	D	E	F	B	F	D	B
Approach Vol, veh/h		1705			2076			2505			2051	
Approach Delay, s/veh		46.6			129.1			50.1			78.6	
Approach LOS		D			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	44.0	16.0	44.5	16.0	43.5	21.2	39.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	9.0	* 39	12.0	42.0	12.0	36.0	15.0	* 39
Max Q Clear Time (g_c+I1), s	12.5	41.0	14.0	34.0	12.6	33.8	10.1	27.2
Green Ext Time (p_c), s	0.0	0.0	0.0	5.5	0.0	1.8	0.4	7.1

Intersection Summary	
HCM 6th Ctrl Delay	76.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	1830	45	201	1819	63	59	38	207	88	40	143
Future Volume (veh/h)	210	1830	45	201	1819	63	59	38	207	88	40	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	1848	45	203	1837	64	49	53	209	89	40	144
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1915	594	208	1830	568	609	639	542	364	164	462
Arrive On Green	0.13	0.38	0.38	0.12	0.36	0.36	0.34	0.34	0.34	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1247	561	1585
Grp Volume(v), veh/h	212	1848	45	203	1837	64	49	53	209	129	0	144
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1808	0	1585
Q Serve(g_s), s	14.2	42.5	2.2	13.6	43.0	3.2	2.2	2.3	12.0	6.5	0.0	8.5
Cycle Q Clear(g_c), s	14.2	42.5	2.2	13.6	43.0	3.2	2.2	2.3	12.0	6.5	0.0	8.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	223	1915	594	208	1830	568	609	639	542	527	0	462
V/C Ratio(X)	0.95	0.97	0.08	0.98	1.00	0.11	0.08	0.08	0.39	0.24	0.00	0.31
Avail Cap(c_a), veh/h	223	1915	594	208	1830	568	609	639	542	527	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.1	36.7	24.1	52.8	38.5	25.7	26.7	26.8	30.0	32.4	0.0	33.1
Incr Delay (d2), s/veh	46.8	13.3	0.1	55.6	22.0	0.1	0.3	0.3	2.1	1.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	19.7	0.8	9.3	21.3	1.2	1.0	1.1	4.9	3.0	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.0	50.0	24.2	108.4	60.5	25.8	27.0	27.0	32.0	33.5	0.0	34.9
LnGrp LOS	F	D	C	F	F	C	C	C	C	C	A	C
Approach Vol, veh/h		2105			2104			311			273	
Approach Delay, s/veh		54.4			64.1			30.4			34.2	
Approach LOS		D			E			C			C	

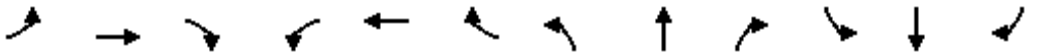
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.0	18.0	50.0		40.0	20.0	48.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		8.0	14.0	44.0		35.0	15.0	* 43				
Max Q Clear Time (g_c+I1), s		14.0	15.6	44.5		10.5	16.2	45.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.2	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		55.9
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	1738	291	245	1843	198	370	736	245	216	491	177
Future Volume (veh/h)	280	1738	291	245	1843	198	370	736	245	216	491	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	289	1792	300	253	1900	204	381	759	253	223	506	182
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	1787	555	259	1640	175	1886	2917	1301	259	1214	542
Arrive On Green	0.07	0.35	0.35	0.08	0.35	0.35	0.55	0.82	0.82	0.08	0.34	0.34
Sat Flow, veh/h	3456	5106	1585	3456	4685	500	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	289	1792	300	253	1377	727	381	759	253	223	506	182
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1780	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	8.0	42.0	13.8	8.8	42.0	42.0	6.8	5.8	4.1	7.7	13.1	10.2
Cycle Q Clear(g_c), s	8.0	42.0	13.8	8.8	42.0	42.0	6.8	5.8	4.1	7.7	13.1	10.2
Prop In Lane	1.00		1.00	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	1787	555	259	1191	623	1886	2917	1301	259	1214	542
V/C Ratio(X)	1.25	1.00	0.54	0.98	1.16	1.17	0.20	0.26	0.19	0.86	0.42	0.34
Avail Cap(c_a), veh/h	230	1787	555	259	1191	623	1886	2917	1301	259	1214	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	39.0	17.9	55.4	39.0	39.0	13.9	2.4	2.3	54.9	30.3	29.4
Incr Delay (d2), s/veh	144.9	21.9	1.1	49.1	79.9	91.6	0.1	0.2	0.3	24.2	1.1	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	20.8	5.2	5.6	30.4	33.9	2.6	1.6	1.0	4.2	5.8	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	200.9	60.9	19.0	104.5	118.9	130.6	14.0	2.7	2.6	79.0	31.4	31.1
LnGrp LOS	F	F	B	F	F	F	B	A	A	E	C	C
Approach Vol, veh/h		2381			2357			1393			911	
Approach Delay, s/veh		72.6			121.0			5.7			43.0	
Approach LOS		E			F			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	104.5	13.0	47.0	71.5	46.0	13.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	9.0	43.0	9.0	41.0	11.0	* 41	8.0	* 42
Max Q Clear Time (g_c+I1), s	9.7	7.8	10.8	44.0	8.8	15.1	10.0	44.0
Green Ext Time (p_c), s	0.0	7.3	0.0	0.0	0.3	4.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	71.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

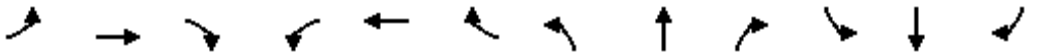
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	1600	245	304	2115	234	328	713	206	173	523	91
Future Volume (veh/h)	147	1600	245	304	2115	234	328	713	206	173	523	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	1649	253	313	2180	241	338	735	212	178	539	94
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1713	262	317	1986	216	317	1066	476	1209	1715	298
Arrive On Green	0.04	0.38	0.38	0.09	0.43	0.43	0.09	0.30	0.30	0.35	0.57	0.57
Sat Flow, veh/h	3456	4469	683	3456	4674	509	3456	3554	1585	3456	3027	526
Grp Volume(v), veh/h	152	1254	648	313	1578	843	338	735	212	178	316	317
Grp Sat Flow(s),veh/h/ln	1728	1702	1748	1728	1702	1779	1728	1777	1585	1728	1777	1776
Q Serve(g_s), s	5.0	43.2	43.6	10.9	51.0	51.0	11.0	21.9	15.1	4.2	11.2	11.3
Cycle Q Clear(g_c), s	5.0	43.2	43.6	10.9	51.0	51.0	11.0	21.9	15.1	4.2	11.2	11.3
Prop In Lane	1.00		0.39	1.00		0.29	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	144	1305	670	317	1447	756	317	1066	476	1209	1007	1006
V/C Ratio(X)	1.06	0.96	0.97	0.99	1.09	1.11	1.07	0.69	0.45	0.15	0.31	0.32
Avail Cap(c_a), veh/h	144	1305	670	317	1447	756	317	1066	476	1209	1007	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	36.1	36.3	54.4	34.5	34.5	54.5	37.1	46.2	26.7	13.7	13.7
Incr Delay (d2), s/veh	90.6	16.5	26.7	47.2	52.6	68.9	69.4	3.7	3.0	0.1	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	20.5	23.1	6.8	31.0	35.9	7.8	10.0	6.4	1.8	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.1	52.6	62.9	101.6	87.1	103.4	123.9	40.7	49.2	26.8	14.5	14.5
LnGrp LOS	F	D	E	F	F	F	F	D	D	C	B	B
Approach Vol, veh/h		2054			2734			1285			811	
Approach Delay, s/veh		62.9			93.8			64.0			17.2	
Approach LOS		E			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	48.0	41.0	15.0	51.0	15.0	74.0	10.0	56.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	* 36	11.0	45.0	11.0	35.0	5.0	* 51
Max Q Clear Time (g_c+I1), s	6.2	23.9	12.9	45.6	13.0	13.3	7.0	53.0
Green Ext Time (p_c), s	0.2	4.6	0.0	0.0	0.0	4.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	70.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



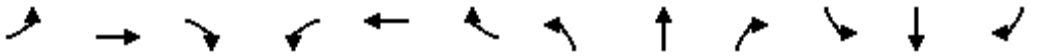
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	361	1349	232	395	1714	297	389	1164	232	295	835	352
Future Volume (veh/h)	361	1349	232	395	1714	297	389	1164	232	295	835	352
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	368	1377	237	403	1749	303	397	1188	237	301	852	359
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	1388	239	403	1702	528	403	3064	951	317	2936	911
Arrive On Green	0.11	0.32	0.32	0.12	0.33	0.33	0.12	0.60	0.60	0.09	0.57	0.57
Sat Flow, veh/h	3456	4385	754	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	368	1069	545	403	1749	303	397	1188	237	301	852	359
Grp Sat Flow(s),veh/h/ln	1728	1702	1735	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.8	37.5	37.6	14.0	40.0	18.9	13.8	14.6	10.2	10.4	10.2	14.9
Cycle Q Clear(g_c), s	12.8	37.5	37.6	14.0	40.0	18.9	13.8	14.6	10.2	10.4	10.2	14.9
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	1078	549	403	1702	528	403	3064	951	317	2936	911
V/C Ratio(X)	0.98	0.99	0.99	1.00	1.03	0.57	0.98	0.39	0.25	0.95	0.29	0.39
Avail Cap(c_a), veh/h	374	1078	549	403	1702	528	403	3064	951	317	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	40.8	40.9	53.0	40.0	33.0	52.9	12.5	16.5	54.2	13.0	14.0
Incr Delay (d2), s/veh	41.8	25.3	36.4	44.7	29.2	1.5	40.6	0.4	0.6	37.4	0.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	19.3	21.4	8.6	21.1	7.5	8.2	5.5	3.8	6.2	3.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.2	66.1	77.2	97.7	69.2	34.5	93.5	12.9	17.1	91.7	13.3	15.3
LnGrp LOS	F	E	E	F	F	C	F	B	B	F	B	B
Approach Vol, veh/h		1982			2455			1822			1512	
Approach Delay, s/veh		74.6			69.6			31.0			29.3	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	78.0	19.0	43.0	18.0	75.0	17.0	45.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	39.0	14.0	* 38	14.0	36.0	13.0	39.0
Max Q Clear Time (g_c+I1), s	12.4	16.6	16.0	39.6	15.8	16.9	14.8	42.0
Green Ext Time (p_c), s	0.0	10.2	0.0	0.0	0.0	7.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



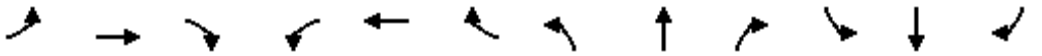
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	1015	280	507	1161	186	395	1616	322	251	1324	95
Future Volume (veh/h)	188	1015	280	507	1161	186	395	1616	322	251	1324	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	1068	295	534	1222	196	416	1701	339	264	1394	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	965	264	403	1202	192	346	2979	925	288	2756	198
Arrive On Green	0.07	0.35	0.35	0.12	0.39	0.39	0.10	0.58	0.58	0.08	0.57	0.57
Sat Flow, veh/h	3456	2756	755	3456	3070	490	3456	5106	1585	3456	4863	349
Grp Volume(v), veh/h	198	686	677	534	704	714	416	1701	339	264	976	518
Grp Sat Flow(s),veh/h/ln	1728	1777	1734	1728	1777	1782	1728	1702	1585	1728	1702	1808
Q Serve(g_s), s	6.8	42.0	42.0	14.0	47.0	47.0	12.0	25.0	13.6	9.1	20.9	20.9
Cycle Q Clear(g_c), s	6.8	42.0	42.0	14.0	47.0	47.0	12.0	25.0	13.6	9.1	20.9	20.9
Prop In Lane	1.00		0.44	1.00		0.27	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	230	622	607	403	696	698	346	2979	925	288	1929	1024
V/C Ratio(X)	0.86	1.10	1.12	1.32	1.01	1.02	1.20	0.57	0.37	0.92	0.51	0.51
Avail Cap(c_a), veh/h	230	622	607	403	696	698	346	2979	925	288	1929	1024
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	39.0	39.0	53.0	36.5	36.5	54.0	15.6	13.3	54.6	15.8	15.8
Incr Delay (d2), s/veh	26.3	67.5	72.6	162.4	37.2	39.8	116.0	0.8	1.1	32.2	1.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	29.6	29.8	15.2	27.1	27.7	10.8	9.6	5.0	5.2	8.2	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.7	106.5	111.6	215.4	73.7	76.3	170.0	16.4	14.4	86.8	16.7	17.6
LnGrp LOS	F	F	F	F	F	F	F	B	B	F	B	B
Approach Vol, veh/h		1561			1952			2456			1758	
Approach Delay, s/veh		105.6			113.4			42.2			27.5	
Approach LOS		F			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	76.0	18.0	47.0	16.0	74.0	13.0	52.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	37.0	14.0	41.0	12.0	35.0	8.0	* 47
Max Q Clear Time (g_c+I1), s	11.1	27.0	16.0	44.0	14.0	22.9	8.8	49.0
Green Ext Time (p_c), s	0.0	8.0	0.0	0.0	0.0	7.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.6
HCM 6th LOS	E

Notes

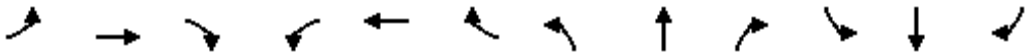
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	366	673	485	261	920	233	626	1951	194	194	1474	246
Future Volume (veh/h)	366	673	485	261	920	233	626	1951	194	194	1474	246
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	373	687	495	266	939	238	639	1991	198	198	1504	251
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	879	630	378	1111	281	518	2093	650	148	1753	676
Arrive On Green	0.08	0.25	0.25	0.11	0.27	0.27	0.15	0.41	0.41	0.08	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	4063	1027	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	373	687	495	266	786	391	639	1991	198	198	1504	251
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1686	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	10.0	21.6	21.0	8.9	26.2	26.3	18.0	45.3	6.9	10.0	32.9	4.1
Cycle Q Clear(g_c), s	10.0	21.6	21.0	8.9	26.2	26.3	18.0	45.3	6.9	10.0	32.9	4.1
Prop In Lane	1.00		1.00	1.00		0.61	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	879	630	378	931	461	518	2093	650	148	1753	676
V/C Ratio(X)	1.30	0.78	0.79	0.70	0.84	0.85	1.23	0.95	0.30	1.33	0.86	0.37
Avail Cap(c_a), veh/h	288	1155	753	378	1021	506	518	2093	650	148	1753	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	42.1	14.7	51.6	41.2	41.2	51.0	34.2	11.3	55.0	36.7	9.5
Incr Delay (d2), s/veh	156.2	2.6	4.6	5.8	6.2	11.9	120.7	11.1	1.2	188.8	5.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	9.8	8.0	4.2	11.7	12.4	16.4	20.4	2.6	12.3	14.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	211.2	44.8	19.3	57.3	47.4	53.2	171.7	45.4	12.5	243.8	42.4	11.0
LnGrp LOS	F	D	B	E	D	D	F	D	B	F	D	B
Approach Vol, veh/h		1555			1443			2828			1953	
Approach Delay, s/veh		76.6			50.8			71.6			58.8	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	54.2	17.1	34.7	22.0	46.2	14.0	37.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	46.0	7.0	39.0	18.0	38.0	10.0	36.0
Max Q Clear Time (g_c+I1), s	12.0	47.3	10.9	23.6	20.0	34.9	12.0	28.3
Green Ext Time (p_c), s	0.0	0.0	0.0	6.0	0.0	2.6	0.0	4.5

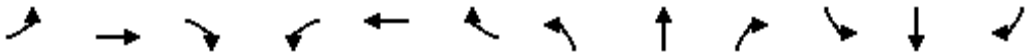
Intersection Summary	
HCM 6th Ctrl Delay	65.5
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	691	146	217	625	105	258	1367	342	190	1344	134
Future Volume (veh/h)	242	691	146	217	625	105	258	1367	342	190	1344	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	252	720	152	226	651	109	269	1424	356	198	1400	140
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	797	168	193	730	122	410	1393	347	226	1651	165
Arrive On Green	0.14	0.27	0.27	0.11	0.24	0.24	0.12	0.34	0.34	0.13	0.35	0.35
Sat Flow, veh/h	1781	2920	616	1781	3046	509	3456	4077	1015	1781	4718	472
Grp Volume(v), veh/h	252	438	434	226	379	381	269	1188	592	198	1010	530
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1779	1728	1702	1688	1781	1702	1785
Q Serve(g_s), s	17.0	28.5	28.6	13.0	24.8	24.8	8.9	41.0	41.0	13.1	32.9	32.9
Cycle Q Clear(g_c), s	17.0	28.5	28.6	13.0	24.8	24.8	8.9	41.0	41.0	13.1	32.9	32.9
Prop In Lane	1.00		0.35	1.00		0.29	1.00		0.60	1.00		0.26
Lane Grp Cap(c), veh/h	252	485	480	193	426	426	410	1163	577	226	1191	625
V/C Ratio(X)	1.00	0.90	0.90	1.17	0.89	0.89	0.66	1.02	1.03	0.87	0.85	0.85
Avail Cap(c_a), veh/h	252	518	513	193	459	459	410	1163	577	226	1191	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	42.1	42.1	53.5	44.1	44.1	50.5	39.5	39.5	51.4	36.0	36.0
Incr Delay (d2), s/veh	56.2	18.4	18.6	118.5	18.3	18.6	3.8	32.0	44.4	29.4	7.6	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	14.9	14.8	12.2	13.0	13.1	4.1	22.0	23.8	7.7	14.7	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.7	60.5	60.7	172.0	62.4	62.7	54.3	71.5	83.9	80.8	43.6	49.5
LnGrp LOS	F	E	E	F	E	E	D	F	F	F	D	D
Approach Vol, veh/h		1124			986			2049			1738	
Approach Delay, s/veh		71.2			87.7			72.8			49.6	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	46.0	17.0	37.8	18.2	47.0	21.0	33.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	41.0	13.0	35.0	12.0	42.0	17.0	31.0
Max Q Clear Time (g_c+I1), s	15.1	43.0	15.0	30.6	10.9	34.9	19.0	26.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.1	5.1	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	68.2
HCM 6th LOS	E



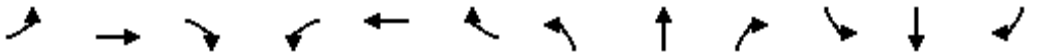
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	539	602	118	106	529	235	146	2038	66	147	1861	318
Future Volume (veh/h)	539	602	118	106	529	235	146	2038	66	147	1861	318
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	550	614	120	108	540	240	149	2080	67	150	1899	324
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	934	417	168	692	309	173	1990	64	479	2150	361
Arrive On Green	0.12	0.26	0.26	0.05	0.19	0.19	0.05	0.39	0.39	0.14	0.49	0.49
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5082	163	3456	4402	740
Grp Volume(v), veh/h	550	614	120	108	540	240	149	1392	755	150	1462	761
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1841	1728	1702	1737
Q Serve(g_s), s	14.0	18.5	7.2	3.7	17.3	12.5	5.1	47.0	47.0	4.7	46.2	47.8
Cycle Q Clear(g_c), s	14.0	18.5	7.2	3.7	17.3	12.5	5.1	47.0	47.0	4.7	46.2	47.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.43
Lane Grp Cap(c), veh/h	403	934	417	168	692	309	173	1333	721	479	1663	849
V/C Ratio(X)	1.36	0.66	0.29	0.64	0.78	0.78	0.86	1.04	1.05	0.31	0.88	0.90
Avail Cap(c_a), veh/h	403	1214	542	230	1036	462	173	1333	721	479	1663	849
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	39.4	35.3	56.1	45.9	24.1	56.6	36.5	36.5	46.5	27.5	27.9
Incr Delay (d2), s/veh	179.2	0.8	0.4	4.1	2.2	4.8	33.3	36.9	46.6	0.4	7.0	14.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	8.2	2.9	1.7	7.8	5.1	3.0	25.9	29.9	2.0	19.7	22.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	232.2	40.2	35.7	60.1	48.1	28.8	89.9	73.4	83.1	46.9	34.5	42.0
LnGrp LOS	F	D	D	E	D	C	F	F	F	D	C	D
Approach Vol, veh/h		1284			888			2296			2373	
Approach Delay, s/veh		122.0			44.4			77.7			37.7	
Approach LOS		F			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.6	52.0	9.8	36.5	10.0	63.6	18.0	28.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 47	8.0	41.0	6.0	47.0	14.0	35.0
Max Q Clear Time (g_c+I1), s	6.7	49.0	5.7	20.5	7.1	49.8	16.0	19.3
Green Ext Time (p_c), s	0.0	0.0	0.1	4.6	0.0	0.0	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	67.8
HCM 6th LOS	E

Notes

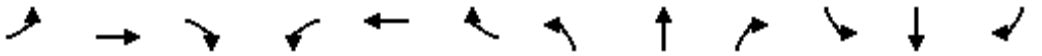
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	236	39	156	249	132	33	2045	160	93	1901	83
Future Volume (veh/h)	95	236	39	156	249	132	33	2045	160	93	1901	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	248	41	164	262	139	35	2153	168	98	2001	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	530	489	202	339	174	283	2296	178	298	2425	105
Arrive On Green	0.06	0.15	0.15	0.06	0.15	0.15	0.16	0.47	0.47	0.17	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2270	1167	1781	4833	374	1781	5018	218
Grp Volume(v), veh/h	100	248	41	164	203	198	35	1511	810	98	1356	732
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1660	1781	1702	1803	1781	1702	1831
Q Serve(g_s), s	6.7	7.7	0.3	5.6	13.2	13.8	2.0	50.3	51.4	5.8	41.0	41.3
Cycle Q Clear(g_c), s	6.7	7.7	0.3	5.6	13.2	13.8	2.0	50.3	51.4	5.8	41.0	41.3
Prop In Lane	1.00		1.00	1.00		0.70	1.00		0.21	1.00		0.12
Lane Grp Cap(c), veh/h	104	530	489	202	265	248	283	1617	856	298	1645	885
V/C Ratio(X)	0.96	0.47	0.08	0.81	0.77	0.80	0.12	0.93	0.95	0.33	0.82	0.83
Avail Cap(c_a), veh/h	104	918	662	202	459	429	283	1617	856	298	1645	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	46.7	17.5	55.9	49.0	49.3	43.3	29.7	30.0	44.0	26.6	26.7
Incr Delay (d2), s/veh	76.0	0.6	0.1	21.9	4.6	5.8	0.2	11.4	20.2	0.6	4.8	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	3.4	0.6	3.1	6.2	6.1	0.9	22.4	26.3	2.6	17.2	19.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.4	47.3	17.6	77.7	53.7	55.1	43.5	41.2	50.2	44.6	31.4	35.4
LnGrp LOS	F	D	B	E	D	E	D	D	D	D	C	D
Approach Vol, veh/h		389			565			2356			2186	
Approach Delay, s/veh		66.0			61.2			44.3			33.4	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.1	62.0	11.0	22.9	23.1	63.0	11.0	22.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	7.0	57.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	7.8	53.4	7.6	9.7	4.0	43.3	8.7	15.8
Green Ext Time (p_c), s	0.0	3.3	0.0	1.6	0.0	11.6	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D



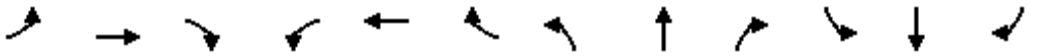
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	142	49	174	121	6	543	13	398	26	7	14
Future Volume (veh/h)	7	142	49	174	121	6	543	13	398	26	7	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	149	52	183	127	6	572	14	419	27	7	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	457	154	259	857	40	667	16	608	190	49	106
Arrive On Green	0.01	0.17	0.17	0.07	0.25	0.25	0.38	0.38	0.38	0.20	0.20	0.20
Sat Flow, veh/h	1781	2611	878	3456	3456	162	1741	43	1585	952	247	529
Grp Volume(v), veh/h	7	100	101	183	65	68	586	0	419	49	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1712	1728	1777	1841	1783	0	1585	1728	0	0
Q Serve(g_s), s	0.5	5.9	6.2	6.2	3.4	3.5	36.2	0.0	26.6	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.9	6.2	6.2	3.4	3.5	36.2	0.0	26.6	2.8	0.0	0.0
Prop In Lane	1.00		0.51	1.00		0.09	0.98		1.00	0.55		0.31
Lane Grp Cap(c), veh/h	19	311	300	259	441	456	684	0	608	346	0	0
V/C Ratio(X)	0.38	0.32	0.34	0.71	0.15	0.15	0.86	0.00	0.69	0.14	0.00	0.00
Avail Cap(c_a), veh/h	89	311	300	288	441	456	684	0	608	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.0	43.3	43.4	54.2	35.2	35.2	34.0	0.0	31.0	39.5	0.0	0.0
Incr Delay (d2), s/veh	12.2	2.7	3.0	6.8	0.7	0.7	13.1	0.0	6.3	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	2.9	2.9	1.6	1.7	17.9	0.0	11.1	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	46.0	46.4	61.0	35.9	35.9	47.1	0.0	37.3	40.4	0.0	0.0
LnGrp LOS	E	D	D	E	D	D	D	A	D	D	A	A
Approach Vol, veh/h		208			316			1005			49	
Approach Delay, s/veh		47.1			50.5			43.0			40.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		51.0	14.0	26.0		29.0	5.2	34.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		46.0	10.0	* 21		24.0	6.0	25.0				
Max Q Clear Time (g_c+I1), s		38.2	8.2	8.2		4.8	2.5	5.5				
Green Ext Time (p_c), s		3.4	0.1	0.8		0.2	0.0	0.6				

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



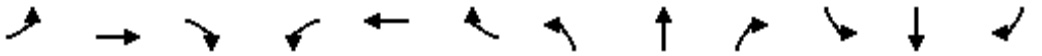
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	352	61	173	119	118	428	126	1410	90	23	2021	51
Future Volume (veh/h)	352	61	173	119	118	428	126	1410	90	23	2021	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	367	64	180	124	123	446	131	1469	0	24	2105	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	286	256	178	342	621	512	1745		526	2252	
Arrive On Green	0.12	0.16	0.16	0.05	0.10	0.10	0.29	0.34	0.00	0.30	0.35	0.00
Sat Flow, veh/h	3456	1777	1585	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	367	64	180	124	123	446	131	1469	0	24	2105	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	12.6	3.8	12.9	4.2	3.9	7.0	6.8	31.9	0.0	1.2	37.9	0.0
Cycle Q Clear(g_c), s	12.6	3.8	12.9	4.2	3.9	7.0	6.8	31.9	0.0	1.2	37.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	286	256	178	342	621	512	1745		526	2252	
V/C Ratio(X)	0.91	0.22	0.70	0.70	0.36	0.72	0.26	0.84		0.05	0.93	
Avail Cap(c_a), veh/h	403	607	542	230	1036	931	512	1745		526	2252	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.4	43.8	47.6	56.0	50.8	14.1	32.9	36.5	0.0	30.2	37.7	0.0
Incr Delay (d2), s/veh	24.3	0.4	3.5	6.1	0.6	1.6	0.3	5.1	0.0	0.0	8.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	1.7	5.3	2.0	1.8	6.4	3.0	13.9	0.0	0.5	16.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.7	44.2	51.2	62.1	51.4	15.7	33.2	41.6	0.0	30.2	46.5	0.0
LnGrp LOS	E	D	D	E	D	B	C	D		C	D	
Approach Vol, veh/h		611			693			1600	A		2129	A
Approach Delay, s/veh		65.8			30.4			40.9			46.3	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.5	46.0	10.2	24.3	38.5	47.0	18.0	16.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	41.0	8.0	41.0	11.0	42.0	14.0	35.0
Max Q Clear Time (g_c+I1), s	3.2	33.9	6.2	14.9	8.8	39.9	14.6	9.0
Green Ext Time (p_c), s	0.0	5.1	0.1	1.5	0.1	1.9	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



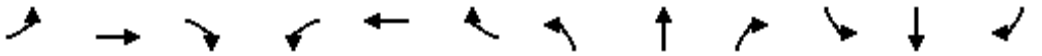
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	0	279	0	0	0	0	1515	247	704	1618	0
Future Volume (veh/h)	98	0	279	0	0	0	0	1515	247	704	1618	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	100	0	285				0	1546	252	718	1651	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	346	0	308				0	1918	312	855	3688	0
Arrive On Green	0.19	0.00	0.19				0.00	0.43	0.43	0.25	0.72	0.00
Sat Flow, veh/h	1781	0	1585				0	4594	719	3456	5274	0
Grp Volume(v), veh/h	100	0	285				0	1188	610	718	1651	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1741	1728	1702	0
Q Serve(g_s), s	5.8	0.0	21.2				0.0	36.5	36.7	23.7	15.9	0.0
Cycle Q Clear(g_c), s	5.8	0.0	21.2				0.0	36.5	36.7	23.7	15.9	0.0
Prop In Lane	1.00		1.00				0.00		0.41	1.00		0.00
Lane Grp Cap(c), veh/h	346	0	308				0	1475	754	855	3688	0
V/C Ratio(X)	0.29	0.00	0.93				0.00	0.81	0.81	0.84	0.45	0.00
Avail Cap(c_a), veh/h	356	0	317				0	1475	754	864	3688	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.3	0.0	47.5				0.0	29.6	29.7	42.9	6.8	0.0
Incr Delay (d2), s/veh	0.5	0.0	31.4				0.0	4.8	9.1	7.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	11.0				0.0	15.6	16.9	10.9	5.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	0.0	78.9				0.0	34.4	38.8	50.3	7.2	0.0
LnGrp LOS	D	A	E				A	C	D	D	A	A
Approach Vol, veh/h		385						1798			2369	
Approach Delay, s/veh		69.3						35.9			20.3	
Approach LOS		E						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.7	57.0		28.3		91.7
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	30.0	* 52		24.0		86.0
Max Q Clear Time (g_c+I1), s	25.7	38.7		23.2		17.9
Green Ext Time (p_c), s	1.2	9.7		0.1		21.5

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1080	474	935	1041	22	448	72	1162	106	46	26
Future Volume (veh/h)	44	1080	474	935	1041	22	448	72	1162	106	46	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	1113	489	964	1073	23	515	0	1198	109	47	27
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	1096	489	1803	2265	49	653	0	1719	176	76	44
Arrive On Green	0.04	0.31	0.31	0.36	0.64	0.64	0.18	0.00	0.18	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3557	76	3563	0	3170	1055	455	261
Grp Volume(v), veh/h	45	1113	489	964	536	560	515	0	1198	183	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1857	1781	0	1585	1771	0	0
Q Serve(g_s), s	3.0	37.0	37.0	18.3	18.8	18.8	16.6	0.0	0.0	11.5	0.0	0.0
Cycle Q Clear(g_c), s	3.0	37.0	37.0	18.3	18.8	18.8	16.6	0.0	0.0	11.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.60		0.15
Lane Grp Cap(c), veh/h	69	1096	489	1803	1132	1182	653	0	1719	295	0	0
V/C Ratio(X)	0.65	1.02	1.00	0.53	0.47	0.47	0.79	0.00	0.70	0.62	0.00	0.00
Avail Cap(c_a), veh/h	119	1096	489	1803	1132	1182	653	0	1719	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.9	41.5	41.5	30.5	11.3	11.3	46.8	0.0	20.2	46.5	0.0	0.0
Incr Delay (d2), s/veh	9.8	31.2	40.8	0.3	1.4	1.4	9.4	0.0	2.4	9.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	20.7	19.8	7.4	7.5	7.8	8.2	0.0	12.5	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	72.7	82.3	30.8	12.8	12.7	56.1	0.0	22.6	55.9	0.0	0.0
LnGrp LOS	E	F	F	C	B	B	E	A	C	E	A	A
Approach Vol, veh/h		1647			2060			1713			183	
Approach Delay, s/veh		75.4			21.2			32.7			55.9	
Approach LOS		E			C			C			E	

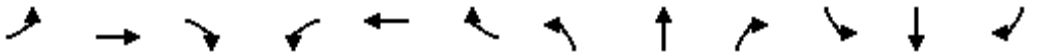
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	48.1	42.0		25.0	8.7	81.5				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		22.0	22.0	* 37		20.0	8.0	51.0				
Max Q Clear Time (g_c+I1), s		18.6	20.3	39.0		13.5	5.0	20.8				
Green Ext Time (p_c), s		2.4	0.8	0.0		0.5	0.0	8.7				

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	759	1415	13	87	1256	450	46	80	86	305	27	793
Future Volume (veh/h)	759	1415	13	87	1256	450	46	80	86	305	27	793
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	782	1459	13	90	1295	464	47	82	89	314	28	818
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	768	1765	16	139	1224	546	55	72	423	77	0	775
Arrive On Green	0.22	0.49	0.49	0.08	0.34	0.34	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	3456	3609	32	1781	3554	1585	0	271	1585	0	0	1585
Grp Volume(v), veh/h	782	718	754	90	1295	464	129	0	89	342	0	818
Grp Sat Flow(s),veh/h/ln	1728	1777	1865	1781	1777	1585	271	0	1585	0	0	1585
Q Serve(g_s), s	20.0	31.2	31.2	4.4	31.0	24.4	0.0	0.0	3.9	0.0	0.0	24.0
Cycle Q Clear(g_c), s	20.0	31.2	31.2	4.4	31.0	24.4	24.0	0.0	3.9	24.0	0.0	24.0
Prop In Lane	1.00		0.02	1.00		1.00	0.36		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	768	869	912	139	1224	546	127	0	423	77	0	775
V/C Ratio(X)	1.02	0.83	0.83	0.65	1.06	0.85	1.02	0.00	0.21	4.46	0.00	1.06
Avail Cap(c_a), veh/h	768	869	912	139	1224	546	127	0	423	77	0	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	19.7	19.7	40.3	29.5	27.3	32.3	0.0	25.6	45.0	0.0	23.0
Incr Delay (d2), s/veh	37.2	8.9	8.5	10.2	42.5	15.2	84.7	0.0	1.1	1585.5	0.0	48.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	14.0	14.7	2.3	19.8	11.2	5.8	0.0	1.6	35.5	0.0	25.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	28.6	28.3	50.5	72.0	42.6	117.0	0.0	26.8	1630.5	0.0	71.0
LnGrp LOS	F	C	C	D	F	D	F	A	C	F	A	F
Approach Vol, veh/h		2254			1849			218			1160	
Approach Delay, s/veh		43.6			63.6			80.2			530.8	
Approach LOS		D			E			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.0	12.0	49.0		29.0	25.0	36.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		24.0	7.0	44.0		24.0	20.0	31.0				
Max Q Clear Time (g_c+I1), s		26.0	6.4	33.2		26.0	22.0	33.0				
Green Ext Time (p_c), s		0.0	0.0	7.1		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			154.9									
HCM 6th LOS			F									

Intersection	
Int Delay, s/veh	18.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	2013	2437	146	17	75
Future Vol, veh/h	119	2013	2437	146	17	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	2075	2512	151	18	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2663	0	-	0	3664	1332
Stage 1	-	-	-	-	2588	-
Stage 2	-	-	-	-	1076	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 57	-	-	-	~ 11	124
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	260	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 57	-	-	-	0	124
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	260	-

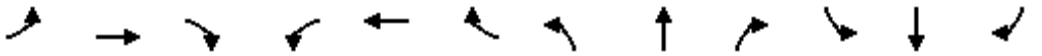
Approach	EB	WB	SB
HCM Control Delay, s	38.3	0	94.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 57	-	-	-	124
HCM Lane V/C Ratio	2.152	-	-	-	0.765
HCM Control Delay (s)	$ 685.7	-	-	-	94.2
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12	-	-	-	4.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX I-V

YEAR 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS



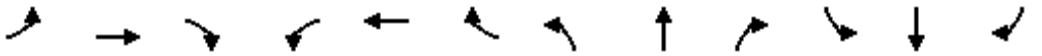
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	680	212	245	694	119	220	1543	217	225	2362	338
Future Volume (veh/h)	176	680	212	245	694	119	220	1543	217	225	2362	338
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	185	716	223	258	731	125	232	1624	228	237	2486	356
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	689	215	259	911	156	193	1830	568	757	3489	1083
Arrive On Green	0.04	0.26	0.26	0.08	0.30	0.30	0.11	0.36	0.36	0.43	0.68	0.68
Sat Flow, veh/h	3456	2667	831	3456	3035	519	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	185	477	462	258	428	428	232	1624	228	237	2486	356
Grp Sat Flow(s),veh/h/ln	1728	1777	1721	1728	1777	1777	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.0	31.0	31.0	9.0	26.6	26.7	13.0	35.9	12.9	10.6	36.1	11.0
Cycle Q Clear(g_c), s	5.0	31.0	31.0	9.0	26.6	26.7	13.0	35.9	12.9	10.6	36.1	11.0
Prop In Lane	1.00		0.48	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	459	445	259	533	533	193	1830	568	757	3489	1083
V/C Ratio(X)	1.28	1.04	1.04	1.00	0.80	0.80	1.20	0.89	0.40	0.31	0.71	0.33
Avail Cap(c_a), veh/h	144	459	445	259	533	533	193	1830	568	757	3489	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	44.5	44.5	55.5	38.7	38.7	53.5	36.2	28.9	22.9	11.7	7.8
Incr Delay (d2), s/veh	170.6	52.5	53.2	54.6	8.6	8.7	129.9	6.8	2.1	0.2	1.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	20.2	19.7	5.9	12.8	12.8	12.8	15.8	5.3	4.5	12.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	228.1	97.0	97.7	110.0	47.4	47.4	183.4	43.1	31.0	23.1	13.0	8.6
LnGrp LOS	F	F	F	F	D	D	F	D	C	C	B	A
Approach Vol, veh/h		1124			1114			2084			3079	
Approach Delay, s/veh		118.9			61.9			57.4			13.3	
Approach LOS		F			E			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	57.0	48.0	14.0	36.0	17.0	88.0	9.0	41.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	19.0	* 43	9.0	* 31	13.0	49.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	12.6	37.9	11.0	33.0	15.0	38.1	7.0	28.7
Green Ext Time (p_c), s	0.4	4.2	0.0	0.0	0.0	10.2	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	49.0
HCM 6th LOS	D

Notes

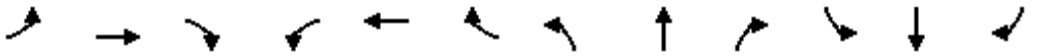
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	16	200	62	30	29	104	1626	19	25	2443	134
Future Volume (veh/h)	220	16	200	62	30	29	104	1626	19	25	2443	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	17	208	65	31	30	108	1694	20	26	2545	140
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	413	350	307	193	187	245	2766	859	215	2681	832
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.14	0.54	0.54	0.24	1.00	1.00
Sat Flow, veh/h	1341	1870	1585	1156	873	845	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	229	17	208	65	0	61	108	1694	20	26	2545	140
Grp Sat Flow(s),veh/h/ln	1341	1870	1585	1156	0	1718	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	20.0	0.9	14.1	5.6	0.0	3.4	6.7	27.3	0.7	1.4	0.0	0.0
Cycle Q Clear(g_c), s	23.4	0.9	14.1	6.5	0.0	3.4	6.7	27.3	0.7	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	318	413	350	307	0	380	245	2766	859	215	2681	832
V/C Ratio(X)	0.72	0.04	0.59	0.21	0.00	0.16	0.44	0.61	0.02	0.12	0.95	0.17
Avail Cap(c_a), veh/h	413	546	462	389	0	501	245	2766	859	215	2681	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	47.2	36.7	41.9	39.3	0.0	37.7	47.5	18.9	12.8	40.5	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	1.6	0.3	0.0	0.2	1.3	1.0	0.0	0.2	7.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.4	5.7	1.6	0.0	1.5	3.1	10.7	0.3	0.6	1.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	36.8	43.5	39.6	0.0	37.9	48.8	19.9	12.8	40.7	7.0	0.3
LnGrp LOS	D	D	D	D	A	D	D	B	B	D	A	A
Approach Vol, veh/h		454			126			1822			2711	
Approach Delay, s/veh		47.3			38.8			21.5			7.0	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.5	70.0		31.5	20.5	68.0		31.5				
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	65.0		35.0	8.0	63.0		35.0				
Max Q Clear Time (g_c+I1), s	3.4	29.3		25.4	8.7	2.0		8.5				
Green Ext Time (p_c), s	0.0	18.0		1.1	0.0	44.9		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		16.5	
HCM 6th LOS		B	



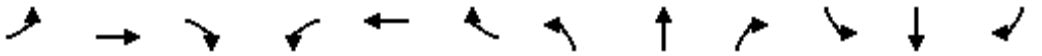
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	0	34	61	0	30	9	1988	19	9	2545	16
Future Volume (veh/h)	55	0	34	61	0	30	9	1988	19	9	2545	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	0	35	64	0	31	9	2071	20	9	2651	17
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	0	135	149	0	135	383	4095	40	23	2936	911
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.21	0.79	0.79	0.01	0.57	0.57
Sat Flow, veh/h	1378	0	1585	1373	0	1585	1781	5215	50	1781	5106	1585
Grp Volume(v), veh/h	57	0	35	64	0	31	9	1351	740	9	2651	17
Grp Sat Flow(s),veh/h/ln	1378	0	1585	1373	0	1585	1781	1702	1861	1781	1702	1585
Q Serve(g_s), s	4.8	0.0	2.5	5.5	0.0	2.2	0.5	17.0	17.0	0.6	55.1	0.6
Cycle Q Clear(g_c), s	7.0	0.0	2.5	8.0	0.0	2.2	0.5	17.0	17.0	0.6	55.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	152	0	135	149	0	135	383	2673	1461	23	2936	911
V/C Ratio(X)	0.37	0.00	0.26	0.43	0.00	0.23	0.02	0.51	0.51	0.39	0.90	0.02
Avail Cap(c_a), veh/h	391	0	409	386	0	409	383	2673	1461	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	51.3	55.1	0.0	51.2	37.2	4.6	4.6	58.8	22.5	11.0
Incr Delay (d2), s/veh	1.5	0.0	1.0	2.0	0.0	0.9	0.0	0.6	1.0	10.4	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	1.0	2.0	0.0	0.9	0.2	5.0	5.7	0.3	22.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	0.0	52.3	57.0	0.0	52.1	37.2	5.2	5.6	69.1	27.6	11.0
LnGrp LOS	E	A	D	E	A	D	D	A	A	E	C	B
Approach Vol, veh/h		92			95			2100			2677	
Approach Delay, s/veh		54.6			55.4			5.5			27.7	
Approach LOS		D			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	99.2		15.2	30.8	74.0		15.2				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	2.6	19.0		9.0	2.5	57.1		10.0				
Green Ext Time (p_c), s	0.0	27.2		0.3	0.0	11.1		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		19.3	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



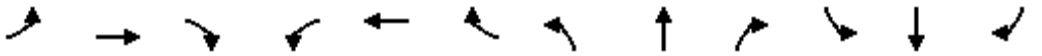
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1169	211	572	1389	301	250	1115	661	356	1756	303
Future Volume (veh/h)	117	1169	211	572	1389	301	250	1115	661	356	1756	303
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	1231	222	602	1462	317	263	1174	696	375	1848	319
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1428	257	346	1966	610	219	1728	1223	259	1745	542
Arrive On Green	0.05	0.33	0.33	0.10	0.39	0.39	0.06	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	3456	4349	784	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	123	964	489	602	1462	317	263	1174	696	375	1848	319
Grp Sat Flow(s),veh/h/ln	1728	1702	1729	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	4.2	31.8	31.8	12.0	29.6	18.4	7.6	23.7	7.1	9.0	41.0	16.1
Cycle Q Clear(g_c), s	4.2	31.8	31.8	12.0	29.6	18.4	7.6	23.7	7.1	9.0	41.0	16.1
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1117	568	346	1966	610	219	1728	1223	259	1745	542
V/C Ratio(X)	0.69	0.86	0.86	1.74	0.74	0.52	1.20	0.68	0.57	1.45	1.06	0.59
Avail Cap(c_a), veh/h	259	1191	605	346	1966	610	219	1728	1223	259	1745	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.8	37.8	54.0	31.8	28.4	56.2	34.1	13.1	55.5	39.5	21.2
Incr Delay (d2), s/veh	4.7	6.4	11.7	345.7	1.6	0.8	121.5	1.9	1.7	221.5	39.2	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	14.1	15.2	21.8	12.3	7.1	7.0	10.0	4.6	11.9	23.2	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	44.2	49.5	399.7	33.4	29.1	177.6	36.0	14.7	277.0	78.7	25.9
LnGrp LOS	E	D	D	F	C	C	F	D	B	F	F	C
Approach Vol, veh/h		1576			2381			2133			2542	
Approach Delay, s/veh		47.1			125.4			46.5			101.3	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	45.6	17.0	44.4	12.6	46.0	10.2	51.2
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	7.0	* 41	9.0	45.0
Max Q Clear Time (g_c+I1), s	11.0	25.7	14.0	33.8	9.6	43.0	6.2	31.6
Green Ext Time (p_c), s	0.0	8.9	0.0	5.6	0.0	0.0	0.1	9.1

Intersection Summary	
HCM 6th Ctrl Delay	84.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	2092	47	108	2182	32	69	15	65	46	6	54
Future Volume (veh/h)	60	2092	47	108	2182	32	69	15	65	46	6	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	2179	49	112	2273	33	83	0	68	48	6	56
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	2253	699	104	2380	739	1101	0	490	464	58	462
Arrive On Green	0.04	0.44	0.44	0.06	0.47	0.47	0.31	0.00	0.31	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3563	0	1585	1592	199	1585
Grp Volume(v), veh/h	62	2179	49	112	2273	33	83	0	68	54	0	56
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	0	1585	1791	0	1585
Q Serve(g_s), s	4.1	49.9	2.1	7.0	51.4	1.4	2.0	0.0	3.7	2.6	0.0	3.1
Cycle Q Clear(g_c), s	4.1	49.9	2.1	7.0	51.4	1.4	2.0	0.0	3.7	2.6	0.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	74	2253	699	104	2380	739	1101	0	490	522	0	462
V/C Ratio(X)	0.84	0.97	0.07	1.08	0.95	0.04	0.08	0.00	0.14	0.10	0.00	0.12
Avail Cap(c_a), veh/h	74	2255	700	104	2380	739	1101	0	490	522	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.1	32.7	19.3	56.5	30.8	17.5	29.3	0.0	29.9	31.0	0.0	31.2
Incr Delay (d2), s/veh	53.1	12.2	0.0	110.8	10.0	0.0	0.1	0.0	0.6	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	22.5	0.8	6.3	22.6	0.5	0.9	0.0	1.5	1.2	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.2	44.9	19.4	167.3	40.8	17.5	29.5	0.0	30.5	31.4	0.0	31.7
LnGrp LOS	F	D	B	F	D	B	C	A	C	C	A	C
Approach Vol, veh/h		2290			2418			151			110	
Approach Delay, s/veh		46.1			46.3			29.9			31.6	
Approach LOS		D			D			C			C	

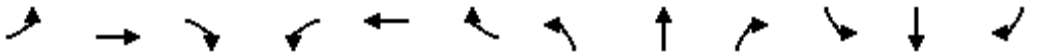
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		43.0	12.0	57.9		40.0	9.0	60.9				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		6.0	7.0	* 53		35.0	5.0	55.0				
Max Q Clear Time (g_c+I1), s		5.7	9.0	51.9		5.1	6.1	53.4				
Green Ext Time (p_c), s		0.0	0.0	1.0		0.4	0.0	1.5				

Intersection Summary	
HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	1858	274	158	1949	102	281	518	201	260	715	208
Future Volume (veh/h)	104	1858	274	158	1949	102	281	518	201	260	715	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	1956	288	166	2052	107	296	545	212	274	753	219
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	2042	634	202	2029	105	1709	2617	1167	288	1125	502
Arrive On Green	0.04	0.40	0.40	0.06	0.41	0.41	0.49	0.74	0.74	0.08	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	4970	258	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	109	1956	288	166	1403	756	296	545	212	274	753	219
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1824	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.7	44.7	12.0	5.7	49.0	49.0	5.7	5.7	4.9	9.5	22.0	13.1
Cycle Q Clear(g_c), s	3.7	44.7	12.0	5.7	49.0	49.0	5.7	5.7	4.9	9.5	22.0	13.1
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	2042	634	202	1390	745	1709	2617	1167	288	1125	502
V/C Ratio(X)	0.76	0.96	0.45	0.82	1.01	1.02	0.17	0.21	0.18	0.95	0.67	0.44
Avail Cap(c_a), veh/h	144	2042	634	202	1390	745	1709	2617	1167	288	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.9	35.0	14.8	55.9	35.5	35.5	16.8	4.9	4.8	54.8	35.5	32.5
Incr Delay (d2), s/veh	20.3	11.6	0.5	23.3	26.4	36.8	0.0	0.2	0.3	40.0	3.2	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	20.3	4.3	3.1	24.9	28.8	2.3	2.0	1.5	5.7	10.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	46.6	15.4	79.2	61.9	72.3	16.8	5.1	5.2	94.7	38.7	35.3
LnGrp LOS	E	D	B	E	F	F	B	A	A	F	D	D
Approach Vol, veh/h		2353			2325			1053			1246	
Approach Delay, s/veh		44.2			66.5			8.4			50.4	
Approach LOS		D			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	94.4	11.0	53.0	65.4	43.0	10.0	54.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	10.0	38.0	7.0	47.0	10.0	* 38	5.0	* 49
Max Q Clear Time (g_c+I1), s	11.5	7.7	7.7	46.7	7.7	24.0	5.7	51.0
Green Ext Time (p_c), s	0.0	4.8	0.0	0.3	0.2	5.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

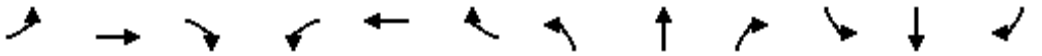
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	1827	315	277	1900	94	234	433	259	238	932	72
Future Volume (veh/h)	79	1827	315	277	1900	94	234	433	259	238	932	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	1903	328	289	1979	98	244	451	270	248	971	75
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1758	298	288	2168	107	259	1036	462	1093	1810	140
Arrive On Green	0.04	0.40	0.40	0.08	0.44	0.44	0.08	0.29	0.29	0.32	0.54	0.54
Sat Flow, veh/h	3456	4395	746	3456	4984	246	3456	3554	1585	3456	3343	258
Grp Volume(v), veh/h	82	1467	764	289	1350	727	244	451	270	248	516	530
Grp Sat Flow(s),veh/h/ln	1728	1702	1736	1728	1702	1826	1728	1777	1585	1728	1777	1824
Q Serve(g_s), s	2.8	48.0	48.0	10.0	44.5	44.9	8.4	12.4	19.7	6.3	22.5	22.5
Cycle Q Clear(g_c), s	2.8	48.0	48.0	10.0	44.5	44.9	8.4	12.4	19.7	6.3	22.5	22.5
Prop In Lane	1.00		0.43	1.00		0.13	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	138	1362	694	288	1481	794	259	1036	462	1093	962	987
V/C Ratio(X)	0.59	1.08	1.10	1.00	0.91	0.92	0.94	0.44	0.58	0.23	0.54	0.54
Avail Cap(c_a), veh/h	144	1362	694	288	1503	807	259	1036	462	1093	962	987
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	36.0	36.0	55.0	31.7	31.8	55.2	34.5	46.2	30.2	17.8	17.8
Incr Delay (d2), s/veh	6.0	48.2	64.7	53.9	8.6	14.9	40.2	1.3	5.3	0.1	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	28.5	32.3	6.5	19.6	22.5	5.1	5.5	8.4	2.7	9.6	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.7	84.2	100.7	108.9	40.4	46.7	95.4	35.8	51.6	30.3	19.9	19.9
LnGrp LOS	E	F	F	F	D	D	F	D	D	C	B	B
Approach Vol, veh/h		2313			2366			965			1294	
Approach Delay, s/veh		88.9			50.7			55.3			21.9	
Approach LOS		F			D			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.4	40.0	14.0	53.0	13.0	70.4	9.8	57.2
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	9.0	* 35	10.0	48.0	9.0	35.0	5.0	* 53
Max Q Clear Time (g_c+I1), s	8.3	21.7	12.0	50.0	10.4	24.5	4.8	46.9
Green Ext Time (p_c), s	0.1	3.3	0.0	0.0	0.0	4.9	0.0	5.3

Intersection Summary	
HCM 6th Ctrl Delay	58.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



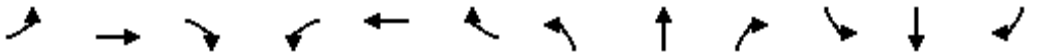
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	1483	339	289	1499	326	344	634	313	292	1284	293
Future Volume (veh/h)	350	1483	339	289	1499	326	344	634	313	292	1284	293
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	357	1513	346	295	1530	333	351	647	319	298	1310	299
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1471	334	288	1678	521	374	2311	717	288	2183	678
Arrive On Green	0.10	0.35	0.35	0.08	0.33	0.33	0.11	0.45	0.45	0.08	0.43	0.43
Sat Flow, veh/h	3456	4159	946	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	357	1237	622	295	1530	333	351	647	319	298	1310	299
Grp Sat Flow(s),veh/h/ln	1728	1702	1700	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	42.4	42.4	10.0	34.5	20.3	12.1	9.5	16.6	10.0	23.7	14.3
Cycle Q Clear(g_c), s	12.0	42.4	42.4	10.0	34.5	20.3	12.1	9.5	16.6	10.0	23.7	14.3
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1204	601	288	1678	521	374	2311	717	288	2183	678
V/C Ratio(X)	1.03	1.03	1.03	1.02	0.91	0.64	0.94	0.28	0.44	1.03	0.60	0.44
Avail Cap(c_a), veh/h	346	1204	601	288	1702	528	374	2311	717	288	2183	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	38.8	38.8	55.0	38.6	30.7	53.1	20.6	22.5	55.0	26.4	19.4
Incr Delay (d2), s/veh	57.2	33.2	45.9	59.4	7.8	2.5	31.0	0.3	2.0	62.3	1.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	22.9	25.0	6.7	15.4	8.1	6.9	3.9	6.5	6.8	9.8	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.2	72.0	84.7	114.4	46.4	33.3	84.1	20.9	24.5	117.3	27.7	21.5
LnGrp LOS	F	F	F	F	D	C	F	C	C	F	C	C
Approach Vol, veh/h		2216			2158			1317			1907	
Approach Delay, s/veh		81.9			53.7			38.6			40.7	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	59.7	14.0	47.4	17.0	56.7	17.0	44.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	40.0	10.0	42.0	13.0	37.0	12.0	* 40
Max Q Clear Time (g_c+I1), s	12.0	18.6	12.0	44.4	14.1	25.7	14.0	36.5
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	7.4	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	56.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



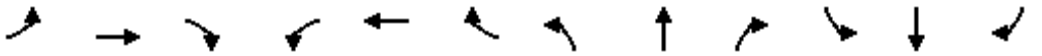
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	1068	203	461	1094	161	284	989	283	223	1700	254
Future Volume (veh/h)	271	1068	203	461	1094	161	284	989	283	223	1700	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	279	1101	209	475	1128	166	293	1020	292	230	1753	262
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	994	188	346	1088	160	346	3149	977	288	2693	400
Arrive On Green	0.08	0.33	0.33	0.10	0.35	0.35	0.10	0.62	0.62	0.08	0.60	0.60
Sat Flow, veh/h	3456	2982	564	3456	3109	456	3456	5106	1585	3456	4488	666
Grp Volume(v), veh/h	279	654	656	475	643	651	293	1020	292	230	1326	689
Grp Sat Flow(s),veh/h/ln	1728	1777	1769	1728	1777	1788	1728	1702	1585	1728	1702	1750
Q Serve(g_s), s	9.0	40.0	40.0	12.0	42.0	42.0	10.0	11.5	10.4	7.8	30.6	31.1
Cycle Q Clear(g_c), s	9.0	40.0	40.0	12.0	42.0	42.0	10.0	11.5	10.4	7.8	30.6	31.1
Prop In Lane	1.00		0.32	1.00		0.26	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	259	592	590	346	622	626	346	3149	977	288	2042	1050
V/C Ratio(X)	1.08	1.10	1.11	1.37	1.03	1.04	0.85	0.32	0.30	0.80	0.65	0.66
Avail Cap(c_a), veh/h	259	592	590	346	622	626	346	3149	977	346	2042	1050
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	40.0	40.0	54.0	39.0	39.0	53.1	11.0	10.8	54.0	15.7	15.8
Incr Delay (d2), s/veh	77.7	69.0	71.7	185.9	45.3	46.6	17.6	0.3	0.8	10.6	1.6	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	28.5	28.8	14.1	25.8	26.2	5.2	4.3	3.7	3.8	11.8	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.2	109.0	111.7	239.9	84.3	85.6	70.7	11.3	11.6	64.6	17.3	19.0
LnGrp LOS	F	F	F	F	F	F	E	B	B	E	B	B
Approach Vol, veh/h		1589			1769			1605			2245	
Approach Delay, s/veh		114.4			126.6			22.2			22.7	
Approach LOS		F			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	80.0	16.0	45.0	16.0	78.0	14.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	12.0	39.0	12.0	39.0	12.0	39.0	9.0	* 42
Max Q Clear Time (g_c+I1), s	9.8	13.5	14.0	42.0	12.0	33.1	11.0	44.0
Green Ext Time (p_c), s	0.2	9.4	0.0	0.0	0.0	5.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	68.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



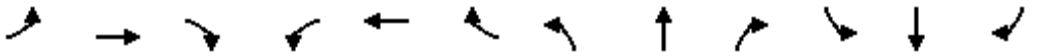
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	708	591	341	729	89	409	1456	270	147	1815	562
Future Volume (veh/h)	177	708	591	341	729	89	409	1456	270	147	1815	562
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	745	622	359	767	94	431	1533	284	155	1911	592
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	605	1125	727	288	999	122	492	2042	634	579	3018	1214
Arrive On Green	0.18	0.32	0.32	0.08	0.22	0.22	0.14	0.40	0.40	0.33	0.59	0.59
Sat Flow, veh/h	3456	3554	1585	3456	4612	561	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	186	745	622	359	565	296	431	1533	284	155	1911	592
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1769	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.6	21.8	38.0	10.0	18.7	18.9	14.7	30.9	19.0	7.7	29.4	12.6
Cycle Q Clear(g_c), s	5.6	21.8	38.0	10.0	18.7	18.9	14.7	30.9	19.0	7.7	29.4	12.6
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	605	1125	727	288	737	383	492	2042	634	579	3018	1214
V/C Ratio(X)	0.31	0.66	0.85	1.25	0.77	0.77	0.88	0.75	0.45	0.27	0.63	0.49
Avail Cap(c_a), veh/h	605	1125	727	288	1021	531	547	2042	634	579	3018	1214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	35.4	28.9	55.0	44.2	44.2	50.4	30.9	38.4	29.9	16.0	9.3
Incr Delay (d2), s/veh	0.3	1.5	9.8	136.6	2.3	4.7	13.9	2.6	2.3	0.2	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	9.6	17.5	9.8	8.1	8.8	7.3	13.0	7.8	3.4	11.2	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	36.9	38.7	191.6	46.5	48.9	64.3	33.5	40.7	30.2	17.1	10.7
LnGrp LOS	D	D	D	F	D	D	E	C	D	C	B	B
Approach Vol, veh/h		1553			1220			2248			2658	
Approach Delay, s/veh		38.4			89.8			40.3			16.4	
Approach LOS		D			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.0	53.0	14.0	43.0	21.1	76.9	26.0	31.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	* 48	10.0	38.0	19.0	35.0	12.0	* 36
Max Q Clear Time (g_c+I1), s	9.7	32.9	12.0	40.0	16.7	31.4	7.6	20.9
Green Ext Time (p_c), s	0.0	10.2	0.0	0.0	0.4	3.4	0.2	5.1

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



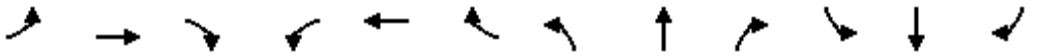
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	499	107	272	655	74	273	987	216	150	1526	128
Future Volume (veh/h)	160	499	107	272	655	74	273	987	216	150	1526	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	525	113	286	689	78	287	1039	227	158	1606	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	636	136	252	807	91	288	1258	275	323	1950	164
Arrive On Green	0.11	0.22	0.22	0.14	0.25	0.25	0.08	0.30	0.30	0.18	0.41	0.41
Sat Flow, veh/h	1781	2911	624	1781	3218	364	3456	4194	915	1781	4799	403
Grp Volume(v), veh/h	168	320	318	286	380	387	287	843	423	158	1139	602
Grp Sat Flow(s),veh/h/ln	1781	1777	1758	1781	1777	1805	1728	1702	1706	1781	1702	1798
Q Serve(g_s), s	11.1	20.6	20.7	17.0	24.5	24.5	10.0	27.6	27.7	9.6	35.8	35.9
Cycle Q Clear(g_c), s	11.1	20.6	20.7	17.0	24.5	24.5	10.0	27.6	27.7	9.6	35.8	35.9
Prop In Lane	1.00		0.35	1.00		0.20	1.00		0.54	1.00		0.22
Lane Grp Cap(c), veh/h	195	388	384	252	445	452	288	1021	512	323	1383	731
V/C Ratio(X)	0.86	0.82	0.83	1.13	0.85	0.85	1.00	0.83	0.83	0.49	0.82	0.82
Avail Cap(c_a), veh/h	223	518	513	252	548	556	288	1021	512	323	1383	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	44.7	44.7	51.5	42.9	42.9	55.0	39.1	39.1	44.1	31.8	31.8
Incr Delay (d2), s/veh	25.0	7.8	8.3	97.4	10.6	10.5	52.0	7.6	14.2	1.1	5.7	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	9.9	9.9	14.4	12.0	12.2	6.4	12.5	13.5	4.3	15.6	17.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	52.5	53.0	148.9	53.4	53.4	107.0	46.7	53.3	45.3	37.4	42.0
LnGrp LOS	E	D	D	F	D	D	F	D	D	D	D	D
Approach Vol, veh/h		806			1053			1553			1899	
Approach Delay, s/veh		57.9			79.3			59.6			39.5	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.8	41.0	21.0	31.2	14.0	53.8	17.2	35.1
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 36	17.0	35.0	10.0	40.0	15.0	37.0
Max Q Clear Time (g_c+I1), s	11.6	29.7	19.0	22.7	12.0	37.9	13.1	26.5
Green Ext Time (p_c), s	0.1	4.1	0.0	3.2	0.0	1.8	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	56.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



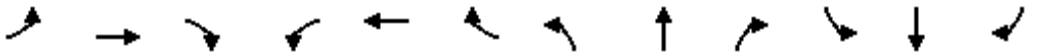
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	484	94	104	664	169	100	1851	72	85	2195	328
Future Volume (veh/h)	405	484	94	104	664	169	100	1851	72	85	2195	328
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	426	509	99	109	699	178	105	1948	76	89	2311	345
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	965	430	168	841	375	168	2143	83	334	2169	314
Arrive On Green	0.08	0.27	0.27	0.05	0.24	0.24	0.05	0.43	0.43	0.10	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5043	196	3456	4506	651
Grp Volume(v), veh/h	426	509	99	109	699	178	105	1314	710	89	1727	929
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1753
Q Serve(g_s), s	10.0	14.6	5.8	3.7	22.4	8.9	3.6	43.4	43.6	2.9	57.8	57.8
Cycle Q Clear(g_c), s	10.0	14.6	5.8	3.7	22.4	8.9	3.6	43.4	43.6	2.9	57.8	57.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.37
Lane Grp Cap(c), veh/h	288	965	430	168	841	375	168	1447	780	334	1639	844
V/C Ratio(X)	1.48	0.53	0.23	0.65	0.83	0.47	0.63	0.91	0.91	0.27	1.05	1.10
Avail Cap(c_a), veh/h	288	1096	489	230	1036	462	173	1447	780	334	1639	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	37.2	34.0	56.1	43.5	23.0	56.0	32.3	32.4	50.3	31.1	31.1
Incr Delay (d2), s/veh	233.5	0.4	0.3	4.1	4.8	0.9	6.7	9.9	16.6	0.4	38.0	62.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	6.4	2.3	1.7	10.4	3.4	1.7	19.4	22.5	1.3	31.4	38.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	288.5	37.6	34.2	60.2	48.3	23.9	62.7	42.2	49.0	50.7	69.1	93.3
LnGrp LOS	F	D	C	E	D	C	E	D	D	D	F	F
Approach Vol, veh/h		1034			986			2129			2745	
Approach Delay, s/veh		140.7			45.2			45.5			76.7	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	56.0	9.8	37.6	9.8	62.8	14.0	33.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 51	8.0	37.0	6.0	51.0	10.0	35.0
Max Q Clear Time (g_c+I1), s	4.9	45.6	5.7	16.6	5.6	59.8	12.0	24.4
Green Ext Time (p_c), s	0.0	4.7	0.1	3.7	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	72.2
HCM 6th LOS	E

Notes

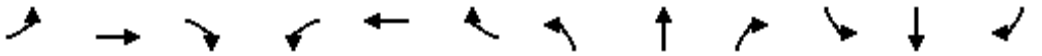
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	183	26	177	252	82	29	1869	166	37	2303	82
Future Volume (veh/h)	62	183	26	177	252	82	29	1869	166	37	2303	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	193	27	186	265	86	31	1967	175	39	2424	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	425	489	202	348	110	336	2308	204	336	2447	86
Arrive On Green	0.05	0.12	0.12	0.06	0.13	0.13	0.19	0.48	0.48	0.19	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2654	842	1781	4776	422	1781	5064	179
Grp Volume(v), veh/h	65	193	27	186	175	176	31	1398	744	39	1625	885
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1719	1781	1702	1794	1781	1702	1838
Q Serve(g_s), s	4.3	6.1	0.2	6.4	11.4	11.9	1.7	43.2	43.9	2.2	56.6	57.6
Cycle Q Clear(g_c), s	4.3	6.1	0.2	6.4	11.4	11.9	1.7	43.2	43.9	2.2	56.6	57.6
Prop In Lane	1.00		1.00	1.00		0.49	1.00		0.24	1.00		0.10
Lane Grp Cap(c), veh/h	83	425	489	202	233	225	336	1645	867	336	1645	888
V/C Ratio(X)	0.78	0.45	0.06	0.92	0.75	0.78	0.09	0.85	0.86	0.12	0.99	1.00
Avail Cap(c_a), veh/h	104	918	709	202	459	444	336	1645	867	336	1645	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	49.2	17.3	56.2	50.3	50.4	40.2	27.2	27.4	40.4	30.6	30.9
Incr Delay (d2), s/veh	25.2	0.8	0.0	42.3	4.9	5.7	0.1	5.7	10.7	0.2	19.4	29.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.7	0.4	4.0	5.4	5.5	0.8	18.3	20.8	1.0	26.7	31.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	49.9	17.4	98.5	55.1	56.2	40.3	32.9	38.1	40.5	50.1	60.2
LnGrp LOS	F	D	B	F	E	E	D	C	D	D	D	E
Approach Vol, veh/h		285			537			2173			2549	
Approach Delay, s/veh		54.1			70.5			34.8			53.4	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.6	63.0	11.0	19.4	26.6	63.0	9.6	20.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	58.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	4.2	45.9	8.4	8.1	3.7	59.6	6.3	13.9
Green Ext Time (p_c), s	0.0	10.0	0.0	1.2	0.0	0.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D



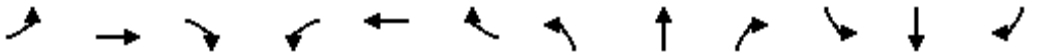
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	110	83	215	84	5	331	9	268	1	1	1
Future Volume (veh/h)	5	110	83	215	84	5	331	9	268	1	1	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	116	87	226	88	5	348	9	282	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	14	368	255	432	1057	60	565	15	515	116	116	116
Arrive On Green	0.01	0.18	0.18	0.12	0.31	0.31	0.32	0.32	0.32	0.20	0.20	0.20
Sat Flow, veh/h	1781	2005	1392	3456	3420	193	1738	45	1585	579	579	579
Grp Volume(v), veh/h	5	102	101	226	45	48	357	0	282	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1620	1728	1777	1836	1783	0	1585	1737	0	0
Q Serve(g_s), s	0.3	6.0	6.5	7.3	2.2	2.2	20.3	0.0	17.5	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	6.0	6.5	7.3	2.2	2.2	20.3	0.0	17.5	0.2	0.0	0.0
Prop In Lane	1.00		0.86	1.00		0.11	0.97		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	14	326	297	432	549	567	580	0	515	347	0	0
V/C Ratio(X)	0.37	0.31	0.34	0.52	0.08	0.08	0.62	0.00	0.55	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	326	297	461	549	567	580	0	515	347	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.2	42.4	42.7	49.2	29.4	29.4	34.2	0.0	33.3	38.5	0.0	0.0
Incr Delay (d2), s/veh	15.6	2.5	3.1	1.0	0.3	0.3	4.8	0.0	4.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.9	2.9	3.2	1.0	1.0	9.5	0.0	7.3	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	44.9	45.8	50.1	29.7	29.7	39.0	0.0	37.4	38.5	0.0	0.0
LnGrp LOS	E	D	D	D	C	C	D	A	D	D	A	A
Approach Vol, veh/h		208			319			639			3	
Approach Delay, s/veh		46.1			44.2			38.3			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	20.0	27.0		29.0	4.9	42.1				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		39.0	16.0	* 22		24.0	6.0	32.0				
Max Q Clear Time (g_c+I1), s		22.3	9.3	8.5		2.2	2.3	4.2				
Green Ext Time (p_c), s		3.0	0.4	0.9		0.0	0.0	0.4				

Intersection Summary		
HCM 6th Ctrl Delay		41.3
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	76	64	81	104	419	168	1396	99	34	2390	48
Future Volume (veh/h)	248	76	64	81	104	419	168	1396	99	34	2390	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	80	67	85	109	441	177	1469	0	36	2516	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	132	100	264	278	634	193	1872		573	3785	
Arrive On Green	0.08	0.07	0.07	0.08	0.08	0.08	0.11	0.37	0.00	0.32	0.59	0.00
Sat Flow, veh/h	3456	1924	1460	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	261	73	74	85	109	441	177	1469	0	36	2516	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1607	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	9.0	4.8	5.4	2.8	3.5	5.0	11.8	30.7	0.0	1.7	31.7	0.0
Cycle Q Clear(g_c), s	9.0	4.8	5.4	2.8	3.5	5.0	11.8	30.7	0.0	1.7	31.7	0.0
Prop In Lane	1.00		0.91	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	122	110	264	278	634	193	1872		573	3785	
V/C Ratio(X)	1.01	0.60	0.67	0.32	0.39	0.70	0.92	0.78		0.06	0.66	
Avail Cap(c_a), veh/h	259	563	509	264	1036	972	193	1872		573	3785	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.5	54.3	54.6	52.5	52.6	14.8	53.0	33.8	0.0	28.2	16.7	0.0
Incr Delay (d2), s/veh	57.7	4.7	6.8	0.7	0.9	1.4	42.2	3.4	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	2.3	2.4	1.2	1.6	6.8	7.5	13.1	0.0	0.7	11.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.2	59.0	61.4	53.2	53.5	16.2	95.1	37.2	0.0	28.2	17.6	0.0
LnGrp LOS	F	E	E	D	D	B	F	D		C	B	
Approach Vol, veh/h		408			635			1646	A		2552	A
Approach Delay, s/veh		94.1			27.6			43.4			17.8	
Approach LOS		F			C			D			B	

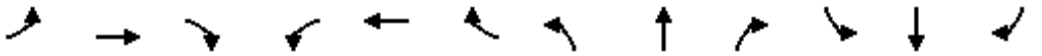
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.6	49.0	14.2	13.2	17.0	75.6	13.0	14.4
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 44	6.0	* 38	13.0	45.0	9.0	35.0
Max Q Clear Time (g_c+I1), s	3.7	32.7	4.8	7.4	13.8	33.7	11.0	7.0
Green Ext Time (p_c), s	0.0	7.4	0.0	0.8	0.0	10.3	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



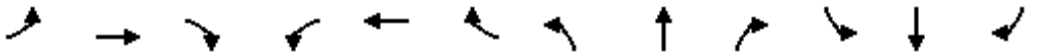
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	0	291	0	0	0	0	1462	169	857	1695	0
Future Volume (veh/h)	196	0	291	0	0	0	0	1462	169	857	1695	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	206	0	306				0	1539	178	902	1784	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	321	0	285				0	1810	209	986	3703	0
Arrive On Green	0.18	0.00	0.18				0.00	0.39	0.39	0.29	0.73	0.00
Sat Flow, veh/h	1781	0	1585				0	4810	536	3456	5274	0
Grp Volume(v), veh/h	206	0	306				0	1128	589	902	1784	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1774	1728	1702	0
Q Serve(g_s), s	10.7	0.0	18.0				0.0	30.2	30.3	25.2	14.8	0.0
Cycle Q Clear(g_c), s	10.7	0.0	18.0				0.0	30.2	30.3	25.2	14.8	0.0
Prop In Lane	1.00		1.00				0.00		0.30	1.00		0.00
Lane Grp Cap(c), veh/h	321	0	285				0	1328	692	986	3703	0
V/C Ratio(X)	0.64	0.00	1.07				0.00	0.85	0.85	0.92	0.48	0.00
Avail Cap(c_a), veh/h	321	0	285				0	1328	692	1002	3703	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.0	0.0	41.0				0.0	27.8	27.8	34.6	5.8	0.0
Incr Delay (d2), s/veh	4.3	0.0	73.9				0.0	7.0	12.5	12.5	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	12.8				0.0	13.1	14.8	12.1	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	0.0	114.9				0.0	34.8	40.4	47.1	6.3	0.0
LnGrp LOS	D	A	F				A	C	D	D	A	A
Approach Vol, veh/h		512						1717			2686	
Approach Delay, s/veh		85.7						36.7			20.0	
Approach LOS		F						D			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	33.5	44.0		23.0		77.5						
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0						
Max Green Setting (Gmax), s	29.0	* 39		18.0		72.0						
Max Q Clear Time (g_c+I1), s	27.2	32.3		20.0		16.8						
Green Ext Time (p_c), s	0.8	5.2		0.0		23.3						

Intersection Summary			
HCM 6th Ctrl Delay			32.7
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	963	440	1133	1011	7	395	49	676	58	43	22
Future Volume (veh/h)	46	963	440	1133	1011	7	395	49	676	58	43	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	1003	458	1180	1053	7	447	0	704	60	45	23
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1036	462	1214	1689	11	505	0	1215	138	104	53
Arrive On Green	0.06	0.29	0.29	0.24	0.47	0.47	0.14	0.00	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3619	24	3563	0	3170	830	623	318
Grp Volume(v), veh/h	48	1003	458	1180	517	543	447	0	704	128	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1866	1781	0	1585	1772	0	0
Q Serve(g_s), s	3.1	33.4	34.5	27.9	26.3	26.3	14.8	0.0	17.0	7.8	0.0	0.0
Cycle Q Clear(g_c), s	3.1	33.4	34.5	27.9	26.3	26.3	14.8	0.0	17.0	7.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.47		0.18
Lane Grp Cap(c), veh/h	104	1036	462	1214	829	871	505	0	1215	295	0	0
V/C Ratio(X)	0.46	0.97	0.99	0.97	0.62	0.62	0.89	0.00	0.58	0.43	0.00	0.00
Avail Cap(c_a), veh/h	119	1036	462	1214	829	871	505	0	1215	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.7	41.9	42.3	45.1	24.1	24.1	50.5	0.0	29.3	44.9	0.0	0.0
Incr Delay (d2), s/veh	3.2	21.2	39.6	19.4	3.5	3.4	19.9	0.0	2.0	4.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	17.5	18.4	13.7	11.7	12.2	8.0	0.0	8.3	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	63.1	82.0	64.5	27.6	27.4	70.5	0.0	31.3	49.5	0.0	0.0
LnGrp LOS	E	E	F	E	C	C	E	A	C	D	A	A
Approach Vol, veh/h		1509			2240			1151			128	
Approach Delay, s/veh		68.7			47.0			46.5			49.5	
Approach LOS		E			D			D			D	

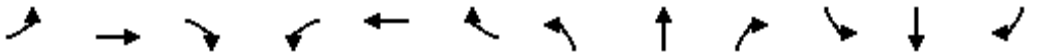
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	22.0	33.0	40.0	25.0	12.0	61.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	17.0	29.0	35.0	20.0	8.0	* 56
Max Q Clear Time (g_c+I1), s	19.0	29.9	36.5	9.8	5.1	28.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	8.1

Intersection Summary	
HCM 6th Ctrl Delay	53.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	1234	12	68	1385	293	12	42	45	395	45	768
Future Volume (veh/h)	423	1234	12	68	1385	293	12	42	45	395	45	768
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	445	1299	13	72	1458	308	13	44	47	416	47	808
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	1642	16	104	1432	639	49	137	511	76	0	704
Arrive On Green	0.12	0.46	0.46	0.06	0.40	0.40	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	3456	3605	36	1781	3554	1585	0	426	1585	0	0	1585
Grp Volume(v), veh/h	445	640	672	72	1458	308	57	0	47	463	0	808
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	426	0	1585	0	0	1585
Q Serve(g_s), s	11.0	27.6	27.6	3.6	36.3	13.0	0.0	0.0	1.9	0.0	0.0	29.0
Cycle Q Clear(g_c), s	11.0	27.6	27.6	3.6	36.3	13.0	29.0	0.0	1.9	29.0	0.0	29.0
Prop In Lane	1.00		0.02	1.00		1.00	0.23		1.00	0.90		1.00
Lane Grp Cap(c), veh/h	422	809	849	104	1432	639	187	0	511	76	0	704
V/C Ratio(X)	1.05	0.79	0.79	0.69	1.02	0.48	0.31	0.00	0.09	6.10	0.00	1.15
Avail Cap(c_a), veh/h	422	809	849	119	1432	639	187	0	511	76	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.5	20.9	20.9	41.6	26.9	19.9	24.1	0.0	21.3	45.0	0.0	25.0
Incr Delay (d2), s/veh	58.6	7.8	7.4	13.3	28.3	2.6	4.2	0.0	0.4	2321.6	0.0	82.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	12.5	13.0	1.9	20.1	5.1	1.0	0.0	0.7	50.7	0.0	30.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.1	28.6	28.3	54.9	55.2	22.5	28.3	0.0	21.7	2366.6	0.0	107.2
LnGrp LOS	F	C	C	D	F	C	C	A	C	F	A	F
Approach Vol, veh/h		1757			1838			104			1271	
Approach Delay, s/veh		46.1			49.7			25.3			930.3	
Approach LOS		D			D			C			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	34.0	10.3	46.0	34.0	15.0	41.3
Change Period (Y+Rc), s	5.0	5.0	* 5	5.0	4.0	5.0
Max Green Setting (Gmax), s	29.0	6.0	* 41	29.0	11.0	36.0
Max Q Clear Time (g_c+I1), s	31.0	5.6	29.6	31.0	13.0	38.3
Green Ext Time (p_c), s	0.0	0.0	6.6	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	273.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	175.9

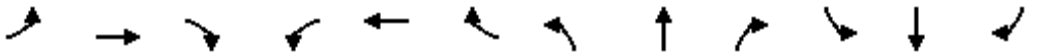
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	74	2237	2126	54	21	126
Future Vol, veh/h	74	2237	2126	54	21	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2355	2238	57	22	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2295	0	-	0	3365	1148
Stage 1	-	-	-	-	2267	-
Stage 2	-	-	-	-	1098	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	88	-	-	-	~ 16	165
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	253	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	88	-	-	-	~ 2	165
Mov Cap-2 Maneuver	-	-	-	-	~ 2	-
Stage 1	-	-	-	-	~ 4	-
Stage 2	-	-	-	-	253	-

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	$ 5473.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	88	-	-	-	13
HCM Lane V/C Ratio	0.885	-	-	-	11.903
HCM Control Delay (s)	150.3	-	-	-	$ 5473.9
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	4.8	-	-	-	20.5

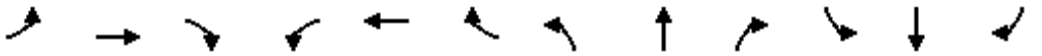
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	402	629	184	232	615	172	228	2181	254	194	1773	248
Future Volume (veh/h)	402	629	184	232	615	172	228	2181	254	194	1773	248
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	410	642	188	237	628	176	233	2226	259	198	1809	253
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	688	201	338	713	199	238	2204	684	119	1864	579
Arrive On Green	0.09	0.25	0.25	0.10	0.26	0.26	0.13	0.43	0.43	0.07	0.37	0.37
Sat Flow, veh/h	3456	2711	793	3456	2742	767	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	410	420	410	237	407	397	233	2226	259	198	1809	253
Grp Sat Flow(s),veh/h/ln	1728	1777	1728	1728	1777	1732	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	11.0	27.8	27.8	8.0	26.4	26.4	15.7	51.8	9.3	8.0	41.8	10.7
Cycle Q Clear(g_c), s	11.0	27.8	27.8	8.0	26.4	26.4	15.7	51.8	9.3	8.0	41.8	10.7
Prop In Lane	1.00		0.46	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	451	438	338	462	450	238	2204	684	119	1864	579
V/C Ratio(X)	1.29	0.93	0.93	0.70	0.88	0.88	0.98	1.01	0.38	1.67	0.97	0.44
Avail Cap(c_a), veh/h	317	459	446	432	518	505	238	2204	684	119	1864	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	43.8	43.8	52.4	42.6	42.6	51.8	34.1	11.2	56.0	37.5	15.7
Incr Delay (d2), s/veh	153.9	25.8	26.6	3.6	14.9	15.5	52.9	21.6	1.6	334.3	14.9	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	15.4	15.1	3.6	13.4	13.2	10.5	25.2	3.5	14.6	19.6	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	208.4	69.6	70.4	56.0	57.5	58.1	104.7	55.7	12.8	390.3	52.4	18.0
LnGrp LOS	F	E	E	E	E	E	F	F	B	F	D	B
Approach Vol, veh/h		1240			1041			2718			2260	
Approach Delay, s/veh		115.8			57.4			55.8			78.2	
Approach LOS		F			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	56.8	15.7	35.5	20.0	48.8	15.0	36.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	48.0	15.0	31.0	16.0	40.0	11.0	35.0
Max Q Clear Time (g_c+I1), s	10.0	53.8	10.0	29.8	17.7	43.8	13.0	28.4
Green Ext Time (p_c), s	0.0	0.0	0.3	0.6	0.0	0.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	73.2
HCM 6th LOS	E



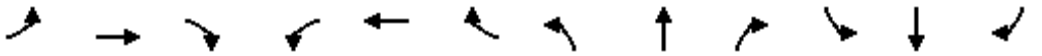
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	18	122	34	15	14	211	2396	49	63	1984	271
Future Volume (veh/h)	263	18	122	34	15	14	211	2396	49	63	1984	271
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	19	126	35	15	14	218	2470	51	65	2045	279
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	358	428	363	335	204	190	245	2766	859	186	2638	819
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.14	0.54	0.54	0.21	1.00	1.00
Sat Flow, veh/h	1381	1870	1585	1243	890	831	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	271	19	126	35	0	29	218	2470	51	65	2045	279
Grp Sat Flow(s),veh/h/ln	1381	1870	1585	1243	0	1721	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	23.0	0.9	8.0	2.7	0.0	1.6	14.4	51.5	1.8	3.7	0.0	0.0
Cycle Q Clear(g_c), s	24.6	0.9	8.0	3.7	0.0	1.6	14.4	51.5	1.8	3.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	428	363	335	0	394	245	2766	859	186	2638	819
V/C Ratio(X)	0.76	0.04	0.35	0.10	0.00	0.07	0.89	0.89	0.06	0.35	0.78	0.34
Avail Cap(c_a), veh/h	445	546	462	413	0	502	267	2766	859	186	2638	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	45.9	36.0	38.7	37.5	0.0	36.3	50.8	24.4	13.0	44.0	0.0	0.0
Incr Delay (d2), s/veh	5.8	0.0	0.6	0.1	0.0	0.1	27.1	4.9	0.1	0.9	1.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.4	3.2	0.8	0.0	0.7	8.3	21.0	0.7	1.6	0.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	36.1	39.3	37.6	0.0	36.4	78.0	29.3	13.2	44.9	1.8	0.9
LnGrp LOS	D	D	D	D	A	D	E	C	B	D	A	A
Approach Vol, veh/h		416			64			2739			2389	
Approach Delay, s/veh		47.2			37.0			32.9			2.9	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.5	70.0		32.5	20.5	67.0		32.5				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 65		35.0	18.0	53.0		35.0				
Max Q Clear Time (g_c+I1), s	5.7	53.5		26.6	16.4	2.0		5.7				
Green Ext Time (p_c), s	0.0	10.5		0.9	0.1	30.7		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		21.2	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



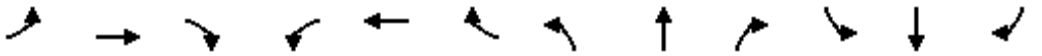
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	0	17	38	0	18	29	2544	65	30	2315	37
Future Volume (veh/h)	16	0	17	38	0	18	29	2544	65	30	2315	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	0	18	39	0	19	30	2623	67	31	2387	38
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	0	85	120	0	85	439	4083	104	57	2936	911
Arrive On Green	0.05	0.00	0.05	0.05	0.00	0.05	0.25	0.80	0.80	0.03	0.57	0.57
Sat Flow, veh/h	1393	0	1585	1395	0	1585	1781	5121	130	1781	5106	1585
Grp Volume(v), veh/h	16	0	18	39	0	19	30	1738	952	31	2387	38
Grp Sat Flow(s),veh/h/ln	1393	0	1585	1395	0	1585	1781	1702	1847	1781	1702	1585
Q Serve(g_s), s	1.3	0.0	1.3	3.3	0.0	1.4	1.5	25.4	25.8	2.1	44.8	1.3
Cycle Q Clear(g_c), s	2.7	0.0	1.3	4.6	0.0	1.4	1.5	25.4	25.8	2.1	44.8	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	119	0	85	120	0	85	439	2714	1473	57	2936	911
V/C Ratio(X)	0.13	0.00	0.21	0.33	0.00	0.22	0.07	0.64	0.65	0.54	0.81	0.04
Avail Cap(c_a), veh/h	404	0	409	405	0	409	439	2714	1473	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.51	0.51	0.51	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	54.3	56.5	0.0	54.4	34.7	5.0	5.1	57.2	20.4	11.1
Incr Delay (d2), s/veh	0.5	0.0	1.2	1.6	0.0	1.3	0.0	0.6	1.1	7.7	2.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.6	1.2	0.0	0.6	0.7	7.1	8.1	1.0	17.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	0.0	55.6	58.1	0.0	55.7	34.7	5.6	6.2	64.9	22.9	11.2
LnGrp LOS	E	A	E	E	A	E	C	A	A	E	C	B
Approach Vol, veh/h		34			58			2720			2456	
Approach Delay, s/veh		55.9			57.3			6.2			23.3	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	100.7		11.4	34.6	74.0		11.4				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	4.1	27.8		4.7	3.5	46.8		6.6				
Green Ext Time (p_c), s	0.0	33.2		0.1	0.0	18.6		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		15.0	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



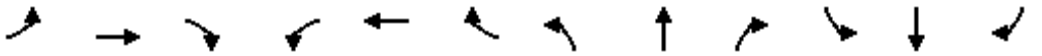
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	1229	269	619	1163	356	328	1681	569	418	1448	208
Future Volume (veh/h)	247	1229	269	619	1163	356	328	1681	569	418	1448	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	249	1241	272	625	1175	360	331	1698	575	422	1463	210
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	1406	308	346	1806	561	406	2046	1397	259	1787	555
Arrive On Green	0.09	0.34	0.34	0.10	0.35	0.35	0.12	0.40	0.40	0.08	0.35	0.35
Sat Flow, veh/h	3456	4191	918	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	249	1008	505	625	1175	360	331	1698	575	422	1463	210
Grp Sat Flow(s),veh/h/ln	1728	1702	1705	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	8.5	33.5	33.6	12.0	23.2	22.8	11.2	35.8	3.4	9.0	31.3	10.2
Cycle Q Clear(g_c), s	8.5	33.5	33.6	12.0	23.2	22.8	11.2	35.8	3.4	9.0	31.3	10.2
Prop In Lane	1.00		0.54	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	1142	572	346	1806	561	406	2046	1397	259	1787	555
V/C Ratio(X)	0.80	0.88	0.88	1.81	0.65	0.64	0.82	0.83	0.41	1.63	0.82	0.38
Avail Cap(c_a), veh/h	432	1191	597	346	1806	561	406	2046	1397	259	1787	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.44	0.44	0.44	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	37.6	37.6	54.0	32.6	32.4	51.7	32.3	11.6	55.5	35.5	21.3
Incr Delay (d2), s/veh	7.2	7.8	14.2	375.2	0.8	2.5	5.7	1.8	0.4	299.7	4.3	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	15.0	16.1	23.2	9.6	9.1	5.2	14.8	3.6	14.7	13.5	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	45.5	51.8	429.2	33.4	34.9	57.4	34.1	12.0	355.2	39.8	23.2
LnGrp LOS	E	D	D	F	C	C	E	C	B	F	D	C
Approach Vol, veh/h		1762			2160			2604			2095	
Approach Delay, s/veh		49.4			148.2			32.2			101.7	
Approach LOS		D			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	53.4	17.0	45.3	19.4	47.0	14.8	47.4
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	6.0	* 42	15.0	39.0
Max Q Clear Time (g_c+I1), s	11.0	37.8	14.0	35.6	13.2	33.3	10.5	25.2
Green Ext Time (p_c), s	0.0	1.1	0.0	4.7	0.0	6.3	0.3	8.0

Intersection Summary	
HCM 6th Ctrl Delay	81.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	1872	100	245	1865	63	95	38	229	88	40	143
Future Volume (veh/h)	210	1872	100	245	1865	63	95	38	229	88	40	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	1891	101	247	1884	64	67	79	231	89	40	144
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1915	594	208	1830	568	609	639	542	364	164	462
Arrive On Green	0.13	0.38	0.38	0.12	0.36	0.36	0.34	0.34	0.34	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1247	561	1585
Grp Volume(v), veh/h	212	1891	101	247	1884	64	67	79	231	129	0	144
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1808	0	1585
Q Serve(g_s), s	14.2	44.1	5.1	14.0	43.0	3.2	3.1	3.5	13.5	6.5	0.0	8.5
Cycle Q Clear(g_c), s	14.2	44.1	5.1	14.0	43.0	3.2	3.1	3.5	13.5	6.5	0.0	8.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	223	1915	594	208	1830	568	609	639	542	527	0	462
V/C Ratio(X)	0.95	0.99	0.17	1.19	1.03	0.11	0.11	0.12	0.43	0.24	0.00	0.31
Avail Cap(c_a), veh/h	223	1915	594	208	1830	568	609	639	542	527	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.1	37.2	25.0	53.0	38.5	25.7	27.0	27.2	30.4	32.4	0.0	33.1
Incr Delay (d2), s/veh	46.8	17.6	0.1	122.6	29.1	0.1	0.4	0.4	2.4	1.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	21.1	2.0	13.3	22.5	1.2	1.4	1.6	5.5	3.0	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.0	54.9	25.2	175.6	67.6	25.8	27.4	27.5	32.9	33.5	0.0	34.9
LnGrp LOS	F	D	C	F	F	C	C	C	C	C	A	C
Approach Vol, veh/h		2204			2195			377			273	
Approach Delay, s/veh		57.7			78.5			30.8			34.2	
Approach LOS		E			E			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.0	18.0	50.0		40.0	20.0	48.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		8.0	14.0	44.0		35.0	15.0	* 43				
Max Q Clear Time (g_c+I1), s		15.5	16.0	46.1		10.5	16.2	45.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.2	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	63.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

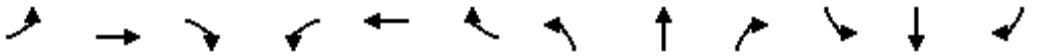
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	1769	318	255	1902	198	396	736	251	216	491	182
Future Volume (veh/h)	284	1769	318	255	1902	198	396	736	251	216	491	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	293	1824	328	263	1961	204	408	759	259	223	506	188
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	1787	555	259	1646	170	1959	2992	1335	259	1214	542
Arrive On Green	0.07	0.35	0.35	0.08	0.35	0.35	0.57	0.84	0.84	0.08	0.34	0.34
Sat Flow, veh/h	3456	5106	1585	3456	4702	485	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	293	1824	328	263	1415	750	408	759	259	223	506	188
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1783	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	8.0	42.0	15.4	9.0	42.0	42.0	7.0	5.2	3.7	7.7	13.1	10.6
Cycle Q Clear(g_c), s	8.0	42.0	15.4	9.0	42.0	42.0	7.0	5.2	3.7	7.7	13.1	10.6
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	1787	555	259	1191	624	1959	2992	1335	259	1214	542
V/C Ratio(X)	1.27	1.02	0.59	1.01	1.19	1.20	0.21	0.25	0.19	0.86	0.42	0.35
Avail Cap(c_a), veh/h	230	1787	555	259	1191	624	1959	2992	1335	259	1214	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	39.0	18.3	55.5	39.0	39.0	12.8	1.9	1.8	54.9	30.3	29.5
Incr Delay (d2), s/veh	151.8	26.6	1.7	59.7	93.3	105.3	0.1	0.2	0.3	24.2	1.1	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	21.6	5.8	6.1	32.6	36.3	2.7	1.2	0.8	4.2	5.8	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	207.8	65.6	20.0	115.2	132.3	144.3	12.8	2.1	2.1	79.0	31.4	31.3
LnGrp LOS	F	F	B	F	F	F	B	A	A	E	C	C
Approach Vol, veh/h		2445			2428			1426			917	
Approach Delay, s/veh		76.5			134.1			5.2			42.9	
Approach LOS		E			F			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	107.0	13.0	47.0	74.0	46.0	13.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	9.0	43.0	9.0	41.0	11.0	* 41	8.0	* 42
Max Q Clear Time (g_c+I1), s	9.7	7.2	11.0	44.0	9.0	15.1	10.0	44.0
Green Ext Time (p_c), s	0.0	7.4	0.0	0.0	0.3	4.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	77.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



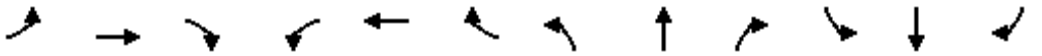
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1630	251	304	2171	234	337	713	206	173	523	94
Future Volume (veh/h)	150	1630	251	304	2171	234	337	713	206	173	523	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	1680	259	313	2238	241	347	735	212	178	539	97
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1712	263	317	1993	211	317	1066	476	1209	1706	306
Arrive On Green	0.04	0.38	0.38	0.09	0.43	0.43	0.09	0.30	0.30	0.35	0.57	0.57
Sat Flow, veh/h	3456	4466	685	3456	4689	496	3456	3554	1585	3456	3010	540
Grp Volume(v), veh/h	155	1278	661	313	1614	865	347	735	212	178	317	319
Grp Sat Flow(s),veh/h/ln	1728	1702	1747	1728	1702	1781	1728	1777	1585	1728	1777	1773
Q Serve(g_s), s	5.0	44.5	45.0	10.9	51.0	51.0	11.0	21.9	15.1	4.2	11.3	11.4
Cycle Q Clear(g_c), s	5.0	44.5	45.0	10.9	51.0	51.0	11.0	21.9	15.1	4.2	11.3	11.4
Prop In Lane	1.00		0.39	1.00		0.28	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	144	1305	670	317	1447	757	317	1066	476	1209	1007	1005
V/C Ratio(X)	1.08	0.98	0.99	0.99	1.12	1.14	1.10	0.69	0.45	0.15	0.32	0.32
Avail Cap(c_a), veh/h	144	1305	670	317	1447	757	317	1066	476	1209	1007	1005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	36.5	36.7	54.4	34.5	34.5	54.5	37.1	46.2	26.7	13.7	13.7
Incr Delay (d2), s/veh	96.9	20.1	31.3	47.2	62.2	79.5	78.6	3.7	3.0	0.1	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	21.7	24.6	6.8	33.0	38.1	8.2	10.0	6.4	1.8	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	154.4	56.6	68.0	101.6	96.7	114.0	133.1	40.7	49.2	26.8	14.5	14.6
LnGrp LOS	F	E	E	F	F	F	F	D	D	C	B	B
Approach Vol, veh/h		2094			2792			1294			814	
Approach Delay, s/veh		67.5			102.6			66.9			17.2	
Approach LOS		E			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	48.0	41.0	15.0	51.0	15.0	74.0	10.0	56.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	* 36	11.0	45.0	11.0	35.0	5.0	* 51
Max Q Clear Time (g_c+I1), s	6.2	23.9	12.9	47.0	13.0	13.4	7.0	53.0
Green Ext Time (p_c), s	0.2	4.6	0.0	0.0	0.0	4.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	75.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



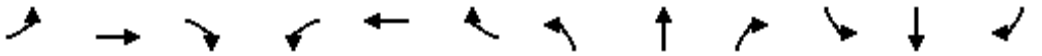
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	1365	231	395	1745	297	388	1164	232	295	835	376
Future Volume (veh/h)	375	1365	231	395	1745	297	388	1164	232	295	835	376
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	1393	236	403	1781	303	396	1188	237	301	852	384
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1392	236	432	1702	528	403	3021	938	317	2893	898
Arrive On Green	0.12	0.32	0.32	0.13	0.33	0.33	0.12	0.59	0.59	0.09	0.57	0.57
Sat Flow, veh/h	3456	4396	744	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	383	1078	551	403	1781	303	396	1188	237	301	852	384
Grp Sat Flow(s),veh/h/ln	1728	1702	1736	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	13.2	38.0	38.0	13.9	40.0	18.9	13.7	14.9	10.2	10.4	10.4	16.6
Cycle Q Clear(g_c), s	13.2	38.0	38.0	13.9	40.0	18.9	13.7	14.9	10.2	10.4	10.4	16.6
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	1078	550	432	1702	528	403	3021	938	317	2893	898
V/C Ratio(X)	0.95	1.00	1.00	0.93	1.05	0.57	0.98	0.39	0.25	0.95	0.29	0.43
Avail Cap(c_a), veh/h	403	1078	550	432	1702	528	403	3021	938	317	2893	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	41.0	41.0	52.0	40.0	33.0	52.9	13.0	16.5	54.2	13.5	14.9
Incr Delay (d2), s/veh	32.2	27.5	38.7	27.3	35.1	1.5	40.0	0.4	0.6	37.4	0.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	19.8	21.9	7.6	22.0	7.5	8.2	5.6	3.8	6.2	4.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.8	68.5	79.7	79.3	75.1	34.5	92.9	13.4	17.1	91.7	13.8	16.4
LnGrp LOS	F	F	F	E	F	C	F	B	B	F	B	B
Approach Vol, veh/h		2012			2487			1821			1537	
Approach Delay, s/veh		74.7			70.8			31.2			29.7	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	77.0	20.0	43.0	18.0	74.0	18.0	45.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	38.0	15.0	* 38	14.0	35.0	14.0	39.0
Max Q Clear Time (g_c+I1), s	12.4	16.9	15.9	40.0	15.7	18.6	15.2	42.0
Green Ext Time (p_c), s	0.0	9.9	0.0	0.0	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



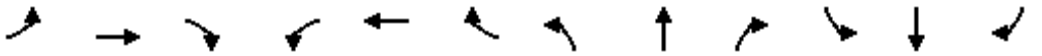
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	1015	283	507	1161	186	398	1644	322	251	1364	95
Future Volume (veh/h)	188	1015	283	507	1161	186	398	1644	322	251	1364	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	1068	298	534	1222	196	419	1731	339	264	1436	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	962	266	403	1202	192	346	2979	925	288	2762	192
Arrive On Green	0.07	0.35	0.35	0.12	0.39	0.39	0.10	0.58	0.58	0.08	0.57	0.57
Sat Flow, veh/h	3456	2749	761	3456	3070	490	3456	5106	1585	3456	4874	339
Grp Volume(v), veh/h	198	687	679	534	704	714	419	1731	339	264	1003	533
Grp Sat Flow(s),veh/h/ln	1728	1777	1733	1728	1777	1782	1728	1702	1585	1728	1702	1809
Q Serve(g_s), s	6.8	42.0	42.0	14.0	47.0	47.0	12.0	25.6	13.6	9.1	21.7	21.7
Cycle Q Clear(g_c), s	6.8	42.0	42.0	14.0	47.0	47.0	12.0	25.6	13.6	9.1	21.7	21.7
Prop In Lane	1.00		0.44	1.00		0.27	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	230	622	607	403	696	698	346	2979	925	288	1929	1025
V/C Ratio(X)	0.86	1.11	1.12	1.32	1.01	1.02	1.21	0.58	0.37	0.92	0.52	0.52
Avail Cap(c_a), veh/h	230	622	607	403	696	698	346	2979	925	288	1929	1025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	39.0	39.0	53.0	36.5	36.5	54.0	15.8	13.3	54.6	16.0	16.0
Incr Delay (d2), s/veh	26.3	68.4	73.7	162.4	37.2	39.8	119.4	0.8	1.1	32.2	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	29.8	29.9	15.2	27.1	27.7	10.9	9.8	5.0	5.2	8.5	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.7	107.4	112.7	215.4	73.7	76.3	173.4	16.6	14.4	86.8	17.0	17.9
LnGrp LOS	F	F	F	F	F	F	F	B	B	F	B	B
Approach Vol, veh/h		1564			1952			2489			1800	
Approach Delay, s/veh		106.4			113.4			42.7			27.5	
Approach LOS		F			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	76.0	18.0	47.0	16.0	74.0	13.0	52.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	37.0	14.0	41.0	12.0	35.0	8.0	* 47
Max Q Clear Time (g_c+I1), s	11.1	27.6	16.0	44.0	14.0	23.7	8.8	49.0
Green Ext Time (p_c), s	0.0	7.6	0.0	0.0	0.0	7.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.6
HCM 6th LOS	E

Notes

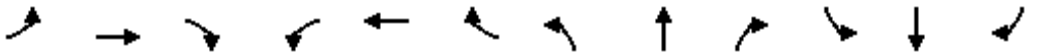
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	366	673	485	261	920	249	626	2020	194	206	1516	246
Future Volume (veh/h)	366	673	485	261	920	249	626	2020	194	206	1516	246
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	373	687	495	266	939	254	639	2061	198	210	1547	251
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	879	630	387	1103	298	518	2081	646	148	1740	672
Arrive On Green	0.08	0.25	0.25	0.11	0.28	0.28	0.15	0.41	0.41	0.08	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	4001	1079	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	373	687	495	266	798	395	639	2061	198	210	1547	251
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1676	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	10.0	21.6	20.8	8.9	26.6	26.8	18.0	48.1	6.9	10.0	34.4	4.1
Cycle Q Clear(g_c), s	10.0	21.6	20.8	8.9	26.6	26.8	18.0	48.1	6.9	10.0	34.4	4.1
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	879	630	387	939	462	518	2081	646	148	1740	672
V/C Ratio(X)	1.30	0.78	0.79	0.69	0.85	0.85	1.23	0.99	0.31	1.41	0.89	0.37
Avail Cap(c_a), veh/h	288	1155	753	387	1021	503	518	2081	646	148	1740	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	42.1	14.6	51.3	41.1	41.2	51.0	35.3	11.3	55.0	37.4	9.6
Incr Delay (d2), s/veh	156.2	2.6	4.6	5.1	6.5	12.6	120.7	17.6	1.2	221.5	7.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	9.8	7.9	4.1	11.9	12.6	16.4	22.8	2.6	13.6	15.3	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	211.2	44.8	19.2	56.3	47.7	53.8	171.7	52.9	12.5	276.5	44.6	11.2
LnGrp LOS	F	D	B	E	D	D	F	D	B	F	D	B
Approach Vol, veh/h		1555			1459			2898			2008	
Approach Delay, s/veh		76.6			50.9			76.3			64.7	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	53.9	17.4	34.7	22.0	45.9	14.0	38.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	46.0	7.0	39.0	18.0	38.0	10.0	36.0
Max Q Clear Time (g_c+I1), s	12.0	50.1	10.9	23.6	20.0	36.4	12.0	28.8
Green Ext Time (p_c), s	0.0	0.0	0.0	6.0	0.0	1.4	0.0	4.3

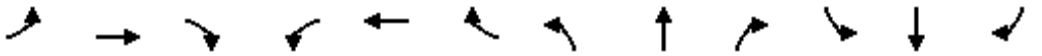
Intersection Summary	
HCM 6th Ctrl Delay	68.7
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	691	149	217	625	105	261	1392	342	190	1381	134
Future Volume (veh/h)	242	691	149	217	625	105	261	1392	342	190	1381	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	252	720	155	226	651	109	272	1450	356	198	1439	140
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	796	171	193	732	122	408	1399	342	225	1656	161
Arrive On Green	0.14	0.27	0.27	0.11	0.24	0.24	0.12	0.34	0.34	0.13	0.35	0.35
Sat Flow, veh/h	1781	2909	626	1781	3046	509	3456	4094	1001	1781	4731	460
Grp Volume(v), veh/h	252	440	435	226	379	381	272	1205	601	198	1035	544
Grp Sat Flow(s),veh/h/ln	1781	1777	1758	1781	1777	1779	1728	1702	1690	1781	1702	1788
Q Serve(g_s), s	17.0	28.7	28.7	13.0	24.7	24.8	9.0	41.0	41.0	13.1	34.1	34.1
Cycle Q Clear(g_c), s	17.0	28.7	28.7	13.0	24.7	24.8	9.0	41.0	41.0	13.1	34.1	34.1
Prop In Lane	1.00		0.36	1.00		0.29	1.00		0.59	1.00		0.26
Lane Grp Cap(c), veh/h	252	486	481	193	427	427	408	1163	578	225	1191	626
V/C Ratio(X)	1.00	0.90	0.91	1.17	0.89	0.89	0.67	1.04	1.04	0.88	0.87	0.87
Avail Cap(c_a), veh/h	252	518	513	193	459	459	408	1163	578	225	1191	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	42.1	42.1	53.5	44.0	44.1	50.7	39.5	39.5	51.5	36.4	36.4
Incr Delay (d2), s/veh	56.2	18.6	18.9	118.5	18.0	18.3	4.1	36.1	48.6	30.4	8.7	15.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	15.0	14.9	12.2	13.0	13.0	4.1	22.7	24.5	7.7	15.4	17.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.7	60.7	61.0	172.0	62.0	62.3	54.8	75.6	88.1	81.9	45.2	51.6
LnGrp LOS	F	E	E	F	E	E	D	F	F	F	D	D
Approach Vol, veh/h		1127			986			2078			1777	
Approach Delay, s/veh		71.3			87.4			76.5			51.2	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	46.0	17.0	37.8	18.2	47.0	21.0	33.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	41.0	13.0	35.0	12.0	42.0	17.0	31.0
Max Q Clear Time (g_c+I1), s	15.1	43.0	15.0	30.7	11.0	36.1	19.0	26.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.1	0.1	4.5	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	69.8
HCM 6th LOS	E



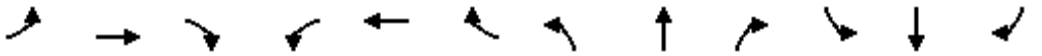
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	554	602	118	106	529	238	146	2088	66	150	1891	328
Future Volume (veh/h)	554	602	118	106	529	238	146	2088	66	150	1891	328
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	565	614	120	108	540	243	149	2131	67	153	1930	335
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	934	417	168	693	309	173	1992	62	478	2145	366
Arrive On Green	0.12	0.26	0.26	0.05	0.19	0.19	0.05	0.39	0.39	0.14	0.49	0.49
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5086	159	3456	4390	749
Grp Volume(v), veh/h	565	614	120	108	540	243	149	1424	774	153	1489	776
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1842	1728	1702	1736
Q Serve(g_s), s	14.0	18.5	7.2	3.7	17.3	12.7	5.1	47.0	47.0	4.8	47.7	49.7
Cycle Q Clear(g_c), s	14.0	18.5	7.2	3.7	17.3	12.7	5.1	47.0	47.0	4.8	47.7	49.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.43
Lane Grp Cap(c), veh/h	403	934	417	168	693	309	173	1333	721	478	1663	848
V/C Ratio(X)	1.40	0.66	0.29	0.64	0.78	0.79	0.86	1.07	1.07	0.32	0.90	0.92
Avail Cap(c_a), veh/h	403	1214	542	230	1036	462	173	1333	721	478	1663	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	39.4	35.3	56.1	45.9	24.1	56.6	36.5	36.5	46.6	27.9	28.4
Incr Delay (d2), s/veh	195.1	0.8	0.4	4.1	2.2	5.2	33.3	45.1	54.7	0.4	7.9	16.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.0	8.2	2.9	1.7	7.8	5.2	3.0	27.4	31.6	2.1	20.6	23.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	248.1	40.2	35.6	60.1	48.1	29.3	89.9	81.6	91.2	47.0	35.8	44.6
LnGrp LOS	F	D	D	E	D	C	F	F	F	D	D	D
Approach Vol, veh/h		1299			891			2347			2418	
Approach Delay, s/veh		130.2			44.4			85.3			39.3	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.6	52.0	9.8	36.5	10.0	63.6	18.0	28.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 47	8.0	41.0	6.0	47.0	14.0	35.0
Max Q Clear Time (g_c+I1), s	6.8	49.0	5.7	20.5	7.1	51.7	16.0	19.3
Green Ext Time (p_c), s	0.0	0.0	0.1	4.6	0.0	0.0	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	72.5
HCM 6th LOS	E

Notes

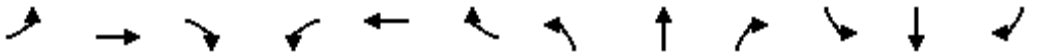
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	236	39	156	249	134	33	2093	160	95	1929	83
Future Volume (veh/h)	95	236	39	156	249	134	33	2093	160	95	1929	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	248	41	164	262	141	35	2203	168	100	2031	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	533	489	202	339	177	282	2300	174	297	2427	104
Arrive On Green	0.06	0.15	0.15	0.06	0.15	0.15	0.16	0.47	0.47	0.17	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2257	1178	1781	4843	366	1781	5021	214
Grp Volume(v), veh/h	100	248	41	164	204	199	35	1542	829	100	1375	743
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1658	1781	1702	1805	1781	1702	1832
Q Serve(g_s), s	6.7	7.7	0.3	5.6	13.3	13.9	2.0	52.2	53.5	5.9	42.0	42.3
Cycle Q Clear(g_c), s	6.7	7.7	0.3	5.6	13.3	13.9	2.0	52.2	53.5	5.9	42.0	42.3
Prop In Lane	1.00		1.00	1.00		0.71	1.00		0.20	1.00		0.12
Lane Grp Cap(c), veh/h	104	533	489	202	266	249	282	1617	857	297	1645	885
V/C Ratio(X)	0.96	0.47	0.08	0.81	0.77	0.80	0.12	0.95	0.97	0.34	0.84	0.84
Avail Cap(c_a), veh/h	104	918	661	202	459	428	282	1617	857	297	1645	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	46.6	17.5	55.9	49.0	49.3	43.4	30.2	30.6	44.1	26.9	26.9
Incr Delay (d2), s/veh	76.0	0.6	0.1	21.9	4.6	5.8	0.2	13.8	23.7	0.7	5.2	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	3.4	0.6	3.1	6.2	6.1	0.9	23.7	28.0	2.7	17.7	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.4	47.2	17.6	77.7	53.6	55.1	43.5	44.0	54.3	44.8	32.1	36.3
LnGrp LOS	F	D	B	E	D	E	D	D	D	D	C	D
Approach Vol, veh/h		389			567			2406			2218	
Approach Delay, s/veh		66.0			61.1			47.6			34.1	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	62.0	11.0	23.0	23.0	63.0	11.0	23.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	7.0	57.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	7.9	55.5	7.6	9.7	4.0	44.3	8.7	15.9
Green Ext Time (p_c), s	0.0	1.4	0.0	1.6	0.0	11.1	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	44.9
HCM 6th LOS	D



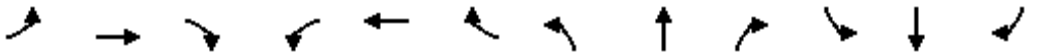
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	142	49	174	121	6	543	13	410	26	7	14
Future Volume (veh/h)	7	142	49	174	121	6	543	13	410	26	7	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	149	52	183	127	6	572	14	432	27	7	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	457	154	259	857	40	667	16	608	190	49	106
Arrive On Green	0.01	0.17	0.17	0.07	0.25	0.25	0.38	0.38	0.38	0.20	0.20	0.20
Sat Flow, veh/h	1781	2611	878	3456	3456	162	1741	43	1585	952	247	529
Grp Volume(v), veh/h	7	100	101	183	65	68	586	0	432	49	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1712	1728	1777	1841	1783	0	1585	1728	0	0
Q Serve(g_s), s	0.5	5.9	6.2	6.2	3.4	3.5	36.2	0.0	27.7	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.9	6.2	6.2	3.4	3.5	36.2	0.0	27.7	2.8	0.0	0.0
Prop In Lane	1.00		0.51	1.00		0.09	0.98		1.00	0.55		0.31
Lane Grp Cap(c), veh/h	19	311	300	259	441	456	684	0	608	346	0	0
V/C Ratio(X)	0.38	0.32	0.34	0.71	0.15	0.15	0.86	0.00	0.71	0.14	0.00	0.00
Avail Cap(c_a), veh/h	89	311	300	288	441	456	684	0	608	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.0	43.3	43.4	54.2	35.2	35.2	34.0	0.0	31.4	39.5	0.0	0.0
Incr Delay (d2), s/veh	12.2	2.7	3.0	6.8	0.7	0.7	13.1	0.0	6.9	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	2.9	2.9	1.6	1.7	17.9	0.0	11.7	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	46.0	46.4	61.0	35.9	35.9	47.1	0.0	38.3	40.4	0.0	0.0
LnGrp LOS	E	D	D	E	D	D	D	A	D	D	A	A
Approach Vol, veh/h		208			316			1018			49	
Approach Delay, s/veh		47.1			50.5			43.4			40.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		51.0	14.0	26.0		29.0	5.2	34.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		46.0	10.0	* 21		24.0	6.0	25.0				
Max Q Clear Time (g_c+I1), s		38.2	8.2	8.2		4.8	2.5	5.5				
Green Ext Time (p_c), s		3.5	0.1	0.8		0.2	0.0	0.6				

Intersection Summary	
HCM 6th Ctrl Delay	45.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



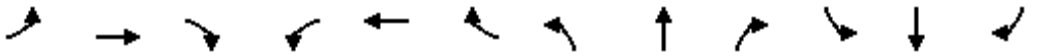
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	364	61	173	119	118	440	126	1435	90	23	2049	51
Future Volume (veh/h)	364	61	173	119	118	440	126	1435	90	23	2049	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	379	64	180	124	123	458	131	1495	0	24	2134	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	291	260	178	351	621	507	1745		522	2252	
Arrive On Green	0.12	0.16	0.16	0.05	0.10	0.10	0.28	0.34	0.00	0.29	0.35	0.00
Sat Flow, veh/h	3456	1777	1585	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	379	64	180	124	123	458	131	1495	0	24	2134	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	13.1	3.7	12.9	4.2	3.9	7.3	6.8	32.7	0.0	1.2	38.7	0.0
Cycle Q Clear(g_c), s	13.1	3.7	12.9	4.2	3.9	7.3	6.8	32.7	0.0	1.2	38.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	291	260	178	351	621	507	1745		522	2252	
V/C Ratio(X)	0.94	0.22	0.69	0.70	0.35	0.74	0.26	0.86		0.05	0.95	
Avail Cap(c_a), veh/h	403	607	542	230	1036	926	507	1745		522	2252	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.6	43.5	47.3	56.0	50.5	14.3	33.2	36.8	0.0	30.4	37.9	0.0
Incr Delay (d2), s/veh	30.0	0.4	3.3	6.1	0.6	1.7	0.3	5.7	0.0	0.0	10.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	1.7	5.3	2.0	1.8	6.7	3.0	14.3	0.0	0.5	16.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.6	43.9	50.6	62.1	51.1	16.0	33.4	42.4	0.0	30.4	48.1	0.0
LnGrp LOS	F	D	D	E	D	B	C	D		C	D	
Approach Vol, veh/h		623			705			1626	A		2158	A
Approach Delay, s/veh		69.4			30.2			41.7			47.9	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.1	46.0	10.2	24.7	38.1	47.0	18.0	16.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	41.0	8.0	41.0	11.0	42.0	14.0	35.0
Max Q Clear Time (g_c+I1), s	3.2	34.7	6.2	14.9	8.8	40.7	15.1	9.3
Green Ext Time (p_c), s	0.0	4.6	0.1	1.5	0.1	1.2	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



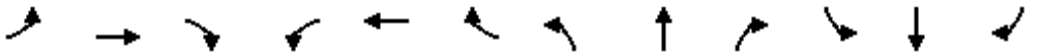
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	0	279	0	0	0	0	1540	247	716	1633	0
Future Volume (veh/h)	98	0	279	0	0	0	0	1540	247	716	1633	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	100	0	285				0	1571	252	731	1666	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	346	0	308				0	1923	307	855	3688	0
Arrive On Green	0.19	0.00	0.19				0.00	0.43	0.43	0.25	0.72	0.00
Sat Flow, veh/h	1781	0	1585				0	4606	709	3456	5274	0
Grp Volume(v), veh/h	100	0	285				0	1204	619	731	1666	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1743	1728	1702	0
Q Serve(g_s), s	5.8	0.0	21.2				0.0	37.2	37.5	24.2	16.1	0.0
Cycle Q Clear(g_c), s	5.8	0.0	21.2				0.0	37.2	37.5	24.2	16.1	0.0
Prop In Lane	1.00		1.00				0.00		0.41	1.00		0.00
Lane Grp Cap(c), veh/h	346	0	308				0	1475	755	855	3688	0
V/C Ratio(X)	0.29	0.00	0.93				0.00	0.82	0.82	0.86	0.45	0.00
Avail Cap(c_a), veh/h	356	0	317				0	1475	755	864	3688	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.3	0.0	47.5				0.0	29.8	29.9	43.1	6.9	0.0
Incr Delay (d2), s/veh	0.5	0.0	31.4				0.0	5.1	9.7	8.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	11.0				0.0	15.9	17.4	11.3	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	0.0	78.9				0.0	34.9	39.6	51.5	7.3	0.0
LnGrp LOS	D	A	E				A	C	D	D	A	A
Approach Vol, veh/h		385						1823			2397	
Approach Delay, s/veh		69.3						36.5			20.8	
Approach LOS		E						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.7	57.0		28.3		91.7
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	30.0	* 52		24.0		86.0
Max Q Clear Time (g_c+I1), s	26.2	39.5		23.2		18.1
Green Ext Time (p_c), s	1.1	9.3		0.1		21.8

Intersection Summary		
HCM 6th Ctrl Delay		31.0
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1080	492	953	1041	22	459	72	1174	106	46	26
Future Volume (veh/h)	44	1080	492	953	1041	22	459	72	1174	106	46	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	1113	507	982	1073	23	526	0	1210	109	47	27
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	1096	489	1875	2316	50	653	0	1764	176	76	44
Arrive On Green	0.04	0.31	0.31	0.37	0.65	0.65	0.18	0.00	0.18	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3557	76	3563	0	3170	1055	455	261
Grp Volume(v), veh/h	45	1113	507	982	536	560	526	0	1210	183	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1857	1781	0	1585	1771	0	0
Q Serve(g_s), s	3.0	37.0	37.0	18.3	18.1	18.1	17.0	0.0	0.0	11.5	0.0	0.0
Cycle Q Clear(g_c), s	3.0	37.0	37.0	18.3	18.1	18.1	17.0	0.0	0.0	11.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.60		0.15
Lane Grp Cap(c), veh/h	69	1096	489	1875	1157	1209	653	0	1764	295	0	0
V/C Ratio(X)	0.65	1.02	1.04	0.52	0.46	0.46	0.81	0.00	0.69	0.62	0.00	0.00
Avail Cap(c_a), veh/h	119	1096	489	1875	1157	1209	653	0	1764	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.9	41.5	41.5	29.3	10.5	10.5	46.9	0.0	19.1	46.5	0.0	0.0
Incr Delay (d2), s/veh	9.8	31.2	50.7	0.3	1.3	1.3	10.2	0.0	2.2	9.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	20.7	21.1	7.4	7.1	7.4	8.4	0.0	12.2	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	72.7	92.2	29.6	11.8	11.7	57.2	0.0	21.3	55.9	0.0	0.0
LnGrp LOS	E	F	F	C	B	B	E	A	C	E	A	A
Approach Vol, veh/h		1665			2078			1736			183	
Approach Delay, s/veh		78.5			20.2			32.1			55.9	
Approach LOS		E			C			C			E	

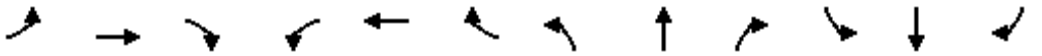
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	27.0	49.9	42.0	25.0	8.7	83.2
Change Period (Y+Rc), s	5.0	5.0	* 5	5.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	22.0	* 37	20.0	8.0	51.0
Max Q Clear Time (g_c+I1), s	19.0	20.3	39.0	13.5	5.0	20.1
Green Ext Time (p_c), s	2.1	0.8	0.0	0.5	0.0	8.7

Intersection Summary	
HCM 6th Ctrl Delay	42.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	771	1415	13	87	1256	450	46	80	86	305	27	811
Future Volume (veh/h)	771	1415	13	87	1256	450	46	80	86	305	27	811
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	795	1459	13	90	1295	464	47	82	89	314	28	836
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	768	1765	16	139	1224	546	55	72	423	77	0	775
Arrive On Green	0.22	0.49	0.49	0.08	0.34	0.34	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	3456	3609	32	1781	3554	1585	0	271	1585	0	0	1585
Grp Volume(v), veh/h	795	718	754	90	1295	464	129	0	89	342	0	836
Grp Sat Flow(s),veh/h/ln	1728	1777	1865	1781	1777	1585	271	0	1585	0	0	1585
Q Serve(g_s), s	20.0	31.2	31.2	4.4	31.0	24.4	0.0	0.0	3.9	0.0	0.0	24.0
Cycle Q Clear(g_c), s	20.0	31.2	31.2	4.4	31.0	24.4	24.0	0.0	3.9	24.0	0.0	24.0
Prop In Lane	1.00		0.02	1.00		1.00	0.36		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	768	869	912	139	1224	546	127	0	423	77	0	775
V/C Ratio(X)	1.04	0.83	0.83	0.65	1.06	0.85	1.02	0.00	0.21	4.46	0.00	1.08
Avail Cap(c_a), veh/h	768	869	912	139	1224	546	127	0	423	77	0	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	19.7	19.7	40.3	29.5	27.3	32.3	0.0	25.6	45.0	0.0	23.0
Incr Delay (d2), s/veh	41.9	8.9	8.5	10.2	42.5	15.2	84.7	0.0	1.1	1585.5	0.0	55.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	14.0	14.7	2.3	19.8	11.2	5.8	0.0	1.6	35.5	0.0	27.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.9	28.6	28.3	50.5	72.0	42.6	117.0	0.0	26.8	1630.5	0.0	78.7
LnGrp LOS	F	C	C	D	F	D	F	A	C	F	A	F
Approach Vol, veh/h		2267			1849			218			1178	
Approach Delay, s/veh		45.4			63.6			80.2			529.2	
Approach LOS		D			E			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.0	12.0	49.0		29.0	25.0	36.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		24.0	7.0	44.0		24.0	20.0	31.0				
Max Q Clear Time (g_c+I1), s		26.0	6.4	33.2		26.0	22.0	33.0				
Green Ext Time (p_c), s		0.0	0.0	7.1		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			156.3									
HCM 6th LOS			F									

Intersection	
Int Delay, s/veh	21.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	2050	2506	146	17	75
Future Vol, veh/h	119	2050	2506	146	17	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	2113	2584	151	18	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2735	0	-	0	3751	1368
Stage 1	-	-	-	-	2660	-
Stage 2	-	-	-	-	1091	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 52	-	-	-	~ 10	117
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	255	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 52	-	-	-	0	117
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	255	-

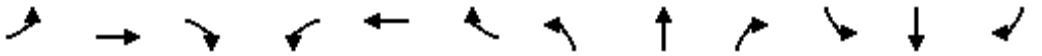
Approach	EB	WB	SB
HCM Control Delay, s	43.3	0	107.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 52	-	-	-	117
HCM Lane V/C Ratio	2.359	-	-	-	0.811
HCM Control Delay (s)	$ 788.8	-	-	-	107.4
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.5	-	-	-	4.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX I-VI

YEAR 2023 CUMULATIVE PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS



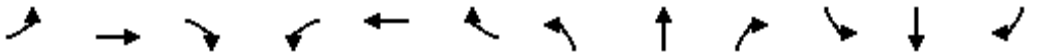
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1169	211	572	1389	301	250	1115	661	356	1756	303
Future Volume (veh/h)	117	1169	211	572	1389	301	250	1115	661	356	1756	303
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	1231	222	602	1462	317	263	1174	696	375	1848	319
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1428	257	346	1966	610	306	2124	1200	288	2037	502
Arrive On Green	0.05	0.33	0.33	0.10	0.39	0.39	0.09	0.33	0.33	0.08	0.32	0.32
Sat Flow, veh/h	3456	4349	784	3456	5106	1585	3456	6434	2790	3456	6434	1585
Grp Volume(v), veh/h	123	964	489	602	1462	317	263	1174	696	375	1848	319
Grp Sat Flow(s),veh/h/ln	1728	1702	1729	1728	1702	1585	1728	1609	1395	1728	1609	1585
Q Serve(g_s), s	4.2	31.8	31.8	12.0	29.6	18.4	9.0	17.9	7.4	10.0	33.0	16.8
Cycle Q Clear(g_c), s	4.2	31.8	31.8	12.0	29.6	18.4	9.0	17.9	7.4	10.0	33.0	16.8
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1117	568	346	1966	610	306	2124	1200	288	2037	502
V/C Ratio(X)	0.69	0.86	0.86	1.74	0.74	0.52	0.86	0.55	0.58	1.30	0.91	0.64
Avail Cap(c_a), veh/h	259	1191	605	346	1966	610	306	2124	1200	288	2037	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.8	37.8	54.0	31.8	28.4	54.0	32.9	13.3	55.0	39.3	23.3
Incr Delay (d2), s/veh	4.7	6.4	11.7	345.7	1.6	0.8	18.8	0.9	1.8	159.0	7.3	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	14.1	15.2	21.8	12.3	7.1	4.7	7.1	4.7	10.7	13.9	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	44.2	49.5	399.7	33.4	29.1	72.8	33.8	15.1	214.0	46.6	29.3
LnGrp LOS	E	D	D	F	C	C	E	C	B	F	D	C
Approach Vol, veh/h		1576			2381			2133			2542	
Approach Delay, s/veh		47.1			125.4			32.5			69.2	
Approach LOS		D			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	44.6	17.0	44.4	15.6	43.0	10.2	51.2
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	10.0	38.0	12.0	* 42	10.0	* 38	9.0	45.0
Max Q Clear Time (g_c+I1), s	12.0	19.9	14.0	33.8	11.0	35.0	6.2	31.6
Green Ext Time (p_c), s	0.0	11.0	0.0	5.6	0.0	2.7	0.1	9.1

Intersection Summary	
HCM 6th Ctrl Delay	71.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



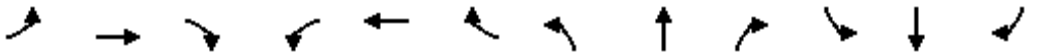
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	708	591	341	729	89	409	1456	270	147	1815	562
Future Volume (veh/h)	177	708	591	341	729	89	409	1456	270	147	1815	562
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	745	622	359	767	94	431	1533	284	155	1911	592
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	684	1125	713	374	1009	123	461	1957	608	564	3700	1225
Arrive On Green	0.20	0.32	0.32	0.11	0.22	0.22	0.13	0.38	0.38	0.32	0.57	0.57
Sat Flow, veh/h	3456	3554	1585	3456	4612	561	3456	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	186	745	622	359	565	296	431	1533	284	155	1911	592
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1769	1728	1702	1585	1781	1609	1585
Q Serve(g_s), s	5.5	21.8	38.0	12.4	18.6	18.9	14.8	31.7	18.8	7.8	21.5	11.9
Cycle Q Clear(g_c), s	5.5	21.8	38.0	12.4	18.6	18.9	14.8	31.7	18.8	7.8	21.5	11.9
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	684	1125	713	374	745	387	461	1957	608	564	3700	1225
V/C Ratio(X)	0.27	0.66	0.87	0.96	0.76	0.77	0.94	0.78	0.47	0.27	0.52	0.48
Avail Cap(c_a), veh/h	684	1125	713	374	1078	560	461	1957	608	564	3700	1225
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	35.4	29.9	53.2	43.9	44.0	51.5	32.6	37.5	30.7	15.4	9.2
Incr Delay (d2), s/veh	0.2	1.5	11.5	35.8	1.9	3.8	26.6	3.2	2.6	0.3	0.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	9.6	18.1	7.2	8.0	8.6	8.1	13.5	7.7	3.4	7.8	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	36.9	41.3	89.0	45.8	47.8	78.1	35.8	40.1	30.9	15.9	10.5
LnGrp LOS	D	D	D	F	D	D	E	D	D	C	B	B
Approach Vol, veh/h		1553			1220			2248			2658	
Approach Delay, s/veh		39.2			59.0			44.5			15.6	
Approach LOS		D			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	44.0	51.0	17.0	43.0	20.0	75.0	28.8	31.2
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	5.0	* 46	13.0	38.0	16.0	35.0	13.0	* 38
Max Q Clear Time (g_c+I1), s	9.8	33.7	14.4	40.0	16.8	23.5	7.5	20.9
Green Ext Time (p_c), s	0.0	8.7	0.0	0.0	0.0	9.9	0.3	5.4

Intersection Summary	
HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

Notes

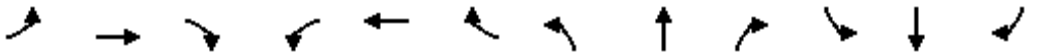
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	484	94	104	664	169	100	1851	72	85	2195	328
Future Volume (veh/h)	405	484	94	104	664	169	100	1851	72	85	2195	328
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	426	509	99	109	699	178	105	1948	76	89	2311	345
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	979	437	168	856	457	168	2412	94	164	2437	756
Arrive On Green	0.08	0.28	0.28	0.05	0.24	0.24	0.05	0.48	0.48	0.05	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5043	196	3456	5106	1585
Grp Volume(v), veh/h	426	509	99	109	699	178	105	1314	710	89	2311	345
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1585
Q Serve(g_s), s	10.0	14.5	5.8	3.7	22.3	10.8	3.6	39.3	39.5	3.0	51.9	17.5
Cycle Q Clear(g_c), s	10.0	14.5	5.8	3.7	22.3	10.8	3.6	39.3	39.5	3.0	51.9	17.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	288	979	437	168	856	457	168	1628	878	164	2437	756
V/C Ratio(X)	1.48	0.52	0.23	0.65	0.82	0.39	0.63	0.81	0.81	0.54	0.95	0.46
Avail Cap(c_a), veh/h	288	1244	555	173	1125	577	173	1628	878	173	2437	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	36.7	33.6	56.1	43.0	34.2	56.0	26.6	26.6	55.9	30.0	21.0
Incr Delay (d2), s/veh	233.5	0.4	0.3	7.9	3.6	0.5	6.7	4.4	8.0	3.1	9.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	6.4	2.3	1.8	10.2	4.2	1.7	16.5	18.8	1.4	22.6	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	288.5	37.2	33.8	64.0	46.7	34.8	62.7	31.0	34.6	59.0	39.6	22.9
LnGrp LOS	F	D	C	E	D	C	E	C	C	E	D	C
Approach Vol, veh/h		1034			986			2129			2745	
Approach Delay, s/veh		140.4			46.4			33.8			38.1	
Approach LOS		F			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	62.4	9.8	38.1	9.8	62.3	14.0	33.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	48.0	6.0	42.0	6.0	48.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	5.0	41.5	5.7	16.5	5.6	53.9	12.0	24.3
Green Ext Time (p_c), s	0.0	5.5	0.0	3.9	0.0	0.0	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	53.3
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	1234	12	68	1385	293	12	42	45	395	45	768
Future Volume (veh/h)	423	1234	12	68	1385	293	12	42	45	395	45	768
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	445	1299	13	72	1458	308	13	44	47	450	0	808
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1134	2589	26	92	1540	687	89	41	44	831	0	1780
Arrive On Green	0.33	0.72	0.72	0.05	0.43	0.43	0.05	0.05	0.05	0.23	0.00	0.23
Sat Flow, veh/h	3456	3605	36	1781	3554	1585	1781	827	884	3563	0	3170
Grp Volume(v), veh/h	445	640	672	72	1458	308	13	0	91	450	0	808
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1711	1781	0	1585
Q Serve(g_s), s	11.9	19.1	19.1	4.8	47.3	16.4	0.8	0.0	6.0	13.3	0.0	0.0
Cycle Q Clear(g_c), s	11.9	19.1	19.1	4.8	47.3	16.4	0.8	0.0	6.0	13.3	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	1134	1276	1338	92	1540	687	89	0	86	831	0	1780
V/C Ratio(X)	0.39	0.50	0.50	0.78	0.95	0.45	0.15	0.00	1.06	0.54	0.00	0.45
Avail Cap(c_a), veh/h	1134	1276	1338	119	1540	687	89	0	86	831	0	1780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	7.5	7.5	56.2	32.7	23.9	54.5	0.0	57.0	40.4	0.0	15.5
Incr Delay (d2), s/veh	0.2	1.4	1.3	22.1	13.4	2.1	3.4	0.0	115.6	2.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	7.0	7.3	2.7	22.6	6.5	0.5	0.0	5.3	6.1	0.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	8.9	8.8	78.4	46.0	26.0	58.0	0.0	172.6	42.9	0.0	16.3
LnGrp LOS	C	A	A	E	D	C	E	A	F	D	A	B
Approach Vol, veh/h		1757			1838			104			1258	
Approach Delay, s/veh		14.5			43.9			158.3			25.8	
Approach LOS		B			D			F			C	

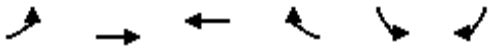
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.0	10.2	91.3		33.0	44.5	57.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		6.0	8.0	59.0		28.0	15.0	* 52				
Max Q Clear Time (g_c+I1), s		8.0	6.8	21.1		15.3	13.9	49.3				
Green Ext Time (p_c), s		0.0	0.0	12.1		4.5	0.2	2.3				

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



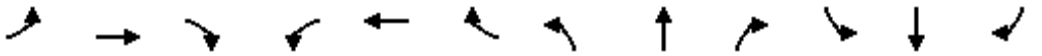
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	74	2237	2126	54	21	126
Future Volume (veh/h)	74	2237	2126	54	21	126
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	78	2355	2238	57	22	133
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	99	3191	2745	70	67	407
Arrive On Green	0.06	0.63	0.54	0.54	0.29	0.29
Sat Flow, veh/h	1781	5274	5289	130	231	1396
Grp Volume(v), veh/h	78	2355	1486	809	156	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1847	1637	0
Q Serve(g_s), s	5.2	38.5	43.1	43.4	9.0	0.0
Cycle Q Clear(g_c), s	5.2	38.5	43.1	43.4	9.0	0.0
Prop In Lane	1.00			0.07	0.14	0.85
Lane Grp Cap(c), veh/h	99	3191	1825	990	478	0
V/C Ratio(X)	0.79	0.74	0.81	0.82	0.33	0.00
Avail Cap(c_a), veh/h	134	3191	1825	990	478	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.0	15.7	22.9	23.0	33.3	0.0
Incr Delay (d2), s/veh	19.4	1.6	4.1	7.5	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	14.5	17.6	20.2	3.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	75.4	17.2	27.0	30.5	35.1	0.0
LnGrp LOS	E	B	C	C	D	A
Approach Vol, veh/h		2433	2295		156	
Approach Delay, s/veh		19.1	28.2		35.1	
Approach LOS		B	C		D	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	80.0	40.0	10.7	69.3
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	75.0	35.0	9.0	62.0
Max Q Clear Time (g_c+I1), s	40.5	11.0	7.2	45.4
Green Ext Time (p_c), s	26.2	0.5	0.0	13.7

Intersection Summary	
HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



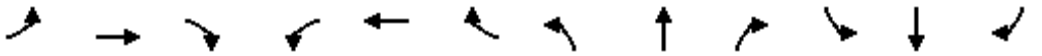
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	1229	269	619	1163	356	328	1681	569	418	1448	208
Future Volume (veh/h)	247	1229	269	619	1163	356	328	1681	569	418	1448	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	249	1241	272	625	1175	360	331	1698	575	422	1463	210
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	1406	308	346	1814	563	346	2091	1186	492	2418	596
Arrive On Green	0.09	0.34	0.34	0.10	0.36	0.36	0.10	0.32	0.32	0.14	0.38	0.38
Sat Flow, veh/h	3456	4191	918	3456	5106	1585	3456	6434	2790	3456	6434	1585
Grp Volume(v), veh/h	249	1008	505	625	1175	360	331	1698	575	422	1463	210
Grp Sat Flow(s),veh/h/ln	1728	1702	1705	1728	1702	1585	1728	1609	1395	1728	1609	1585
Q Serve(g_s), s	8.5	33.5	33.6	12.0	23.1	17.2	11.4	29.0	5.9	14.3	22.0	11.4
Cycle Q Clear(g_c), s	8.5	33.5	33.6	12.0	23.1	17.2	11.4	29.0	5.9	14.3	22.0	11.4
Prop In Lane	1.00		0.54	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	306	1142	572	346	1814	563	346	2091	1186	492	2418	596
V/C Ratio(X)	0.81	0.88	0.88	1.81	0.65	0.64	0.96	0.81	0.48	0.86	0.61	0.35
Avail Cap(c_a), veh/h	346	1191	597	346	1814	563	346	2091	1186	492	2418	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.44	0.44	0.44	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	37.6	37.6	54.0	32.4	18.5	53.7	37.1	25.0	50.3	30.3	27.0
Incr Delay (d2), s/veh	12.6	7.8	14.2	375.2	0.8	2.4	22.3	1.6	0.6	14.0	1.1	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	15.0	16.1	23.2	9.6	6.6	6.0	11.5	6.0	7.1	8.7	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.3	45.5	51.8	429.2	33.2	21.0	76.1	38.7	25.6	64.3	31.4	28.6
LnGrp LOS	E	D	D	F	C	C	E	D	C	E	C	C
Approach Vol, veh/h		1762			2160			2604			2095	
Approach Delay, s/veh		50.2			145.7			40.6			37.7	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.4	44.0	17.0	45.3	16.0	50.4	14.6	47.6
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 39	12.0	* 42	12.0	36.0	12.0	42.0
Max Q Clear Time (g_c+I1), s	16.3	31.0	14.0	35.6	13.4	24.0	10.5	25.1
Green Ext Time (p_c), s	0.0	6.8	0.0	4.7	0.0	8.1	0.1	9.1

Intersection Summary	
HCM 6th Ctrl Delay	68.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



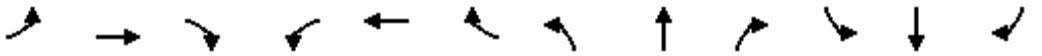
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	366	673	485	261	920	249	626	2020	194	206	1516	246
Future Volume (veh/h)	366	673	485	261	920	249	626	2020	194	206	1516	246
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	373	687	495	266	939	254	639	2061	198	210	1547	251
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	883	700	346	1128	304	667	2049	636	163	1877	581
Arrive On Green	0.08	0.25	0.25	0.10	0.28	0.28	0.19	0.40	0.40	0.09	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	4001	1079	3456	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	373	687	495	266	798	395	639	2061	198	210	1547	251
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1676	1728	1702	1585	1781	1609	1585
Q Serve(g_s), s	9.0	21.6	7.3	9.0	26.4	26.5	22.0	48.2	7.1	11.0	26.9	7.3
Cycle Q Clear(g_c), s	9.0	21.6	7.3	9.0	26.4	26.5	22.0	48.2	7.1	11.0	26.9	7.3
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	883	700	346	960	473	667	2049	636	163	1877	581
V/C Ratio(X)	1.44	0.78	0.71	0.77	0.83	0.83	0.96	1.01	0.31	1.29	0.82	0.43
Avail Cap(c_a), veh/h	259	1185	834	346	1078	531	667	2049	636	163	1877	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	42.0	27.2	52.6	40.4	40.4	47.9	35.9	11.8	54.5	39.6	11.4
Incr Delay (d2), s/veh	218.2	2.4	2.2	10.1	5.1	10.1	24.9	21.3	1.3	167.0	4.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	9.7	11.7	4.4	11.7	12.2	11.7	23.5	2.7	12.5	11.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	273.7	44.4	29.4	62.7	45.6	50.6	72.9	57.2	13.1	221.5	43.9	13.7
LnGrp LOS	F	D	C	E	D	D	E	F	B	F	D	B
Approach Vol, veh/h		1555			1459			2898			2008	
Approach Delay, s/veh		94.6			50.0			57.7			58.7	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	53.2	17.0	34.8	28.2	40.0	13.0	38.8
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	11.0	44.0	7.0	* 40	20.0	* 35	9.0	38.0
Max Q Clear Time (g_c+I1), s	13.0	50.2	11.0	23.6	24.0	28.9	11.0	28.5
Green Ext Time (p_c), s	0.0	0.0	0.0	6.2	0.0	4.8	0.0	5.3

Intersection Summary	
HCM 6th Ctrl Delay	63.8
HCM 6th LOS	E

Notes

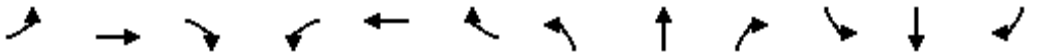
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	554	602	118	106	529	238	146	2088	66	150	1891	328
Future Volume (veh/h)	554	602	118	106	529	238	146	2088	66	150	1891	328
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	565	614	120	108	540	243	149	2131	67	153	1930	335
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	942	420	168	700	391	173	2474	78	173	2484	771
Arrive On Green	0.12	0.26	0.26	0.05	0.20	0.20	0.05	0.49	0.49	0.05	0.49	0.49
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5086	159	3456	5106	1585
Grp Volume(v), veh/h	565	614	120	108	540	243	149	1424	774	153	1930	335
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1842	1728	1702	1585
Q Serve(g_s), s	14.0	18.4	7.2	3.7	17.3	16.4	5.1	44.3	44.6	5.3	37.5	16.5
Cycle Q Clear(g_c), s	14.0	18.4	7.2	3.7	17.3	16.4	5.1	44.3	44.6	5.3	37.5	16.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	403	942	420	168	700	391	173	1656	896	173	2484	771
V/C Ratio(X)	1.40	0.65	0.29	0.64	0.77	0.62	0.86	0.86	0.86	0.89	0.78	0.43
Avail Cap(c_a), veh/h	403	1273	568	259	1125	581	173	1656	896	173	2484	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	39.2	35.1	56.1	45.6	40.2	56.6	27.2	27.3	56.7	25.4	20.1
Incr Delay (d2), s/veh	195.1	0.8	0.4	4.1	1.8	1.6	33.3	6.1	10.8	38.0	2.5	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.0	8.1	2.8	1.7	7.8	6.5	3.0	18.9	21.7	3.2	15.3	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	248.1	40.0	35.4	60.1	47.5	41.8	89.9	33.3	38.1	94.7	27.9	21.8
LnGrp LOS	F	D	D	E	D	D	F	C	D	F	C	C
Approach Vol, veh/h		1299			891			2347			2418	
Approach Delay, s/veh		130.1			47.5			38.5			31.3	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	63.4	9.8	36.8	10.0	63.4	18.0	28.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	44.0	9.0	43.0	6.0	44.0	14.0	38.0
Max Q Clear Time (g_c+I1), s	7.3	46.6	5.7	20.4	7.1	39.5	16.0	19.3
Green Ext Time (p_c), s	0.0	0.0	0.1	4.7	0.0	4.1	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	771	1415	13	87	1256	450	46	80	86	305	27	811
Future Volume (veh/h)	771	1415	13	87	1256	450	46	80	86	305	27	811
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	795	1459	13	90	1295	464	47	82	89	334	0	836
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1411	2749	24	113	1451	647	119	55	59	831	0	2034
Arrive On Green	0.41	0.76	0.76	0.06	0.41	0.41	0.07	0.07	0.07	0.23	0.00	0.23
Sat Flow, veh/h	3456	3609	32	1781	3554	1585	1781	820	890	3563	0	3170
Grp Volume(v), veh/h	795	718	754	90	1295	464	47	0	171	334	0	836
Grp Sat Flow(s),veh/h/ln	1728	1777	1865	1781	1777	1585	1781	0	1710	1781	0	1585
Q Serve(g_s), s	21.2	19.4	19.4	6.0	40.7	29.4	3.0	0.0	8.0	9.5	0.0	0.0
Cycle Q Clear(g_c), s	21.2	19.4	19.4	6.0	40.7	29.4	3.0	0.0	8.0	9.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	1411	1353	1420	113	1451	647	119	0	114	831	0	2034
V/C Ratio(X)	0.56	0.53	0.53	0.80	0.89	0.72	0.40	0.00	1.50	0.40	0.00	0.41
Avail Cap(c_a), veh/h	1411	1353	1420	134	1451	647	119	0	114	831	0	2034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.3	5.7	5.7	55.4	33.0	29.7	53.7	0.0	56.0	38.9	0.0	10.5
Incr Delay (d2), s/veh	0.5	1.5	1.4	24.3	8.7	6.7	9.6	0.0	265.1	1.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	6.6	7.0	3.4	18.9	12.2	1.7	0.0	11.8	4.3	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	7.2	7.1	79.7	41.8	36.4	63.3	0.0	321.1	40.4	0.0	11.1
LnGrp LOS	C	A	A	E	D	D	E	A	F	D	A	B
Approach Vol, veh/h		2267			1849			218			1170	
Approach Delay, s/veh		14.4			42.3			265.5			19.4	
Approach LOS		B			D			F			B	

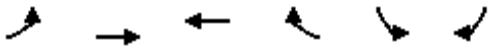
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	13.0	11.6	97.4	33.0	55.0	54.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	8.0	9.0	56.0	28.0	16.0	* 49
Max Q Clear Time (g_c+I1), s	10.0	8.0	21.4	11.5	23.2	42.7
Green Ext Time (p_c), s	0.0	0.0	14.2	4.7	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	119	2050	2506	146	17	75
Future Volume (veh/h)	119	2050	2506	146	17	75
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	123	2113	2584	151	18	77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	149	3276	2592	149	85	363
Arrive On Green	0.08	0.64	0.52	0.52	0.28	0.28
Sat Flow, veh/h	1781	5274	5107	284	309	1321
Grp Volume(v), veh/h	123	2113	1769	966	96	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1819	1647	0
Q Serve(g_s), s	8.2	30.4	61.7	63.0	5.4	0.0
Cycle Q Clear(g_c), s	8.2	30.4	61.7	63.0	5.4	0.0
Prop In Lane	1.00			0.16	0.19	0.80
Lane Grp Cap(c), veh/h	149	3276	1787	955	453	0
V/C Ratio(X)	0.83	0.64	0.99	1.01	0.21	0.00
Avail Cap(c_a), veh/h	163	3276	1787	955	453	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.1	13.1	28.2	28.5	33.5	0.0
Incr Delay (d2), s/veh	26.6	1.0	19.1	32.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	11.2	28.6	34.5	2.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	80.7	14.1	47.3	60.5	34.6	0.0
LnGrp LOS	F	B	D	F	C	A
Approach Vol, veh/h		2236	2735		96	
Approach Delay, s/veh		17.8	51.9		34.6	
Approach LOS		B	D		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	82.0	38.0	14.0	68.0
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	77.0	33.0	11.0	62.0
Max Q Clear Time (g_c+I1), s	32.4	7.4	10.2	65.0
Green Ext Time (p_c), s	27.5	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX I-VII

YEAR 2035 BUILDOUT TRAFFIC CONDITIONS

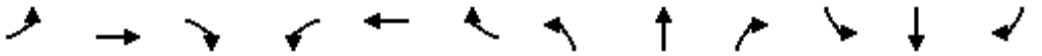
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	720	225	247	734	110	233	1603	226	201	2442	343
Future Volume (veh/h)	175	720	225	247	734	110	233	1603	226	201	2442	343
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	720	225	247	734	110	233	1603	226	201	2442	343
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	688	215	259	930	139	889	4021	1248	228	2085	647
Arrive On Green	0.04	0.26	0.26	0.08	0.30	0.30	0.50	0.79	0.79	0.13	0.41	0.41
Sat Flow, veh/h	3456	2665	833	3456	3099	464	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	175	480	465	247	421	423	233	1603	226	201	2442	343
Grp Sat Flow(s),veh/h/ln	1728	1777	1720	1728	1777	1787	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.0	31.0	31.0	8.5	26.1	26.1	9.0	11.7	9.2	13.3	49.0	29.2
Cycle Q Clear(g_c), s	5.0	31.0	31.0	8.5	26.1	26.1	9.0	11.7	9.2	13.3	49.0	29.2
Prop In Lane	1.00		0.48	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	459	444	259	533	536	889	4021	1248	228	2085	647
V/C Ratio(X)	1.22	1.05	1.05	0.95	0.79	0.79	0.26	0.40	0.18	0.88	1.17	0.53
Avail Cap(c_a), veh/h	144	459	444	259	533	536	889	4021	1248	252	2085	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	44.5	44.5	55.3	38.5	38.5	17.3	3.9	14.9	51.4	35.5	59.6
Incr Delay (d2), s/veh	144.3	54.5	55.2	43.0	7.8	7.8	0.2	0.3	0.3	26.5	82.6	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	20.5	19.9	5.3	12.4	12.5	3.7	3.4	3.4	7.6	35.7	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	201.8	99.0	99.7	98.3	46.3	46.3	17.5	4.2	15.2	77.9	118.1	62.7
LnGrp LOS	F	F	F	F	D	D	B	A	B	E	F	E
Approach Vol, veh/h		1120			1091			2062			2986	
Approach Delay, s/veh		115.4			58.1			6.9			109.0	
Approach LOS		F			E			A			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.4	99.7	14.0	36.0	65.1	54.0	9.0	41.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	17.0	45.0	9.0	* 31	13.0	* 49	5.0	35.0
Max Q Clear Time (g_c+I1), s	15.3	13.7	10.5	33.0	11.0	51.0	7.0	28.1
Green Ext Time (p_c), s	0.1	16.8	0.0	0.0	0.1	0.0	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	73.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



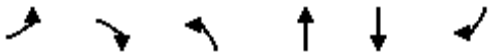
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	17	212	66	32	31	110	1665	20	27	2485	137
Future Volume (veh/h)	226	17	212	66	32	31	110	1665	20	27	2485	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	17	212	66	32	31	110	1665	20	27	2485	137
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	412	349	305	192	186	134	2766	859	201	3003	932
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.08	0.54	0.54	0.23	1.00	1.00
Sat Flow, veh/h	1339	1870	1585	1152	873	845	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	226	17	212	66	0	63	110	1665	20	27	2485	137
Grp Sat Flow(s),veh/h/ln	1339	1870	1585	1152	0	1718	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.7	0.9	14.4	5.7	0.0	3.6	7.3	26.6	0.7	1.5	0.0	0.0
Cycle Q Clear(g_c), s	23.3	0.9	14.4	6.6	0.0	3.6	7.3	26.6	0.7	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	412	349	305	0	378	134	2766	859	201	3003	932
V/C Ratio(X)	0.72	0.04	0.61	0.22	0.00	0.17	0.82	0.60	0.02	0.13	0.83	0.15
Avail Cap(c_a), veh/h	411	546	462	388	0	501	134	2766	859	201	3003	932
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	47.3	36.8	42.1	39.4	0.0	37.9	54.7	18.7	12.8	41.7	0.0	0.0
Incr Delay (d2), s/veh	4.1	0.0	1.7	0.4	0.0	0.2	32.3	1.0	0.0	0.2	2.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.4	5.8	1.7	0.0	1.5	4.5	10.4	0.3	0.6	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	36.9	43.8	39.8	0.0	38.1	87.0	19.7	12.8	42.0	2.0	0.2
LnGrp LOS	D	D	D	D	A	D	F	B	B	D	A	A
Approach Vol, veh/h		455			129			1795			2649	
Approach Delay, s/veh		47.3			38.9			23.7			2.4	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.6	70.0		31.4	13.0	75.6		31.4				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 65		35.0	9.0	62.0		35.0				
Max Q Clear Time (g_c+I1), s	3.5	28.6		25.3	9.3	2.0		8.6				
Green Ext Time (p_c), s	0.0	17.7		1.1	0.0	42.9		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		15.0	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



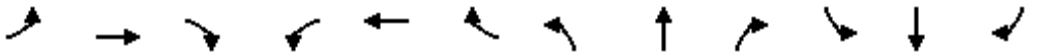
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	36	10	2064	2653	17
Future Volume (veh/h)	58	36	10	2064	2653	17
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	36	10	2064	2653	17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	86	77	448	4433	2936	911
Arrive On Green	0.05	0.05	0.25	0.87	0.57	0.57
Sat Flow, veh/h	1781	1585	1781	5274	5274	1585
Grp Volume(v), veh/h	58	36	10	2064	2653	17
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1702	1585
Q Serve(g_s), s	3.8	2.7	0.5	10.7	55.2	0.4
Cycle Q Clear(g_c), s	3.8	2.7	0.5	10.7	55.2	0.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	86	77	448	4433	2936	911
V/C Ratio(X)	0.67	0.47	0.02	0.47	0.90	0.02
Avail Cap(c_a), veh/h	460	409	448	4433	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.83	0.70	0.70
Uniform Delay (d), s/veh	56.2	55.6	33.8	1.7	22.6	5.2
Incr Delay (d2), s/veh	8.7	4.4	0.0	0.3	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.4	0.2	1.9	21.8	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	64.9	60.0	33.8	2.0	26.3	5.2
LnGrp LOS	E	E	C	A	C	A
Approach Vol, veh/h	94			2074	2670	
Approach Delay, s/veh	63.0			2.2	26.1	
Approach LOS	E			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		109.2		10.8	35.2	74.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		79.0		31.0	6.0	* 69
Max Q Clear Time (g_c+I1), s		12.7		5.8	2.5	57.2
Green Ext Time (p_c), s		32.5		0.2	0.0	11.0

Intersection Summary		
HCM 6th Ctrl Delay		16.6
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



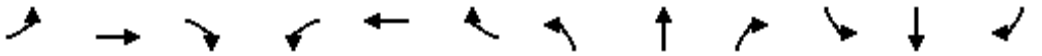
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1444	207	652	1448	288	242	1163	818	440	1845	321
Future Volume (veh/h)	124	1444	207	652	1448	288	242	1163	818	440	1845	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	1444	207	652	1448	288	242	1163	818	440	1845	321
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	1559	223	346	2053	637	1570	3766	2337	259	1787	555
Arrive On Green	0.05	0.35	0.35	0.10	0.40	0.40	0.45	0.74	0.74	0.08	0.35	0.35
Sat Flow, veh/h	3456	4512	646	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	124	1089	562	652	1448	288	242	1163	818	440	1845	321
Grp Sat Flow(s),veh/h/ln	1728	1702	1754	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	4.2	36.9	37.0	12.0	28.4	15.9	4.9	9.3	12.7	9.0	42.0	28.6
Cycle Q Clear(g_c), s	4.2	36.9	37.0	12.0	28.4	15.9	4.9	9.3	12.7	9.0	42.0	28.6
Prop In Lane	1.00		0.37	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	1176	606	346	2053	637	1570	3766	2337	259	1787	555
V/C Ratio(X)	0.69	0.93	0.93	1.89	0.71	0.45	0.15	0.31	0.35	1.70	1.03	0.58
Avail Cap(c_a), veh/h	259	1191	614	346	2053	637	1570	3766	2337	259	1787	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.8	37.8	54.0	29.9	26.2	19.2	5.3	16.4	55.5	39.0	66.4
Incr Delay (d2), s/veh	4.7	12.1	20.2	409.8	1.1	0.5	0.0	0.2	0.4	330.0	30.1	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	17.1	19.1	24.9	11.7	6.1	2.0	3.0	3.3	15.8	22.2	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	49.9	58.0	463.8	31.1	26.7	19.3	5.5	16.8	385.5	69.1	70.8
LnGrp LOS	E	D	E	F	C	C	B	A	B	F	F	E
Approach Vol, veh/h		1775			2388			2223			2606	
Approach Delay, s/veh		53.2			148.7			11.2			122.7	
Approach LOS		D			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	95.0	17.0	46.5	61.0	47.0	10.2	53.3
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	6.0	* 42	9.0	45.0
Max Q Clear Time (g_c+I1), s	11.0	14.7	14.0	39.0	6.9	44.0	6.2	30.4
Green Ext Time (p_c), s	0.0	13.9	0.0	2.5	0.0	0.0	0.1	9.6

Intersection Summary	
HCM 6th Ctrl Delay	88.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	2634	23	94	2231	34	24	16	35	49	6	57
Future Volume (veh/h)	63	2634	23	94	2231	34	24	16	35	49	6	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	2634	23	94	2231	34	20	22	35	49	6	57
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	2383	740	74	2425	753	564	592	502	465	57	462
Arrive On Green	0.04	0.47	0.47	0.04	0.47	0.47	0.32	0.32	0.32	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1595	195	1585
Grp Volume(v), veh/h	63	2634	23	94	2231	34	20	22	35	55	0	57
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1791	0	1585
Q Serve(g_s), s	4.2	56.0	0.9	5.0	48.9	1.4	0.9	1.0	1.9	2.7	0.0	3.2
Cycle Q Clear(g_c), s	4.2	56.0	0.9	5.0	48.9	1.4	0.9	1.0	1.9	2.7	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	74	2383	740	74	2425	753	564	592	502	522	0	462
V/C Ratio(X)	0.85	1.11	0.03	1.27	0.92	0.05	0.04	0.04	0.07	0.11	0.00	0.12
Avail Cap(c_a), veh/h	74	2383	740	74	2425	753	564	592	502	522	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.1	32.0	17.3	57.5	29.4	16.9	28.3	28.4	28.6	31.1	0.0	31.2
Incr Delay (d2), s/veh	56.7	54.3	0.0	191.9	6.3	0.0	0.1	0.1	0.3	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	34.2	0.4	6.2	20.7	0.5	0.4	0.5	0.7	1.2	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.8	86.3	17.3	249.4	35.7	16.9	28.5	28.5	28.9	31.5	0.0	31.8
LnGrp LOS	F	F	B	F	D	B	C	C	C	C	A	C
Approach Vol, veh/h		2720			2359			77			112	
Approach Delay, s/veh		86.4			44.0			28.7			31.6	
Approach LOS		F			D			C			C	

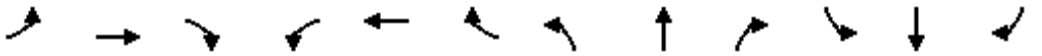
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	10.0	61.0		40.0	9.0	62.0				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		5.0	5.0	* 56		35.0	5.0	56.0				
Max Q Clear Time (g_c+I1), s		3.9	7.0	58.0		5.2	6.2	50.9				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.5	0.0	4.7				

Intersection Summary		
HCM 6th Ctrl Delay		65.4
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



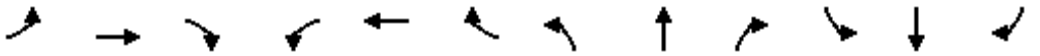
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	2206	401	164	1967	108	280	549	204	276	737	207
Future Volume (veh/h)	130	2206	401	164	1967	108	280	549	204	276	737	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	2206	401	164	1967	108	280	549	204	276	737	207
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	2085	647	173	2106	115	259	1125	502	1770	2709	1208
Arrive On Green	0.04	0.41	0.41	0.05	0.43	0.43	0.08	0.32	0.32	0.51	0.76	0.76
Sat Flow, veh/h	3456	5106	1585	3456	4954	271	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	130	2206	401	164	1349	726	280	549	204	276	737	207
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1822	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	4.5	49.0	36.4	5.7	45.3	45.7	9.0	15.0	12.1	5.1	7.5	4.3
Cycle Q Clear(g_c), s	4.5	49.0	36.4	5.7	45.3	45.7	9.0	15.0	12.1	5.1	7.5	4.3
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	2085	647	173	1447	774	259	1125	502	1770	2709	1208
V/C Ratio(X)	0.90	1.06	0.62	0.95	0.93	0.94	1.08	0.49	0.41	0.16	0.27	0.17
Avail Cap(c_a), veh/h	144	2085	647	173	1447	774	259	1125	502	1770	2709	1208
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.3	35.5	64.4	56.8	32.9	33.0	55.5	33.1	32.2	15.5	4.3	3.9
Incr Delay (d2), s/veh	47.3	37.2	1.8	53.6	11.3	18.8	78.9	1.5	2.4	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	26.9	14.8	3.8	20.4	23.6	6.8	6.7	5.0	2.0	2.4	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.6	72.7	66.2	110.4	44.1	51.7	134.4	34.6	34.6	15.5	4.5	4.2
LnGrp LOS	F	F	E	F	D	D	F	C	C	B	A	A
Approach Vol, veh/h		2737			2239			1033			1220	
Approach Delay, s/veh		73.2			51.5			61.7			7.0	
Approach LOS		E			D			E			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	67.5	43.0	11.0	54.0	13.0	97.5	9.0	56.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 38	6.0	* 49	9.0	38.0	5.0	50.0
Max Q Clear Time (g_c+I1), s	7.1	17.0	7.7	51.0	11.0	9.5	6.5	47.7
Green Ext Time (p_c), s	0.2	4.4	0.0	0.0	0.0	6.6	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	53.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



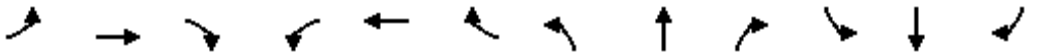
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	2231	326	294	1995	343	243	582	275	624	988	74
Future Volume (veh/h)	168	2231	326	294	1995	343	243	582	275	624	988	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	2231	326	294	1995	343	243	582	275	624	988	74
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1656	236	259	1723	290	259	1036	462	2112	2802	210
Arrive On Green	0.04	0.37	0.37	0.08	0.39	0.39	0.08	0.29	0.29	0.61	0.84	0.84
Sat Flow, veh/h	3456	4516	643	3456	4400	741	3456	3554	1585	3456	3351	251
Grp Volume(v), veh/h	168	1667	890	294	1534	804	243	582	275	624	524	538
Grp Sat Flow(s),veh/h/ln	1728	1702	1755	1728	1702	1737	1728	1777	1585	1728	1777	1825
Q Serve(g_s), s	5.0	44.0	44.0	9.0	47.0	47.0	8.4	16.6	26.7	10.3	8.2	8.2
Cycle Q Clear(g_c), s	5.0	44.0	44.0	9.0	47.0	47.0	8.4	16.6	26.7	10.3	8.2	8.2
Prop In Lane	1.00		0.37	1.00		0.43	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	144	1248	643	259	1333	680	259	1036	462	2112	1486	1526
V/C Ratio(X)	1.17	1.34	1.38	1.13	1.15	1.18	0.94	0.56	0.59	0.30	0.35	0.35
Avail Cap(c_a), veh/h	144	1248	643	259	1333	680	259	1036	462	2112	1486	1526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	38.0	38.0	55.5	36.5	36.5	55.2	36.0	81.8	11.1	2.3	2.3
Incr Delay (d2), s/veh	126.8	156.4	182.2	97.0	77.0	96.2	39.3	2.2	5.5	0.1	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	45.1	51.1	7.4	33.3	37.6	5.1	7.5	11.5	3.9	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.3	194.4	220.2	152.5	113.5	132.7	94.5	38.2	87.3	11.1	2.9	2.9
LnGrp LOS	F	F	F	F	F	F	F	D	F	B	A	A
Approach Vol, veh/h		2725			2632			1100			1686	
Approach Delay, s/veh		202.2			123.7			62.9			6.0	
Approach LOS		F			F			E			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	79.4	40.0	13.0	49.0	13.0	106.4	10.0	52.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	15.0	* 35	9.0	43.0	9.0	41.0	5.0	* 47
Max Q Clear Time (g_c+I1), s	12.3	28.7	11.0	46.0	10.4	10.2	7.0	49.0
Green Ext Time (p_c), s	0.7	2.6	0.0	0.0	0.0	8.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	117.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



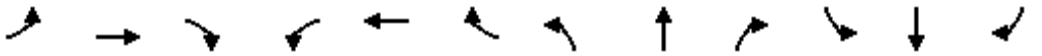
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	1877	803	378	1615	346	545	672	335	310	1504	302
Future Volume (veh/h)	349	1877	803	378	1615	346	545	672	335	310	1504	302
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	349	1877	803	378	1615	346	545	672	335	310	1504	302
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1399	545	230	1765	548	740	1787	555	625	1617	502
Arrive On Green	0.10	0.39	0.39	0.07	0.35	0.35	0.21	0.35	0.35	0.18	0.32	0.32
Sat Flow, veh/h	3456	3613	1408	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	349	1758	922	378	1615	346	545	672	335	310	1504	302
Grp Sat Flow(s),veh/h/ln	1728	1702	1617	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	46.5	46.5	8.0	36.3	21.9	17.7	11.8	20.7	9.7	34.2	19.3
Cycle Q Clear(g_c), s	12.0	46.5	46.5	8.0	36.3	21.9	17.7	11.8	20.7	9.7	34.2	19.3
Prop In Lane	1.00		0.87	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1318	626	230	1765	548	740	1787	555	625	1617	502
V/C Ratio(X)	1.01	1.33	1.47	1.64	0.92	0.63	0.74	0.38	0.60	0.50	0.93	0.60
Avail Cap(c_a), veh/h	346	1318	626	230	1787	555	740	1787	555	625	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.8	36.8	56.0	37.6	32.9	44.0	29.2	31.5	44.2	39.7	34.6
Incr Delay (d2), s/veh	50.9	155.2	221.3	307.1	7.8	2.3	3.9	0.6	4.8	0.6	11.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	47.3	56.4	13.3	16.2	8.7	7.9	4.9	8.6	4.2	15.8	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.9	192.0	258.1	363.1	45.3	35.1	47.9	29.8	36.3	44.9	50.7	39.9
LnGrp LOS	F	F	F	F	D	D	D	C	D	D	D	D
Approach Vol, veh/h		3029			2339			1552			2116	
Approach Delay, s/veh		202.1			95.2			37.5			48.3	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.2	47.0	12.0	51.5	30.2	43.0	17.0	46.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	42.0	8.0	46.0	10.0	38.0	12.0	* 42
Max Q Clear Time (g_c+I1), s	11.7	22.7	10.0	48.5	19.7	36.2	14.0	38.3
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	1.5	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	110.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



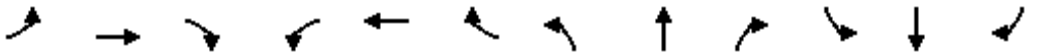
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	1132	213	489	1160	231	299	1017	300	236	1781	265
Future Volume (veh/h)	415	1132	213	489	1160	231	299	1017	300	236	1781	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	1132	213	489	1160	231	299	1017	300	236	1781	265
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	996	186	346	1060	210	259	1574	489	1296	2770	409
Arrive On Green	0.08	0.33	0.33	0.10	0.36	0.36	0.08	0.31	0.31	0.38	0.62	0.62
Sat Flow, veh/h	3456	2987	559	3456	2957	585	3456	5106	1585	3456	4492	663
Grp Volume(v), veh/h	415	671	674	489	694	697	299	1017	300	236	1346	700
Grp Sat Flow(s),veh/h/ln	1728	1777	1770	1728	1777	1765	1728	1702	1585	1728	1702	1751
Q Serve(g_s), s	10.0	40.0	40.0	12.0	43.0	43.0	9.0	20.6	19.4	5.5	30.1	30.6
Cycle Q Clear(g_c), s	10.0	40.0	40.0	12.0	43.0	43.0	9.0	20.6	19.4	5.5	30.1	30.6
Prop In Lane	1.00		0.32	1.00		0.33	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	288	592	590	346	637	632	259	1574	489	1296	2099	1080
V/C Ratio(X)	1.44	1.13	1.14	1.42	1.09	1.10	1.15	0.65	0.61	0.18	0.64	0.65
Avail Cap(c_a), veh/h	288	592	590	346	637	632	259	1574	489	1296	2099	1080
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	40.0	40.0	54.0	38.5	38.5	55.5	35.8	35.4	25.2	14.6	14.7
Incr Delay (d2), s/veh	217.2	79.5	82.9	203.1	62.7	66.9	103.9	2.1	5.7	0.1	1.5	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	30.2	30.7	15.0	29.4	30.0	7.7	8.8	8.2	2.3	11.4	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.2	119.5	122.9	257.1	101.2	105.4	159.4	37.9	41.1	25.2	16.1	17.7
LnGrp LOS	F	F	F	F	F	F	F	D	D	C	B	B
Approach Vol, veh/h		1760			1880			1616			2282	
Approach Delay, s/veh		156.8			143.3			61.0			17.5	
Approach LOS		F			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	51.0	42.0	17.0	45.0	13.0	80.0	14.0	48.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	* 37	12.0	* 40	9.0	41.0	10.0	42.0
Max Q Clear Time (g_c+I1), s	7.5	22.6	14.0	42.0	11.0	32.6	12.0	45.0
Green Ext Time (p_c), s	0.4	7.1	0.0	0.0	0.0	7.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	90.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



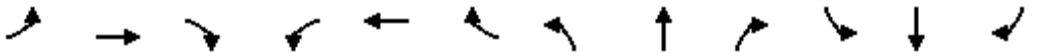
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	742	790	361	773	80	434	1516	286	142	1865	596
Future Volume (veh/h)	209	742	790	361	773	80	434	1516	286	142	1865	596
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	742	790	361	773	80	434	1516	286	142	1865	596
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	617	1125	729	288	1003	103	494	2085	647	564	3014	1219
Arrive On Green	0.18	0.32	0.32	0.08	0.21	0.21	0.14	0.41	0.41	0.32	0.59	0.59
Sat Flow, veh/h	3456	3554	1585	3456	4703	484	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	209	742	790	361	558	295	434	1516	286	142	1865	596
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1783	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.3	21.6	38.0	10.0	18.5	18.7	14.8	30.0	18.9	7.1	28.3	12.8
Cycle Q Clear(g_c), s	6.3	21.6	38.0	10.0	18.5	18.7	14.8	30.0	18.9	7.1	28.3	12.8
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	617	1125	729	288	726	380	494	2085	647	564	3014	1219
V/C Ratio(X)	0.34	0.66	1.08	1.25	0.77	0.78	0.88	0.73	0.44	0.25	0.62	0.49
Avail Cap(c_a), veh/h	617	1125	729	288	993	520	547	2085	647	564	3014	1219
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	35.4	32.4	55.0	44.4	44.5	50.4	29.9	37.6	30.4	15.9	9.2
Incr Delay (d2), s/veh	0.3	1.4	58.5	139.4	2.5	5.0	14.1	2.3	2.2	0.2	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	9.5	32.2	9.9	8.0	8.8	7.3	12.5	7.7	3.1	10.8	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	36.8	90.9	194.4	47.0	49.5	64.5	32.1	39.8	30.7	16.8	10.6
LnGrp LOS	D	D	F	F	D	D	E	C	D	C	B	B
Approach Vol, veh/h		1741			1214			2236			2603	
Approach Delay, s/veh		62.2			91.4			39.4			16.2	
Approach LOS		E			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	44.0	54.0	14.0	43.0	21.2	76.8	26.4	30.6
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	5.0	* 49	10.0	38.0	19.0	35.0	13.0	* 35
Max Q Clear Time (g_c+I1), s	9.1	32.0	12.0	40.0	16.8	30.3	8.3	20.7
Green Ext Time (p_c), s	0.0	11.1	0.0	0.0	0.4	4.3	0.3	4.9

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



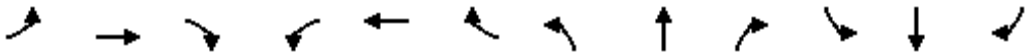
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	529	111	288	694	93	287	1134	228	181	1598	136
Future Volume (veh/h)	170	529	111	288	694	93	287	1134	228	181	1598	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	529	111	288	694	93	287	1134	228	181	1598	136
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	659	138	252	807	108	288	1315	264	296	1916	163
Arrive On Green	0.11	0.23	0.23	0.14	0.26	0.26	0.08	0.31	0.31	0.17	0.40	0.40
Sat Flow, veh/h	1781	2926	611	1781	3150	422	3456	4263	857	1781	4793	408
Grp Volume(v), veh/h	170	320	320	288	391	396	287	905	457	181	1134	600
Grp Sat Flow(s),veh/h/ln	1781	1777	1760	1781	1777	1794	1728	1702	1716	1781	1702	1797
Q Serve(g_s), s	11.3	20.4	20.6	17.0	25.2	25.2	10.0	30.1	30.1	11.3	36.0	36.1
Cycle Q Clear(g_c), s	11.3	20.4	20.6	17.0	25.2	25.2	10.0	30.1	30.1	11.3	36.0	36.1
Prop In Lane	1.00		0.35	1.00		0.24	1.00		0.50	1.00		0.23
Lane Grp Cap(c), veh/h	197	400	397	252	455	460	288	1050	529	296	1360	718
V/C Ratio(X)	0.86	0.80	0.81	1.14	0.86	0.86	1.00	0.86	0.86	0.61	0.83	0.83
Avail Cap(c_a), veh/h	223	518	513	252	548	553	288	1050	529	296	1360	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	43.9	44.0	51.5	42.6	42.6	55.0	39.1	39.1	46.4	32.4	32.5
Incr Delay (d2), s/veh	25.4	6.7	7.1	100.1	11.3	11.3	52.0	9.4	16.8	3.6	6.1	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	9.7	9.7	14.6	12.4	12.6	6.4	13.8	15.0	5.3	15.7	17.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.9	50.6	51.1	151.6	53.9	53.9	107.0	48.5	55.9	50.1	38.6	43.5
LnGrp LOS	E	D	D	F	D	D	F	D	E	D	D	D
Approach Vol, veh/h		810			1075			1649			1915	
Approach Delay, s/veh		56.5			80.1			60.7			41.2	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	42.0	21.0	32.0	14.0	53.0	17.3	35.8
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	* 37	17.0	35.0	10.0	40.0	15.0	37.0
Max Q Clear Time (g_c+I1), s	13.3	32.1	19.0	22.6	12.0	38.1	13.3	27.2
Green Ext Time (p_c), s	0.0	3.5	0.0	3.2	0.0	1.6	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



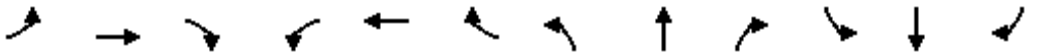
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	461	513	100	110	695	177	106	1945	76	88	2281	378
Future Volume (veh/h)	461	513	100	110	695	177	106	1945	76	88	2281	378
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	461	513	100	110	695	177	106	1945	76	88	2281	378
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	990	442	168	838	374	168	2101	82	337	2104	336
Arrive On Green	0.09	0.28	0.28	0.05	0.24	0.24	0.05	0.42	0.42	0.10	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5042	197	3456	4437	709
Grp Volume(v), veh/h	461	513	100	110	695	177	106	1312	709	88	1730	929
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1743
Q Serve(g_s), s	11.0	14.6	5.8	3.8	22.3	8.8	3.6	43.9	44.1	2.8	56.9	56.9
Cycle Q Clear(g_c), s	11.0	14.6	5.8	3.8	22.3	8.8	3.6	43.9	44.1	2.8	56.9	56.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.41
Lane Grp Cap(c), veh/h	317	990	442	168	838	374	168	1418	765	337	1614	826
V/C Ratio(X)	1.46	0.52	0.23	0.65	0.83	0.47	0.63	0.92	0.93	0.26	1.07	1.12
Avail Cap(c_a), veh/h	317	1125	502	230	1036	462	173	1418	765	337	1614	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	36.5	33.3	56.1	43.6	23.0	56.0	33.2	33.3	50.1	31.6	31.6
Incr Delay (d2), s/veh	221.7	0.4	0.3	4.2	4.8	0.9	7.0	11.6	19.0	0.4	44.6	71.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	6.4	2.3	1.7	10.3	3.4	1.7	19.9	23.2	1.2	32.5	39.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	276.2	36.9	33.6	60.3	48.3	23.9	63.0	44.8	52.3	50.5	76.2	102.9
LnGrp LOS	F	D	C	E	D	C	E	D	D	D	F	F
Approach Vol, veh/h		1074			982			2127			2747	
Approach Delay, s/veh		139.3			45.3			48.2			84.4	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	55.0	9.8	38.4	9.8	61.9	15.0	33.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 50	8.0	38.0	6.0	50.0	11.0	35.0
Max Q Clear Time (g_c+I1), s	4.8	46.1	5.8	16.6	5.6	58.9	13.0	24.3
Green Ext Time (p_c), s	0.0	3.5	0.1	3.8	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	76.3
HCM 6th LOS	E

Notes

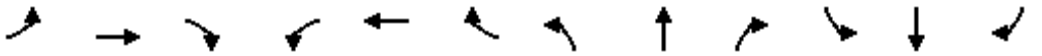
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	194	28	188	267	86	31	1965	176	43	2397	87
Future Volume (veh/h)	66	194	28	188	267	86	31	1965	176	43	2397	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	194	28	188	267	86	31	1965	176	43	2397	87
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	429	489	202	350	110	334	2307	205	334	2445	88
Arrive On Green	0.05	0.12	0.12	0.06	0.13	0.13	0.19	0.48	0.48	0.19	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2659	838	1781	4773	425	1781	5059	183
Grp Volume(v), veh/h	66	194	28	188	176	177	31	1398	743	43	1608	876
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1720	1781	1702	1794	1781	1702	1838
Q Serve(g_s), s	4.4	6.1	0.2	6.5	11.5	11.9	1.7	43.2	43.9	2.4	55.5	56.5
Cycle Q Clear(g_c), s	4.4	6.1	0.2	6.5	11.5	11.9	1.7	43.2	43.9	2.4	55.5	56.5
Prop In Lane	1.00		1.00	1.00		0.49	1.00		0.24	1.00		0.10
Lane Grp Cap(c), veh/h	85	429	489	202	234	227	334	1645	867	334	1645	888
V/C Ratio(X)	0.78	0.45	0.06	0.93	0.75	0.78	0.09	0.85	0.86	0.13	0.98	0.99
Avail Cap(c_a), veh/h	104	918	707	202	459	444	334	1645	867	334	1645	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	49.1	17.3	56.3	50.2	50.4	40.3	27.2	27.3	40.6	30.4	30.6
Incr Delay (d2), s/veh	25.7	0.7	0.0	44.7	4.9	5.7	0.1	5.7	10.7	0.2	17.5	27.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.8	0.4	4.1	5.4	5.5	0.8	18.3	20.8	1.1	25.8	30.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.3	49.8	17.4	100.9	55.1	56.1	40.4	32.9	38.0	40.8	47.8	57.6
LnGrp LOS	F	D	B	F	E	E	D	C	D	D	D	E
Approach Vol, veh/h		288			541			2172			2527	
Approach Delay, s/veh		54.1			71.4			34.7			51.1	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.5	63.0	11.0	19.5	26.5	63.0	9.7	20.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	58.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	4.4	45.9	8.5	8.1	3.7	58.5	6.4	13.9
Green Ext Time (p_c), s	0.0	10.1	0.0	1.2	0.0	0.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	46.8
HCM 6th LOS	D



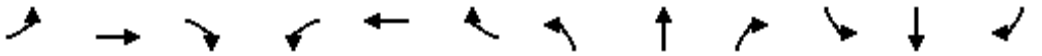
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	117	90	228	89	5	345	10	280	1	1	1
Future Volume (veh/h)	5	117	90	228	89	5	345	10	280	1	1	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	117	90	228	89	5	345	10	280	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	14	364	259	432	1057	59	563	16	515	116	116	116
Arrive On Green	0.01	0.18	0.18	0.12	0.31	0.31	0.32	0.32	0.32	0.20	0.20	0.20
Sat Flow, veh/h	1781	1983	1410	3456	3422	191	1733	50	1585	579	579	579
Grp Volume(v), veh/h	5	104	103	228	46	48	355	0	280	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1616	1728	1777	1836	1784	0	1585	1737	0	0
Q Serve(g_s), s	0.3	6.1	6.7	7.4	2.2	2.2	20.1	0.0	17.4	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	6.1	6.7	7.4	2.2	2.2	20.1	0.0	17.4	0.2	0.0	0.0
Prop In Lane	1.00		0.87	1.00		0.10	0.97		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	14	326	296	432	549	567	580	0	515	347	0	0
V/C Ratio(X)	0.37	0.32	0.35	0.53	0.08	0.08	0.61	0.00	0.54	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	326	296	461	549	567	580	0	515	347	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.2	42.5	42.7	49.2	29.4	29.4	34.1	0.0	33.2	38.5	0.0	0.0
Incr Delay (d2), s/veh	15.6	2.6	3.2	1.0	0.3	0.3	4.8	0.0	4.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.9	2.9	3.3	1.0	1.0	9.5	0.0	7.2	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	45.1	46.0	50.2	29.7	29.7	38.9	0.0	37.3	38.5	0.0	0.0
LnGrp LOS	E	D	D	D	C	C	D	A	D	D	A	A
Approach Vol, veh/h		212			322			635			3	
Approach Delay, s/veh		46.2			44.2			38.2			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	20.0	27.0		29.0	4.9	42.1				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		39.0	16.0	* 22		24.0	6.0	32.0				
Max Q Clear Time (g_c+I1), s		22.1	9.4	8.7		2.2	2.3	4.2				
Green Ext Time (p_c), s		3.0	0.4	0.9		0.0	0.0	0.5				

Intersection Summary		
HCM 6th Ctrl Delay		41.3
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	123	68	86	110	526	178	1470	171	88	2489	51
Future Volume (veh/h)	259	123	68	86	110	526	178	1470	171	88	2489	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	259	123	68	86	110	526	178	1470	0	88	2489	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	275	143	163	334	660	193	1787		575	3685	
Arrive On Green	0.08	0.12	0.12	0.05	0.09	0.09	0.11	0.35	0.00	0.32	0.57	0.00
Sat Flow, veh/h	3456	2259	1177	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	259	95	96	86	110	526	178	1470	0	88	2489	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1659	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	9.0	6.0	6.5	2.9	3.5	6.5	11.9	31.5	0.0	4.2	32.3	0.0
Cycle Q Clear(g_c), s	9.0	6.0	6.5	2.9	3.5	6.5	11.9	31.5	0.0	4.2	32.3	0.0
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	216	202	163	334	660	193	1787		575	3685	
V/C Ratio(X)	1.00	0.44	0.47	0.53	0.33	0.80	0.92	0.82		0.15	0.68	
Avail Cap(c_a), veh/h	259	563	525	173	1036	974	193	1787		575	3685	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.5	48.9	49.1	55.9	50.8	14.8	53.0	35.6	0.0	28.9	17.9	0.0
Incr Delay (d2), s/veh	55.7	1.4	1.7	2.6	0.6	2.9	43.4	4.4	0.0	0.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	2.7	2.8	1.3	1.6	8.5	7.6	13.6	0.0	1.8	11.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.2	50.3	50.9	58.5	51.4	17.7	96.4	40.0	0.0	29.1	18.9	0.0
LnGrp LOS	F	D	D	E	D	B	F	D		C	B	
Approach Vol, veh/h		450			722			1648	A		2577	A
Approach Delay, s/veh		85.5			27.7			46.1			19.2	
Approach LOS		F			C			D			B	

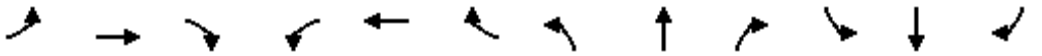
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.7	47.0	9.7	19.6	17.0	73.7	13.0	16.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	16.0	* 42	6.0	38.0	13.0	45.0	9.0	35.0
Max Q Clear Time (g_c+I1), s	6.2	33.5	4.9	8.5	13.9	34.3	11.0	8.5
Green Ext Time (p_c), s	0.1	5.9	0.0	1.1	0.0	9.8	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



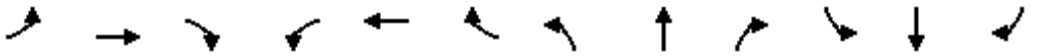
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	0	308	0	0	0	0	1540	280	887	1773	0
Future Volume (veh/h)	208	0	308	0	0	0	0	1540	280	887	1773	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	208	0	308				0	1540	280	887	1773	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	341	0	304				0	1774	321	950	3702	0
Arrive On Green	0.19	0.00	0.19				0.00	0.41	0.41	0.28	0.73	0.00
Sat Flow, veh/h	1781	0	1585				0	4514	787	3456	5274	0
Grp Volume(v), veh/h	208	0	308				0	1205	615	887	1773	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1729	1728	1702	0
Q Serve(g_s), s	12.8	0.0	23.0				0.0	38.9	39.2	30.0	17.6	0.0
Cycle Q Clear(g_c), s	12.8	0.0	23.0				0.0	38.9	39.2	30.0	17.6	0.0
Prop In Lane	1.00		1.00				0.00		0.46	1.00		0.00
Lane Grp Cap(c), veh/h	341	0	304				0	1390	706	950	3702	0
V/C Ratio(X)	0.61	0.00	1.01				0.00	0.87	0.87	0.93	0.48	0.00
Avail Cap(c_a), veh/h	341	0	304				0	1390	706	979	3702	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.4	0.0	48.5				0.0	32.5	32.6	42.4	7.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	55.2				0.0	7.5	13.9	15.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	13.7				0.0	17.1	18.8	14.7	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	0.0	103.7				0.0	40.0	46.5	57.5	7.4	0.0
LnGrp LOS	D	A	F				A	D	D	E	A	A
Approach Vol, veh/h		516						1820			2660	
Approach Delay, s/veh		81.0						42.2			24.1	
Approach LOS		F						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	38.0	54.0		28.0		92.0
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	34.0	* 49		23.0		87.0
Max Q Clear Time (g_c+I1), s	32.0	41.2		25.0		19.6
Green Ext Time (p_c), s	0.8	6.2		0.0		24.5

Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	972	569	1190	1072	7	539	52	687	61	44	25
Future Volume (veh/h)	49	972	569	1190	1072	7	539	52	687	61	44	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	972	569	1190	1072	7	576	0	687	61	44	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	1007	449	1939	2307	15	594	0	1752	138	100	57
Arrive On Green	0.04	0.28	0.28	0.39	0.64	0.64	0.17	0.00	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3619	24	3563	0	3170	829	598	340
Grp Volume(v), veh/h	49	972	569	1190	526	553	576	0	687	130	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1866	1781	0	1585	1768	0	0
Q Serve(g_s), s	3.3	32.4	34.0	22.9	18.3	18.3	19.3	0.0	0.0	7.9	0.0	0.0
Cycle Q Clear(g_c), s	3.3	32.4	34.0	22.9	18.3	18.3	19.3	0.0	0.0	7.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.47		0.19
Lane Grp Cap(c), veh/h	72	1007	449	1939	1132	1189	594	0	1752	295	0	0
V/C Ratio(X)	0.68	0.97	1.27	0.61	0.46	0.46	0.97	0.00	0.39	0.44	0.00	0.00
Avail Cap(c_a), veh/h	119	1007	449	1939	1132	1189	594	0	1752	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	42.4	43.0	29.6	11.2	11.2	49.7	0.0	15.3	45.0	0.0	0.0
Incr Delay (d2), s/veh	10.9	21.1	136.8	0.6	1.4	1.3	30.3	0.0	0.7	4.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	17.0	30.2	9.2	7.3	7.7	11.0	0.0	5.4	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	63.6	179.8	30.2	12.6	12.5	80.0	0.0	16.0	49.7	0.0	0.0
LnGrp LOS	E	E	F	C	B	B	E	A	B	D	A	A
Approach Vol, veh/h		1590			2269			1263			130	
Approach Delay, s/veh		105.3			21.8			45.2			49.7	
Approach LOS		F			C			D			D	

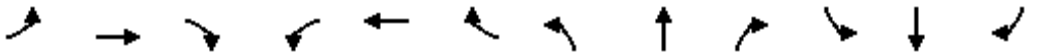
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	25.0	51.3	39.0	25.0	8.8	81.5
Change Period (Y+Rc), s	5.0	5.0	* 5	5.0	4.0	5.0
Max Green Setting (Gmax), s	20.0	27.0	* 34	20.0	8.0	53.0
Max Q Clear Time (g_c+I1), s	21.3	24.9	36.0	9.9	5.3	20.3
Green Ext Time (p_c), s	0.0	1.2	0.0	0.4	0.0	8.6

Intersection Summary	
HCM 6th Ctrl Delay	53.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	434	1293	13	72	1468	530	13	44	54	578	48	803
Future Volume (veh/h)	434	1293	13	72	1468	530	13	44	54	578	48	803
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	434	1293	13	72	1468	530	13	44	54	578	48	803
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	461	1402	14	158	1264	564	49	138	564	77	0	775
Arrive On Green	0.13	0.39	0.39	0.09	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	3456	3604	36	1781	3554	1585	0	389	1585	0	0	1585
Grp Volume(v), veh/h	434	637	669	72	1468	530	57	0	54	626	0	803
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	389	0	1585	0	0	1585
Q Serve(g_s), s	11.2	30.8	30.8	3.5	32.0	29.1	0.0	0.0	2.0	0.0	0.0	32.0
Cycle Q Clear(g_c), s	11.2	30.8	30.8	3.5	32.0	29.1	32.0	0.0	2.0	32.0	0.0	32.0
Prop In Lane	1.00		0.02	1.00		1.00	0.23		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	461	691	725	158	1264	564	188	0	564	77	0	775
V/C Ratio(X)	0.94	0.92	0.92	0.45	1.16	0.94	0.30	0.00	0.10	8.14	0.00	1.04
Avail Cap(c_a), veh/h	461	691	725	178	1264	564	188	0	564	77	0	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.7	26.2	26.2	38.9	29.0	28.1	22.8	0.0	19.3	45.0	0.0	23.0
Incr Delay (d2), s/veh	27.9	19.7	19.1	2.0	81.9	25.7	4.1	0.0	0.3	3238.1	0.0	42.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	16.1	16.8	1.6	27.3	14.6	1.0	0.0	0.8	70.9	0.0	24.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.5	46.0	45.3	41.0	110.9	53.8	27.0	0.0	19.7	3283.1	0.0	65.1
LnGrp LOS	E	D	D	D	F	D	C	A	B	F	A	F
Approach Vol, veh/h		1740			2070			111			1429	
Approach Delay, s/veh		50.8			93.9			23.4			1474.8	
Approach LOS		D			F			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		37.0	13.0	40.0		37.0	16.0	37.0				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		32.0	9.0	* 35		32.0	12.0	32.0				
Max Q Clear Time (g_c+I1), s		34.0	5.5	32.8		34.0	13.2	34.0				
Green Ext Time (p_c), s		0.0	0.0	1.6		0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		447.3
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1845

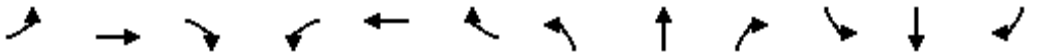
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	2525	2225	57	54	300
Future Vol, veh/h	85	2525	2225	57	54	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	2525	2225	57	54	300

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2282	0	-	0	3434	1141
Stage 1	-	-	-	-	2254	-
Stage 2	-	-	-	-	1180	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	90	-	-	-	~ 15	~ 167
Stage 1	-	-	-	-	~ 39	-
Stage 2	-	-	-	-	228	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	90	-	-	-	~ 1	~ 167
Mov Cap-2 Maneuver	-	-	-	-	~ 1	-
Stage 1	-	-	-	-	~ 2	-
Stage 2	-	-	-	-	228	-

Approach	EB	WB	SB
HCM Control Delay, s	5.3	0	$ 27301.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	90	-	-	-	6
HCM Lane V/C Ratio	0.944	-	-	-	59
HCM Control Delay (s)	163.5	-	-	-	$ 27301.7
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	5.3	-	-	-	46.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



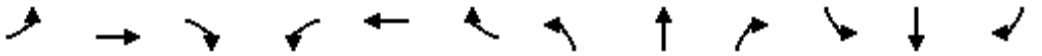
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	408	664	195	237	648	152	242	2238	255	204	1832	249
Future Volume (veh/h)	408	664	195	237	648	152	242	2238	255	204	1832	249
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	408	664	195	237	648	152	242	2238	255	204	1832	249
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	737	216	293	781	183	196	2137	663	119	1872	581
Arrive On Green	0.09	0.27	0.27	0.08	0.27	0.27	0.11	0.42	0.42	0.07	0.37	0.37
Sat Flow, veh/h	3456	2709	795	3456	2857	669	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	408	435	424	237	403	397	242	2238	255	204	1832	249
Grp Sat Flow(s),veh/h/ln	1728	1777	1727	1728	1777	1750	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	11.0	28.4	28.4	8.1	25.6	25.6	13.2	50.2	9.5	8.0	42.5	10.4
Cycle Q Clear(g_c), s	11.0	28.4	28.4	8.1	25.6	25.6	13.2	50.2	9.5	8.0	42.5	10.4
Prop In Lane	1.00		0.46	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	483	470	293	486	478	196	2137	663	119	1872	581
V/C Ratio(X)	1.29	0.90	0.90	0.81	0.83	0.83	1.23	1.05	0.38	1.72	0.98	0.43
Avail Cap(c_a), veh/h	317	518	504	317	518	510	196	2137	663	119	1872	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	42.1	42.1	54.0	41.0	41.0	53.4	34.9	12.2	56.0	37.5	15.5
Incr Delay (d2), s/veh	151.4	18.1	18.6	13.7	10.3	10.6	141.4	33.3	1.7	356.0	16.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	14.8	14.4	4.1	12.5	12.4	13.6	26.8	3.6	15.3	20.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	205.9	60.2	60.8	67.6	51.3	51.6	194.8	68.2	13.9	412.0	53.8	17.8
LnGrp LOS	F	E	E	E	D	D	F	F	B	F	D	B
Approach Vol, veh/h		1267			1037			2735			2285	
Approach Delay, s/veh		107.3			55.2			74.3			81.9	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	55.2	15.2	37.6	18.2	49.0	15.0	37.8
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	8.0	48.0	11.0	* 35	12.0	* 44	11.0	35.0
Max Q Clear Time (g_c+I1), s	10.0	52.2	10.1	30.4	15.2	44.5	13.0	27.6
Green Ext Time (p_c), s	0.0	0.0	0.1	2.2	0.0	0.0	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	79.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



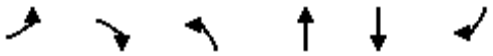
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	19	129	36	16	15	224	2409	52	67	2016	280
Future Volume (veh/h)	271	19	129	36	16	15	224	2409	52	67	2016	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	19	129	36	16	15	224	2409	52	67	2016	280
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	358	431	365	336	205	192	252	2723	845	198	2613	811
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.14	0.53	0.53	0.22	1.00	1.00
Sat Flow, veh/h	1378	1870	1585	1240	888	833	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	271	19	129	36	0	31	224	2409	52	67	2016	280
Grp Sat Flow(s),veh/h/ln	1378	1870	1585	1240	0	1721	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	23.0	0.9	8.2	2.8	0.0	1.7	14.8	50.0	1.9	3.8	0.0	0.0
Cycle Q Clear(g_c), s	24.7	0.9	8.2	3.7	0.0	1.7	14.8	50.0	1.9	3.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	431	365	336	0	396	252	2723	845	198	2613	811
V/C Ratio(X)	0.76	0.04	0.35	0.11	0.00	0.08	0.89	0.88	0.06	0.34	0.77	0.35
Avail Cap(c_a), veh/h	443	546	462	412	0	502	282	2723	845	198	2613	811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	45.9	35.9	38.7	37.4	0.0	36.2	50.6	24.7	13.5	42.9	0.0	0.0
Incr Delay (d2), s/veh	5.8	0.0	0.6	0.1	0.0	0.1	25.8	4.7	0.1	0.8	1.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.4	3.3	0.9	0.0	0.7	8.4	20.4	0.7	1.7	0.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	36.0	39.3	37.5	0.0	36.3	76.4	29.4	13.6	43.7	1.8	0.9
LnGrp LOS	D	D	D	D	A	D	E	C	B	D	A	A
Approach Vol, veh/h		419			67			2685			2363	
Approach Delay, s/veh		47.2			36.9			33.0			2.9	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.4	69.0		32.6	21.0	66.4		32.6				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	7.0	* 64		35.0	19.0	52.0		35.0				
Max Q Clear Time (g_c+I1), s	5.8	52.0		26.7	16.8	2.0		5.7				
Green Ext Time (p_c), s	0.0	10.8		0.9	0.1	29.8		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		21.3
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



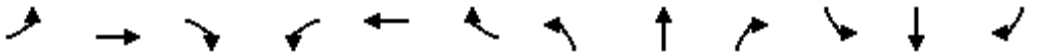
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	18	31	2627	2401	39
Future Volume (veh/h)	17	18	31	2627	2401	39
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	18	31	2627	2401	39
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	61	55	473	4505	2936	911
Arrive On Green	0.03	0.03	0.27	0.88	0.57	0.57
Sat Flow, veh/h	1781	1585	1781	5274	5274	1585
Grp Volume(v), veh/h	17	18	31	2627	2401	39
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1702	1585
Q Serve(g_s), s	1.1	1.3	1.6	15.0	45.3	0.9
Cycle Q Clear(g_c), s	1.1	1.3	1.6	15.0	45.3	0.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	61	55	473	4505	2936	911
V/C Ratio(X)	0.28	0.33	0.07	0.58	0.82	0.04
Avail Cap(c_a), veh/h	460	409	473	4505	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.52	0.52	0.68	0.68
Uniform Delay (d), s/veh	56.5	56.6	32.9	1.7	20.5	5.8
Incr Delay (d2), s/veh	2.4	3.5	0.0	0.3	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.2	0.7	2.0	17.5	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	58.9	60.0	33.0	2.0	22.3	5.9
LnGrp LOS	E	E	C	A	C	A
Approach Vol, veh/h	35			2658	2440	
Approach Delay, s/veh	59.5			2.4	22.0	
Approach LOS	E			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		110.9		9.1	36.9	74.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		79.0		31.0	6.0	* 69
Max Q Clear Time (g_c+I1), s		17.0		3.3	3.6	47.3
Green Ext Time (p_c), s		46.1		0.1	0.0	18.3

Intersection Summary	
HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



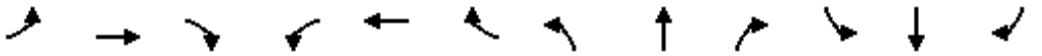
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	1276	252	597	1216	366	354	1761	545	608	1563	348
Future Volume (veh/h)	262	1276	252	597	1216	366	354	1761	545	608	1563	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	1276	252	597	1216	366	354	1761	545	608	1563	348
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	1440	284	288	1714	532	707	2236	1454	317	1617	502
Arrive On Green	0.09	0.34	0.34	0.08	0.34	0.34	0.20	0.44	0.44	0.09	0.32	0.32
Sat Flow, veh/h	3456	4278	845	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	262	1015	513	597	1216	366	354	1761	545	608	1563	348
Grp Sat Flow(s),veh/h/ln	1728	1702	1718	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	8.9	33.8	33.8	10.0	24.9	23.9	10.9	35.5	4.7	11.0	36.2	21.1
Cycle Q Clear(g_c), s	8.9	33.8	33.8	10.0	24.9	23.9	10.9	35.5	4.7	11.0	36.2	21.1
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	1146	578	288	1714	532	707	2236	1454	317	1617	502
V/C Ratio(X)	0.82	0.89	0.89	2.07	0.71	0.69	0.50	0.79	0.37	1.92	0.97	0.69
Avail Cap(c_a), veh/h	374	1191	601	288	1714	532	707	2236	1454	317	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.44	0.44	0.44	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	37.6	37.6	55.0	34.8	34.4	42.3	28.9	12.5	54.5	40.4	29.9
Incr Delay (d2), s/veh	11.7	8.1	14.5	494.7	1.4	3.7	0.2	1.3	0.3	425.2	15.7	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	15.2	16.4	24.1	10.5	9.7	4.7	14.5	3.4	23.5	17.3	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.2	45.7	52.2	549.7	36.1	38.1	42.5	30.2	12.8	479.7	56.1	37.6
LnGrp LOS	E	D	D	F	D	D	D	C	B	F	E	D
Approach Vol, veh/h		1790			2179			2660			2519	
Approach Delay, s/veh		50.4			177.2			28.3			155.8	
Approach LOS		D			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	58.0	15.0	45.4	30.0	43.0	15.1	45.3
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	11.0	39.0	10.0	* 42	12.0	* 38	13.0	39.0
Max Q Clear Time (g_c+I1), s	13.0	37.5	12.0	35.8	12.9	38.2	10.9	26.9
Green Ext Time (p_c), s	0.0	1.4	0.0	4.5	0.0	0.0	0.2	7.5

Intersection Summary	
HCM 6th Ctrl Delay	103.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	1897	48	213	1928	67	63	40	219	93	42	152
Future Volume (veh/h)	223	1897	48	213	1928	67	63	40	219	93	42	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	223	1897	48	213	1928	67	52	56	219	93	42	152
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1957	608	208	1872	581	594	623	528	363	164	462
Arrive On Green	0.13	0.38	0.38	0.12	0.37	0.37	0.33	0.33	0.33	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1246	563	1585
Grp Volume(v), veh/h	223	1897	48	213	1928	67	52	56	219	135	0	152
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1808	0	1585
Q Serve(g_s), s	15.0	43.7	2.3	14.0	44.0	3.4	2.4	2.5	12.8	6.9	0.0	9.0
Cycle Q Clear(g_c), s	15.0	43.7	2.3	14.0	44.0	3.4	2.4	2.5	12.8	6.9	0.0	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	223	1957	608	208	1872	581	594	623	528	527	0	462
V/C Ratio(X)	1.00	0.97	0.08	1.02	1.03	0.12	0.09	0.09	0.41	0.26	0.00	0.33
Avail Cap(c_a), veh/h	223	1957	608	208	1872	581	594	623	528	527	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.5	36.3	23.5	53.0	38.0	25.1	27.5	27.5	30.9	32.5	0.0	33.3
Incr Delay (d2), s/veh	60.7	13.8	0.1	69.1	28.8	0.1	0.3	0.3	2.4	1.2	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	20.3	0.9	10.2	22.9	1.3	1.1	1.2	5.3	3.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.2	50.1	23.6	122.1	66.8	25.2	27.8	27.8	33.3	33.7	0.0	35.2
LnGrp LOS	F	D	C	F	F	C	C	C	C	C	A	D
Approach Vol, veh/h		2168			2208			327			287	
Approach Delay, s/veh		56.0			70.9			31.5			34.5	
Approach LOS		E			E			C			C	

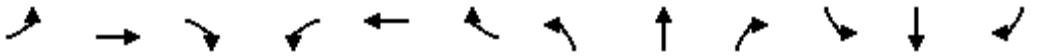
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		46.0	18.0	51.0		40.0	20.0	49.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		7.0	14.0	45.0		35.0	15.0	* 44				
Max Q Clear Time (g_c+I1), s		14.8	16.0	45.7		11.0	17.0	46.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.2	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			59.8									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



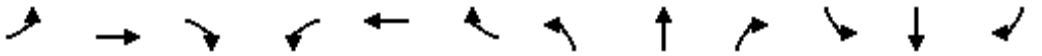
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	1842	303	260	1954	202	375	869	260	229	511	188
Future Volume (veh/h)	324	1842	303	260	1954	202	375	869	260	229	511	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	324	1842	303	260	1954	202	375	869	260	229	511	188
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	1830	568	259	1647	169	1238	1273	568	1181	1214	542
Arrive On Green	0.08	0.36	0.36	0.08	0.35	0.35	0.36	0.36	0.36	0.34	0.34	0.34
Sat Flow, veh/h	3456	5106	1585	3456	4705	483	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	324	1842	303	260	1410	746	375	869	260	229	511	188
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1783	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.0	43.0	13.9	9.0	42.0	42.0	9.4	24.9	18.2	5.6	13.3	10.6
Cycle Q Clear(g_c), s	9.0	43.0	13.9	9.0	42.0	42.0	9.4	24.9	18.2	5.6	13.3	10.6
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1830	568	259	1191	624	1238	1273	568	1181	1214	542
V/C Ratio(X)	1.25	1.01	0.53	1.00	1.18	1.20	0.30	0.68	0.46	0.19	0.42	0.35
Avail Cap(c_a), veh/h	259	1830	568	259	1191	624	1238	1273	568	1181	1214	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	38.5	17.9	55.5	39.0	39.0	27.7	32.7	43.1	27.8	30.4	29.5
Incr Delay (d2), s/veh	140.4	22.7	1.0	56.7	91.2	103.1	0.1	3.0	2.6	0.1	1.1	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	21.4	5.2	6.0	32.3	35.9	3.9	11.2	7.6	2.3	5.9	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	195.9	61.2	18.9	112.2	130.2	142.1	27.8	35.7	45.8	27.9	31.4	31.3
LnGrp LOS	F	F	B	F	F	F	C	D	D	C	C	C
Approach Vol, veh/h		2469			2416			1504			928	
Approach Delay, s/veh		73.7			132.0			35.5			30.5	
Approach LOS		E			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.0	48.0	13.0	48.0	48.0	46.0	14.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	8.0	43.0	9.0	42.0	10.0	41.0	9.0	* 42
Max Q Clear Time (g_c+I1), s	7.6	26.9	11.0	45.0	11.4	15.3	11.0	44.0
Green Ext Time (p_c), s	0.0	6.5	0.0	0.0	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	79.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



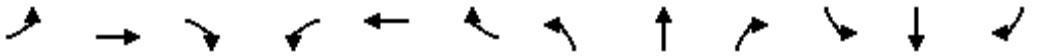
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	1696	259	322	2242	248	348	789	218	183	554	96
Future Volume (veh/h)	168	1696	259	322	2242	248	348	789	218	183	554	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	1696	259	322	2242	248	348	789	218	183	554	96
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1677	255	317	1948	212	288	1155	515	1421	2004	346
Arrive On Green	0.04	0.38	0.38	0.09	0.42	0.42	0.08	0.32	0.32	0.41	0.66	0.66
Sat Flow, veh/h	3456	4473	679	3456	4675	508	3456	3554	1585	3456	3030	523
Grp Volume(v), veh/h	168	1288	667	322	1621	869	348	789	218	183	324	326
Grp Sat Flow(s),veh/h/ln	1728	1702	1748	1728	1702	1779	1728	1777	1585	1728	1777	1776
Q Serve(g_s), s	5.0	45.0	45.0	11.0	50.0	50.0	10.0	23.1	16.6	4.0	9.1	9.1
Cycle Q Clear(g_c), s	5.0	45.0	45.0	11.0	50.0	50.0	10.0	23.1	16.6	4.0	9.1	9.1
Prop In Lane	1.00		0.39	1.00		0.29	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	144	1277	656	317	1418	741	288	1155	515	1421	1175	1175
V/C Ratio(X)	1.17	1.01	1.02	1.02	1.14	1.17	1.21	0.68	0.42	0.13	0.28	0.28
Avail Cap(c_a), veh/h	144	1277	656	317	1418	741	288	1155	515	1421	1175	1175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	37.5	37.5	54.5	35.0	35.0	55.0	35.1	52.6	22.0	8.4	8.4
Incr Delay (d2), s/veh	126.8	27.5	39.5	54.8	73.3	91.3	121.7	3.3	2.5	0.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	23.2	26.0	7.2	34.6	39.8	9.2	10.5	7.0	1.6	3.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.3	65.0	77.0	109.3	108.3	126.3	176.7	38.4	55.2	22.0	9.0	9.0
LnGrp LOS	F	F	F	F	F	F	F	D	E	C	A	A
Approach Vol, veh/h		2123			2812			1355			833	
Approach Delay, s/veh		78.2			114.0			76.6			11.9	
Approach LOS		E			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	55.4	44.0	15.0	50.0	14.0	85.4	10.0	55.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	8.0	* 39	11.0	44.0	10.0	37.0	5.0	* 50
Max Q Clear Time (g_c+I1), s	6.0	25.1	13.0	47.0	12.0	11.1	7.0	52.0
Green Ext Time (p_c), s	0.1	5.3	0.0	0.0	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	84.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



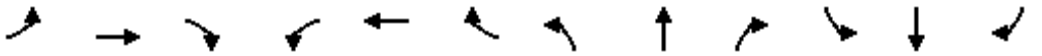
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	383	1430	383	419	1817	315	805	1234	321	313	862	373
Future Volume (veh/h)	383	1430	383	419	1817	315	805	1234	321	313	862	373
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	1430	383	419	1817	315	805	1234	321	313	862	373
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	1271	339	259	1659	515	1440	1830	568	1296	1617	502
Arrive On Green	0.08	0.32	0.32	0.08	0.32	0.32	0.42	0.36	0.36	0.38	0.32	0.32
Sat Flow, veh/h	3456	4013	1069	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	383	1212	601	419	1817	315	805	1234	321	313	862	373
Grp Sat Flow(s),veh/h/ln	1728	1702	1678	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	9.0	38.0	38.0	9.0	39.0	15.1	21.3	24.5	19.6	7.5	16.7	30.2
Cycle Q Clear(g_c), s	9.0	38.0	38.0	9.0	39.0	15.1	21.3	24.5	19.6	7.5	16.7	30.2
Prop In Lane	1.00		0.64	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1078	531	259	1659	515	1440	1830	568	1296	1617	502
V/C Ratio(X)	1.48	1.12	1.13	1.62	1.09	0.61	0.56	0.67	0.57	0.24	0.53	0.74
Avail Cap(c_a), veh/h	259	1078	531	259	1659	515	1440	1830	568	1296	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	41.0	41.0	55.5	40.5	19.3	26.6	32.6	31.0	25.8	33.7	52.3
Incr Delay (d2), s/veh	234.7	68.3	80.5	294.6	52.8	2.1	0.5	2.0	4.0	0.1	1.3	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	25.9	27.3	14.5	24.2	5.8	8.8	10.4	8.1	3.1	7.1	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	290.2	109.3	121.5	350.1	93.3	21.5	27.1	34.6	35.0	25.9	35.0	61.9
LnGrp LOS	F	F	F	F	F	C	C	C	D	C	C	E
Approach Vol, veh/h		2196			2551			2360			1548	
Approach Delay, s/veh		144.2			126.6			32.1			39.6	
Approach LOS		F			F			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	50.0	48.0	14.0	43.0	55.0	43.0	13.0	44.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	43.0	9.0	* 38	17.0	38.0	9.0	38.0
Max Q Clear Time (g_c+I1), s	9.5	26.5	11.0	40.0	23.3	32.2	11.0	41.0
Green Ext Time (p_c), s	0.3	9.2	0.0	0.0	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	89.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



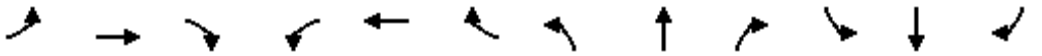
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	1076	433	939	1513	202	428	1713	341	266	1403	101
Future Volume (veh/h)	199	1076	433	939	1513	202	428	1713	341	266	1403	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	1076	433	939	1513	202	428	1713	341	266	1403	101
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	892	352	518	1394	184	259	1489	462	2033	3954	285
Arrive On Green	0.06	0.36	0.36	0.15	0.44	0.44	0.08	0.29	0.29	0.59	0.81	0.81
Sat Flow, veh/h	3456	2489	981	3456	3156	416	3456	5106	1585	3456	4861	350
Grp Volume(v), veh/h	199	762	747	939	843	872	428	1713	341	266	982	522
Grp Sat Flow(s),veh/h/ln	1728	1777	1694	1728	1777	1795	1728	1702	1585	1728	1702	1807
Q Serve(g_s), s	6.9	43.0	43.0	18.0	53.0	53.0	9.0	35.0	33.9	4.1	9.1	9.1
Cycle Q Clear(g_c), s	6.9	43.0	43.0	18.0	53.0	53.0	9.0	35.0	33.9	4.1	9.1	9.1
Prop In Lane	1.00		0.58	1.00		0.23	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	202	637	607	518	785	793	259	1489	462	2033	2769	1470
V/C Ratio(X)	0.99	1.20	1.23	1.81	1.07	1.10	1.65	1.15	0.74	0.13	0.35	0.35
Avail Cap(c_a), veh/h	202	637	607	518	785	793	259	1489	462	2033	2769	1470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	38.5	38.5	51.0	33.5	33.5	55.5	42.5	81.1	11.0	2.9	2.9
Incr Delay (d2), s/veh	59.5	103.0	118.1	372.8	53.9	62.8	309.8	75.8	10.1	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	36.6	37.4	34.6	33.8	36.1	15.1	25.0	15.0	1.6	2.4	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	116.0	141.5	156.6	423.8	87.4	96.3	365.3	118.3	91.2	11.0	3.3	3.6
LnGrp LOS	F	F	F	F	F	F	F	F	F	B	A	A
Approach Vol, veh/h		1708			2654			2482			1770	
Approach Delay, s/veh		145.1			209.3			157.2			4.6	
Approach LOS		F			F			F			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	76.8	40.0	22.0	48.0	13.0	103.8	12.0	58.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	7.0	* 35	18.0	42.0	9.0	33.0	7.0	* 53
Max Q Clear Time (g_c+I1), s	6.1	37.0	20.0	45.0	11.0	11.1	8.9	55.0
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0	0.0	11.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	139.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



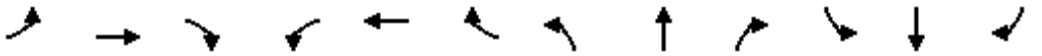
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	713	514	277	932	239	664	2068	206	213	1562	261
Future Volume (veh/h)	388	713	514	277	932	239	664	2068	206	213	1562	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	388	713	514	277	932	239	664	2068	206	213	1562	261
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	899	639	344	1091	279	518	1986	617	178	1731	683
Arrive On Green	0.09	0.25	0.25	0.10	0.27	0.27	0.15	0.39	0.39	0.10	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	4052	1036	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	388	713	514	277	782	389	664	2068	206	213	1562	261
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1684	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	11.0	22.5	21.9	9.4	26.2	26.3	18.0	46.7	7.7	12.0	35.0	13.5
Cycle Q Clear(g_c), s	11.0	22.5	21.9	9.4	26.2	26.3	18.0	46.7	7.7	12.0	35.0	13.5
Prop In Lane	1.00		1.00	1.00		0.62	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	899	639	344	917	454	518	1986	617	178	1731	683
V/C Ratio(X)	1.22	0.79	0.80	0.80	0.85	0.86	1.28	1.04	0.33	1.20	0.90	0.38
Avail Cap(c_a), veh/h	317	1125	740	344	993	491	518	1986	617	178	1731	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	41.9	14.6	52.9	41.6	41.6	51.0	36.7	12.6	54.0	37.8	23.3
Incr Delay (d2), s/veh	126.0	3.2	5.7	13.0	6.9	13.2	140.7	31.8	1.5	129.9	8.1	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	10.2	8.5	4.7	11.8	12.5	17.9	24.8	2.9	11.8	15.7	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	180.5	45.0	20.3	65.9	48.5	54.9	191.7	68.5	14.1	183.9	45.9	24.9
LnGrp LOS	F	D	C	E	D	D	F	F	B	F	D	C
Approach Vol, veh/h		1615			1448			2938			2036	
Approach Delay, s/veh		69.7			53.5			92.5			57.6	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	51.7	17.0	35.4	22.0	45.7	15.0	37.3
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	44.0	8.0	* 38	18.0	38.0	11.0	35.0
Max Q Clear Time (g_c+I1), s	14.0	48.7	11.4	24.5	20.0	37.0	13.0	28.3
Green Ext Time (p_c), s	0.0	0.0	0.0	5.9	0.0	0.9	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	72.1
HCM 6th LOS	E

Notes

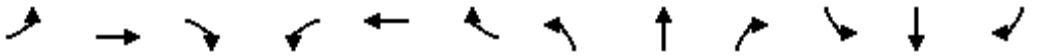
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	737	155	227	643	111	273	1449	392	201	1425	142
Future Volume (veh/h)	257	737	155	227	643	111	273	1449	392	201	1425	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	257	737	155	227	643	111	273	1449	392	201	1425	142
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	809	170	208	738	127	340	1368	368	205	1691	168
Arrive On Green	0.15	0.28	0.28	0.12	0.24	0.24	0.10	0.34	0.34	0.11	0.36	0.36
Sat Flow, veh/h	1781	2922	614	1781	3031	522	3456	4004	1077	1781	4720	470
Grp Volume(v), veh/h	257	448	444	227	377	377	273	1231	610	201	1028	539
Grp Sat Flow(s),veh/h/ln	1781	1777	1760	1781	1777	1776	1728	1702	1677	1781	1702	1786
Q Serve(g_s), s	17.2	29.3	29.3	14.0	24.4	24.5	9.3	41.0	41.0	13.5	33.3	33.3
Cycle Q Clear(g_c), s	17.2	29.3	29.3	14.0	24.4	24.5	9.3	41.0	41.0	13.5	33.3	33.3
Prop In Lane	1.00		0.35	1.00		0.29	1.00		0.64	1.00		0.26
Lane Grp Cap(c), veh/h	267	492	487	208	433	432	340	1163	573	205	1220	640
V/C Ratio(X)	0.96	0.91	0.91	1.09	0.87	0.87	0.80	1.06	1.07	0.98	0.84	0.84
Avail Cap(c_a), veh/h	267	518	513	208	459	459	340	1163	573	205	1220	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	42.0	42.0	53.0	43.6	43.6	53.0	39.5	39.5	53.0	35.4	35.4
Incr Delay (d2), s/veh	44.5	19.8	20.0	89.2	15.8	16.1	13.1	43.2	56.3	57.5	7.2	12.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	15.4	15.3	11.4	12.6	12.6	4.6	23.8	25.5	9.3	14.8	16.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.1	61.8	62.0	142.2	59.4	59.7	66.1	82.7	95.8	110.5	42.6	48.2
LnGrp LOS	F	E	E	F	E	E	E	F	F	F	D	D
Approach Vol, veh/h		1149			981			2114			1768	
Approach Delay, s/veh		69.3			78.7			84.3			52.0	
Approach LOS		E			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.8	46.0	18.0	38.2	15.8	48.0	22.0	34.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	41.0	14.0	35.0	10.0	43.0	18.0	31.0
Max Q Clear Time (g_c+I1), s	15.5	43.0	16.0	31.3	11.3	35.3	19.2	26.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	5.6	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	71.0
HCM 6th LOS	E



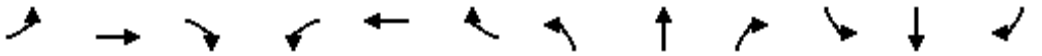
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	642	637	125	112	553	249	155	2160	70	156	1973	366
Future Volume (veh/h)	642	637	125	112	553	249	155	2160	70	156	1973	366
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	642	637	125	112	553	249	155	2160	70	156	1973	366
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	982	438	169	711	317	461	2413	78	173	1665	302
Arrive On Green	0.13	0.28	0.28	0.05	0.20	0.20	0.13	0.47	0.47	0.05	0.38	0.38
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5081	164	3456	4344	788
Grp Volume(v), veh/h	642	637	125	112	553	249	155	1445	785	156	1537	802
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1841	1728	1702	1728
Q Serve(g_s), s	15.0	19.0	5.2	3.8	17.7	17.9	4.9	46.5	46.8	5.4	46.0	46.0
Cycle Q Clear(g_c), s	15.0	19.0	5.2	3.8	17.7	17.9	4.9	46.5	46.8	5.4	46.0	46.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	432	982	438	169	711	317	461	1617	874	173	1305	663
V/C Ratio(X)	1.49	0.65	0.29	0.66	0.78	0.79	0.34	0.89	0.90	0.90	1.18	1.21
Avail Cap(c_a), veh/h	432	1244	555	230	1036	462	461	1617	874	173	1305	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	38.3	16.8	56.1	45.5	45.5	47.2	28.7	28.8	56.7	37.0	37.0
Incr Delay (d2), s/veh	230.9	0.8	0.4	4.4	2.3	5.4	0.4	8.0	13.9	41.9	88.2	108.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.3	8.4	2.8	1.8	8.0	7.5	2.1	20.2	23.4	3.4	34.7	39.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	283.4	39.1	17.1	60.5	47.8	51.0	47.6	36.8	42.7	98.6	125.2	145.6
LnGrp LOS	F	D	B	E	D	D	D	D	D	F	F	F
Approach Vol, veh/h		1404			914			2385			2495	
Approach Delay, s/veh		148.8			50.2			39.4			130.1	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	62.0	9.9	38.2	21.0	51.0	19.0	29.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	6.0	46.0	8.0	42.0	6.0	* 46	15.0	35.0
Max Q Clear Time (g_c+I1), s	7.4	48.8	5.8	21.0	6.9	48.0	17.0	19.9
Green Ext Time (p_c), s	0.0	0.0	0.1	4.8	0.0	0.0	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	93.6
HCM 6th LOS	F

Notes

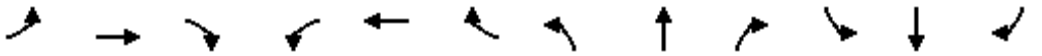
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	250	41	165	264	146	35	2168	170	100	2015	88
Future Volume (veh/h)	101	250	41	165	264	146	35	2168	170	100	2015	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	250	41	165	264	146	35	2168	170	100	2015	88
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	541	489	202	340	182	278	2295	178	293	2425	106
Arrive On Green	0.06	0.15	0.15	0.06	0.15	0.15	0.16	0.47	0.47	0.16	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2234	1198	1781	4831	375	1781	5017	218
Grp Volume(v), veh/h	101	250	41	165	208	202	35	1522	816	100	1365	738
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1655	1781	1702	1803	1781	1702	1831
Q Serve(g_s), s	6.8	7.7	0.3	5.7	13.5	14.1	2.0	50.9	52.2	6.0	41.5	41.8
Cycle Q Clear(g_c), s	6.8	7.7	0.3	5.7	13.5	14.1	2.0	50.9	52.2	6.0	41.5	41.8
Prop In Lane	1.00		1.00	1.00		0.72	1.00		0.21	1.00		0.12
Lane Grp Cap(c), veh/h	104	541	489	202	271	252	278	1617	856	293	1645	885
V/C Ratio(X)	0.97	0.46	0.08	0.82	0.77	0.80	0.13	0.94	0.95	0.34	0.83	0.83
Avail Cap(c_a), veh/h	104	918	657	202	459	427	278	1617	856	293	1645	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	46.4	17.5	55.9	48.8	49.1	43.6	29.9	30.2	44.4	26.7	26.8
Incr Delay (d2), s/veh	79.0	0.6	0.1	22.6	4.6	5.8	0.2	12.2	21.3	0.7	5.0	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	3.5	0.6	3.1	6.3	6.2	0.9	22.8	26.9	2.7	17.5	19.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.5	47.0	17.6	78.4	53.4	54.9	43.8	42.1	51.6	45.1	31.8	35.9
LnGrp LOS	F	D	B	E	D	D	D	D	D	D	C	D
Approach Vol, veh/h		392			575			2373			2203	
Approach Delay, s/veh		66.7			61.1			45.4			33.7	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.7	62.0	11.0	23.3	22.7	63.0	11.0	23.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	7.0	57.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	8.0	54.2	7.7	9.7	4.0	43.8	8.8	16.1
Green Ext Time (p_c), s	0.0	2.7	0.0	1.6	0.0	11.3	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D



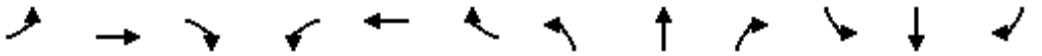
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	151	58	184	128	6	553	14	422	28	8	15
Future Volume (veh/h)	7	151	58	184	128	6	553	14	422	28	8	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	151	58	184	128	6	553	14	422	28	8	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	466	172	259	886	41	652	17	594	190	54	102
Arrive On Green	0.01	0.18	0.18	0.07	0.26	0.26	0.38	0.38	0.38	0.20	0.20	0.20
Sat Flow, veh/h	1781	2541	938	3456	3457	161	1739	44	1585	950	272	509
Grp Volume(v), veh/h	7	104	105	184	65	69	567	0	422	51	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1702	1728	1777	1841	1783	0	1585	1731	0	0
Q Serve(g_s), s	0.5	6.1	6.5	6.2	3.4	3.5	35.0	0.0	27.2	2.9	0.0	0.0
Cycle Q Clear(g_c), s	0.5	6.1	6.5	6.2	3.4	3.5	35.0	0.0	27.2	2.9	0.0	0.0
Prop In Lane	1.00		0.55	1.00		0.09	0.98		1.00	0.55		0.29
Lane Grp Cap(c), veh/h	19	326	312	259	455	472	669	0	594	346	0	0
V/C Ratio(X)	0.38	0.32	0.34	0.71	0.14	0.15	0.85	0.00	0.71	0.15	0.00	0.00
Avail Cap(c_a), veh/h	89	326	312	288	455	472	669	0	594	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.0	42.5	42.7	54.2	34.5	34.5	34.4	0.0	31.9	39.6	0.0	0.0
Incr Delay (d2), s/veh	12.2	2.6	2.9	7.0	0.7	0.6	12.7	0.0	7.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.9	3.0	3.0	1.6	1.6	17.3	0.0	11.5	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	45.1	45.6	61.2	35.1	35.1	47.0	0.0	39.0	40.5	0.0	0.0
LnGrp LOS	E	D	D	E	D	D	D	A	D	D	A	A
Approach Vol, veh/h		216			318			989			51	
Approach Delay, s/veh		46.2			50.2			43.6			40.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		50.0	14.0	27.0		29.0	5.2	35.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		45.0	10.0	* 22		24.0	6.0	26.0				
Max Q Clear Time (g_c+I1), s		37.0	8.2	8.5		4.9	2.5	5.5				
Green Ext Time (p_c), s		3.4	0.1	0.9		0.2	0.0	0.6				

Intersection Summary		
HCM 6th Ctrl Delay		45.2
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



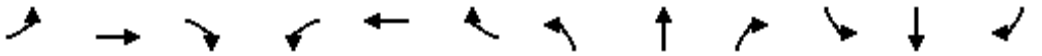
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	75	183	126	128	513	134	1495	95	36	2142	54
Future Volume (veh/h)	373	75	183	126	128	513	134	1495	95	36	2142	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	373	75	183	126	128	513	134	1495	0	36	2142	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	292	260	180	384	608	505	1830		490	2252	
Arrive On Green	0.11	0.16	0.16	0.05	0.11	0.11	0.28	0.36	0.00	0.28	0.35	0.00
Sat Flow, veh/h	3456	1777	1585	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	373	75	183	126	128	513	134	1495	0	36	2142	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	12.9	4.4	13.1	4.3	4.0	8.1	7.0	31.9	0.0	1.8	38.9	0.0
Cycle Q Clear(g_c), s	12.9	4.4	13.1	4.3	4.0	8.1	7.0	31.9	0.0	1.8	38.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	292	260	180	384	608	505	1830		490	2252	
V/C Ratio(X)	1.00	0.26	0.70	0.70	0.33	0.84	0.27	0.82		0.07	0.95	
Avail Cap(c_a), veh/h	374	592	528	230	1036	899	505	1830		490	2252	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.5	43.8	47.4	55.9	49.5	16.0	33.3	34.9	0.0	32.2	38.0	0.0
Incr Delay (d2), s/veh	45.5	0.5	3.4	6.4	0.5	4.9	0.3	4.2	0.0	0.1	10.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	2.0	5.4	2.0	1.8	8.7	3.1	13.7	0.0	0.8	16.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.0	44.2	50.8	62.3	50.0	20.9	33.6	39.1	0.0	32.2	48.5	0.0
LnGrp LOS	F	D	D	E	D	C	C	D		C	D	
Approach Vol, veh/h		631			767			1629	A		2178	A
Approach Delay, s/veh		78.5			32.6			38.7			48.3	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.0	48.0	10.3	24.7	38.0	47.0	17.0	18.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	43.0	8.0	40.0	12.0	42.0	13.0	35.0
Max Q Clear Time (g_c+I1), s	3.8	33.9	6.3	15.1	9.0	40.9	14.9	10.1
Green Ext Time (p_c), s	0.0	6.3	0.1	1.6	0.1	1.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	0	305	0	0	0	0	1606	372	746	1715	0
Future Volume (veh/h)	104	0	305	0	0	0	0	1606	372	746	1715	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	104	0	305				0	1606	372	746	1715	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	327	0	291				0	1902	436	806	3744	0
Arrive On Green	0.18	0.00	0.18				0.00	0.46	0.46	0.23	0.73	0.00
Sat Flow, veh/h	1781	0	1585				0	4319	952	3456	5274	0
Grp Volume(v), veh/h	104	0	305				0	1314	664	746	1715	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1699	1728	1702	0
Q Serve(g_s), s	6.1	0.0	22.0				0.0	40.9	41.7	25.3	16.2	0.0
Cycle Q Clear(g_c), s	6.1	0.0	22.0				0.0	40.9	41.7	25.3	16.2	0.0
Prop In Lane	1.00		1.00				0.00		0.56	1.00		0.00
Lane Grp Cap(c), veh/h	327	0	291				0	1560	779	806	3744	0
V/C Ratio(X)	0.32	0.00	1.05				0.00	0.84	0.85	0.93	0.46	0.00
Avail Cap(c_a), veh/h	327	0	291				0	1560	779	835	3744	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.5	0.0	49.0				0.0	28.7	28.9	45.0	6.4	0.0
Incr Delay (d2), s/veh	0.6	0.0	66.4				0.0	5.7	11.4	15.7	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	14.0				0.0	17.5	19.0	12.5	5.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	0.0	115.4				0.0	34.4	40.3	60.7	6.8	0.0
LnGrp LOS	D	A	F				A	C	D	E	A	A
Approach Vol, veh/h		409						1978			2461	
Approach Delay, s/veh		97.0						36.4			23.1	
Approach LOS		F						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	33.0	60.0		27.0		93.0
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	29.0	* 55		22.0		88.0
Max Q Clear Time (g_c+I1), s	27.3	43.7		24.0		18.2
Green Ext Time (p_c), s	0.6	9.1		0.0		23.2

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	1145	502	991	1103	24	475	76	1232	108	49	28
Future Volume (veh/h)	48	1145	502	991	1103	24	475	76	1232	108	49	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	1145	502	991	1103	24	529	0	1232	108	49	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1096	489	1754	2226	48	623	0	1662	172	78	45
Arrive On Green	0.04	0.31	0.31	0.35	0.63	0.63	0.17	0.00	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3556	77	3563	0	3170	1034	469	268
Grp Volume(v), veh/h	48	1145	502	991	551	576	529	0	1232	185	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1856	1781	0	1585	1770	0	0
Q Serve(g_s), s	3.2	37.0	37.0	19.2	20.2	20.2	17.3	0.0	0.0	11.7	0.0	0.0
Cycle Q Clear(g_c), s	3.2	37.0	37.0	19.2	20.2	20.2	17.3	0.0	0.0	11.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.58		0.15
Lane Grp Cap(c), veh/h	71	1096	489	1754	1112	1162	623	0	1662	295	0	0
V/C Ratio(X)	0.68	1.04	1.03	0.56	0.50	0.50	0.85	0.00	0.74	0.63	0.00	0.00
Avail Cap(c_a), veh/h	104	1096	489	1754	1112	1162	623	0	1662	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	41.5	41.5	31.7	12.2	12.2	48.0	0.0	22.2	46.5	0.0	0.0
Incr Delay (d2), s/veh	10.6	39.7	47.8	0.4	1.6	1.5	13.5	0.0	3.0	9.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	22.0	20.7	7.8	8.1	8.5	8.8	0.0	13.8	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	81.2	89.3	32.1	13.7	13.7	61.5	0.0	25.2	56.2	0.0	0.0
LnGrp LOS	E	F	F	C	B	B	E	A	C	E	A	A
Approach Vol, veh/h		1695			2118			1761			185	
Approach Delay, s/veh		83.2			22.3			36.1			56.2	
Approach LOS		F			C			D			E	

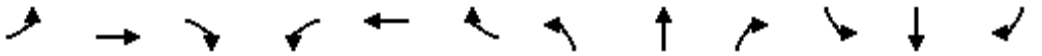
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	26.0	46.9	42.0	25.0	8.8	80.2
Change Period (Y+Rc), s	5.0	5.0	* 5	5.0	4.0	5.0
Max Green Setting (Gmax), s	21.0	23.0	* 37	20.0	7.0	53.0
Max Q Clear Time (g_c+I1), s	19.3	21.2	39.0	13.7	5.2	22.2
Green Ext Time (p_c), s	1.3	0.9	0.0	0.5	0.0	9.1

Intersection Summary	
HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	786	1500	14	92	1331	844	49	105	91	542	37	841
Future Volume (veh/h)	786	1500	14	92	1331	844	49	105	91	542	37	841
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	786	1500	14	92	1331	844	49	105	91	542	37	841
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	576	1486	14	117	1106	493	53	89	564	77	0	828
Arrive On Green	0.17	0.41	0.41	0.07	0.31	0.31	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	3456	3607	34	1781	3554	1585	0	250	1585	0	0	1585
Grp Volume(v), veh/h	786	738	776	92	1331	844	154	0	91	579	0	841
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	250	0	1585	0	0	1585
Q Serve(g_s), s	15.0	37.1	37.1	4.6	28.0	28.0	0.0	0.0	3.5	0.0	0.0	32.0
Cycle Q Clear(g_c), s	15.0	37.1	37.1	4.6	28.0	28.0	32.0	0.0	3.5	32.0	0.0	32.0
Prop In Lane	1.00		0.02	1.00		1.00	0.32		1.00	0.94		1.00
Lane Grp Cap(c), veh/h	576	732	768	117	1106	493	142	0	564	77	0	828
V/C Ratio(X)	1.36	1.01	1.01	0.79	1.20	1.71	1.09	0.00	0.16	7.48	0.00	1.02
Avail Cap(c_a), veh/h	576	732	768	119	1106	493	142	0	564	77	0	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	26.5	26.5	41.4	31.0	31.0	26.3	0.0	19.8	45.0	0.0	21.5
Incr Delay (d2), s/veh	175.1	35.4	34.9	28.1	100.5	328.7	101.0	0.0	0.6	2941.0	0.0	35.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.2	21.9	22.9	2.9	26.9	55.3	6.0	0.0	1.4	65.0	0.0	23.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	212.6	61.9	61.3	69.6	131.5	359.7	127.3	0.0	20.4	2986.0	0.0	56.8
LnGrp LOS	F	F	F	E	F	F	F	A	C	F	A	F
Approach Vol, veh/h		2300			2267			245			1420	
Approach Delay, s/veh		113.2			214.0			87.6			1251.2	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	37.0	10.9	42.1	37.0	20.0	33.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	32.0	6.0	37.0	32.0	15.0	28.0
Max Q Clear Time (g_c+I1), s	34.0	6.6	39.1	34.0	17.0	30.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	408.1
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	20.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	2134	2583	155	18	80
Future Vol, veh/h	120	2134	2583	155	18	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	2134	2583	155	18	80

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2738	0	-	0	3755	1369
Stage 1	-	-	-	-	2661	-
Stage 2	-	-	-	-	1094	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 52	-	-	-	~ 10	117
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	254	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 52	-	-	-	0	117
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	254	-

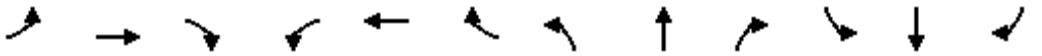
Approach	EB	WB	SB
HCM Control Delay, s	40.8	0	113
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 52	-	-	-	117
HCM Lane V/C Ratio	2.308	-	-	-	0.838
HCM Control Delay (s)	$ 766.5	-	-	-	113
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.2	-	-	-	5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX I-VIII

YEAR 2035 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS



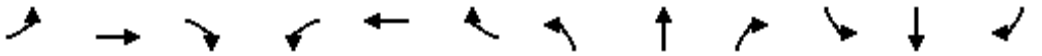
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	721	225	259	736	125	233	1634	230	228	2500	357
Future Volume (veh/h)	186	721	225	259	736	125	233	1634	230	228	2500	357
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	721	225	259	736	125	233	1634	230	228	2500	357
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	689	215	259	912	155	1014	4354	1351	252	2128	660
Arrive On Green	0.04	0.26	0.26	0.08	0.30	0.30	0.57	0.85	0.85	0.14	0.42	0.42
Sat Flow, veh/h	3456	2666	832	3456	3038	516	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	186	481	465	259	430	431	233	1634	230	228	2500	357
Grp Sat Flow(s),veh/h/ln	1728	1777	1721	1728	1777	1778	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.0	31.0	31.0	9.0	26.8	26.9	7.8	8.3	9.7	15.1	50.0	33.2
Cycle Q Clear(g_c), s	5.0	31.0	31.0	9.0	26.8	26.9	7.8	8.3	9.7	15.1	50.0	33.2
Prop In Lane	1.00		0.48	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	459	444	259	533	533	1014	4354	1351	252	2128	660
V/C Ratio(X)	1.29	1.05	1.05	1.00	0.81	0.81	0.23	0.38	0.17	0.90	1.18	0.54
Avail Cap(c_a), veh/h	144	459	444	259	533	533	1014	4354	1351	252	2128	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	44.5	44.5	55.5	38.8	38.8	12.8	1.9	15.8	50.7	35.0	70.3
Incr Delay (d2), s/veh	173.2	54.8	55.5	55.7	8.9	9.0	0.1	0.2	0.3	32.4	84.1	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	20.5	19.9	5.9	12.9	12.9	3.1	1.7	3.6	9.0	36.7	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	230.7	99.3	100.0	111.2	47.7	47.8	12.9	2.2	16.1	83.1	119.1	73.4
LnGrp LOS	F	F	F	F	D	D	B	A	B	F	F	E
Approach Vol, veh/h		1132			1120			2097			3085	
Approach Delay, s/veh		121.2			62.4			4.9			111.2	
Approach LOS		F			E			A			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	108.3	14.0	36.0	74.3	55.0	9.0	41.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	17.0	45.0	9.0	* 31	12.0	* 50	5.0	35.0
Max Q Clear Time (g_c+I1), s	17.1	11.7	11.0	33.0	9.8	52.0	7.0	28.9
Green Ext Time (p_c), s	0.0	17.8	0.0	0.0	0.2	0.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	75.4
HCM 6th LOS	E

Notes

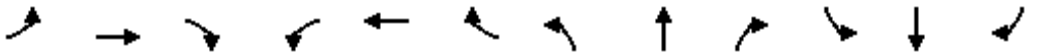
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	17	212	66	32	31	110	1720	20	27	2584	142
Future Volume (veh/h)	233	17	212	66	32	31	110	1720	20	27	2584	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	17	212	66	32	31	110	1720	20	27	2584	142
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	421	357	311	196	190	237	2766	859	208	2681	832
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.13	0.54	0.54	0.23	1.00	1.00
Sat Flow, veh/h	1339	1870	1585	1152	873	845	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	233	17	212	66	0	63	110	1720	20	27	2584	142
Grp Sat Flow(s),veh/h/ln	1339	1870	1585	1152	0	1718	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	20.3	0.9	14.4	5.7	0.0	3.5	6.8	27.9	0.7	1.4	0.0	0.0
Cycle Q Clear(g_c), s	23.9	0.9	14.4	6.6	0.0	3.5	6.8	27.9	0.7	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	421	357	311	0	387	237	2766	859	208	2681	832
V/C Ratio(X)	0.72	0.04	0.59	0.21	0.00	0.16	0.46	0.62	0.02	0.13	0.96	0.17
Avail Cap(c_a), veh/h	411	546	462	388	0	501	237	2766	859	208	2681	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	47.0	36.4	41.6	38.9	0.0	37.4	48.0	19.0	12.8	41.2	0.0	0.0
Incr Delay (d2), s/veh	4.5	0.0	1.6	0.3	0.0	0.2	1.4	1.1	0.0	0.2	8.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.4	5.8	1.7	0.0	1.5	3.1	11.0	0.3	0.6	2.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	36.4	43.2	39.3	0.0	37.6	49.4	20.1	12.8	41.4	8.5	0.3
LnGrp LOS	D	D	D	D	A	D	D	C	B	D	A	A
Approach Vol, veh/h		462			129			1850			2753	
Approach Delay, s/veh		47.2			38.5			21.7			8.4	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	70.0		32.0	20.0	68.0		32.0				
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	65.0		35.0	8.0	63.0		35.0				
Max Q Clear Time (g_c+I1), s	3.4	29.9		25.9	8.8	2.0		8.6				
Green Ext Time (p_c), s	0.0	18.2		1.1	0.0	45.7		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		17.3	
HCM 6th LOS		B	



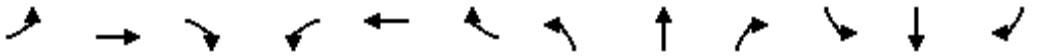
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	0	36	61	0	30	10	2105	19	9	2695	17
Future Volume (veh/h)	58	0	36	61	0	30	10	2105	19	9	2695	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	0	36	61	0	30	10	2105	19	9	2695	17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	0	133	146	0	133	385	4106	37	23	2936	911
Arrive On Green	0.08	0.00	0.08	0.08	0.00	0.08	0.22	0.79	0.79	0.01	0.57	0.57
Sat Flow, veh/h	1380	0	1585	1372	0	1585	1781	5219	47	1781	5106	1585
Grp Volume(v), veh/h	58	0	36	61	0	30	10	1373	751	9	2695	17
Grp Sat Flow(s),veh/h/ln	1380	0	1585	1372	0	1585	1781	1702	1862	1781	1702	1585
Q Serve(g_s), s	4.9	0.0	2.6	5.2	0.0	2.1	0.5	17.3	17.3	0.6	57.0	0.6
Cycle Q Clear(g_c), s	7.0	0.0	2.6	7.8	0.0	2.1	0.5	17.3	17.3	0.6	57.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	151	0	133	146	0	133	385	2678	1465	23	2936	911
V/C Ratio(X)	0.38	0.00	0.27	0.42	0.00	0.23	0.03	0.51	0.51	0.39	0.92	0.02
Avail Cap(c_a), veh/h	392	0	409	385	0	409	385	2678	1465	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	0.0	51.6	55.2	0.0	51.4	37.1	4.6	4.6	58.8	23.0	11.0
Incr Delay (d2), s/veh	1.6	0.0	1.1	1.9	0.0	0.9	0.0	0.6	1.0	10.4	5.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.1	1.9	0.0	0.9	0.2	5.1	5.7	0.3	23.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	0.0	52.6	57.1	0.0	52.2	37.1	5.1	5.6	69.1	28.9	11.0
LnGrp LOS	E	A	D	E	A	D	D	A	A	E	C	B
Approach Vol, veh/h		94			91			2134			2721	
Approach Delay, s/veh		54.9			55.5			5.5			28.9	
Approach LOS		D			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	99.4		15.0	31.0	74.0		15.0				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	2.6	19.3		9.0	2.5	59.0		9.8				
Green Ext Time (p_c), s	0.0	27.8		0.3	0.0	9.4		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		19.9	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



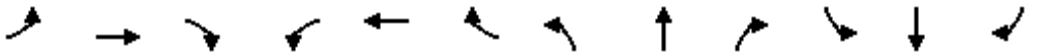
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1454	223	695	1471	302	264	1181	857	447	1860	321
Future Volume (veh/h)	124	1454	223	695	1471	302	264	1181	857	447	1860	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	1454	223	695	1471	302	264	1181	857	447	1860	321
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	1551	238	346	2062	640	1783	4039	2486	259	1745	542
Arrive On Green	0.05	0.35	0.35	0.10	0.40	0.40	0.52	0.79	0.79	0.08	0.34	0.34
Sat Flow, veh/h	3456	4467	684	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	124	1108	569	695	1471	302	264	1181	857	447	1860	321
Grp Sat Flow(s),veh/h/ln	1728	1702	1747	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	4.2	37.8	37.9	12.0	29.0	16.8	4.8	7.5	14.5	9.0	41.0	30.6
Cycle Q Clear(g_c), s	4.2	37.8	37.9	12.0	29.0	16.8	4.8	7.5	14.5	9.0	41.0	30.6
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	1182	607	346	2062	640	1783	4039	2486	259	1745	542
V/C Ratio(X)	0.69	0.94	0.94	2.01	0.71	0.47	0.15	0.29	0.34	1.72	1.07	0.59
Avail Cap(c_a), veh/h	259	1191	612	346	2062	640	1783	4039	2486	259	1745	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.9	37.9	54.0	30.0	26.3	15.2	3.4	17.2	55.5	39.5	75.7
Incr Delay (d2), s/veh	4.7	13.6	22.3	465.2	1.2	0.5	0.0	0.2	0.3	341.9	41.7	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	17.7	19.7	27.5	11.9	6.4	1.9	2.1	3.9	16.2	23.6	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	51.5	60.3	519.2	31.1	26.9	15.2	3.6	17.5	397.4	81.2	80.4
LnGrp LOS	E	D	E	F	C	C	B	A	B	F	F	F
Approach Vol, veh/h		1801			2468			2302			2628	
Approach Delay, s/veh		54.9			168.1			10.1			134.9	
Approach LOS		D			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	101.4	17.0	46.7	68.4	46.0	10.2	53.5
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	7.0	* 41	9.0	45.0
Max Q Clear Time (g_c+I1), s	11.0	16.5	14.0	39.9	6.8	43.0	6.2	31.0
Green Ext Time (p_c), s	0.0	13.6	0.0	1.8	0.0	0.0	0.1	9.4

Intersection Summary	
HCM 6th Ctrl Delay	96.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	2663	50	113	2265	34	70	16	67	49	6	57
Future Volume (veh/h)	63	2663	50	113	2265	34	70	16	67	49	6	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	2663	50	113	2265	34	81	0	67	49	6	57
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	2383	740	74	2425	753	1128	0	502	465	57	462
Arrive On Green	0.04	0.47	0.47	0.04	0.47	0.47	0.32	0.00	0.32	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3563	0	1585	1595	195	1585
Grp Volume(v), veh/h	63	2663	50	113	2265	34	81	0	67	55	0	57
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	0	1585	1791	0	1585
Q Serve(g_s), s	4.2	56.0	2.1	5.0	50.2	1.4	1.9	0.0	3.6	2.7	0.0	3.2
Cycle Q Clear(g_c), s	4.2	56.0	2.1	5.0	50.2	1.4	1.9	0.0	3.6	2.7	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	74	2383	740	74	2425	753	1128	0	502	522	0	462
V/C Ratio(X)	0.85	1.12	0.07	1.52	0.93	0.05	0.07	0.00	0.13	0.11	0.00	0.12
Avail Cap(c_a), veh/h	74	2383	740	74	2425	753	1128	0	502	522	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.1	32.0	17.6	57.5	29.7	16.9	28.7	0.0	29.3	31.1	0.0	31.2
Incr Delay (d2), s/veh	56.7	59.3	0.0	292.0	7.5	0.0	0.1	0.0	0.6	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	35.3	0.8	8.3	21.5	0.5	0.8	0.0	1.5	1.2	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.8	91.3	17.7	349.5	37.2	16.9	28.8	0.0	29.8	31.5	0.0	31.8
LnGrp LOS	F	F	B	F	D	B	C	A	C	C	A	C
Approach Vol, veh/h		2776			2412			148			112	
Approach Delay, s/veh		90.5			51.6			29.3			31.6	
Approach LOS		F			D			C			C	

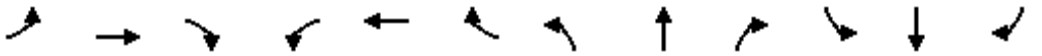
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	10.0	61.0		40.0	9.0	62.0				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		5.0	5.0	* 56		35.0	5.0	56.0				
Max Q Clear Time (g_c+I1), s		5.6	7.0	58.0		5.2	6.2	52.2				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.5	0.0	3.5				

Intersection Summary												
HCM 6th Ctrl Delay			70.4									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



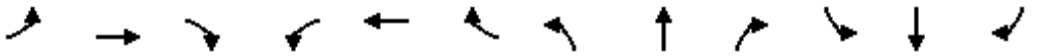
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	2247	418	167	1991	108	305	549	213	276	737	211
Future Volume (veh/h)	133	2247	418	167	1991	108	305	549	213	276	737	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	2247	418	167	1991	108	305	549	213	276	737	211
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	2085	647	173	2107	114	259	1125	502	1770	2709	1208
Arrive On Green	0.04	0.41	0.41	0.05	0.43	0.43	0.08	0.32	0.32	0.51	0.76	0.76
Sat Flow, veh/h	3456	5106	1585	3456	4958	268	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	133	2247	418	167	1365	734	305	549	213	276	737	211
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1822	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	4.6	49.0	38.5	5.8	46.2	46.6	9.0	15.0	12.7	5.1	7.5	4.4
Cycle Q Clear(g_c), s	4.6	49.0	38.5	5.8	46.2	46.6	9.0	15.0	12.7	5.1	7.5	4.4
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	2085	647	173	1447	774	259	1125	502	1770	2709	1208
V/C Ratio(X)	0.92	1.08	0.65	0.97	0.94	0.95	1.18	0.49	0.42	0.16	0.27	0.17
Avail Cap(c_a), veh/h	144	2085	647	173	1447	774	259	1125	502	1770	2709	1208
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.3	35.5	65.4	56.9	33.1	33.2	55.5	33.1	32.4	15.5	4.3	3.9
Incr Delay (d2), s/veh	52.6	44.4	2.2	58.4	12.6	20.7	112.3	1.5	2.6	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	28.3	15.7	3.9	21.1	24.5	8.0	6.7	5.3	2.0	2.4	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.9	79.9	67.6	115.3	45.7	53.9	167.8	34.6	35.0	15.5	4.5	4.2
LnGrp LOS	F	F	E	F	D	D	F	C	C	B	A	A
Approach Vol, veh/h		2798			2266			1067			1224	
Approach Delay, s/veh		79.5			53.5			72.8			7.0	
Approach LOS		E			D			E			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	67.5	43.0	11.0	54.0	13.0	97.5	9.0	56.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 38	6.0	* 49	9.0	38.0	5.0	50.0
Max Q Clear Time (g_c+I1), s	7.1	17.0	7.8	51.0	11.0	9.5	6.6	48.6
Green Ext Time (p_c), s	0.2	4.5	0.0	0.0	0.0	6.6	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	58.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



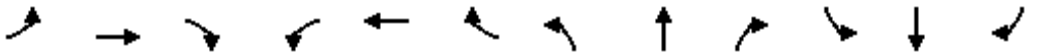
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	2272	333	294	2013	343	248	582	275	624	988	76
Future Volume (veh/h)	170	2272	333	294	2013	343	248	582	275	624	988	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	2272	333	294	2013	343	248	582	275	624	988	76
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1731	246	202	1726	288	259	1096	489	2214	2950	227
Arrive On Green	0.04	0.38	0.38	0.06	0.39	0.39	0.08	0.31	0.31	0.64	0.88	0.88
Sat Flow, veh/h	3456	4516	643	3456	4407	735	3456	3554	1585	3456	3344	257
Grp Volume(v), veh/h	170	1696	909	294	1545	811	248	582	275	624	525	539
Grp Sat Flow(s),veh/h/ln	1728	1702	1755	1728	1702	1738	1728	1777	1585	1728	1777	1824
Q Serve(g_s), s	5.0	46.0	46.0	7.0	47.0	47.0	8.6	16.3	27.9	9.5	5.9	5.9
Cycle Q Clear(g_c), s	5.0	46.0	46.0	7.0	47.0	47.0	8.6	16.3	27.9	9.5	5.9	5.9
Prop In Lane	1.00		0.37	1.00		0.42	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	144	1305	673	202	1333	681	259	1096	489	2214	1568	1610
V/C Ratio(X)	1.18	1.30	1.35	1.46	1.16	1.19	0.96	0.53	0.56	0.28	0.33	0.33
Avail Cap(c_a), veh/h	144	1305	673	202	1333	681	259	1096	489	2214	1568	1610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	37.0	37.0	56.5	36.5	36.5	55.3	34.3	89.0	9.5	1.2	1.2
Incr Delay (d2), s/veh	131.7	140.6	167.8	231.6	80.3	100.1	44.0	1.8	4.6	0.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	44.2	50.6	9.5	33.9	38.4	5.3	7.3	11.9	3.5	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	189.2	177.6	204.8	288.1	116.8	136.6	99.3	36.2	93.7	9.5	1.8	1.7
LnGrp LOS	F	F	F	F	F	F	F	D	F	A	A	A
Approach Vol, veh/h		2775			2650			1105			1688	
Approach Delay, s/veh		187.2			141.9			64.6			4.6	
Approach LOS		F			F			E			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	82.9	42.0	11.0	51.0	13.0	111.9	10.0	52.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	13.0	* 37	7.0	45.0	9.0	41.0	5.0	* 47
Max Q Clear Time (g_c+I1), s	11.5	29.9	9.0	48.0	10.6	7.9	7.0	49.0
Green Ext Time (p_c), s	0.4	2.8	0.0	0.0	0.0	8.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	118.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



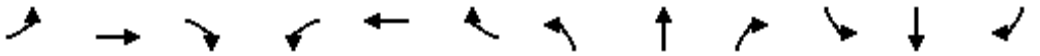
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1899	802	378	1627	346	544	672	335	310	1504	310
Future Volume (veh/h)	370	1899	802	378	1627	346	544	672	335	310	1504	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	1899	802	378	1627	346	544	672	335	310	1504	310
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1408	541	230	1768	549	812	1787	555	697	1617	502
Arrive On Green	0.10	0.39	0.39	0.07	0.35	0.35	0.24	0.35	0.35	0.20	0.32	0.32
Sat Flow, veh/h	3456	3630	1394	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	370	1769	932	378	1627	346	544	672	335	310	1504	310
Grp Sat Flow(s),veh/h/ln	1728	1702	1620	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	46.6	46.6	8.0	36.7	21.9	17.1	11.8	21.4	9.4	34.2	19.9
Cycle Q Clear(g_c), s	12.0	46.6	46.6	8.0	36.7	21.9	17.1	11.8	21.4	9.4	34.2	19.9
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1321	628	230	1768	549	812	1787	555	697	1617	502
V/C Ratio(X)	1.07	1.34	1.48	1.64	0.92	0.63	0.67	0.38	0.60	0.44	0.93	0.62
Avail Cap(c_a), veh/h	346	1321	628	230	1787	555	812	1787	555	697	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.7	36.7	56.0	37.6	32.8	41.7	29.2	33.6	42.0	39.7	34.8
Incr Delay (d2), s/veh	68.5	158.0	226.0	307.1	8.2	2.3	2.1	0.6	4.8	0.4	11.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	47.9	57.4	13.3	16.4	8.7	7.5	4.9	8.9	4.1	15.8	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.5	194.7	262.7	363.1	45.8	35.1	43.8	29.8	38.4	42.4	50.7	40.4
LnGrp LOS	F	F	F	F	D	D	D	C	D	D	D	D
Approach Vol, veh/h		3071			2351			1551			2124	
Approach Delay, s/veh		206.6			95.3			36.6			48.0	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.8	47.0	12.0	51.6	32.8	43.0	17.0	46.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	42.0	8.0	46.0	10.0	38.0	12.0	* 42
Max Q Clear Time (g_c+I1), s	11.4	23.4	10.0	48.6	19.1	36.2	14.0	38.7
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	1.5	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	111.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



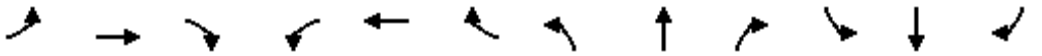
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	1132	215	489	1160	231	301	1047	300	236	1801	265
Future Volume (veh/h)	415	1132	215	489	1160	231	301	1047	300	236	1801	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	1132	215	489	1160	231	301	1047	300	236	1801	265
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	994	188	346	1060	210	259	1532	476	1325	2775	405
Arrive On Green	0.08	0.33	0.33	0.10	0.36	0.36	0.08	0.30	0.30	0.38	0.62	0.62
Sat Flow, veh/h	3456	2982	564	3456	2957	585	3456	5106	1585	3456	4500	657
Grp Volume(v), veh/h	415	672	675	489	694	697	301	1047	300	236	1359	707
Grp Sat Flow(s),veh/h/ln	1728	1777	1769	1728	1777	1765	1728	1702	1585	1728	1702	1752
Q Serve(g_s), s	10.0	40.0	40.0	12.0	43.0	43.0	9.0	21.7	19.6	5.4	30.6	31.1
Cycle Q Clear(g_c), s	10.0	40.0	40.0	12.0	43.0	43.0	9.0	21.7	19.6	5.4	30.6	31.1
Prop In Lane	1.00		0.32	1.00		0.33	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	288	592	590	346	637	632	259	1532	476	1325	2099	1081
V/C Ratio(X)	1.44	1.14	1.14	1.42	1.09	1.10	1.16	0.68	0.63	0.18	0.65	0.65
Avail Cap(c_a), veh/h	288	592	590	346	637	632	259	1532	476	1325	2099	1081
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	40.0	40.0	54.0	38.5	38.5	55.5	37.0	36.3	24.5	14.7	14.8
Incr Delay (d2), s/veh	217.2	80.2	83.7	203.1	62.7	66.9	106.6	2.5	6.2	0.1	1.6	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	30.3	30.8	15.0	29.4	30.0	7.8	9.3	8.4	2.2	11.6	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.2	120.2	123.7	257.1	101.2	105.4	162.1	39.5	42.5	24.6	16.2	17.9
LnGrp LOS	F	F	F	F	F	F	F	D	D	C	B	B
Approach Vol, veh/h		1762			1880			1648			2302	
Approach Delay, s/veh		157.3			143.3			62.4			17.6	
Approach LOS		F			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	52.0	41.0	17.0	45.0	13.0	80.0	14.0	48.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 36	12.0	* 40	9.0	41.0	10.0	42.0
Max Q Clear Time (g_c+I1), s	7.4	23.7	14.0	42.0	11.0	33.1	12.0	45.0
Green Ext Time (p_c), s	0.4	6.6	0.0	0.0	0.0	6.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	90.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



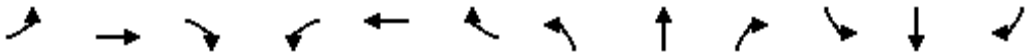
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	742	790	361	773	90	434	1542	286	155	1921	596
Future Volume (veh/h)	209	742	790	361	773	90	434	1542	286	155	1921	596
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	742	790	361	773	90	434	1542	286	155	1921	596
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	609	1125	729	288	1000	116	494	2042	634	579	3014	1215
Arrive On Green	0.18	0.32	0.32	0.08	0.22	0.22	0.14	0.40	0.40	0.33	0.59	0.59
Sat Flow, veh/h	3456	3554	1585	3456	4641	537	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	209	742	790	361	566	297	434	1542	286	155	1921	596
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1774	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.4	21.6	38.0	10.0	18.8	19.0	14.8	31.2	19.2	7.7	29.7	12.8
Cycle Q Clear(g_c), s	6.4	21.6	38.0	10.0	18.8	19.0	14.8	31.2	19.2	7.7	29.7	12.8
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	609	1125	729	288	734	382	494	2042	634	579	3014	1215
V/C Ratio(X)	0.34	0.66	1.08	1.25	0.77	0.78	0.88	0.75	0.45	0.27	0.64	0.49
Avail Cap(c_a), veh/h	609	1125	729	288	993	517	547	2042	634	579	3014	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	35.4	32.4	55.0	44.3	44.4	50.4	30.9	38.5	29.9	16.1	9.4
Incr Delay (d2), s/veh	0.3	1.4	58.5	139.4	2.6	5.2	14.1	2.7	2.3	0.2	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	9.5	32.2	9.9	8.2	8.9	7.3	13.1	7.8	3.4	11.4	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	36.8	90.9	194.4	46.9	49.6	64.5	33.6	40.8	30.2	17.2	10.8
LnGrp LOS	D	D	F	F	D	D	E	C	D	C	B	B
Approach Vol, veh/h		1741			1224			2262			2672	
Approach Delay, s/veh		62.2			91.1			40.4			16.5	
Approach LOS		E			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.0	53.0	14.0	43.0	21.2	76.8	26.1	30.9
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	* 48	10.0	38.0	19.0	35.0	13.0	* 35
Max Q Clear Time (g_c+I1), s	9.7	33.2	12.0	40.0	16.8	31.7	8.4	21.0
Green Ext Time (p_c), s	0.0	10.2	0.0	0.0	0.4	3.1	0.3	4.9

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



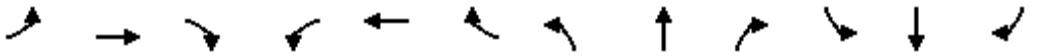
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	529	113	288	694	93	289	1162	228	181	1616	136
Future Volume (veh/h)	170	529	113	288	694	93	289	1162	228	181	1616	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	529	113	288	694	93	289	1162	228	181	1616	136
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	657	140	252	807	108	288	1321	259	296	1918	161
Arrive On Green	0.11	0.23	0.23	0.14	0.26	0.26	0.08	0.31	0.31	0.17	0.40	0.40
Sat Flow, veh/h	1781	2915	620	1781	3150	422	3456	4283	840	1781	4798	403
Grp Volume(v), veh/h	170	322	320	288	391	396	289	924	466	181	1146	606
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1794	1728	1702	1719	1781	1702	1798
Q Serve(g_s), s	11.3	20.5	20.7	17.0	25.2	25.2	10.0	30.9	30.9	11.3	36.6	36.6
Cycle Q Clear(g_c), s	11.3	20.5	20.7	17.0	25.2	25.2	10.0	30.9	30.9	11.3	36.6	36.6
Prop In Lane	1.00		0.35	1.00		0.24	1.00		0.49	1.00		0.22
Lane Grp Cap(c), veh/h	197	400	396	252	455	460	288	1050	530	296	1360	718
V/C Ratio(X)	0.86	0.80	0.81	1.14	0.86	0.86	1.00	0.88	0.88	0.61	0.84	0.84
Avail Cap(c_a), veh/h	223	518	513	252	548	553	288	1050	530	296	1360	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	44.0	44.0	51.5	42.6	42.6	55.0	39.4	39.4	46.4	32.6	32.6
Incr Delay (d2), s/veh	25.4	6.9	7.3	100.1	11.3	11.3	53.9	10.5	18.5	3.6	6.5	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	9.8	9.8	14.6	12.4	12.6	6.5	14.3	15.6	5.3	16.0	18.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.9	50.8	51.3	151.6	53.9	53.9	108.9	49.9	57.9	50.1	39.1	44.2
LnGrp LOS	E	D	D	F	D	D	F	D	E	D	D	D
Approach Vol, veh/h		812			1075			1679			1933	
Approach Delay, s/veh		56.7			80.1			62.3			41.7	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	42.0	21.0	32.0	14.0	53.0	17.3	35.8
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	* 37	17.0	35.0	10.0	40.0	15.0	37.0
Max Q Clear Time (g_c+I1), s	13.3	32.9	19.0	22.7	12.0	38.6	13.3	27.2
Green Ext Time (p_c), s	0.0	3.0	0.0	3.2	0.0	1.2	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	57.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



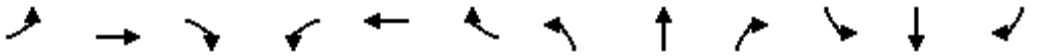
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	467	513	100	110	695	179	106	1961	76	90	2324	390
Future Volume (veh/h)	467	513	100	110	695	179	106	1961	76	90	2324	390
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	467	513	100	110	695	179	106	1961	76	90	2324	390
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	991	442	168	838	374	168	2102	81	337	2100	339
Arrive On Green	0.09	0.28	0.28	0.05	0.24	0.24	0.05	0.42	0.42	0.10	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5044	195	3456	4431	715
Grp Volume(v), veh/h	467	513	100	110	695	179	106	1322	715	90	1763	951
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1742
Q Serve(g_s), s	11.0	14.6	5.8	3.8	22.3	8.9	3.6	44.5	44.7	2.9	56.9	56.9
Cycle Q Clear(g_c), s	11.0	14.6	5.8	3.8	22.3	8.9	3.6	44.5	44.7	2.9	56.9	56.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.41
Lane Grp Cap(c), veh/h	317	991	442	168	838	374	168	1418	765	337	1614	826
V/C Ratio(X)	1.47	0.52	0.23	0.65	0.83	0.48	0.63	0.93	0.93	0.27	1.09	1.15
Avail Cap(c_a), veh/h	317	1125	502	230	1036	462	173	1418	765	337	1614	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	36.5	33.3	56.1	43.6	23.0	56.0	33.4	33.4	50.2	31.6	31.6
Incr Delay (d2), s/veh	229.8	0.4	0.3	4.2	4.8	1.0	7.0	12.4	20.1	0.4	52.3	81.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	6.4	2.3	1.7	10.3	3.4	1.7	20.3	23.6	1.3	34.2	41.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	284.3	36.9	33.6	60.3	48.3	24.0	63.0	45.8	53.5	50.6	83.8	113.5
LnGrp LOS	F	D	C	E	D	C	E	D	D	D	F	F
Approach Vol, veh/h		1080			984			2143			2804	
Approach Delay, s/veh		143.6			45.2			49.2			92.8	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	55.0	9.8	38.4	9.8	61.9	15.0	33.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 50	8.0	38.0	6.0	50.0	11.0	35.0
Max Q Clear Time (g_c+I1), s	4.9	46.7	5.8	16.6	5.6	58.9	13.0	24.3
Green Ext Time (p_c), s	0.0	3.0	0.1	3.8	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	80.6
HCM 6th LOS	F

Notes

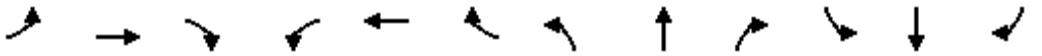
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	194	28	188	267	87	31	1980	176	44	2439	87
Future Volume (veh/h)	66	194	28	188	267	87	31	1980	176	44	2439	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	194	28	188	267	87	31	1980	176	44	2439	87
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	431	489	202	350	112	333	2309	204	333	2447	87
Arrive On Green	0.05	0.12	0.12	0.06	0.13	0.13	0.19	0.48	0.48	0.19	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2651	845	1781	4777	422	1781	5063	179
Grp Volume(v), veh/h	66	194	28	188	177	177	31	1407	749	44	1635	891
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1718	1781	1702	1794	1781	1702	1838
Q Serve(g_s), s	4.4	6.1	0.2	6.5	11.5	12.0	1.7	43.7	44.4	2.5	57.3	58.0
Cycle Q Clear(g_c), s	4.4	6.1	0.2	6.5	11.5	12.0	1.7	43.7	44.4	2.5	57.3	58.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		0.24	1.00		0.10
Lane Grp Cap(c), veh/h	85	431	489	202	235	227	333	1645	867	333	1645	888
V/C Ratio(X)	0.78	0.45	0.06	0.93	0.75	0.78	0.09	0.86	0.86	0.13	0.99	1.00
Avail Cap(c_a), veh/h	104	918	706	202	459	444	333	1645	867	333	1645	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	49.0	17.3	56.3	50.2	50.4	40.3	27.3	27.5	40.7	30.8	31.0
Incr Delay (d2), s/veh	25.7	0.7	0.0	44.7	4.9	5.7	0.1	5.9	11.1	0.2	20.8	30.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.8	0.4	4.1	5.4	5.5	0.8	18.5	21.1	1.1	27.3	32.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.3	49.7	17.4	100.9	55.1	56.1	40.5	33.2	38.6	40.8	51.6	61.9
LnGrp LOS	F	D	B	F	E	E	D	C	D	D	D	F
Approach Vol, veh/h		288			542			2187			2570	
Approach Delay, s/veh		54.1			71.3			35.2			55.0	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.5	63.0	11.0	19.5	26.5	63.0	9.7	20.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	58.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	4.5	46.4	8.5	8.1	3.7	60.0	6.4	14.0
Green Ext Time (p_c), s	0.0	9.7	0.0	1.2	0.0	0.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D



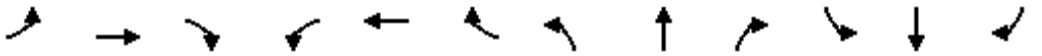
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	117	90	228	89	5	345	10	284	1	1	1
Future Volume (veh/h)	5	117	90	228	89	5	345	10	284	1	1	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	117	90	228	89	5	345	10	284	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	14	364	259	432	1057	59	563	16	515	116	116	116
Arrive On Green	0.01	0.18	0.18	0.12	0.31	0.31	0.32	0.32	0.32	0.20	0.20	0.20
Sat Flow, veh/h	1781	1983	1410	3456	3422	191	1733	50	1585	579	579	579
Grp Volume(v), veh/h	5	104	103	228	46	48	355	0	284	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1616	1728	1777	1836	1784	0	1585	1737	0	0
Q Serve(g_s), s	0.3	6.1	6.7	7.4	2.2	2.2	20.1	0.0	17.7	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	6.1	6.7	7.4	2.2	2.2	20.1	0.0	17.7	0.2	0.0	0.0
Prop In Lane	1.00		0.87	1.00		0.10	0.97		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	14	326	296	432	549	567	580	0	515	347	0	0
V/C Ratio(X)	0.37	0.32	0.35	0.53	0.08	0.08	0.61	0.00	0.55	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	326	296	461	549	567	580	0	515	347	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.2	42.5	42.7	49.2	29.4	29.4	34.1	0.0	33.3	38.5	0.0	0.0
Incr Delay (d2), s/veh	15.6	2.6	3.2	1.0	0.3	0.3	4.8	0.0	4.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.9	2.9	3.3	1.0	1.0	9.5	0.0	7.4	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	45.1	46.0	50.2	29.7	29.7	38.9	0.0	37.5	38.5	0.0	0.0
LnGrp LOS	E	D	D	D	C	C	D	A	D	D	A	A
Approach Vol, veh/h		212			322			639			3	
Approach Delay, s/veh		46.2			44.2			38.3			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	20.0	27.0		29.0	4.9	42.1				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		39.0	16.0	* 22		24.0	6.0	32.0				
Max Q Clear Time (g_c+I1), s		22.1	9.4	8.7		2.2	2.3	4.2				
Green Ext Time (p_c), s		3.0	0.4	0.9		0.0	0.0	0.5				

Intersection Summary												
HCM 6th Ctrl Delay			41.3									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	123	68	86	110	530	178	1479	171	88	2531	51
Future Volume (veh/h)	263	123	68	86	110	530	178	1479	171	88	2531	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	123	68	86	110	530	178	1479	0	88	2531	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	277	144	163	336	660	193	1787		574	3680	
Arrive On Green	0.08	0.12	0.12	0.05	0.09	0.09	0.11	0.35	0.00	0.32	0.57	0.00
Sat Flow, veh/h	3456	2259	1177	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	263	95	96	86	110	530	178	1479	0	88	2531	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1659	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	9.0	6.0	6.5	2.9	3.5	6.5	11.9	31.8	0.0	4.2	33.3	0.0
Cycle Q Clear(g_c), s	9.0	6.0	6.5	2.9	3.5	6.5	11.9	31.8	0.0	4.2	33.3	0.0
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	218	203	163	336	660	193	1787		574	3680	
V/C Ratio(X)	1.01	0.44	0.47	0.53	0.33	0.80	0.92	0.83		0.15	0.69	
Avail Cap(c_a), veh/h	259	563	525	173	1036	973	193	1787		574	3680	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.5	48.8	49.0	55.9	50.8	14.9	53.0	35.7	0.0	29.0	18.1	0.0
Incr Delay (d2), s/veh	59.7	1.4	1.7	2.6	0.6	3.1	43.4	4.6	0.0	0.1	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	2.7	2.8	1.3	1.6	8.6	7.6	13.8	0.0	1.8	12.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.2	50.2	50.7	58.5	51.3	18.0	96.4	40.3	0.0	29.1	19.2	0.0
LnGrp LOS	F	D	D	E	D	B	F	D		C	B	
Approach Vol, veh/h		454			726			1657	A		2619	A
Approach Delay, s/veh		88.0			27.8			46.3			19.5	
Approach LOS		F			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.6	47.0	9.7	19.7	17.0	73.6	13.0	16.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	16.0	* 42	6.0	38.0	13.0	45.0	9.0	35.0
Max Q Clear Time (g_c+I1), s	6.2	33.8	4.9	8.5	13.9	35.3	11.0	8.5
Green Ext Time (p_c), s	0.1	5.8	0.0	1.1	0.0	9.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

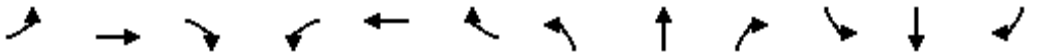
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	0	308	0	0	0	0	1549	280	907	1795	0
Future Volume (veh/h)	208	0	308	0	0	0	0	1549	280	907	1795	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	208	0	308				0	1549	280	907	1795	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	341	0	304				0	1740	313	979	3702	0
Arrive On Green	0.19	0.00	0.19				0.00	0.40	0.40	0.28	0.73	0.00
Sat Flow, veh/h	1781	0	1585				0	4518	783	3456	5274	0
Grp Volume(v), veh/h	208	0	308				0	1211	618	907	1795	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1729	1728	1702	0
Q Serve(g_s), s	12.8	0.0	23.0				0.0	39.8	40.1	30.6	17.9	0.0
Cycle Q Clear(g_c), s	12.8	0.0	23.0				0.0	39.8	40.1	30.6	17.9	0.0
Prop In Lane	1.00		1.00				0.00		0.45	1.00		0.00
Lane Grp Cap(c), veh/h	341	0	304				0	1362	692	979	3702	0
V/C Ratio(X)	0.61	0.00	1.01				0.00	0.89	0.89	0.93	0.48	0.00
Avail Cap(c_a), veh/h	341	0	304				0	1362	692	1008	3702	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.4	0.0	48.5				0.0	33.5	33.6	41.8	7.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	55.2				0.0	9.0	16.3	13.8	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	13.7				0.0	17.8	19.6	14.8	5.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	0.0	103.7				0.0	42.5	49.9	55.6	7.5	0.0
LnGrp LOS	D	A	F				A	D	D	E	A	A
Approach Vol, veh/h		516						1829			2702	
Approach Delay, s/veh		81.0						45.0			23.6	
Approach LOS		F						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	39.0	53.0		28.0		92.0
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	35.0	* 48		23.0		87.0
Max Q Clear Time (g_c+I1), s	32.6	42.1		25.0		19.9
Green Ext Time (p_c), s	1.0	4.9		0.0		25.1

Intersection Summary		
HCM 6th Ctrl Delay		37.2
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	972	579	1200	1072	7	552	52	701	61	44	25
Future Volume (veh/h)	49	972	579	1200	1072	7	552	52	701	61	44	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	972	579	1200	1072	7	589	0	701	61	44	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	1007	449	1973	2332	15	594	0	1774	138	100	57
Arrive On Green	0.04	0.28	0.28	0.39	0.64	0.64	0.17	0.00	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3619	24	3563	0	3170	829	598	340
Grp Volume(v), veh/h	49	972	579	1200	526	553	589	0	701	130	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1866	1781	0	1585	1768	0	0
Q Serve(g_s), s	3.3	32.4	34.0	22.9	18.0	18.0	19.8	0.0	0.0	7.9	0.0	0.0
Cycle Q Clear(g_c), s	3.3	32.4	34.0	22.9	18.0	18.0	19.8	0.0	0.0	7.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.47		0.19
Lane Grp Cap(c), veh/h	72	1007	449	1973	1145	1202	594	0	1774	295	0	0
V/C Ratio(X)	0.68	0.97	1.29	0.61	0.46	0.46	0.99	0.00	0.40	0.44	0.00	0.00
Avail Cap(c_a), veh/h	119	1007	449	1973	1145	1202	594	0	1774	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	42.4	43.0	29.1	10.8	10.8	49.9	0.0	15.0	45.0	0.0	0.0
Incr Delay (d2), s/veh	10.9	21.1	146.1	0.5	1.3	1.3	35.0	0.0	0.7	4.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	17.0	31.4	9.2	7.1	7.5	11.7	0.0	5.5	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	63.6	189.1	29.6	12.1	12.1	84.9	0.0	15.6	49.7	0.0	0.0
LnGrp LOS	E	E	F	C	B	B	F	A	B	D	A	A
Approach Vol, veh/h		1600			2279			1290			130	
Approach Delay, s/veh		109.1			21.3			47.3			49.7	
Approach LOS		F			C			D			D	

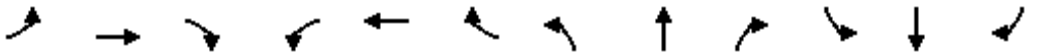
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	25.0	52.2	39.0	25.0	8.8	82.3
Change Period (Y+Rc), s	5.0	5.0	* 5	5.0	4.0	5.0
Max Green Setting (Gmax), s	20.0	27.0	* 34	20.0	8.0	53.0
Max Q Clear Time (g_c+I1), s	21.8	24.9	36.0	9.9	5.3	20.0
Green Ext Time (p_c), s	0.0	1.2	0.0	0.4	0.0	8.7

Intersection Summary	
HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	448	1293	13	72	1468	530	13	44	54	578	48	813
Future Volume (veh/h)	448	1293	13	72	1468	530	13	44	54	578	48	813
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	448	1293	13	72	1468	530	13	44	54	578	48	813
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	538	1402	14	198	1224	546	49	138	546	77	0	793
Arrive On Green	0.16	0.39	0.39	0.11	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	3456	3604	36	1781	3554	1585	0	401	1585	0	0	1585
Grp Volume(v), veh/h	448	637	669	72	1468	530	57	0	54	626	0	813
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	401	0	1585	0	0	1585
Q Serve(g_s), s	11.3	30.8	30.8	3.4	31.0	29.6	0.0	0.0	2.1	0.0	0.0	31.0
Cycle Q Clear(g_c), s	11.3	30.8	30.8	3.4	31.0	29.6	31.0	0.0	2.1	31.0	0.0	31.0
Prop In Lane	1.00		0.02	1.00		1.00	0.23		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	538	691	725	198	1224	546	187	0	546	77	0	793
V/C Ratio(X)	0.83	0.92	0.92	0.36	1.20	0.97	0.30	0.00	0.10	8.14	0.00	1.03
Avail Cap(c_a), veh/h	538	691	725	198	1224	546	187	0	546	77	0	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	26.2	26.2	37.1	29.5	29.1	23.2	0.0	20.0	45.0	0.0	22.5
Incr Delay (d2), s/veh	10.8	19.7	19.1	1.1	97.8	31.9	4.2	0.0	0.4	3238.1	0.0	38.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	16.1	16.8	1.5	29.2	15.6	1.0	0.0	0.8	70.9	0.0	17.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	46.0	45.3	38.2	127.3	61.0	27.4	0.0	20.4	3283.1	0.0	61.2
LnGrp LOS	D	D	D	D	F	E	C	A	C	F	A	F
Approach Vol, veh/h		1754			2070			111			1439	
Approach Delay, s/veh		46.2			107.2			24.0			1462.8	
Approach LOS		D			F			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		36.0	14.0	40.0		36.0	18.0	36.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		31.0	10.0	35.0		31.0	14.0	31.0				
Max Q Clear Time (g_c+I1), s		33.0	5.4	32.8		33.0	13.3	33.0				
Green Ext Time (p_c), s		0.0	0.0	1.6		0.0	0.1	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			448.6									
HCM 6th LOS			F									

Intersection	
Int Delay, s/veh	42.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	2575	2252	57	54	300
Future Vol, veh/h	85	2575	2252	57	54	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	2575	2252	57	54	300

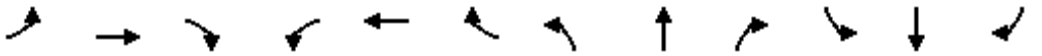
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2309	0	-	0	3481	1155
Stage 1	-	-	-	-	2281	-
Stage 2	-	-	-	-	1200	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	87	-	-	-	~ 14	~ 163
Stage 1	-	-	-	-	~ 37	-
Stage 2	-	-	-	-	223	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	87	-	-	-	0	~ 163
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	~ 1	-
Stage 2	-	-	-	-	223	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	27,301.7
HCM LOS			F

*The intersection delay calculated exceeded the capabilities of HCM 6th edition, therefore the "without Project" delay is reported.

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	87	-	-	-	163
HCM Lane V/C Ratio	0.977	-	-	-	2.172
HCM Control Delay (s)	176.2	-	-	-	$ 592.6
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	5.5	-	-	-	28.5

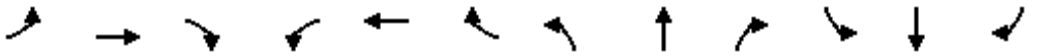
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	425	667	195	245	650	187	242	2308	268	227	1877	262
Future Volume (veh/h)	425	667	195	245	650	187	242	2308	268	227	1877	262
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	425	667	195	245	650	187	242	2308	268	227	1877	262
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	739	216	288	728	209	208	2140	664	134	1928	598
Arrive On Green	0.09	0.27	0.27	0.08	0.27	0.27	0.12	0.42	0.42	0.08	0.38	0.38
Sat Flow, veh/h	3456	2712	792	3456	2724	783	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	425	437	425	245	424	413	242	2308	268	227	1877	262
Grp Sat Flow(s),veh/h/ln	1728	1777	1728	1728	1777	1729	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	10.6	28.5	28.5	8.4	27.5	27.6	14.0	50.3	10.3	9.0	43.4	10.9
Cycle Q Clear(g_c), s	10.6	28.5	28.5	8.4	27.5	27.6	14.0	50.3	10.3	9.0	43.4	10.9
Prop In Lane	1.00		0.46	1.00		0.45	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	306	484	471	288	475	462	208	2140	664	134	1928	598
V/C Ratio(X)	1.39	0.90	0.90	0.85	0.89	0.89	1.16	1.08	0.40	1.70	0.97	0.44
Avail Cap(c_a), veh/h	306	518	504	288	518	504	208	2140	664	134	1928	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	42.1	42.1	54.3	42.3	42.3	53.0	34.8	12.9	55.5	36.8	15.1
Incr Delay (d2), s/veh	194.0	18.3	18.8	20.8	16.7	17.3	113.9	44.4	1.8	344.5	15.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	14.8	14.5	4.5	14.2	13.9	12.8	29.0	3.9	16.8	20.4	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	248.7	60.4	60.9	75.1	59.0	59.6	166.9	79.3	14.7	400.0	51.9	17.5
LnGrp LOS	F	E	E	E	E	E	F	F	B	F	D	B
Approach Vol, veh/h		1287			1082			2818			2366	
Approach Delay, s/veh		122.8			62.9			80.7			81.5	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	55.3	14.0	37.7	18.0	50.3	14.6	37.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	48.0	10.0	35.0	14.0	43.0	10.0	35.0
Max Q Clear Time (g_c+I1), s	11.0	52.3	10.4	30.5	16.0	45.4	12.6	29.6
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.0	0.0	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	85.5
HCM 6th LOS	F



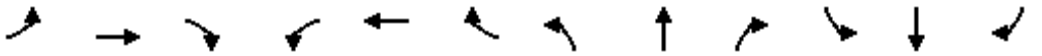
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	19	129	36	16	15	224	2532	52	67	2098	287
Future Volume (veh/h)	278	19	129	36	16	15	224	2532	52	67	2098	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	278	19	129	36	16	15	224	2532	52	67	2098	287
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	440	373	342	209	196	251	2766	859	175	2591	804
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.14	0.54	0.54	0.20	1.00	1.00
Sat Flow, veh/h	1378	1870	1585	1240	888	833	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	278	19	129	36	0	31	224	2532	52	67	2098	287
Grp Sat Flow(s),veh/h/ln	1378	1870	1585	1240	0	1721	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	23.6	0.9	8.1	2.8	0.0	1.7	14.8	54.1	1.9	3.9	0.0	0.0
Cycle Q Clear(g_c), s	25.3	0.9	8.1	3.7	0.0	1.7	14.8	54.1	1.9	3.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	440	373	342	0	404	251	2766	859	175	2591	804
V/C Ratio(X)	0.76	0.04	0.35	0.11	0.00	0.08	0.89	0.92	0.06	0.38	0.81	0.36
Avail Cap(c_a), veh/h	443	546	462	412	0	502	267	2766	859	175	2591	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	45.6	35.5	38.2	36.9	0.0	35.8	50.7	25.0	13.0	45.0	0.0	0.0
Incr Delay (d2), s/veh	6.2	0.0	0.6	0.1	0.0	0.1	28.2	6.1	0.1	1.0	2.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.4	3.2	0.9	0.0	0.7	8.6	22.3	0.7	1.7	0.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	35.5	38.8	37.0	0.0	35.8	78.9	31.1	13.2	46.1	2.2	0.9
LnGrp LOS	D	D	D	D	A	D	E	C	B	D	A	A
Approach Vol, veh/h		426			67			2808			2452	
Approach Delay, s/veh		47.2			36.5			34.6			3.2	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.8	70.0		33.2	20.9	65.9		33.2				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 65		35.0	18.0	53.0		35.0				
Max Q Clear Time (g_c+I1), s	5.9	56.1		27.3	16.8	2.0		5.7				
Green Ext Time (p_c), s	0.0	8.3		0.9	0.1	31.9		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		22.2	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



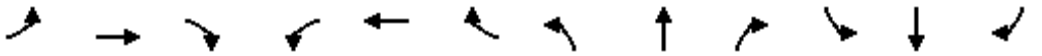
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	0	18	38	0	18	31	2693	65	30	2451	39
Future Volume (veh/h)	17	0	18	38	0	18	31	2693	65	30	2451	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	0	18	38	0	18	31	2693	65	30	2451	39
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	0	84	119	0	84	440	4097	98	56	2936	911
Arrive On Green	0.05	0.00	0.05	0.05	0.00	0.05	0.25	0.80	0.80	0.03	0.57	0.57
Sat Flow, veh/h	1395	0	1585	1395	0	1585	1781	5129	123	1781	5106	1585
Grp Volume(v), veh/h	17	0	18	38	0	18	31	1782	976	30	2451	39
Grp Sat Flow(s),veh/h/ln	1395	0	1585	1395	0	1585	1781	1702	1848	1781	1702	1585
Q Serve(g_s), s	1.4	0.0	1.3	3.2	0.0	1.3	1.6	26.5	27.0	2.0	47.1	1.3
Cycle Q Clear(g_c), s	2.7	0.0	1.3	4.5	0.0	1.3	1.6	26.5	27.0	2.0	47.1	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	119	0	84	119	0	84	440	2719	1476	56	2936	911
V/C Ratio(X)	0.14	0.00	0.21	0.32	0.00	0.21	0.07	0.66	0.66	0.53	0.83	0.04
Avail Cap(c_a), veh/h	405	0	409	405	0	409	440	2719	1476	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	54.4	56.6	0.0	54.4	34.6	5.1	5.1	57.2	20.8	11.1
Incr Delay (d2), s/veh	0.5	0.0	1.3	1.5	0.0	1.3	0.0	0.5	1.0	7.6	3.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.6	1.2	0.0	0.6	0.7	7.4	8.3	1.0	18.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	0.0	55.7	58.1	0.0	55.7	34.6	5.6	6.2	64.8	23.8	11.2
LnGrp LOS	E	A	E	E	A	E	C	A	A	E	C	B
Approach Vol, veh/h		35			56			2789			2520	
Approach Delay, s/veh		56.0			57.4			6.1			24.1	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	100.9		11.4	34.6	74.0		11.4				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	4.0	29.0		4.7	3.6	49.1		6.5				
Green Ext Time (p_c), s	0.0	33.1		0.1	0.0	17.2		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



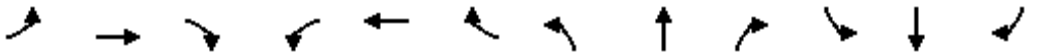
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	1301	283	653	1232	377	377	1781	600	624	1590	348
Future Volume (veh/h)	262	1301	283	653	1232	377	377	1781	600	624	1590	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	1301	283	653	1232	377	377	1781	600	624	1590	348
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	1435	312	288	1741	540	1258	3093	1922	288	1617	502
Arrive On Green	0.09	0.34	0.34	0.08	0.34	0.34	0.36	0.61	0.61	0.08	0.32	0.32
Sat Flow, veh/h	3456	4198	913	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	262	1055	529	653	1232	377	377	1781	600	624	1590	348
Grp Sat Flow(s),veh/h/ln	1728	1702	1706	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	8.9	35.5	35.5	10.0	25.2	24.7	9.3	25.3	6.4	10.0	37.1	26.6
Cycle Q Clear(g_c), s	8.9	35.5	35.5	10.0	25.2	24.7	9.3	25.3	6.4	10.0	37.1	26.6
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	1164	583	288	1741	540	1258	3093	1922	288	1617	502
V/C Ratio(X)	0.82	0.91	0.91	2.27	0.71	0.70	0.30	0.58	0.31	2.17	0.98	0.69
Avail Cap(c_a), veh/h	374	1191	597	288	1741	540	1258	3093	1922	288	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.39	0.39	0.39	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	37.7	37.7	55.0	34.4	34.2	27.2	14.3	13.7	55.0	40.7	47.8
Incr Delay (d2), s/veh	11.7	9.9	17.5	581.4	1.3	3.9	0.1	0.3	0.2	536.4	18.8	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	16.2	17.4	27.6	10.5	10.0	3.9	9.5	3.4	25.8	18.1	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.2	47.6	55.1	636.4	35.7	38.1	27.3	14.6	13.9	591.4	59.4	55.4
LnGrp LOS	E	D	E	F	D	D	C	B	B	F	E	E
Approach Vol, veh/h		1846			2262			2758			2562	
Approach Delay, s/veh		52.3			209.5			16.2			188.5	
Approach LOS		D			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	78.2	15.0	46.0	49.2	43.0	15.1	45.9
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	10.0	40.0	10.0	* 42	12.0	* 38	13.0	39.0
Max Q Clear Time (g_c+I1), s	12.0	27.3	12.0	37.5	11.3	39.1	10.9	27.2
Green Ext Time (p_c), s	0.0	10.5	0.0	3.5	0.1	0.0	0.2	7.5

Intersection Summary		
HCM 6th Ctrl Delay		116.5
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	1939	103	257	1974	67	99	40	241	93	42	152
Future Volume (veh/h)	223	1939	103	257	1974	67	99	40	241	93	42	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	223	1939	103	257	1974	67	70	81	241	93	42	152
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1915	594	223	1872	581	594	623	528	363	164	462
Arrive On Green	0.13	0.38	0.38	0.13	0.37	0.37	0.33	0.33	0.33	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1246	563	1585
Grp Volume(v), veh/h	223	1939	103	257	1974	67	70	81	241	135	0	152
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1808	0	1585
Q Serve(g_s), s	15.0	45.0	5.2	15.0	44.0	3.4	3.3	3.6	14.3	6.9	0.0	9.0
Cycle Q Clear(g_c), s	15.0	45.0	5.2	15.0	44.0	3.4	3.3	3.6	14.3	6.9	0.0	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	223	1915	594	223	1872	581	594	623	528	527	0	462
V/C Ratio(X)	1.00	1.01	0.17	1.15	1.05	0.12	0.12	0.13	0.46	0.26	0.00	0.33
Avail Cap(c_a), veh/h	223	1915	594	223	1872	581	594	623	528	527	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.5	37.5	25.1	52.5	38.0	25.1	27.8	27.9	31.4	32.5	0.0	33.3
Incr Delay (d2), s/veh	60.7	23.7	0.1	108.2	36.8	0.1	0.4	0.4	2.8	1.2	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	22.5	2.0	13.4	24.3	1.3	1.5	1.7	5.9	3.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.2	61.2	25.2	160.7	74.8	25.2	28.2	28.3	34.3	33.7	0.0	35.2
LnGrp LOS	F	F	C	F	F	C	C	C	C	C	A	D
Approach Vol, veh/h		2265			2298			392			287	
Approach Delay, s/veh		64.7			83.0			31.9			34.5	
Approach LOS		E			F			C			C	

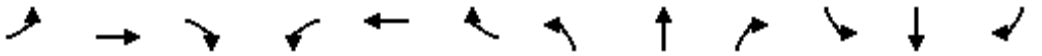
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		46.0	19.0	50.0		40.0	20.0	49.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		7.0	15.0	44.0		35.0	15.0	* 44				
Max Q Clear Time (g_c+I1), s		16.3	17.0	47.0		11.0	17.0	46.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.2	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	68.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



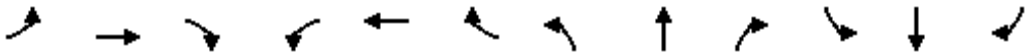
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	1873	330	270	2013	202	401	869	266	229	511	193
Future Volume (veh/h)	328	1873	330	270	2013	202	401	869	266	229	511	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	328	1873	330	270	2013	202	401	869	266	229	511	193
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	1872	581	230	1691	168	2036	3071	1370	259	1214	542
Arrive On Green	0.07	0.37	0.37	0.07	0.36	0.36	0.59	0.86	0.86	0.08	0.34	0.34
Sat Flow, veh/h	3456	5106	1585	3456	4720	470	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	328	1873	330	270	1447	768	401	869	266	229	511	193
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1786	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	8.0	44.0	15.3	8.0	43.0	43.0	6.5	5.3	3.3	7.9	13.3	11.0
Cycle Q Clear(g_c), s	8.0	44.0	15.3	8.0	43.0	43.0	6.5	5.3	3.3	7.9	13.3	11.0
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	1872	581	230	1220	640	2036	3071	1370	259	1214	542
V/C Ratio(X)	1.42	1.00	0.57	1.17	1.19	1.20	0.20	0.28	0.19	0.88	0.42	0.36
Avail Cap(c_a), veh/h	230	1872	581	230	1220	640	2036	3071	1370	259	1214	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	38.0	17.7	56.0	38.5	38.5	11.4	1.5	1.3	55.0	30.4	29.6
Incr Delay (d2), s/veh	214.1	20.9	1.3	113.6	92.3	104.8	0.0	0.2	0.3	28.1	1.1	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	21.6	5.7	7.1	33.2	37.1	2.5	1.0	0.6	4.4	5.9	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	270.1	58.9	19.0	169.6	130.8	143.3	11.5	1.7	1.6	83.0	31.4	31.4
LnGrp LOS	F	F	B	F	F	F	B	A	A	F	C	C
Approach Vol, veh/h		2531			2485			1536			933	
Approach Delay, s/veh		81.1			138.8			4.2			44.1	
Approach LOS		F			F			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	109.7	12.0	49.0	76.7	46.0	13.0	48.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	9.0	42.0	8.0	43.0	10.0	* 41	8.0	* 43
Max Q Clear Time (g_c+I1), s	9.9	7.3	10.0	46.0	8.5	15.3	10.0	45.0
Green Ext Time (p_c), s	0.0	8.6	0.0	0.0	0.3	4.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	79.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



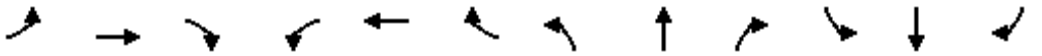
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	1726	265	322	2298	248	357	789	218	183	554	99
Future Volume (veh/h)	171	1726	265	322	2298	248	357	789	218	183	554	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	1726	265	322	2298	248	357	789	218	183	554	99
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1676	256	317	1954	207	288	1155	515	1421	1993	355
Arrive On Green	0.04	0.38	0.38	0.09	0.42	0.42	0.08	0.32	0.32	0.41	0.66	0.66
Sat Flow, veh/h	3456	4470	682	3456	4689	496	3456	3554	1585	3456	3014	537
Grp Volume(v), veh/h	171	1312	679	322	1656	890	357	789	218	183	326	327
Grp Sat Flow(s),veh/h/ln	1728	1702	1748	1728	1702	1781	1728	1777	1585	1728	1777	1774
Q Serve(g_s), s	5.0	45.0	45.0	11.0	50.0	50.0	10.0	23.1	16.6	4.0	9.1	9.2
Cycle Q Clear(g_c), s	5.0	45.0	45.0	11.0	50.0	50.0	10.0	23.1	16.6	4.0	9.1	9.2
Prop In Lane	1.00		0.39	1.00		0.28	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	144	1277	655	317	1418	742	288	1155	515	1421	1175	1173
V/C Ratio(X)	1.19	1.03	1.04	1.02	1.17	1.20	1.24	0.68	0.42	0.13	0.28	0.28
Avail Cap(c_a), veh/h	144	1277	655	317	1418	742	288	1155	515	1421	1175	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	37.5	37.5	54.5	35.0	35.0	55.0	35.1	52.6	22.0	8.4	8.4
Incr Delay (d2), s/veh	134.2	32.5	45.0	54.8	83.4	102.5	133.9	3.3	2.5	0.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	24.1	27.0	7.2	36.5	42.2	9.7	10.5	7.0	1.6	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	191.7	70.0	82.5	109.3	118.4	137.5	188.9	38.4	55.2	22.0	9.0	9.0
LnGrp LOS	F	F	F	F	F	F	F	D	E	C	A	A
Approach Vol, veh/h		2162			2868			1364			836	
Approach Delay, s/veh		83.5			123.3			80.5			11.9	
Approach LOS		F			F			F			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	55.4	44.0	15.0	50.0	14.0	85.4	10.0	55.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	8.0	* 39	11.0	44.0	10.0	37.0	5.0	* 50
Max Q Clear Time (g_c+I1), s	6.0	25.1	13.0	47.0	12.0	11.2	7.0	52.0
Green Ext Time (p_c), s	0.1	5.3	0.0	0.0	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	90.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



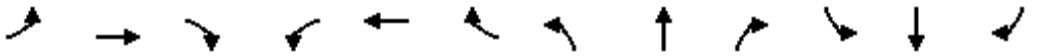
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	397	1446	382	419	1848	315	804	1234	321	313	862	397
Future Volume (veh/h)	397	1446	382	419	1848	315	804	1234	321	313	862	397
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	397	1446	382	419	1848	315	804	1234	321	313	862	397
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1342	353	230	1659	515	1440	1787	555	1296	1574	489
Arrive On Green	0.08	0.33	0.33	0.07	0.32	0.32	0.42	0.35	0.35	0.38	0.31	0.31
Sat Flow, veh/h	3456	4026	1058	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	397	1221	607	419	1848	315	804	1234	321	313	862	397
Grp Sat Flow(s),veh/h/ln	1728	1702	1680	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.0	40.0	40.0	8.0	39.0	15.1	21.2	24.9	19.8	7.5	16.9	32.7
Cycle Q Clear(g_c), s	10.0	40.0	40.0	8.0	39.0	15.1	21.2	24.9	19.8	7.5	16.9	32.7
Prop In Lane	1.00		0.63	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1135	560	230	1659	515	1440	1787	555	1296	1574	489
V/C Ratio(X)	1.38	1.08	1.08	1.82	1.11	0.61	0.56	0.69	0.58	0.24	0.55	0.81
Avail Cap(c_a), veh/h	288	1135	560	230	1659	515	1440	1787	555	1296	1574	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	40.0	40.0	56.0	40.5	19.3	26.6	33.4	31.8	25.8	34.5	53.4
Incr Delay (d2), s/veh	190.7	49.8	62.6	385.0	60.2	2.1	0.5	2.2	4.4	0.1	1.4	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	24.3	26.0	15.8	25.3	5.8	8.8	10.5	8.2	3.1	7.2	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	245.7	89.8	102.6	441.0	100.7	21.5	27.1	35.6	36.1	25.9	35.9	67.1
LnGrp LOS	F	F	F	F	F	C	C	D	D	C	D	E
Approach Vol, veh/h		2225			2582			2359			1572	
Approach Delay, s/veh		121.1			146.2			32.8			41.8	
Approach LOS		F			F			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	50.0	47.0	13.0	45.0	55.0	42.0	14.0	44.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	42.0	8.0	* 40	17.0	37.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	9.5	26.9	10.0	42.0	23.2	34.7	12.0	41.0
Green Ext Time (p_c), s	0.3	8.7	0.0	0.0	0.0	1.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	90.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



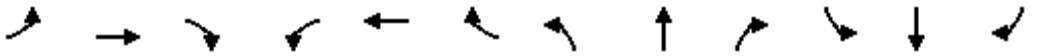
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	1076	436	939	1513	202	431	1741	341	266	1443	101
Future Volume (veh/h)	199	1076	436	939	1513	202	431	1741	341	266	1443	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	1076	436	939	1513	202	431	1741	341	266	1443	101
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	890	353	518	1394	184	259	1489	462	2033	3963	277
Arrive On Green	0.06	0.36	0.36	0.15	0.44	0.44	0.08	0.29	0.29	0.59	0.81	0.81
Sat Flow, veh/h	3456	2484	986	3456	3156	416	3456	5106	1585	3456	4872	341
Grp Volume(v), veh/h	199	763	749	939	843	872	431	1741	341	266	1008	536
Grp Sat Flow(s),veh/h/ln	1728	1777	1693	1728	1777	1795	1728	1702	1585	1728	1702	1809
Q Serve(g_s), s	6.9	43.0	43.0	18.0	53.0	53.0	9.0	35.0	33.9	4.1	9.4	9.4
Cycle Q Clear(g_c), s	6.9	43.0	43.0	18.0	53.0	53.0	9.0	35.0	33.9	4.1	9.4	9.4
Prop In Lane	1.00		0.58	1.00		0.23	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	202	637	607	518	785	793	259	1489	462	2033	2769	1471
V/C Ratio(X)	0.99	1.20	1.23	1.81	1.07	1.10	1.66	1.17	0.74	0.13	0.36	0.36
Avail Cap(c_a), veh/h	202	637	607	518	785	793	259	1489	462	2033	2769	1471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	38.5	38.5	51.0	33.5	33.5	55.5	42.5	81.1	11.0	3.0	3.0
Incr Delay (d2), s/veh	59.5	104.0	119.3	372.8	53.9	62.8	314.8	83.7	10.1	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	36.7	37.6	34.6	33.8	36.1	15.2	26.1	15.0	1.6	2.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	116.0	142.5	157.8	423.8	87.4	96.3	370.3	126.2	91.2	11.0	3.3	3.7
LnGrp LOS	F	F	F	F	F	F	F	F	F	B	A	A
Approach Vol, veh/h		1711			2654			2513			1810	
Approach Delay, s/veh		146.1			209.3			163.3			4.6	
Approach LOS		F			F			F			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	76.8	40.0	22.0	48.0	13.0	103.8	12.0	58.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	7.0	* 35	18.0	42.0	9.0	33.0	7.0	* 53
Max Q Clear Time (g_c+I1), s	6.1	37.0	20.0	45.0	11.0	11.4	8.9	55.0
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0	0.0	11.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	140.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



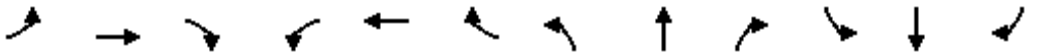
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	713	514	277	932	255	664	2137	206	225	1604	261
Future Volume (veh/h)	388	713	514	277	932	255	664	2137	206	225	1604	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	388	713	514	277	932	255	664	2137	206	225	1604	261
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	899	652	352	1084	296	547	2060	639	148	1677	666
Arrive On Green	0.09	0.25	0.25	0.10	0.27	0.27	0.16	0.40	0.40	0.08	0.33	0.33
Sat Flow, veh/h	3456	3554	1585	3456	3990	1088	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	388	713	514	277	795	392	664	2137	206	225	1604	261
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1674	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	11.0	22.5	21.3	9.4	26.6	26.7	19.0	48.4	7.4	10.0	36.9	13.7
Cycle Q Clear(g_c), s	11.0	22.5	21.3	9.4	26.6	26.7	19.0	48.4	7.4	10.0	36.9	13.7
Prop In Lane	1.00		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	899	652	352	925	455	547	2060	639	148	1677	666
V/C Ratio(X)	1.22	0.79	0.79	0.79	0.86	0.86	1.21	1.04	0.32	1.52	0.96	0.39
Avail Cap(c_a), veh/h	317	1125	753	352	993	488	547	2060	639	148	1677	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	41.9	14.0	52.6	41.5	41.6	50.5	35.8	11.7	55.0	39.5	24.2
Incr Delay (d2), s/veh	126.0	3.2	4.9	11.2	7.3	14.0	112.1	30.3	1.3	263.5	13.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	10.2	8.1	4.6	12.0	12.7	16.7	25.3	2.8	15.3	17.3	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	180.5	45.0	18.9	63.8	48.9	55.6	162.6	66.1	13.0	318.5	53.3	25.9
LnGrp LOS	F	D	B	E	D	E	F	F	B	F	D	C
Approach Vol, veh/h		1615			1464			3007			2090	
Approach Delay, s/veh		69.3			53.5			83.8			78.4	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	53.4	17.2	35.4	23.0	44.4	15.0	37.6
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	46.0	8.0	* 38	19.0	37.0	11.0	35.0
Max Q Clear Time (g_c+I1), s	12.0	50.4	11.4	24.5	21.0	38.9	13.0	28.7
Green Ext Time (p_c), s	0.0	0.0	0.0	5.9	0.0	0.0	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	74.1
HCM 6th LOS	E

Notes

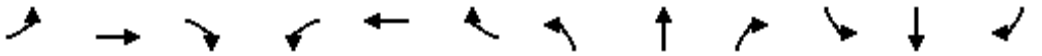
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	737	158	227	643	111	276	1474	392	201	1462	142
Future Volume (veh/h)	257	737	158	227	643	111	276	1474	392	201	1462	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	257	737	158	227	643	111	276	1474	392	201	1462	142
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	807	173	208	740	127	366	1407	372	189	1656	161
Arrive On Green	0.15	0.28	0.28	0.12	0.24	0.24	0.11	0.35	0.35	0.11	0.35	0.35
Sat Flow, veh/h	1781	2911	624	1781	3031	522	3456	4021	1062	1781	4732	459
Grp Volume(v), veh/h	257	450	445	227	377	377	276	1246	620	201	1052	552
Grp Sat Flow(s),veh/h/ln	1781	1777	1758	1781	1777	1776	1728	1702	1679	1781	1702	1788
Q Serve(g_s), s	17.2	29.4	29.4	14.0	24.4	24.5	9.3	42.0	42.0	12.7	34.9	34.9
Cycle Q Clear(g_c), s	17.2	29.4	29.4	14.0	24.4	24.5	9.3	42.0	42.0	12.7	34.9	34.9
Prop In Lane	1.00		0.35	1.00		0.29	1.00		0.63	1.00		0.26
Lane Grp Cap(c), veh/h	267	493	488	208	434	433	366	1191	588	189	1191	626
V/C Ratio(X)	0.96	0.91	0.91	1.09	0.87	0.87	0.75	1.05	1.05	1.06	0.88	0.88
Avail Cap(c_a), veh/h	267	518	513	208	459	459	366	1191	588	189	1191	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	42.0	42.0	53.0	43.5	43.5	52.1	39.0	39.0	53.6	36.7	36.7
Incr Delay (d2), s/veh	44.5	20.0	20.3	89.2	15.6	15.9	8.6	39.0	52.3	83.8	9.6	16.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	15.5	15.4	11.4	12.5	12.6	4.5	23.7	25.5	10.1	15.9	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.1	62.0	62.2	142.2	59.1	59.4	60.7	78.0	91.3	137.4	46.3	53.2
LnGrp LOS	F	E	E	F	E	E	E	F	F	F	D	D
Approach Vol, veh/h		1152			981			2142			1805	
Approach Delay, s/veh		69.5			78.4			79.6			58.6	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	47.0	18.0	38.3	16.7	47.0	22.0	34.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	42.0	14.0	35.0	11.0	42.0	18.0	31.0
Max Q Clear Time (g_c+I1), s	14.7	44.0	16.0	31.4	11.3	36.9	19.2	26.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	4.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	71.2
HCM 6th LOS	E



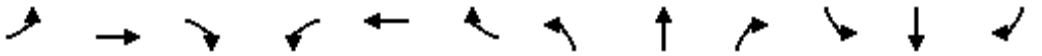
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	657	637	125	112	553	252	155	2210	70	159	2003	376
Future Volume (veh/h)	657	637	125	112	553	252	155	2210	70	159	2003	376
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	657	637	125	112	553	252	155	2210	70	159	2003	376
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	988	441	169	717	320	455	2406	76	173	1662	305
Arrive On Green	0.13	0.28	0.28	0.05	0.20	0.20	0.13	0.47	0.47	0.05	0.38	0.38
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5085	161	3456	4337	795
Grp Volume(v), veh/h	657	637	125	112	553	252	155	1477	803	159	1562	817
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1841	1728	1702	1727
Q Serve(g_s), s	15.0	18.9	5.2	3.8	17.7	18.1	4.9	48.5	48.9	5.5	46.0	46.0
Cycle Q Clear(g_c), s	15.0	18.9	5.2	3.8	17.7	18.1	4.9	48.5	48.9	5.5	46.0	46.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	432	988	441	169	717	320	455	1611	871	173	1305	662
V/C Ratio(X)	1.52	0.64	0.28	0.66	0.77	0.79	0.34	0.92	0.92	0.92	1.20	1.23
Avail Cap(c_a), veh/h	432	1244	555	230	1036	462	455	1611	871	173	1305	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	38.1	16.8	56.1	45.3	45.5	47.4	29.4	29.5	56.8	37.0	37.0
Incr Delay (d2), s/veh	246.0	0.8	0.3	4.4	2.2	5.7	0.4	9.8	16.5	46.1	96.3	118.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.2	8.3	2.8	1.8	8.0	7.6	2.1	21.3	24.9	3.5	36.1	40.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	298.5	38.9	17.1	60.5	47.5	51.1	47.8	39.2	46.0	102.8	133.3	155.2
LnGrp LOS	F	D	B	E	D	D	D	D	D	F	F	F
Approach Vol, veh/h		1419			917			2435			2538	
Approach Delay, s/veh		157.2			50.1			42.0			138.4	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	61.8	9.9	38.4	20.8	51.0	19.0	29.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	6.0	46.0	8.0	42.0	6.0	* 46	15.0	35.0
Max Q Clear Time (g_c+I1), s	7.5	50.9	5.8	20.9	6.9	48.0	17.0	20.1
Green Ext Time (p_c), s	0.0	0.0	0.1	4.8	0.0	0.0	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	98.9
HCM 6th LOS	F

Notes

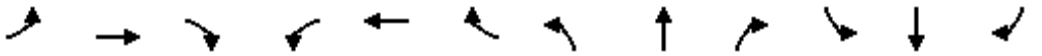
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	250	41	165	264	148	35	2216	170	102	2043	88
Future Volume (veh/h)	101	250	41	165	264	148	35	2216	170	102	2043	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	250	41	165	264	148	35	2216	170	102	2043	88
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	544	489	202	340	185	277	2299	175	292	2426	104
Arrive On Green	0.06	0.15	0.15	0.06	0.15	0.15	0.16	0.47	0.47	0.16	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2222	1207	1781	4841	368	1781	5020	216
Grp Volume(v), veh/h	101	250	41	165	209	203	35	1552	834	102	1383	748
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1653	1781	1702	1804	1781	1702	1832
Q Serve(g_s), s	6.8	7.7	0.3	5.7	13.6	14.2	2.0	52.8	54.2	6.1	42.4	42.8
Cycle Q Clear(g_c), s	6.8	7.7	0.3	5.7	13.6	14.2	2.0	52.8	54.2	6.1	42.4	42.8
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.20	1.00		0.12
Lane Grp Cap(c), veh/h	104	544	489	202	272	253	277	1617	857	292	1645	885
V/C Ratio(X)	0.97	0.46	0.08	0.82	0.77	0.80	0.13	0.96	0.97	0.35	0.84	0.84
Avail Cap(c_a), veh/h	104	918	656	202	459	427	277	1617	857	292	1645	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	46.3	17.5	55.9	48.8	49.1	43.7	30.4	30.8	44.5	27.0	27.1
Incr Delay (d2), s/veh	79.0	0.6	0.1	22.6	4.6	5.8	0.2	14.7	25.0	0.7	5.4	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	3.5	0.6	3.1	6.4	6.3	0.9	24.1	28.6	2.8	17.9	20.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.5	46.9	17.6	78.4	53.4	54.9	43.9	45.0	55.7	45.2	32.4	36.8
LnGrp LOS	F	D	B	E	D	D	D	D	E	D	C	D
Approach Vol, veh/h		392			577			2421			2233	
Approach Delay, s/veh		66.7			61.1			48.7			34.4	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.6	62.0	11.0	23.4	22.6	63.0	11.0	23.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	7.0	57.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	8.1	56.2	7.7	9.7	4.0	44.8	8.8	16.2
Green Ext Time (p_c), s	0.0	0.8	0.0	1.6	0.0	10.8	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D



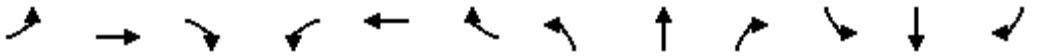
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	151	58	184	128	6	553	14	434	28	8	15
Future Volume (veh/h)	7	151	58	184	128	6	553	14	434	28	8	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	151	58	184	128	6	553	14	434	28	8	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	466	172	259	886	41	652	17	594	190	54	102
Arrive On Green	0.01	0.18	0.18	0.07	0.26	0.26	0.38	0.38	0.38	0.20	0.20	0.20
Sat Flow, veh/h	1781	2541	938	3456	3457	161	1739	44	1585	950	272	509
Grp Volume(v), veh/h	7	104	105	184	65	69	567	0	434	51	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1702	1728	1777	1841	1783	0	1585	1731	0	0
Q Serve(g_s), s	0.5	6.1	6.5	6.2	3.4	3.5	35.0	0.0	28.3	2.9	0.0	0.0
Cycle Q Clear(g_c), s	0.5	6.1	6.5	6.2	3.4	3.5	35.0	0.0	28.3	2.9	0.0	0.0
Prop In Lane	1.00		0.55	1.00		0.09	0.98		1.00	0.55		0.29
Lane Grp Cap(c), veh/h	19	326	312	259	455	472	669	0	594	346	0	0
V/C Ratio(X)	0.38	0.32	0.34	0.71	0.14	0.15	0.85	0.00	0.73	0.15	0.00	0.00
Avail Cap(c_a), veh/h	89	326	312	288	455	472	669	0	594	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.0	42.5	42.7	54.2	34.5	34.5	34.4	0.0	32.3	39.6	0.0	0.0
Incr Delay (d2), s/veh	12.2	2.6	2.9	7.0	0.7	0.6	12.7	0.0	7.7	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.9	3.0	3.0	1.6	1.6	17.3	0.0	12.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	45.1	45.6	61.2	35.1	35.1	47.0	0.0	40.0	40.5	0.0	0.0
LnGrp LOS	E	D	D	E	D	D	D	A	D	D	A	A
Approach Vol, veh/h		216			318			1001			51	
Approach Delay, s/veh		46.2			50.2			44.0			40.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		50.0	14.0	27.0		29.0	5.2	35.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		45.0	10.0	* 22		24.0	6.0	26.0				
Max Q Clear Time (g_c+I1), s		37.0	8.2	8.5		4.9	2.5	5.5				
Green Ext Time (p_c), s		3.5	0.1	0.9		0.2	0.0	0.6				

Intersection Summary	
HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



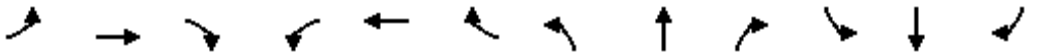
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	75	183	126	128	525	134	1520	95	36	2170	54
Future Volume (veh/h)	385	75	183	126	128	525	134	1520	95	36	2170	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	385	75	183	126	128	525	134	1520	0	36	2170	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	297	265	180	394	634	485	1745		515	2306	
Arrive On Green	0.11	0.17	0.17	0.05	0.11	0.11	0.27	0.34	0.00	0.29	0.36	0.00
Sat Flow, veh/h	3456	1777	1585	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	385	75	183	126	128	525	134	1520	0	36	2170	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	13.0	4.4	13.0	4.3	4.0	8.4	7.1	33.5	0.0	1.8	39.2	0.0
Cycle Q Clear(g_c), s	13.0	4.4	13.0	4.3	4.0	8.4	7.1	33.5	0.0	1.8	39.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	297	265	180	394	634	485	1745		515	2306	
V/C Ratio(X)	1.03	0.25	0.69	0.70	0.32	0.83	0.28	0.87		0.07	0.94	
Avail Cap(c_a), veh/h	374	592	528	230	1036	920	485	1745		515	2306	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.5	43.5	47.1	55.9	49.2	15.0	34.3	37.0	0.0	31.0	37.3	0.0
Incr Delay (d2), s/veh	54.0	0.4	3.2	6.4	0.5	4.2	0.3	6.3	0.0	0.1	9.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	2.0	5.4	2.0	1.8	8.5	3.1	14.8	0.0	0.8	16.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.5	43.9	50.3	62.3	49.7	19.2	34.7	43.3	0.0	31.0	46.5	0.0
LnGrp LOS	F	D	D	E	D	B	C	D		C	D	
Approach Vol, veh/h		643			779			1654	A		2206	A
Approach Delay, s/veh		83.8			31.2			42.6			46.3	
Approach LOS		F			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.7	46.0	10.3	25.1	36.7	48.0	17.0	18.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	41.0	8.0	40.0	11.0	43.0	13.0	35.0
Max Q Clear Time (g_c+I1), s	3.8	35.5	6.3	15.0	9.1	41.2	15.0	10.4
Green Ext Time (p_c), s	0.0	4.2	0.1	1.6	0.1	1.7	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



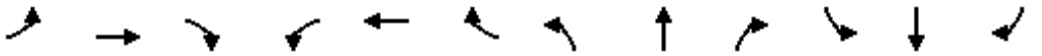
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	0	305	0	0	0	0	1631	372	758	1730	0
Future Volume (veh/h)	104	0	305	0	0	0	0	1631	372	758	1730	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	104	0	305				0	1631	372	758	1730	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	327	0	291				0	1874	423	835	3744	0
Arrive On Green	0.18	0.00	0.18				0.00	0.45	0.45	0.24	0.73	0.00
Sat Flow, veh/h	1781	0	1585				0	4333	940	3456	5274	0
Grp Volume(v), veh/h	104	0	305				0	1330	673	758	1730	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1701	1728	1702	0
Q Serve(g_s), s	6.1	0.0	22.0				0.0	42.3	43.2	25.6	16.4	0.0
Cycle Q Clear(g_c), s	6.1	0.0	22.0				0.0	42.3	43.2	25.6	16.4	0.0
Prop In Lane	1.00		1.00				0.00		0.55	1.00		0.00
Lane Grp Cap(c), veh/h	327	0	291				0	1532	766	835	3744	0
V/C Ratio(X)	0.32	0.00	1.05				0.00	0.87	0.88	0.91	0.46	0.00
Avail Cap(c_a), veh/h	327	0	291				0	1532	766	864	3744	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.5	0.0	49.0				0.0	29.8	30.0	44.2	6.5	0.0
Incr Delay (d2), s/veh	0.6	0.0	66.4				0.0	6.9	13.7	13.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	14.0				0.0	18.3	20.1	12.4	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	0.0	115.4				0.0	36.7	43.7	57.2	6.9	0.0
LnGrp LOS	D	A	F				A	D	D	E	A	A
Approach Vol, veh/h		409						2003			2488	
Approach Delay, s/veh		97.0						39.1			22.2	
Approach LOS		F						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.0	59.0		27.0		93.0
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	30.0	* 54		22.0		88.0
Max Q Clear Time (g_c+I1), s	27.6	45.2		24.0		18.4
Green Ext Time (p_c), s	0.8	7.3		0.0		23.6

Intersection Summary	
HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	1145	520	1009	1103	24	486	76	1244	108	49	28
Future Volume (veh/h)	48	1145	520	1009	1103	24	486	76	1244	108	49	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	1145	520	1009	1103	24	540	0	1244	108	49	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1096	489	1827	2278	50	623	0	1708	172	78	45
Arrive On Green	0.04	0.31	0.31	0.36	0.64	0.64	0.17	0.00	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3556	77	3563	0	3170	1034	469	268
Grp Volume(v), veh/h	48	1145	520	1009	551	576	540	0	1244	185	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1856	1781	0	1585	1770	0	0
Q Serve(g_s), s	3.2	37.0	37.0	19.2	19.4	19.4	17.7	0.0	0.0	11.7	0.0	0.0
Cycle Q Clear(g_c), s	3.2	37.0	37.0	19.2	19.4	19.4	17.7	0.0	0.0	11.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.58		0.15
Lane Grp Cap(c), veh/h	71	1096	489	1827	1138	1189	623	0	1708	295	0	0
V/C Ratio(X)	0.68	1.04	1.06	0.55	0.48	0.48	0.87	0.00	0.73	0.63	0.00	0.00
Avail Cap(c_a), veh/h	104	1096	489	1827	1138	1189	623	0	1708	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	41.5	41.5	30.4	11.2	11.2	48.1	0.0	21.0	46.5	0.0	0.0
Incr Delay (d2), s/veh	10.6	39.7	58.8	0.4	1.5	1.4	15.0	0.0	2.8	9.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	22.0	22.2	7.8	7.7	8.1	9.1	0.0	13.4	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	81.2	100.3	30.8	12.7	12.7	63.1	0.0	23.8	56.2	0.0	0.0
LnGrp LOS	E	F	F	C	B	B	E	A	C	E	A	A
Approach Vol, veh/h		1713			2136			1784			185	
Approach Delay, s/veh		86.6			21.2			35.7			56.2	
Approach LOS		F			C			D			E	

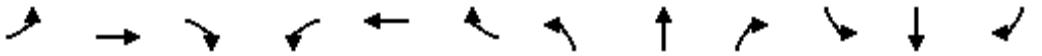
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.0	48.7	42.0		25.0	8.8	81.9				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		21.0	23.0	* 37		20.0	7.0	53.0				
Max Q Clear Time (g_c+I1), s		19.7	21.2	39.0		13.7	5.2	21.4				
Green Ext Time (p_c), s		1.0	0.9	0.0		0.5	0.0	9.1				

Intersection Summary												
HCM 6th Ctrl Delay			46.0									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	798	1500	14	92	1331	844	49	105	91	542	37	859
Future Volume (veh/h)	798	1500	14	92	1331	844	49	105	91	542	37	859
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	798	1500	14	92	1331	844	49	105	91	542	37	859
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	576	1486	14	117	1106	493	53	89	564	77	0	828
Arrive On Green	0.17	0.41	0.41	0.07	0.31	0.31	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	3456	3607	34	1781	3554	1585	0	250	1585	0	0	1585
Grp Volume(v), veh/h	798	738	776	92	1331	844	154	0	91	579	0	859
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	250	0	1585	0	0	1585
Q Serve(g_s), s	15.0	37.1	37.1	4.6	28.0	28.0	0.0	0.0	3.5	0.0	0.0	32.0
Cycle Q Clear(g_c), s	15.0	37.1	37.1	4.6	28.0	28.0	32.0	0.0	3.5	32.0	0.0	32.0
Prop In Lane	1.00		0.02	1.00		1.00	0.32		1.00	0.94		1.00
Lane Grp Cap(c), veh/h	576	732	768	117	1106	493	142	0	564	77	0	828
V/C Ratio(X)	1.39	1.01	1.01	0.79	1.20	1.71	1.09	0.00	0.16	7.48	0.00	1.04
Avail Cap(c_a), veh/h	576	732	768	119	1106	493	142	0	564	77	0	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	26.5	26.5	41.4	31.0	31.0	26.3	0.0	19.8	45.0	0.0	21.5
Incr Delay (d2), s/veh	184.1	35.4	34.9	28.1	100.5	328.7	101.0	0.0	0.6	2941.0	0.0	41.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.9	21.9	22.9	2.9	26.9	55.3	6.0	0.0	1.4	65.0	0.0	25.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	221.6	61.9	61.3	69.6	131.5	359.7	127.3	0.0	20.4	2986.0	0.0	63.0
LnGrp LOS	F	F	F	E	F	F	F	A	C	F	A	F
Approach Vol, veh/h		2312			2267			245			1438	
Approach Delay, s/veh		116.8			214.0			87.6			1239.9	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		37.0	10.9	42.1		37.0	20.0	33.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		32.0	6.0	37.0		32.0	15.0	28.0				
Max Q Clear Time (g_c+I1), s		34.0	6.6	39.1		34.0	17.0	30.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	408.7
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	22.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	2171	2652	155	18	80
Future Vol, veh/h	120	2171	2652	155	18	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	2171	2652	155	18	80

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2807	0	-	0	3838	1404
Stage 1	-	-	-	-	2730	-
Stage 2	-	-	-	-	1108	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 48	-	-	-	~ 9	111
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	250	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 48	-	-	-	0	111
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	250	-

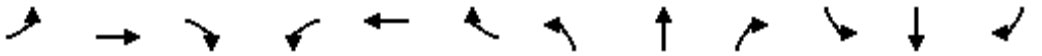
Approach	EB	WB	SB
HCM Control Delay, s	45.2	0	127.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 48	-	-	-	111
HCM Lane V/C Ratio	2.5	-	-	-	0.883
HCM Control Delay (s)	$ 862.8	-	-	-	127.6
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.6	-	-	-	5.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX I-IX

YEAR 2035 BUILDOUT PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS



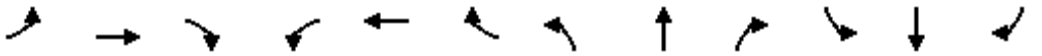
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	721	225	259	736	125	233	1634	230	228	2500	357
Future Volume (veh/h)	186	721	225	259	736	125	233	1634	230	228	2500	357
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	721	225	259	736	125	233	1634	230	228	2500	357
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	711	222	259	870	388	593	3738	921	255	2466	608
Arrive On Green	0.09	0.27	0.27	0.08	0.24	0.24	0.33	0.58	0.58	0.14	0.38	0.38
Sat Flow, veh/h	3456	2666	832	3456	3554	1585	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	186	481	465	259	736	125	233	1634	230	228	2500	357
Grp Sat Flow(s),veh/h/ln	1728	1777	1721	1728	1777	1585	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	6.2	32.0	32.0	9.0	23.7	7.7	12.1	17.1	8.5	15.1	46.0	21.5
Cycle Q Clear(g_c), s	6.2	32.0	32.0	9.0	23.7	7.7	12.1	17.1	8.5	15.1	46.0	21.5
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	474	459	259	870	388	593	3738	921	255	2466	608
V/C Ratio(X)	0.61	1.01	1.01	1.00	0.85	0.32	0.39	0.44	0.25	0.89	1.01	0.59
Avail Cap(c_a), veh/h	305	474	459	259	1036	462	593	3738	921	282	2466	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	44.0	44.0	55.5	43.1	36.9	30.7	14.1	12.3	50.5	37.0	29.4
Incr Delay (d2), s/veh	3.5	45.0	45.7	55.7	5.7	0.5	0.4	0.4	0.6	26.5	21.6	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	19.8	19.3	5.9	11.0	3.1	5.3	6.2	3.1	8.6	21.4	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	89.0	89.7	111.2	48.8	37.4	31.2	14.5	13.0	77.0	58.6	33.6
LnGrp LOS	E	F	F	F	D	D	C	B	B	E	F	C
Approach Vol, veh/h		1132			1120			2097			3085	
Approach Delay, s/veh		83.9			62.0			16.2			57.0	
Approach LOS		F			E			B			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.2	74.8	13.0	37.0	45.0	51.0	15.6	34.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	19.0	42.0	9.0	32.0	15.0	* 46	6.0	* 35
Max Q Clear Time (g_c+I1), s	17.1	19.1	11.0	34.0	14.1	48.0	8.2	25.7
Green Ext Time (p_c), s	0.1	14.2	0.0	0.0	0.1	0.0	0.0	3.7

Intersection Summary	
HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



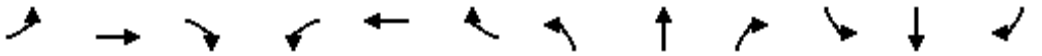
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1454	223	695	1471	302	264	1181	857	447	1860	321
Future Volume (veh/h)	124	1454	223	695	1471	302	264	1181	857	447	1860	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	1454	223	695	1471	302	264	1181	857	447	1860	321
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1551	238	346	2063	640	1756	5039	2464	288	2252	555
Arrive On Green	0.05	0.35	0.35	0.10	0.40	0.40	0.51	0.78	0.78	0.08	0.35	0.35
Sat Flow, veh/h	3456	4467	684	3456	5106	1585	3456	6434	2790	3456	6434	1585
Grp Volume(v), veh/h	124	1108	569	695	1471	302	264	1181	857	447	1860	321
Grp Sat Flow(s),veh/h/ln	1728	1702	1747	1728	1702	1585	1728	1609	1395	1728	1609	1585
Q Serve(g_s), s	4.2	37.8	37.9	12.0	28.9	16.8	4.9	5.8	14.9	10.0	31.7	30.3
Cycle Q Clear(g_c), s	4.2	37.8	37.9	12.0	28.9	16.8	4.9	5.8	14.9	10.0	31.7	30.3
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1182	607	346	2063	640	1756	5039	2464	288	2252	555
V/C Ratio(X)	0.70	0.94	0.94	2.01	0.71	0.47	0.15	0.23	0.35	1.55	0.83	0.58
Avail Cap(c_a), veh/h	230	1191	612	346	2063	640	1756	5039	2464	288	2252	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.9	37.9	54.0	29.9	26.3	15.7	3.5	17.6	55.0	35.7	74.6
Incr Delay (d2), s/veh	6.1	13.6	22.3	465.2	1.2	0.5	0.0	0.1	0.3	265.0	3.6	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	17.7	19.7	27.5	11.9	6.4	1.9	1.6	4.1	14.9	12.8	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	51.5	60.3	519.2	31.1	26.9	15.7	3.5	17.9	320.0	39.3	78.9
LnGrp LOS	E	D	E	F	C	C	B	A	B	F	D	E
Approach Vol, veh/h		1801			2468			2302			2628	
Approach Delay, s/veh		55.0			168.0			10.3			91.9	
Approach LOS		E			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	100.7	17.0	46.7	67.7	47.0	10.2	53.5
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	10.0	38.0	12.0	* 42	6.0	* 42	8.0	46.0
Max Q Clear Time (g_c+I1), s	12.0	16.9	14.0	39.9	6.9	33.7	6.2	30.9
Green Ext Time (p_c), s	0.0	13.1	0.0	1.8	0.0	7.0	0.1	9.9

Intersection Summary	
HCM 6th Ctrl Delay	84.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



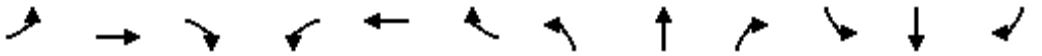
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	2272	333	294	2013	343	248	582	275	624	988	76
Future Volume (veh/h)	170	2272	333	294	2013	343	248	582	275	624	988	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	2272	333	294	2013	343	248	582	275	624	988	76
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1731	246	173	1763	294	311	1155	515	2217	3145	1403
Arrive On Green	0.04	0.38	0.38	0.05	0.40	0.40	0.09	0.32	0.32	0.64	0.89	0.89
Sat Flow, veh/h	3456	4516	643	3456	4407	735	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	170	1696	909	294	1545	811	248	582	275	624	988	76
Grp Sat Flow(s),veh/h/ln	1728	1702	1755	1728	1702	1738	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.0	46.0	46.0	6.0	48.0	48.0	8.4	15.9	17.0	9.5	5.3	0.7
Cycle Q Clear(g_c), s	5.0	46.0	46.0	6.0	48.0	48.0	8.4	15.9	17.0	9.5	5.3	0.7
Prop In Lane	1.00		0.37	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	1305	673	173	1362	695	311	1155	515	2217	3145	1403
V/C Ratio(X)	1.18	1.30	1.35	1.70	1.13	1.17	0.80	0.50	0.53	0.28	0.31	0.05
Avail Cap(c_a), veh/h	144	1305	673	173	1362	695	432	1155	515	2217	3145	1403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	37.0	37.0	57.0	36.0	36.0	53.5	32.7	33.1	9.4	1.1	0.8
Incr Delay (d2), s/veh	131.7	140.6	167.8	339.2	70.3	89.9	7.1	1.6	3.9	0.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	44.2	50.6	10.8	32.7	37.2	4.0	7.1	7.1	3.5	0.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	189.2	177.6	204.8	396.2	106.3	125.9	60.6	34.3	37.0	9.5	1.4	0.9
LnGrp LOS	F	F	F	F	F	F	E	C	D	A	A	A
Approach Vol, veh/h		2775			2650			1105			1688	
Approach Delay, s/veh		187.2			144.5			40.9			4.3	
Approach LOS		F			F			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	84.0	44.0	11.0	51.0	14.8	113.2	9.0	53.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	* 39	6.0	* 46	15.0	35.0	5.0	47.0
Max Q Clear Time (g_c+I1), s	11.5	19.0	8.0	48.0	10.4	7.3	7.0	50.0
Green Ext Time (p_c), s	0.0	4.9	0.0	0.0	0.3	8.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	116.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



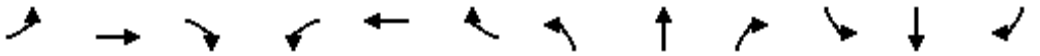
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1899	802	378	1627	346	544	672	335	310	1504	310
Future Volume (veh/h)	370	1899	802	378	1627	346	544	672	335	310	1504	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	1899	802	378	1627	346	544	672	335	310	1504	310
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	1415	543	230	1735	539	909	1787	555	909	1787	726
Arrive On Green	0.11	0.39	0.39	0.07	0.34	0.34	0.26	0.35	0.35	0.26	0.35	0.35
Sat Flow, veh/h	3456	3630	1394	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	370	1769	932	378	1627	346	544	672	335	310	1504	310
Grp Sat Flow(s),veh/h/ln	1728	1702	1620	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.8	46.8	46.8	8.0	37.0	22.1	16.5	11.8	23.4	8.7	32.6	2.8
Cycle Q Clear(g_c), s	12.8	46.8	46.8	8.0	37.0	22.1	16.5	11.8	23.4	8.7	32.6	2.8
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	1327	631	230	1735	539	909	1787	555	909	1787	726
V/C Ratio(X)	0.99	1.33	1.48	1.64	0.94	0.64	0.60	0.38	0.60	0.34	0.84	0.43
Avail Cap(c_a), veh/h	374	1327	631	230	1745	542	909	1787	555	909	1787	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	36.6	36.6	56.0	38.4	33.5	38.7	29.2	40.3	35.8	35.9	21.9
Incr Delay (d2), s/veh	43.3	155.2	222.9	307.1	10.2	2.6	1.1	0.6	4.8	0.2	5.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	47.6	57.1	13.3	16.9	8.8	7.1	4.9	9.8	3.7	14.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.7	191.8	259.5	363.1	48.6	36.0	39.8	29.8	45.1	36.0	40.9	23.7
LnGrp LOS	F	F	F	F	D	D	D	C	D	D	D	C
Approach Vol, veh/h		3071			2351			1551			2124	
Approach Delay, s/veh		200.9			97.3			36.6			37.7	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.3	47.0	12.0	51.8	36.3	47.0	18.0	45.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	42.0	8.0	46.0	6.0	42.0	13.0	* 41
Max Q Clear Time (g_c+I1), s	10.7	25.4	10.0	48.8	18.5	34.6	14.8	39.0
Green Ext Time (p_c), s	0.0	5.5	0.0	0.0	0.0	5.7	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	108.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



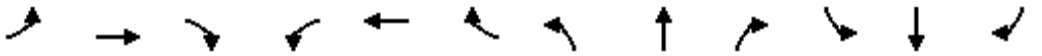
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	1132	215	489	1160	231	301	1047	300	236	1801	265
Future Volume (veh/h)	415	1132	215	489	1160	231	301	1047	300	236	1801	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	1132	215	489	1160	231	301	1047	300	236	1801	265
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1125	502	346	1010	200	359	1957	608	2059	3976	580
Arrive On Green	0.08	0.32	0.32	0.10	0.34	0.34	0.10	0.38	0.38	0.60	0.88	0.88
Sat Flow, veh/h	3456	3554	1585	3456	2957	585	3456	5106	1585	3456	4500	657
Grp Volume(v), veh/h	415	1132	215	489	694	697	301	1047	300	236	1359	707
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1765	1728	1702	1585	1728	1702	1752
Q Serve(g_s), s	10.0	38.0	20.1	12.0	41.0	41.0	10.3	19.1	17.3	3.6	9.3	9.4
Cycle Q Clear(g_c), s	10.0	38.0	20.1	12.0	41.0	41.0	10.3	19.1	17.3	3.6	9.3	9.4
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	288	1125	502	346	607	603	359	1957	608	2059	3008	1548
V/C Ratio(X)	1.44	1.01	0.43	1.42	1.14	1.16	0.84	0.53	0.49	0.11	0.45	0.46
Avail Cap(c_a), veh/h	288	1125	502	346	607	603	403	1957	608	2059	3008	1548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	41.0	79.0	54.0	39.5	39.5	52.8	28.7	28.1	10.5	1.4	1.4
Incr Delay (d2), s/veh	217.2	28.3	0.6	203.1	83.0	87.7	13.3	1.1	2.9	0.0	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	20.8	8.2	15.0	31.6	32.1	5.1	7.9	7.0	1.4	1.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.2	69.3	79.6	257.1	122.5	127.2	66.1	29.8	31.0	10.5	1.8	2.3
LnGrp LOS	F	F	E	F	F	F	E	C	C	B	A	A
Approach Vol, veh/h		1762			1880			1648			2302	
Approach Delay, s/veh		118.3			159.2			36.6			2.9	
Approach LOS		F			F			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	78.1	51.0	17.0	43.0	16.5	112.6	14.0	46.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 46	12.0	* 38	14.0	38.0	10.0	40.0
Max Q Clear Time (g_c+I1), s	5.6	21.1	14.0	40.0	12.3	11.4	12.0	43.0
Green Ext Time (p_c), s	0.0	9.6	0.0	0.0	0.2	18.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	75.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



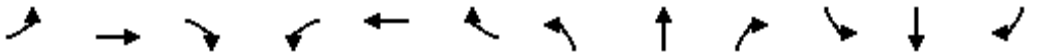
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	742	790	361	773	90	434	1542	286	155	1921	596
Future Volume (veh/h)	209	742	790	361	773	90	434	1542	286	155	1921	596
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	742	790	361	773	90	434	1542	286	155	1921	596
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	737	1214	820	317	1021	118	607	2247	697	182	2306	906
Arrive On Green	0.21	0.34	0.34	0.09	0.22	0.22	0.18	0.44	0.44	0.10	0.36	0.36
Sat Flow, veh/h	3456	3554	1585	3456	4641	537	3456	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	209	742	790	361	566	297	434	1542	286	155	1921	596
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1774	1728	1702	1585	1781	1609	1585
Q Serve(g_s), s	6.1	20.8	36.5	11.0	18.7	18.9	14.2	29.1	13.7	10.3	32.8	5.4
Cycle Q Clear(g_c), s	6.1	20.8	36.5	11.0	18.7	18.9	14.2	29.1	13.7	10.3	32.8	5.4
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	737	1214	820	317	749	390	607	2247	697	182	2306	906
V/C Ratio(X)	0.28	0.61	0.96	1.14	0.76	0.76	0.72	0.69	0.41	0.85	0.83	0.66
Avail Cap(c_a), veh/h	737	1244	833	317	1106	576	607	2247	697	208	2306	906
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	32.9	27.9	54.5	43.8	43.9	46.6	27.0	19.7	53.0	35.2	17.6
Incr Delay (d2), s/veh	0.2	0.9	22.5	93.9	1.7	3.5	4.0	1.7	1.8	24.9	3.7	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	9.1	16.6	8.9	8.0	8.6	6.4	12.0	5.4	5.8	13.3	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	33.7	50.4	148.4	45.5	47.3	50.6	28.7	21.5	77.8	38.9	21.4
LnGrp LOS	D	C	D	F	D	D	D	C	C	E	D	C
Approach Vol, veh/h		1741			1224			2262			2672	
Approach Delay, s/veh		42.0			76.3			32.0			37.3	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	57.8	15.0	46.0	26.1	48.0	29.6	31.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	14.0	35.0	11.0	42.0	6.0	* 43	14.0	39.0
Max Q Clear Time (g_c+I1), s	12.3	31.1	13.0	38.5	16.2	34.8	8.1	20.9
Green Ext Time (p_c), s	0.1	3.3	0.0	2.5	0.0	7.3	0.3	5.5

Intersection Summary	
HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



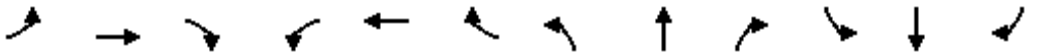
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	467	513	100	110	695	179	106	1961	76	90	2324	390
Future Volume (veh/h)	467	513	100	110	695	179	106	1961	76	90	2324	390
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	467	513	100	110	695	179	106	1961	76	90	2324	390
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1035	462	168	852	568	168	1934	75	409	2357	732
Arrive On Green	0.10	0.29	0.29	0.05	0.24	0.24	0.05	0.38	0.38	0.12	0.46	0.46
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5044	195	3456	5106	1585
Grp Volume(v), veh/h	467	513	100	110	695	179	106	1322	715	90	2324	390
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1585
Q Serve(g_s), s	12.0	14.4	5.7	3.8	22.2	2.0	3.6	46.0	46.0	2.8	54.0	21.1
Cycle Q Clear(g_c), s	12.0	14.4	5.7	3.8	22.2	2.0	3.6	46.0	46.0	2.8	54.0	21.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	346	1035	462	168	852	568	168	1305	704	409	2357	732
V/C Ratio(X)	1.35	0.50	0.22	0.65	0.82	0.32	0.63	1.01	1.02	0.22	0.99	0.53
Avail Cap(c_a), veh/h	346	1303	581	173	1125	690	173	1305	704	409	2357	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	35.2	32.2	56.1	43.1	13.4	56.0	37.0	37.0	47.9	31.9	23.1
Incr Delay (d2), s/veh	176.1	0.4	0.2	8.2	3.6	0.3	7.0	28.2	38.0	0.3	15.5	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	6.3	2.2	1.8	10.1	2.3	1.7	23.8	27.6	1.2	24.8	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	230.1	35.6	32.4	64.3	46.7	13.7	63.0	65.2	75.0	48.1	47.5	25.8
LnGrp LOS	F	D	C	E	D	B	E	F	F	D	D	C
Approach Vol, veh/h		1080			984			2143			2804	
Approach Delay, s/veh		119.4			42.7			68.4			44.5	
Approach LOS		F			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	51.0	9.8	39.9	9.8	60.4	16.0	33.8
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 46	6.0	44.0	6.0	46.0	12.0	38.0
Max Q Clear Time (g_c+I1), s	4.8	48.0	5.8	16.4	5.6	56.0	14.0	24.2
Green Ext Time (p_c), s	0.0	0.0	0.0	4.0	0.0	0.0	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	63.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	448	1293	13	72	1468	530	13	44	54	578	48	813
Future Volume (veh/h)	448	1293	13	72	1468	530	13	44	54	578	48	813
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	448	1293	13	72	1468	530	13	44	54	612	0	813
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1149	2515	25	92	1451	647	134	57	70	831	0	1794
Arrive On Green	0.33	0.70	0.70	0.05	0.41	0.41	0.08	0.08	0.08	0.23	0.00	0.23
Sat Flow, veh/h	3456	3604	36	1781	3554	1585	1781	764	938	3563	0	3170
Grp Volume(v), veh/h	448	637	669	72	1468	530	13	0	98	612	0	813
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1702	1781	0	1585
Q Serve(g_s), s	11.9	20.3	20.3	4.8	49.0	35.7	0.8	0.0	6.8	19.1	0.0	0.0
Cycle Q Clear(g_c), s	11.9	20.3	20.3	4.8	49.0	35.7	0.8	0.0	6.8	19.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	1149	1240	1300	92	1451	647	134	0	128	831	0	1794
V/C Ratio(X)	0.39	0.51	0.51	0.78	1.01	0.82	0.10	0.00	0.77	0.74	0.00	0.45
Avail Cap(c_a), veh/h	1149	1240	1300	134	1451	647	134	0	128	831	0	1794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.7	8.6	8.6	56.2	35.5	31.6	51.7	0.0	54.5	42.6	0.0	15.2
Incr Delay (d2), s/veh	0.2	1.5	1.5	16.7	26.5	11.1	1.4	0.0	35.0	5.8	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	7.7	8.0	2.6	26.0	15.4	0.4	0.0	4.1	9.0	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	10.1	10.0	72.9	62.0	42.6	53.2	0.0	89.4	48.3	0.0	16.0
LnGrp LOS	C	B	B	E	F	D	D	A	F	D	A	B
Approach Vol, veh/h		1754			2070			111			1425	
Approach Delay, s/veh		15.4			57.4			85.2			29.9	
Approach LOS		B			E			F			C	

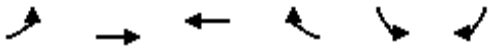
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	14.0	10.2	88.9	33.0	45.1	54.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	9.0	9.0	55.0	28.0	15.0	* 49
Max Q Clear Time (g_c+I1), s	8.8	6.8	22.3	21.1	13.9	51.0
Green Ext Time (p_c), s	0.0	0.0	11.5	3.5	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



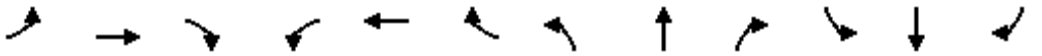
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	2575	2252	57	54	300
Future Volume (veh/h)	85	2575	2252	57	54	300
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	85	2575	2252	57	54	300
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	107	2681	2210	56	98	542
Arrive On Green	0.06	0.52	0.43	0.43	0.39	0.39
Sat Flow, veh/h	1781	5274	5290	129	249	1385
Grp Volume(v), veh/h	85	2575	1495	814	355	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1847	1638	0
Q Serve(g_s), s	5.7	58.0	51.8	51.8	20.2	0.0
Cycle Q Clear(g_c), s	5.7	58.0	51.8	51.8	20.2	0.0
Prop In Lane	1.00			0.07	0.15	0.85
Lane Grp Cap(c), veh/h	107	2681	1469	797	642	0
V/C Ratio(X)	0.79	0.96	1.02	1.02	0.55	0.00
Avail Cap(c_a), veh/h	148	2681	1469	797	642	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.6	27.3	34.1	34.1	28.3	0.0
Incr Delay (d2), s/veh	17.7	10.3	28.0	37.6	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	25.0	26.5	30.9	8.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	73.3	37.6	62.1	71.7	31.8	0.0
LnGrp LOS	E	D	F	F	C	A
Approach Vol, veh/h		2660	2309		355	
Approach Delay, s/veh		38.8	65.5		31.8	
Approach LOS		D	E		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			68.0		52.0	11.2	56.8
Change Period (Y+Rc), s			5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s			63.0		47.0	10.0	49.0
Max Q Clear Time (g_c+I1), s			60.0		22.2	7.7	53.8
Green Ext Time (p_c), s			2.9		1.2	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay	49.9	
HCM 6th LOS	D	

Notes

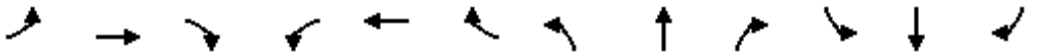
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	425	667	195	245	650	187	242	2308	268	227	1877	262
Future Volume (veh/h)	425	667	195	245	650	187	242	2308	268	227	1877	262
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	425	667	195	245	650	187	242	2308	268	227	1877	262
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	487	746	218	312	797	355	267	2636	649	134	2154	531
Arrive On Green	0.14	0.28	0.28	0.09	0.22	0.22	0.15	0.41	0.41	0.08	0.33	0.33
Sat Flow, veh/h	3456	2712	792	3456	3554	1585	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	425	437	425	245	650	187	242	2308	268	227	1877	262
Grp Sat Flow(s),veh/h/ln	1728	1777	1728	1728	1777	1585	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	14.5	28.4	28.4	8.3	20.8	10.0	16.0	39.6	10.4	9.0	32.9	10.7
Cycle Q Clear(g_c), s	14.5	28.4	28.4	8.3	20.8	10.0	16.0	39.6	10.4	9.0	32.9	10.7
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	487	489	475	312	797	355	267	2636	649	134	2154	531
V/C Ratio(X)	0.87	0.89	0.89	0.79	0.82	0.53	0.91	0.88	0.41	1.70	0.87	0.49
Avail Cap(c_a), veh/h	547	533	518	518	1036	462	267	2636	649	134	2154	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	41.8	41.8	53.5	44.2	26.6	50.2	32.6	13.1	55.5	37.5	14.5
Incr Delay (d2), s/veh	13.3	16.5	17.0	4.4	4.0	1.2	31.6	4.5	1.9	344.5	5.2	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	14.6	14.2	3.8	9.6	3.9	9.5	15.9	4.0	16.8	13.6	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	58.3	58.8	57.9	48.2	27.8	81.8	37.1	15.0	400.0	42.7	17.8
LnGrp LOS	E	E	E	E	D	C	F	D	B	F	D	B
Approach Vol, veh/h		1287			1082			2818			2366	
Approach Delay, s/veh		60.3			46.8			38.8			74.2	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	54.2	14.8	38.0	22.0	45.2	20.9	31.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	18.0	36.0	18.0	30.0	19.0	35.0
Max Q Clear Time (g_c+I1), s	11.0	41.6	10.3	30.4	18.0	34.9	16.5	22.8
Green Ext Time (p_c), s	0.0	0.0	0.5	2.6	0.0	0.0	0.4	4.1

Intersection Summary	
HCM 6th Ctrl Delay	54.7
HCM 6th LOS	D



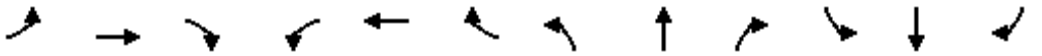
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	1301	283	653	1232	377	377	1781	600	624	1590	348
Future Volume (veh/h)	262	1301	283	653	1232	377	377	1781	600	624	1590	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	1301	283	653	1232	377	377	1781	600	624	1590	348
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1435	312	288	1788	555	1140	3892	1920	346	2359	581
Arrive On Green	0.08	0.34	0.34	0.08	0.35	0.35	0.33	0.60	0.60	0.10	0.37	0.37
Sat Flow, veh/h	3456	4198	913	3456	5106	1585	3456	6434	2790	3456	6434	1585
Grp Volume(v), veh/h	262	1055	529	653	1232	377	377	1781	600	624	1590	348
Grp Sat Flow(s),veh/h/ln	1728	1702	1706	1728	1702	1585	1728	1609	1395	1728	1609	1585
Q Serve(g_s), s	9.0	35.5	35.5	10.0	24.8	24.3	9.8	18.1	7.0	12.0	24.9	25.8
Cycle Q Clear(g_c), s	9.0	35.5	35.5	10.0	24.8	24.3	9.8	18.1	7.0	12.0	24.9	25.8
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1164	583	288	1788	555	1140	3892	1920	346	2359	581
V/C Ratio(X)	0.91	0.91	0.91	2.27	0.69	0.68	0.33	0.46	0.31	1.81	0.67	0.60
Avail Cap(c_a), veh/h	288	1191	597	288	1788	555	1140	3892	1920	346	2359	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.39	0.39	0.39	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	37.7	37.7	55.0	33.4	33.2	30.2	13.0	14.2	54.0	32.0	44.8
Incr Delay (d2), s/veh	30.8	9.9	17.5	581.4	1.1	3.3	0.1	0.2	0.2	373.9	1.6	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	16.2	17.4	27.6	10.3	9.8	4.1	6.4	3.5	23.1	9.9	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.3	47.6	55.1	636.4	34.5	36.6	30.3	13.1	14.4	427.9	33.5	49.3
LnGrp LOS	F	D	E	F	C	D	C	B	B	F	C	D
Approach Vol, veh/h		1846			2262			2758			2562	
Approach Delay, s/veh		55.1			208.6			15.7			131.7	
Approach LOS		E			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	78.6	15.0	46.0	45.6	49.0	14.0	47.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	12.0	38.0	10.0	* 42	6.0	* 44	10.0	42.0
Max Q Clear Time (g_c+I1), s	14.0	20.1	12.0	37.5	11.8	27.8	11.0	26.8
Green Ext Time (p_c), s	0.0	14.0	0.0	3.5	0.0	11.3	0.0	8.9

Intersection Summary	
HCM 6th Ctrl Delay	101.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



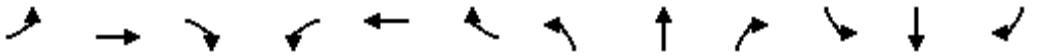
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	1726	265	322	2298	248	357	789	218	183	554	99
Future Volume (veh/h)	171	1726	265	322	2298	248	357	789	218	183	554	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	1726	265	322	2298	248	357	789	218	183	554	99
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1676	256	317	1954	207	1922	2865	1278	230	1096	489
Arrive On Green	0.04	0.38	0.38	0.09	0.42	0.42	0.56	0.81	0.81	0.07	0.31	0.31
Sat Flow, veh/h	3456	4470	682	3456	4689	496	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	171	1312	679	322	1656	890	357	789	218	183	554	99
Grp Sat Flow(s),veh/h/ln	1728	1702	1748	1728	1702	1781	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.0	45.0	45.0	11.0	50.0	50.0	6.1	6.6	3.7	6.3	15.3	5.5
Cycle Q Clear(g_c), s	5.0	45.0	45.0	11.0	50.0	50.0	6.1	6.6	3.7	6.3	15.3	5.5
Prop In Lane	1.00		0.39	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	1277	655	317	1418	742	1922	2865	1278	230	1096	489
V/C Ratio(X)	1.19	1.03	1.04	1.02	1.17	1.20	0.19	0.28	0.17	0.79	0.51	0.20
Avail Cap(c_a), veh/h	144	1277	655	317	1418	742	1922	2865	1278	230	1096	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	37.5	37.5	54.5	35.0	35.0	13.2	2.9	2.6	55.2	34.0	30.6
Incr Delay (d2), s/veh	134.2	32.5	45.0	54.8	83.4	102.5	0.0	0.2	0.3	17.2	1.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	24.1	27.0	7.2	36.5	42.2	2.4	1.9	1.0	3.3	6.9	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	191.7	70.0	82.5	109.3	118.4	137.5	13.2	3.1	2.9	72.4	35.7	31.5
LnGrp LOS	F	F	F	F	F	F	B	A	A	E	D	C
Approach Vol, veh/h		2162			2868			1364			836	
Approach Delay, s/veh		83.5			123.3			5.7			43.2	
Approach LOS		F			F			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	102.8	15.0	50.0	72.8	42.0	10.0	55.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	8.0	39.0	11.0	44.0	10.0	* 37	5.0	* 50
Max Q Clear Time (g_c+I1), s	8.3	8.6	13.0	47.0	8.1	17.3	7.0	52.0
Green Ext Time (p_c), s	0.0	7.2	0.0	0.0	0.3	4.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	80.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



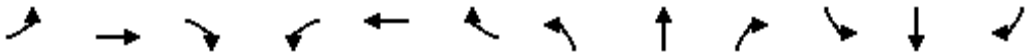
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	397	1446	382	419	1848	315	804	1234	321	313	862	397
Future Volume (veh/h)	397	1446	382	419	1848	315	804	1234	321	313	862	397
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	397	1446	382	419	1848	315	804	1234	321	313	862	397
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1275	335	288	1659	515	1353	1830	568	1267	1702	660
Arrive On Green	0.08	0.32	0.32	0.08	0.32	0.32	0.39	0.36	0.36	0.37	0.33	0.33
Sat Flow, veh/h	3456	4026	1058	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	397	1221	607	419	1848	315	804	1234	321	313	862	397
Grp Sat Flow(s),veh/h/ln	1728	1702	1680	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.0	38.0	38.0	10.0	39.0	15.4	22.1	24.5	19.6	7.6	16.2	21.7
Cycle Q Clear(g_c), s	10.0	38.0	38.0	10.0	39.0	15.4	22.1	24.5	19.6	7.6	16.2	21.7
Prop In Lane	1.00		0.63	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1078	532	288	1659	515	1353	1830	568	1267	1702	660
V/C Ratio(X)	1.38	1.13	1.14	1.45	1.11	0.61	0.59	0.67	0.57	0.25	0.51	0.60
Avail Cap(c_a), veh/h	288	1078	532	288	1659	515	1353	1830	568	1267	1702	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	41.0	41.0	55.0	40.5	20.0	28.9	32.6	31.0	26.5	32.1	35.5
Incr Delay (d2), s/veh	190.7	71.7	83.9	223.1	60.2	2.1	0.7	2.0	4.0	0.1	1.1	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	26.4	27.9	13.3	25.3	5.9	9.2	10.4	8.1	3.2	6.9	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	245.7	112.7	124.9	278.1	100.7	22.1	29.6	34.6	35.0	26.6	33.2	39.5
LnGrp LOS	F	F	F	F	F	C	C	C	D	C	C	D
Approach Vol, veh/h		2225			2582			2359			1572	
Approach Delay, s/veh		139.8			119.9			33.0			33.5	
Approach LOS		F			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.0	48.0	15.0	43.0	52.0	45.0	14.0	44.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	43.0	10.0	* 38	14.0	40.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	9.6	26.5	12.0	40.0	24.1	23.7	12.0	41.0
Green Ext Time (p_c), s	0.2	9.2	0.0	0.0	0.0	7.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	85.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



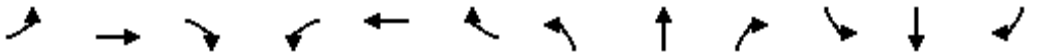
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	1076	436	939	1513	202	431	1741	341	266	1443	101
Future Volume (veh/h)	199	1076	436	939	1513	202	431	1741	341	266	1443	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	1076	436	939	1513	202	431	1741	341	266	1443	101
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1125	502	576	1420	187	374	1659	515	2008	3928	275
Arrive On Green	0.04	0.32	0.32	0.17	0.45	0.45	0.11	0.32	0.32	0.58	0.81	0.81
Sat Flow, veh/h	3456	3554	1585	3456	3156	416	3456	5106	1585	3456	4872	341
Grp Volume(v), veh/h	199	1076	436	939	843	872	431	1741	341	266	1008	536
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1795	1728	1702	1585	1728	1702	1809
Q Serve(g_s), s	5.0	35.6	38.0	20.0	54.0	54.0	13.0	39.0	22.2	4.2	9.8	9.8
Cycle Q Clear(g_c), s	5.0	35.6	38.0	20.0	54.0	54.0	13.0	39.0	22.2	4.2	9.8	9.8
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	144	1125	502	576	800	808	374	1659	515	2008	2744	1458
V/C Ratio(X)	1.38	0.96	0.87	1.63	1.05	1.08	1.15	1.05	0.66	0.13	0.37	0.37
Avail Cap(c_a), veh/h	144	1125	502	576	800	808	374	1659	515	2008	2744	1458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	40.2	130.5	50.0	33.0	33.0	53.5	40.5	34.8	11.4	3.2	3.2
Incr Delay (d2), s/veh	209.1	17.3	15.0	291.5	47.1	55.3	94.4	36.2	6.6	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	18.0	2.1	31.9	32.9	35.1	10.5	21.6	9.5	1.6	2.7	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	266.6	57.5	145.5	341.5	80.1	88.3	147.9	76.7	41.4	11.4	3.6	3.9
LnGrp LOS	F	E	F	F	F	F	F	F	D	B	A	A
Approach Vol, veh/h		1711			2654			2513			1810	
Approach Delay, s/veh		104.2			175.3			84.2			4.8	
Approach LOS		F			F			F			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	76.7	44.0	25.0	43.0	17.0	103.7	9.0	59.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	5.0	* 39	20.0	* 38	13.0	31.0	5.0	53.0
Max Q Clear Time (g_c+I1), s	6.2	41.0	22.0	40.0	15.0	11.8	7.0	56.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	99.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	713	514	277	932	255	664	2137	206	225	1604	261
Future Volume (veh/h)	388	713	514	277	932	255	664	2137	206	225	1604	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	388	713	514	277	932	255	664	2137	206	225	1604	261
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	920	704	337	1122	306	641	2096	651	134	1877	594
Arrive On Green	0.08	0.26	0.26	0.10	0.28	0.28	0.19	0.41	0.41	0.08	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	3990	1088	3456	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	388	713	514	277	795	392	664	2137	206	225	1604	261
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1674	1728	1702	1585	1781	1609	1585
Q Serve(g_s), s	10.0	22.3	9.8	9.4	26.3	26.4	22.3	49.3	7.3	9.0	28.2	7.6
Cycle Q Clear(g_c), s	10.0	22.3	9.8	9.4	26.3	26.4	22.3	49.3	7.3	9.0	28.2	7.6
Prop In Lane	1.00		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	920	704	337	957	471	641	2096	651	134	1877	594
V/C Ratio(X)	1.35	0.78	0.73	0.82	0.83	0.83	1.04	1.02	0.32	1.68	0.85	0.44
Avail Cap(c_a), veh/h	288	1244	849	337	1078	530	641	2096	651	134	1877	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	41.2	27.4	53.1	40.4	40.5	48.9	35.4	11.5	55.5	40.1	11.2
Incr Delay (d2), s/veh	177.6	2.2	2.6	15.1	5.1	10.0	45.2	24.8	1.3	338.1	5.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	10.0	12.4	4.8	11.6	12.1	13.6	24.7	2.8	16.6	11.7	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	232.6	43.4	30.0	68.2	45.5	50.5	94.1	60.1	12.8	393.6	45.3	13.5
LnGrp LOS	F	D	C	E	D	D	F	F	B	F	D	B
Approach Vol, veh/h		1615			1464			3007			2090	
Approach Delay, s/veh		84.6			51.1			64.4			78.8	
Approach LOS		F			D			E			E	

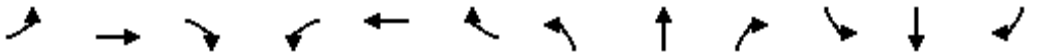
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	54.3	16.7	36.1	27.3	40.0	14.0	38.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	45.0	6.0	* 42	19.0	* 35	10.0	38.0
Max Q Clear Time (g_c+I1), s	11.0	51.3	11.4	24.3	24.3	30.2	12.0	28.4
Green Ext Time (p_c), s	0.0	0.0	0.0	6.7	0.0	4.0	0.0	5.4

Intersection Summary	
HCM 6th Ctrl Delay	69.7
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

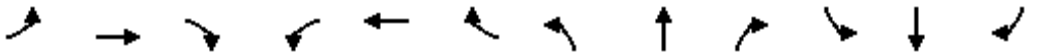
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	657	637	125	112	553	252	155	2210	70	159	2003	376
Future Volume (veh/h)	657	637	125	112	553	252	155	2210	70	159	2003	376
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	657	637	125	112	553	252	155	2210	70	159	2003	376
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	461	810	361	368	715	398	173	2367	75	173	2377	738
Arrive On Green	0.13	0.23	0.23	0.11	0.20	0.20	0.05	0.47	0.47	0.05	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5085	161	3456	5106	1585
Grp Volume(v), veh/h	657	637	125	112	553	252	155	1477	803	159	2003	376
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1841	1728	1702	1585
Q Serve(g_s), s	16.0	20.2	6.6	3.6	17.7	11.5	5.4	49.2	49.6	5.5	41.4	12.2
Cycle Q Clear(g_c), s	16.0	20.2	6.6	3.6	17.7	11.5	5.4	49.2	49.6	5.5	41.4	12.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	461	810	361	368	715	398	173	1585	857	173	2377	738
V/C Ratio(X)	1.43	0.79	0.35	0.30	0.77	0.63	0.90	0.93	0.94	0.92	0.84	0.51
Avail Cap(c_a), veh/h	461	1421	634	368	1125	581	173	1585	857	173	2377	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	43.6	27.3	49.5	45.4	20.3	56.7	30.3	30.4	56.8	28.2	8.4
Incr Delay (d2), s/veh	203.9	1.7	0.6	0.5	1.8	1.7	40.6	11.4	18.7	46.1	3.8	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.0	9.1	2.6	1.6	8.0	4.4	3.3	22.0	25.7	3.5	17.3	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	255.9	45.3	27.8	50.0	47.2	22.0	97.3	41.6	49.1	102.8	32.0	10.9
LnGrp LOS	F	D	C	D	D	C	F	D	D	F	C	B
Approach Vol, veh/h		1419			917			2435			2538	
Approach Delay, s/veh		141.3			40.6			47.6			33.3	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	60.9	16.8	32.4	10.0	60.9	20.0	29.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	42.0	6.0	48.0	6.0	42.0	16.0	38.0
Max Q Clear Time (g_c+I1), s	7.5	51.6	5.6	22.2	7.4	43.4	18.0	19.7
Green Ext Time (p_c), s	0.0	0.0	0.0	5.1	0.0	0.0	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	60.0
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	798	1500	14	92	1331	844	49	105	91	542	37	859
Future Volume (veh/h)	798	1500	14	92	1331	844	49	105	91	542	37	859
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	798	1500	14	92	1331	844	49	105	91	568	0	859
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1123	2712	25	116	1718	766	134	69	60	831	0	1770
Arrive On Green	0.32	0.75	0.75	0.07	0.48	0.48	0.08	0.08	0.08	0.23	0.00	0.23
Sat Flow, veh/h	3456	3607	34	1781	3554	1585	1781	925	801	3563	0	3170
Grp Volume(v), veh/h	798	738	776	92	1331	844	49	0	196	568	0	859
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1726	1781	0	1585
Q Serve(g_s), s	24.3	21.2	21.2	6.1	37.1	58.0	3.1	0.0	9.0	17.5	0.0	0.0
Cycle Q Clear(g_c), s	24.3	21.2	21.2	6.1	37.1	58.0	3.1	0.0	9.0	17.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	1123	1336	1401	116	1718	766	134	0	129	831	0	1770
V/C Ratio(X)	0.71	0.55	0.55	0.79	0.77	1.10	0.37	0.00	1.51	0.68	0.00	0.49
Avail Cap(c_a), veh/h	1123	1336	1401	193	1718	766	134	0	129	831	0	1770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.5	6.3	6.3	55.3	25.6	31.0	52.8	0.0	55.5	42.0	0.0	16.1
Incr Delay (d2), s/veh	2.1	1.7	1.6	11.5	3.5	64.0	7.6	0.0	266.8	4.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	7.4	7.8	3.1	16.1	34.9	1.7	0.0	13.5	8.2	0.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	8.0	7.9	66.8	29.1	95.0	60.4	0.0	322.3	46.5	0.0	17.0
LnGrp LOS	D	A	A	E	C	F	E	A	F	D	A	B
Approach Vol, veh/h		2312			2267			245			1427	
Approach Delay, s/veh		18.2			55.1			269.9			28.7	
Approach LOS		B			E			F			C	

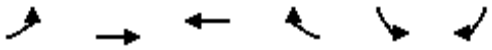
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.0	11.8	96.2		33.0	45.0	63.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		9.0	13.0	51.0		28.0	6.0	* 58				
Max Q Clear Time (g_c+I1), s		11.0	8.1	23.2		19.5	26.3	60.0				
Green Ext Time (p_c), s		0.0	0.1	13.4		4.1	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	2171	2652	155	18	80
Future Volume (veh/h)	120	2171	2652	155	18	80
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	120	2171	2652	155	18	80
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	147	3276	2598	149	82	366
Arrive On Green	0.08	0.64	0.53	0.53	0.28	0.28
Sat Flow, veh/h	1781	5274	5108	284	299	1330
Grp Volume(v), veh/h	120	2171	1814	993	99	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1819	1646	0
Q Serve(g_s), s	8.0	31.8	63.1	63.1	5.6	0.0
Cycle Q Clear(g_c), s	8.0	31.8	63.1	63.1	5.6	0.0
Prop In Lane	1.00			0.16	0.18	0.81
Lane Grp Cap(c), veh/h	147	3276	1790	957	453	0
V/C Ratio(X)	0.82	0.66	1.01	1.04	0.22	0.00
Avail Cap(c_a), veh/h	223	3276	1790	957	453	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.2	13.4	28.4	28.4	33.6	0.0
Incr Delay (d2), s/veh	13.2	1.1	24.6	39.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	11.7	30.5	36.5	2.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.3	14.5	53.0	67.7	34.7	0.0
LnGrp LOS	E	B	F	F	C	A
Approach Vol, veh/h		2291	2807		99	
Approach Delay, s/veh		17.2	58.2		34.7	
Approach LOS		B	E		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	82.0	38.0	13.9	68.1
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	77.0	33.0	15.0	58.0
Max Q Clear Time (g_c+I1), s	33.8	7.6	10.0	65.1
Green Ext Time (p_c), s	27.9	0.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

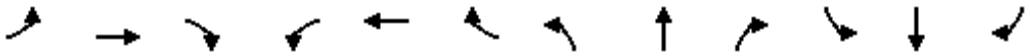
APPENDIX J

RETAIL DRIVEWAY LOS CALCULATIONS AND QUEUING CALCULATIONS

APPENDIX J-I

EXISTING TRAFFIC CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	965	184	454	1205	260	212	990	509	322	1606	279
Future Volume (vph)	104	965	184	454	1205	260	212	990	509	322	1606	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.976				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4963	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4963	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				222			100			145
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	111	1027	196	483	1282	277	226	1053	541	343	1709	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	1223	0	483	1282	277	226	1053	541	343	1709	297
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	12.0	47.0		16.0	51.0	51.0	12.0	44.0	16.0	13.0	45.0	45.0
Total Split (%)	10.0%	39.2%		13.3%	42.5%	42.5%	10.0%	36.7%	13.3%	10.8%	37.5%	37.5%
Maximum Green (s)	8.0	42.0		12.0	46.0	46.0	8.0	39.0	12.0	9.0	40.0	40.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	8.3	38.9		12.0	42.6	42.6	8.0	39.0	56.0	12.1	43.1	43.1
Actuated g/C Ratio	0.07	0.32		0.10	0.36	0.36	0.07	0.32	0.47	0.10	0.36	0.36
v/c Ratio	0.47	0.75		1.41	0.71	0.39	0.99	0.64	0.40	0.99	0.94	0.45
Control Delay	60.6	38.0		239.8	35.5	7.8	104.3	30.5	8.9	101.5	48.6	17.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	38.0		239.8	35.5	7.8	104.3	30.5	8.9	101.5	48.6	17.7
LOS	E	D		F	D	A	F	C	A	F	D	B
Approach Delay		39.9			80.1			33.3			52.4	
Approach LOS		D			F			C			D	
Queue Length 50th (ft)	43	287		~258	301	27	84	104	0	~177	~490	89
Queue Length 95th (ft)	74	341		#366	349	89	#170	236	70	#274	#605	173
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	237	1760		343	1949	743	228	1652	1353	345	1825	661
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.69		1.41	0.66	0.37	0.99	0.64	0.40	0.99	0.94	0.45

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 99 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.41			
Intersection Signal Delay: 53.1		Intersection LOS: D	
Intersection Capacity Utilization 87.8%		ICU Level of Service E	
Analysis Period (min) 15			

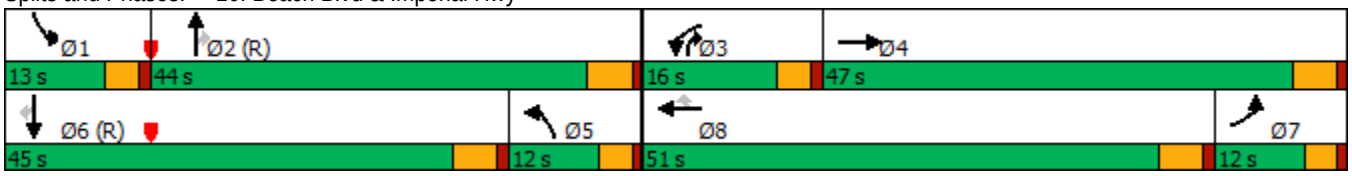
~ Volume exceeds capacity, queue is theoretically infinite.

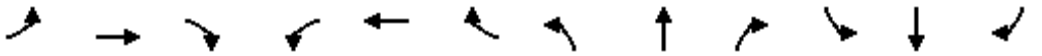
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

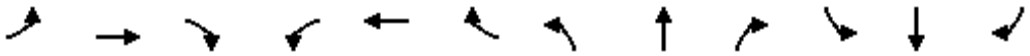
Queue shown is maximum after two cycles.

Splits and Phases: 10: Beach Blvd & Imperial Hwy





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	1025	221	448	941	313	288	1532	442	367	1283	185
Future Volume (vph)	222	1025	221	448	941	313	288	1532	442	367	1283	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.973				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4948	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4948	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43				208			91			145
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	224	1035	223	453	951	316	291	1547	446	371	1296	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	1258	0	453	951	316	291	1547	446	371	1296	187
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	17.0	47.0		15.0	45.0	45.0	17.0	44.0	15.0	14.0	41.0	41.0
Total Split (%)	14.2%	39.2%		12.5%	37.5%	37.5%	14.2%	36.7%	12.5%	11.7%	34.2%	34.2%
Maximum Green (s)	13.0	42.0		11.0	40.0	40.0	13.0	39.0	11.0	10.0	36.0	36.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	12.0	39.0		14.0	41.0	41.0	13.0	39.0	54.0	10.0	36.0	36.0
Actuated g/C Ratio	0.10	0.32		0.12	0.34	0.34	0.11	0.32	0.45	0.08	0.30	0.30
v/c Ratio	0.65	0.77		1.13	0.55	0.47	0.78	0.94	0.34	1.30	0.85	0.32
Control Delay	61.3	38.5		133.0	33.6	13.0	52.5	37.4	10.6	200.4	45.9	10.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	38.5		133.0	33.6	13.0	52.5	37.4	10.6	200.4	45.9	10.4
LOS	E	D		F	C	B	D	D	B	F	D	B
Approach Delay		42.0			56.0			34.1			73.2	
Approach LOS		D			E			C			E	
Queue Length 50th (ft)	86	303		~228	220	60	101	263	37	~189	345	23
Queue Length 95th (ft)	128	352		#352	266	143	m#161	#509	100	#289	405	81
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	371	1759		401	1736	677	371	1652	1304	286	1525	576
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.72		1.13	0.55	0.47	0.78	0.94	0.34	1.30	0.85	0.32

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 50.7 Intersection LOS: D
Intersection Capacity Utilization 92.6% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

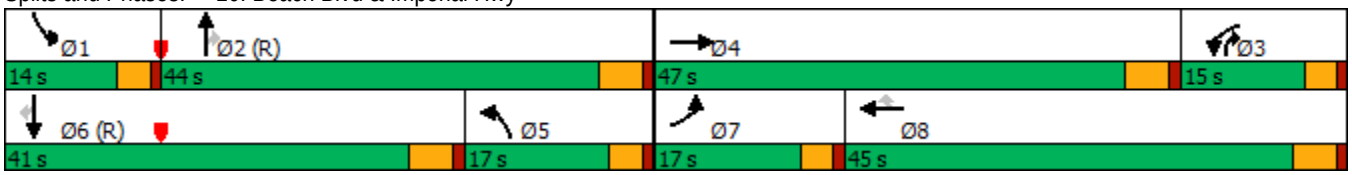
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Beach Blvd & Imperial Hwy



APPENDIX J-II

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

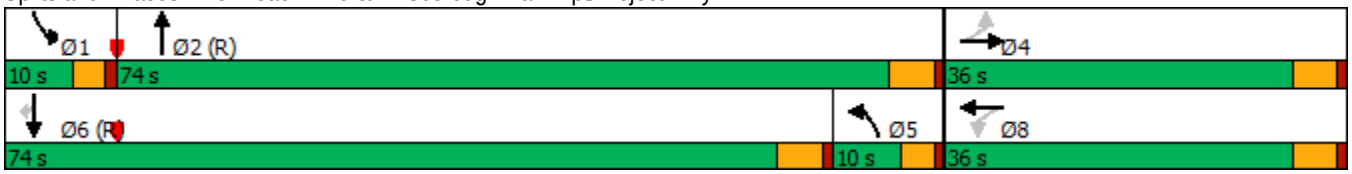
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	0	32	61	0	30	9	1750	19	9	2321	15
Future Volume (vph)	52	0	32	61	0	30	9	1750	19	9	2321	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	150		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.850			0.850			0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	5075	0	1770	5085	1583
Flt Permitted	0.737			0.736			0.950			0.950		
Satd. Flow (perm)	1373	1583	0	1371	1583	0	1770	5075	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		100			107			2				64
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			588			1331			1011	
Travel Time (s)		11.7			13.4			30.3			23.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	0	33	64	0	31	9	1823	20	9	2418	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	33	0	64	31	0	9	1843	0	9	2418	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	26.0		10.0	23.0	23.0
Total Split (s)	36.0	36.0		36.0	36.0		10.0	74.0		10.0	74.0	74.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		8.3%	61.7%		8.3%	61.7%	61.7%
Maximum Green (s)	31.0	31.0		31.0	31.0		6.0	69.0		6.0	69.0	69.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Flash Dont Walk (s)	24.0	24.0		24.0	24.0			14.0			11.0	11.0
Pedestrian Calls (#/hr)	5	5		5	5			5			5	5
Act Effct Green (s)	14.0	14.0		14.0	14.0		6.0	97.2		6.1	97.2	97.2
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.05	0.81		0.05	0.81	0.81
v/c Ratio	0.34	0.12		0.40	0.11		0.10	0.45		0.10	0.59	0.01
Control Delay	50.8	0.9		53.3	0.8		44.6	4.5		72.2	1.9	0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	50.8	0.9		53.3	0.8		44.6	4.5		72.2	1.9	0.0
LOS	D	A		D	A		D	A		E	A	A
Approach Delay		31.9			36.2			4.7			2.2	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)	40	0		48	0		7	90		7	1	0
Queue Length 95th (ft)	68	0		77	0		m14	197		m11	70	m0
Internal Link Dist (ft)		436			508			1251			931	
Turn Bay Length (ft)							145			150		200
Base Capacity (vph)	354	483		354	488		88	4111		90	4118	1294
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.15	0.07		0.18	0.06		0.10	0.45		0.10	0.59	0.01

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 19 (16%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 4.5 Intersection LOS: A
Intersection Capacity Utilization 63.2% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Beach Blvd & Hillsborough Park Apt/Project Dwy



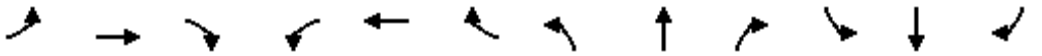
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	2	23	65	1	253	7	533	32	219	846	7
Future Volume (vph)	21	2	23	65	1	253	7	533	32	219	846	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.862			0.851			0.992			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1606	0	1770	1585	0	1770	3511	0	1770	3536	0
Flt Permitted	0.312			0.741			0.332			0.404		
Satd. Flow (perm)	581	1606	0	1380	1585	0	618	3511	0	753	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			253			5			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		440			430			365			335	
Travel Time (s)		10.0			9.8			8.3			7.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	21	2	23	65	1	253	7	533	32	219	846	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	25	0	65	254	0	7	565	0	219	853	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		30.0	30.0		10.0	23.0		10.0	23.0	
Total Split (s)	42.0	42.0		42.0	42.0		12.0	45.0		33.0	66.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		10.0%	37.5%		27.5%	55.0%	
Maximum Green (s)	37.0	37.0		37.0	37.0		7.0	40.0		28.0	61.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				18.0	18.0			11.0			11.0	
Pedestrian Calls (#/hr)				5	5			5			5	
Act Effct Green (s)	12.8	12.8		12.8	12.8		88.8	83.1		97.2	95.0	
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.74	0.69		0.81	0.79	
v/c Ratio	0.34	0.13		0.44	0.64		0.01	0.23		0.32	0.30	
Control Delay	61.0	18.4		57.2	13.4		4.3	8.1		4.5	5.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	61.0	18.4		57.2	13.4		4.3	8.1		4.5	5.1	
LOS	E	B		E	B		A	A		A	A	
Approach Delay		37.9			22.3			8.1			5.0	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	16	1		49	1		1	69		26	61	
Queue Length 95th (ft)	38	25		84	70		6	150		78	205	
Internal Link Dist (ft)		360			350			285			255	
Turn Bay Length (ft)												
Base Capacity (vph)	179	511		425	663		531	2433		847	2798	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.05		0.15	0.38		0.01	0.23		0.26	0.30	

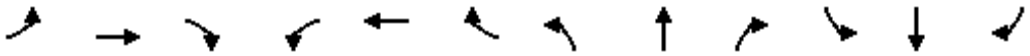
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 57.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: Idaho Street & Sandlewood Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	975	200	497	1228	274	234	1008	548	329	1621	279
Future Volume (vph)	104	975	200	497	1228	274	234	1008	548	329	1621	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.974				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4953	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4953	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40				219			91			145
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	111	1037	213	529	1306	291	249	1072	583	350	1724	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	1250	0	529	1306	291	249	1072	583	350	1724	297
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	12.0	47.0		16.0	51.0	51.0	12.0	44.0	16.0	13.0	45.0	45.0
Total Split (%)	10.0%	39.2%		13.3%	42.5%	42.5%	10.0%	36.7%	13.3%	10.8%	37.5%	37.5%
Maximum Green (s)	8.0	42.0		12.0	46.0	46.0	8.0	39.0	12.0	9.0	40.0	40.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	7.7	38.9		15.1	46.3	46.3	8.0	39.0	55.1	9.0	40.0	40.0
Actuated g/C Ratio	0.06	0.32		0.13	0.39	0.39	0.07	0.32	0.46	0.08	0.33	0.33
v/c Ratio	0.50	0.77		1.22	0.67	0.39	1.09	0.65	0.44	1.36	1.02	0.48
Control Delay	62.4	38.5		163.9	32.6	8.7	125.0	24.7	7.4	227.5	66.0	18.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.4	38.5		163.9	32.6	8.7	125.0	24.7	7.4	227.5	66.0	18.4
LOS	E	D		F	C	A	F	C	A	F	E	B
Approach Delay		40.5			62.0			32.6			83.9	
Approach LOS		D			E			C			F	
Queue Length 50th (ft)	43	301		~278	304	36	~107	154	47	~184	~504	89
Queue Length 95th (ft)	74	350		#407	357	103	#192	252	84	#280	#614	173
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	228	1759		432	1960	744	228	1652	1329	257	1695	624
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.71		1.22	0.67	0.39	1.09	0.65	0.44	1.36	1.02	0.48

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 96 (80%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.36			
Intersection Signal Delay: 57.7		Intersection LOS: E	
Intersection Capacity Utilization 90.5%		ICU Level of Service E	
Analysis Period (min) 15			

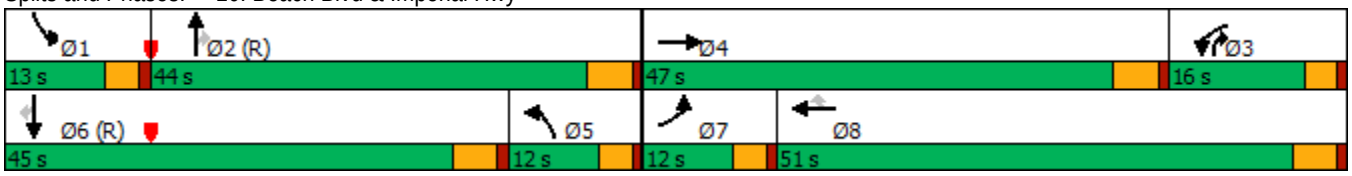
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

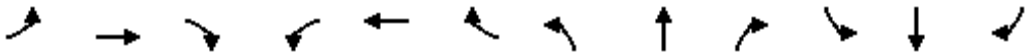
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Beach Blvd & Imperial Hwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	1761	46	104	1919	30	68	14	63	44	6	51
Future Volume (vph)	57	1761	46	104	1919	30	68	14	63	44	6	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950	0.968			0.958	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1713	1583	0	1785	1583
Flt Permitted	0.950			0.950			0.950	0.968			0.958	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1681	1713	1583	0	1785	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			100			145			145
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		371			391			324			342	
Travel Time (s)		8.4			8.9			7.4			7.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	59	1834	48	108	1999	31	71	15	66	46	6	53
Shared Lane Traffic (%)							40%					
Lane Group Flow (vph)	59	1834	48	108	1999	31	43	43	66	0	52	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

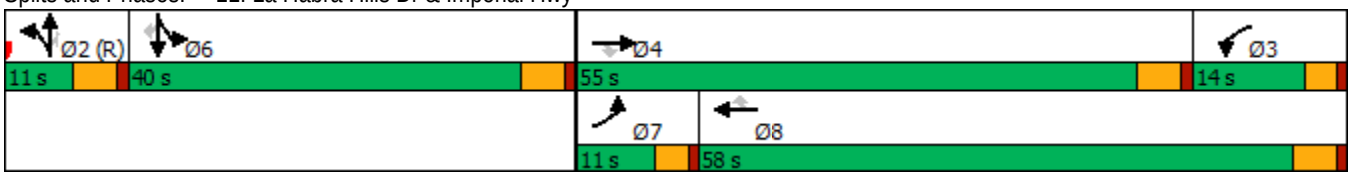


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	9.0	30.0	30.0	9.0	26.0	26.0	10.0	10.0	10.0	40.0	40.0	40.0
Total Split (s)	11.0	55.0	55.0	14.0	58.0	58.0	11.0	11.0	11.0	40.0	40.0	40.0
Total Split (%)	9.2%	45.8%	45.8%	11.7%	48.3%	48.3%	9.2%	9.2%	9.2%	33.3%	33.3%	33.3%
Maximum Green (s)	7.0	50.0	50.0	10.0	53.0	53.0	6.0	6.0	6.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		18.0	18.0		14.0	14.0				28.0	28.0	28.0
Pedestrian Calls (#/hr)		5	5		5	5				5	5	5
Act Effct Green (s)	6.8	50.0	50.0	9.7	54.8	54.8	6.4	6.4	6.4		35.0	35.0
Actuated g/C Ratio	0.06	0.42	0.42	0.08	0.46	0.46	0.05	0.05	0.05		0.29	0.29
v/c Ratio	0.59	0.87	0.07	0.76	0.86	0.04	0.48	0.48	0.30		0.10	0.09
Control Delay	78.8	37.4	0.2	85.7	34.4	0.1	73.9	73.2	3.5		31.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	78.8	37.4	0.2	85.7	34.4	0.1	73.9	73.2	3.5		31.8	0.3
LOS	E	D	A	F	C	A	E	E	A		C	A
Approach Delay		37.7			36.5			43.1			15.9	
Approach LOS		D			D			D			B	
Queue Length 50th (ft)	45	467	0	83	511	0	34	34	0		29	0
Queue Length 95th (ft)	#102	535	0	#175	583	0	#85	#83	0		61	0
Internal Link Dist (ft)		291			311			244			262	
Turn Bay Length (ft)												
Base Capacity (vph)	103	2118	723	147	2323	777	89	90	220		520	564
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.57	0.87	0.07	0.73	0.86	0.04	0.48	0.48	0.30		0.10	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 36.8		Intersection LOS: D	
Intersection Capacity Utilization 62.3%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: La Habra Hills Dr & Imperial Hwy



AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #28 Beach Blvd at Retail Dwy

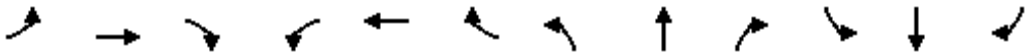
Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[16.6]

Street Name:	Beach Blvd						Retail Dwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 2	1	0	1 0 3	0	0	0 0 0	0	0	0 0 0	0	1
Volume Module:												
Base Vol:	0 1752	27		45 2348	0		0 0 0	0		0 0 0	0	54
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	0 1752	27		45 2348	0		0 0 0	0		0 0 0	0	54
Added Vol:	0 0	0		0 0	0		0 0 0	0		0 0 0	0	0
PasserByVol:	0 0	0		0 0	0		0 0 0	0		0 0 0	0	0
Initial Fut:	0 1752	27		45 2348	0		0 0 0	0		0 0 0	0	54
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	0 1752	27		45 2348	0		0 0 0	0		0 0 0	0	54
Reduct Vol:	0 0	0		0 0	0		0 0 0	0		0 0 0	0	0
FinalVolume:	0 1752	27		45 2348	0		0 0 0	0		0 0 0	0	54
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx	4.1		xxxx xxxxx xxxxx	xxxx		xxxxx xxxxx xxxx	xxxx		xxxxx xxxxx xxxx	6.9	
FollowUpTim:	xxxxx xxxx xxxxx	2.2		xxxx xxxxx xxxxx	xxxx		xxxxx xxxxx xxxx	xxxx		xxxxx xxxxx xxxx	3.3	
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx	1779		xxxx xxxxx	xxxx		xxxx xxxx xxxxx	xxxx		xxxx xxxx xxxx	598	
Potent Cap.:	xxxx xxxx xxxxx	354		xxxx xxxxx	xxxx		xxxx xxxx xxxxx	xxxx		xxxx xxxx xxxx	451	
Move Cap.:	xxxx xxxx xxxxx	354		xxxx xxxxx	xxxx		xxxx xxxx xxxxx	xxxx		xxxx xxxx xxxx	451	
Volume/Cap:	xxxx xxxx xxxx	0.13		xxxx xxxx	xxxx		xxxx xxxx xxxx	xxxx		xxxx xxxx xxxx	0.12	
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx	0.4		xxxx xxxxx	xxxx		xxxx xxxx xxxxx	xxxx		xxxx xxxx xxxx	0.4	
Control Del:	xxxxx xxxx xxxxx	16.6		xxxx xxxxx	xxxxx		xxxx xxxxx xxxx	xxxxx		xxxx xxxx xxxx	14.1	
LOS by Move:	* * *	C		* *	*		* * *	*		* * *	B	
Movement:	LT - LTR - RT	LT - LTR - RT					LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx xxxxx	xxxx xxxx xxxxx					xxxx xxxx xxxxx			xxxx xxxx xxxxx		
SharedQueue:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx					xxxxx xxxx xxxxx			xxxxx xxxx xxxxx		
Shrd ConDel:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx					xxxxx xxxx xxxxx			xxxxx xxxx xxxxx		
Shared LOS:	* * *	* * *					* * *			* * *		
ApproachDel:	xxxxxx	xxxxxx					xxxxxx			14.1		
ApproachLOS:	*	*					*			B		

Note: Queue reported is the number of cars per lane.

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LLG Costa Mesa, CA

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	16	38	0	18	28	2326	65	30	2040	35
Future Volume (vph)	15	0	16	38	0	18	28	2326	65	30	2040	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	150		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.850			0.850			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	5065	0	1770	5085	1583
Flt Permitted	0.745			0.747			0.950			0.950		
Satd. Flow (perm)	1388	1583	0	1391	1583	0	1770	5065	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		100			100			6				64
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			588			1331			1011	
Travel Time (s)		11.7			13.4			30.3			23.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	15	0	16	39	0	19	29	2398	67	31	2103	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	16	0	39	19	0	29	2465	0	31	2103	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6

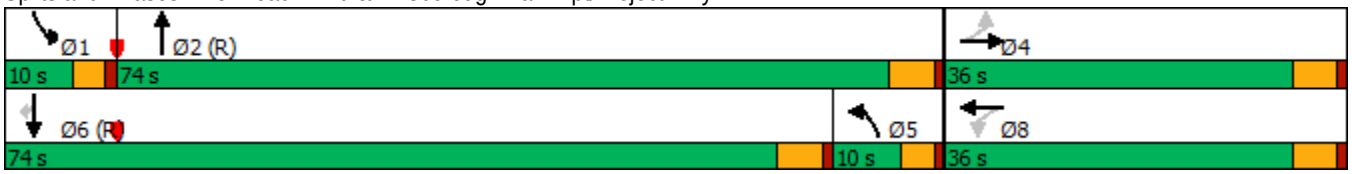


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	26.0		10.0	23.0	23.0
Total Split (s)	36.0	36.0		36.0	36.0		10.0	74.0		10.0	74.0	74.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		8.3%	61.7%		8.3%	61.7%	61.7%
Maximum Green (s)	31.0	31.0		31.0	31.0		6.0	69.0		6.0	69.0	69.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Flash Dont Walk (s)	24.0	24.0		24.0	24.0			14.0			11.0	11.0
Pedestrian Calls (#/hr)	5	5		5	5			5			5	5
Act Effct Green (s)	12.7	12.7		12.7	12.7		6.0	93.7		6.9	94.5	94.5
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.05	0.78		0.06	0.79	0.79
v/c Ratio	0.10	0.06		0.27	0.07		0.33	0.62		0.31	0.52	0.03
Control Delay	44.5	0.4		49.8	0.6		44.5	2.0		69.2	5.0	0.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	44.5	0.4		49.8	0.6		44.5	2.0		69.2	5.0	0.9
LOS	D	A		D	A		D	A		E	A	A
Approach Delay		21.7			33.7			2.5			5.9	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	11	0		29	0		22	47		24	98	1
Queue Length 95th (ft)	27	0		53	0		m29	109		m36	635	m5
Internal Link Dist (ft)		436			508			1251			931	
Turn Bay Length (ft)							145			150		200
Base Capacity (vph)	358	483		359	483		88	3956		101	4006	1260
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.04	0.03		0.11	0.04		0.33	0.62		0.31	0.52	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 67 (56%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 4.6		Intersection LOS: A	
Intersection Capacity Utilization 63.5%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Beach Blvd & Hillsborough Park Apt/Project Dwy



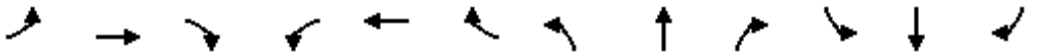
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1	15	28	3	144	25	1023	54	149	703	23
Future Volume (vph)	14	1	15	28	3	144	25	1023	54	149	703	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.859			0.853			0.992			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1600	0	1770	1589	0	1770	3511	0	1770	3522	0
Flt Permitted	0.374			0.747			0.376			0.224		
Satd. Flow (perm)	697	1600	0	1391	1589	0	700	3511	0	417	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			144			7			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		440			430			365			335	
Travel Time (s)		10.0			9.8			8.3			7.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	14	1	15	28	3	144	25	1023	54	149	703	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	16	0	28	147	0	25	1077	0	149	726	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		30.0	30.0		10.0	23.0		10.0	23.0	
Total Split (s)	34.0	34.0		34.0	34.0		12.0	67.0		19.0	74.0	
Total Split (%)	28.3%	28.3%		28.3%	28.3%		10.0%	55.8%		15.8%	61.7%	
Maximum Green (s)	29.0	29.0		29.0	29.0		7.0	62.0		14.0	69.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				18.0	18.0			11.0			11.0	
Pedestrian Calls (#/hr)				5	5			5			5	
Act Effct Green (s)	10.8	10.8		10.8	10.8		92.5	86.6		97.7	92.6	
Actuated g/C Ratio	0.09	0.09		0.09	0.09		0.77	0.72		0.81	0.77	
v/c Ratio	0.23	0.10		0.23	0.54		0.04	0.42		0.35	0.27	
Control Delay	55.0	21.2		51.4	15.1		3.5	8.5		5.1	5.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.0	21.2		51.4	15.1		3.5	8.5		5.1	5.6	
LOS	D	C		D	B		A	A		A	A	
Approach Delay		37.0			20.9			8.4			5.6	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	11	1		21	2		2	134		13	74	
Queue Length 95th (ft)	28	20		44	56		13	310		54	171	
Internal Link Dist (ft)		360			350			285			255	
Turn Bay Length (ft)												
Base Capacity (vph)	168	398		336	493		608	2535		502	2717	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.04		0.08	0.30		0.04	0.42		0.30	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 19 (16%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: Idaho Street & Sandlewood Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	1050	252	504	957	324	311	1552	497	383	1310	185
Future Volume (vph)	222	1050	252	504	957	324	311	1552	497	383	1310	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.971				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4938	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4938	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52				192			91			145
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	224	1061	255	509	967	327	314	1568	502	387	1323	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	1316	0	509	967	327	314	1568	502	387	1323	187
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	17.0	47.0		16.0	46.0	46.0	16.0	44.0	16.0	13.0	41.0	41.0
Total Split (%)	14.2%	39.2%		13.3%	38.3%	38.3%	13.3%	36.7%	13.3%	10.8%	34.2%	34.2%
Maximum Green (s)	13.0	42.0		12.0	41.0	41.0	12.0	39.0	12.0	9.0	36.0	36.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	12.0	39.8		14.2	42.0	42.0	12.0	39.0	54.2	9.0	36.0	36.0
Actuated g/C Ratio	0.10	0.33		0.12	0.35	0.35	0.10	0.32	0.45	0.08	0.30	0.30
v/c Ratio	0.65	0.79		1.26	0.54	0.48	0.92	0.95	0.38	1.51	0.87	0.32
Control Delay	61.3	38.4		177.3	32.9	14.9	64.4	36.9	9.9	284.7	47.0	10.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	38.4		177.3	32.9	14.9	64.4	36.9	9.9	284.7	47.0	10.4
LOS	E	D		F	C	B	E	D	A	F	D	B
Approach Delay		41.8			70.4			34.8			91.9	
Approach LOS		D			E			C			F	
Queue Length 50th (ft)	86	315		~280	221	76	118	333	40	~214	354	23
Queue Length 95th (ft)	128	372		#390	267	164	m#185	#523	90	#314	416	81
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	371	1762		405	1778	678	343	1652	1308	257	1525	576
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.75		1.26	0.54	0.48	0.92	0.95	0.38	1.51	0.87	0.32

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 13 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.51
Intersection Signal Delay: 58.8 Intersection LOS: E
Intersection Capacity Utilization 96.2% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

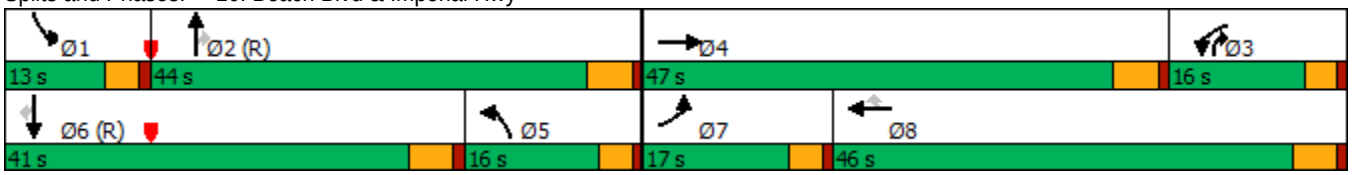
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

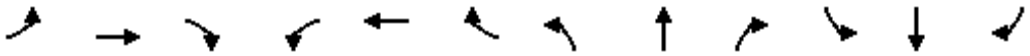
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Beach Blvd & Imperial Hwy



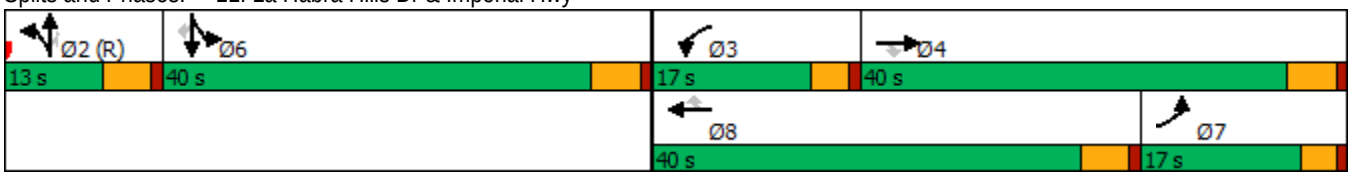
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	1597	98	235	1523	60	92	36	219	84	38	136
Future Volume (vph)	200	1597	98	235	1523	60	92	36	219	84	38	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950	0.978			0.967	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1731	1583	0	1801	1583
Flt Permitted	0.950			0.950			0.950	0.978			0.967	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1681	1731	1583	0	1801	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			119			221			159
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		371			391			324			342	
Travel Time (s)		8.4			8.9			7.4			7.8	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	202	1613	99	237	1538	61	93	36	221	85	38	137
Shared Lane Traffic (%)							32%					
Lane Group Flow (vph)	202	1613	99	237	1538	61	63	66	221	0	123	137
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	9.0	30.0	30.0	9.0	26.0	26.0	10.0	10.0	10.0	40.0	40.0	40.0
Total Split (s)	17.0	40.0	40.0	17.0	40.0	40.0	13.0	13.0	13.0	40.0	40.0	40.0
Total Split (%)	15.5%	36.4%	36.4%	15.5%	36.4%	36.4%	11.8%	11.8%	11.8%	36.4%	36.4%	36.4%
Maximum Green (s)	13.0	35.0	35.0	13.0	35.0	35.0	8.0	8.0	8.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		18.0	18.0		14.0	14.0				28.0	28.0	28.0
Pedestrian Calls (#/hr)		5	5		5	5				5	5	5
Act Effct Green (s)	13.0	35.0	35.0	13.0	35.0	35.0	8.0	8.0	8.0		35.0	35.0
Actuated g/C Ratio	0.12	0.32	0.32	0.12	0.32	0.32	0.07	0.07	0.07		0.32	0.32
v/c Ratio	0.97	1.00	0.17	1.13	0.95	0.10	0.52	0.53	0.69		0.21	0.22
Control Delay	103.5	59.7	5.1	147.5	50.5	0.4	64.7	65.0	18.7		28.7	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	103.5	59.7	5.1	147.5	50.5	0.4	64.7	65.0	18.7		28.7	3.8
LOS	F	E	A	F	D	A	E	E	B		C	A
Approach Delay		61.5			61.4			35.7			15.6	
Approach LOS		E			E			D			B	
Queue Length 50th (ft)	144	414	0	~195	387	0	46	48	0		63	0
Queue Length 95th (ft)	#291	#530	33	#353	#489	1	#95	#98	#80		110	31
Internal Link Dist (ft)		291			311			244			262	
Turn Bay Length (ft)												
Base Capacity (vph)	209	1617	578	209	1617	584	122	125	320		573	612
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.97	1.00	0.17	1.13	0.95	0.10	0.52	0.53	0.69		0.21	0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 56.6		Intersection LOS: E	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: La Habra Hills Dr & Imperial Hwy



PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #28 Beach Blvd at Retail Dwy

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: D[29.2]

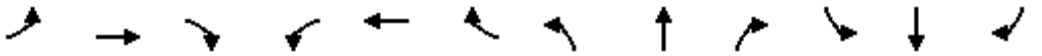
Street Name:	Beach Blvd								Retail Dwy							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	1 0	1	0	3	0 0	0	0	0	0 0	0	0	0	0 1
Volume Module:																
Base Vol:	0	2307		40 65	2104			0	0		0	0	0		0	84
Growth Adj:	1.00	1.00		1.00 1.00	1.00			1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	0	2307		40 65	2104			0	0		0	0	0		0	84
Added Vol:	0	0		0 0	0			0	0		0	0	0		0	0
PasserByVol:	0	0		0 0	0			0	0		0	0	0		0	0
Initial Fut:	0	2307		40 65	2104			0	0		0	0	0		0	84
User Adj:	1.00	1.00		1.00 1.00	1.00			1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00 1.00	1.00			1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	2307		40 65	2104			0	0		0	0	0		0	84
Reduct Vol:	0	0		0 0	0			0	0		0	0	0		0	0
FinalVolume:	0	2307		40 65	2104			0	0		0	0	0		0	84
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9				
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	2347	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	789				
Potent Cap.:	xxxx	xxxx	xxxxx	213	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	338				
Move Cap.:	xxxx	xxxx	xxxxx	213	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	338				
Volume/Cap:	xxxx	xxxx	xxxx	0.31	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.25				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	1.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1.0				
Control Del:	xxxxx	xxxx	xxxxx	29.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	19.1				
LOS by Move:	*	*	*	D	*	*	*	*	*	*	*	C				
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				19.1			
ApproachLOS:	*				*				*				C			

Note: Queue reported is the number of cars per lane.

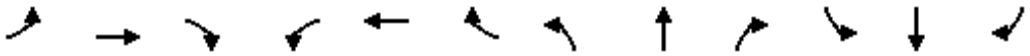
Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LLG Costa Mesa, CA

APPENDIX J-III

YEAR 2023 CUMULATIVE TRAFFIC CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1159	195	529	1366	287	228	1097	622	349	1741	303
Future Volume (vph)	117	1159	195	529	1366	287	228	1097	622	349	1741	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.978				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4973	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4973	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30				216			91			147
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	123	1220	205	557	1438	302	240	1155	655	367	1833	319
Shared Lane Traffic (%)												
Lane Group Flow (vph)	123	1425	0	557	1438	302	240	1155	655	367	1833	319
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	13.0	47.0		16.0	50.0	50.0	11.0	44.0	16.0	13.0	46.0	46.0
Total Split (%)	10.8%	39.2%		13.3%	41.7%	41.7%	9.2%	36.7%	13.3%	10.8%	38.3%	38.3%
Maximum Green (s)	9.0	42.0		12.0	45.0	45.0	7.0	39.0	12.0	9.0	41.0	41.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	8.5	41.1		12.9	45.5	45.5	7.0	39.0	52.9	9.0	41.0	41.0
Actuated g/C Ratio	0.07	0.34		0.11	0.38	0.38	0.06	0.32	0.44	0.08	0.34	0.34
v/c Ratio	0.51	0.83		1.51	0.75	0.41	1.20	0.70	0.51	1.43	1.06	0.50
Control Delay	61.1	40.3		278.4	35.3	9.8	165.6	28.7	11.2	253.5	76.4	19.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	40.3		278.4	35.3	9.8	165.6	28.7	11.2	253.5	76.4	19.3
LOS	E	D		F	D	A	F	C	B	F	E	B
Approach Delay		41.9			90.9			39.1			94.9	
Approach LOS		D			F			D			F	
Queue Length 50th (ft)	47	357		~320	351	44	~112	198	96	~197	~569	102
Queue Length 95th (ft)	80	419		#432	410	116	#198	299	128	#296	#666	190
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	257	1760		370	1926	734	200	1652	1280	257	1737	637
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.81		1.51	0.75	0.41	1.20	0.70	0.51	1.43	1.06	0.50

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.51			
Intersection Signal Delay: 70.5		Intersection LOS: E	
Intersection Capacity Utilization 97.0%		ICU Level of Service F	
Analysis Period (min) 15			

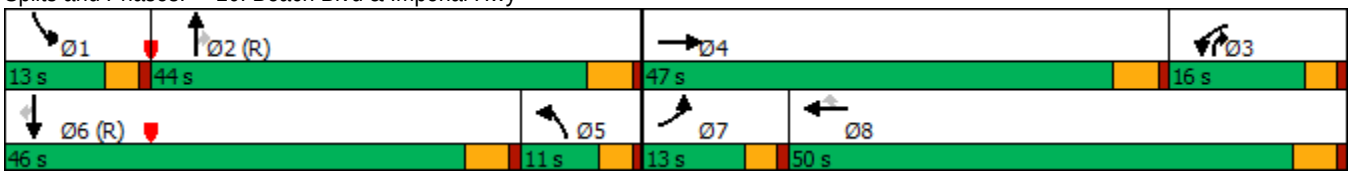
~ Volume exceeds capacity, queue is theoretically infinite.

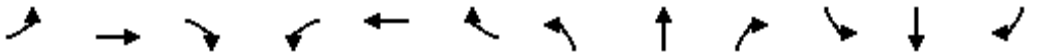
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

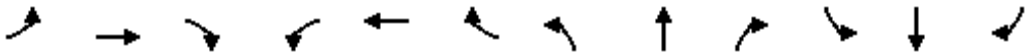
Queue shown is maximum after two cycles.

Splits and Phases: 10: Beach Blvd & Imperial Hwy





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	1204	238	563	1147	345	305	1661	514	402	1421	208
Future Volume (vph)	247	1204	238	563	1147	345	305	1661	514	402	1421	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.975				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4958	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4958	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38				172			109			136
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	249	1216	240	569	1159	348	308	1678	519	406	1435	210
Shared Lane Traffic (%)												
Lane Group Flow (vph)	249	1456	0	569	1159	348	308	1678	519	406	1435	210
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	19.0	47.0		16.0	44.0	44.0	16.0	44.0	16.0	13.0	41.0	41.0
Total Split (%)	15.8%	39.2%		13.3%	36.7%	36.7%	13.3%	36.7%	13.3%	10.8%	34.2%	34.2%
Maximum Green (s)	15.0	42.0		12.0	39.0	39.0	12.0	39.0	12.0	9.0	36.0	36.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	16.1	41.3		12.0	37.2	37.2	12.2	39.7	52.7	9.0	36.5	36.5
Actuated g/C Ratio	0.13	0.34		0.10	0.31	0.31	0.10	0.33	0.44	0.08	0.30	0.30
v/c Ratio	0.54	0.84		1.66	0.74	0.57	0.88	1.00	0.40	1.58	0.93	0.36
Control Delay	53.8	40.6		343.1	40.0	20.6	60.6	39.4	11.0	314.9	52.0	14.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	40.6		343.1	40.0	20.6	60.6	39.4	11.0	314.9	52.0	14.0
LOS	D	D		F	D	C	E	D	B	F	D	B
Approach Delay		42.5			119.8			36.1			100.2	
Approach LOS		D			F			D			F	
Queue Length 50th (ft)	95	366		~330	286	108	112	~508	126	~230	397	42
Queue Length 95th (ft)	139	429		#443	339	205	m#165	#595	m137	#332	#493	108
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	460	1760		343	1652	630	349	1682	1285	257	1546	576
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.83		1.66	0.70	0.55	0.88	1.00	0.40	1.58	0.93	0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 56 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.66			
Intersection Signal Delay: 74.0		Intersection LOS: E	
Intersection Capacity Utilization 103.2%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

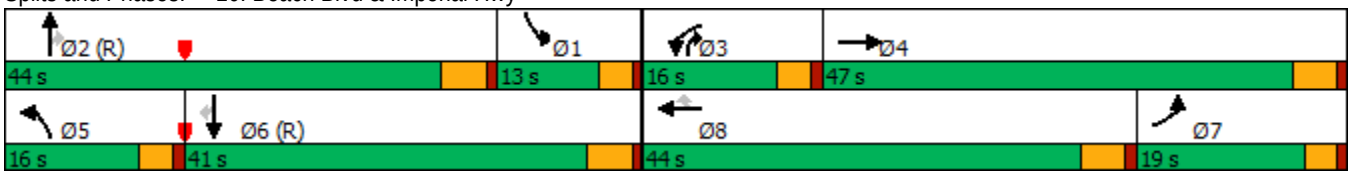
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

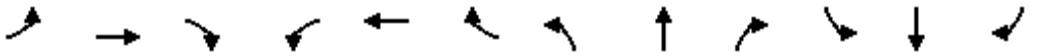
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Beach Blvd & Imperial Hwy

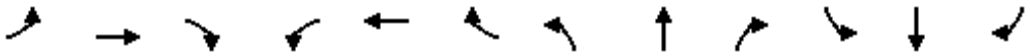


APPENDIX J-IV

YEAR 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	0	34	61	0	30	9	1988	19	9	2545	16
Future Volume (vph)	55	0	34	61	0	30	9	1988	19	9	2545	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	150		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.850			0.850			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	5080	0	1770	5085	1583
Flt Permitted	0.737			0.734			0.950			0.950		
Satd. Flow (perm)	1373	1583	0	1367	1583	0	1770	5080	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		100			100			2				64
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			588			1331			1011	
Travel Time (s)		11.7			13.4			30.3			23.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	57	0	35	64	0	31	9	2071	20	9	2651	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	35	0	64	31	0	9	2091	0	9	2651	17
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6

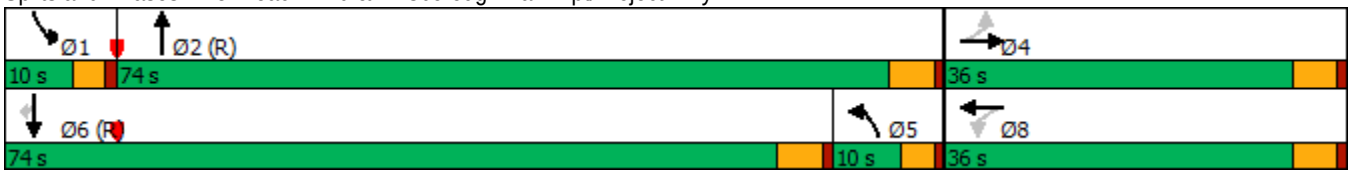


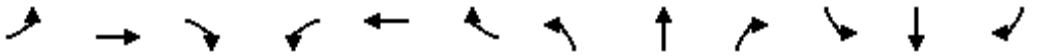
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	26.0		10.0	23.0	23.0
Total Split (s)	36.0	36.0		36.0	36.0		10.0	74.0		10.0	74.0	74.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		8.3%	61.7%		8.3%	61.7%	61.7%
Maximum Green (s)	31.0	31.0		31.0	31.0		6.0	69.0		6.0	69.0	69.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Flash Dont Walk (s)	24.0	24.0		24.0	24.0			14.0			11.0	11.0
Pedestrian Calls (#/hr)	5	5		5	5			5			5	5
Act Effct Green (s)	14.0	14.0		14.0	14.0		6.0	97.2		6.1	97.2	97.2
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.05	0.81		0.05	0.81	0.81
v/c Ratio	0.36	0.13		0.40	0.11		0.10	0.51		0.10	0.64	0.01
Control Delay	51.6	1.0		53.3	0.8		44.0	5.0		70.8	6.2	0.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	51.6	1.0		53.3	0.8		44.0	5.0		70.8	6.2	0.2
LOS	D	A		D	A		D	A		E	A	A
Approach Delay		32.3			36.2			5.2			6.4	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)	43	0		48	0		7	110		7	82	0
Queue Length 95th (ft)	71	0		77	0		m12	228		m10	835	m0
Internal Link Dist (ft)		436			508			1251			931	
Turn Bay Length (ft)							145			150		200
Base Capacity (vph)	354	483		353	483		88	4115		90	4118	1294
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.16	0.07		0.18	0.06		0.10	0.51		0.10	0.64	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 27 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 6.9		Intersection LOS: A	
Intersection Capacity Utilization 67.6%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Beach Blvd & Hillsborough Park Apt/Project Dwy





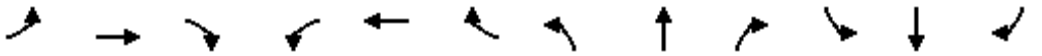
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	2	23	68	1	265	7	673	34	230	935	7
Future Volume (vph)	21	2	23	68	1	265	7	673	34	230	935	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.862			0.851			0.993			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1606	0	1770	1585	0	1770	3514	0	1770	3536	0
Flt Permitted	0.308			0.741			0.304			0.340		
Satd. Flow (perm)	574	1606	0	1380	1585	0	566	3514	0	633	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			265			5			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		440			430			365			335	
Travel Time (s)		10.0			9.8			8.3			7.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	21	2	23	68	1	265	7	673	34	230	935	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	25	0	68	266	0	7	707	0	230	942	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		30.0	30.0		10.0	23.0		10.0	23.0	
Total Split (s)	39.0	39.0		39.0	39.0		11.0	49.0		32.0	70.0	
Total Split (%)	32.5%	32.5%		32.5%	32.5%		9.2%	40.8%		26.7%	58.3%	
Maximum Green (s)	34.0	34.0		34.0	34.0		6.0	44.0		27.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				18.0	18.0			11.0			11.0	
Pedestrian Calls (#/hr)				5	5			5			5	
Act Effct Green (s)	13.0	13.0		13.0	13.0		88.3	82.7		97.0	94.8	
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.74	0.69		0.81	0.79	
v/c Ratio	0.34	0.13		0.46	0.65		0.01	0.29		0.38	0.34	
Control Delay	60.6	18.3		57.5	13.3		4.4	8.8		5.2	5.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	60.6	18.3		57.5	13.3		4.4	8.8		5.2	5.3	
LOS	E	B		E	B		A	A		A	A	
Approach Delay		37.6			22.3			8.7			5.3	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	16	1		51	1		1	92		28	72	
Queue Length 95th (ft)	38	25		87	72		6	194		82	232	
Internal Link Dist (ft)		360			350			285			255	
Turn Bay Length (ft)												
Base Capacity (vph)	162	471		391	639		478	2422		767	2792	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.05		0.17	0.42		0.01	0.29		0.30	0.34	

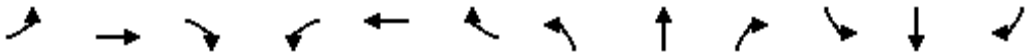
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 32 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: Idaho Street & Sandlewood Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1169	211	572	1389	301	250	1115	661	356	1756	303
Future Volume (vph)	117	1169	211	572	1389	301	250	1115	661	356	1756	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.977				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4968	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4968	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				215			91			146
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	123	1231	222	602	1462	317	263	1174	696	375	1848	319
Shared Lane Traffic (%)												
Lane Group Flow (vph)	123	1453	0	602	1462	317	263	1174	696	375	1848	319
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	13.0	47.0		16.0	50.0	50.0	11.0	44.0	16.0	13.0	46.0	46.0
Total Split (%)	10.8%	39.2%		13.3%	41.7%	41.7%	9.2%	36.7%	13.3%	10.8%	38.3%	38.3%
Maximum Green (s)	9.0	42.0		12.0	45.0	45.0	7.0	39.0	12.0	9.0	41.0	41.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	8.5	41.3		12.7	45.5	45.5	7.0	39.0	52.7	9.0	41.0	41.0
Actuated g/C Ratio	0.07	0.34		0.11	0.38	0.38	0.06	0.32	0.44	0.08	0.34	0.34
v/c Ratio	0.51	0.84		1.66	0.76	0.43	1.31	0.71	0.55	1.46	1.06	0.50
Control Delay	61.1	40.7		342.1	35.7	10.8	212.6	37.1	17.6	265.9	79.2	19.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	40.7		342.1	35.7	10.8	212.6	37.1	17.6	265.9	79.2	19.4
LOS	E	D		F	D	B	F	D	B	F	E	B
Approach Delay		42.3			109.9			52.4			99.3	
Approach LOS		D			F			D			F	
Queue Length 50th (ft)	47	367		~357	360	52	~135	326	122	~204	~578	102
Queue Length 95th (ft)	80	428		#473	419	129	#220	308	145	#303	#675	191
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	257	1760		363	1926	733	200	1652	1275	257	1737	636
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.83		1.66	0.76	0.43	1.31	0.71	0.55	1.46	1.06	0.50

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.66			
Intersection Signal Delay: 80.2		Intersection LOS: F	
Intersection Capacity Utilization 99.7%		ICU Level of Service F	
Analysis Period (min) 15			

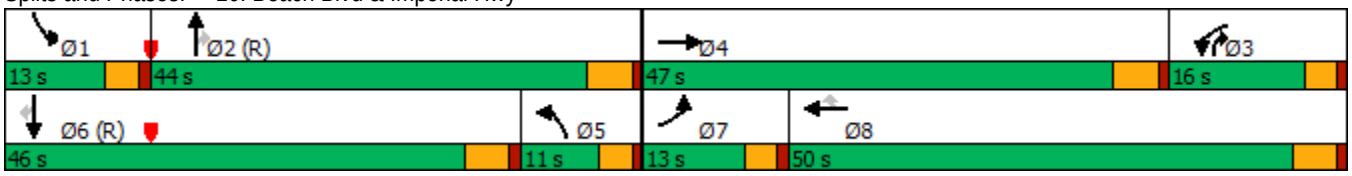
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

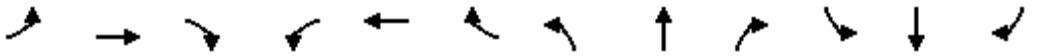
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Beach Blvd & Imperial Hwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	2092	47	108	2182	32	69	15	65	46	6	54
Future Volume (vph)	60	2092	47	108	2182	32	69	15	65	46	6	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950	0.969			0.957	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1715	1583	0	1783	1583
Flt Permitted	0.950			0.950			0.950	0.969			0.957	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1681	1715	1583	0	1783	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			100			145			145
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		371			391			324			342	
Travel Time (s)		8.4			8.9			7.4			7.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	63	2179	49	113	2273	33	72	16	68	48	6	56
Shared Lane Traffic (%)							39%					
Lane Group Flow (vph)	63	2179	49	113	2273	33	44	44	68	0	54	56
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0



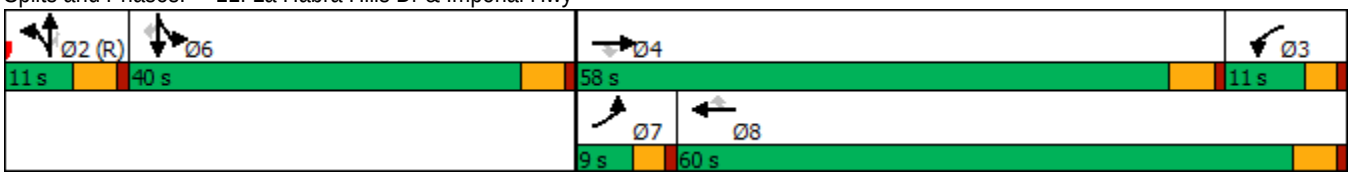
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	9.0	30.0	30.0	9.0	26.0	26.0	10.0	10.0	10.0	40.0	40.0	40.0
Total Split (s)	9.0	58.0	58.0	11.0	60.0	60.0	11.0	11.0	11.0	40.0	40.0	40.0
Total Split (%)	7.5%	48.3%	48.3%	9.2%	50.0%	50.0%	9.2%	9.2%	9.2%	33.3%	33.3%	33.3%
Maximum Green (s)	5.0	53.0	53.0	7.0	55.0	55.0	6.0	6.0	6.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		18.0	18.0		14.0	14.0				28.0	28.0	28.0
Pedestrian Calls (#/hr)		5	5		5	5				5	5	5
Act Effct Green (s)	5.0	53.0	53.0	7.0	55.0	55.0	6.0	6.0	6.0		35.0	35.0
Actuated g/C Ratio	0.04	0.44	0.44	0.06	0.46	0.46	0.05	0.05	0.05		0.29	0.29
v/c Ratio	0.86	0.97	0.06	1.10	0.98	0.04	0.52	0.52	0.31		0.10	0.10
Control Delay	129.4	46.3	0.2	169.3	45.8	0.1	77.8	77.1	3.8		31.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	129.4	46.3	0.2	169.3	45.8	0.1	77.8	77.1	3.8		31.9	0.4
LOS	F	D	A	F	D	A	E	E	A		C	A
Approach Delay		47.6			51.0			45.3			15.8	
Approach LOS		D			D			D			B	
Queue Length 50th (ft)	50	592	0	~99	617	0	35	35	0		31	0
Queue Length 95th (ft)	#137	#718	0	#220	#748	0	#88	#86	0		63	0
Internal Link Dist (ft)		291			311			244			262	
Turn Bay Length (ft)												
Base Capacity (vph)	73	2245	760	103	2330	779	84	85	216		520	564
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.86	0.97	0.06	1.10	0.98	0.04	0.52	0.52	0.31		0.10	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 48.4		Intersection LOS: D	
Intersection Capacity Utilization 67.6%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: La Habra Hills Dr & Imperial Hwy



AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

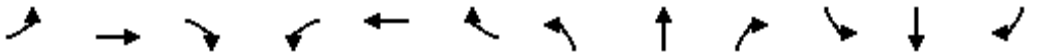
Intersection #28 Beach Blvd at Retail Dwy

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[19.9]

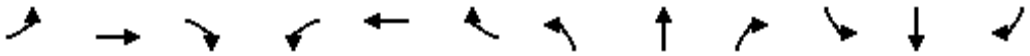
Street Name:	Beach Blvd								Retail Dwy							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	1 0	1	0	3	0 0	0	0	0	0 0	0	0	0	0 1
Volume Module:																
Base Vol:	0	1991	27	45	2573	0			0	0	0	0	0	0	0	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1991	27	45	2573	0			0	0	0	0	0	0	0	54
Added Vol:	0	0	0	0	0	0			0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0			0	0	0	0	0	0	0	0
Initial Fut:	0	1991	27	45	2573	0			0	0	0	0	0	0	0	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1991	27	45	2573	0			0	0	0	0	0	0	0	54
Reduct Vol:	0	0	0	0	0	0			0	0	0	0	0	0	0	0
FinalVolume:	0	1991	27	45	2573	0			0	0	0	0	0	0	0	54
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx			xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx			xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	2018	xxxx	xxxxx			xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx	xxxx	677
Potent Cap.:	xxxx	xxxx	xxxxx	286	xxxx	xxxxx			xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx	xxxx	400
Move Cap.:	xxxx	xxxx	xxxxx	286	xxxx	xxxxx			xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx	xxxx	400
Volume/Cap:	xxxx	xxxx	xxxx	0.16	xxxx	xxxx			xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.14
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	0.6	xxxx	xxxxx			xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx	xxxx	0.5
Control Del:	xxxxx	xxxx	xxxxx	19.9	xxxx	xxxxx			xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx	xxxx	15.4
LOS by Move:	*	*	*	C	*	*			*	*	*	*	*	*	*	C
Movement:	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				15.4			
ApproachLOS:	*				*				*				C			

Note: Queue reported is the number of cars per lane.

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LLG Costa Mesa, CA



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	0	17	38	0	18	29	2544	65	30	2315	37
Future Volume (vph)	16	0	17	38	0	18	29	2544	65	30	2315	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	150		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.850			0.850			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	5065	0	1770	5085	1583
Flt Permitted	0.745			0.746			0.950			0.950		
Satd. Flow (perm)	1388	1583	0	1390	1583	0	1770	5065	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		100			100			5				64
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			588			1331			1011	
Travel Time (s)		11.7			13.4			30.3			23.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	16	0	18	39	0	19	30	2623	67	31	2387	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	18	0	39	19	0	30	2690	0	31	2387	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6

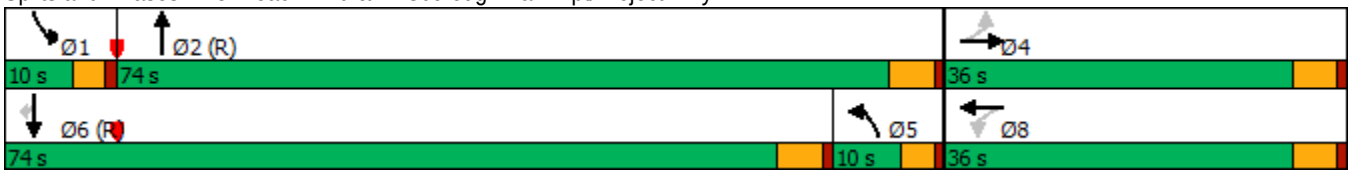


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	26.0		10.0	23.0	23.0
Total Split (s)	36.0	36.0		36.0	36.0		10.0	74.0		10.0	74.0	74.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		8.3%	61.7%		8.3%	61.7%	61.7%
Maximum Green (s)	31.0	31.0		31.0	31.0		6.0	69.0		6.0	69.0	69.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Flash Dont Walk (s)	24.0	24.0		24.0	24.0			14.0			11.0	11.0
Pedestrian Calls (#/hr)	5	5		5	5			5			5	5
Act Effct Green (s)	12.7	12.7		12.7	12.7		6.0	93.7		6.9	94.5	94.5
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.05	0.78		0.06	0.79	0.79
v/c Ratio	0.11	0.07		0.27	0.07		0.34	0.68		0.31	0.60	0.03
Control Delay	44.8	0.5		49.8	0.6		44.7	3.1		67.2	6.7	1.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	44.8	0.5		49.8	0.6		44.7	3.1		67.2	6.7	1.1
LOS	D	A		D	A		D	A		E	A	A
Approach Delay		21.3			33.7			3.5			7.3	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	12	0		29	0		23	56		22	159	1
Queue Length 95th (ft)	28	0		53	0		m27	125		m33	724	m5
Internal Link Dist (ft)		436			508			1251			931	
Turn Bay Length (ft)							145			150		200
Base Capacity (vph)	358	483		359	483		88	3956		101	4006	1260
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.04	0.04		0.11	0.04		0.34	0.68		0.31	0.60	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 67 (56%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 5.8		Intersection LOS: A	
Intersection Capacity Utilization 67.7%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Beach Blvd & Hillsborough Park Apt/Project Dwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1	15	29	3	151	25	1169	57	156	880	23
Future Volume (vph)	14	1	15	29	3	151	25	1169	57	156	880	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.859			0.853			0.993			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1600	0	1770	1589	0	1770	3514	0	1770	3525	0
Flt Permitted	0.370			0.747			0.311			0.182		
Satd. Flow (perm)	689	1600	0	1391	1589	0	579	3514	0	339	3525	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			151			6			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		440			430			365			335	
Travel Time (s)		10.0			9.8			8.3			7.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	14	1	15	29	3	151	25	1169	57	156	880	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	16	0	29	154	0	25	1226	0	156	903	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		30.0	30.0		10.0	23.0		10.0	23.0	
Total Split (s)	32.0	32.0		32.0	32.0		10.0	69.0		19.0	78.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		8.3%	57.5%		15.8%	65.0%	
Maximum Green (s)	27.0	27.0		27.0	27.0		5.0	64.0		14.0	73.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				18.0	18.0			11.0			11.0	
Pedestrian Calls (#/hr)				5	5			5			5	
Act Effct Green (s)	10.8	10.8		10.8	10.8		91.9	86.0		98.0	92.5	
Actuated g/C Ratio	0.09	0.09		0.09	0.09		0.77	0.72		0.82	0.77	
v/c Ratio	0.23	0.10		0.23	0.55		0.05	0.49		0.42	0.33	
Control Delay	55.1	21.2		51.6	15.1		3.7	9.5		6.3	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.1	21.2		51.6	15.1		3.7	9.5		6.3	6.1	
LOS	E	C		D	B		A	A		A	A	
Approach Delay		37.0			20.9			9.4			6.1	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	11	1		22	2		2	164		14	100	
Queue Length 95th (ft)	28	20		46	58		13	383		57	223	
Internal Link Dist (ft)		360			350			285			255	
Turn Bay Length (ft)												
Base Capacity (vph)	155	371		312	474		501	2521		447	2717	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.09	0.04		0.09	0.32		0.05	0.49		0.35	0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 19 (16%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 66.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Idaho Street & Sandlewood Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	1229	269	619	1163	356	328	1681	569	418	1448	208
Future Volume (vph)	247	1229	269	619	1163	356	328	1681	569	418	1448	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.973				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4948	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4948	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45				190			91			145
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	249	1241	272	625	1175	360	331	1698	575	422	1463	210
Shared Lane Traffic (%)												
Lane Group Flow (vph)	249	1513	0	625	1175	360	331	1698	575	422	1463	210
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	19.0	47.0		16.0	44.0	44.0	10.0	44.0	16.0	13.0	47.0	47.0
Total Split (%)	15.8%	39.2%		13.3%	36.7%	36.7%	8.3%	36.7%	13.3%	10.8%	39.2%	39.2%
Maximum Green (s)	15.0	42.0		12.0	39.0	39.0	6.0	39.0	12.0	9.0	42.0	42.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	13.3	41.5		12.5	40.7	40.7	6.0	39.0	52.5	9.0	42.0	42.0
Actuated g/C Ratio	0.11	0.35		0.10	0.34	0.34	0.05	0.32	0.44	0.08	0.35	0.35
v/c Ratio	0.66	0.87		1.76	0.68	0.54	1.94	1.03	0.45	1.64	0.82	0.32
Control Delay	59.5	41.9		383.1	36.8	18.3	459.9	55.7	12.7	340.7	40.3	10.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	41.9		383.1	36.8	18.3	459.9	55.7	12.7	340.7	40.3	10.9
LOS	E	D		F	D	B	F	E	B	F	D	B
Approach Delay		44.4			133.9			97.6			97.9	
Approach LOS		D			F			F			F	
Queue Length 50th (ft)	96	386		~376	287	103	~202	~447	78	~243	376	34
Queue Length 95th (ft)	139	451		#492	345	204	m#251	#601	m116	#346	438	93
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	429	1761		356	1724	662	171	1652	1269	257	1779	648
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.86		1.76	0.68	0.54	1.94	1.03	0.45	1.64	0.82	0.32

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 7 (6%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.94
Intersection Signal Delay: 95.9 Intersection LOS: F
Intersection Capacity Utilization 106.8% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

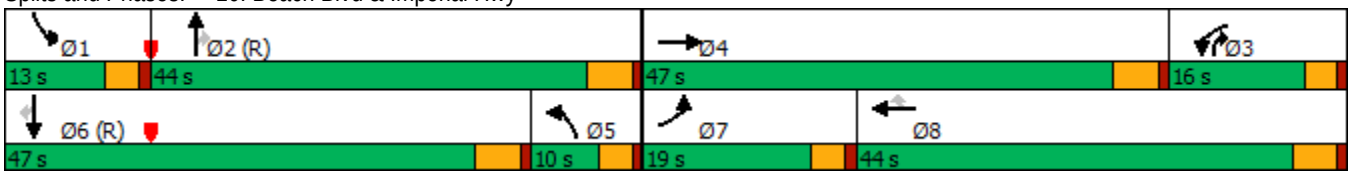
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

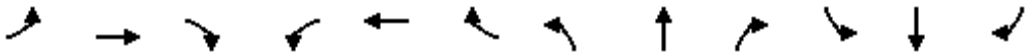
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Beach Blvd & Imperial Hwy



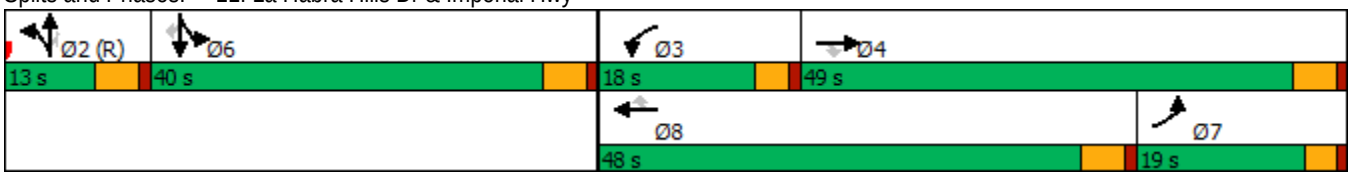
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	1872	100	245	1865	63	95	38	229	88	40	143
Future Volume (vph)	210	1872	100	245	1865	63	95	38	229	88	40	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950	0.978			0.967	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1731	1583	0	1801	1583
Flt Permitted	0.950			0.950			0.950	0.978			0.967	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1681	1731	1583	0	1801	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			109			231			145
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		371			391			324			342	
Travel Time (s)		8.4			8.9			7.4			7.8	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	212	1891	101	247	1884	64	96	38	231	89	40	144
Shared Lane Traffic (%)							31%					
Lane Group Flow (vph)	212	1891	101	247	1884	64	66	68	231	0	129	144
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	9.0	30.0	30.0	9.0	26.0	26.0	10.0	10.0	10.0	40.0	40.0	40.0
Total Split (s)	19.0	49.0	49.0	18.0	48.0	48.0	13.0	13.0	13.0	40.0	40.0	40.0
Total Split (%)	15.8%	40.8%	40.8%	15.0%	40.0%	40.0%	10.8%	10.8%	10.8%	33.3%	33.3%	33.3%
Maximum Green (s)	15.0	44.0	44.0	14.0	43.0	43.0	8.0	8.0	8.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		18.0	18.0		14.0	14.0				28.0	28.0	28.0
Pedestrian Calls (#/hr)		5	5		5	5				5	5	5
Act Effct Green (s)	15.0	44.0	44.0	14.0	43.0	43.0	8.0	8.0	8.0		35.0	35.0
Actuated g/C Ratio	0.12	0.37	0.37	0.12	0.36	0.36	0.07	0.07	0.07		0.29	0.29
v/c Ratio	0.96	1.01	0.16	1.20	1.03	0.10	0.59	0.59	0.72		0.25	0.26
Control Delay	103.5	62.4	5.6	172.0	68.4	1.2	75.9	75.5	20.3		34.0	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	103.5	62.4	5.6	172.0	68.4	1.2	75.9	75.5	20.3		34.0	6.2
LOS	F	E	A	F	E	A	E	E	C		C	A
Approach Delay		63.8			78.1			40.7			19.4	
Approach LOS		E			E			D			B	
Queue Length 50th (ft)	166	~548	1	~232	~574	0	53	54	0		76	0
Queue Length 95th (ft)	#320	#663	37	#398	#671	6	#116	#118	#95		129	47
Internal Link Dist (ft)		291			311			244			262	
Turn Bay Length (ft)												
Base Capacity (vph)	221	1864	643	206	1822	637	112	115	321		525	564
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.96	1.01	0.16	1.20	1.03	0.10	0.59	0.59	0.72		0.25	0.26

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 65.9		Intersection LOS: E	
Intersection Capacity Utilization 75.1%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: La Habra Hills Dr & Imperial Hwy



PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #28 Beach Blvd at Retail Dwy

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: E[37.4]

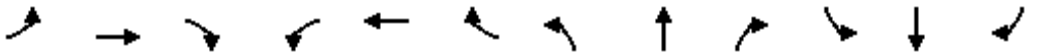
Street Name:	Beach Blvd								Retail Dwy							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	1 0	1	0	3	0 0	0	0	0	0 0	0	0	0	0 1
Volume Module:																
Base Vol:	0	2525		40	65	2380		0	0		0	0	0		0	84
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	0	2525		40	65	2380		0	0		0	0	0		0	84
Added Vol:	0	0		0	0	0		0	0		0	0	0		0	0
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	0	2525		40	65	2380		0	0		0	0	0		0	84
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	2525		40	65	2380		0	0		0	0	0		0	84
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
FinalVolume:	0	2525		40	65	2380		0	0		0	0	0		0	84
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9				
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	2565	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	862				
Potent Cap.:	xxxx	xxxx	xxxxx	175	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	303				
Move Cap.:	xxxx	xxxx	xxxxx	175	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	303				
Volume/Cap:	xxxx	xxxx	xxxx	0.37	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.28				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	1.6	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1.1				
Control Del:	xxxxx	xxxx	xxxxx	37.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	21.4				
LOS by Move:	*	*	*	E	*	*	*	*	*	*	*	C				
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				21.4			
ApproachLOS:	*				*				*				C			

Note: Queue reported is the number of cars per lane.

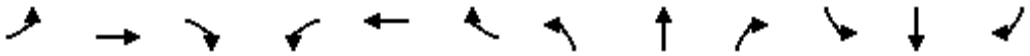
Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LLG Costa Mesa, CA

APPENDIX J-V

YEAR 2035 BUILDOUT TRAFFIC CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	1444	207	652	1448	288	242	1163	818	440	1845	321
Future Volume (vph)	124	1444	207	652	1448	288	242	1163	818	440	1845	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.981				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4989	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4989	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24				215			91			149
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	124	1444	207	652	1448	288	242	1163	818	440	1845	321
Shared Lane Traffic (%)												
Lane Group Flow (vph)	124	1651	0	652	1448	288	242	1163	818	440	1845	321
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	13.0	47.0		16.0	50.0	50.0	10.0	44.0	16.0	13.0	47.0	47.0
Total Split (%)	10.8%	39.2%		13.3%	41.7%	41.7%	8.3%	36.7%	13.3%	10.8%	39.2%	39.2%
Maximum Green (s)	9.0	42.0		12.0	45.0	45.0	6.0	39.0	12.0	9.0	42.0	42.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	8.5	42.0		12.0	45.5	45.5	6.0	39.0	52.0	9.0	42.0	42.0
Actuated g/C Ratio	0.07	0.35		0.10	0.38	0.38	0.05	0.32	0.43	0.08	0.35	0.35
v/c Ratio	0.51	0.94		1.90	0.75	0.39	1.42	0.70	0.65	1.71	1.04	0.49
Control Delay	61.2	48.5		446.1	35.5	9.0	250.8	28.4	13.6	370.0	70.0	18.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	48.5		446.1	35.5	9.0	250.8	28.4	13.6	370.0	70.0	18.7
LOS	E	D		F	D	A	F	C	B	F	E	B
Approach Delay		49.4			144.4			47.2			114.4	
Approach LOS		D			F			D			F	
Queue Length 50th (ft)	48	445		~398	355	37	~127	209	121	~258	~564	100
Queue Length 95th (ft)	80	#547		#517	414	105	#211	297	167	#363	#660	188
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	257	1761		343	1926	733	171	1652	1259	257	1779	650
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.94		1.90	0.75	0.39	1.42	0.70	0.65	1.71	1.04	0.49

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 2 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.90
Intersection Signal Delay: 92.9 Intersection LOS: F
Intersection Capacity Utilization 108.7% ICU Level of Service G
Analysis Period (min) 15

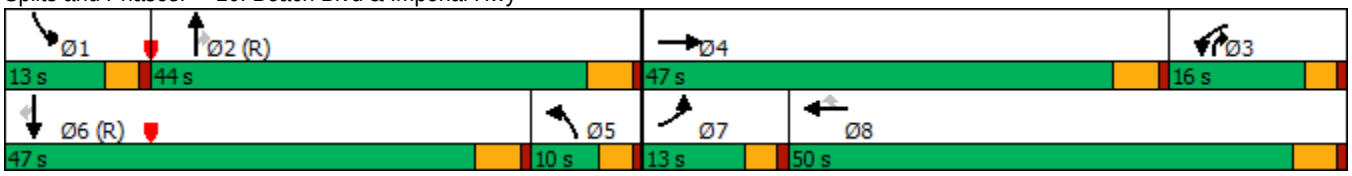
~ Volume exceeds capacity, queue is theoretically infinite.

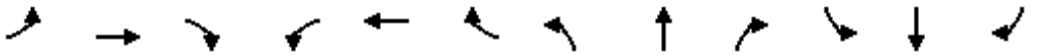
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

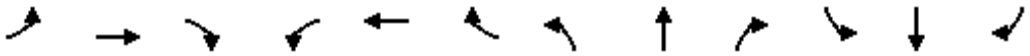
Queue shown is maximum after two cycles.

Splits and Phases: 10: Beach Blvd & Imperial Hwy





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	262	1276	252	597	1216	366	354	1761	545	608	1563	348
Future Volume (vph)	262	1276	252	597	1216	366	354	1761	545	608	1563	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.975				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4958	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4958	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38				217			91			181
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	262	1276	252	597	1216	366	354	1761	545	608	1563	348
Shared Lane Traffic (%)												
Lane Group Flow (vph)	262	1528	0	597	1216	366	354	1761	545	608	1563	348
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	17.0	47.0		14.0	44.0	44.0	16.0	44.0	14.0	15.0	43.0	43.0
Total Split (%)	14.2%	39.2%		11.7%	36.7%	36.7%	13.3%	36.7%	11.7%	12.5%	35.8%	35.8%
Maximum Green (s)	13.0	42.0		10.0	39.0	39.0	12.0	39.0	10.0	11.0	38.0	38.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	12.5	41.8		10.2	39.5	39.5	12.0	39.0	50.2	11.0	38.0	38.0
Actuated g/C Ratio	0.10	0.35		0.08	0.33	0.33	0.10	0.32	0.42	0.09	0.32	0.32
v/c Ratio	0.74	0.87		2.04	0.73	0.55	1.03	1.07	0.45	1.94	0.97	0.56
Control Delay	65.1	42.3		507.5	38.6	16.4	85.7	65.8	10.6	462.4	57.2	19.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.1	42.3		507.5	38.6	16.4	85.7	65.8	10.6	462.4	57.2	19.5
LOS	E	D		F	D	B	F	E	B	F	E	B
Approach Delay		45.7			163.3			57.1			149.8	
Approach LOS		D			F			E			F	
Queue Length 50th (ft)	102	393		~377	304	89	~141	~538	53	~374	436	103
Queue Length 95th (ft)	148	459		#491	360	187	m#200	#637	m84	#489	#544	201
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	371	1760		293	1675	666	343	1652	1219	314	1610	624
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.87		2.04	0.73	0.55	1.03	1.07	0.45	1.94	0.97	0.56

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 118 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.04			
Intersection Signal Delay: 105.7		Intersection LOS: F	
Intersection Capacity Utilization 113.7%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

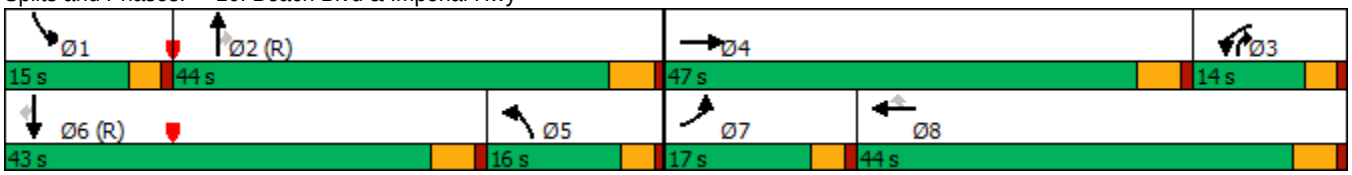
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

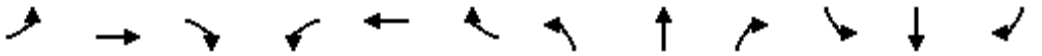
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Beach Blvd & Imperial Hwy

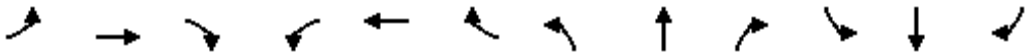


APPENDIX J-VI

YEAR 2035 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	0	36	61	0	30	10	2105	19	9	2695	17
Future Volume (vph)	58	0	36	61	0	30	10	2105	19	9	2695	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	150		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.850			0.850			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	5080	0	1770	5085	1583
Flt Permitted	0.738			0.734			0.950			0.950		
Satd. Flow (perm)	1375	1583	0	1367	1583	0	1770	5080	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		100			100			2				64
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			588			1331			1011	
Travel Time (s)		11.7			13.4			30.3			23.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	58	0	36	61	0	30	10	2105	19	9	2695	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	36	0	61	30	0	10	2124	0	9	2695	17
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6

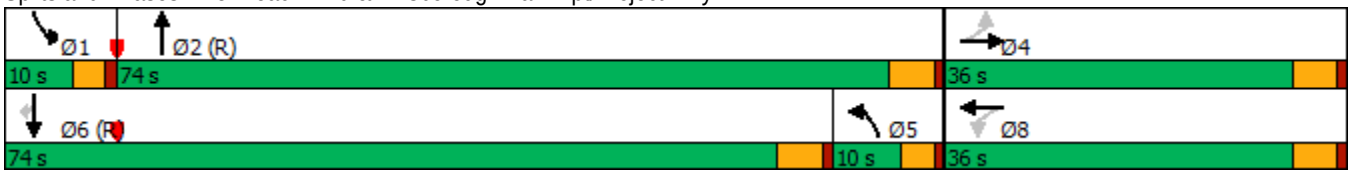


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	26.0		10.0	23.0	23.0
Total Split (s)	36.0	36.0		36.0	36.0		10.0	74.0		10.0	74.0	74.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		8.3%	61.7%		8.3%	61.7%	61.7%
Maximum Green (s)	31.0	31.0		31.0	31.0		6.0	69.0		6.0	69.0	69.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Flash Dont Walk (s)	24.0	24.0		24.0	24.0			14.0			11.0	11.0
Pedestrian Calls (#/hr)	5	5		5	5			5			5	5
Act Effct Green (s)	13.8	13.8		13.8	13.8		6.0	97.4		6.1	97.4	97.4
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.05	0.81		0.05	0.81	0.81
v/c Ratio	0.37	0.13		0.39	0.11		0.11	0.52		0.10	0.65	0.01
Control Delay	52.2	1.0		53.0	0.8		43.8	4.5		70.6	5.0	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	52.2	1.0		53.0	0.8		43.8	4.5		70.6	5.0	0.1
LOS	D	A		D	A		D	A		E	A	A
Approach Delay		32.6			35.8			4.7			5.2	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)	43	0		46	0		8	111		7	57	0
Queue Length 95th (ft)	72	0		74	0		m13	210		m10	868	m0
Internal Link Dist (ft)		436			508			1251			931	
Turn Bay Length (ft)							145			150		200
Base Capacity (vph)	355	483		353	483		88	4122		90	4126	1296
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.16	0.07		0.17	0.06		0.11	0.52		0.10	0.65	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 6.0		Intersection LOS: A	
Intersection Capacity Utilization 70.5%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Beach Blvd & Hillsborough Park Apt/Project Dwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	2	23	85	1	280	7	713	43	244	1129	7
Future Volume (vph)	21	2	23	85	1	280	7	713	43	244	1129	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.862			0.851			0.991			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1606	0	1770	1585	0	1770	3507	0	1770	3536	0
Flt Permitted	0.284			0.741			0.246			0.318		
Satd. Flow (perm)	529	1606	0	1380	1585	0	458	3507	0	592	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			280			6			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		440			430			365			335	
Travel Time (s)		10.0			9.8			8.3			7.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	21	2	23	85	1	280	7	713	43	244	1129	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	25	0	85	281	0	7	756	0	244	1136	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	

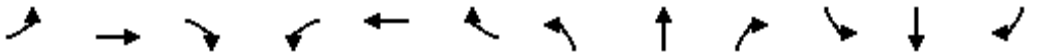
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		30.0	30.0		10.0	23.0		10.0	23.0	
Total Split (s)	38.0	38.0		38.0	38.0		10.0	49.0		33.0	72.0	
Total Split (%)	31.7%	31.7%		31.7%	31.7%		8.3%	40.8%		27.5%	60.0%	
Maximum Green (s)	33.0	33.0		33.0	33.0		5.0	44.0		28.0	67.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				18.0	18.0			11.0			11.0	
Pedestrian Calls (#/hr)				5	5			5			5	
Act Effct Green (s)	14.1	14.1		14.1	14.1		86.8	81.2		95.9	93.7	
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.72	0.68		0.80	0.78	
v/c Ratio	0.34	0.12		0.53	0.65		0.02	0.32		0.43	0.41	
Control Delay	60.5	17.9		59.7	12.6		4.7	9.6		5.9	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	60.5	17.9		59.7	12.6		4.7	9.6		5.9	6.1	
LOS	E	B		E	B		A	A		A	A	
Approach Delay		37.4			23.5			9.5			6.1	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	15	1		64	1		1	107		33	102	
Queue Length 95th (ft)	39	25		105	74		6	214		87	298	
Internal Link Dist (ft)		360			350			285			255	
Turn Bay Length (ft)												
Base Capacity (vph)	145	458		379	638		392	2373		748	2761	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.14	0.05		0.22	0.44		0.02	0.32		0.33	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Idaho Street & Sandlewood Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	1454	223	695	1471	302	264	1181	857	447	1860	321
Future Volume (vph)	124	1454	223	695	1471	302	264	1181	857	447	1860	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.980				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4984	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4984	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26				215			91			146
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	124	1454	223	695	1471	302	264	1181	857	447	1860	321
Shared Lane Traffic (%)												
Lane Group Flow (vph)	124	1677	0	695	1471	302	264	1181	857	447	1860	321
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	13.0	47.0		16.0	50.0	50.0	11.0	44.0	16.0	13.0	46.0	46.0
Total Split (%)	10.8%	39.2%		13.3%	41.7%	41.7%	9.2%	36.7%	13.3%	10.8%	38.3%	38.3%
Maximum Green (s)	9.0	42.0		12.0	45.0	45.0	7.0	39.0	12.0	9.0	41.0	41.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	8.5	42.0		12.0	45.5	45.5	7.0	39.0	52.0	9.0	41.0	41.0
Actuated g/C Ratio	0.07	0.35		0.10	0.38	0.38	0.06	0.32	0.43	0.08	0.34	0.34
v/c Ratio	0.51	0.95		2.03	0.76	0.41	1.32	0.71	0.68	1.74	1.07	0.50
Control Delay	61.2	50.5		500.1	35.9	9.9	210.3	30.1	15.3	381.4	81.6	19.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	50.5		500.1	35.9	9.9	210.3	30.1	15.3	381.4	81.6	19.6
LOS	E	D		F	D	A	F	C	B	F	F	B
Approach Delay		51.2			163.4			45.2			125.0	
Approach LOS		D			F			D			F	
Queue Length 50th (ft)	48	455		~435	363	44	~132	257	153	~264	~585	104
Queue Length 95th (ft)	80	#562		#555	423	116	#221	305	186	#369	#682	193
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	257	1761		343	1926	733	200	1652	1259	257	1737	636
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.95		2.03	0.76	0.41	1.32	0.71	0.68	1.74	1.07	0.50

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 94 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.03			
Intersection Signal Delay: 100.9		Intersection LOS: F	
Intersection Capacity Utilization 111.4%		ICU Level of Service H	
Analysis Period (min) 15			

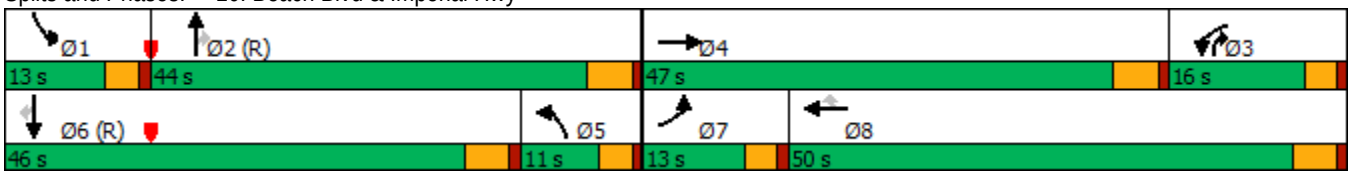
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

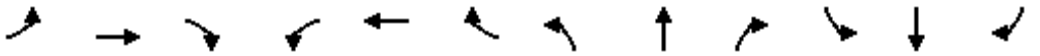
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Beach Blvd & Imperial Hwy



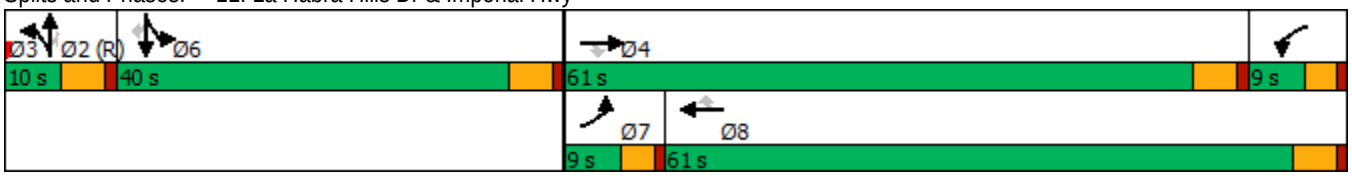
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	2663	50	113	2265	34	70	16	67	49	6	57
Future Volume (vph)	63	2663	50	113	2265	34	70	16	67	49	6	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950	0.970			0.957	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1717	1583	0	1783	1583
Flt Permitted	0.950			0.950			0.950	0.970			0.957	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1681	1717	1583	0	1783	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			100			145			145
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		371			391			324			342	
Travel Time (s)		8.4			8.9			7.4			7.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	2663	50	113	2265	34	70	16	67	49	6	57
Shared Lane Traffic (%)							39%					
Lane Group Flow (vph)	63	2663	50	113	2265	34	43	43	67	0	55	57
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	9.0	30.0	30.0	9.0	26.0	26.0	10.0	10.0	10.0	40.0	40.0	40.0
Total Split (s)	9.0	61.0	61.0	9.0	61.0	61.0	10.0	10.0	10.0	40.0	40.0	40.0
Total Split (%)	7.5%	50.8%	50.8%	7.5%	50.8%	50.8%	8.3%	8.3%	8.3%	33.3%	33.3%	33.3%
Maximum Green (s)	5.0	56.0	56.0	5.0	56.0	56.0	5.0	5.0	5.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		18.0	18.0		14.0	14.0				28.0	28.0	28.0
Pedestrian Calls (#/hr)		5	5		5	5				5	5	5
Act Effct Green (s)	5.0	56.0	56.0	5.0	56.0	56.0	5.0	5.0	5.0		35.0	35.0
Actuated g/C Ratio	0.04	0.47	0.47	0.04	0.47	0.47	0.04	0.04	0.04		0.29	0.29
v/c Ratio	0.86	1.12	0.06	1.55	0.95	0.04	0.61	0.61	0.33		0.11	0.10
Control Delay	129.4	92.5	0.2	341.0	41.6	0.1	91.5	90.1	4.3		31.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	129.4	92.5	0.2	341.0	41.6	0.1	91.5	90.1	4.3		31.9	0.4
LOS	F	F	A	F	D	A	F	F	A		C	A
Approach Delay		91.7			55.1			52.9			15.8	
Approach LOS		F			E			D			B	
Queue Length 50th (ft)	50	~871	0	~123	602	0	34	34	0		31	0
Queue Length 95th (ft)	#137	#961	0	#244	#731	0	#96	#95	0		64	0
Internal Link Dist (ft)		291			311			244			262	
Turn Bay Length (ft)												
Base Capacity (vph)	73	2373	796	73	2373	792	70	71	204		520	564
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.86	1.12	0.06	1.55	0.95	0.04	0.61	0.61	0.33		0.11	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.55			
Intersection Signal Delay: 72.8		Intersection LOS: E	
Intersection Capacity Utilization 79.1%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: La Habra Hills Dr & Imperial Hwy



AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #28 Beach Blvd at Retail Dwy

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: D[25.1]

Street Name:	Beach Blvd						Retail Dwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 2	1	0	1 0 3	0	0	0 0 0	0	0	0 0 0	0	1
Volume Module:												
Base Vol:	0 2264	27		45 2724	0		0 0 0	0		0 0 0	0	54
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	0 2264	27		45 2724	0		0 0 0	0		0 0 0	0	54
Added Vol:	0 0	0		0 0	0		0 0 0	0		0 0 0	0	0
PasserByVol:	0 0	0		0 0	0		0 0 0	0		0 0 0	0	0
Initial Fut:	0 2264	27		45 2724	0		0 0 0	0		0 0 0	0	54
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	0 2264	27		45 2724	0		0 0 0	0		0 0 0	0	54
Reduct Vol:	0 0	0		0 0	0		0 0 0	0		0 0 0	0	0
FinalVolume:	0 2264	27		45 2724	0		0 0 0	0		0 0 0	0	54
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx	4.1		xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx								6.9
FollowUpTim:	xxxxx xxxx xxxxx	2.2		xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx								3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx	2291		xxxx xxxxx	xxxx		xxxx xxxx xxxxx	xxxx		xxxx xxxx		768
Potent Cap.:	xxxx xxxx xxxxx	224		xxxx xxxxx	xxxx		xxxx xxxx xxxxx	xxxx		xxxx xxxx		349
Move Cap.:	xxxx xxxx xxxxx	224		xxxx xxxxx	xxxx		xxxx xxxx xxxxx	xxxx		xxxx xxxx		349
Volume/Cap:	xxxx xxxx xxxx	0.20		xxxx xxxx	xxxx		xxxx xxxx xxxx	xxxx		xxxx xxxx		0.15
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx	0.7		xxxx xxxxx	xxxx		xxxx xxxx xxxxx	xxxx		xxxx xxxx		0.5
Control Del:	xxxxx xxxx xxxxx	25.1		xxxx xxxxx	xxxxx		xxxx xxxxx	xxxxx		xxxx xxxx		17.2
LOS by Move:	* * *	D		* *	*		* *	*		* *	*	C
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx		
SharedQueue:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx		
Shrd ConDel:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx		
Shared LOS:	* * *			* *	*		* *	*		* *	*	
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			17.2		
ApproachLOS:	*			*			*			C		

Note: Queue reported is the number of cars per lane.

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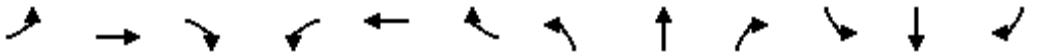
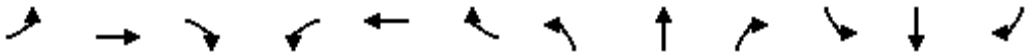


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	0	18	38	0	18	31	2693	65	30	2451	39
Future Volume (vph)	17	0	18	38	0	18	31	2693	65	30	2451	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	150		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.850			0.850			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	5065	0	1770	5085	1583
Flt Permitted	0.746			0.746			0.950			0.950		
Satd. Flow (perm)	1390	1583	0	1390	1583	0	1770	5065	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		100			100			5				64
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		516			588			1331			1011	
Travel Time (s)		11.7			13.4			30.3			23.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	17	0	18	38	0	18	31	2693	65	30	2451	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	18	0	38	18	0	31	2758	0	30	2451	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6

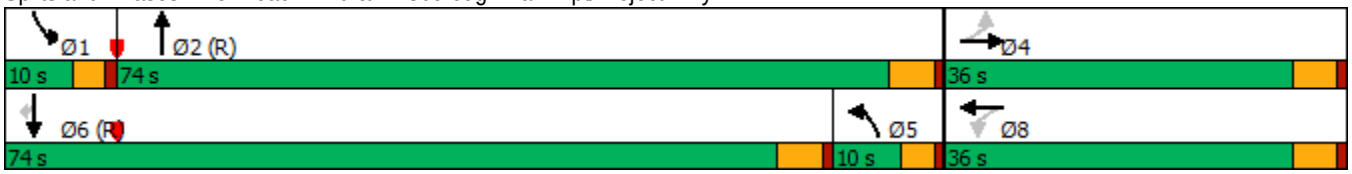


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	26.0		10.0	23.0	23.0
Total Split (s)	36.0	36.0		36.0	36.0		10.0	74.0		10.0	74.0	74.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		8.3%	61.7%		8.3%	61.7%	61.7%
Maximum Green (s)	31.0	31.0		31.0	31.0		6.0	69.0		6.0	69.0	69.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Flash Dont Walk (s)	24.0	24.0		24.0	24.0			14.0			11.0	11.0
Pedestrian Calls (#/hr)	5	5		5	5			5			5	5
Act Effct Green (s)	12.6	12.6		12.6	12.6		6.0	93.8		6.9	94.6	94.6
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.05	0.78		0.06	0.79	0.79
v/c Ratio	0.12	0.07		0.26	0.07		0.35	0.70		0.30	0.61	0.03
Control Delay	45.1	0.6		49.8	0.6		43.6	3.1		69.4	6.4	1.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	45.1	0.6		49.8	0.6		43.6	3.1		69.4	6.4	1.1
LOS	D	A		D	A		D	A		E	A	A
Approach Delay		22.2			33.9			3.5			7.1	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	13	0		29	0		24	52		22	136	1
Queue Length 95th (ft)	29	0		52	0		m26	116		m30	744	m4
Internal Link Dist (ft)		436			508			1251			931	
Turn Bay Length (ft)							145			150		200
Base Capacity (vph)	359	483		359	483		88	3961		101	4008	1261
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.05	0.04		0.11	0.04		0.35	0.70		0.30	0.61	0.03

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 5.6 Intersection LOS: A
Intersection Capacity Utilization 70.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Beach Blvd & Hillsborough Park Apt/Project Dwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1	15	39	3	160	25	1293	69	165	885	23
Future Volume (vph)	14	1	15	39	3	160	25	1293	69	165	885	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.859			0.853			0.992			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1600	0	1770	1589	0	1770	3511	0	1770	3525	0
Flt Permitted	0.354			0.747			0.314			0.145		
Satd. Flow (perm)	659	1600	0	1391	1589	0	585	3511	0	270	3525	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			160			7			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		440			430			365			335	
Travel Time (s)		10.0			9.8			8.3			7.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	14	1	15	39	3	160	25	1293	69	165	885	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	16	0	39	163	0	25	1362	0	165	908	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	

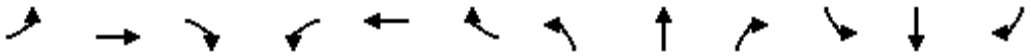
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		30.0	30.0		10.0	23.0		10.0	23.0	
Total Split (s)	32.0	32.0		32.0	32.0		10.0	68.0		20.0	78.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		8.3%	56.7%		16.7%	65.0%	
Maximum Green (s)	27.0	27.0		27.0	27.0		5.0	63.0		15.0	73.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				18.0	18.0			11.0			11.0	
Pedestrian Calls (#/hr)				5	5			5			5	
Act Effct Green (s)	11.3	11.3		11.3	11.3		89.5	83.6		98.4	92.0	
Actuated g/C Ratio	0.09	0.09		0.09	0.09		0.75	0.70		0.82	0.77	
v/c Ratio	0.23	0.10		0.30	0.55		0.05	0.56		0.48	0.34	
Control Delay	54.7	20.9		53.2	14.6		4.0	11.9		7.5	6.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.7	20.9		53.2	14.6		4.0	11.9		7.5	6.3	
LOS	D	C		D	B		A	B		A	A	
Approach Delay		36.7			22.1			11.8			6.5	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)	10	1		29	2		2	221		16	104	
Queue Length 95th (ft)	28	20		57	59		13	486		60	224	
Internal Link Dist (ft)		360			350			285			255	
Turn Bay Length (ft)												
Base Capacity (vph)	148	371		312	481		494	2447		410	2703	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.09	0.04		0.13	0.34		0.05	0.56		0.40	0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 20 (17%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Idaho Street & Sandlewood Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	262	1301	283	653	1232	377	377	1781	600	624	1590	348
Future Volume (vph)	262	1301	283	653	1232	377	377	1781	600	624	1590	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	390		245	260		160	150		145
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.88	0.97	0.91	1.00
Frt		0.973				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4948	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4948	0	3433	5085	1583	3433	5085	2787	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44				198			91			179
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		755			702			756			1160	
Travel Time (s)		17.2			16.0			17.2			26.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	262	1301	283	653	1232	377	377	1781	600	624	1590	348
Shared Lane Traffic (%)												
Lane Group Flow (vph)	262	1584	0	653	1232	377	377	1781	600	624	1590	348
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases						8			2			6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	47.0		10.0	43.0	43.0	10.0	43.0	10.0	10.0	40.0	40.0
Total Split (s)	17.0	47.0		14.0	44.0	44.0	16.0	45.0	14.0	14.0	43.0	43.0
Total Split (%)	14.2%	39.2%		11.7%	36.7%	36.7%	13.3%	37.5%	11.7%	11.7%	35.8%	35.8%
Maximum Green (s)	13.0	42.0		10.0	39.0	39.0	12.0	40.0	10.0	10.0	38.0	38.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		35.0			31.0	31.0		31.0			28.0	28.0
Pedestrian Calls (#/hr)		5			5	5		5			5	5
Act Effct Green (s)	12.5	42.0		10.0	39.5	39.5	12.0	40.0	51.0	10.0	38.0	38.0
Actuated g/C Ratio	0.10	0.35		0.08	0.33	0.33	0.10	0.33	0.42	0.08	0.32	0.32
v/c Ratio	0.74	0.90		2.28	0.74	0.58	1.10	1.05	0.49	2.18	0.99	0.56
Control Delay	65.1	44.1		613.7	38.9	19.2	109.4	64.9	15.7	569.6	60.6	19.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.1	44.1		613.7	38.9	19.2	109.4	64.9	15.7	569.6	60.6	19.7
LOS	E	D		F	D	B	F	E	B	F	E	B
Approach Delay		47.1			201.6			60.3			179.0	
Approach LOS		D			F			E			F	
Queue Length 50th (ft)	102	414		~423	310	112	~167	~536	102	~399	447	105
Queue Length 95th (ft)	148	482		#541	366	215	m#211	#637	m131	#515	#560	202
Internal Link Dist (ft)		675			622			676			1080	
Turn Bay Length (ft)	130			390		245	260		160	150		145
Base Capacity (vph)	371	1760		286	1675	654	343	1695	1236	286	1610	623
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.90		2.28	0.74	0.58	1.10	1.05	0.49	2.18	0.99	0.56

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.28
Intersection Signal Delay: 123.9 Intersection LOS: F
Intersection Capacity Utilization 117.3% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

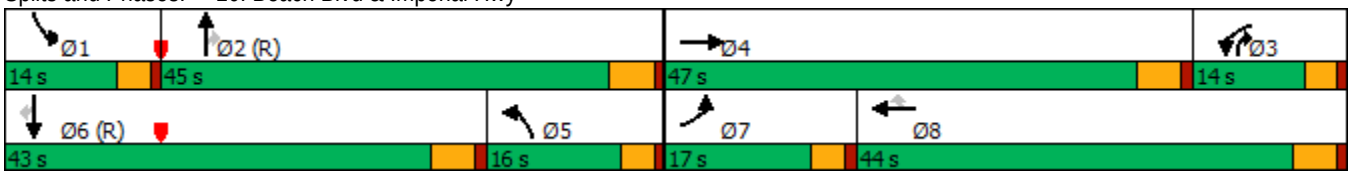
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

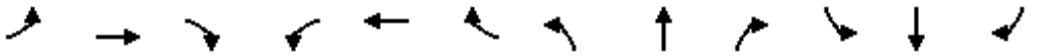
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Beach Blvd & Imperial Hwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	1939	103	257	1974	67	99	40	241	93	42	152
Future Volume (vph)	223	1939	103	257	1974	67	99	40	241	93	42	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950	0.979			0.967	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1732	1583	0	1801	1583
Flt Permitted	0.950			0.950			0.950	0.979			0.967	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1681	1732	1583	0	1801	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			109			241			152
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		371			391			324			342	
Travel Time (s)		8.4			8.9			7.4			7.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	223	1939	103	257	1974	67	99	40	241	93	42	152
Shared Lane Traffic (%)							31%					
Lane Group Flow (vph)	223	1939	103	257	1974	67	68	71	241	0	135	152
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0



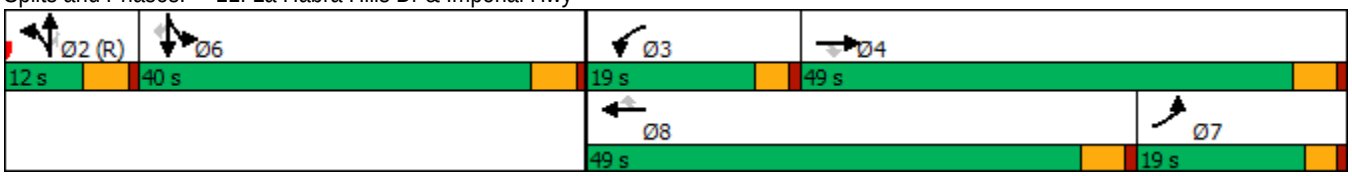
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	9.0	30.0	30.0	9.0	26.0	26.0	10.0	10.0	10.0	40.0	40.0	40.0
Total Split (s)	19.0	49.0	49.0	19.0	49.0	49.0	12.0	12.0	12.0	40.0	40.0	40.0
Total Split (%)	15.8%	40.8%	40.8%	15.8%	40.8%	40.8%	10.0%	10.0%	10.0%	33.3%	33.3%	33.3%
Maximum Green (s)	15.0	44.0	44.0	15.0	44.0	44.0	7.0	7.0	7.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	Max	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		18.0	18.0		14.0	14.0				28.0	28.0	28.0
Pedestrian Calls (#/hr)		5	5		5	5				5	5	5
Act Effct Green (s)	15.0	44.0	44.0	15.0	44.0	44.0	7.0	7.0	7.0		35.0	35.0
Actuated g/C Ratio	0.12	0.37	0.37	0.12	0.37	0.37	0.06	0.06	0.06		0.29	0.29
v/c Ratio	1.01	1.04	0.16	1.16	1.06	0.10	0.69	0.70	0.76		0.26	0.27
Control Delay	115.3	69.6	5.8	157.7	75.6	1.4	89.6	89.8	22.6		34.2	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	115.3	69.6	5.8	157.7	75.6	1.4	89.6	89.8	22.6		34.2	6.2
LOS	F	E	A	F	E	A	F	F	C		C	A
Approach Delay		71.2			82.6			47.1			19.4	
Approach LOS		E			F			D			B	
Queue Length 50th (ft)	~177	~594	2	~236	~615	0	55	57	0		80	0
Queue Length 95th (ft)	#341	#690	38	#404	#711	9	#133	#137	#107		135	49
Internal Link Dist (ft)		291			311			244			262	
Turn Bay Length (ft)												
Base Capacity (vph)	221	1864	643	221	1864	649	98	101	319		525	569
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	1.01	1.04	0.16	1.16	1.06	0.10	0.69	0.70	0.76		0.26	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 71.6		Intersection LOS: E	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: La Habra Hills Dr & Imperial Hwy



PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #28 Beach Blvd at Retail Dwy

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: E[47.1]

Street Name:	Beach Blvd								Retail Dwy							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	1 0	1	0	3	0 0	0	0	0	0 0	0	0	0	0 1
Volume Module:																
Base Vol:	0	2705	40		65	2519	0		0	0	0		0	0	84	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	2705	40		65	2519	0		0	0	0		0	0	84	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	2705	40		65	2519	0		0	0	0		0	0	84	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	2705	40		65	2519	0		0	0	0		0	0	84	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	2705	40		65	2519	0		0	0	0		0	0	84	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	6.9	
FollowUpTim:	xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	3.3	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		2745	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	922	
Potent Cap.:	xxxx	xxxx	xxxxx		148	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	276	
Move Cap.:	xxxx	xxxx	xxxxx		148	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	276	
Volume/Cap:	xxxx	xxxx	xxxx		0.44	xxxx	xxxx		xxxx	xxxx	xxxx		xxxx	xxxx	0.30	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		2.0	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	1.2	
Control Del:	xxxxx	xxxx	xxxxx		47.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	23.6	
LOS by Move:	*	*	*		E	*	*		*	*	*		*	*	C	
Movement:	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				23.6			
ApproachLOS:	*				*				*				C			

Note: Queue reported is the number of cars per lane.

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LLG Costa Mesa, CA

APPENDIX K

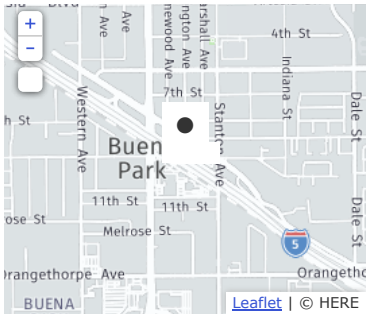
BASIC FREEWAY SEGMENT ANALYSIS

APPENDIX K-I

EXISTING MAINLINE VOLUMES

Mainline VDS 1205636 - BEACH 1

Current Location



Maps Real-Time | Performance | Inventory

I5-N @ CA PM 43.28 (Abs PM 115.5)
District 12, Orange County , City of Buena Park

Station Details

Aliases	MS ID 2559
LDS	1205631
Owner	Caltrans
Assoc. Traffic Census Station	129070
Comm Type (LDS)	Wired
Speeds	Estimated
Max Cap.	128.4 Veh/Min (04/01/2017)
Vehicle Classification	*N/A*

Lane Detection

Lane	Slot	Sensor Tech	Type
1	1	Dual Loop	Opposite Side Mainline
2	2	Dual Loop	Opposite Side Mainline
3	3	Dual Loop	Opposite Side Mainline
4	4	Dual Loop	Opposite Side Mainline
5	5	Dual Loop	Opposite Side Mainline

Diagnostics

Threshold Set	Urban
Flow = 0, Occ > 0 (Intermittent)	2%
High Flow Threshold	20
High Occ Threshold	.7
High Occupancy (High Val)	20%
Occ = 0; Flow > 0 (Intermittent)	50%
Repeat Occupancy (Constant)	50
Occupancy = 0 (Card Off)	59%

Quick Links

View another VDS Go

Tools

Holidays
Data Clearinghouse
PeMS User Manual
Transit PeMS User Manual
Lane Closure Manual
District TCR Training Guide
PeMS Forum (External Site)

Performance > Aggregates > Time Series

ABOUT THIS REPORT

From 12/11/2018 00:00
*Max Range:*3 months

To 01/10/2019 23:59

Time of Day: All / 07:00 to 08:59

Include Days: Su Mo Tu We Th Fr Sa Holidays

Quantity: Flow

Granularity: Hour

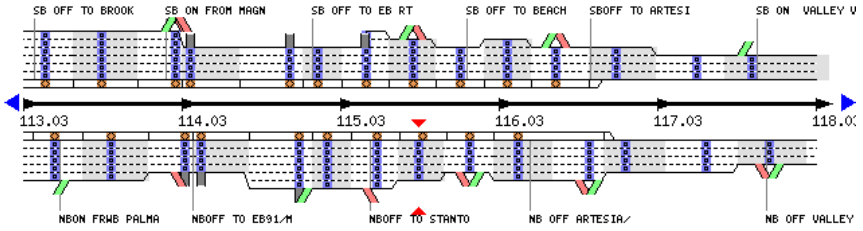
Lanes: Agg 1 2 3 4 5

Second Quantity: Truck Proportion

DRAW PLOT | VIEW TABLE | EXPORT TEXT | EXPORT to XLS | EXPORT to PDF

14 0 0

			Data Quality	
Hour	**Flow (Veh/Hour)**	**Truck Prop (%)**	**# Lane Points**	**% Observed**
12/11/2018 07:00	5,326.0	0.1	60	100.0
12/11/2018 08:00	4,756.0	0.4	60	100.0
12/12/2018 07:00	5,016.0	0.3	60	100.0
12/12/2018 08:00	4,978.0	1.0	60	100.0
12/13/2018 07:00	5,141.0	0.5	60	100.0
12/13/2018 08:00	5,368.0	1.5	60	100.0
12/18/2018 07:00	5,255.0	0.3	60	100.0
12/18/2018 08:00	5,197.0	0.8	60	100.0
12/19/2018 07:00	5,533.0	1.3	60	100.0
12/19/2018 08:00	5,245.0	1.3	60	100.0
12/20/2018 07:00	5,420.0	1.5	60	100.0
12/20/2018 08:00	5,281.0	1.3	60	100.0
12/26/2018 07:00	5,319.0	0.6	60	100.0
12/26/2018 08:00	4,533.0	1.1	60	100.0
12/27/2018 07:00	5,028.0	0.2	60	100.0
12/27/2018 08:00	5,096.0	1.1	60	100.0
01/02/2019 07:00	5,396.0	0.7	60	100.0
01/02/2019 08:00	5,413.0	1.0	60	100.0
01/03/2019 07:00	5,415.0	0.2	60	100.0
01/03/2019 08:00	5,117.0	1.4	60	100.0
01/08/2019 07:00	5,325.0	1.3	60	100.0
01/08/2019 08:00	5,108.0	2.2	60	100.0
01/09/2019 07:00	5,343.0	2.8	60	100.0
01/09/2019 08:00	5,223.0	1.0	60	100.0
01/10/2019 07:00	5,518.0	0.0	60	100.0
01/10/2019 08:00	5,139.0	0.2	60	100.0
Total			**1,560**	**100.0**



Related Aggregates Reports: Time Series • Time of Day • Day of Week • Quantity Relationships

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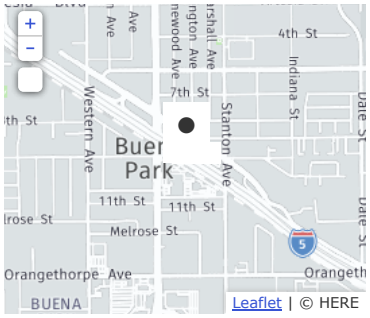
TABLE 1
I-5 NB AM PEAK HOUR PEMS VOLUME DATA
RANCHO LA HABRA, LA HABRA

Hour	Flow (Veh/Hour)	Truck Prop (%)	# Lane Points	% Observed
12/11/2018 7:00	5,326	0.10	60	100.00
12/11/2018 8:00	4,756	0.40	60	100.00
12/12/2018 7:00	5,016	0.30	60	100.00
12/12/2018 8:00	4,978	1.00	60	100.00
12/13/2018 7:00	5,141	0.50	60	100.00
12/13/2018 8:00	5,368	1.50	60	100.00
12/18/2018 7:00	5,255	0.30	60	100.00
12/18/2018 8:00	5,197	0.80	60	100.00
12/19/2018 7:00	5,533	1.30	60	100.00
12/19/2018 8:00	5,245	1.30	60	100.00
12/20/2018 7:00	5,420	1.50	60	100.00
12/20/2018 8:00	5,281	1.30	60	100.00
12/26/2018 7:00	5,319	0.60	60	100.00
12/26/2018 8:00	4,533	1.10	60	100.00
12/27/2018 7:00	5,028	0.20	60	100.00
12/27/2018 8:00	5,096	1.10	60	100.00
1/02/2019 7:00	5,396	0.70	60	100.00
1/02/2019 8:00	5,413	1.00	60	100.00
1/03/2019 7:00	5,415	0.20	60	100.00
1/03/2019 8:00	5,117	1.40	60	100.00
1/08/2019 7:00	5,325	1.30	60	100.00
1/08/2019 8:00	5,108	2.20	60	100.00
1/09/2019 7:00	5,343	2.80	60	100.00
1/09/2019 8:00	5,223	1.00	60	100.00
1/10/2019 7:00	5,518	0.00	60	100.00
1/10/2019 8:00	5,139	0.20	60	100.00
85th Percentile	**5,414**			

Mainline VDS 1205632 - BEACH 1

Current Location



Maps Real-Time | Performance | Inventory

I5-S @ CA PM 43.3 (Abs PM 115.5)
District 12, Orange County , City of Buena Park

Station Details

Aliases	MS ID 2559
LDS	1205631
Owner	Caltrans
Assoc. Traffic Census Station	129070
Comm Type (LDS)	Wired
Speeds	Estimated
Max Cap.	97.8 Veh/Min (04/01/2017)
Vehicle Classification	*N/A*

Lane Detection

Lane	Slot	Sensor Tech	Type
1	1	Dual Loop	Mainline
2	2	Dual Loop	Mainline
3	3	Dual Loop	Mainline
4	4	Dual Loop	Mainline
5	5	Dual Loop	Mainline

Diagnostics

Threshold Set	Urban
Flow = 0, Occ > 0 (Intermittent)	2%
High Flow Threshold	20
High Occ Threshold	.7
High Occupancy (High Val)	20%
Occ = 0; Flow > 0 (Intermittent)	50%
Repeat Occupancy (Constant)	50
Occupancy = 0 (Card Off)	59%

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Transit PeMS User Manual
Lane Closure Manual
District TCR Training Guide
PeMS Forum (External Site)

Change Log | Performance | Data Quality | Events

Performance > Aggregates > Time Series

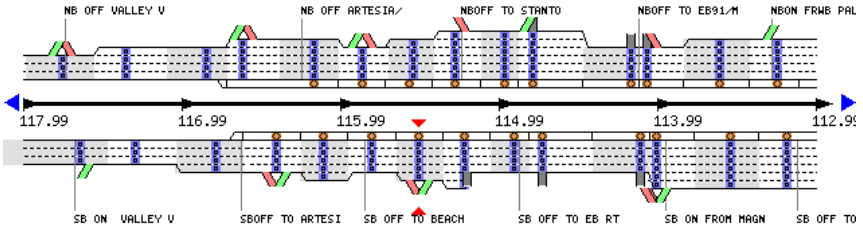
ABOUT THIS REPORT

From: 12/11/2018 00:00 (*Max Range:*3 months)
To: 01/10/2019 23:59
Time of Day: All / 07:00 to 08:59
Include Days: Su Mo Tu We Th Fr Sa Holidays
Quantity: Flow
Granularity: Hour
Lanes: Agg 1 2 3 4 5
Second Quantity: Truck Proportion

DRAW PLOT | VIEW TABLE | EXPORT TEXT | EXPORT to XLS | EXPORT to PDF

9 0 0

			Data Quality	
Hour	**Flow (Veh/Hour)**	**Truck Prop (%)**	**# Lane Points**	**% Observed**
12/11/2018 07:00	4,354.0	0.0	60	100.0
12/11/2018 08:00	4,301.0	0.0	60	100.0
12/12/2018 07:00	4,437.0	0.0	60	100.0
12/12/2018 08:00	4,389.0	0.0	60	100.0
12/13/2018 07:00	4,176.0	0.0	60	100.0
12/13/2018 08:00	4,279.0	0.0	60	100.0
12/18/2018 07:00	4,396.0	0.0	60	100.0
12/18/2018 08:00	4,313.0	0.1	60	100.0
12/19/2018 07:00	4,076.0	0.0	60	100.0
12/19/2018 08:00	4,217.0	0.0	60	100.0
12/20/2018 07:00	4,098.0	0.0	60	100.0
12/20/2018 08:00	4,086.0	0.0	60	100.0
12/26/2018 07:00	3,807.0	0.1	60	100.0
12/26/2018 08:00	3,936.0	0.1	60	100.0
12/27/2018 07:00	4,119.0	0.0	60	100.0
12/27/2018 08:00	4,153.0	0.0	60	100.0
01/02/2019 07:00	3,988.0	4.8	60	100.0
01/02/2019 08:00	4,188.0	0.2	60	100.0
01/03/2019 07:00	4,003.0	0.1	60	100.0
01/03/2019 08:00	4,130.0	0.0	60	100.0
01/08/2019 07:00	4,138.0	0.1	60	100.0
01/08/2019 08:00	4,149.0	0.0	60	100.0
01/09/2019 07:00	4,362.0	0.1	60	100.0
01/09/2019 08:00	4,387.0	0.0	60	100.0
01/10/2019 07:00	4,185.0	0.0	60	100.0
01/10/2019 08:00	4,233.0	0.0	60	100.0
Total			**1,560**	**100.0**



Related Aggregates Reports: Time Series • Time of Day • Day of Week • Quantity Relationships

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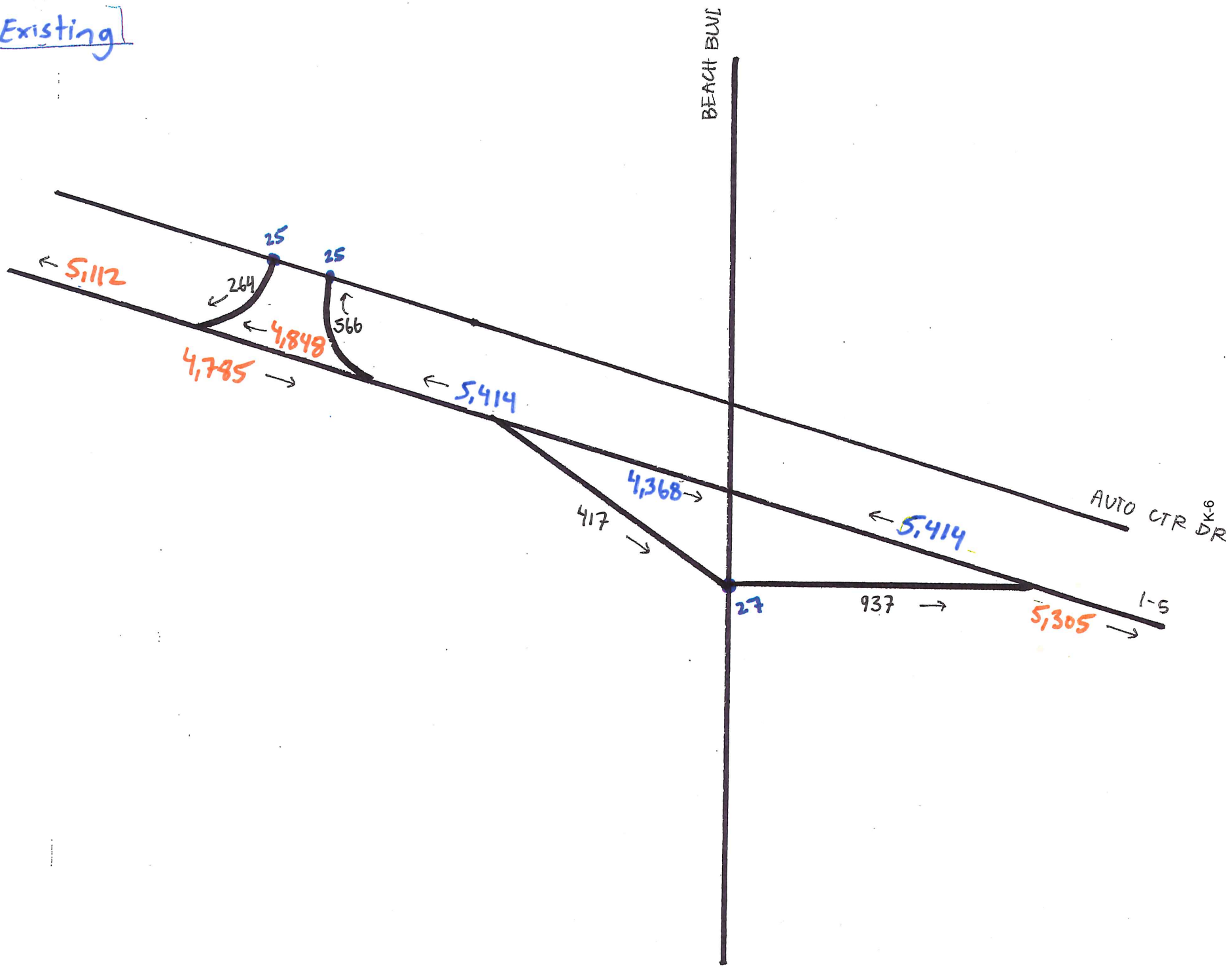
TABLE 2
I-5 SB AM PEAK HOUR PEMS VOLUME DATA
RANCHO LA HABRA, LA HABRA

Hour	Flow (Veh/Hour)	Truck Prop (%)	# Lane Points	% Observed
12/11/2018 7:00	4,354	0.00	60	100.00
12/11/2018 8:00	4,301	0.00	60	100.00
12/12/2018 7:00	4,437	0.00	60	100.00
12/12/2018 8:00	4,389	0.00	60	100.00
12/13/2018 7:00	4,176	0.00	60	100.00
12/13/2018 8:00	4,279	0.00	60	100.00
12/18/2018 7:00	4,396	0.00	60	100.00
12/18/2018 8:00	4,313	0.10	60	100.00
12/19/2018 7:00	4,076	0.00	60	100.00
12/19/2018 8:00	4,217	0.00	60	100.00
12/20/2018 7:00	4,098	0.00	60	100.00
12/20/2018 8:00	4,086	0.00	60	100.00
12/26/2018 7:00	3,807	0.10	60	100.00
12/26/2018 8:00	3,936	0.10	60	100.00
12/27/2018 7:00	4,119	0.00	60	100.00
12/27/2018 8:00	4,153	0.00	60	100.00
1/02/2019 7:00	3,988	4.80	60	100.00
1/02/2019 8:00	4,188	0.20	60	100.00
1/03/2019 7:00	4,003	0.10	60	100.00
1/03/2019 8:00	4,130	0.00	60	100.00
1/08/2019 7:00	4,138	0.10	60	100.00
1/08/2019 8:00	4,149	0.00	60	100.00
1/09/2019 7:00	4,362	0.10	60	100.00
1/09/2019 8:00	4,387	0.00	60	100.00
1/10/2019 7:00	4,185	0.00	60	100.00
1/10/2019 8:00	4,233	0.00	60	100.00
85th Percentile	**4,368**			

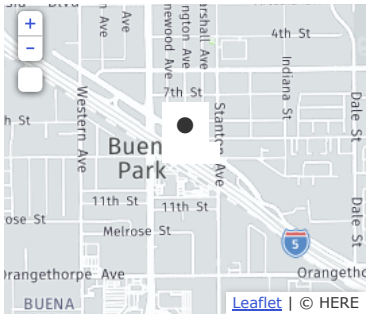
AM Existing



N

Mainline VDS 1205636 - BEACH 1

Current Location



Maps Real-Time | Performance | Inventory

I5-N @ CA PM 43.28 (Abs PM 115.5)
District 12, Orange County , City of Buena Park

Station Details

Aliases	MS ID 2559
LDS	1205631
Owner	Caltrans
Assoc. Traffic Census Station	129070
Comm Type (LDS)	Wired
Speeds	Estimated
Max Cap.	128.4 Veh/Min (04/01/2017)
Vehicle Classification	*N/A*

Lane Detection

Lane	Slot	Sensor Tech	Type
1	1	Dual Loop	Opposite Side Mainline
2	2	Dual Loop	Opposite Side Mainline
3	3	Dual Loop	Opposite Side Mainline
4	4	Dual Loop	Opposite Side Mainline
5	5	Dual Loop	Opposite Side Mainline

Diagnostics

Threshold Set	Urban
Flow = 0, Occ > 0 (Intermittent)	2%
High Flow Threshold	20
High Occ Threshold	.7
High Occupancy (High Val)	20%
Occ = 0; Flow > 0 (Intermittent)	50%
Repeat Occupancy (Constant)	50
Occupancy = 0 (Card Off)	59%

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Lane Closure Manual
District TCR Training Guide
PeMS Forum (External Site)

Change Log | Performance | Data Quality | Events

Performance > Aggregates > Time Series

ABOUT THIS REPORT

From: 12/11/2018 00:00
*Max Range:*3 months

To: 01/10/2019 23:59

Time of Day: All / 16:00 to 17:59

Include Days: Su Mo Tu We Th Fr Sa Holidays

Quantity: Flow

Granularity: Hour

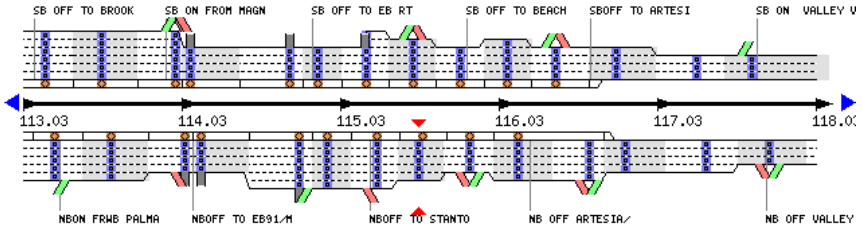
Lanes: Agg 1 2 3 4 5

Second Quantity: Truck Proportion

DRAW PLOT | VIEW TABLE | EXPORT TEXT | EXPORT to XLS | EXPORT to PDF

14 0 0

			Data Quality	
Hour	**Flow (Veh/Hour)**	**Truck Prop (%)**	**# Lane Points**	**% Observed**
12/11/2018 16:00	5,542.0	2.5	60	100.0
12/11/2018 17:00	4,731.0	0.8	60	100.0
12/12/2018 16:00	5,649.0	2.1	60	100.0
12/12/2018 17:00	5,127.0	0.2	60	100.0
12/13/2018 16:00	5,085.0	0.7	60	100.0
12/13/2018 17:00	5,435.0	1.0	60	100.0
12/18/2018 16:00	5,571.0	1.2	60	100.0
12/18/2018 17:00	4,996.0	1.4	60	100.0
12/19/2018 16:00	5,143.0	0.5	60	100.0
12/19/2018 17:00	5,558.0	0.3	60	100.0
12/20/2018 16:00	5,094.0	1.3	60	100.0
12/20/2018 17:00	5,581.0	0.7	60	100.0
12/26/2018 16:00	5,265.0	1.4	60	100.0
12/26/2018 17:00	4,783.0	0.8	60	100.0
12/27/2018 16:00	5,518.0	1.1	60	100.0
12/27/2018 17:00	5,426.0	1.0	60	100.0
01/02/2019 16:00	5,357.0	1.2	60	100.0
01/02/2019 17:00	4,654.0	0.2	60	100.0
01/03/2019 16:00	4,824.0	0.2	60	100.0
01/03/2019 17:00	5,085.0	0.2	60	100.0
01/08/2019 16:00	5,408.0	1.5	60	100.0
01/08/2019 17:00	5,012.0	0.2	60	100.0
01/09/2019 16:00	5,207.0	0.4	60	100.0
01/09/2019 17:00	5,199.0	0.3	60	100.0
01/10/2019 16:00	4,618.0	2.8	60	100.0
01/10/2019 17:00	4,807.0	0.2	60	100.0
Total			**1,560**	**100.0**



Related Aggregates Reports: Time Series • Time of Day • Day of Week • Quantity Relationships

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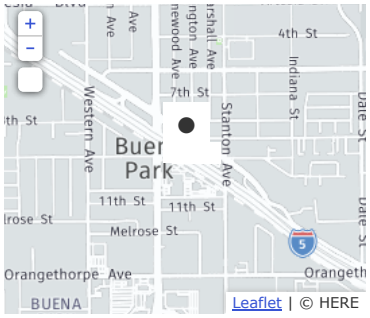
TABLE 3
I-5 NB PM PEAK HOUR PEMS VOLUME DATA
RANCHO LA HABRA, LA HABRA

Hour	Flow (Veh/Hour)	Truck Prop (%)	# Lane Points	% Observed
12/11/2018 16:00	5,542	2.50	60	100.00
12/11/2018 17:00	4,731	0.80	60	100.00
12/12/2018 16:00	5,649	2.10	60	100.00
12/12/2018 17:00	5,127	0.20	60	100.00
12/13/2018 16:00	5,085	0.70	60	100.00
12/13/2018 17:00	5,435	1.00	60	100.00
12/18/2018 16:00	5,571	1.20	60	100.00
12/18/2018 17:00	4,996	1.40	60	100.00
12/19/2018 16:00	5,143	0.50	60	100.00
12/19/2018 17:00	5,558	0.30	60	100.00
12/20/2018 16:00	5,094	1.30	60	100.00
12/20/2018 17:00	5,581	0.70	60	100.00
12/26/2018 16:00	5,265	1.40	60	100.00
12/26/2018 17:00	4,783	0.80	60	100.00
12/27/2018 16:00	5,518	1.10	60	100.00
12/27/2018 17:00	5,426	1.00	60	100.00
1/02/2019 16:00	5,357	1.20	60	100.00
1/02/2019 17:00	4,654	0.20	60	100.00
1/03/2019 16:00	4,824	0.20	60	100.00
1/03/2019 17:00	5,085	0.20	60	100.00
1/08/2019 16:00	5,408	1.50	60	100.00
1/08/2019 17:00	5,012	0.20	60	100.00
1/09/2019 16:00	5,207	0.40	60	100.00
1/09/2019 17:00	5,199	0.30	60	100.00
1/10/2019 16:00	4,618	2.80	60	100.00
1/10/2019 17:00	4,807	0.20	60	100.00
85th Percentile	**5,546**			

Mainline VDS 1205632 - BEACH 1

Current Location



Maps Real-Time | Performance | Inventory

I5-S @ CA PM 43.3 (Abs PM 115.5)
District 12, Orange County , City of Buena Park

Station Details

Aliases	MS ID 2559
LDS	1205631
Owner	Caltrans
Assoc. Traffic Census Station	129070
Comm Type (LDS)	Wired
Speeds	Estimated
Max Cap.	97.8 Veh/Min (04/01/2017)
Vehicle Classification	*N/A*

Lane Detection

Lane	Slot	Sensor Tech	Type
1	1	Dual Loop	Mainline
2	2	Dual Loop	Mainline
3	3	Dual Loop	Mainline
4	4	Dual Loop	Mainline
5	5	Dual Loop	Mainline

Diagnostics

Threshold Set	Urban
Flow = 0, Occ > 0 (Intermittent)	2%
High Flow Threshold	20
High Occ Threshold	.7
High Occupancy (High Val)	20%
Occ = 0; Flow > 0 (Intermittent)	50%
Repeat Occupancy (Constant)	50
Occupancy = 0 (Card Off)	59%

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Lane Closure Manual
District TCR Training Guide
PeMS Forum (External Site)

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Performance > Aggregates > Time Series

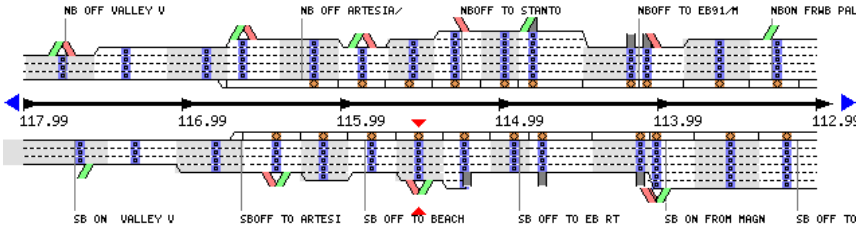
ABOUT THIS REPORT

From: 12/11/2018 00:00 (*Max Range:*3 months)
To: 01/10/2019 23:59
Time of Day: All / 16:00 to 17:59
Include Days: Su Mo Tu We Th Fr Sa Holidays
Quantity: Flow
Granularity: Hour
Lanes: Agg 1 2 3 4 5
Second Quantity: Truck Proportion

DRAW PLOT | VIEW TABLE | EXPORT TEXT | EXPORT to XLS | EXPORT to PDF

9 0 0

			Data Quality	
Hour	**Flow (Veh/Hour)**	**Truck Prop (%)**	**# Lane Points**	**% Observed**
12/11/2018 16:00	4,711.0	0.0	60	100.0
12/11/2018 17:00	4,897.0	0.0	60	100.0
12/12/2018 16:00	4,879.0	0.0	60	100.0
12/12/2018 17:00	4,771.0	0.0	60	100.0
12/13/2018 16:00	4,854.0	0.0	60	100.0
12/13/2018 17:00	4,776.0	0.0	60	100.0
12/18/2018 16:00	4,911.0	0.0	60	100.0
12/18/2018 17:00	4,803.0	0.0	60	100.0
12/19/2018 16:00	4,754.0	0.0	60	100.0
12/19/2018 17:00	4,807.0	0.0	60	100.0
12/20/2018 16:00	4,823.0	0.2	60	100.0
12/20/2018 17:00	4,664.0	0.0	60	100.0
12/26/2018 16:00	4,418.0	0.0	60	100.0
12/26/2018 17:00	4,371.0	0.0	60	100.0
12/27/2018 16:00	4,466.0	0.0	60	100.0
12/27/2018 17:00	4,496.0	0.0	60	100.0
01/02/2019 16:00	4,585.0	0.0	60	100.0
01/02/2019 17:00	4,652.0	0.0	60	100.0
01/03/2019 16:00	4,547.0	0.0	60	100.0
01/03/2019 17:00	4,723.0	0.0	60	100.0
01/08/2019 16:00	5,016.0	0.0	60	100.0
01/08/2019 17:00	4,831.0	0.0	60	100.0
01/09/2019 16:00	4,764.0	0.0	60	100.0
01/09/2019 17:00	4,789.0	0.0	60	100.0
01/10/2019 16:00	4,870.0	0.0	60	100.0
01/10/2019 17:00	4,794.0	0.0	60	100.0
Total			**1,560**	**100.0**



Related Aggregates Reports: Time Series • Time of Day • Day of Week • Quantity Relationships

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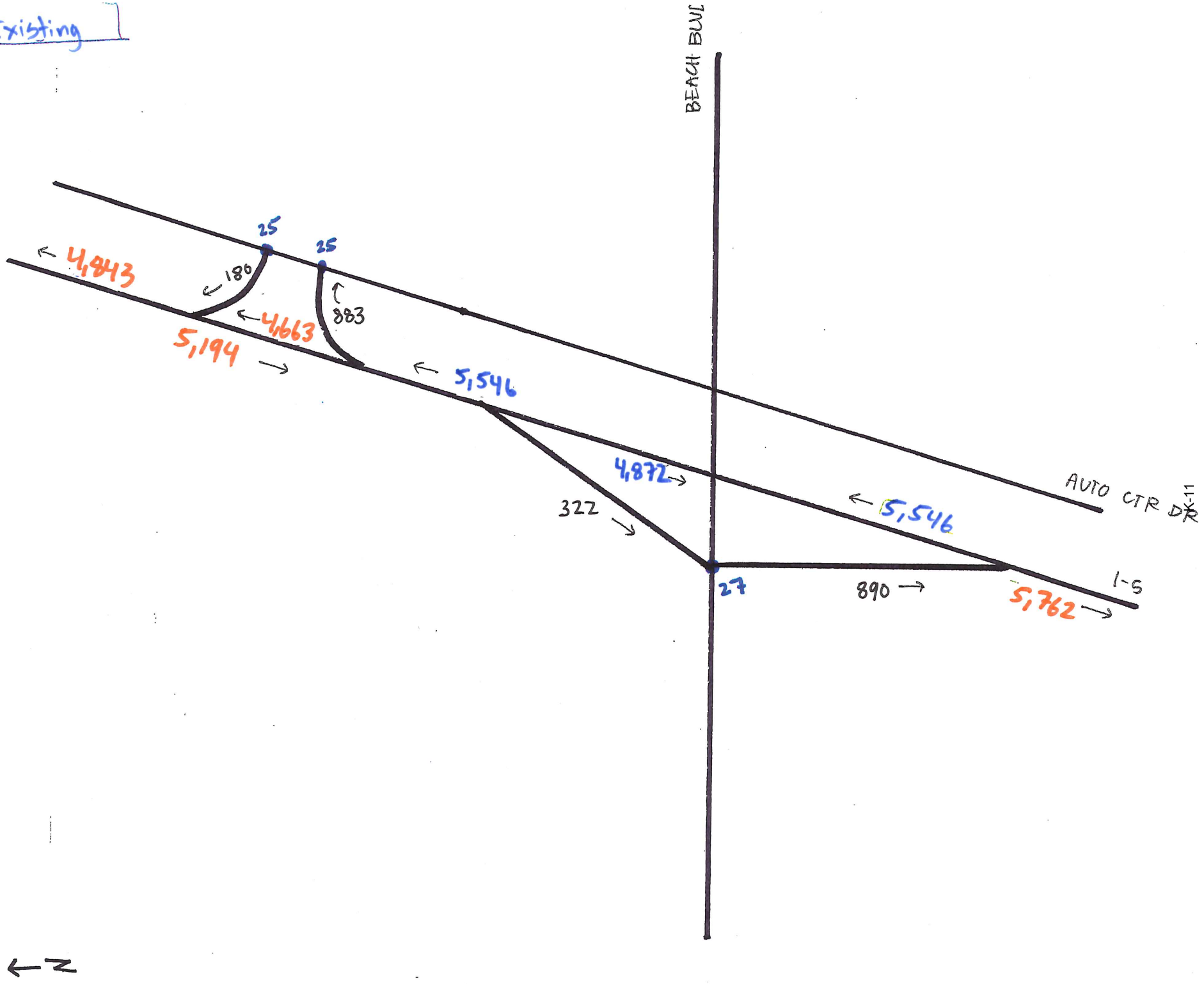
TABLE 4
I-5 SB PM PEAK HOUR PEMS VOLUME DATA
RANCHO LA HABRA, LA HABRA

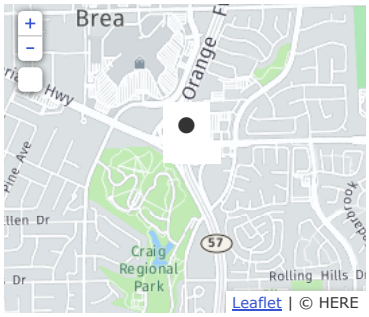
Hour	Flow (Veh/Hour)	Truck Prop (%)	# Lane Points	% Observed
12/11/2018 16:00	4,711	0.00	60	100.00
12/11/2018 17:00	4,897	0.00	60	100.00
12/12/2018 16:00	4,879	0.00	60	100.00
12/12/2018 17:00	4,771	0.00	60	100.00
12/13/2018 16:00	4,854	0.00	60	100.00
12/13/2018 17:00	4,776	0.00	60	100.00
12/18/2018 16:00	4,911	0.00	60	100.00
12/18/2018 17:00	4,803	0.00	60	100.00
12/19/2018 16:00	4,754	0.00	60	100.00
12/19/2018 17:00	4,807	0.00	60	100.00
12/20/2018 16:00	4,823	0.20	60	100.00
12/20/2018 17:00	4,664	0.00	60	100.00
12/26/2018 16:00	4,418	0.00	60	100.00
12/26/2018 17:00	4,371	0.00	60	100.00
12/27/2018 16:00	4,466	0.00	60	100.00
12/27/2018 17:00	4,496	0.00	60	100.00
1/02/2019 16:00	4,585	0.00	60	100.00
1/02/2019 17:00	4,652	0.00	60	100.00
1/03/2019 16:00	4,547	0.00	60	100.00
1/03/2019 17:00	4,723	0.00	60	100.00
1/08/2019 16:00	5,016	0.00	60	100.00
1/08/2019 17:00	4,831	0.00	60	100.00
1/09/2019 16:00	4,764	0.00	60	100.00
1/09/2019 17:00	4,789	0.00	60	100.00
1/10/2019 16:00	4,870	0.00	60	100.00
1/10/2019 17:00	4,794	0.00	60	100.00
85th Percentile	**4,872**			

PM Existing


BEACH BLVD
25
25
4,843
180
883
4,663
5,194
5,546
4,872
322
5,546
AUTO CTR DR
27
890
I-5
5,762
N

Mainline VDS 1202408 - IMPERIAL1

Current Location



Maps Real-Time | Performance | Inventory

SR57-N @ CA PM 19.8 (Abs PM 9.1)
District 12, Orange County , City of Fullerton

Station Details

Aliases	MS ID 971
LDS	1202399
Owner	Caltrans
Assoc. Traffic Census Station	*None*
Comm Type (LDS)	
Speeds	Estimated
Max Cap.	143.4 Veh/Min (04/01/2017)
Vehicle Classification	*N/A*

Lane Detection

Lane	Slot	ID	Type
1	1	1202409	Mainline
2	2	1202410	Mainline
3	3	1202411	Mainline
4	4	1202412	Mainline
5	5	1219726	Mainline

Diagnostics

Threshold Set	Urban
Flow = 0, Occ > 0 (Intermittent)	2%
High Flow Threshold	20
High Occ Threshold	.7
High Occupancy (High Val)	20%
Occ = 0; Flow > 0 (Intermittent)	50%
Repeat Occupancy (Constant)	50
Occupancy = 0 (Card Off)	59%

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Performance > Aggregates > Time Series

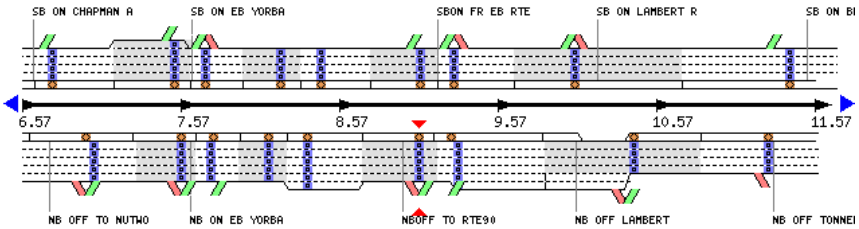
ABOUT THIS REPORT

From: 12/11/2018 00:00 (*Max Range:*3 months)
To: 01/10/2019 23:59
Time of Day: All / 07:00 to 08:59
Include Days: Su Mo Tu We Th Fr Sa Holidays
Quantity: Flow
Granularity: Hour
Lanes: Agg 1 2 3 4 5
Second Quantity: Truck Proportion

DRAW PLOT | VIEW TABLE | EXPORT TEXT | EXPORT to XLS | EXPORT to PDF

0 0 0

			Data Quality	
Hour	**Flow (Veh/Hour)**	**Truck Prop (%)**	**# Lane Points**	**% Observed**
12/11/2018 07:00	4,799.0	3.4	60	0.0
12/11/2018 08:00	4,561.0	3.5	60	0.0
12/12/2018 07:00	4,789.0	3.5	60	0.0
12/12/2018 08:00	4,722.0	3.4	60	0.0
12/13/2018 07:00	4,667.0	3.4	60	0.0
12/13/2018 08:00	4,346.0	3.3	60	0.0
12/18/2018 07:00	4,923.0	3.5	60	0.0
12/18/2018 08:00	4,308.0	3.3	60	0.0
12/19/2018 07:00	4,762.0	3.5	60	0.0
12/19/2018 08:00	4,425.0	3.4	60	0.0
12/20/2018 07:00	4,368.0	3.5	60	0.0
12/20/2018 08:00	4,656.0	3.4	60	0.0
12/26/2018 07:00	3,698.0	3.2	60	0.0
12/26/2018 08:00	3,966.0	3.2	60	0.0
12/27/2018 07:00	3,799.0	3.3	60	0.0
12/27/2018 08:00	4,102.0	3.3	60	0.0
01/02/2019 07:00	4,292.0	3.3	60	0.0
01/02/2019 08:00	4,444.0	4.0	60	0.0
01/03/2019 07:00	4,507.0	3.4	60	0.0
01/03/2019 08:00	4,548.0	3.3	60	0.0
01/08/2019 07:00	4,762.0	3.6	60	0.0
01/08/2019 08:00	4,386.0	3.4	60	0.0
01/09/2019 07:00	6,457.0	5.4	60	0.0
01/09/2019 08:00	6,240.0	5.4	60	0.0
01/10/2019 07:00	6,466.0	5.4	60	0.0
01/10/2019 08:00	6,255.0	5.4	60	0.0
Total			**1,560**	**0.0**



Related Aggregates Reports: Time Series • Time of Day • Day of Week • Quantity Relationships

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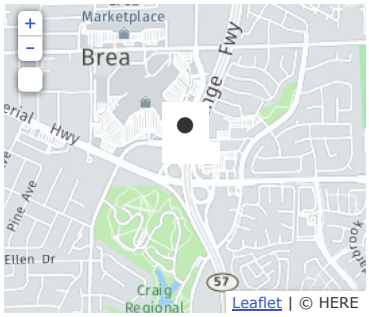
TABLE 5
SR-57 NB AM PEAK HOUR PEMS VOLUME DATA
RANCHO LA HABRA, LA HABRA

Hour	Flow (Veh/Hour)	Truck Prop (%)	# Lane Points	% Observed
12/11/2018 7:00	4,799	3.40	60	0.00
12/11/2018 8:00	4,561	3.50	60	0.00
12/12/2018 7:00	4,789	3.50	60	0.00
12/12/2018 8:00	4,722	3.40	60	0.00
12/13/2018 7:00	4,667	3.40	60	0.00
12/13/2018 8:00	4,346	3.30	60	0.00
12/18/2018 7:00	4,923	3.50	60	0.00
12/18/2018 8:00	4,308	3.30	60	0.00
12/19/2018 7:00	4,762	3.50	60	0.00
12/19/2018 8:00	4,425	3.40	60	0.00
12/20/2018 7:00	4,368	3.50	60	0.00
12/20/2018 8:00	4,656	3.40	60	0.00
12/26/2018 7:00	3,698	3.20	60	0.00
12/26/2018 8:00	3,966	3.20	60	0.00
12/27/2018 7:00	3,799	3.30	60	0.00
12/27/2018 8:00	4,102	3.30	60	0.00
1/02/2019 7:00	4,292	3.30	60	0.00
1/02/2019 8:00	4,444	4.00	60	0.00
1/03/2019 7:00	4,507	3.40	60	0.00
1/03/2019 8:00	4,548	3.30	60	0.00
1/08/2019 7:00	4,762	3.60	60	0.00
1/08/2019 8:00	4,386	3.40	60	0.00
1/09/2019 7:00	6,457	5.40	60	0.00
1/09/2019 8:00	6,240	5.40	60	0.00
1/10/2019 7:00	6,466	5.40	60	0.00
1/10/2019 8:00	6,255	5.40	60	0.00
85th Percentile	**5,252**			

Mainline VDS 1202422 - IMPERIAL2

Current Location



Maps Real-Time | Performance | Inventory

SR57-S @ CA PM 19.94 (Abs PM 9.3)
District 12, Orange County , City of Orange

Station Details

Aliases	MS ID 989
LDS	1202413
Owner	Caltrans
Assoc. Traffic Census Station	*None*
Comm Type (LDS)	Serial
Speeds	Estimated
Max Cap.	128.0 Veh/Min (04/01/2017)
Vehicle Classification	*N/A*

Lane Detection

Lane	Slot	Sensor Tech	Type
1	1	Dual Loop	Mainline
2	2	Dual Loop	Mainline
3	3	Dual Loop	Mainline
4	4	Dual Loop	Mainline

Diagnostics

Threshold Set	Urban
Flow = 0, Occ > 0 (Intermittent)	2%
High Flow Threshold	20
High Occ Threshold	.7
High Occupancy (High Val)	20%
Occ = 0; Flow > 0 (Intermittent)	50%
Repeat Occupancy (Constant)	50
Occupancy = 0 (Card Off)	59%

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PeMS User Manual
Transit PeMS User Manual
Lane Closure Manual
District TCR Training Guide
PeMS Forum (External Site)

Change Log | Performance | Data Quality | Events

Performance > Aggregates > Time Series

ABOUT THIS REPORT

From 12/11/2018 00:00
*Max Range:*3 months

To 01/10/2019 23:59

Time of Day: All / 07:00 to 08:59

Include Days: Su Mo Tu We Th Fr Sa Holidays

Quantity: Flow

Second Quantity: Truck Proportion

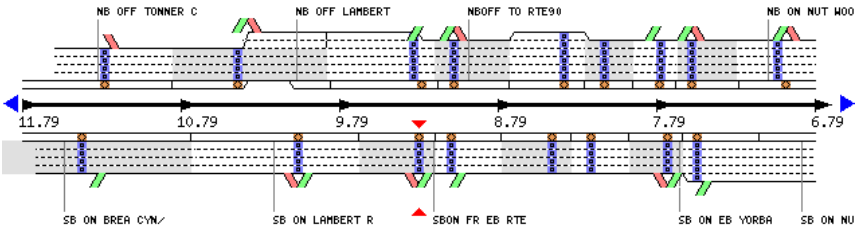
Granularity: Hour

Lanes: Agg 1 2 3 4

DRAW PLOT | VIEW TABLE | EXPORT TEXT | EXPORT to .XLS | EXPORT to .PDF

21 0 0

			Data Quality	
Hour	**Flow (Veh/Hour)**	**Truck Prop (%)**	**# Lane Points**	**% Observed**
12/11/2018 07:00	4,565.0	3.0	48	0.0
12/11/2018 08:00	4,136.0	3.1	48	0.0
12/12/2018 07:00	4,374.0	2.6	48	0.0
12/12/2018 08:00	4,362.0	2.9	48	0.0
12/13/2018 07:00	4,161.0	1.7	48	0.0
12/13/2018 08:00	4,044.0	3.0	48	0.0
12/18/2018 07:00	3,404.0	4.1	48	0.0
12/18/2018 08:00	3,564.0	4.0	48	0.0
12/19/2018 07:00	4,270.0	2.6	48	0.0
12/19/2018 08:00	3,725.0	3.6	48	0.0
12/20/2018 07:00	4,582.0	1.8	48	0.0
12/20/2018 08:00	4,157.0	3.2	48	0.0
12/26/2018 07:00	3,522.0	5.5	48	0.0
12/26/2018 08:00	3,432.0	6.3	48	0.0
12/27/2018 07:00	3,644.0	5.8	48	0.0
12/27/2018 08:00	3,551.0	5.7	48	0.0
01/02/2019 07:00	4,058.0	5.0	48	0.0
01/02/2019 08:00	3,728.0	6.2	48	0.0
01/03/2019 07:00	4,290.0	5.8	48	0.0
01/03/2019 08:00	3,854.0	5.5	48	0.0
01/08/2019 07:00	3,941.0	2.9	48	0.0
01/08/2019 08:00	3,981.0	3.1	48	0.0
01/09/2019 07:00	6,454.0	4.0	48	0.0
01/09/2019 08:00	6,236.0	3.9	48	0.0
01/10/2019 07:00	6,470.0	4.0	48	0.0
01/10/2019 08:00	6,255.0	3.9	48	0.0
Total			**1,248**	**0.0**



Related Aggregates Reports: Time Series • Time of Day • Day of Week • Quantity Relationships

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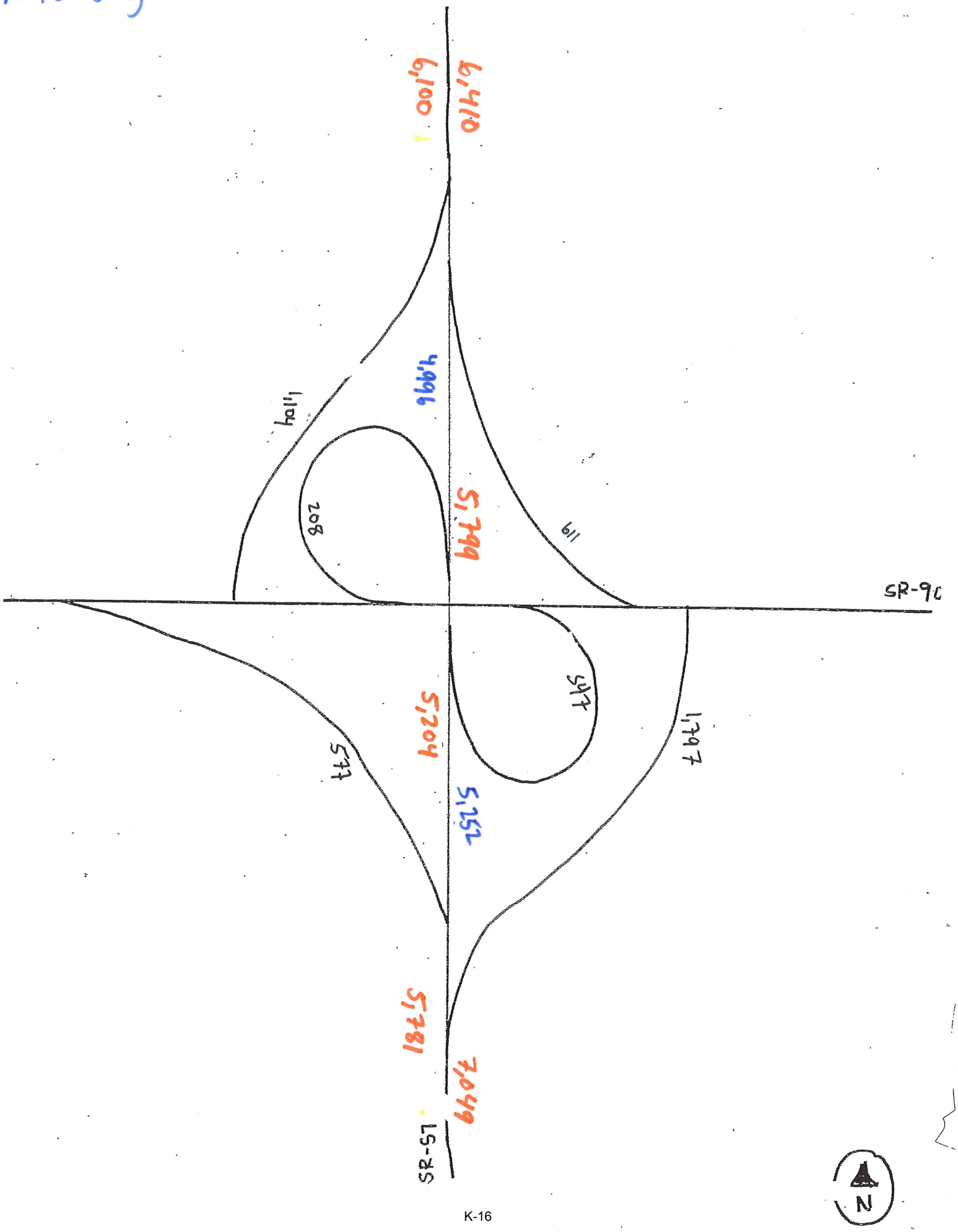
TABLE 6
SR-57 SB AM PEAK HOUR PEMS VOLUME DATA
RANCHO LA HABRA, LA HABRA

Hour	Flow (Veh/Hour)	Truck Prop (%)	# Lane Points	% Observed
12/11/2018 7:00	4,565	3.00	48	0.00
12/11/2018 8:00	4,136	3.10	48	0.00
12/12/2018 7:00	4,374	2.60	48	0.00
12/12/2018 8:00	4,362	2.90	48	0.00
12/13/2018 7:00	4,161	1.70	48	0.00
12/13/2018 8:00	4,044	3.00	48	0.00
12/18/2018 7:00	3,404	4.10	48	0.00
12/18/2018 8:00	3,564	4.00	48	0.00
12/19/2018 7:00	4,270	2.60	48	0.00
12/19/2018 8:00	3,725	3.60	48	0.00
12/20/2018 7:00	4,582	1.80	48	0.00
12/20/2018 8:00	4,157	3.20	48	0.00
12/26/2018 7:00	3,522	5.50	48	0.00
12/26/2018 8:00	3,432	6.30	48	0.00
12/27/2018 7:00	3,644	5.80	48	0.00
12/27/2018 8:00	3,551	5.70	48	0.00
1/02/2019 7:00	4,058	5.00	48	0.00
1/02/2019 8:00	3,728	6.20	48	0.00
1/03/2019 7:00	4,290	5.80	48	0.00
1/03/2019 8:00	3,854	5.50	48	0.00
1/08/2019 7:00	3,941	2.90	48	0.00
1/08/2019 8:00	3,981	3.10	48	0.00
1/09/2019 7:00	6,454	4.00	48	0.00
1/09/2019 8:00	6,236	3.90	48	0.00
1/10/2019 7:00	6,470	4.00	48	0.00
1/10/2019 8:00	6,255	3.90	48	0.00
85th Percentile	**4,996**			

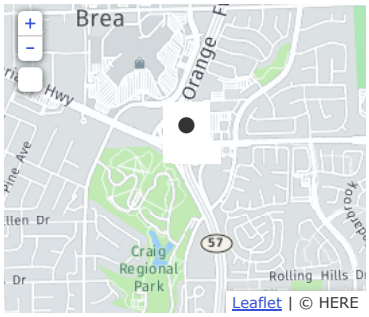
AM Existing



6,100
6,410
4,996
1,104
208
5,799
119
SR-90
547
5,204
577
1,797
5,252
5,781
7,049
SR-57
N

Mainline VDS 1202408 - IMPERIAL1

Current Location



Maps Real-Time | Performance | Inventory

SR57-N @ CA PM 19.8 (Abs PM 9.1)
District 12, Orange County , City of Fullerton

Station Details

Aliases	MS ID 971
LDS	1202399
Owner	Caltrans
Assoc. Traffic Census Station	*None*
Comm Type (LDS)	
Speeds	Estimated
Max Cap.	143.4 Veh/Min (04/01/2017)
Vehicle Classification	*N/A*

Lane Detection

Lane	Slot	ID	Type
1	1	1202409	Mainline
2	2	1202410	Mainline
3	3	1202411	Mainline
4	4	1202412	Mainline
5	5	1219726	Mainline

Diagnostics

Threshold Set	Urban
Flow = 0, Occ > 0 (Intermittent)	2%
High Flow Threshold	20
High Occ Threshold	.7
High Occupancy (High Val)	20%
Occ = 0; Flow > 0 (Intermittent)	50%
Repeat Occupancy (Constant)	50
Occupancy = 0 (Card Off)	59%

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PeMS User Manual
Transit PeMS User Manual
Lane Closure Manual
District TCR Training Guide
PeMS Forum (External Site)

Change Log | Performance | Data Quality | Events

Performance > Aggregates > Time Series

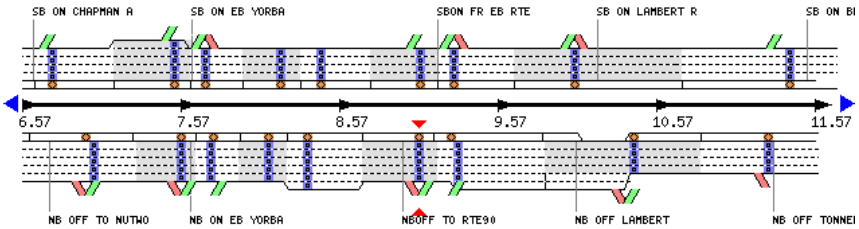
ABOUT THIS REPORT

From: 12/11/2018 00:00 (*Max Range:*3 months)
To: 01/10/2019 23:59
Time of Day: All / 16:00 to 17:59
Include Days: Su Mo Tu We Th Fr Sa Holidays
Quantity: Flow
Granularity: Hour
Lanes: Agg 1 2 3 4 5
Second Quantity: Truck Proportion

DRAW PLOT | VIEW TABLE | EXPORT TEXT | EXPORT to XLS | EXPORT to PDF

0 0 0

			Data Quality	
Hour	**Flow (Veh/Hour)**	**Truck Prop (%)**	**# Lane Points**	**% Observed**
12/11/2018 16:00	5,257.0	4.0	60	0.0
12/11/2018 17:00	4,886.0	5.5	60	0.0
12/12/2018 16:00	5,734.0	4.4	60	0.0
12/12/2018 17:00	5,297.0	5.9	60	0.0
12/13/2018 16:00	5,544.0	5.2	60	0.0
12/13/2018 17:00	5,341.0	5.5	60	0.0
12/18/2018 16:00	5,671.0	3.7	60	0.0
12/18/2018 17:00	5,293.0	4.4	60	0.0
12/19/2018 16:00	5,196.0	3.5	60	0.0
12/19/2018 17:00	4,632.0	6.2	60	0.0
12/20/2018 16:00	4,631.0	4.4	60	0.0
12/20/2018 17:00	4,909.0	5.5	60	0.0
12/26/2018 16:00	5,497.0	3.7	60	0.0
12/26/2018 17:00	4,829.0	3.6	60	0.0
12/27/2018 16:00	6,185.0	3.6	60	0.0
12/27/2018 17:00	5,492.0	3.5	60	0.0
01/02/2019 16:00	5,404.0	3.8	60	0.0
01/02/2019 17:00	5,226.0	3.8	60	0.0
01/03/2019 16:00	5,392.0	3.8	60	0.0
01/03/2019 17:00	5,518.0	3.6	60	0.0
01/08/2019 16:00	6,398.0	5.4	60	0.0
01/08/2019 17:00	6,333.0	5.4	60	0.0
01/09/2019 16:00	6,505.0	5.4	60	0.0
01/09/2019 17:00	6,395.0	5.4	60	0.0
01/10/2019 16:00	6,417.0	5.4	60	0.0
01/10/2019 17:00	6,342.0	5.5	60	0.0
Total			**1,560**	**0.0**



Related Aggregates Reports: Time Series • Time of Day • Day of Week • Quantity Relationships

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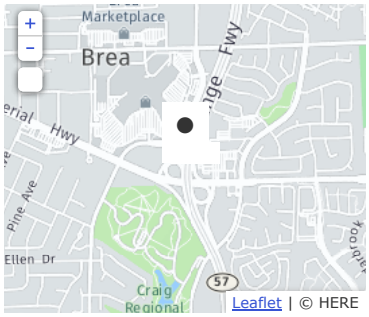
TABLE 7
SR-57 NB PM PEAK HOUR PEMS VOLUME DATA
RANCHO LA HABRA, LA HABRA

Hour	Flow (Veh/Hour)	Truck Prop (%)	# Lane Points	% Observed
12/11/2018 16:00	5,257	4.00	60	0.00
12/11/2018 17:00	4,886	5.50	60	0.00
12/12/2018 16:00	5,734	4.40	60	0.00
12/12/2018 17:00	5,297	5.90	60	0.00
12/13/2018 16:00	5,544	5.20	60	0.00
12/13/2018 17:00	5,341	5.50	60	0.00
12/18/2018 16:00	5,671	3.70	60	0.00
12/18/2018 17:00	5,293	4.40	60	0.00
12/19/2018 16:00	5,196	3.50	60	0.00
12/19/2018 17:00	4,632	6.20	60	0.00
12/20/2018 16:00	4,631	4.40	60	0.00
12/20/2018 17:00	4,909	5.50	60	0.00
12/26/2018 16:00	5,497	3.70	60	0.00
12/26/2018 17:00	4,829	3.60	60	0.00
12/27/2018 16:00	6,185	3.60	60	0.00
12/27/2018 17:00	5,492	3.50	60	0.00
1/02/2019 16:00	5,404	3.80	60	0.00
1/02/2019 17:00	5,226	3.80	60	0.00
1/03/2019 16:00	5,392	3.80	60	0.00
1/03/2019 17:00	5,518	3.60	60	0.00
1/08/2019 16:00	6,398	5.40	60	0.00
1/08/2019 17:00	6,333	5.40	60	0.00
1/09/2019 16:00	6,505	5.40	60	0.00
1/09/2019 17:00	6,395	5.40	60	0.00
1/10/2019 16:00	6,417	5.40	60	0.00
1/10/2019 17:00	6,342	5.50	60	0.00
85th Percentile	**6,355**			

Mainline VDS 1202422 - IMPERIAL2

Current Location



Maps Real-Time | Performance | Inventory

SR57-S @ CA PM 19.94 (Abs PM 9.3)
District 12, Orange County , City of Orange

Station Details

Aliases	MS ID 989
LDS	1202413
Owner	Caltrans
Assoc. Traffic Census Station	*None*
Comm Type (LDS)	Serial
Speeds	Estimated
Max Cap.	128.0 Veh/Min (04/01/2017)
Vehicle Classification	*N/A*

Lane Detection

Lane	Slot	Sensor Tech	Type
1	1	Dual Loop	Mainline
2	2	Dual Loop	Mainline
3	3	Dual Loop	Mainline
4	4	Dual Loop	Mainline

Diagnostics

Threshold Set	Urban
Flow = 0, Occ > 0 (Intermittent)	2%
High Flow Threshold	20
High Occ Threshold	.7
High Occupancy (High Val)	20%
Occ = 0; Flow > 0 (Intermittent)	50%
Repeat Occupancy (Constant)	50
Occupancy = 0 (Card Off)	59%

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Transit PeMS User Manual
Lane Closure Manual
District TCR Training Guide
PeMS Forum (External Site)

Change Log | Performance | Data Quality | Events

Performance > Aggregates > Time Series

ABOUT THIS REPORT

From 12/11/2018 00:00
*Max Range:*3 months

To 01/10/2019 23:59

Time of Day: All / 16:00 to 17:59

Include Days: Su Mo Tu We Th Fr Sa Holidays

Quantity: Flow

Granularity: Hour

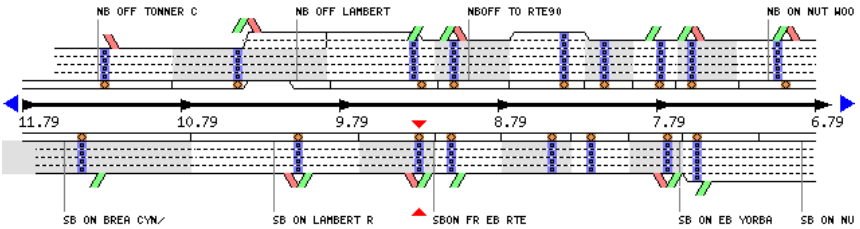
Lanes: Agg 1 2 3 4

Second Quantity: Truck Proportion

DRAW PLOT | VIEW TABLE | EXPORT TEXT | EXPORT to XLS | EXPORT to PDF

21 0 0

			Data Quality	
Hour	**Flow (Veh/Hour)**	**Truck Prop (%)**	**# Lane Points**	**% Observed**
12/11/2018 16:00	3,893.0	4.7	48	0.0
12/11/2018 17:00	4,287.0	5.0	48	0.0
12/12/2018 16:00	3,837.0	5.1	48	0.0
12/12/2018 17:00	4,285.0	4.5	48	0.0
12/13/2018 16:00	4,013.0	3.7	48	0.0
12/13/2018 17:00	4,144.0	3.9	48	0.0
12/18/2018 16:00	3,992.0	5.4	48	0.0
12/18/2018 17:00	4,118.0	4.8	48	0.0
12/19/2018 16:00	3,842.0	5.4	48	0.0
12/19/2018 17:00	4,077.0	5.1	48	0.0
12/20/2018 16:00	3,916.0	5.6	48	0.0
12/20/2018 17:00	4,138.0	4.7	48	0.0
12/26/2018 16:00	3,857.0	5.2	48	0.0
12/26/2018 17:00	4,056.0	5.3	48	0.0
12/27/2018 16:00	3,675.0	6.1	48	0.0
12/27/2018 17:00	3,865.0	5.1	48	0.0
01/02/2019 16:00	3,671.0	5.9	48	0.0
01/02/2019 17:00	4,184.0	4.6	48	0.0
01/03/2019 16:00	3,744.0	5.2	48	0.0
01/03/2019 17:00	4,173.0	5.0	48	0.0
01/08/2019 16:00	6,397.0	4.0	48	0.0
01/08/2019 17:00	6,334.0	4.0	48	0.0
01/09/2019 16:00	6,504.0	4.1	48	0.0
01/09/2019 17:00	6,391.0	4.0	48	0.0
01/10/2019 16:00	6,421.0	4.0	48	0.0
01/10/2019 17:00	6,344.0	4.0	48	0.0
Total			**1,248**	**0.0**



Related Aggregates Reports: Time Series • Time of Day • Day of Week • Quantity Relationships

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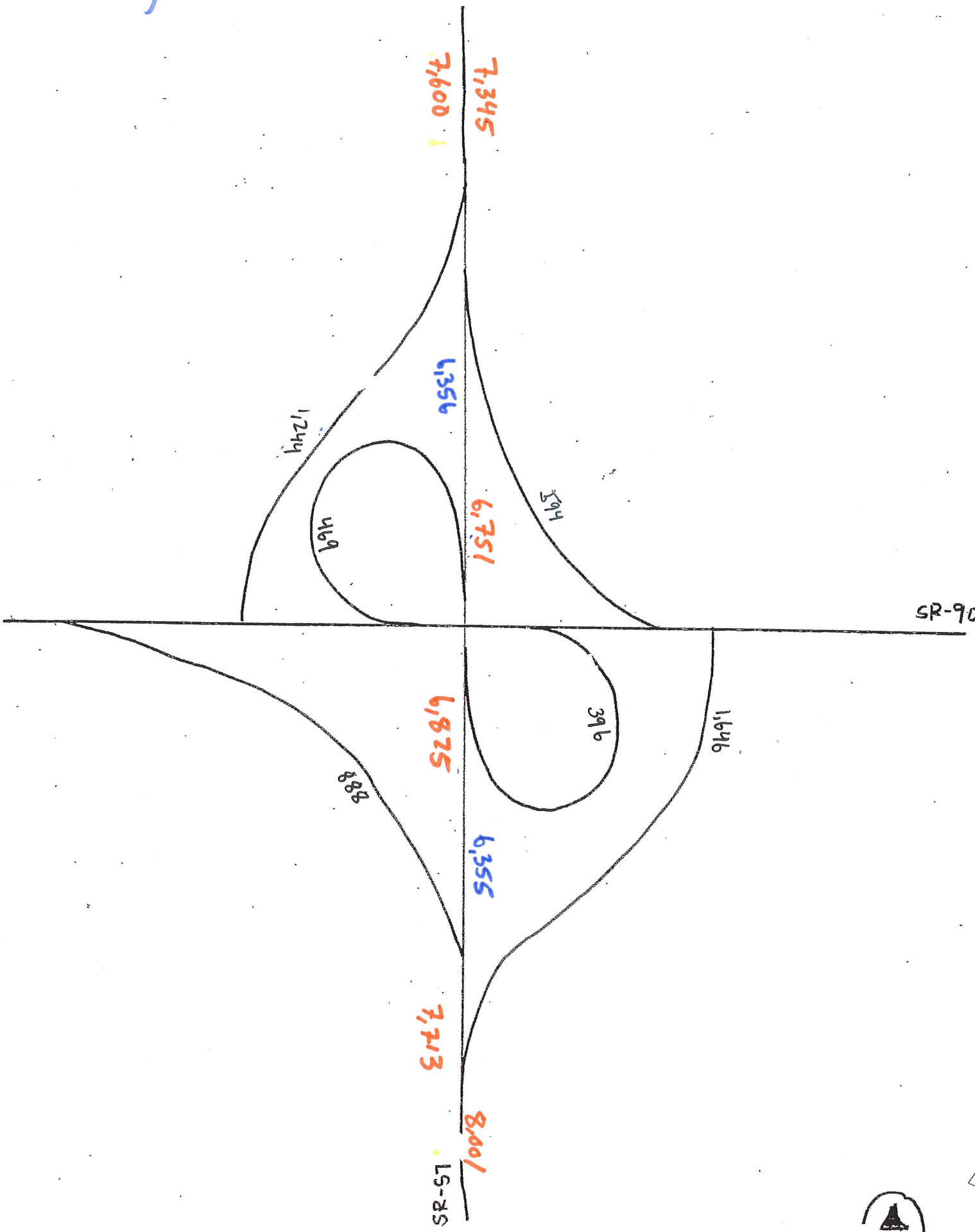
TABLE 8
SR-57 SB PM PEAK HOUR PEMS VOLUME DATA
RANCHO LA HABRA, LA HABRA

Hour	Flow (Veh/Hour)	Truck Prop (%)	# Lane Points	% Observed
12/11/2018 16:00	3,893	4.70	48	0.00
12/11/2018 17:00	4,287	5.00	48	0.00
12/12/2018 16:00	3,837	5.10	48	0.00
12/12/2018 17:00	4,285	4.50	48	0.00
12/13/2018 16:00	4,013	3.70	48	0.00
12/13/2018 17:00	4,144	3.90	48	0.00
12/18/2018 16:00	3,992	5.40	48	0.00
12/18/2018 17:00	4,118	4.80	48	0.00
12/19/2018 16:00	3,842	5.40	48	0.00
12/19/2018 17:00	4,077	5.10	48	0.00
12/20/2018 16:00	3,916	5.60	48	0.00
12/20/2018 17:00	4,138	4.70	48	0.00
12/26/2018 16:00	3,857	5.20	48	0.00
12/26/2018 17:00	4,056	5.30	48	0.00
12/27/2018 16:00	3,675	6.10	48	0.00
12/27/2018 17:00	3,865	5.10	48	0.00
1/02/2019 16:00	3,671	5.90	48	0.00
1/02/2019 17:00	4,184	4.60	48	0.00
1/03/2019 16:00	3,744	5.20	48	0.00
1/03/2019 17:00	4,173	5.00	48	0.00
1/08/2019 16:00	6,397	4.00	48	0.00
1/08/2019 17:00	6,334	4.00	48	0.00
1/09/2019 16:00	6,504	4.10	48	0.00
1/09/2019 17:00	6,391	4.00	48	0.00
1/10/2019 16:00	6,421	4.00	48	0.00
1/10/2019 17:00	6,344	4.00	48	0.00
85th Percentile	**6,356**			

PM Existing



APPENDIX K-II

EXISTING TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	I-5 NB, North of Beach Blvd	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5112	Heavy Vehicle Adjustment Factor (f_{HV})	0.914
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	981
Total Trucks, %	9.35	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	15.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	I-5 NB, South of Beach Blvd	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5414	Heavy Vehicle Adjustment Factor (f_{HV})	0.914
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1247
Total Trucks, %	9.35	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	I-5 SB, North of Beach Blvd	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4785	Heavy Vehicle Adjustment Factor (f_{HV})	0.914
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1102
Total Trucks, %	9.35	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	I-5 SB, South of Beach Blvd	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5305	Heavy Vehicle Adjustment Factor (f_{HV})	0.914
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1222
Total Trucks, %	9.35	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 NB, north of Imperial Hwy	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6410	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1194
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 NB, south of Imperial Hwy	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7049	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1575
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	64.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	24.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6100	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1704
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	26.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5781	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1615
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	I-5 NB, North of Beach Blvd	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4843	Heavy Vehicle Adjustment Factor (f_{HV})	0.914
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	930
Total Trucks, %	9.35	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	I-5 NB, South of Beach Blvd	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5546	Heavy Vehicle Adjustment Factor (f_{HV})	0.914
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1277
Total Trucks, %	9.35	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	I-5 SB, North of Beach Blvd	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5194	Heavy Vehicle Adjustment Factor (f_{HV})	0.914
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1196
Total Trucks, %	9.35	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	I-5 SB, South of Beach Blvd	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5762	Heavy Vehicle Adjustment Factor (f_{HV})	0.914
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1327
Total Trucks, %	9.35	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 NB, north of Imperial Hwy	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7345	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1368
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	21.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 NB, south of Imperial Hwy	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8001	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1788
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.76
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	28.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7600	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2123
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	36.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7713	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2155
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	56.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	37.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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APPENDIX K-III

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6100	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1704
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	26.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5797	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1620
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7600	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2123
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	36.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7722	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2157
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	56.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	37.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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APPENDIX K-IV

YEAR 2023 CUMULATIVE TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6580	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1838
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6288	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1756
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8251	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2305
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	53.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	43.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8410	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2350
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	52.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	45.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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APPENDIX K-V

YEAR 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6580	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1838
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6304	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1761
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8251	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2305
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	53.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	43.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8419	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2352
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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APPENDIX K-VI

YEAR 2035 BUILDOUT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6975	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1851
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6537	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1735
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8508	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	2258
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	54.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	41.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8577	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	2276
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	54.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	42.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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APPENDIX K-VII

YEAR 2035 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6975	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1851
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6553	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1739
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8508	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	2258
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	54.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	41.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8586	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	2279
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	54.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	42.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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APPENDIX L

MERGE/DIVERGE ANALYSIS

APPENDIX L-I

EXISTING TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6100	1104
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	6816	1234
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.58	0.62

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	19.7
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.539
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1286
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	52.6
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	70.2
Flow in Lanes 1 and 2 (v12), pc/h	3222	Ramp Junction Speed (S), mi/h	59.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	23.0
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4996	208
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5583	232
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.62	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	19.2
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.305
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1675
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.189	Outer Lanes Freeway Speed (SO), mi/h	60.8
Flow in Lanes 1 and 2 (v12), pc/h	2233	Ramp Junction Speed (S), mi/h	59.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	2465	Average Density (D), pc/mi/ln	24.4
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5204	577
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5815	645
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.69	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	23.8
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.346
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1745
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.137	Outer Lanes Freeway Speed (SO), mi/h	60.5
Flow in Lanes 1 and 2 (v12), pc/h	2326	Ramp Junction Speed (S), mi/h	58.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	2971	Average Density (D), pc/mi/ln	27.5
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7600	1244
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	8493	1390
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.72	0.70

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	24.2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.553
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1524
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	52.3
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	69.3
Flow in Lanes 1 and 2 (v12), pc/h	3746	Ramp Junction Speed (S), mi/h	58.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	28.9
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6356	469
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7102	524
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.81	0.26

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.0
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.372
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2131
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.152	Outer Lanes Freeway Speed (SO), mi/h	59.1
Flow in Lanes 1 and 2 (v12), pc/h	2841	Ramp Junction Speed (S), mi/h	57.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	3365	Average Density (D), pc/mi/ln	32.9
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6825	888
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7627	992
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.92	0.50

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	32.0
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.492
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2288
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	53.7
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.094	Outer Lanes Freeway Speed (SO), mi/h	58.6
Flow in Lanes 1 and 2 (v12), pc/h	3051	Ramp Junction Speed (S), mi/h	56.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	4043	Average Density (D), pc/mi/ln	38.3
Level of Service (LOS)	D		

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APPENDIX L-II

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6100	1104
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	6816	1234
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.58	0.62

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	19.7
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.539
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1286
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	52.6
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	70.2
Flow in Lanes 1 and 2 (v12), pc/h	3222	Ramp Junction Speed (S), mi/h	59.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	23.0
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4996	208
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5583	232
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.62	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	19.2
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.305
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1675
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.189	Outer Lanes Freeway Speed (SO), mi/h	60.8
Flow in Lanes 1 and 2 (v12), pc/h	2233	Ramp Junction Speed (S), mi/h	59.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	2465	Average Density (D), pc/mi/ln	24.4
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5204	593
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5815	663
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.69	0.33

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	24.0
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.347
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1745
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.135	Outer Lanes Freeway Speed (SO), mi/h	60.5
Flow in Lanes 1 and 2 (v12), pc/h	2326	Ramp Junction Speed (S), mi/h	58.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	2989	Average Density (D), pc/mi/ln	27.5
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7600	1244
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	8493	1390
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.72	0.70

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	24.2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.553
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1524
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	52.3
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	69.3
Flow in Lanes 1 and 2 (v12), pc/h	3746	Ramp Junction Speed (S), mi/h	58.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	28.9
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6356	469
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7102	524
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.81	0.26

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.0
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.372
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2131
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.152	Outer Lanes Freeway Speed (SO), mi/h	59.1
Flow in Lanes 1 and 2 (v12), pc/h	2841	Ramp Junction Speed (S), mi/h	57.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	3365	Average Density (D), pc/mi/ln	32.9
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6825	897
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7627	1002
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.92	0.50

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	32.1
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.494
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2288
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	53.6
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.093	Outer Lanes Freeway Speed (SO), mi/h	58.6
Flow in Lanes 1 and 2 (v12), pc/h	3051	Ramp Junction Speed (S), mi/h	56.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	4053	Average Density (D), pc/mi/ln	38.5
Level of Service (LOS)	D		

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APPENDIX L-III

YEAR 2023 CUMULATIVE TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6580	1262
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7353	1410
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.71

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.9
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.555
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1261
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	52.2
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	70.3
Flow in Lanes 1 and 2 (v12), pc/h	3360	Ramp Junction Speed (S), mi/h	58.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	25.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5318	230
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5943	257
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.66	0.13

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.5
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.314
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1783
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	57.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.186	Outer Lanes Freeway Speed (SO), mi/h	60.4
Flow in Lanes 1 and 2 (v12), pc/h	2377	Ramp Junction Speed (S), mi/h	59.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	2634	Average Density (D), pc/mi/ln	26.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5548	740
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	6200	827
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.75	0.41

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.4
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.376
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1860
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.114	Outer Lanes Freeway Speed (SO), mi/h	60.1
Flow in Lanes 1 and 2 (v12), pc/h	2480	Ramp Junction Speed (S), mi/h	58.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3307	Average Density (D), pc/mi/ln	30.1
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8251	1454
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	9220	1625
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.78	0.81

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.574
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1622
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	68.9
Flow in Lanes 1 and 2 (v12), pc/h	4132	Ramp Junction Speed (S), mi/h	58.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	31.7
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6797	499
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7595	558
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.87	0.28

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.8
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.402
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2279
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	55.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.148	Outer Lanes Freeway Speed (SO), mi/h	58.6
Flow in Lanes 1 and 2 (v12), pc/h	3038	Ramp Junction Speed (S), mi/h	57.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3596	Average Density (D), pc/mi/ln	35.6
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7296	1114
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	8153	1245
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	1.00	0.62

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	35.5
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.623
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2446
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	50.7
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.062	Outer Lanes Freeway Speed (SO), mi/h	57.6
Flow in Lanes 1 and 2 (v12), pc/h	3261	Ramp Junction Speed (S), mi/h	54.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	4506	Average Density (D), pc/mi/ln	43.4
Level of Service (LOS)	E		

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APPENDIX L-IV

YEAR 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6580	1262
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7353	1410
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.71

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.9
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.555
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1261
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	52.2
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	70.3
Flow in Lanes 1 and 2 (v12), pc/h	3360	Ramp Junction Speed (S), mi/h	58.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	25.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5318	230
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5943	257
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.66	0.13

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.5
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.314
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1783
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	57.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.186	Outer Lanes Freeway Speed (SO), mi/h	60.4
Flow in Lanes 1 and 2 (v12), pc/h	2377	Ramp Junction Speed (S), mi/h	59.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	2634	Average Density (D), pc/mi/ln	26.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5548	756
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	6200	845
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.75	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.5
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.378
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1860
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.112	Outer Lanes Freeway Speed (SO), mi/h	60.1
Flow in Lanes 1 and 2 (v12), pc/h	2480	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	3325	Average Density (D), pc/mi/ln	30.3
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8251	1454
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	9220	1625
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.78	0.81

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.574
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1622
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	68.9
Flow in Lanes 1 and 2 (v12), pc/h	4132	Ramp Junction Speed (S), mi/h	58.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	31.7
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6797	499
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7595	558
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.87	0.28

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.8
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.402
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2279
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	55.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.148	Outer Lanes Freeway Speed (SO), mi/h	58.6
Flow in Lanes 1 and 2 (v12), pc/h	3038	Ramp Junction Speed (S), mi/h	57.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3596	Average Density (D), pc/mi/ln	35.6
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7296	1123
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	8153	1255
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	1.00	0.63

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	35.6
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.627
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2446
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	50.6
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.061	Outer Lanes Freeway Speed (SO), mi/h	57.6
Flow in Lanes 1 and 2 (v12), pc/h	3261	Ramp Junction Speed (S), mi/h	54.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	4516	Average Density (D), pc/mi/ln	43.6
Level of Service (LOS)	E		

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APPENDIX L-V

YEAR 2035 BUILDOUT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6975	1466
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7404	1556
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.78

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	21.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.568
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1232
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	51.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	70.4
Flow in Lanes 1 and 2 (v12), pc/h	3460	Ramp Junction Speed (S), mi/h	58.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	25.4
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5509	244
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5848	259
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.65	0.13

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.2
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.312
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1755
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	57.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.185	Outer Lanes Freeway Speed (SO), mi/h	60.5
Flow in Lanes 1 and 2 (v12), pc/h	2339	Ramp Junction Speed (S), mi/h	59.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	2598	Average Density (D), pc/mi/ln	25.7
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5753	784
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	6107	832
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.74	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.1
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.373
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1832
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.114	Outer Lanes Freeway Speed (SO), mi/h	60.2
Flow in Lanes 1 and 2 (v12), pc/h	2443	Ramp Junction Speed (S), mi/h	58.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3275	Average Density (D), pc/mi/ln	29.8
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8508	1641
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	9032	1742
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.77	0.87

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.585
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1546
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	51.5
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	69.2
Flow in Lanes 1 and 2 (v12), pc/h	4133	Ramp Junction Speed (S), mi/h	57.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	31.3
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6867	529
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7290	562
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.84	0.28

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.9
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.386
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2187
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.1
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.148	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	2916	Ramp Junction Speed (S), mi/h	57.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	3478	Average Density (D), pc/mi/ln	34.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7396	1181
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7851	1254
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.97	0.63

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	34.7
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.586
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2356
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	51.5
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.061	Outer Lanes Freeway Speed (SO), mi/h	58.1
Flow in Lanes 1 and 2 (v12), pc/h	3140	Ramp Junction Speed (S), mi/h	54.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	4394	Average Density (D), pc/mi/ln	41.6
Level of Service (LOS)	D		

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APPENDIX L-VI

YEAR 2035 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6975	1466
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7404	1556
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.78

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	21.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.568
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1232
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	51.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	70.4
Flow in Lanes 1 and 2 (v12), pc/h	3460	Ramp Junction Speed (S), mi/h	58.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	25.4
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5509	244
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5848	259
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.65	0.13

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.2
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.312
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1755
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	57.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.185	Outer Lanes Freeway Speed (SO), mi/h	60.5
Flow in Lanes 1 and 2 (v12), pc/h	2339	Ramp Junction Speed (S), mi/h	59.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	2598	Average Density (D), pc/mi/ln	25.7
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5753	800
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	6107	849
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.74	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.3
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.375
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1832
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.112	Outer Lanes Freeway Speed (SO), mi/h	60.2
Flow in Lanes 1 and 2 (v12), pc/h	2443	Ramp Junction Speed (S), mi/h	58.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3292	Average Density (D), pc/mi/ln	29.8
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8508	1641
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	9032	1742
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.77	0.87

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.585
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1546
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	51.5
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	69.2
Flow in Lanes 1 and 2 (v12), pc/h	4133	Ramp Junction Speed (S), mi/h	57.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	31.3
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6867	529
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7290	562
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.84	0.28

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.9
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.386
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2187
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.1
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.148	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	2916	Ramp Junction Speed (S), mi/h	57.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	3478	Average Density (D), pc/mi/ln	34.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7396	1190
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7851	1263
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.97	0.63

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	34.7
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.589
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2356
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	51.5
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.060	Outer Lanes Freeway Speed (SO), mi/h	58.1
Flow in Lanes 1 and 2 (v12), pc/h	3140	Ramp Junction Speed (S), mi/h	54.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	4403	Average Density (D), pc/mi/ln	41.7
Level of Service (LOS)	D		

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APPENDIX M

EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS – RESIDENTIAL OPTION

APPENDIX M-I

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.995
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	198	1323	187	212	2146	318	161	631	191	194	619	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	198	1323	187	212	2146	318	161	631	191	194	619	102
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	198	1323	187	212	2146	318	161	631	191	194	619	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	1323	187	212	2146	318	161	631	191	194	619	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	1323	187	212	2146	318	161	631	191	194	619	102
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	198	1323	187	212	2146	318	161	631	191	194	619	102
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.54	0.46	2.00	1.72	0.28
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2456	744	2880	2747	453
Capacity Analysis Module:												
Vol/Sat:	0.12	0.28	0.12	0.13	0.45	0.20	0.06	0.26	0.26	0.07	0.23	0.23
Crit Moves:	****			****			****			****		

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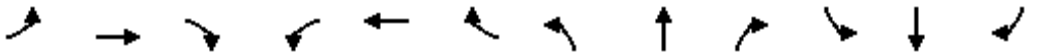
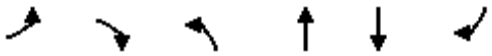


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	761	254	96	458	48	282	339	89	97	651	184
Future Volume (veh/h)	68	761	254	96	458	48	282	339	89	97	651	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	761	254	96	458	48	282	339	89	97	651	184
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	891	397	182	941	420	314	1665	743	121	1282	572
Arrive On Green	0.04	0.25	0.25	0.05	0.26	0.26	0.18	0.47	0.47	0.07	0.36	0.36
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	68	761	254	96	458	48	282	339	89	97	651	184
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.4	24.5	17.2	4.8	13.1	2.8	18.6	6.7	3.8	6.4	17.2	10.1
Cycle Q Clear(g_c), s	3.4	24.5	17.2	4.8	13.1	2.8	18.6	6.7	3.8	6.4	17.2	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	891	397	182	941	420	314	1665	743	121	1282	572
V/C Ratio(X)	0.25	0.85	0.64	0.53	0.49	0.11	0.90	0.20	0.12	0.80	0.51	0.32
Avail Cap(c_a), veh/h	273	1007	449	205	1096	489	430	1665	743	193	1282	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	42.9	40.1	33.7	37.2	33.5	48.4	18.7	17.9	55.1	30.0	27.7
Incr Delay (d2), s/veh	0.5	6.6	2.5	2.3	0.4	0.1	17.0	0.3	0.3	11.5	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	11.5	7.0	2.2	5.7	1.1	9.7	2.8	1.5	3.3	7.6	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	49.5	42.6	36.0	37.6	33.6	65.4	19.0	18.3	66.6	31.5	29.2
LnGrp LOS	C	D	D	D	D	C	E	B	B	E	C	C
Approach Vol, veh/h		1083			602			710			932	
Approach Delay, s/veh		46.8			37.1			37.3			34.7	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	61.2	11.5	35.1	25.1	48.3	9.8	36.8
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	46.0	8.0	34.0	29.0	30.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	8.4	8.7	6.8	26.5	20.6	19.2	5.4	15.1
Green Ext Time (p_c), s	0.1	2.7	0.0	3.6	0.5	3.8	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	856	362	429	951	178
Future Volume (veh/h)	229	856	362	429	951	178
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	856	362	429	951	178
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	835	1030	441	2399	1827	815
Arrive On Green	0.24	0.24	0.13	0.68	0.51	0.51
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	229	856	362	429	951	178
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.5	29.0	12.3	5.4	21.3	7.4
Cycle Q Clear(g_c), s	6.5	29.0	12.3	5.4	21.3	7.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	835	1030	441	2399	1827	815
V/C Ratio(X)	0.27	0.83	0.82	0.18	0.52	0.22
Avail Cap(c_a), veh/h	835	1030	778	2399	1827	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	34.4	51.0	7.2	19.3	16.0
Incr Delay (d2), s/veh	0.2	5.9	3.9	0.2	1.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	24.1	5.5	2.0	8.9	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.1	40.3	54.9	7.4	20.4	16.6
LnGrp LOS	D	D	D	A	C	B
Approach Vol, veh/h	1085			791	1129	
Approach Delay, s/veh	39.6			29.1	19.8	
Approach LOS	D			C	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.0		34.0	19.3	66.7
Change Period (Y+Rc), s		5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		81.0		29.0	27.0	50.0
Max Q Clear Time (g_c+I1), s		7.4		31.0	14.3	23.3
Green Ext Time (p_c), s		3.2		0.0	1.1	8.5

Intersection Summary		
HCM 6th Ctrl Delay		29.4
HCM 6th LOS		C

AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.789
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	99	1384	18	24	2219	125	206	15	190	59	29	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	1384	18	24	2219	125	206	15	190	59	29	28
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	1384	18	24	2219	125	206	15	190	59	29	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	1384	18	24	2219	125	206	15	190	59	29	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	1384	18	24	2219	125	206	15	190	59	29	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	1384	18	24	2219	125	206	15	190	59	29	28
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	814	786
Capacity Analysis Module:												
Vol/Sat:	0.06	0.29	0.01	0.02	0.46	0.08	0.13	0.01	0.12	0.04	0.04	0.04
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.567
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	9	1723	22	11	2300	15	52	0	32	71	0	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	1723	22	11	2300	15	52	0	32	71	0	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	1723	22	11	2300	15	52	0	32	71	0	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	1723	22	11	2300	15	52	0	32	71	0	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1723	22	11	2300	15	52	0	32	71	0	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1723	22	11	2300	15	52	0	32	71	0	38
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.96	0.04	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	5036	64	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.34	0.34	0.01	0.45	0.01	0.03	0.00	0.02	0.04	0.00	0.02
Crit Moves:	****			****					****	****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.504
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module:																
Base Vol:	7	533	32			217	846	7			21	2	23			65	1	250		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	7	533	32			217	846	7			21	2	23			65	1	250		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	7	533	32			217	846	7			21	2	23			65	1	250		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	7	533	32			217	846	7			21	2	23			65	1	250		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	7	533	32			217	846	7			21	2	23			65	1	250		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	7	533	32			217	846	7			21	2	23			65	1	250		
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700			1700	1700	1700			1700	1700	1700			1700	1700	1700		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	1.00	1.89	0.11			1.00	1.98	0.02			1.00	0.08	0.92			1.00	0.01	0.99		
Final Sat.:	1700	3207	193			1700	3372	28			1700	136	1564			1700	7	1693		
Capacity Analysis Module:																
Vol/Sat:	0.00	0.17	0.17			0.13	0.25	0.25			0.01	0.01	0.01			0.04	0.15	0.15		
Crit Moves:		****					****					****					****			

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Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	4	59	3	5	28	21	488	4	8	1086	61
Future Vol, veh/h	51	4	59	3	5	28	21	488	4	8	1086	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	4	62	3	5	29	22	514	4	8	1143	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1495	1753	604	1150	1783	259	1207	0	0	518	0	0
Stage 1	1191	1191	-	560	560	-	-	-	-	-	-	-
Stage 2	304	562	-	590	1223	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	85	84	441	153	81	740	574	-	-	1044	-	-
Stage 1	199	259	-	480	509	-	-	-	-	-	-	-
Stage 2	681	508	-	461	250	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	75	80	441	122	77	740	574	-	-	1044	-	-
Mov Cap-2 Maneuver	75	80	-	122	77	-	-	-	-	-	-	-
Stage 1	191	257	-	462	490	-	-	-	-	-	-	-
Stage 2	622	489	-	387	248	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	75.3	18.9	0.5	0.1
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	574	-	-	75	441	89	740	1044	-	-
HCM Lane V/C Ratio	0.039	-	-	0.772	0.141	0.095	0.04	0.008	-	-
HCM Control Delay (s)	11.5	-	-	140.6	14.5	49.6	10.1	8.5	-	-
HCM Lane LOS	B	-	-	F	B	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.7	0.5	0.3	0.1	0	-	-

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.860
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	83	Level Of Service:	D

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	173	373	158	123	659	135	98	893	156	195	1563	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	173	373	158	123	659	135	98	893	156	195	1563	80
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	173	373	158	123	659	135	98	893	156	195	1563	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	173	373	158	123	659	135	98	893	156	195	1563	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	173	373	158	123	659	135	98	893	156	195	1563	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	173	373	158	123	659	135	98	893	156	195	1563	80
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.40	0.60	1.00	1.66	0.34	1.00	2.55	0.45	1.00	2.85	0.15
Final Sat.:	1600	2248	952	1600	2656	544	1600	4086	714	1600	4566	234
Capacity Analysis Module:												
Vol/Sat:	0.11	0.17	0.17	0.08	0.25	0.25	0.06	0.22	0.22	0.12	0.34	0.34
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.714
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	41	20	22	212	22	207	143	957	4	11	1580	176
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	20	22	212	22	207	143	957	4	11	1580	176
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	20	22	212	22	207	143	957	4	11	1580	176
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	20	22	212	22	207	143	957	4	11	1580	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	20	22	212	22	207	143	957	4	11	1580	176
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	41	20	22	212	22	207	143	957	4	11	1580	176
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.00	1.00	1.00	1.00	2.99	0.01	1.00	2.70	0.30
Final Sat.:	1600	762	838	1600	1600	1600	1600	4780	20	1600	4319	481
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.13	0.01	0.13	0.09	0.20	0.20	0.01	0.37	0.37
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.801
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	D

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	227	1001	537	329	1610	279	104	975	188	479	1228	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	227	1001	537	329	1610	279	104	975	188	479	1228	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	227	1001	537	329	1610	279	104	975	188	479	1228	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	227	1001	537	329	1610	279	104	975	188	479	1228	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	227	1001	537	329	1610	279	104	975	188	479	1228	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	227	1001	537	329	1610	279	104	975	188	479	1228	274
OvlAdjVol:			58									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.52	0.48	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4276	824	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.16	0.10	0.32	0.16	0.03	0.23	0.23	0.14	0.24	0.16
OvlAdjV/S:			0.02									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.521
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0 1	0	0 1	1 0	3	0 1	1 0	3	0 1
Volume Module:												
Base Vol:	68	14	63	44	6	51	57	1750	46	104	1901	30
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	68	14	63	44	6	51	57	1750	46	104	1901	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	14	63	44	6	51	57	1750	46	104	1901	30
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	68	14	63	44	6	51	57	1750	46	104	1901	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	14	63	44	6	51	57	1750	46	104	1901	30
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
FinalVolume:	68	14	63	44	6	51	57	1750	46	104	1901	30
Saturation Flow Module:												
Sat/Lane:	1700 1700	1700		1700 1700	1700		1700 1700	1700		1700 1700	1700	
Adjustment:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	1.66 0.34	1.00		0.88 0.12	1.00		1.00 3.00	1.00		1.00 3.00	1.00	
Final Sat.:	2820 580	1700		1496 204	1700		1700 5100	1700		1700 5100	1700	
Capacity Analysis Module:												
Vol/Sat:	0.02 0.02	0.04		0.03 0.03	0.03		0.03 0.34	0.03		0.06 0.37	0.02	
Crit Moves:		****			****			****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.701
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	C

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	234	476	132	248	674	194	96	1545	247	124	1716	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	476	132	248	674	194	96	1545	247	124	1716	97
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	476	132	248	674	194	96	1545	247	124	1716	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	476	132	248	674	194	96	1545	247	124	1716	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	476	132	248	674	194	96	1545	247	124	1716	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	476	132	248	674	194	96	1545	247	124	1716	97
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.84	0.16
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4827	273
Capacity Analysis Module:												
Vol/Sat:	0.07	0.14	0.08	0.07	0.20	0.11	0.03	0.30	0.15	0.04	0.36	0.36
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.805
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	D

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1 1	0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	222	404	206	183	871	54	57	1473	299	239	1656	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	222	404	206	183	871	54	57	1473	299	239	1656	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	222	404	206	183	871	54	57	1473	299	239	1656	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	222	404	206	183	871	54	57	1473	299	239	1656	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	222	404	206	183	871	54	57	1473	299	239	1656	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	222	404	206	183	871	54	57	1473	299	239	1656	59
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.88	0.12	2.00	2.49	0.51	2.00	2.90	0.10
Final Sat.:	3400	3400	1700	3400	3202	198	3400	4239	861	3400	4925	175
Capacity Analysis Module:												
Vol/Sat:	0.07	0.12	0.12	0.05	0.27	0.27	0.02	0.35	0.35	0.07	0.34	0.34
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.762
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	311	509	292	248	1198	202	145	1270	304	261	1291	84
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	311	509	292	248	1198	202	145	1270	304	261	1291	84
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	311	509	292	248	1198	202	145	1270	304	261	1291	84
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	311	509	292	248	1198	202	145	1270	304	261	1291	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	311	509	292	248	1198	202	145	1270	304	261	1291	84
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	311	509	292	248	1198	202	145	1270	304	261	1291	84
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.42	0.58	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4115	985	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.10	0.17	0.07	0.23	0.12	0.04	0.31	0.31	0.08	0.25	0.05
Crit Moves:	****			****			****			****		

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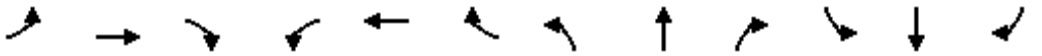

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	1270	304	261	1291	84	311	509	292	248	1198	202
Future Volume (veh/h)	145	1270	304	261	1291	84	311	509	292	248	1198	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	1296	310	266	1317	86	317	519	298	253	1222	206
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	1391	332	322	1615	501	411	1685	523	307	1489	462
Arrive On Green	0.11	0.34	0.34	0.09	0.32	0.32	0.12	0.33	0.33	0.09	0.29	0.29
Sat Flow, veh/h	3456	4114	983	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	148	1072	534	266	1317	86	317	519	298	253	1222	206
Grp Sat Flow(s),veh/h/ln	1728	1702	1693	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	4.8	36.5	36.6	9.1	28.5	3.6	10.7	9.1	18.6	8.6	26.7	12.7
Cycle Q Clear(g_c), s	4.8	36.5	36.6	9.1	28.5	3.6	10.7	9.1	18.6	8.6	26.7	12.7
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	368	1151	573	322	1615	501	411	1685	523	307	1489	462
V/C Ratio(X)	0.40	0.93	0.93	0.83	0.82	0.17	0.77	0.31	0.57	0.82	0.82	0.45
Avail Cap(c_a), veh/h	368	1163	579	346	1830	568	411	1685	523	317	1489	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	38.4	38.4	53.5	37.8	17.1	51.3	30.0	33.2	53.7	39.6	34.6
Incr Delay (d2), s/veh	0.7	13.1	22.1	14.4	2.7	0.2	8.8	0.5	4.5	15.6	5.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	17.1	18.5	4.6	12.2	1.8	5.1	3.8	7.8	4.4	11.8	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	51.5	60.5	67.9	40.5	17.3	60.1	30.5	37.6	69.4	44.8	37.7
LnGrp LOS	D	D	E	E	D	B	E	C	D	E	D	D
Approach Vol, veh/h		1754			1669			1134			1681	
Approach Delay, s/veh		54.2			43.6			40.6			47.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	44.6	15.2	45.6	19.3	40.0	17.8	43.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	11.0	38.0	12.0	41.0	14.0	* 35	10.0	* 43
Max Q Clear Time (g_c+I1), s	10.6	20.6	11.1	38.6	12.7	28.7	6.8	30.5
Green Ext Time (p_c), s	0.0	4.4	0.1	2.0	0.2	4.3	0.1	7.4

Intersection Summary	
HCM 6th Ctrl Delay	47.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.951
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	132	Level Of Service:	E

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	270	876	254	212	1553	242	258	982	192	424	1016	153
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	270	876	254	212	1553	242	258	982	192	424	1016	153
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	270	876	254	212	1553	242	258	982	192	424	1016	153
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	270	876	254	212	1553	242	258	982	192	424	1016	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	270	876	254	212	1553	242	258	982	192	424	1016	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	270	876	254	212	1553	242	258	982	192	424	1016	153
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.60	0.40	2.00	1.67	0.33	2.00	1.74	0.26
Final Sat.:	3400	5100	1700	3400	4412	688	3400	2844	556	3400	2955	445
Capacity Analysis Module:												
Vol/Sat:	0.08	0.17	0.15	0.06	0.35	0.35	0.08	0.35	0.35	0.12	0.34	0.34
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.814
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	D

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	210	379	192	105	597	204	82	1178	183	220	1107	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	210	379	192	105	597	204	82	1178	183	220	1107	47
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	210	379	192	105	597	204	82	1178	183	220	1107	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	210	379	192	105	597	204	82	1178	183	220	1107	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	210	379	192	105	597	204	82	1178	183	220	1107	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	210	379	192	105	597	204	82	1178	183	220	1107	47
OvlAdjVol:			82			163						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.73	0.27	2.00	1.92	0.08
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2943	457	3400	3262	138
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.06	0.18	0.12	0.02	0.40	0.40	0.06	0.34	0.34
OvlAdjV/S:			0.05			0.10						
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.702
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	C

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	51	382	90	61	577	67	76	1253	242	109	1028	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	51	382	90	61	577	67	76	1253	242	109	1028	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	382	90	61	577	67	76	1253	242	109	1028	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	382	90	61	577	67	76	1253	242	109	1028	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	382	90	61	577	67	76	1253	242	109	1028	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	382	90	61	577	67	76	1253	242	109	1028	52
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.62	0.38	1.00	1.79	0.21	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2752	648	1700	3046	354	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.14	0.04	0.19	0.19	0.04	0.37	0.14	0.06	0.30	0.03
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.696
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	B

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	89	499	119	214	1352	190	171	1168	225	122	910	197
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	499	119	214	1352	190	171	1168	225	122	910	197
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	499	119	214	1352	190	171	1168	225	122	910	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	499	119	214	1352	190	171	1168	225	122	910	197
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	499	119	214	1352	190	171	1168	225	122	910	197
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	499	119	214	1352	190	171	1168	225	122	910	197
OvlAdjVol:			58									90
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.63	0.37	2.00	2.52	0.48	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4472	628	3400	4276	824	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.07	0.06	0.30	0.30	0.05	0.27	0.27	0.04	0.27	0.12
OvlAdjV/S:			0.03									0.05
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.907
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	104	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	395	748	55	223	725	110	99	1041	350	118	1586	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	395	748	55	223	725	110	99	1041	350	118	1586	81
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	395	748	55	223	725	110	99	1041	350	118	1586	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	395	748	55	223	725	110	99	1041	350	118	1586	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	395	748	55	223	725	110	99	1041	350	118	1586	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	395	748	55	223	725	110	99	1041	350	118	1586	81
OvlAdjVol:									131			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.86	0.14	2.00	1.74	0.26	1.00	3.00	1.00	1.00	2.85	0.15
Final Sat.:	2880	2981	219	2880	2778	422	1600	4800	1600	1600	4567	233
Capacity Analysis Module:												
Vol/Sat:	0.14	0.25	0.25	0.08	0.26	0.26	0.06	0.22	0.22	0.07	0.35	0.35
OvlAdjV/S:									0.08			
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.768
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	1 0	3 0	1	2 0	2 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	372	1288	250	139	1642	477	112	663	530	312	683	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	372	1288	250	139	1642	477	112	663	530	312	683	81
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	372	1288	250	139	1642	477	112	663	530	312	683	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	372	1288	250	139	1642	477	112	663	530	312	683	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	372	1288	250	139	1642	477	112	663	530	312	683	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	372	1288	250	139	1642	477	112	663	530	312	683	81
OvlAdjVol:						421			344			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.68	0.32
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4559	541
Capacity Analysis Module:												
Vol/Sat:	0.11	0.25	0.15	0.08	0.32	0.28	0.03	0.20	0.31	0.09	0.15	0.15
OvlAdjV/S:						0.25			0.20			
Crit Moves:	****				****			****			****	

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AM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.731
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	C

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	258	892	188	143	1417	122	152	470	100	231	611	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	258	892	188	143	1417	122	152	470	100	231	611	70
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	258	892	188	143	1417	122	152	470	100	231	611	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	258	892	188	143	1417	122	152	470	100	231	611	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	892	188	143	1417	122	152	470	100	231	611	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	258	892	188	143	1417	122	152	470	100	231	611	70
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.48	0.52	1.00	2.76	0.24	1.00	1.65	0.35	1.00	1.79	0.21
Final Sat.:	3400	4212	888	1700	4696	404	1700	2804	596	1700	3051	349
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.21	0.08	0.30	0.30	0.09	0.17	0.17	0.14	0.20	0.20
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.909
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	105	Level Of Service:	E

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	258	727	144	67	827	121	77	648	155	201	1418	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	258	727	144	67	827	121	77	648	155	201	1418	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	258	727	144	67	827	121	77	648	155	201	1418	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	258	727	144	67	827	121	77	648	155	201	1418	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	727	144	67	827	121	77	648	155	201	1418	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	258	727	144	67	827	121	77	648	155	201	1418	38
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.67	0.33	1.00	1.74	0.26	1.00	2.42	0.58	1.00	2.92	0.08
Final Sat.:	1600	2671	529	1600	2792	408	1600	3873	927	1600	4675	125
Capacity Analysis Module:												
Vol/Sat:	0.16	0.27	0.27	0.04	0.30	0.30	0.05	0.17	0.17	0.13	0.30	0.30
Crit Moves:	****				****		****				****	

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AM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.807
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	D

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	53	1648	69	80	1966	313	385	446	49	97	618	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	1648	69	80	1966	313	385	446	49	97	618	160
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	1648	69	80	1966	313	385	446	49	97	618	160
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	1648	69	80	1966	313	385	446	49	97	618	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	1648	69	80	1966	313	385	446	49	97	618	160
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	1648	69	80	1966	313	385	446	49	97	618	160
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.88	0.12	2.00	2.59	0.41	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4895	205	3400	4400	700	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.34	0.34	0.02	0.45	0.45	0.11	0.13	0.03	0.03	0.18	0.09
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.598
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	28	1638	143	30	2040	68	55	168	25	147	223	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	1638	143	30	2040	68	55	168	25	147	223	68
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	1638	143	30	2040	68	55	168	25	147	223	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	1638	143	30	2040	68	55	168	25	147	223	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	1638	143	30	2040	68	55	168	25	147	223	68
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	1638	143	30	2040	68	55	168	25	147	223	68
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.76	0.24	1.00	2.90	0.10	1.00	2.00	1.00	2.00	1.53	0.47
Final Sat.:	1700	4691	409	1700	4935	165	1700	3400	1700	3400	2605	795
Capacity Analysis Module:												
Vol/Sat:	0.02	0.35	0.35	0.02	0.41	0.41	0.03	0.05	0.01	0.04	0.09	0.09
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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AM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.350
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	19	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	1 1	0	2 0	1 1 0
Volume Module:												
Base Vol:	315	9	246	1	1	1	5	102	79	184	74	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	9	246	1	1	1	5	102	79	184	74	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	9	246	1	1	1	5	102	79	184	74	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	315	9	246	1	1	1	5	102	79	184	74	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	9	246	1	1	1	5	102	79	184	74	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	9	246	1	1	1	5	102	79	184	74	5
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.97	0.03	1.00	0.34	0.33	0.33	1.00	1.13	0.87	2.00	1.87	0.13
Final Sat.:	1653	47	1700	567	567	567	1700	1916	1484	3400	3185	215
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.14	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.02	0.02
Crit Moves:	****			****				****		****		

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AM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.730
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	C

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	147	1179	94	32	2114	32	228	72	56	77	99	399
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	147	1179	94	32	2114	32	228	72	56	77	99	399
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	147	1179	94	32	2114	32	228	72	56	77	99	399
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	1179	94	32	2114	32	228	72	56	77	99	399
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	1179	94	32	2114	32	228	72	56	77	99	399
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	1179	94	32	2114	32	228	72	56	77	99	399
OvlAdjVol:												367
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.12	0.88	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1913	1488	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.23	0.06	0.02	0.31	0.02	0.07	0.04	0.04	0.02	0.03	0.23
OvlAdjV/S:												0.22
Crit Moves:	****			****			****					****

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.698
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	B

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	1 0	2 0	3	0 0	1 0	0	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	1237	159	800	1464	0	180	0	237	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1237	159	800	1464	0	180	0	237	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1237	159	800	1464	0	180	0	237	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1237	159	800	1464	0	180	0	237	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1237	159	800	1464	0	180	0	237	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1237	159	800	1464	0	180	0	237	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.66	0.34	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4519	581	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.27	0.24	0.29	0.00	0.11	0.00	0.14	0.00	0.00	0.00
Crit Moves:		****		****					****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.690
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	357	47	616	55	41	21	44	834	402	1058	921	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	357	47	616	55	41	21	44	834	402	1058	921	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	357	47	616	55	41	21	44	834	402	1058	921	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	357	47	616	55	41	21	44	834	402	1058	921	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	357	47	616	55	41	21	44	834	402	1058	921	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	357	47	616	55	41	21	44	834	402	1058	921	7
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.77	0.23	2.00	0.47	0.35	0.18	1.00	2.00	1.00	3.00	1.98	0.02
Final Sat.:	3004	396	3400	799	596	305	1700	3400	1700	5100	3374	26
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.18	0.07	0.07	0.07	0.03	0.25	0.24	0.21	0.27	0.27
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.853
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	11	40	43	373	43	721	385	1084	11	65	1266	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	40	43	373	43	721	385	1084	11	65	1266	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	40	43	373	43	721	385	1084	11	65	1266	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	40	43	373	43	721	385	1084	11	65	1266	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	40	43	373	43	721	385	1084	11	65	1266	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	40	43	373	43	721	385	1084	11	65	1266	274
OvlAdjVol:						529						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.78	1.00	0.90	0.10	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	367	1333	1700	1524	176	1700	3400	3366	34	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.22	0.24	0.42	0.11	0.32	0.32	0.04	0.37	0.16
OvlAdjV/S:						0.31						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	39.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	1880	1826	48	17	120
Future Vol, veh/h	70	1880	1826	48	17	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2089	2029	53	19	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2082	0	-	0	3048	1041
Stage 1	-	-	-	-	2056	-
Stage 2	-	-	-	-	992	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	114	-	-	-	25	195
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	288	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	114	-	-	-	~ 8	195
Mov Cap-2 Maneuver	-	-	-	-	~ 8	-
Stage 1	-	-	-	-	~ 16	-
Stage 2	-	-	-	-	288	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	$ 1094
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	114	-	-	-	50
HCM Lane V/C Ratio	0.682	-	-	-	3.044
HCM Control Delay (s)	86.8	-	-	-	$ 1094
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	3.6	-	-	-	16.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

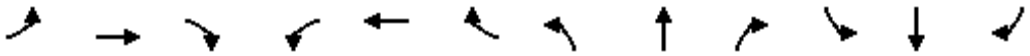
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	942	185	536	709	64	83	635	538	109	957	195
Future Volume (veh/h)	236	942	185	536	709	64	83	635	538	109	957	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	942	185	536	709	64	83	635	538	109	957	195
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	1117	219	595	1617	648	105	1125	775	164	1054	214
Arrive On Green	0.11	0.26	0.26	0.17	0.32	0.32	0.06	0.32	0.32	0.09	0.36	0.36
Sat Flow, veh/h	3456	4285	839	3456	5106	1585	1781	3554	1585	1781	2941	599
Grp Volume(v), veh/h	236	748	379	536	709	64	83	635	538	109	578	574
Grp Sat Flow(s),veh/h/ln	1728	1702	1719	1728	1702	1585	1781	1777	1585	1781	1777	1763
Q Serve(g_s), s	7.8	25.0	25.1	18.2	13.2	0.0	5.5	17.8	18.6	7.1	37.1	37.2
Cycle Q Clear(g_c), s	7.8	25.0	25.1	18.2	13.2	0.0	5.5	17.8	18.6	7.1	37.1	37.2
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	373	888	448	595	1617	648	105	1125	775	164	637	632
V/C Ratio(X)	0.63	0.84	0.85	0.90	0.44	0.10	0.79	0.56	0.69	0.66	0.91	0.91
Avail Cap(c_a), veh/h	374	888	448	634	1617	648	119	1125	775	193	637	632
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	42.0	42.1	48.7	32.5	21.9	55.8	34.1	9.9	52.7	36.6	36.6
Incr Delay (d2), s/veh	3.4	9.6	17.6	15.5	0.9	0.3	26.9	2.1	5.1	6.6	19.0	19.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	11.6	12.8	9.1	5.6	1.2	3.3	8.0	7.0	3.5	19.2	19.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	51.6	59.7	64.2	33.4	22.2	82.7	36.2	15.0	59.3	55.6	56.0
LnGrp LOS	D	D	E	E	C	C	F	D	B	E	E	E
Approach Vol, veh/h		1363			1309			1256			1261	
Approach Delay, s/veh		54.4			45.4			30.2			56.1	
Approach LOS		D			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	43.0	24.7	36.3	11.1	48.0	17.9	43.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	13.0	* 38	22.0	29.0	8.0	43.0	13.0	* 38
Max Q Clear Time (g_c+I1), s	9.1	20.6	20.2	27.1	7.5	39.2	9.8	15.2
Green Ext Time (p_c), s	0.1	6.2	0.4	1.3	0.0	2.4	0.2	5.3

Intersection Summary	
HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	707	144	144	461	126	127	974	88	250	1284	16
Future Volume (veh/h)	33	707	144	144	461	126	127	974	88	250	1284	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	707	144	144	461	126	127	974	88	250	1284	16
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	763	155	207	843	229	219	1323	120	316	1590	20
Arrive On Green	0.03	0.26	0.26	0.07	0.31	0.31	0.06	0.40	0.40	0.10	0.44	0.44
Sat Flow, veh/h	1781	2941	599	1781	2763	750	1781	3296	298	1781	3594	45
Grp Volume(v), veh/h	33	427	424	144	295	292	127	525	537	250	635	665
Grp Sat Flow(s),veh/h/ln	1781	1777	1763	1781	1777	1735	1781	1777	1817	1781	1777	1862
Q Serve(g_s), s	1.6	28.1	28.1	6.9	16.6	16.8	5.0	30.1	30.1	9.5	37.2	37.2
Cycle Q Clear(g_c), s	1.6	28.1	28.1	6.9	16.6	16.8	5.0	30.1	30.1	9.5	37.2	37.2
Prop In Lane	1.00		0.34	1.00		0.43	1.00		0.16	1.00		0.02
Lane Grp Cap(c), veh/h	246	461	457	207	542	530	219	713	729	316	786	824
V/C Ratio(X)	0.13	0.93	0.93	0.69	0.54	0.55	0.58	0.74	0.74	0.79	0.81	0.81
Avail Cap(c_a), veh/h	271	474	470	225	548	535	250	713	729	407	786	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	43.3	43.3	32.0	34.7	34.8	25.1	30.5	30.5	23.9	29.0	29.0
Incr Delay (d2), s/veh	0.2	24.0	24.3	8.2	1.1	1.2	2.6	6.7	6.5	7.9	8.7	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	15.3	15.3	3.4	7.3	7.3	2.2	14.0	14.3	4.5	17.4	18.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	67.3	67.6	40.2	35.8	36.0	27.7	37.2	37.1	31.8	37.7	37.4
LnGrp LOS	C	E	E	D	D	D	C	D	D	C	D	D
Approach Vol, veh/h		884			731			1189			1550	
Approach Delay, s/veh		66.2			36.8			36.1			36.6	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	53.2	13.8	36.1	11.9	58.1	8.3	41.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	18.0	40.0	10.0	32.0	9.0	49.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	11.5	32.1	8.9	30.1	7.0	39.2	3.6	18.8
Green Ext Time (p_c), s	0.4	4.1	0.0	1.0	0.1	5.9	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.969
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	152	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	207	1973	191	172	1530	221	376	546	162	184	551	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1973	191	172	1530	221	376	546	162	184	551	152
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	1973	191	172	1530	221	376	546	162	184	551	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	207	1973	191	172	1530	221	376	546	162	184	551	152
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1973	191	172	1530	221	376	546	162	184	551	152
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	1973	191	172	1530	221	376	546	162	184	551	152
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.54	0.46	2.00	1.57	0.43
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2468	732	2880	2508	692
Capacity Analysis Module:												
Vol/Sat:	0.13	0.41	0.12	0.11	0.32	0.14	0.13	0.22	0.22	0.06	0.22	0.22
Crit Moves:		****			****			****			****	

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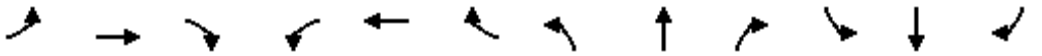


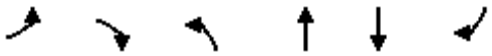
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	478	203	60	582	52	277	932	79	39	475	185
Future Volume (veh/h)	196	478	203	60	582	52	277	932	79	39	475	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	196	478	203	60	582	52	277	932	79	39	475	185
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	921	411	236	689	307	309	1481	660	214	1320	589
Arrive On Green	0.10	0.26	0.26	0.04	0.19	0.19	0.17	0.42	0.42	0.12	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	196	478	203	60	582	52	277	932	79	39	475	185
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.2	13.8	13.1	3.2	18.9	2.5	18.3	24.9	2.9	2.4	11.6	10.0
Cycle Q Clear(g_c), s	10.2	13.8	13.1	3.2	18.9	2.5	18.3	24.9	2.9	2.4	11.6	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	921	411	236	689	307	309	1481	660	214	1320	589
V/C Ratio(X)	0.72	0.52	0.49	0.25	0.84	0.17	0.90	0.63	0.12	0.18	0.36	0.31
Avail Cap(c_a), veh/h	326	1155	515	244	829	370	430	1481	660	214	1320	589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	38.0	37.8	36.8	46.6	22.6	48.5	27.7	13.5	47.5	27.4	26.8
Incr Delay (d2), s/veh	6.1	0.5	0.9	0.6	6.9	0.3	16.5	2.0	0.4	0.4	0.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	6.1	5.2	1.4	9.0	1.3	9.5	10.9	1.4	1.1	5.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	38.5	38.7	37.4	53.5	22.8	65.0	29.7	13.9	47.9	28.1	28.2
LnGrp LOS	D	D	D	D	D	C	E	C	B	D	C	C
Approach Vol, veh/h		877			694			1288			699	
Approach Delay, s/veh		38.9			49.8			36.3			29.3	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.4	55.0	9.5	36.1	24.8	49.6	17.4	28.3
Change Period (Y+Rc), s	5.0	* 5	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	* 50	5.0	39.0	29.0	28.0	16.0	28.0
Max Q Clear Time (g_c+I1), s	4.4	26.9	5.2	15.8	20.3	13.6	12.2	20.9
Green Ext Time (p_c), s	0.0	7.4	0.0	4.0	0.5	3.3	0.2	2.3

Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	193	425	617	977	563	182
Future Volume (veh/h)	193	425	617	977	563	182
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	193	425	617	977	563	182
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	313	1558	1616	2935	1125	502
Arrive On Green	0.09	0.09	0.47	0.83	0.32	0.32
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	193	425	617	977	563	182
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.5	0.0	13.9	7.9	15.4	10.6
Cycle Q Clear(g_c), s	6.5	0.0	13.9	7.9	15.4	10.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	313	1558	1616	2935	1125	502
V/C Ratio(X)	0.62	0.27	0.38	0.33	0.50	0.36
Avail Cap(c_a), veh/h	864	2002	1616	2935	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	13.8	20.7	2.5	33.3	31.7
Incr Delay (d2), s/veh	2.0	0.1	0.1	0.3	1.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.1	5.6	2.1	6.9	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.5	13.9	20.8	2.8	34.9	33.7
LnGrp LOS	D	B	C	A	C	C
Approach Vol, veh/h	618			1594	745	
Approach Delay, s/veh	26.6			9.8	34.6	
Approach LOS	C			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		104.1		15.9	61.1	43.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		80.0		30.0	38.0	* 38
Max Q Clear Time (g_c+I1), s		9.9		8.5	15.9	17.4
Green Ext Time (p_c), s		9.3		2.4	2.3	4.4

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.751
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	C

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	201	2162	47	60	1705	254	246	17	116	32	14	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	2162	47	60	1705	254	246	17	116	32	14	13
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	201	2162	47	60	1705	254	246	17	116	32	14	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	201	2162	47	60	1705	254	246	17	116	32	14	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	2162	47	60	1705	254	246	17	116	32	14	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	2162	47	60	1705	254	246	17	116	32	14	13
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	830	770
Capacity Analysis Module:												
Vol/Sat:	0.13	0.45	0.03	0.04	0.36	0.16	0.15	0.01	0.07	0.02	0.02	0.02
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.570
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	28	2286	74	38	2008	35	15	0	16	44	0	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	2286	74	38	2008	35	15	0	16	44	0	23
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	2286	74	38	2008	35	15	0	16	44	0	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	2286	74	38	2008	35	15	0	16	44	0	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	2286	74	38	2008	35	15	0	16	44	0	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	2286	74	38	2008	35	15	0	16	44	0	23
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.91	0.09	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	4940	160	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.46	0.46	0.02	0.39	0.02	0.01	0.00	0.01	0.03	0.00	0.01
Crit Moves:	****			****					****	****		

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.545
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	25	1023	54		146	703	23		14	1	15		28	3	140	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	25	1023	54		146	703	23		14	1	15		28	3	140	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	25	1023	54		146	703	23		14	1	15		28	3	140	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	25	1023	54		146	703	23		14	1	15		28	3	140	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	25	1023	54		146	703	23		14	1	15		28	3	140	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	25	1023	54		146	703	23		14	1	15		28	3	140	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.90	0.10		1.00	1.94	0.06		1.00	0.06	0.94		1.00	0.02	0.98	
Final Sat.:	1700	3230	170		1700	3292	108		1700	106	1594		1700	36	1664	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.32	0.32		0.09	0.21	0.21		0.01	0.01	0.01		0.02	0.08	0.08	
Crit Moves:	****				****				****				****			

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Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	2	15	1	3	19	27	1040	2	37	724	38
Future Vol, veh/h	22	2	15	1	3	19	27	1040	2	37	724	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	2	15	1	3	19	28	1061	2	38	739	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1423	1954	389	1565	1972	532	778	0	0	1063	0	0
Stage 1	835	835	-	1118	1118	-	-	-	-	-	-	-
Stage 2	588	1119	-	447	854	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	96	63	610	75	62	492	834	-	-	651	-	-
Stage 1	328	381	-	221	281	-	-	-	-	-	-	-
Stage 2	462	280	-	560	373	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	57	610	66	56	492	834	-	-	651	-	-
Mov Cap-2 Maneuver	82	57	-	66	56	-	-	-	-	-	-	-
Stage 1	317	359	-	213	271	-	-	-	-	-	-	-
Stage 2	424	270	-	511	351	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.2	22.9	0.2	0.5
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	834	-	-	79	610	58	492	651	-	-
HCM Lane V/C Ratio	0.033	-	-	0.31	0.025	0.07	0.039	0.058	-	-
HCM Control Delay (s)	9.5	-	-	69.8	11.1	71.7	12.6	10.9	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.1	0.2	0.1	0.2	-	-

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2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.880
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	91	Level Of Service:	D

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	167	696	218	150	485	95	118	1260	134	176	1039	130
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	167	696	218	150	485	95	118	1260	134	176	1039	130
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	167	696	218	150	485	95	118	1260	134	176	1039	130
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	167	696	218	150	485	95	118	1260	134	176	1039	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	167	696	218	150	485	95	118	1260	134	176	1039	130
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	167	696	218	150	485	95	118	1260	134	176	1039	130
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.67	0.33	1.00	2.71	0.29	1.00	2.67	0.33
Final Sat.:	1600	2437	763	1600	2676	524	1600	4339	461	1600	4266	534
Capacity Analysis Module:												
Vol/Sat:	0.10	0.29	0.29	0.09	0.18	0.18	0.07	0.29	0.29	0.11	0.24	0.24
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.600
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	30	23	11	151	34	151	172	1349	20	13	1170	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	23	11	151	34	151	172	1349	20	13	1170	158
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	23	11	151	34	151	172	1349	20	13	1170	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	23	11	151	34	151	172	1349	20	13	1170	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	23	11	151	34	151	172	1349	20	13	1170	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	23	11	151	34	151	172	1349	20	13	1170	158
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.68	0.32	1.00	1.00	1.00	1.00	2.96	0.04	1.00	2.64	0.36
Final Sat.:	1600	1082	518	1600	1600	1600	1600	4730	70	1600	4229	571
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.09	0.02	0.09	0.11	0.29	0.29	0.01	0.28	0.28
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.857
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	68	Level Of Service:	D

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	298	1539	476	383	1294	185	222	1050	236	479	957	324
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	298	1539	476	383	1294	185	222	1050	236	479	957	324
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	298	1539	476	383	1294	185	222	1050	236	479	957	324
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	298	1539	476	383	1294	185	222	1050	236	479	957	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	298	1539	476	383	1294	185	222	1050	236	479	957	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	298	1539	476	383	1294	185	222	1050	236	479	957	324
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.45	0.55	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4164	936	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.30	0.14	0.11	0.25	0.11	0.07	0.25	0.25	0.14	0.19	0.19
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.706
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0 1	0	0 1	1 0	3	0 1	1 0	3	0 1
Volume Module:												
Base Vol:	92	36	219	84	38	136	200	1576	98	235	1498	60
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	92	36	219	84	38	136	200	1576	98	235	1498	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	92	36	219	84	38	136	200	1576	98	235	1498	60
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	92	36	219	84	38	136	200	1576	98	235	1498	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	219	84	38	136	200	1576	98	235	1498	60
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
FinalVolume:	92	36	219	84	38	136	200	1576	98	235	1498	60
Saturation Flow Module:												
Sat/Lane:	1700 1700	1700		1700 1700	1700		1700 1700	1700		1700 1700	1700	
Adjustment:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	1.44 0.56	1.00		0.69 0.31	1.00		1.00 3.00	1.00		1.00 3.00	1.00	
Final Sat.:	2444 956	1700		1170 530	1700		1700 5100	1700		1700 5100	1700	
Capacity Analysis Module:												
Vol/Sat:	0.04 0.04	0.13		0.07 0.07	0.08		0.12 0.31	0.06		0.14 0.29	0.04	
Crit Moves:		****			****			****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.736
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	C

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 3	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	348	687	190	206	446	169	267	1526	261	170	1570	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	348	687	190	206	446	169	267	1526	261	170	1570	189
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	348	687	190	206	446	169	267	1526	261	170	1570	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	348	687	190	206	446	169	267	1526	261	170	1570	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	348	687	190	206	446	169	267	1526	261	170	1570	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	348	687	190	206	446	169	267	1526	261	170	1570	189
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.68	0.32
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4552	548
Capacity Analysis Module:												
Vol/Sat:	0.10	0.20	0.11	0.06	0.13	0.10	0.08	0.30	0.15	0.05	0.34	0.34
Crit Moves:		****			****			****			****	

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.726
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	C

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1 1	0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	319	661	164	130	486	66	122	1360	237	243	1776	183
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	319	661	164	130	486	66	122	1360	237	243	1776	183
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	319	661	164	130	486	66	122	1360	237	243	1776	183
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	319	661	164	130	486	66	122	1360	237	243	1776	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	319	661	164	130	486	66	122	1360	237	243	1776	183
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	319	661	164	130	486	66	122	1360	237	243	1776	183
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.76	0.24	2.00	2.55	0.45	2.00	2.72	0.28
Final Sat.:	3400	3400	1700	3400	2993	407	3400	4343	757	3400	4624	476
Capacity Analysis Module:												
Vol/Sat:	0.09	0.19	0.10	0.04	0.16	0.16	0.04	0.31	0.31	0.07	0.38	0.38
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.685
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	350	1075	206	183	708	179	266	1135	204	366	1474	205
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	350	1075	206	183	708	179	266	1135	204	366	1474	205
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	350	1075	206	183	708	179	266	1135	204	366	1474	205
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	350	1075	206	183	708	179	266	1135	204	366	1474	205
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	350	1075	206	183	708	179	266	1135	204	366	1474	205
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	350	1075	206	183	708	179	266	1135	204	366	1474	205
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.54	0.46	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4323	777	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.12	0.05	0.14	0.11	0.08	0.26	0.26	0.11	0.29	0.12
Crit Moves:	****			****				****		****		

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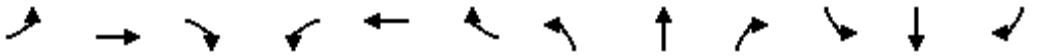

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	266	1135	204	366	1474	205	350	1075	206	183	708	179
Future Volume (veh/h)	266	1135	204	366	1474	205	350	1075	206	183	708	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	1158	208	373	1504	209	357	1097	210	187	722	183
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	326	1315	236	426	1733	538	403	1764	547	245	1530	475
Arrive On Green	0.09	0.30	0.30	0.12	0.34	0.34	0.12	0.35	0.35	0.07	0.30	0.30
Sat Flow, veh/h	3456	4352	782	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	271	906	460	373	1504	209	357	1097	210	187	722	183
Grp Sat Flow(s),veh/h/ln	1728	1702	1730	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	9.2	30.4	30.4	12.7	33.1	12.0	12.2	21.5	8.2	6.4	13.8	11.0
Cycle Q Clear(g_c), s	9.2	30.4	30.4	12.7	33.1	12.0	12.2	21.5	8.2	6.4	13.8	11.0
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	326	1029	523	426	1733	538	403	1764	547	245	1530	475
V/C Ratio(X)	0.83	0.88	0.88	0.88	0.87	0.39	0.89	0.62	0.38	0.76	0.47	0.39
Avail Cap(c_a), veh/h	346	1078	548	432	1745	542	403	1764	547	317	1530	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	39.8	39.8	51.7	37.1	30.2	52.2	32.7	13.9	54.8	34.3	33.3
Incr Delay (d2), s/veh	15.0	8.3	14.9	17.9	4.9	0.5	20.3	1.7	2.0	7.9	1.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	13.8	15.0	6.6	14.4	4.7	6.4	9.1	3.2	3.0	5.9	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.4	48.2	54.7	69.6	42.1	30.6	72.5	34.4	15.9	62.7	35.3	35.6
LnGrp LOS	E	D	D	E	D	C	E	C	B	E	D	D
Approach Vol, veh/h		1637			2086			1664			1092	
Approach Delay, s/veh		53.3			45.8			40.3			40.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	46.4	19.8	41.3	18.0	41.0	15.3	45.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	38.0	15.0	* 38	14.0	35.0	12.0	41.0
Max Q Clear Time (g_c+I1), s	8.4	23.5	14.7	32.4	14.2	15.8	11.2	35.1
Green Ext Time (p_c), s	0.1	7.3	0.0	3.9	0.0	5.6	0.1	4.6

Intersection Summary	
HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.905
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	90	Level Of Service:	E

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	377	1492	292	239	1209	90	179	936	268	461	1069	177
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	377	1492	292	239	1209	90	179	936	268	461	1069	177
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	377	1492	292	239	1209	90	179	936	268	461	1069	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	377	1492	292	239	1209	90	179	936	268	461	1069	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	377	1492	292	239	1209	90	179	936	268	461	1069	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	377	1492	292	239	1209	90	179	936	268	461	1069	177
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.79	0.21	2.00	1.55	0.45	2.00	1.72	0.28
Final Sat.:	3400	5100	1700	3400	4747	353	3400	2643	757	3400	2917	483
Capacity Analysis Module:												
Vol/Sat:	0.11	0.29	0.17	0.07	0.25	0.25	0.05	0.35	0.35	0.14	0.37	0.37
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.775
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	217	672	226	80	526	106	73	1125	196	183	1313	92
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	672	226	80	526	106	73	1125	196	183	1313	92
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	217	672	226	80	526	106	73	1125	196	183	1313	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	672	226	80	526	106	73	1125	196	183	1313	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	672	226	80	526	106	73	1125	196	183	1313	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	672	226	80	526	106	73	1125	196	183	1313	92
OvlAdjVol:			134			70						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.70	0.30	2.00	1.87	0.13
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2896	504	3400	3177	223
Capacity Analysis Module:												
Vol/Sat:	0.13	0.20	0.13	0.05	0.15	0.06	0.02	0.39	0.39	0.05	0.41	0.41
OvlAdjV/S:			0.08			0.04						
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.799
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	104	687	71	43	408	74	129	1088	130	95	1444	96
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	687	71	43	408	74	129	1088	130	95	1444	96
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	687	71	43	408	74	129	1088	130	95	1444	96
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	687	71	43	408	74	129	1088	130	95	1444	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	687	71	43	408	74	129	1088	130	95	1444	96
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	687	71	43	408	74	129	1088	130	95	1444	96
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.69	0.31	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3082	318	1700	2878	522	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.22	0.03	0.14	0.14	0.08	0.32	0.08	0.06	0.42	0.06
Crit Moves:		****			****			****			****	

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.779
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	220	1124	88	142	911	206	202	806	175	164	1313	276
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	220	1124	88	142	911	206	202	806	175	164	1313	276
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	220	1124	88	142	911	206	202	806	175	164	1313	276
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	220	1124	88	142	911	206	202	806	175	164	1313	276
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	1124	88	142	911	206	202	806	175	164	1313	276
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	220	1124	88	142	911	206	202	806	175	164	1313	276
OvlAdjVol:			6									205
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.45	0.55	2.00	2.46	0.54	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4159	941	3400	4190	910	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.05	0.04	0.22	0.22	0.06	0.19	0.19	0.05	0.39	0.16
OvlAdjV/S:			0.00									0.12
Crit Moves:	****			****			****				****	

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.865
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	85	Level Of Service:	D

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	362	797	130	269	738	79	107	1223	320	207	1053	124
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	362	797	130	269	738	79	107	1223	320	207	1053	124
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	362	797	130	269	738	79	107	1223	320	207	1053	124
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	362	797	130	269	738	79	107	1223	320	207	1053	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	362	797	130	269	738	79	107	1223	320	207	1053	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	362	797	130	269	738	79	107	1223	320	207	1053	124
OvlAdjVol:									119			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.72	0.28	2.00	1.81	0.19	1.00	3.00	1.00	1.00	2.68	0.32
Final Sat.:	2880	2751	449	2880	2891	309	1600	4800	1600	1600	4294	506
Capacity Analysis Module:												
Vol/Sat:	0.13	0.29	0.29	0.09	0.26	0.26	0.07	0.25	0.20	0.13	0.25	0.25
OvlAdjV/S:									0.07			
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.825
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	555	1815	173	194	1327	164	306	632	433	239	860	234
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	555	1815	173	194	1327	164	306	632	433	239	860	234
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	555	1815	173	194	1327	164	306	632	433	239	860	234
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	555	1815	173	194	1327	164	306	632	433	239	860	234
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	555	1815	173	194	1327	164	306	632	433	239	860	234
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	555	1815	173	194	1327	164	306	632	433	239	860	234
OvlAdjVol:						11			155			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.36	0.64
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4009	1091
Capacity Analysis Module:												
Vol/Sat:	0.16	0.36	0.10	0.11	0.26	0.10	0.09	0.19	0.25	0.07	0.21	0.21
OvlAdjV/S:						0.01			0.09			
Crit Moves:	****			****			****				****	

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.804
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	D

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	246	1281	300	181	1254	128	230	645	139	179	589	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	246	1281	300	181	1254	128	230	645	139	179	589	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	246	1281	300	181	1254	128	230	645	139	179	589	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	246	1281	300	181	1254	128	230	645	139	179	589	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	246	1281	300	181	1254	128	230	645	139	179	589	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	246	1281	300	181	1254	128	230	645	139	179	589	100
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.43	0.57	1.00	2.72	0.28	1.00	1.65	0.35	1.00	1.71	0.29
Final Sat.:	3400	4132	968	1700	4628	472	1700	2797	603	1700	2907	493
Capacity Analysis Module:												
Vol/Sat:	0.07	0.31	0.31	0.11	0.27	0.27	0.14	0.23	0.23	0.11	0.20	0.20
Crit Moves:		****			****			****			****	

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.882
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	92	Level Of Service:	D

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	235	838	187	84	719	57	135	1079	216	197	775	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	838	187	84	719	57	135	1079	216	197	775	74
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	838	187	84	719	57	135	1079	216	197	775	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	838	187	84	719	57	135	1079	216	197	775	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	838	187	84	719	57	135	1079	216	197	775	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	838	187	84	719	57	135	1079	216	197	775	74
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.85	0.15	1.00	2.50	0.50	1.00	2.74	0.26
Final Sat.:	1600	2616	584	1600	2965	235	1600	3999	801	1600	4382	418
Capacity Analysis Module:												
Vol/Sat:	0.15	0.32	0.32	0.05	0.24	0.24	0.08	0.27	0.27	0.12	0.18	0.18
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.759
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	87	1838	61	141	1657	312	527	562	78	100	485	223
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	1838	61	141	1657	312	527	562	78	100	485	223
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	1838	61	141	1657	312	527	562	78	100	485	223
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	87	1838	61	141	1657	312	527	562	78	100	485	223
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	1838	61	141	1657	312	527	562	78	100	485	223
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	87	1838	61	141	1657	312	527	562	78	100	485	223
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.90	0.10	2.00	2.52	0.48	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4936	164	3400	4292	808	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.37	0.37	0.04	0.39	0.39	0.16	0.17	0.05	0.03	0.14	0.13
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.622
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	31	1812	126	79	1679	70	77	203	37	125	223	119
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1812	126	79	1679	70	77	203	37	125	223	119
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	1812	126	79	1679	70	77	203	37	125	223	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	1812	126	79	1679	70	77	203	37	125	223	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	1812	126	79	1679	70	77	203	37	125	223	119
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	1812	126	79	1679	70	77	203	37	125	223	119
OvlAdjVol:									6			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.80	0.20	1.00	2.88	0.12	1.00	2.00	1.00	2.00	1.30	0.70
Final Sat.:	1700	4768	332	1700	4896	204	1700	3400	1700	3400	2217	1183
Capacity Analysis Module:												
Vol/Sat:	0.02	0.38	0.38	0.05	0.34	0.34	0.05	0.06	0.02	0.04	0.10	0.10
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.477
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	23	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0 2	0 1 1 0
Volume Module:												
Base Vol:	517	12	367	25	7	13	7	131	47	126	111	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	517	12	367	25	7	13	7	131	47	126	111	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	517	12	367	25	7	13	7	131	47	126	111	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	517	12	367	25	7	13	7	131	47	126	111	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	517	12	367	25	7	13	7	131	47	126	111	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	517	12	367	25	7	13	7	131	47	126	111	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.98	0.02	1.00	0.56	0.15	0.29	1.00	1.47	0.53	2.00	1.90	0.10
Final Sat.:	1661	39	1700	944	264	491	1700	2502	898	3400	3226	174
Capacity Analysis Module:												
Vol/Sat:	0.31	0.31	0.22	0.03	0.03	0.03	0.00	0.05	0.05	0.04	0.03	0.03
Crit Moves:	****			****			****			****		

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.692
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1	1 0	2 0	2 0	1
Volume Module:												
Base Vol:	85	1178	86	22	1780	37	325	58	157	113	112	421
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	1178	86	22	1780	37	325	58	157	113	112	421
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	1178	86	22	1780	37	325	58	157	113	112	421
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	85	1178	86	22	1780	37	325	58	157	113	112	421
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	1178	86	22	1780	37	325	58	157	113	112	421
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	85	1178	86	22	1780	37	325	58	157	113	112	421
OvlAdjVol:												399
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1700	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.23	0.05	0.01	0.26	0.02	0.10	0.03	0.09	0.03	0.03	0.25
OvlAdjV/S:												0.23
Crit Moves:	****			****			****					****

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PM Existing Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.684
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1260	234	669	1390	0	77	0	245	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1260	234	669	1390	0	77	0	245	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1260	234	669	1390	0	77	0	245	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1260	234	669	1390	0	77	0	245	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1260	234	669	1390	0	77	0	245	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1260	234	669	1390	0	77	0	245	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.53	0.47	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4301	799	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.29	0.20	0.27	0.00	0.05	0.00	0.14	0.00	0.00	0.00
Crit Moves:		****		****					****			

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	417	69	1098	101	44	25	42	977	444	874	911	21
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	417	69	1098	101	44	25	42	977	444	874	911	21
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	417	69	1098	101	44	25	42	977	444	874	911	21
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	417	69	1098	101	44	25	42	977	444	874	911	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	417	69	1098	101	44	25	42	977	444	874	911	21
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
FinalVolume:	417	69	1098	101	44	25	42	977	444	874	911	21
OvlAdjVol:			515									
Saturation Flow Module:												
Sat/Lane:	1700 1700		1700	1700 1700		1700	1700 1700		1700	1700 1700		1700
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	1.72 0.28		2.00	0.59 0.26		0.15	1.00 2.00		1.00	3.00 1.95		0.05
Final Sat.:	2917	483	3400	1010	440	250	1700 3400		1700	5100 3323		77
Capacity Analysis Module:												
Vol/Sat:	0.14 0.14		0.32	0.10 0.10		0.10	0.02 0.29		0.26	0.17 0.27		0.27
OvlAdjV/S:			0.15									
Crit Moves:			****		****			****			****	

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PM Existing Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.843
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	44	76	82	286	26	753	723	1286	12	83	1101	425
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	76	82	286	26	753	723	1286	12	83	1101	425
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	76	82	286	26	753	723	1286	12	83	1101	425
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	76	82	286	26	753	723	1286	12	83	1101	425
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	76	82	286	26	753	723	1286	12	83	1101	425
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	76	82	286	26	753	723	1286	12	83	1101	425
OvlAdjVol:						392						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.37	0.63	1.00	0.92	0.08	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	623	1077	1700	1558	142	1700	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.05	0.17	0.18	0.44	0.21	0.38	0.38	0.05	0.32	0.25
OvlAdjV/S:						0.23						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	8.9

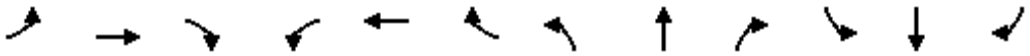
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	1720	2096	135	11	71
Future Vol, veh/h	113	1720	2096	135	11	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	1773	2161	139	11	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2300	0	-	0	3172	1150
Stage 1	-	-	-	-	2231	-
Stage 2	-	-	-	-	941	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 88	-	-	-	21	165
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	307	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 88	-	-	-	0	165
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	307	-

Approach	EB	WB	SB
HCM Control Delay, s	17.9	0	47.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 88	-	-	-	165
HCM Lane V/C Ratio	1.324	-	-	-	0.512
HCM Control Delay (s)	291	-	-	-	47.7
HCM Lane LOS	F	-	-	-	E
HCM 95th %tile Q(veh)	8.6	-	-	-	2.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



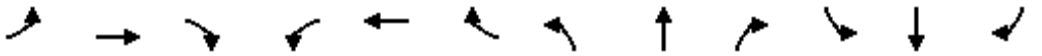
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	832	100	472	970	204	171	1124	582	96	567	175
Future Volume (veh/h)	385	832	100	472	970	204	171	1124	582	96	567	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	385	832	100	472	970	204	171	1124	582	96	567	175
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	440	1252	150	531	1518	578	198	1244	799	119	841	259
Arrive On Green	0.13	0.27	0.27	0.15	0.30	0.30	0.11	0.35	0.35	0.07	0.31	0.31
Sat Flow, veh/h	3456	4622	553	3456	5106	1585	1781	3554	1585	1781	2676	823
Grp Volume(v), veh/h	385	612	320	472	970	204	171	1124	582	96	376	366
Grp Sat Flow(s),veh/h/ln	1728	1702	1771	1728	1702	1585	1781	1777	1585	1781	1777	1722
Q Serve(g_s), s	13.1	19.2	19.3	16.1	19.8	2.8	11.3	36.1	21.8	6.4	22.1	22.2
Cycle Q Clear(g_c), s	13.1	19.2	19.3	16.1	19.8	2.8	11.3	36.1	21.8	6.4	22.1	22.2
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	440	922	480	531	1518	578	198	1244	799	119	559	541
V/C Ratio(X)	0.88	0.66	0.67	0.89	0.64	0.35	0.87	0.90	0.73	0.80	0.67	0.68
Avail Cap(c_a), veh/h	461	922	480	576	1518	578	208	1244	799	134	559	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	38.9	38.9	49.8	36.6	12.3	52.5	37.1	10.4	55.2	35.8	35.8
Incr Delay (d2), s/veh	16.5	3.8	7.2	14.9	2.1	1.7	28.7	10.9	5.8	26.5	6.4	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	8.5	9.3	8.0	8.5	2.7	6.6	17.3	8.2	3.7	10.5	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	42.6	46.2	64.6	38.6	14.0	81.1	47.9	16.2	81.7	42.1	42.4
LnGrp LOS	E	D	D	E	D	B	F	D	B	F	D	D
Approach Vol, veh/h		1317			1646			1877			838	
Approach Delay, s/veh		50.9			43.0			41.1			46.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	47.0	22.5	37.5	17.3	42.7	19.3	40.7
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 42	20.0	31.0	14.0	37.0	16.0	35.0
Max Q Clear Time (g_c+I1), s	8.4	38.1	18.1	21.3	13.3	24.2	15.1	21.8
Green Ext Time (p_c), s	0.0	3.0	0.4	4.2	0.0	3.9	0.1	6.2

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	587	162	151	732	187	184	1194	103	133	1056	32
Future Volume (veh/h)	42	587	162	151	732	187	184	1194	103	133	1056	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	587	162	151	732	187	184	1194	103	133	1056	32
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	658	181	222	801	205	297	1521	131	227	1558	47
Arrive On Green	0.03	0.24	0.24	0.08	0.29	0.29	0.07	0.46	0.46	0.06	0.44	0.44
Sat Flow, veh/h	1781	2753	758	1781	2803	716	1781	3311	285	1781	3521	107
Grp Volume(v), veh/h	42	378	371	151	464	455	184	640	657	133	533	555
Grp Sat Flow(s),veh/h/ln	1781	1777	1734	1781	1777	1742	1781	1777	1819	1781	1777	1851
Q Serve(g_s), s	2.1	24.7	24.8	7.4	30.3	30.3	6.7	36.5	36.7	4.8	28.7	28.7
Cycle Q Clear(g_c), s	2.1	24.7	24.8	7.4	30.3	30.3	6.7	36.5	36.7	4.8	28.7	28.7
Prop In Lane	1.00		0.44	1.00		0.41	1.00		0.16	1.00		0.06
Lane Grp Cap(c), veh/h	136	425	414	222	508	498	297	816	836	227	786	819
V/C Ratio(X)	0.31	0.89	0.89	0.68	0.91	0.91	0.62	0.78	0.79	0.59	0.68	0.68
Avail Cap(c_a), veh/h	154	459	448	231	533	522	359	816	836	259	786	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	44.1	44.2	32.7	41.4	41.4	21.0	27.4	27.5	23.5	26.6	26.6
Incr Delay (d2), s/veh	1.3	18.3	19.1	7.5	19.9	20.2	2.3	7.4	7.4	2.6	4.7	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	13.0	12.8	3.6	16.0	15.7	2.9	16.8	17.3	2.1	13.0	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	62.4	63.3	40.2	61.3	61.6	23.3	34.8	34.8	26.2	31.3	31.1
LnGrp LOS	D	E	E	D	E	E	C	C	C	C	C	C
Approach Vol, veh/h		791			1070			1481			1221	
Approach Delay, s/veh		61.5			58.5			33.4			30.7	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	60.1	14.4	33.7	13.9	58.1	8.8	39.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	9.0	50.0	10.0	31.0	13.0	46.0	5.0	36.0
Max Q Clear Time (g_c+I1), s	6.8	38.7	9.4	26.8	8.7	30.7	4.1	32.3
Green Ext Time (p_c), s	0.1	6.5	0.0	1.8	0.2	6.5	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

APPENDIX M-II

EXISTING PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS

[MIT] AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.707
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	11	40	43	373	43	721	385	1084	11	65	1266	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	40	43	373	43	721	385	1084	11	65	1266	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	40	43	373	43	721	385	1084	11	65	1266	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	40	43	373	43	721	385	1084	11	65	1266	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	40	43	373	43	721	385	1084	11	65	1266	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	40	43	373	43	721	385	1084	11	65	1266	274
OvlAdjVol:						336						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.79	0.21	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	819	881	3049	351	3400	3400	3366	34	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.05	0.12	0.12	0.21	0.11	0.32	0.32	0.04	0.37	0.16
OvlAdjV/S:						0.10						
Crit Moves:		****	****				****				****	

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[MIT] AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnt St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.539
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	17	0	120	70	1880	0	0	1826	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	0	120	70	1880	0	0	1826	48
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	17	0	120	70	1880	0	0	1826	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	17	0	120	70	1880	0	0	1826	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	17	0	120	70	1880	0	0	1826	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	17	0	120	70	1880	0	0	1826	48
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.12	0.00	0.88	1.00	3.00	0.00	0.00	2.92	0.08
Final Sat.:	0	0	0	211	0	1489	1700	5100	0	0	4969	131
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.08	0.00	0.08	0.04	0.37	0.00	0.00	0.37	0.37
Crit Moves:						****	****				****	

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[MIT] PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.771
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	44	76	82	286	26	753	723	1286	12	83	1101	425
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	76	82	286	26	753	723	1286	12	83	1101	425
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	76	82	286	26	753	723	1286	12	83	1101	425
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	76	82	286	26	753	723	1286	12	83	1101	425
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	76	82	286	26	753	723	1286	12	83	1101	425
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	76	82	286	26	753	723	1286	12	83	1101	425
OvlAdjVol:						30						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.83	0.17	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	818	882	3117	283	3400	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.09	0.09	0.22	0.21	0.38	0.38	0.05	0.32	0.25
OvlAdjV/S:						0.01						
Crit Moves:		****		****			****				****	

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[MIT] PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.602
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	B

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	11	0	71	113	1720	0	0	2096	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	0	71	113	1720	0	0	2096	135
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	11	0	71	113	1720	0	0	2096	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	11	0	71	113	1720	0	0	2096	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	0	71	113	1720	0	0	2096	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	11	0	71	113	1720	0	0	2096	135
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.13	0.00	0.87	1.00	3.00	0.00	0.00	2.82	0.18
Final Sat.:	0	0	0	228	0	1472	1700	5100	0	0	4791	309
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.07	0.34	0.00	0.00	0.44	0.44
Crit Moves:				****			****				****	

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APPENDIX M-III

SIGNAL WARRANTS WORKSHEETS

AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

****

Intersection #7 Euclid Street at Sandlewood Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	21	488	4	8	1086	61	51	4	59	3	5	28
ApproachDel:	xxxxxx			xxxxxx			54.2			17.2		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=114]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1818]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=36]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1818]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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AM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Euclid Street at Sandlewood Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	21	488	4	8	1086	61	51	4	59	3	5	28

Major Street Volume: 1668
Minor Approach Volume: 114
Minor Approach Volume Threshold: 154

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	27	1040	2	37	724	38	22	2	15	1	3	19
ApproachDel:	xxxxxx			xxxxxx			42.3			21.6		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=39]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1930]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=23]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1930]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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PM Existing Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Euclid Street at Sandlewood Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	27	1040	2	37	724	38	22	2	15	1	3	19

Major Street Volume: 1868
Minor Approach Volume: 39
Minor Approach Volume Threshold: 105 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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APPENDIX N

YEAR 2023 INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS – RESIDENTIAL OPTION

APPENDIX N-I

YEAR 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.093
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	220	1534	217	222	2359	336	172	680	212	245	694	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	220	1534	217	222	2359	336	172	680	212	245	694	111
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	220	1534	217	222	2359	336	172	680	212	245	694	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	220	1534	217	222	2359	336	172	680	212	245	694	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	1534	217	222	2359	336	172	680	212	245	694	111
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	220	1534	217	222	2359	336	172	680	212	245	694	111
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.52	0.48	2.00	1.72	0.28
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2439	761	2880	2759	441
Capacity Analysis Module:												
Vol/Sat:	0.14	0.32	0.14	0.14	0.49	0.21	0.06	0.28	0.28	0.09	0.25	0.25
Crit Moves:	****			****			****			****		

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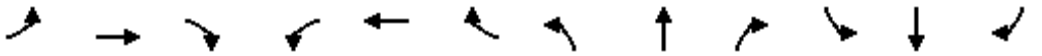
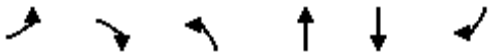


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	802	328	101	482	50	320	385	93	102	760	193
Future Volume (veh/h)	71	802	328	101	482	50	320	385	93	102	760	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	802	328	101	482	50	320	385	93	102	760	193
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	265	913	407	169	943	421	350	1647	735	127	1202	536
Arrive On Green	0.04	0.26	0.26	0.05	0.27	0.27	0.20	0.46	0.46	0.07	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	71	802	328	101	482	50	320	385	93	102	760	193
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.5	26.0	23.3	5.0	13.8	2.9	21.1	7.8	4.0	6.8	21.6	11.0
Cycle Q Clear(g_c), s	3.5	26.0	23.3	5.0	13.8	2.9	21.1	7.8	4.0	6.8	21.6	11.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	265	913	407	169	943	421	350	1647	735	127	1202	536
V/C Ratio(X)	0.27	0.88	0.81	0.60	0.51	0.12	0.91	0.23	0.13	0.80	0.63	0.36
Avail Cap(c_a), veh/h	280	977	436	169	977	436	416	1647	735	193	1202	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	42.8	41.8	34.0	37.5	33.4	47.2	19.4	18.3	54.9	33.4	29.9
Incr Delay (d2), s/veh	0.5	8.8	10.0	5.6	0.4	0.1	22.3	0.3	0.4	13.2	2.5	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	12.4	10.2	2.4	6.1	1.1	11.5	3.3	1.6	3.5	9.7	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	51.6	51.8	39.7	37.9	33.6	69.5	19.7	18.7	68.1	35.9	31.8
LnGrp LOS	C	D	D	D	D	C	E	B	B	E	D	C
Approach Vol, veh/h		1201			633			798			1055	
Approach Delay, s/veh		50.5			37.8			39.6			38.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	60.6	11.0	35.8	27.6	45.6	10.0	36.8
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	49.0	6.0	33.0	28.0	34.0	6.0	33.0
Max Q Clear Time (g_c+I1), s	8.8	9.8	7.0	28.0	23.1	23.6	5.5	15.8
Green Ext Time (p_c), s	0.1	3.1	0.0	2.8	0.4	4.3	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	240	913	385	479	1024	187
Future Volume (veh/h)	240	913	385	479	1024	187
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	913	385	479	1024	187
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	806	1027	465	2428	1831	817
Arrive On Green	0.23	0.23	0.13	0.68	0.52	0.52
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	240	913	385	479	1024	187
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.9	28.0	13.0	5.9	23.5	7.8
Cycle Q Clear(g_c), s	6.9	28.0	13.0	5.9	23.5	7.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	806	1027	465	2428	1831	817
V/C Ratio(X)	0.30	0.89	0.83	0.20	0.56	0.23
Avail Cap(c_a), veh/h	806	1027	806	2428	1831	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	35.6	50.6	7.0	19.8	16.0
Incr Delay (d2), s/veh	0.2	9.7	3.8	0.2	1.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	26.2	5.9	2.2	9.9	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.1	45.4	54.4	7.1	21.0	16.6
LnGrp LOS	D	D	D	A	C	B
Approach Vol, veh/h	1153			864	1211	
Approach Delay, s/veh	43.8			28.2	20.4	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		33.0	20.2	66.8
Change Period (Y+Rc), s		5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		82.0		28.0	28.0	50.0
Max Q Clear Time (g_c+I1), s		7.9		30.0	15.0	25.5
Green Ext Time (p_c), s		3.7		0.0	1.1	9.0

Intersection Summary		
HCM 6th Ctrl Delay		30.8
HCM 6th LOS		C

AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.844
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	78	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	104	1605	19	25	2435	131	216	16	200	62	30	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	1605	19	25	2435	131	216	16	200	62	30	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	1605	19	25	2435	131	216	16	200	62	30	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	1605	19	25	2435	131	216	16	200	62	30	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	1605	19	25	2435	131	216	16	200	62	30	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	1605	19	25	2435	131	216	16	200	62	30	29
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	814	786
Capacity Analysis Module:												
Vol/Sat:	0.07	0.33	0.01	0.02	0.51	0.08	0.14	0.01	0.13	0.04	0.04	0.04
Crit Moves:	****			****			****			****		

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.612
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	9	1961	22	11	2524	16	55	0	34	71	0	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	1961	22	11	2524	16	55	0	34	71	0	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	1961	22	11	2524	16	55	0	34	71	0	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	1961	22	11	2524	16	55	0	34	71	0	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1961	22	11	2524	16	55	0	34	71	0	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1961	22	11	2524	16	55	0	34	71	0	38
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.97	0.03	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	5043	57	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.39	0.39	0.01	0.49	0.01	0.03	0.00	0.02	0.04	0.00	0.02
Crit Moves:	****			****					****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.559
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module:																
Base Vol:	7	673	34		228	935	7		21	2	23		68	1	262	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	7	673	34		228	935	7		21	2	23		68	1	262	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	7	673	34		228	935	7		21	2	23		68	1	262	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	7	673	34		228	935	7		21	2	23		68	1	262	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	7	673	34		228	935	7		21	2	23		68	1	262	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	7	673	34		228	935	7		21	2	23		68	1	262	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.90	0.10		1.00	1.99	0.01		1.00	0.08	0.92		1.00	0.01	0.99	
Final Sat.:	1700	3236	164		1700	3375	25		1700	136	1564		1700	6	1694	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.21	0.21		0.13	0.28	0.28		0.01	0.01	0.01		0.04	0.15	0.15	
Crit Moves:		****				****				****					****	

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Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	4	62	3	5	29	22	563	4	8	1183	64
Future Vol, veh/h	54	4	62	3	5	29	22	563	4	8	1183	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	4	65	3	5	31	23	593	4	8	1245	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1640	1938	656	1282	1969	299	1312	0	0	597	0	0
Stage 1	1295	1295	-	641	641	-	-	-	-	-	-	-
Stage 2	345	643	-	641	1328	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	66	65	408	122	62	697	523	-	-	976	-	-
Stage 1	172	231	-	430	468	-	-	-	-	-	-	-
Stage 2	644	467	-	430	223	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 56	62	408	93	59	697	523	-	-	976	-	-
Mov Cap-2 Maneuver	~ 56	62	-	93	59	-	-	-	-	-	-	-
Stage 1	164	229	-	411	447	-	-	-	-	-	-	-
Stage 2	582	446	-	352	221	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	137.7	22.3	0.5	0.1
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	523	-	-	56	408	68	697	976	-	-
HCM Lane V/C Ratio	0.044	-	-	1.09	0.16	0.124	0.044	0.009	-	-
HCM Control Delay (s)	12.2	-	-	268.3	15.5	65.3	10.4	8.7	-	-
HCM Lane LOS	B	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.1	0.6	0.4	0.1	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.925
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	114	Level Of Service:	E

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	188	396	171	132	693	142	103	1089	166	210	1749	87
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	396	171	132	693	142	103	1089	166	210	1749	87
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	396	171	132	693	142	103	1089	166	210	1749	87
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	188	396	171	132	693	142	103	1089	166	210	1749	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	188	396	171	132	693	142	103	1089	166	210	1749	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	188	396	171	132	693	142	103	1089	166	210	1749	87
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.40	0.60	1.00	1.66	0.34	1.00	2.60	0.40	1.00	2.86	0.14
Final Sat.:	1600	2235	965	1600	2656	544	1600	4165	635	1600	4573	227
Capacity Analysis Module:												
Vol/Sat:	0.12	0.18	0.18	0.08	0.26	0.26	0.06	0.26	0.26	0.13	0.38	0.38
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.768
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	43	21	23	223	23	217	150	1158	4	12	1770	186
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	21	23	223	23	217	150	1158	4	12	1770	186
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	21	23	223	23	217	150	1158	4	12	1770	186
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	21	23	223	23	217	150	1158	4	12	1770	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	21	23	223	23	217	150	1158	4	12	1770	186
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	43	21	23	223	23	217	150	1158	4	12	1770	186
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.00	1.00	1.00	1.00	2.99	0.01	1.00	2.71	0.29
Final Sat.:	1600	764	836	1600	1600	1600	1600	4783	17	1600	4344	456
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.14	0.01	0.14	0.09	0.24	0.24	0.01	0.41	0.41
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.895
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	84	Level Of Service:	D

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	243	1108	650	356	1745	303	117	1169	199	554	1389	301
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	243	1108	650	356	1745	303	117	1169	199	554	1389	301
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	243	1108	650	356	1745	303	117	1169	199	554	1389	301
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	243	1108	650	356	1745	303	117	1169	199	554	1389	301
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	243	1108	650	356	1745	303	117	1169	199	554	1389	301
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	243	1108	650	356	1745	303	117	1169	199	554	1389	301
OvlAdjVol:			96									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.56	0.44	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4358	742	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.22	0.19	0.10	0.34	0.18	0.03	0.27	0.27	0.16	0.27	0.18
OvlAdjV/S:			0.03									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.592
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0 1	0	0 1	1 0	3	0 1	1 0	3	0 1
Volume Module:												
Base Vol:	69	15	65	46	6	54	60	2081	47	108	2164	32
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	69	15	65	46	6	54	60	2081	47	108	2164	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	15	65	46	6	54	60	2081	47	108	2164	32
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	69	15	65	46	6	54	60	2081	47	108	2164	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	15	65	46	6	54	60	2081	47	108	2164	32
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
FinalVolume:	69	15	65	46	6	54	60	2081	47	108	2164	32
Saturation Flow Module:												
Sat/Lane:	1700 1700	1700		1700 1700	1700		1700 1700	1700		1700 1700	1700	
Adjustment:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	1.64 0.36	1.00		0.88 0.12	1.00		1.00 3.00	1.00		1.00 3.00	1.00	
Final Sat.:	2793 607	1700		1504 196	1700		1700 5100	1700		1700 5100	1700	
Capacity Analysis Module:												
Vol/Sat:	0.02 0.02	0.04		0.03 0.03	0.03		0.04 0.41	0.03		0.06 0.42	0.02	
Crit Moves:		****			****			****			****	

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.772
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	278	518	201	260	715	204	101	1852	272	158	1937	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	278	518	201	260	715	204	101	1852	272	158	1937	102
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	278	518	201	260	715	204	101	1852	272	158	1937	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	278	518	201	260	715	204	101	1852	272	158	1937	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	278	518	201	260	715	204	101	1852	272	158	1937	102
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	278	518	201	260	715	204	101	1852	272	158	1937	102
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.85	0.15
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4845	255
Capacity Analysis Module:												
Vol/Sat:	0.08	0.15	0.12	0.08	0.21	0.12	0.03	0.36	0.16	0.05	0.40	0.40
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.914
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	96	Level Of Service:	E

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1 1	0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	233	433	259	238	932	70	77	1824	314	277	1892	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	433	259	238	932	70	77	1824	314	277	1892	94
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	433	259	238	932	70	77	1824	314	277	1892	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	433	259	238	932	70	77	1824	314	277	1892	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	433	259	238	932	70	77	1824	314	277	1892	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	433	259	238	932	70	77	1824	314	277	1892	94
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.86	0.14	2.00	2.56	0.44	2.00	2.86	0.14
Final Sat.:	3400	3400	1700	3400	3162	238	3400	4351	749	3400	4859	241
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.15	0.07	0.29	0.29	0.02	0.42	0.42	0.08	0.39	0.39
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	D

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	344	634	313	292	1284	292	350	1480	339	289	1493	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	344	634	313	292	1284	292	350	1480	339	289	1493	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	344	634	313	292	1284	292	350	1480	339	289	1493	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	344	634	313	292	1284	292	350	1480	339	289	1493	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	344	634	313	292	1284	292	350	1480	339	289	1493	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	344	634	313	292	1284	292	350	1480	339	289	1493	326
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.44	0.56	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4150	950	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.12	0.18	0.09	0.25	0.17	0.10	0.36	0.36	0.09	0.29	0.19
Crit Moves:	****			****			****			****		

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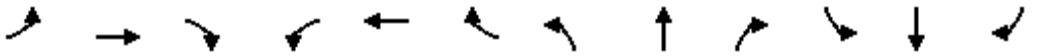

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	1480	339	289	1493	326	344	634	313	292	1284	292
Future Volume (veh/h)	350	1480	339	289	1493	326	344	634	313	292	1284	292
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	357	1510	346	295	1523	333	351	647	319	298	1310	298
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1468	335	288	1676	520	374	2240	695	288	2113	656
Arrive On Green	0.10	0.35	0.35	0.08	0.33	0.33	0.11	0.44	0.44	0.08	0.41	0.41
Sat Flow, veh/h	3456	4157	947	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	357	1235	621	295	1523	333	351	647	319	298	1310	298
Grp Sat Flow(s),veh/h/ln	1728	1702	1700	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	42.4	42.4	10.0	34.3	19.9	12.1	9.8	17.0	10.0	24.3	14.2
Cycle Q Clear(g_c), s	12.0	42.4	42.4	10.0	34.3	19.9	12.1	9.8	17.0	10.0	24.3	14.2
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1202	600	288	1676	520	374	2240	695	288	2113	656
V/C Ratio(X)	1.03	1.03	1.03	1.02	0.91	0.64	0.94	0.29	0.46	1.03	0.62	0.45
Avail Cap(c_a), veh/h	346	1202	600	288	1702	528	374	2240	695	288	2113	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	38.8	38.8	55.0	38.6	29.4	53.1	21.6	23.7	55.0	27.7	19.3
Incr Delay (d2), s/veh	57.2	33.1	45.8	59.4	7.5	2.5	31.0	0.3	2.2	62.3	1.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	22.9	25.0	6.7	15.3	7.9	6.9	4.0	6.7	6.8	10.1	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.2	71.9	84.6	114.4	46.1	31.9	84.1	22.0	25.8	117.3	29.1	21.6
LnGrp LOS	F	F	F	F	D	C	F	C	C	F	C	C
Approach Vol, veh/h		2213			2151			1317			1906	
Approach Delay, s/veh		81.8			53.3			39.5			41.7	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	58.0	14.0	47.4	17.0	55.0	17.0	44.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	40.0	10.0	42.0	13.0	37.0	12.0	* 40
Max Q Clear Time (g_c+I1), s	12.0	19.0	12.0	44.4	14.1	26.3	14.0	36.3
Green Ext Time (p_c), s	0.0	5.7	0.0	0.0	0.0	7.1	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	56.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.024
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	283	983	283	223	1690	254	271	1068	202	461	1094	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	283	983	283	223	1690	254	271	1068	202	461	1094	161
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	283	983	283	223	1690	254	271	1068	202	461	1094	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	283	983	283	223	1690	254	271	1068	202	461	1094	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	283	983	283	223	1690	254	271	1068	202	461	1094	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	283	983	283	223	1690	254	271	1068	202	461	1094	161
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.61	0.39	2.00	1.68	0.32	2.00	1.74	0.26
Final Sat.:	3400	5100	1700	3400	4434	666	3400	2859	541	3400	2964	436
Capacity Analysis Module:												
Vol/Sat:	0.08	0.19	0.17	0.07	0.38	0.38	0.08	0.37	0.37	0.14	0.37	0.37
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.870
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	D

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	221	416	202	110	634	214	86	1290	192	231	1205	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	221	416	202	110	634	214	86	1290	192	231	1205	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	221	416	202	110	634	214	86	1290	192	231	1205	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	221	416	202	110	634	214	86	1290	192	231	1205	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	416	202	110	634	214	86	1290	192	231	1205	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	221	416	202	110	634	214	86	1290	192	231	1205	49
OvlAdjVol:			86			171						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.74	0.26	2.00	1.92	0.08
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2960	440	3400	3267	133
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.06	0.19	0.13	0.03	0.44	0.44	0.07	0.37	0.37
OvlAdjV/S:			0.05			0.10						
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.771
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	67	445	95	83	666	70	80	1355	269	114	1111	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	67	445	95	83	666	70	80	1355	269	114	1111	62
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	67	445	95	83	666	70	80	1355	269	114	1111	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	67	445	95	83	666	70	80	1355	269	114	1111	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	67	445	95	83	666	70	80	1355	269	114	1111	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	67	445	95	83	666	70	80	1355	269	114	1111	62
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	1.81	0.19	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2802	598	1700	3077	323	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.16	0.05	0.22	0.22	0.05	0.40	0.16	0.07	0.33	0.04
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.765
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	108	590	398	260	1491	200	180	1269	251	181	987	214
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	590	398	260	1491	200	180	1269	251	181	987	214
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	590	398	260	1491	200	180	1269	251	181	987	214
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	108	590	398	260	1491	200	180	1269	251	181	987	214
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	590	398	260	1491	200	180	1269	251	181	987	214
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	108	590	398	260	1491	200	180	1269	251	181	987	214
OvlAdjVol:			308									84
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.65	0.35	2.00	2.50	0.50	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4497	603	3400	4258	842	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.23	0.08	0.33	0.33	0.05	0.30	0.30	0.05	0.29	0.13
OvlAdjV/S:			0.18									0.05
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.982
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	170	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	415	807	58	250	796	117	105	1234	368	124	1766	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	415	807	58	250	796	117	105	1234	368	124	1766	93
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	415	807	58	250	796	117	105	1234	368	124	1766	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	415	807	58	250	796	117	105	1234	368	124	1766	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	415	807	58	250	796	117	105	1234	368	124	1766	93
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	415	807	58	250	796	117	105	1234	368	124	1766	93
OvlAdjVol:									137			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.87	0.13	2.00	1.74	0.26	1.00	3.00	1.00	1.00	2.85	0.15
Final Sat.:	2880	2985	215	2880	2790	410	1600	4800	1600	1600	4560	240
Capacity Analysis Module:												
Vol/Sat:	0.14	0.27	0.27	0.09	0.29	0.29	0.07	0.26	0.23	0.08	0.39	0.39
OvlAdjV/S:									0.09			
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.854
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	1 0	3 0	1	2 0	2 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	409	1450	270	145	1815	562	177	708	591	341	729	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	409	1450	270	145	1815	562	177	708	591	341	729	85
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	409	1450	270	145	1815	562	177	708	591	341	729	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	409	1450	270	145	1815	562	177	708	591	341	729	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	409	1450	270	145	1815	562	177	708	591	341	729	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	409	1450	270	145	1815	562	177	708	591	341	729	85
OvlAdjVol:						473			387			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.69	0.31
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4567	533
Capacity Analysis Module:												
Vol/Sat:	0.12	0.28	0.16	0.09	0.36	0.33	0.05	0.21	0.35	0.10	0.16	0.16
OvlAdjV/S:						0.28			0.23			
Crit Moves:	****				****				****	****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.790
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	271	983	216	150	1518	128	160	499	105	272	655	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	271	983	216	150	1518	128	160	499	105	272	655	74
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	271	983	216	150	1518	128	160	499	105	272	655	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	271	983	216	150	1518	128	160	499	105	272	655	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	271	983	216	150	1518	128	160	499	105	272	655	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	271	983	216	150	1518	128	160	499	105	272	655	74
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.46	0.54	1.00	2.77	0.23	1.00	1.65	0.35	1.00	1.80	0.20
Final Sat.:	3400	4181	919	1700	4703	397	1700	2809	591	1700	3055	345
Capacity Analysis Module:												
Vol/Sat:	0.08	0.24	0.24	0.09	0.32	0.32	0.09	0.18	0.18	0.16	0.21	0.21
Crit Moves:	****			****			****			****		

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.994
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	308	777	168	70	881	127	81	802	200	224	1574	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	308	777	168	70	881	127	81	802	200	224	1574	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	308	777	168	70	881	127	81	802	200	224	1574	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	308	777	168	70	881	127	81	802	200	224	1574	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	308	777	168	70	881	127	81	802	200	224	1574	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	308	777	168	70	881	127	81	802	200	224	1574	40
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.75	0.25	1.00	2.40	0.60	1.00	2.93	0.07
Final Sat.:	1600	2631	569	1600	2797	403	1600	3842	958	1600	4681	119
Capacity Analysis Module:												
Vol/Sat:	0.19	0.30	0.30	0.04	0.31	0.32	0.05	0.21	0.21	0.14	0.34	0.34
Crit Moves:	****					****	****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.888
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	80	Level Of Service:	D

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	100	1848	72	84	2196	328	404	484	94	104	664	168
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	1848	72	84	2196	328	404	484	94	104	664	168
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	100	1848	72	84	2196	328	404	484	94	104	664	168
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	100	1848	72	84	2196	328	404	484	94	104	664	168
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	1848	72	84	2196	328	404	484	94	104	664	168
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	100	1848	72	84	2196	328	404	484	94	104	664	168
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.89	0.11	2.00	2.61	0.39	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4909	191	3400	4437	663	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.38	0.38	0.02	0.49	0.49	0.12	0.14	0.06	0.03	0.20	0.10
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.670
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	B

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	29	1867	166	36	2305	82	62	183	26	177	252	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	1867	166	36	2305	82	62	183	26	177	252	81
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	1867	166	36	2305	82	62	183	26	177	252	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	1867	166	36	2305	82	62	183	26	177	252	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	1867	166	36	2305	82	62	183	26	177	252	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	1867	166	36	2305	82	62	183	26	177	252	81
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.76	0.24	1.00	2.90	0.10	1.00	2.00	1.00	2.00	1.51	0.49
Final Sat.:	1700	4684	416	1700	4925	175	1700	3400	1700	3400	2573	827
Capacity Analysis Module:												
Vol/Sat:	0.02	0.40	0.40	0.02	0.47	0.47	0.04	0.05	0.02	0.05	0.10	0.10
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.372
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	19	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	1 1	0	2 0	1 1 0
Volume Module:												
Base Vol:	331	9	268	1	1	1	5	110	83	215	84	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	9	268	1	1	1	5	110	83	215	84	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	9	268	1	1	1	5	110	83	215	84	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	331	9	268	1	1	1	5	110	83	215	84	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	9	268	1	1	1	5	110	83	215	84	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	331	9	268	1	1	1	5	110	83	215	84	5
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.97	0.03	1.00	0.34	0.33	0.33	1.00	1.14	0.86	2.00	1.89	0.11
Final Sat.:	1655	45	1700	567	567	567	1700	1938	1462	3400	3209	191
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.16	0.00	0.00	0.00	0.00	0.06	0.06	0.06	0.03	0.03
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.800
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	168	1394	99	34	2392	48	248	76	64	81	104	419
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	168	1394	99	34	2392	48	248	76	64	81	104	419
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	168	1394	99	34	2392	48	248	76	64	81	104	419
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	168	1394	99	34	2392	48	248	76	64	81	104	419
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	168	1394	99	34	2392	48	248	76	64	81	104	419
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	168	1394	99	34	2392	48	248	76	64	81	104	419
OvlAdjVol:												385
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.09	0.91	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1846	1554	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.27	0.06	0.02	0.35	0.03	0.07	0.04	0.04	0.02	0.03	0.25
OvlAdjV/S:												0.23
Crit Moves:	****				****		****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.793
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1460	169	859	1695	0	196	0	291	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1460	169	859	1695	0	196	0	291	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1460	169	859	1695	0	196	0	291	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1460	169	859	1695	0	196	0	291	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1460	169	859	1695	0	196	0	291	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1460	169	859	1695	0	196	0	291	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.69	0.31	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4571	529	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.25	0.33	0.00	0.12	0.00	0.17	0.00	0.00	0.00
Crit Moves:		****		****					****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.757
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	C

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	393	49	674	58	43	22	46	963	436	1129	1011	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	393	49	674	58	43	22	46	963	436	1129	1011	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	393	49	674	58	43	22	46	963	436	1129	1011	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	393	49	674	58	43	22	46	963	436	1129	1011	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	393	49	674	58	43	22	46	963	436	1129	1011	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	393	49	674	58	43	22	46	963	436	1129	1011	7
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.78	0.22	2.00	0.47	0.35	0.18	1.00	2.00	1.00	3.00	1.99	0.01
Final Sat.:	3023	377	3400	802	594	304	1700	3400	1700	5100	3377	23
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.20	0.07	0.07	0.07	0.03	0.28	0.26	0.22	0.30	0.30
OvlAdjV/S:			0.00									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.914
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	95	Level Of Service:	E

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	12	42	45	395	45	764	421	1234	12	68	1385	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	42	45	395	45	764	421	1234	12	68	1385	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	42	45	395	45	764	421	1234	12	68	1385	293
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	42	45	395	45	764	421	1234	12	68	1385	293
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	42	45	395	45	764	421	1234	12	68	1385	293
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	42	45	395	45	764	421	1234	12	68	1385	293
OvlAdjVol:						554						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.78	1.00	0.90	0.10	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	378	1322	1700	1526	174	1700	3400	3367	33	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.23	0.26	0.45	0.12	0.37	0.37	0.04	0.41	0.17
OvlAdjV/S:						0.33						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	176.5

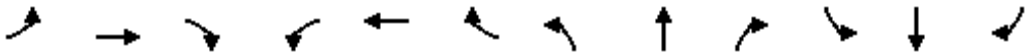
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	74	2231	2114	54	21	126
Future Vol, veh/h	74	2231	2114	54	21	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2348	2225	57	22	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2282	0	-	0	3349	1141
Stage 1	-	-	-	-	2254	-
Stage 2	-	-	-	-	1095	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	90	-	-	-	~ 17	167
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	254	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	90	-	-	-	~ 2	167
Mov Cap-2 Maneuver	-	-	-	-	~ 2	-
Stage 1	-	-	-	-	~ 5	-
Stage 2	-	-	-	-	254	-

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	$ 5473.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	90	-	-	-	13
HCM Lane V/C Ratio	0.865	-	-	-	11.903
HCM Control Delay (s)	143.2	-	-	-	$ 5473.9
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	4.7	-	-	-	20.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



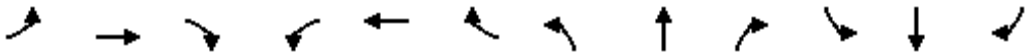
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	992	195	563	745	84	88	702	565	158	1098	205
Future Volume (veh/h)	248	992	195	563	745	84	88	702	565	158	1098	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	992	195	563	745	84	88	702	565	158	1098	205
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1325	2249	441	576	1532	640	104	1202	800	184	1122	209
Arrive On Green	0.38	0.52	0.52	0.17	0.30	0.30	0.06	0.34	0.34	0.10	0.38	0.38
Sat Flow, veh/h	3456	4283	840	3456	5106	1585	1781	3554	1585	1781	2991	556
Grp Volume(v), veh/h	248	788	399	563	745	84	88	702	565	158	651	652
Grp Sat Flow(s),veh/h/ln	1728	1702	1719	1728	1702	1585	1781	1777	1585	1781	1777	1770
Q Serve(g_s), s	5.7	17.2	17.2	19.5	14.3	2.6	5.9	19.6	32.9	10.5	43.3	43.8
Cycle Q Clear(g_c), s	5.7	17.2	17.2	19.5	14.3	2.6	5.9	19.6	32.9	10.5	43.3	43.8
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	1325	1787	903	576	1532	640	104	1202	800	184	666	664
V/C Ratio(X)	0.19	0.44	0.44	0.98	0.49	0.13	0.85	0.58	0.71	0.86	0.98	0.98
Avail Cap(c_a), veh/h	1325	1787	903	576	1532	640	104	1202	800	193	666	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	17.6	17.6	49.8	34.4	20.6	56.0	32.8	22.9	52.9	37.0	37.1
Incr Delay (d2), s/veh	0.1	0.8	1.6	31.7	1.1	0.4	44.3	2.1	5.2	28.8	29.6	30.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	6.8	7.1	10.9	6.1	1.1	3.9	8.7	13.1	6.2	23.9	24.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	18.4	19.2	81.5	35.5	21.0	100.3	34.8	28.1	81.7	66.6	68.0
LnGrp LOS	C	B	B	F	D	C	F	C	C	F	E	E
Approach Vol, veh/h		1435			1392			1355			1461	
Approach Delay, s/veh		19.7			53.2			36.3			68.9	
Approach LOS		B			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	45.6	24.0	69.0	12.0	50.0	52.0	41.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	13.0	39.0	20.0	30.0	7.0	* 45	14.0	* 36
Max Q Clear Time (g_c+I1), s	12.5	34.9	21.5	19.2	7.9	45.8	7.7	16.3
Green Ext Time (p_c), s	0.0	2.5	0.0	5.8	0.0	0.0	0.4	5.4

Intersection Summary	
HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	761	178	151	492	132	144	1051	92	263	1374	17
Future Volume (veh/h)	35	761	178	151	492	132	144	1051	92	263	1374	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	761	178	151	492	132	144	1051	92	263	1374	17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	786	184	171	845	225	201	1315	115	300	1588	20
Arrive On Green	0.03	0.28	0.28	0.06	0.30	0.30	0.06	0.40	0.40	0.10	0.44	0.44
Sat Flow, veh/h	1781	2858	669	1781	2774	740	1781	3306	289	1781	3595	44
Grp Volume(v), veh/h	35	473	466	151	314	310	144	565	578	263	679	712
Grp Sat Flow(s),veh/h/ln	1781	1777	1750	1781	1777	1737	1781	1777	1818	1781	1777	1862
Q Serve(g_s), s	1.7	31.6	31.6	7.0	17.9	18.1	5.7	33.7	33.7	10.0	41.4	41.5
Cycle Q Clear(g_c), s	1.7	31.6	31.6	7.0	17.9	18.1	5.7	33.7	33.7	10.0	41.4	41.5
Prop In Lane	1.00		0.38	1.00		0.43	1.00		0.16	1.00		0.02
Lane Grp Cap(c), veh/h	234	489	481	171	541	529	201	707	723	300	785	823
V/C Ratio(X)	0.15	0.97	0.97	0.88	0.58	0.59	0.72	0.80	0.80	0.88	0.87	0.87
Avail Cap(c_a), veh/h	257	489	481	171	541	529	201	707	723	340	785	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	43.0	43.0	34.5	35.2	35.3	27.3	31.9	31.9	25.2	30.3	30.3
Incr Delay (d2), s/veh	0.3	32.5	32.8	37.8	1.6	1.7	11.5	9.2	9.0	20.3	12.2	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	18.1	17.9	4.9	8.0	7.9	3.0	16.0	16.4	5.8	19.9	20.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	75.5	75.8	72.2	36.8	37.0	38.8	41.1	40.9	45.5	42.5	42.1
LnGrp LOS	C	E	E	E	D	D	D	D	D	D	D	D
Approach Vol, veh/h		974			775			1287			1654	
Approach Delay, s/veh		74.1			43.8			40.8			42.8	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	52.7	12.0	38.0	12.0	58.0	8.4	41.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	45.0	7.0	33.0	7.0	53.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	12.0	35.7	9.0	33.6	7.7	43.5	3.7	20.1
Green Ext Time (p_c), s	0.2	5.0	0.0	0.0	0.0	6.1	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D

PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.048
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 3	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	228	2170	254	185	1763	245	398	629	184	232	615	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	2170	254	185	1763	245	398	629	184	232	615	161
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	2170	254	185	1763	245	398	629	184	232	615	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	2170	254	185	1763	245	398	629	184	232	615	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	2170	254	185	1763	245	398	629	184	232	615	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	2170	254	185	1763	245	398	629	184	232	615	161
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.55	0.45	2.00	1.59	0.41
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2476	724	2880	2536	664
Capacity Analysis Module:												
Vol/Sat:	0.14	0.45	0.16	0.12	0.37	0.15	0.14	0.25	0.25	0.08	0.24	0.24
Crit Moves:		****			****			****			****	

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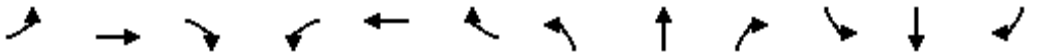


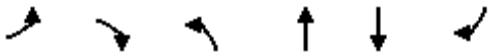
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	504	265	63	614	55	369	1076	83	41	562	194
Future Volume (veh/h)	205	504	265	63	614	55	369	1076	83	41	562	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	205	504	265	63	614	55	369	1076	83	41	562	194
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	265	933	416	228	716	319	399	1599	713	146	1124	501
Arrive On Green	0.10	0.26	0.26	0.04	0.20	0.20	0.22	0.45	0.45	0.08	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	205	504	265	63	614	55	369	1076	83	41	562	194
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.6	14.6	17.8	3.3	20.0	2.7	24.3	28.7	2.8	2.6	15.4	11.4
Cycle Q Clear(g_c), s	10.6	14.6	17.8	3.3	20.0	2.7	24.3	28.7	2.8	2.6	15.4	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	265	933	416	228	716	319	399	1599	713	146	1124	501
V/C Ratio(X)	0.77	0.54	0.64	0.28	0.86	0.17	0.93	0.67	0.12	0.28	0.50	0.39
Avail Cap(c_a), veh/h	265	1036	462	233	829	370	460	1599	713	146	1124	501
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	38.0	39.2	36.1	46.2	24.9	45.6	26.0	11.6	51.8	33.3	32.0
Incr Delay (d2), s/veh	13.3	0.5	2.5	0.7	8.0	0.3	22.9	2.3	0.3	1.0	1.6	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	6.4	7.2	1.5	9.6	1.4	13.2	12.4	1.4	1.2	6.9	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	38.5	41.7	36.8	54.2	25.2	68.5	28.3	11.9	52.8	34.9	34.2
LnGrp LOS	D	D	D	D	D	C	E	C	B	D	C	C
Approach Vol, veh/h		974			732			1528			797	
Approach Delay, s/veh		41.2			50.5			37.1			35.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	59.0	9.7	36.5	30.9	43.0	17.0	29.2
Change Period (Y+Rc), s	5.0	* 5	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	* 54	5.0	35.0	31.0	30.0	12.0	28.0
Max Q Clear Time (g_c+I1), s	4.6	30.7	5.3	19.8	26.3	17.4	12.6	22.0
Green Ext Time (p_c), s	0.0	8.9	0.0	3.9	0.5	3.6	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	203	457	665	1052	622	191
Future Volume (veh/h)	203	457	665	1052	622	191
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	457	665	1052	622	191
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	328	1558	1602	2920	1125	502
Arrive On Green	0.09	0.09	0.46	0.82	0.32	0.32
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	203	457	665	1052	622	191
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	6.8	0.0	15.3	9.0	17.4	11.2
Cycle Q Clear(g_c), s	6.8	0.0	15.3	9.0	17.4	11.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	328	1558	1602	2920	1125	502
V/C Ratio(X)	0.62	0.29	0.42	0.36	0.55	0.38
Avail Cap(c_a), veh/h	864	1990	1602	2920	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	14.0	21.4	2.7	34.0	31.9
Incr Delay (d2), s/veh	1.9	0.1	0.2	0.3	2.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	7.6	6.2	2.4	7.8	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.1	14.1	21.6	3.1	35.9	34.0
LnGrp LOS	D	B	C	A	D	C
Approach Vol, veh/h	660			1717	813	
Approach Delay, s/veh	26.4			10.2	35.5	
Approach LOS	C			B	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.6		16.4	60.6	43.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		80.0		30.0	38.0	* 38
Max Q Clear Time (g_c+I1), s		11.0		8.8	17.3	19.4
Green Ext Time (p_c), s		10.4		2.6	2.5	4.8

Intersection Summary		
HCM 6th Ctrl Delay		20.0
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PM Year 2023 Cumulative Plus Project Traffic Conditions
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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.820
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	71	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 1	1	0 3	0 1	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	211	2370	49	63	1962	267	258	18	122	34	15	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	211	2370	49	63	1962	267	258	18	122	34	15	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	211	2370	49	63	1962	267	258	18	122	34	15	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	211	2370	49	63	1962	267	258	18	122	34	15	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	2370	49	63	1962	267	258	18	122	34	15	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	211	2370	49	63	1962	267	258	18	122	34	15	14
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	828	772
Capacity Analysis Module:												
Vol/Sat:	0.13	0.49	0.03	0.04	0.41	0.17	0.16	0.01	0.08	0.02	0.02	0.02
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.614
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	29	2504	74	38	2283	37	16	0	17	44	0	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	2504	74	38	2283	37	16	0	17	44	0	23
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	2504	74	38	2283	37	16	0	17	44	0	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	2504	74	38	2283	37	16	0	17	44	0	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	2504	74	38	2283	37	16	0	17	44	0	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	2504	74	38	2283	37	16	0	17	44	0	23
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.91	0.09	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	4954	146	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.51	0.51	0.02	0.45	0.02	0.01	0.00	0.01	0.03	0.00	0.01
Crit Moves:		****		****					****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.597
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module:																
Base Vol:	25	1169		57		153	880		23		14		1	15		29		3	147	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
Initial Bse:	25	1169		57		153	880		23		14		1	15		29		3	147	
Added Vol:	0	0		0		0	0		0		0		0	0		0		0	0	
PasserByVol:	0	0		0		0	0		0		0		0	0		0		0	0	
Initial Fut:	25	1169		57		153	880		23		14		1	15		29		3	147	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
PHF Volume:	25	1169		57		153	880		23		14		1	15		29		3	147	
Reduct Vol:	0	0		0		0	0		0		0		0	0		0		0	0	
Reduced Vol:	25	1169		57		153	880		23		14		1	15		29		3	147	
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
FinalVolume:	25	1169		57		153	880		23		14		1	15		29		3	147	
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700		1700	1700		1700		1700		1700	1700		1700		1700	1700	
Adjustment:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00	1.00		1.00		1.00	1.00	
Lanes:	1.00	1.91		0.09		1.00	1.95		0.05		1.00		0.06	0.94		1.00		0.02	0.98	
Final Sat.:	1700	3242		158		1700	3313		87		1700		106	1594		1700		34	1666	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.36		0.36		0.09	0.27		0.27		0.01		0.01	0.01		0.02		0.09	0.09	
Crit Moves:		****					****					****					****			

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Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	2	16	1	3	20	28	1145	2	39	821	40
Future Vol, veh/h	23	2	16	1	3	20	28	1145	2	39	821	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	2	16	1	3	20	29	1168	2	40	838	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1583	2167	440	1727	2186	585	879	0	0	1170	0	0
Stage 1	939	939	-	1227	1227	-	-	-	-	-	-	-
Stage 2	644	1228	-	500	959	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	73	46	565	57	45	454	764	-	-	593	-	-
Stage 1	284	341	-	189	249	-	-	-	-	-	-	-
Stage 2	428	249	-	521	334	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	61	41	565	49	40	454	764	-	-	593	-	-
Mov Cap-2 Maneuver	61	41	-	49	40	-	-	-	-	-	-	-
Stage 1	273	318	-	182	240	-	-	-	-	-	-	-
Stage 2	388	240	-	469	312	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	69.3	27.7	0.2	0.5
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	764	-	-	59	565	42	454	593	-	-
HCM Lane V/C Ratio	0.037	-	-	0.432	0.029	0.097	0.045	0.067	-	-
HCM Control Delay (s)	9.9	-	-	106.2	11.6	99.7	13.3	11.5	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.6	0.1	0.3	0.1	0.2	-	-

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.956
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	139	Level Of Service:	E

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	182	734	234	160	514	100	124	1459	150	190	1256	139
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	182	734	234	160	514	100	124	1459	150	190	1256	139
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	182	734	234	160	514	100	124	1459	150	190	1256	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	182	734	234	160	514	100	124	1459	150	190	1256	139
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	734	234	160	514	100	124	1459	150	190	1256	139
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	182	734	234	160	514	100	124	1459	150	190	1256	139
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.67	0.33	1.00	2.72	0.28	1.00	2.70	0.30
Final Sat.:	1600	2426	774	1600	2679	521	1600	4353	447	1600	4322	478
Capacity Analysis Module:												
Vol/Sat:	0.11	0.30	0.30	0.10	0.19	0.19	0.08	0.34	0.34	0.12	0.29	0.29
Crit Moves:		****		****				****		****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.661
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	B

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	32	24	12	160	36	160	181	1557	21	14	1397	167
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	24	12	160	36	160	181	1557	21	14	1397	167
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	24	12	160	36	160	181	1557	21	14	1397	167
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	24	12	160	36	160	181	1557	21	14	1397	167
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	24	12	160	36	160	181	1557	21	14	1397	167
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	24	12	160	36	160	181	1557	21	14	1397	167
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.67	0.33	1.00	1.00	1.00	1.00	2.96	0.04	1.00	2.68	0.32
Final Sat.:	1600	1067	533	1600	1600	1600	1600	4736	64	1600	4287	513
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.10	0.02	0.10	0.11	0.33	0.33	0.01	0.33	0.33
Crit Moves:	****			****			****				****	

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.965
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	153	Level Of Service:	E

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	315	1668	548	418	1432	208	247	1229	253	594	1163	356
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	1668	548	418	1432	208	247	1229	253	594	1163	356
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	1668	548	418	1432	208	247	1229	253	594	1163	356
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	315	1668	548	418	1432	208	247	1229	253	594	1163	356
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	1668	548	418	1432	208	247	1229	253	594	1163	356
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	1668	548	418	1432	208	247	1229	253	594	1163	356
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.49	0.51	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4229	871	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.33	0.16	0.12	0.28	0.12	0.07	0.29	0.29	0.17	0.23	0.21
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.776
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0 1	0	0 1	1 0	3	0 1	1 0	3	0 1
Volume Module:												
Base Vol:	95	38	229	88	40	143	210	1851	100	245	1840	63
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	95	38	229	88	40	143	210	1851	100	245	1840	63
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	95	38	229	88	40	143	210	1851	100	245	1840	63
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	95	38	229	88	40	143	210	1851	100	245	1840	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	38	229	88	40	143	210	1851	100	245	1840	63
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
FinalVolume:	95	38	229	88	40	143	210	1851	100	245	1840	63
Saturation Flow Module:												
Sat/Lane:	1700 1700		1700	1700 1700		1700	1700 1700		1700	1700 1700		1700
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	1.43 0.57		1.00	0.69 0.31		1.00	1.00 3.00		1.00	1.00 3.00		1.00
Final Sat.:	2429 971		1700	1169 531		1700	1700 5100		1700	1700 5100		1700
Capacity Analysis Module:												
Vol/Sat:	0.04 0.04		0.13	0.08 0.08		0.08	0.12 0.36		0.06	0.14 0.36		0.04
Crit Moves:			****			****		****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.821
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	D

Street Name:	Idaho St							Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	2	0 2	0 1	2	0 2	0 1	2	0 3	0 1	2	0 2	1	0
Volume Module:													
Base Vol:	392	736	251	216	491	177	280	1756	315	255	1886		198
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Initial Bse:	392	736	251	216	491	177	280	1756	315	255	1886		198
Added Vol:	0	0	0	0	0	0	0	0	0	0	0		0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0		0
Initial Fut:	392	736	251	216	491	177	280	1756	315	255	1886		198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
PHF Volume:	392	736	251	216	491	177	280	1756	315	255	1886		198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0		0
Reduced Vol:	392	736	251	216	491	177	280	1756	315	255	1886		198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
FinalVolume:	392	736	251	216	491	177	280	1756	315	255	1886		198
Saturation Flow Module:													
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700		1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.71		0.29
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4615		485
Capacity Analysis Module:													
Vol/Sat:	0.12	0.22	0.15	0.06	0.14	0.10	0.08	0.34	0.19	0.08	0.41		0.41
Crit Moves:	****			****			****				****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.842
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	D

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 1	1 0	2	0 2	1 0	2	0 2	1 0
Volume Module:												
Base Vol:	335	713	206	173	523	91	147	1621	249	304	2160	234
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	335	713	206	173	523	91	147	1621	249	304	2160	234
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	335	713	206	173	523	91	147	1621	249	304	2160	234
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	335	713	206	173	523	91	147	1621	249	304	2160	234
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	335	713	206	173	523	91	147	1621	249	304	2160	234
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	335	713	206	173	523	91	147	1621	249	304	2160	234
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.70	0.30	2.00	2.60	0.40	2.00	2.71	0.29
Final Sat.:	3400	3400	1700	3400	2896	504	3400	4421	679	3400	4602	498
Capacity Analysis Module:												
Vol/Sat:	0.10	0.21	0.12	0.05	0.18	0.18	0.04	0.37	0.37	0.09	0.47	0.47
Crit Moves:	****			****			****			****		

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2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.835
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	D

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	388	1164	232	295	835	375	373	1358	231	395	1736	297
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	388	1164	232	295	835	375	373	1358	231	395	1736	297
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	388	1164	232	295	835	375	373	1358	231	395	1736	297
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	388	1164	232	295	835	375	373	1358	231	395	1736	297
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	388	1164	232	295	835	375	373	1358	231	395	1736	297
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	388	1164	232	295	835	375	373	1358	231	395	1736	297
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.56	0.44	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4359	741	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.23	0.14	0.09	0.16	0.22	0.11	0.31	0.31	0.12	0.34	0.17
Crit Moves:	****					****	****				****	

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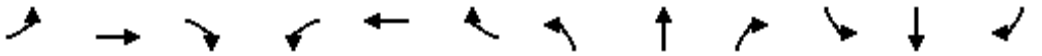

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	1358	231	395	1736	297	388	1164	232	295	835	375
Future Volume (veh/h)	373	1358	231	395	1736	297	388	1164	232	295	835	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	381	1386	236	403	1771	303	396	1188	237	301	852	383
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1391	237	432	1702	528	403	3064	951	288	2893	898
Arrive On Green	0.12	0.32	0.32	0.13	0.33	0.33	0.12	0.60	0.60	0.08	0.57	0.57
Sat Flow, veh/h	3456	4392	747	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	381	1074	548	403	1771	303	396	1188	237	301	852	383
Grp Sat Flow(s),veh/h/ln	1728	1702	1736	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	13.1	37.8	37.8	13.9	40.0	18.9	13.7	14.6	10.0	10.0	10.4	16.6
Cycle Q Clear(g_c), s	13.1	37.8	37.8	13.9	40.0	18.9	13.7	14.6	10.0	10.0	10.4	16.6
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	1078	550	432	1702	528	403	3064	951	288	2893	898
V/C Ratio(X)	0.95	1.00	1.00	0.93	1.04	0.57	0.98	0.39	0.25	1.05	0.29	0.43
Avail Cap(c_a), veh/h	403	1078	550	432	1702	528	403	3064	951	288	2893	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	40.9	40.9	52.0	40.0	33.0	52.9	12.5	15.9	55.0	13.5	14.9
Incr Delay (d2), s/veh	31.1	26.4	37.6	27.3	33.2	1.5	40.0	0.4	0.6	65.3	0.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	19.5	21.7	7.6	21.7	7.5	8.2	5.5	3.8	7.0	4.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.7	67.4	78.6	79.3	73.2	34.5	92.9	12.9	16.5	120.3	13.8	16.3
LnGrp LOS	F	E	E	E	F	C	F	B	B	F	B	B
Approach Vol, veh/h		2003			2477			1821			1536	
Approach Delay, s/veh		73.5			69.4			30.8			35.3	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	78.0	20.0	43.0	18.0	74.0	18.0	45.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	39.0	15.0	* 38	14.0	35.0	14.0	39.0
Max Q Clear Time (g_c+I1), s	12.0	16.6	15.9	39.8	15.7	18.6	15.1	42.0
Green Ext Time (p_c), s	0.0	10.2	0.0	0.0	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.980
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	396	1632	322	251	1350	95	188	1015	281	507	1161	186
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	396	1632	322	251	1350	95	188	1015	281	507	1161	186
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	396	1632	322	251	1350	95	188	1015	281	507	1161	186
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	396	1632	322	251	1350	95	188	1015	281	507	1161	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	396	1632	322	251	1350	95	188	1015	281	507	1161	186
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	396	1632	322	251	1350	95	188	1015	281	507	1161	186
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.80	0.20	2.00	1.57	0.43	2.00	1.72	0.28
Final Sat.:	3400	5100	1700	3400	4765	335	3400	2663	737	3400	2931	469
Capacity Analysis Module:												
Vol/Sat:	0.12	0.32	0.19	0.07	0.28	0.28	0.06	0.38	0.38	0.15	0.40	0.40
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.831
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	D

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	228	721	237	84	575	111	77	1227	206	192	1440	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	721	237	84	575	111	77	1227	206	192	1440	97
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	721	237	84	575	111	77	1227	206	192	1440	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	721	237	84	575	111	77	1227	206	192	1440	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	721	237	84	575	111	77	1227	206	192	1440	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	721	237	84	575	111	77	1227	206	192	1440	97
OvlAdjVol:			141			73						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.71	0.29	2.00	1.87	0.13
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2911	489	3400	3185	215
Capacity Analysis Module:												
Vol/Sat:	0.13	0.21	0.14	0.05	0.17	0.07	0.02	0.42	0.42	0.06	0.45	0.45
OvlAdjV/S:			0.08			0.04						
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.876
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	122	787	75	55	485	78	135	1178	150	100	1566	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	122	787	75	55	485	78	135	1178	150	100	1566	121
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	122	787	75	55	485	78	135	1178	150	100	1566	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	122	787	75	55	485	78	135	1178	150	100	1566	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	122	787	75	55	485	78	135	1178	150	100	1566	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	122	787	75	55	485	78	135	1178	150	100	1566	121
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.72	0.28	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3104	296	1700	2929	471	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.25	0.25	0.03	0.17	0.17	0.08	0.35	0.09	0.06	0.46	0.07
Crit Moves:		****			****			****			****	

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.852
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	D

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	265	1264	193	161	1031	216	212	884	197	331	1419	314
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	265	1264	193	161	1031	216	212	884	197	331	1419	314
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	265	1264	193	161	1031	216	212	884	197	331	1419	314
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	265	1264	193	161	1031	216	212	884	197	331	1419	314
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	265	1264	193	161	1031	216	212	884	197	331	1419	314
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	265	1264	193	161	1031	216	212	884	197	331	1419	314
OvlAdjVol:			27									233
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.48	0.52	2.00	2.45	0.55	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4217	883	3400	4171	929	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.25	0.11	0.05	0.24	0.24	0.06	0.21	0.21	0.10	0.42	0.18
OvlAdjV/S:			0.02									0.14
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.941
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	126	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1	1 0	2 0	1	1 0	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	380	868	137	297	808	84	114	1416	336	217	1267	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	380	868	137	297	808	84	114	1416	336	217	1267	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	380	868	137	297	808	84	114	1416	336	217	1267	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	380	868	137	297	808	84	114	1416	336	217	1267	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	868	137	297	808	84	114	1416	336	217	1267	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	380	868	137	297	808	84	114	1416	336	217	1267	147
OvlAdjVol:									125			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.73	0.27	2.00	1.81	0.19	1.00	3.00	1.00	1.00	2.69	0.31
Final Sat.:	2880	2764	436	2880	2899	301	1600	4800	1600	1600	4301	499
Capacity Analysis Module:												
Vol/Sat:	0.13	0.31	0.31	0.10	0.28	0.28	0.07	0.30	0.21	0.14	0.29	0.29
OvlAdjV/S:									0.08			
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.900
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	87	Level Of Service:	D

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	1 0	3 0	1	2 0	2 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	626	2013	194	203	1511	246	366	673	485	261	920	245
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	626	2013	194	203	1511	246	366	673	485	261	920	245
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	626	2013	194	203	1511	246	366	673	485	261	920	245
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	626	2013	194	203	1511	246	366	673	485	261	920	245
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	626	2013	194	203	1511	246	366	673	485	261	920	245
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	626	2013	194	203	1511	246	366	673	485	261	920	245
OvlAdjVol:						63			172			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.37	0.63
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4027	1073
Capacity Analysis Module:												
Vol/Sat:	0.18	0.39	0.11	0.12	0.30	0.14	0.11	0.20	0.29	0.08	0.23	0.23
OvlAdjV/S:						0.04			0.10			
Crit Moves:	****			****			****				****	

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.874
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	74	Level Of Service:	D

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 1	0	1 0	2 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	258	1383	342	190	1370	134	242	691	146	217	625	105
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	258	1383	342	190	1370	134	242	691	146	217	625	105
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	258	1383	342	190	1370	134	242	691	146	217	625	105
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	258	1383	342	190	1370	134	242	691	146	217	625	105
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	1383	342	190	1370	134	242	691	146	217	625	105
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	258	1383	342	190	1370	134	242	691	146	217	625	105
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.41	0.59	1.00	2.73	0.27	1.00	1.65	0.35	1.00	1.71	0.29
Final Sat.:	3400	4089	1011	1700	4646	454	1700	2807	593	1700	2911	489
Capacity Analysis Module:												
Vol/Sat:	0.08	0.34	0.34	0.11	0.29	0.29	0.14	0.25	0.25	0.13	0.21	0.21
Crit Moves:	****			****				****		****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.991
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	275	890	218	88	774	60	142	1239	273	230	949	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	275	890	218	88	774	60	142	1239	273	230	949	78
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	275	890	218	88	774	60	142	1239	273	230	949	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	275	890	218	88	774	60	142	1239	273	230	949	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	275	890	218	88	774	60	142	1239	273	230	949	78
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	275	890	218	88	774	60	142	1239	273	230	949	78
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.86	0.14	1.00	2.46	0.54	1.00	2.77	0.23
Final Sat.:	1600	2570	630	1600	2970	230	1600	3933	867	1600	4435	365
Capacity Analysis Module:												
Vol/Sat:	0.17	0.35	0.35	0.06	0.26	0.26	0.09	0.32	0.31	0.14	0.21	0.21
Crit Moves:	****			****			****			****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	D

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	146	2085	66	148	1888	327	553	602	118	106	529	236
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	146	2085	66	148	1888	327	553	602	118	106	529	236
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	146	2085	66	148	1888	327	553	602	118	106	529	236
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	146	2085	66	148	1888	327	553	602	118	106	529	236
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	2085	66	148	1888	327	553	602	118	106	529	236
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	2085	66	148	1888	327	553	602	118	106	529	236
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.91	0.09	2.00	2.56	0.44	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4944	156	3400	4347	753	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.42	0.42	0.04	0.43	0.43	0.16	0.18	0.07	0.03	0.16	0.14
Crit Moves:	****			****			****			****		

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.714
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	C

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	33	2092	160	93	1928	83	95	236	39	156	249	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	2092	160	93	1928	83	95	236	39	156	249	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	2092	160	93	1928	83	95	236	39	156	249	132
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	33	2092	160	93	1928	83	95	236	39	156	249	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	2092	160	93	1928	83	95	236	39	156	249	132
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	2092	160	93	1928	83	95	236	39	156	249	132
OvlAdjVol:									6			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.79	0.21	1.00	2.88	0.12	1.00	2.00	1.00	2.00	1.31	0.69
Final Sat.:	1700	4738	362	1700	4890	210	1700	3400	1700	3400	2222	1178
Capacity Analysis Module:												
Vol/Sat:	0.02	0.44	0.44	0.05	0.39	0.39	0.06	0.07	0.02	0.05	0.11	0.11
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.512
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0	2 0 1 1 0
Volume Module:												
Base Vol:	543	13	411	26	7	14	7	142	49	174	121	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	543	13	411	26	7	14	7	142	49	174	121	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	543	13	411	26	7	14	7	142	49	174	121	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	543	13	411	26	7	14	7	142	49	174	121	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	543	13	411	26	7	14	7	142	49	174	121	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	543	13	411	26	7	14	7	142	49	174	121	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.98	0.02	1.00	0.55	0.15	0.30	1.00	1.49	0.51	2.00	1.91	0.09
Final Sat.:	1660	40	1700	940	253	506	1700	2528	872	3400	3239	161
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.24	0.03	0.03	0.03	0.00	0.06	0.06	0.05	0.04	0.04
Crit Moves:	****			****				****		****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.779
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	126	1433	90	23	2048	51	365	61	173	119	118	441
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	126	1433	90	23	2048	51	365	61	173	119	118	441
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	126	1433	90	23	2048	51	365	61	173	119	118	441
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	126	1433	90	23	2048	51	365	61	173	119	118	441
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	1433	90	23	2048	51	365	61	173	119	118	441
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	126	1433	90	23	2048	51	365	61	173	119	118	441
OvlAdjVol:												418
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1700	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.28	0.05	0.01	0.30	0.03	0.11	0.04	0.10	0.04	0.03	0.26
OvlAdjV/S:												0.25
Crit Moves:	****			****			****					****

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.775
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1538	247	717	1631	0	98	0	279	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1538	247	717	1631	0	98	0	279	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1538	247	717	1631	0	98	0	279	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1538	247	717	1631	0	98	0	279	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1538	247	717	1631	0	98	0	279	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1538	247	717	1631	0	98	0	279	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.58	0.42	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4394	706	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.35	0.21	0.32	0.00	0.06	0.00	0.16	0.00	0.00	0.00
Crit Moves:		****		****					****			

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.817
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	D

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	456	72	1171	106	46	26	44	1080	488	949	1041	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	456	72	1171	106	46	26	44	1080	488	949	1041	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	456	72	1171	106	46	26	44	1080	488	949	1041	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	456	72	1171	106	46	26	44	1080	488	949	1041	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	456	72	1171	106	46	26	44	1080	488	949	1041	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	456	72	1171	106	46	26	44	1080	488	949	1041	22
OvlAdjVol:			538									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.73	0.27	2.00	0.59	0.26	0.15	1.00	2.00	1.00	3.00	1.96	0.04
Final Sat.:	2936	464	3400	1012	439	248	1700	3400	1700	5100	3330	70
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.34	0.10	0.10	0.10	0.03	0.32	0.29	0.19	0.31	0.31
OvlAdjV/S:			0.16									
Crit Moves:			****		****			****		****		

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.921
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	101	Level Of Service:	E

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	46	80	86	305	27	807	768	1415	13	87	1256	450
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	80	86	305	27	807	768	1415	13	87	1256	450
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	80	86	305	27	807	768	1415	13	87	1256	450
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	80	86	305	27	807	768	1415	13	87	1256	450
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	80	86	305	27	807	768	1415	13	87	1256	450
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	80	86	305	27	807	768	1415	13	87	1256	450
OvlAdjVol:						423						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.37	0.63	1.00	0.92	0.08	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	621	1079	1700	1562	138	1700	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.05	0.18	0.20	0.47	0.23	0.42	0.42	0.05	0.37	0.26
OvlAdjV/S:						0.25						
Crit Moves:	****					****	****				****	

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Intersection	
Int Delay, s/veh	20.6

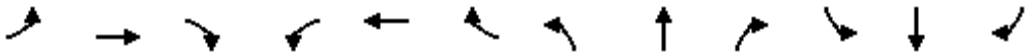
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	2037	2490	146	17	75
Future Vol, veh/h	119	2037	2490	146	17	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	2100	2567	151	18	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2718	0	-	0	3729	1359
Stage 1	-	-	-	-	2643	-
Stage 2	-	-	-	-	1086	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 53	-	-	-	~ 10	119
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	257	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 53	-	-	-	0	119
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	257	-

Approach	EB	WB	SB
HCM Control Delay, s	42.3	0	103.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 53	-	-	-	119
HCM Lane V/C Ratio	2.315	-	-	-	0.797
HCM Control Delay (s)	$ 766.6	-	-	-	103.3
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.4	-	-	-	4.6

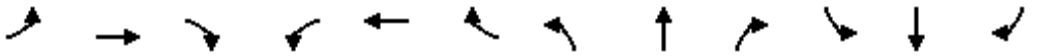
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	875	106	496	1021	270	181	1299	611	138	674	184
Future Volume (veh/h)	404	875	106	496	1021	270	181	1299	611	138	674	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	404	875	106	496	1021	270	181	1299	611	138	674	184
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	456	1116	135	518	1326	544	238	1333	832	148	897	245
Arrive On Green	0.13	0.24	0.24	0.15	0.26	0.26	0.13	0.38	0.38	0.08	0.32	0.32
Sat Flow, veh/h	3456	4617	557	3456	5106	1585	1781	3554	1585	1781	2759	753
Grp Volume(v), veh/h	404	644	337	496	1021	270	181	1299	611	138	434	424
Grp Sat Flow(s),veh/h/ln	1728	1702	1770	1728	1702	1585	1781	1777	1585	1781	1777	1735
Q Serve(g_s), s	13.8	21.2	21.4	17.1	22.2	4.3	11.8	43.2	21.3	9.2	26.2	26.2
Cycle Q Clear(g_c), s	13.8	21.2	21.4	17.1	22.2	4.3	11.8	43.2	21.3	9.2	26.2	26.2
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	456	823	428	518	1326	544	238	1333	832	148	577	564
V/C Ratio(X)	0.89	0.78	0.79	0.96	0.77	0.50	0.76	0.97	0.73	0.93	0.75	0.75
Avail Cap(c_a), veh/h	461	823	428	518	1326	544	238	1333	832	148	577	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	42.6	42.6	50.6	41.1	14.8	50.2	36.9	9.2	54.7	36.2	36.2
Incr Delay (d2), s/veh	18.3	7.3	13.6	28.9	4.4	3.2	13.5	19.3	5.7	53.2	8.7	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	9.7	10.9	9.4	9.8	4.1	6.1	21.9	7.8	6.3	12.7	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	49.9	56.3	79.5	45.4	18.0	63.7	56.3	14.9	107.8	44.9	45.1
LnGrp LOS	E	D	E	E	D	B	E	E	B	F	D	D
Approach Vol, veh/h		1385			1787			2091			996	
Approach Delay, s/veh		57.2			50.8			44.8			53.7	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	50.0	22.0	34.0	20.0	44.0	19.8	36.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	45.0	18.0	29.0	16.0	39.0	16.0	31.0
Max Q Clear Time (g_c+I1), s	11.2	45.2	19.1	23.4	13.8	28.2	15.8	24.2
Green Ext Time (p_c), s	0.0	0.0	0.0	3.0	0.1	4.1	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	632	192	159	792	196	227	1280	108	140	1139	34
Future Volume (veh/h)	44	632	192	159	792	196	227	1280	108	140	1139	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	632	192	159	792	196	227	1280	108	140	1139	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	737	224	198	849	210	281	1457	123	202	1449	43
Arrive On Green	0.03	0.27	0.27	0.06	0.30	0.30	0.09	0.44	0.44	0.06	0.41	0.41
Sat Flow, veh/h	1781	2686	815	1781	2823	699	1781	3318	279	1781	3523	105
Grp Volume(v), veh/h	44	418	406	159	499	489	227	684	704	140	574	599
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1777	1745	1781	1777	1820	1781	1777	1851
Q Serve(g_s), s	2.1	26.8	26.8	7.0	32.7	32.7	8.7	42.1	42.4	5.4	33.7	33.8
Cycle Q Clear(g_c), s	2.1	26.8	26.8	7.0	32.7	32.7	8.7	42.1	42.4	5.4	33.7	33.8
Prop In Lane	1.00		0.47	1.00		0.40	1.00		0.15	1.00		0.06
Lane Grp Cap(c), veh/h	133	488	473	198	534	525	281	781	800	202	731	761
V/C Ratio(X)	0.33	0.86	0.86	0.80	0.93	0.93	0.81	0.88	0.88	0.69	0.79	0.79
Avail Cap(c_a), veh/h	150	518	503	198	548	538	285	781	800	212	731	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	41.3	41.3	35.4	40.8	40.8	25.1	30.7	30.8	27.0	30.7	30.7
Incr Delay (d2), s/veh	1.4	12.8	13.3	20.9	22.9	23.2	15.5	13.2	13.3	8.8	8.3	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	13.4	13.1	4.5	17.6	17.3	4.7	20.4	21.1	2.7	15.9	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.0	54.1	54.6	56.4	63.6	63.9	40.6	43.9	44.1	35.8	39.1	38.8
LnGrp LOS	C	D	D	E	E	E	D	D	D	D	D	D
Approach Vol, veh/h		868			1147			1615			1313	
Approach Delay, s/veh		53.4			62.8			43.5			38.6	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	57.7	12.0	37.9	15.7	54.3	8.8	41.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	50.0	7.0	35.0	11.0	47.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	7.4	44.4	9.0	28.8	10.7	35.8	4.1	34.7
Green Ext Time (p_c), s	0.0	3.9	0.0	2.7	0.0	5.8	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

APPENDIX N-II

YEAR 2023 CUMULATIVE PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS

[MIT] AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.970
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	154	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	4 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	220	1534	217	222	2359	336	172	680	212	245	694	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	220	1534	217	222	2359	336	172	680	212	245	694	111
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	220	1534	217	222	2359	336	172	680	212	245	694	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	220	1534	217	222	2359	336	172	680	212	245	694	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	1534	217	222	2359	336	172	680	212	245	694	111
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	220	1534	217	222	2359	336	172	680	212	245	694	111
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	4.00	1.00	1.00	4.00	1.00	2.00	1.52	0.48	2.00	2.00	1.00
Final Sat.:	1600	6400	1600	1600	6400	1600	2880	2439	761	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.24	0.14	0.14	0.37	0.21	0.06	0.28	0.28	0.09	0.22	0.07
Crit Moves:	****			****			****			****		

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[MIT] AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.762
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	12	42	45	395	45	764	421	1234	12	68	1385	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	42	45	395	45	764	421	1234	12	68	1385	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	42	45	395	45	764	421	1234	12	68	1385	293
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	42	45	395	45	764	421	1234	12	68	1385	293
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	42	45	395	45	764	421	1234	12	68	1385	293
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	42	45	395	45	764	421	1234	12	68	1385	293
OvlAdjVol:						343						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.80	0.20	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	821	879	3052	348	3400	3400	3367	33	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.05	0.13	0.13	0.22	0.12	0.37	0.37	0.04	0.41	0.17
OvlAdjV/S:						0.10						
Crit Moves:		****		****			****				****	

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[MIT] AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.605
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	B

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	21	0	126	74	2231	0	0	2114	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	21	0	126	74	2231	0	0	2114	54
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	21	0	126	74	2231	0	0	2114	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	21	0	126	74	2231	0	0	2114	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	21	0	126	74	2231	0	0	2114	54
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	21	0	126	74	2231	0	0	2114	54
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.14	0.00	0.86	1.00	3.00	0.00	0.00	2.93	0.07
Final Sat.:	0	0	0	243	0	1457	1700	5100	0	0	4973	127
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.09	0.04	0.44	0.00	0.00	0.43	0.43
Crit Moves:				****			****				****	

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.885
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	Level Of Service:	D

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	4 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	228	2170	254	185	1763	245	398	629	184	232	615	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	2170	254	185	1763	245	398	629	184	232	615	161
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	2170	254	185	1763	245	398	629	184	232	615	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	2170	254	185	1763	245	398	629	184	232	615	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	2170	254	185	1763	245	398	629	184	232	615	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	2170	254	185	1763	245	398	629	184	232	615	161
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	4.00	1.00	1.00	4.00	1.00	2.00	1.55	0.45	2.00	2.00	1.00
Final Sat.:	1600	6400	1600	1600	6400	1600	2880	2476	724	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.34	0.16	0.12	0.28	0.15	0.14	0.25	0.25	0.08	0.19	0.10
Crit Moves:		****			****			****			****	

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[MIT] PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.841
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	46	80	86	305	27	807	768	1415	13	87	1256	450
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	80	86	305	27	807	768	1415	13	87	1256	450
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	80	86	305	27	807	768	1415	13	87	1256	450
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	80	86	305	27	807	768	1415	13	87	1256	450
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	80	86	305	27	807	768	1415	13	87	1256	450
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	80	86	305	27	807	768	1415	13	87	1256	450
OvlAdjVol:						39						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.48	0.52	1.84	0.16	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	819	881	3123	277	3400	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.10	0.10	0.24	0.23	0.42	0.42	0.05	0.37	0.26
OvlAdjV/S:						0.01						
Crit Moves:		****			****			****			****	

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[MIT] PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.691
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	17	0	75	119	2037	0	0	2490	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	0	75	119	2037	0	0	2490	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	17	0	75	119	2037	0	0	2490	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	17	0	75	119	2037	0	0	2490	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	17	0	75	119	2037	0	0	2490	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	17	0	75	119	2037	0	0	2490	146
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.18	0.00	0.82	1.00	3.00	0.00	0.00	2.83	0.17
Final Sat.:	0	0	0	314	0	1386	1700	5100	0	0	4818	282
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.07	0.40	0.00	0.00	0.52	0.52
Crit Moves:				****			****				****	

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APPENDIX N-III

SIGNAL WARRANT WORKSHEETS

AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 1	0	1 0	1 1	0	0 1	0 0	1	0 1	0 0	1
Initial Vol:	22	563	4	8	1183	64	54	4	62	3	5	29
ApproachDel:	xxxxxx			xxxxxx			89.8			19.8		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=120]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2001]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=37]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2001]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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AM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	22	563	4	8	1183	64	54	4	62	3	5	29

Major Street Volume: 1844
Minor Approach Volume: 120
Minor Approach Volume Threshold: 111 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Lanes:	1	0	1	1 0	1	0	1	1 0	0	1	0	0 1	0	1	0	0 1
Initial Vol:	28	1145		2	39	821		40	23		2	16	1		3	20
ApproachDel:	xxxxxx				xxxxxx				61.3				25.8			

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=41]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2140]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=24]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2140]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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PM Year 2023 Cumulative Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	28	1145	2	39	821	40	23	2	16	1	3	20

Major Street Volume: 2075
Minor Approach Volume: 41
Minor Approach Volume Threshold: 60 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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APPENDIX O

YEAR 2035 INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS – RESIDENTIAL OPTION

APPENDIX O-I

YEAR 2035 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS

AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.151
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	233	1625	230	225	2497	355	182	721	225	259	736	117
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	1625	230	225	2497	355	182	721	225	259	736	117
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	1625	230	225	2497	355	182	721	225	259	736	117
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	1625	230	225	2497	355	182	721	225	259	736	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	1625	230	225	2497	355	182	721	225	259	736	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	1625	230	225	2497	355	182	721	225	259	736	117
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.52	0.48	2.00	1.73	0.27
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2439	761	2880	2761	439
Capacity Analysis Module:												
Vol/Sat:	0.15	0.34	0.14	0.14	0.52	0.22	0.06	0.30	0.30	0.09	0.27	0.27
Crit Moves:	****			****			****			****		

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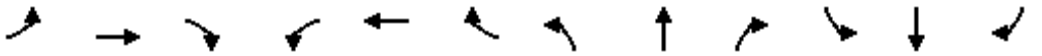
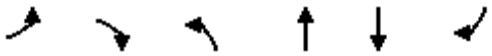


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	829	346	107	511	51	339	402	112	139	805	209
Future Volume (veh/h)	75	829	346	107	511	51	339	402	112	139	805	209
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	829	346	107	511	51	339	402	112	139	805	209
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	916	409	164	939	419	369	1564	698	167	1162	518
Arrive On Green	0.04	0.26	0.26	0.05	0.26	0.26	0.21	0.44	0.44	0.09	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	75	829	346	107	511	51	339	402	112	139	805	209
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.7	27.1	24.9	5.3	14.8	2.9	22.4	8.6	5.1	9.2	23.7	12.3
Cycle Q Clear(g_c), s	3.7	27.1	24.9	5.3	14.8	2.9	22.4	8.6	5.1	9.2	23.7	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	257	916	409	164	939	419	369	1564	698	167	1162	518
V/C Ratio(X)	0.29	0.91	0.85	0.65	0.54	0.12	0.92	0.26	0.16	0.83	0.69	0.40
Avail Cap(c_a), veh/h	268	948	423	164	948	423	430	1564	698	252	1162	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	43.1	42.3	34.3	37.9	33.6	46.6	21.2	20.2	53.4	35.1	31.3
Incr Delay (d2), s/veh	0.6	11.8	14.4	8.8	0.6	0.1	22.8	0.4	0.5	13.4	3.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.3	11.3	2.7	6.5	1.2	12.2	3.7	2.0	4.7	10.7	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	54.9	56.7	43.1	38.6	33.7	69.4	21.6	20.7	66.9	38.6	33.6
LnGrp LOS	C	D	E	D	D	C	E	C	C	E	D	C
Approach Vol, veh/h		1250			669			853			1153	
Approach Delay, s/veh		54.0			38.9			40.5			41.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	57.8	11.0	35.9	28.8	44.2	10.2	36.7
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	17.0	46.0	6.0	32.0	29.0	34.0	6.0	32.0
Max Q Clear Time (g_c+I1), s	11.2	10.6	7.3	29.1	24.4	25.7	5.7	16.8
Green Ext Time (p_c), s	0.2	3.3	0.0	1.8	0.5	3.9	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	254	1096	408	507	1085	198
Future Volume (veh/h)	254	1096	408	507	1085	198
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	254	1096	408	507	1085	198
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	806	1049	493	2428	1803	804
Arrive On Green	0.23	0.23	0.14	0.68	0.51	0.51
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	254	1096	408	507	1085	198
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	7.3	28.0	13.8	6.3	26.0	8.4
Cycle Q Clear(g_c), s	7.3	28.0	13.8	6.3	26.0	8.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	806	1049	493	2428	1803	804
V/C Ratio(X)	0.32	1.05	0.83	0.21	0.60	0.25
Avail Cap(c_a), veh/h	806	1049	922	2428	1803	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	37.4	50.0	7.0	21.0	16.6
Incr Delay (d2), s/veh	0.2	40.4	3.6	0.2	1.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	34.2	6.2	2.3	11.0	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.3	77.8	53.7	7.2	22.4	17.4
LnGrp LOS	D	F	D	A	C	B
Approach Vol, veh/h	1350			915	1283	
Approach Delay, s/veh	70.4			27.9	21.7	
Approach LOS	E			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		33.0	21.1	65.9
Change Period (Y+Rc), s		5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		82.0		28.0	32.0	46.0
Max Q Clear Time (g_c+I1), s		8.3		30.0	15.8	28.0
Green Ext Time (p_c), s		3.9		0.0	1.3	8.3

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.888
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	94	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	110	1699	20	27	2576	139	229	17	212	66	32	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	110	1699	20	27	2576	139	229	17	212	66	32	31
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	110	1699	20	27	2576	139	229	17	212	66	32	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	110	1699	20	27	2576	139	229	17	212	66	32	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	1699	20	27	2576	139	229	17	212	66	32	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	1699	20	27	2576	139	229	17	212	66	32	31
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	813	787
Capacity Analysis Module:												
Vol/Sat:	0.07	0.35	0.01	0.02	0.54	0.09	0.14	0.01	0.13	0.04	0.04	0.04
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.643
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	B

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	10	2078	22	11	2674	17	58	0	36	71	0	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2078	22	11	2674	17	58	0	36	71	0	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	2078	22	11	2674	17	58	0	36	71	0	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	2078	22	11	2674	17	58	0	36	71	0	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	2078	22	11	2674	17	58	0	36	71	0	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	2078	22	11	2674	17	58	0	36	71	0	38
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.97	0.03	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	5047	53	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.41	0.41	0.01	0.52	0.01	0.03	0.00	0.02	0.04	0.00	0.02
Crit Moves:	****			****					****	****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.591
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module:																
Base Vol:	7	713	43		242	1129	7		21	2	23		85	1	277	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	7	713	43		242	1129	7		21	2	23		85	1	277	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	7	713	43		242	1129	7		21	2	23		85	1	277	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	7	713	43		242	1129	7		21	2	23		85	1	277	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	7	713	43		242	1129	7		21	2	23		85	1	277	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	7	713	43		242	1129	7		21	2	23		85	1	277	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.89	0.11		1.00	1.99	0.01		1.00	0.08	0.92		1.00	0.01	0.99	
Final Sat.:	1700	3207	193		1700	3379	21		1700	136	1564		1700	6	1694	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.22	0.22		0.14	0.33	0.33		0.01	0.01	0.01		0.05	0.16	0.16	
Crit Moves:		****				****				****				****		

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Intersection	
Int Delay, s/veh	14.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	14	66	3	5	31	23	597	14	30	1254	70
Future Vol, veh/h	59	14	66	3	5	31	23	597	14	30	1254	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	14	66	3	5	31	23	597	14	30	1254	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1696	2006	662	1344	2034	306	1324	0	0	611	0	0
Stage 1	1349	1349	-	650	650	-	-	-	-	-	-	-
Stage 2	347	657	-	694	1384	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	60	59	404	110	56	690	518	-	-	964	-	-
Stage 1	159	217	-	424	463	-	-	-	-	-	-	-
Stage 2	642	460	-	399	209	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 50	55	404	70	52	690	518	-	-	964	-	-
Mov Cap-2 Maneuver	~ 50	55	-	70	52	-	-	-	-	-	-	-
Stage 1	152	210	-	405	443	-	-	-	-	-	-	-
Stage 2	579	440	-	302	203	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	221.1	24.1	0.4	0.2
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	518	-	-	51	404	58	690	964	-	-
HCM Lane V/C Ratio	0.044	-	-	1.431	0.163	0.138	0.045	0.031	-	-
HCM Control Delay (s)	12.3	-	-	$ 406.9	15.6	76.8	10.5	8.9	-	-
HCM Lane LOS	B	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.8	0.6	0.4	0.1	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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2-14-3531-1 Westridge Golf Club Residential Project, La Habra
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.979
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	166	Level Of Service:	E

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	199	420	198	140	735	151	117	1277	176	223	1852	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	199	420	198	140	735	151	117	1277	176	223	1852	91
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	199	420	198	140	735	151	117	1277	176	223	1852	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	199	420	198	140	735	151	117	1277	176	223	1852	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	199	420	198	140	735	151	117	1277	176	223	1852	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	199	420	198	140	735	151	117	1277	176	223	1852	91
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.36	0.64	1.00	1.66	0.34	1.00	2.64	0.36	1.00	2.86	0.14
Final Sat.:	1600	2175	1025	1600	2655	545	1600	4219	581	1600	4575	225
Capacity Analysis Module:												
Vol/Sat:	0.12	0.19	0.19	0.09	0.28	0.28	0.07	0.30	0.30	0.14	0.40	0.40
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.846
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	79	Level Of Service:	D

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	46	22	25	291	24	243	165	1324	4	13	1874	197
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	22	25	291	24	243	165	1324	4	13	1874	197
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	22	25	291	24	243	165	1324	4	13	1874	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	22	25	291	24	243	165	1324	4	13	1874	197
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	22	25	291	24	243	165	1324	4	13	1874	197
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	22	25	291	24	243	165	1324	4	13	1874	197
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.47	0.53	1.00	1.00	1.00	1.00	2.99	0.01	1.00	2.71	0.29
Final Sat.:	1600	749	851	1600	1600	1600	1600	4786	14	1600	4343	457
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.18	0.02	0.15	0.10	0.28	0.28	0.01	0.43	0.43
Crit Moves:	****			****			****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.014
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
OvlAdjVol:			169									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.62	0.38	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4454	646	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.25	0.13	0.36	0.19	0.04	0.33	0.33	0.20	0.29	0.18
OvlAdjV/S:			0.05									
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.709
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	70	16	67	49	6	57	63	2652	50	113	2247	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	16	67	49	6	57	63	2652	50	113	2247	34
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	70	16	67	49	6	57	63	2652	50	113	2247	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	16	67	49	6	57	63	2652	50	113	2247	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	16	67	49	6	57	63	2652	50	113	2247	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	16	67	49	6	57	63	2652	50	113	2247	34
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.63	0.37	1.00	0.89	0.11	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2767	633	1700	1515	185	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.52	0.03	0.07	0.44	0.02
Crit Moves:			****			****		****			****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.844
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	D

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	302	549	213	276	737	207	130	2241	416	167	1979	108
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	302	549	213	276	737	207	130	2241	416	167	1979	108
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	302	549	213	276	737	207	130	2241	416	167	1979	108
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	302	549	213	276	737	207	130	2241	416	167	1979	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	302	549	213	276	737	207	130	2241	416	167	1979	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	302	549	213	276	737	207	130	2241	416	167	1979	108
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.84	0.16
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4836	264
Capacity Analysis Module:												
Vol/Sat:	0.09	0.16	0.13	0.08	0.22	0.12	0.04	0.44	0.24	0.05	0.41	0.41
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.031
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1	1 0	2 0	2	1 0	2 0	2	1 0
Volume Module:												
Base Vol:	247	582	275	624	988	74	168	2269	332	294	2005	343
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	247	582	275	624	988	74	168	2269	332	294	2005	343
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	582	275	624	988	74	168	2269	332	294	2005	343
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	247	582	275	624	988	74	168	2269	332	294	2005	343
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	582	275	624	988	74	168	2269	332	294	2005	343
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	247	582	275	624	988	74	168	2269	332	294	2005	343
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.86	0.14	2.00	2.62	0.38	2.00	2.56	0.44
Final Sat.:	3400	3400	1700	3400	3163	237	3400	4449	651	3400	4355	745
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.16	0.18	0.31	0.31	0.05	0.51	0.51	0.09	0.46	0.46
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.145
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	544	672	335	310	1504	309	370	1896	802	378	1621	346
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	544	672	335	310	1504	309	370	1896	802	378	1621	346
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	544	672	335	310	1504	309	370	1896	802	378	1621	346
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	544	672	335	310	1504	309	370	1896	802	378	1621	346
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	544	672	335	310	1504	309	370	1896	802	378	1621	346
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	544	672	335	310	1504	309	370	1896	802	378	1621	346
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.11	0.89	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	3584	1516	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.16	0.13	0.20	0.09	0.29	0.18	0.11	0.53	0.53	0.11	0.32	0.20
Crit Moves:	****			****			****			****		

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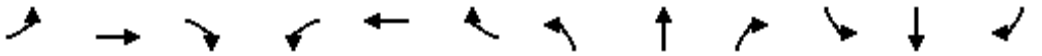

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1896	802	378	1621	346	544	672	335	310	1504	309
Future Volume (veh/h)	370	1896	802	378	1621	346	544	672	335	310	1504	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	1896	802	378	1621	346	544	672	335	310	1504	309
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1406	541	230	1767	548	777	1787	555	661	1617	502
Arrive On Green	0.10	0.39	0.39	0.07	0.35	0.35	0.22	0.35	0.35	0.19	0.32	0.32
Sat Flow, veh/h	3456	3628	1395	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	370	1767	931	378	1621	346	544	672	335	310	1504	309
Grp Sat Flow(s),veh/h/ln	1728	1702	1619	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	46.5	46.5	8.0	36.5	21.9	17.4	11.8	21.0	9.6	34.2	19.9
Cycle Q Clear(g_c), s	12.0	46.5	46.5	8.0	36.5	21.9	17.4	11.8	21.0	9.6	34.2	19.9
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1320	628	230	1767	548	777	1787	555	661	1617	502
V/C Ratio(X)	1.07	1.34	1.48	1.64	0.92	0.63	0.70	0.38	0.60	0.47	0.93	0.62
Avail Cap(c_a), veh/h	346	1320	628	230	1787	555	777	1787	555	661	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.7	36.7	56.0	37.6	32.8	42.8	29.2	32.5	43.1	39.7	34.8
Incr Delay (d2), s/veh	68.5	157.9	225.7	307.1	8.0	2.3	2.8	0.6	4.8	0.5	11.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	47.8	57.3	13.3	16.3	8.7	7.7	4.9	8.8	4.1	15.8	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.5	194.7	262.5	363.1	45.6	35.1	45.6	29.8	37.4	43.6	50.7	40.4
LnGrp LOS	F	F	F	F	D	D	D	C	D	D	D	D
Approach Vol, veh/h		3068			2345			1551			2123	
Approach Delay, s/veh		206.5			95.2			37.0			48.2	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.5	47.0	12.0	51.5	31.5	43.0	17.0	46.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	42.0	8.0	46.0	10.0	38.0	12.0	* 42
Max Q Clear Time (g_c+I1), s	11.6	23.0	10.0	48.5	19.4	36.2	14.0	38.5
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	1.5	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	111.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.081
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.61	0.39	2.00	1.68	0.32	2.00	1.67	0.33
Final Sat.:	3400	5100	1700	3400	4443	657	3400	2859	541	3400	2835	565
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.18	0.07	0.40	0.40	0.12	0.40	0.40	0.14	0.41	0.41
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.919
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	E

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	234	444	214	125	669	227	91	1367	204	245	1277	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	444	214	125	669	227	91	1367	204	245	1277	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	444	214	125	669	227	91	1367	204	245	1277	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	444	214	125	669	227	91	1367	204	245	1277	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	444	214	125	669	227	91	1367	204	245	1277	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	444	214	125	669	227	91	1367	204	245	1277	57
OvlAdjVol:			92			181						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.74	0.26	2.00	1.91	0.09
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2958	442	3400	3255	145
Capacity Analysis Module:												
Vol/Sat:	0.14	0.13	0.13	0.07	0.20	0.13	0.03	0.46	0.46	0.07	0.39	0.39
OvlAdjV/S:			0.05			0.11						
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.119
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	392	608	127	88	945	229	85	1436	426	121	1178	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	392	608	127	88	945	229	85	1436	426	121	1178	66
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	392	608	127	88	945	229	85	1436	426	121	1178	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	392	608	127	88	945	229	85	1436	426	121	1178	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	392	608	127	88	945	229	85	1436	426	121	1178	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	392	608	127	88	945	229	85	1436	426	121	1178	66
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	1.61	0.39	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2813	587	1700	2737	663	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.23	0.22	0.22	0.05	0.35	0.35	0.05	0.42	0.25	0.07	0.35	0.04
Crit Moves:	****				****			****			****	

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.816
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	D

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	0	2 0	2 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	114	625	421	276	1580	212	191	1345	266	222	1046	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	625	421	276	1580	212	191	1345	266	222	1046	281
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	114	625	421	276	1580	212	191	1345	266	222	1046	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	625	421	276	1580	212	191	1345	266	222	1046	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	625	421	276	1580	212	191	1345	266	222	1046	281
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	114	625	421	276	1580	212	191	1345	266	222	1046	281
OvlAdjVol:			310									143
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.65	0.35	2.00	2.50	0.50	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4497	603	3400	4258	842	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.25	0.08	0.35	0.35	0.06	0.32	0.32	0.07	0.31	0.17
OvlAdjV/S:			0.18									0.08
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.212
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0 1	1 0		2 0 1	1 0		1 0 3	0 1		1 0 2	1 0	
Volume Module:												
Base Vol:	440	855	61	335	1365	165	114	1276	537	144	1870	98
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	440	855	61	335	1365	165	114	1276	537	144	1870	98
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	440	855	61	335	1365	165	114	1276	537	144	1870	98
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	440	855	61	335	1365	165	114	1276	537	144	1870	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	440	855	61	335	1365	165	114	1276	537	144	1870	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	440	855	61	335	1365	165	114	1276	537	144	1870	98
OvlAdjVol:									293			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.87	0.13	2.00	1.78	0.22	1.00	3.00	1.00	1.00	2.85	0.15
Final Sat.:	2880	2987	213	2880	2855	345	1600	4800	1600	1600	4561	239
Capacity Analysis Module:												
Vol/Sat:	0.15	0.29	0.29	0.12	0.48	0.48	0.07	0.27	0.34	0.09	0.41	0.41
OvlAdjV/S:									0.18			
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.998
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	434	1536	286	153	1921	596	209	742	790	361	773	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	434	1536	286	153	1921	596	209	742	790	361	773	86
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	434	1536	286	153	1921	596	209	742	790	361	773	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	434	1536	286	153	1921	596	209	742	790	361	773	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	434	1536	286	153	1921	596	209	742	790	361	773	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	434	1536	286	153	1921	596	209	742	790	361	773	86
OvlAdjVol:						492			573			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.70	0.30
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4589	511
Capacity Analysis Module:												
Vol/Sat:	0.13	0.30	0.17	0.09	0.38	0.35	0.06	0.22	0.46	0.11	0.17	0.17
OvlAdjV/S:						0.29			0.34			
Crit Moves:	****				****				****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	D

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	287	1158	228	181	1608	136	170	529	111	288	694	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	1158	228	181	1608	136	170	529	111	288	694	93
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	1158	228	181	1608	136	170	529	111	288	694	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	287	1158	228	181	1608	136	170	529	111	288	694	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	1158	228	181	1608	136	170	529	111	288	694	93
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	1158	228	181	1608	136	170	529	111	288	694	93
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.51	0.49	1.00	2.77	0.23	1.00	1.65	0.35	1.00	1.76	0.24
Final Sat.:	3400	4261	839	1700	4702	398	1700	2810	590	1700	2998	402
Capacity Analysis Module:												
Vol/Sat:	0.08	0.27	0.27	0.11	0.34	0.34	0.10	0.19	0.19	0.17	0.23	0.23
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	1.048
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	326	824	178	74	934	135	86	849	212	237	1667	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	824	178	74	934	135	86	849	212	237	1667	45
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	824	178	74	934	135	86	849	212	237	1667	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	824	178	74	934	135	86	849	212	237	1667	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	824	178	74	934	135	86	849	212	237	1667	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	824	178	74	934	135	86	849	212	237	1667	45
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.75	0.25	1.00	2.40	0.60	1.00	2.92	0.08
Final Sat.:	1600	2632	568	1600	2796	404	1600	3841	959	1600	4674	126
Capacity Analysis Module:												
Vol/Sat:	0.20	0.31	0.31	0.05	0.33	0.33	0.05	0.22	0.22	0.15	0.36	0.36
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.955
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	137	Level Of Service:	E

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	106	1958	76	89	2325	390	466	513	100	110	695	178
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	1958	76	89	2325	390	466	513	100	110	695	178
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	106	1958	76	89	2325	390	466	513	100	110	695	178
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	106	1958	76	89	2325	390	466	513	100	110	695	178
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	1958	76	89	2325	390	466	513	100	110	695	178
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	1958	76	89	2325	390	466	513	100	110	695	178
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.89	0.11	2.00	2.57	0.43	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4909	191	3400	4367	733	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.40	0.40	0.03	0.53	0.53	0.14	0.15	0.06	0.03	0.20	0.10
Crit Moves:	****			****			****			****		

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AM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.707
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	2	0 1	2 0	1	1 0
Volume Module:												
Base Vol:	31	1978	176	43	2441	87	66	194	28	188	267	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1978	176	43	2441	87	66	194	28	188	267	86
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	1978	176	43	2441	87	66	194	28	188	267	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	1978	176	43	2441	87	66	194	28	188	267	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	1978	176	43	2441	87	66	194	28	188	267	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	1978	176	43	2441	87	66	194	28	188	267	86
OvlAdjVol:									0			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.75	0.25	1.00	2.90	0.10	1.00	2.00	1.00	2.00	1.51	0.49
Final Sat.:	1700	4683	417	1700	4924	176	1700	3400	1700	3400	2572	828
Capacity Analysis Module:												
Vol/Sat:	0.02	0.42	0.42	0.03	0.50	0.50	0.04	0.06	0.02	0.06	0.10	0.10
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.389
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	20	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1 0	1 1	0	2 0	1 1 0
Volume Module:												
Base Vol:	345	10	284	1	1	1	5	117	90	228	89	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	345	10	284	1	1	1	5	117	90	228	89	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	345	10	284	1	1	1	5	117	90	228	89	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	345	10	284	1	1	1	5	117	90	228	89	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	345	10	284	1	1	1	5	117	90	228	89	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	345	10	284	1	1	1	5	117	90	228	89	5
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.97	0.03	1.00	0.34	0.33	0.33	1.00	1.13	0.87	2.00	1.89	0.11
Final Sat.:	1652	48	1700	567	567	567	1700	1922	1478	3400	3219	181
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.17	0.00	0.00	0.00	0.00	0.06	0.06	0.07	0.03	0.03
Crit Moves:	****			****				****		****		

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AM Year 2035 Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.865
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	D

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	178	1477	171	88	2533	51	263	123	68	86	110	530
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	1477	171	88	2533	51	263	123	68	86	110	530
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	1477	171	88	2533	51	263	123	68	86	110	530
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	1477	171	88	2533	51	263	123	68	86	110	530
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	1477	171	88	2533	51	263	123	68	86	110	530
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	1477	171	88	2533	51	263	123	68	86	110	530
OvlAdjVol:												442
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.29	0.71	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	2190	1210	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.29	0.10	0.05	0.37	0.03	0.08	0.06	0.06	0.03	0.03	0.31
OvlAdjV/S:												0.26
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.857
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1547	280	909	1795	0	208	0	308	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1547	280	909	1795	0	208	0	308	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1547	280	909	1795	0	208	0	308	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1547	280	909	1795	0	208	0	308	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1547	280	909	1795	0	208	0	308	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1547	280	909	1795	0	208	0	308	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.54	0.46	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4318	782	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.36	0.27	0.35	0.00	0.12	0.00	0.18	0.00	0.00	0.00
Crit Moves:		****		****					****			

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.876
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	550	52	699	61	44	25	49	972	575	1196	1072	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	550	52	699	61	44	25	49	972	575	1196	1072	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	550	52	699	61	44	25	49	972	575	1196	1072	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	550	52	699	61	44	25	49	972	575	1196	1072	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	550	52	699	61	44	25	49	972	575	1196	1072	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	550	52	699	61	44	25	49	972	575	1196	1072	7
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.83	0.17	2.00	0.47	0.34	0.19	1.00	2.00	1.00	3.00	1.99	0.01
Final Sat.:	3106	294	3400	798	575	327	1700	3400	1700	5100	3378	22
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.21	0.08	0.08	0.08	0.03	0.29	0.34	0.23	0.32	0.32
OvlAdjV/S:			0.00									
Crit Moves:	****			****					****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.989
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	13	44	54	578	48	809	446	1293	13	72	1468	530
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	44	54	578	48	809	446	1293	13	72	1468	530
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	44	54	578	48	809	446	1293	13	72	1468	530
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	44	54	578	48	809	446	1293	13	72	1468	530
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	44	54	578	48	809	446	1293	13	72	1468	530
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	44	54	578	48	809	446	1293	13	72	1468	530
OvlAdjVol:						586						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.23	0.77	1.00	0.92	0.08	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	388	1312	1700	1570	130	1700	3400	3366	34	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.34	0.37	0.48	0.13	0.38	0.38	0.04	0.43	0.31
OvlAdjV/S:						0.34						
Crit Moves:	****			****			****				****	

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Intersection	
Int Delay, s/veh	41.5

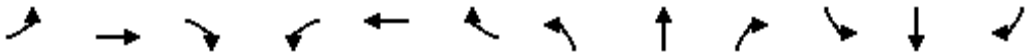
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	2569	2240	57	54	300
Future Vol, veh/h	85	2569	2240	57	54	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	2569	2240	57	54	300

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2297	0	-	0	3467	1149
Stage 1	-	-	-	-	2269	-
Stage 2	-	-	-	-	1198	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	88	-	-	-	~ 14	~ 165
Stage 1	-	-	-	-	~ 38	-
Stage 2	-	-	-	-	223	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	88	-	-	-	0	~ 165
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	~ 1	-
Stage 2	-	-	-	-	223	-

Approach	EB	WB	SB
HCM Control Delay, s	5.5	0	$ 580.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	88	-	-	-	165
HCM Lane V/C Ratio	0.966	-	-	-	2.145
HCM Control Delay (s)	171.8	-	-	-	-$ 580.3
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	5.5	-	-	-	28.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



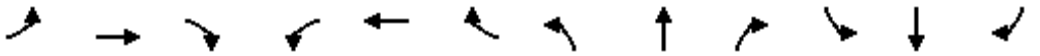
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1051	261	608	789	102	93	757	599	167	1162	217
Future Volume (veh/h)	471	1051	261	608	789	102	93	757	599	167	1162	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	471	1051	261	608	789	102	93	757	599	167	1162	217
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1584	2176	540	576	1191	528	104	1155	779	178	1122	208
Arrive On Green	0.46	0.53	0.53	0.17	0.23	0.23	0.06	0.32	0.32	0.10	0.38	0.38
Sat Flow, veh/h	3456	4080	1012	3456	5106	1585	1781	3554	1585	1781	2992	556
Grp Volume(v), veh/h	471	877	435	608	789	102	93	757	599	167	688	691
Grp Sat Flow(s),veh/h/ln	1728	1702	1688	1728	1702	1585	1781	1777	1585	1781	1777	1770
Q Serve(g_s), s	10.3	19.4	19.5	20.0	16.8	0.0	6.2	21.9	39.0	11.2	45.0	45.0
Cycle Q Clear(g_c), s	10.3	19.4	19.5	20.0	16.8	0.0	6.2	21.9	39.0	11.2	45.0	45.0
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	1584	1815	900	576	1191	528	104	1155	779	178	666	664
V/C Ratio(X)	0.30	0.48	0.48	1.06	0.66	0.19	0.90	0.66	0.77	0.94	1.03	1.04
Avail Cap(c_a), veh/h	1584	1815	900	576	1191	528	104	1155	779	178	666	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	17.6	17.6	50.0	41.7	28.5	56.1	34.7	34.9	53.6	37.5	37.5
Incr Delay (d2), s/veh	0.1	0.9	1.9	53.0	2.9	0.8	56.3	2.9	7.2	49.5	43.3	46.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	7.7	7.9	12.8	7.4	2.2	4.4	9.9	17.2	7.4	27.1	27.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	18.5	19.5	103.0	44.6	29.3	112.4	37.6	42.1	103.2	80.8	83.7
LnGrp LOS	C	B	B	F	D	C	F	D	D	F	F	F
Approach Vol, veh/h		1783			1499			1449			1546	
Approach Delay, s/veh		19.3			67.3			44.3			84.5	
Approach LOS		B			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	44.0	24.0	70.0	11.0	50.0	61.0	33.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	12.0	* 39	20.0	31.0	7.0	44.0	23.0	* 28
Max Q Clear Time (g_c+I1), s	13.2	41.0	22.0	21.5	8.2	47.0	12.3	18.8
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8	0.0	0.0	1.3	3.9

Intersection Summary	
HCM 6th Ctrl Delay	52.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	806	189	160	521	140	153	1114	109	297	1456	18
Future Volume (veh/h)	37	806	189	160	521	140	153	1114	109	297	1456	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	806	189	160	521	140	153	1114	109	297	1456	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	786	184	164	842	225	186	1199	117	315	1588	20
Arrive On Green	0.03	0.28	0.28	0.06	0.30	0.30	0.06	0.37	0.37	0.13	0.44	0.44
Sat Flow, veh/h	1781	2857	670	1781	2772	741	1781	3270	320	1781	3595	44
Grp Volume(v), veh/h	37	501	494	160	333	328	153	605	618	297	719	755
Grp Sat Flow(s),veh/h/ln	1781	1777	1750	1781	1777	1737	1781	1777	1813	1781	1777	1862
Q Serve(g_s), s	1.8	33.0	33.0	7.0	19.3	19.4	6.5	39.2	39.3	14.5	45.6	45.7
Cycle Q Clear(g_c), s	1.8	33.0	33.0	7.0	19.3	19.4	6.5	39.2	39.3	14.5	45.6	45.7
Prop In Lane	1.00		0.38	1.00		0.43	1.00		0.18	1.00		0.02
Lane Grp Cap(c), veh/h	222	489	481	164	540	528	186	652	665	315	785	823
V/C Ratio(X)	0.17	1.03	1.03	0.98	0.62	0.62	0.82	0.93	0.93	0.94	0.92	0.92
Avail Cap(c_a), veh/h	244	489	481	164	540	528	186	652	665	315	785	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	43.5	43.5	36.0	35.8	35.9	29.2	36.5	36.5	34.1	31.4	31.4
Incr Delay (d2), s/veh	0.3	47.5	47.8	63.0	2.1	2.2	24.8	21.5	21.4	35.7	17.3	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	20.8	20.5	6.2	8.6	8.5	4.0	20.6	21.0	7.8	22.7	23.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	91.0	91.3	99.0	37.9	38.1	54.1	57.9	58.0	69.8	48.7	48.2
LnGrp LOS	C	F	F	F	D	D	D	E	E	E	D	D
Approach Vol, veh/h		1032			821			1376			1771	
Approach Delay, s/veh		89.0			49.9			57.5			52.0	
Approach LOS		F			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	49.0	12.0	38.0	12.0	58.0	8.5	41.5
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	16.0	44.0	7.0	33.0	7.0	53.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	16.5	41.3	9.0	35.0	8.5	47.7	3.8	21.4
Green Ext Time (p_c), s	0.0	1.9	0.0	0.0	0.0	4.0	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	60.8
HCM 6th LOS	E

PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

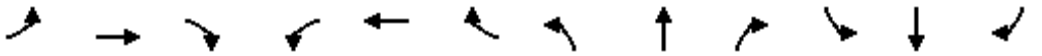
Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.119
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	2 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	242	2297	268	218	1867	259	421	667	195	245	650	176
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	242	2297	268	218	1867	259	421	667	195	245	650	176
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	242	2297	268	218	1867	259	421	667	195	245	650	176
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	242	2297	268	218	1867	259	421	667	195	245	650	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	242	2297	268	218	1867	259	421	667	195	245	650	176
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	242	2297	268	218	1867	259	421	667	195	245	650	176
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	2.00	1.55	0.45	2.00	1.57	0.43
Final Sat.:	1600	4800	1600	1600	4800	1600	2880	2476	724	2880	2518	682
Capacity Analysis Module:												
Vol/Sat:	0.15	0.48	0.17	0.14	0.39	0.16	0.15	0.27	0.27	0.09	0.26	0.26
Crit Moves:		****			****			****			****	

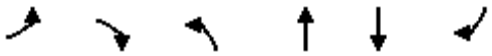
Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to LLG Costa Mesa, CA



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	534	280	67	681	66	390	1139	88	43	595	215
Future Volume (veh/h)	214	534	280	67	681	66	390	1139	88	43	595	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	214	534	280	67	681	66	390	1139	88	43	595	215
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	1003	447	237	768	343	419	1730	772	57	1006	449
Arrive On Green	0.11	0.28	0.28	0.04	0.22	0.22	0.24	0.49	0.49	0.03	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	214	534	280	67	681	66	390	1139	88	43	595	215
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.8	15.2	18.5	3.5	22.3	4.1	25.7	29.0	3.6	2.9	17.3	13.5
Cycle Q Clear(g_c), s	10.8	15.2	18.5	3.5	22.3	4.1	25.7	29.0	3.6	2.9	17.3	13.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	1003	447	237	768	343	419	1730	772	57	1006	449
V/C Ratio(X)	0.79	0.53	0.63	0.28	0.89	0.19	0.93	0.66	0.11	0.76	0.59	0.48
Avail Cap(c_a), veh/h	275	1066	476	238	829	370	475	1730	772	104	1006	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.8	36.4	37.5	34.7	45.6	38.5	44.9	23.2	16.7	57.6	37.0	35.7
Incr Delay (d2), s/veh	13.9	0.4	2.4	0.6	10.8	0.3	23.5	2.0	0.3	18.7	2.6	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	6.7	7.4	1.6	10.9	1.6	14.0	12.4	1.4	1.6	7.9	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	36.8	39.9	35.3	56.4	38.7	68.4	25.2	17.0	76.3	39.6	39.3
LnGrp LOS	D	D	D	D	E	D	E	C	B	E	D	D
Approach Vol, veh/h		1028			814			1617			853	
Approach Delay, s/veh		39.7			53.3			35.2			41.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	63.4	9.9	38.9	32.3	39.0	17.8	30.9
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	53.0	5.0	36.0	32.0	28.0	13.0	28.0
Max Q Clear Time (g_c+I1), s	4.9	31.0	5.5	20.5	27.7	19.3	12.8	24.3
Green Ext Time (p_c), s	0.0	9.3	0.0	4.2	0.5	3.1	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	40.9
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	215	484	851	1290	659	202
Future Volume (veh/h)	215	484	851	1290	659	202
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	215	484	851	1290	659	202
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	342	1604	1645	2906	1066	476
Arrive On Green	0.10	0.10	0.48	0.82	0.30	0.30
Sat Flow, veh/h	3456	2790	3456	3647	3647	1585
Grp Volume(v), veh/h	215	484	851	1290	659	202
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1777	1777	1585
Q Serve(g_s), s	7.2	0.0	20.5	12.5	19.1	12.3
Cycle Q Clear(g_c), s	7.2	0.0	20.5	12.5	19.1	12.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	342	1604	1645	2906	1066	476
V/C Ratio(X)	0.63	0.30	0.52	0.44	0.62	0.42
Avail Cap(c_a), veh/h	806	1979	1645	2906	1066	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.9	13.1	21.9	3.1	36.1	33.7
Incr Delay (d2), s/veh	1.9	0.1	0.3	0.5	2.7	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	8.1	8.3	3.4	8.7	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.8	13.2	22.1	3.6	38.8	36.5
LnGrp LOS	D	B	C	A	D	D
Approach Vol, veh/h	699			2141	861	
Approach Delay, s/veh	25.7			11.0	38.2	
Approach LOS	C			B	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.1		16.9	62.1	41.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		82.0		28.0	42.0	* 36
Max Q Clear Time (g_c+I1), s		14.5		9.2	22.5	21.1
Green Ext Time (p_c), s		14.6		2.7	3.3	4.6

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Beach Blvd at Hillsborough Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.863
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	84	Level Of Service:	D

Street Name:	Beach Blvd						Hillsborough Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	224	2506	52	67	2076	283	273	19	129	36	16	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	224	2506	52	67	2076	283	273	19	129	36	16	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	224	2506	52	67	2076	283	273	19	129	36	16	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	224	2506	52	67	2076	283	273	19	129	36	16	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	224	2506	52	67	2076	283	273	19	129	36	16	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	224	2506	52	67	2076	283	273	19	129	36	16	15
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	0.52	0.48
Final Sat.:	1600	4800	1600	1600	4800	1600	1600	1600	1600	1600	826	774
Capacity Analysis Module:												
Vol/Sat:	0.14	0.52	0.03	0.04	0.43	0.18	0.17	0.01	0.08	0.02	0.02	0.02
Crit Moves:	****			****			****			****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Beach Blvd at Hillsborough Park Apt

Cycle (sec):	100	Critical Vol./Cap.(X):	0.644
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	B

Street Name:	Beach Blvd						Hillsborough Park Apt					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	3 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	31	2653	74	38	2419	39	17	0	18	44	0	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	2653	74	38	2419	39	17	0	18	44	0	23
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	2653	74	38	2419	39	17	0	18	44	0	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	2653	74	38	2419	39	17	0	18	44	0	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	2653	74	38	2419	39	17	0	18	44	0	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	2653	74	38	2419	39	17	0	18	44	0	23
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.92	0.08	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1700	4962	138	1700	5100	1700	1700	0	1700	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.53	0.53	0.02	0.47	0.02	0.01	0.00	0.01	0.03	0.00	0.01
Crit Moves:		****		****					****	****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Idaho St at Sandlewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.648
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	B

Street Name:	Idaho St							Sandlewood Ave							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit				Prot+Permit				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module:																
Base Vol:	25	1293	69		162	885	23		14	1	15		39	3	156	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	25	1293	69		162	885	23		14	1	15		39	3	156	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	25	1293	69		162	885	23		14	1	15		39	3	156	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	25	1293	69		162	885	23		14	1	15		39	3	156	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	25	1293	69		162	885	23		14	1	15		39	3	156	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	25	1293	69		162	885	23		14	1	15		39	3	156	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.90	0.10		1.00	1.95	0.05		1.00	0.06	0.94		1.00	0.02	0.98	
Final Sat.:	1700	3228	172		1700	3314	86		1700	106	1594		1700	32	1668	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.40	0.40		0.10	0.27	0.27		0.01	0.01	0.01		0.02	0.09	0.09	
Crit Moves:		****				****				****				****		

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Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	2	17	3	6	64	34	1213	2	41	870	48
Future Vol, veh/h	24	2	17	3	6	64	34	1213	2	41	870	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	2	17	3	6	64	34	1213	2	41	870	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1654	2259	459	1800	2282	608	918	0	0	1215	0	0
Stage 1	976	976	-	1282	1282	-	-	-	-	-	-	-
Stage 2	678	1283	-	518	1000	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	65	41	549	50	39	439	739	-	-	570	-	-
Stage 1	270	327	-	175	234	-	-	-	-	-	-	-
Stage 2	408	234	-	509	319	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	44	36	549	42	35	439	739	-	-	570	-	-
Mov Cap-2 Maneuver	44	36	-	42	35	-	-	-	-	-	-	-
Stage 1	258	303	-	167	223	-	-	-	-	-	-	-
Stage 2	324	223	-	455	296	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	110.5	29	0.3	0.5
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	739	-	-	43	549	37	439	570	-	-
HCM Lane V/C Ratio	0.046	-	-	0.605	0.031	0.243	0.146	0.072	-	-
HCM Control Delay (s)	10.1	-	-	175	11.8	131.1	14.6	11.8	-	-
HCM Lane LOS	B	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	0.1	0.8	0.5	0.2	-	-

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Santa Gertrudes Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.134
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Santa Gertrudes Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	222	1158	280	163	545	107	148	1544	159	204	1279	200
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	222	1158	280	163	545	107	148	1544	159	204	1279	200
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	222	1158	280	163	545	107	148	1544	159	204	1279	200
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	222	1158	280	163	545	107	148	1544	159	204	1279	200
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	222	1158	280	163	545	107	148	1544	159	204	1279	200
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	222	1158	280	163	545	107	148	1544	159	204	1279	200
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.67	0.33	1.00	2.72	0.28	1.00	2.59	0.41
Final Sat.:	1600	2577	623	1600	2675	525	1600	4352	448	1600	4151	649
Capacity Analysis Module:												
Vol/Sat:	0.14	0.45	0.45	0.10	0.20	0.20	0.09	0.35	0.35	0.13	0.31	0.31
Crit Moves:		****		****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 1st Ave at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.720
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	C

Street Name:	1st Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 0	1 0	1	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	34	25	13	163	38	180	210	1648	22	15	1479	223
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	25	13	163	38	180	210	1648	22	15	1479	223
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	25	13	163	38	180	210	1648	22	15	1479	223
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	25	13	163	38	180	210	1648	22	15	1479	223
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	25	13	163	38	180	210	1648	22	15	1479	223
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	25	13	163	38	180	210	1648	22	15	1479	223
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.66	0.34	1.00	1.00	1.00	1.00	2.96	0.04	1.00	2.61	0.39
Final Sat.:	1600	1053	547	1600	1600	1600	1600	4737	63	1600	4171	629
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.10	0.02	0.11	0.13	0.35	0.35	0.01	0.35	0.35
Crit Moves:	****					****	****				****	

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ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	1.072
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	2.49	0.51	2.00	3.00	1.00
Final Sat.:	3400	5100	3400	3400	5100	1700	3400	4232	868	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.35	0.17	0.18	0.31	0.20	0.08	0.31	0.31	0.18	0.24	0.22
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 La Habra Hills Drive at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.808
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	D

Street Name:	La Habra Hills Dr						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	3 0	1	1 0	3 0	1
Volume Module:												
Base Vol:	99	40	241	93	42	152	223	1918	103	257	1949	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	40	241	93	42	152	223	1918	103	257	1949	67
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	40	241	93	42	152	223	1918	103	257	1949	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	40	241	93	42	152	223	1918	103	257	1949	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	40	241	93	42	152	223	1918	103	257	1949	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	40	241	93	42	152	223	1918	103	257	1949	67
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.42	0.58	1.00	0.69	0.31	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	2422	978	1700	1171	529	1700	1700	5100	1700	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.14	0.08	0.08	0.09	0.13	0.38	0.06	0.15	0.38	0.04
Crit Moves:			****			****		****		****		

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PM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Idaho Street at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.899
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	86	Level Of Service:	D

Street Name:	Idaho St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	2 1	0
Volume Module:												
Base Vol:	397	869	266	229	511	188	324	1860	327	270	1997	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	397	869	266	229	511	188	324	1860	327	270	1997	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	397	869	266	229	511	188	324	1860	327	270	1997	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	397	869	266	229	511	188	324	1860	327	270	1997	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	397	869	266	229	511	188	324	1860	327	270	1997	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	397	869	266	229	511	188	324	1860	327	270	1997	202
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	2.72	0.28
Final Sat.:	3400	3400	1700	3400	3400	1700	3400	5100	1700	3400	4632	468
Capacity Analysis Module:												
Vol/Sat:	0.12	0.26	0.16	0.07	0.15	0.11	0.10	0.36	0.19	0.08	0.43	0.43
Crit Moves:	****			****			****				****	

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PM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Euclid St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.892
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	82	Level Of Service:	D

Street Name:	Euclid St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	1	1 0	2 0	2 1	0	2 0	2 1	0
Volume Module:												
Base Vol:	355	789	218	183	554	96	168	1717	263	322	2287	248
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	355	789	218	183	554	96	168	1717	263	322	2287	248
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	355	789	218	183	554	96	168	1717	263	322	2287	248
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	355	789	218	183	554	96	168	1717	263	322	2287	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	355	789	218	183	554	96	168	1717	263	322	2287	248
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	355	789	218	183	554	96	168	1717	263	322	2287	248
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	1.70	0.30	2.00	2.60	0.40	2.00	2.71	0.29
Final Sat.:	3400	3400	1700	3400	2898	502	3400	4423	677	3400	4601	499
Capacity Analysis Module:												
Vol/Sat:	0.10	0.23	0.13	0.05	0.19	0.19	0.05	0.39	0.39	0.09	0.50	0.50
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #14 Harbor Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.996
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Harbor Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	804	1234	321	313	862	396	395	1439	382	419	1839	315
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	804	1234	321	313	862	396	395	1439	382	419	1839	315
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	804	1234	321	313	862	396	395	1439	382	419	1839	315
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	804	1234	321	313	862	396	395	1439	382	419	1839	315
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	804	1234	321	313	862	396	395	1439	382	419	1839	315
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	804	1234	321	313	862	396	395	1439	382	419	1839	315
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.37	0.63	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	4030	1070	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.19	0.09	0.17	0.23	0.12	0.36	0.36	0.12	0.36	0.19
Crit Moves:	****					****	****				****	

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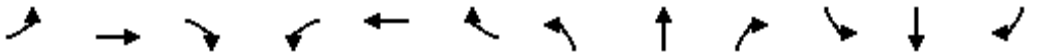

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	395	1439	382	419	1839	315	804	1234	321	313	862	396
Future Volume (veh/h)	395	1439	382	419	1839	315	804	1234	321	313	862	396
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	1439	382	419	1839	315	804	1234	321	313	862	396
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1340	354	230	1659	515	1440	1702	528	1353	1574	489
Arrive On Green	0.08	0.33	0.33	0.07	0.32	0.32	0.42	0.33	0.33	0.39	0.31	0.31
Sat Flow, veh/h	3456	4021	1062	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	395	1217	604	419	1839	315	804	1234	321	313	862	396
Grp Sat Flow(s),veh/h/ln	1728	1702	1679	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.0	40.0	40.0	8.0	39.0	14.6	21.2	25.5	20.3	7.3	16.9	32.6
Cycle Q Clear(g_c), s	10.0	40.0	40.0	8.0	39.0	14.6	21.2	25.5	20.3	7.3	16.9	32.6
Prop In Lane	1.00		0.63	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1135	560	230	1659	515	1440	1702	528	1353	1574	489
V/C Ratio(X)	1.37	1.07	1.08	1.82	1.11	0.61	0.56	0.73	0.61	0.23	0.55	0.81
Avail Cap(c_a), veh/h	288	1135	560	230	1659	515	1440	1702	528	1353	1574	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	40.0	40.0	56.0	40.5	18.1	26.6	35.2	33.4	24.4	34.5	53.3
Incr Delay (d2), s/veh	187.8	48.4	61.2	385.0	58.0	2.1	0.5	2.7	5.1	0.1	1.4	13.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	24.1	25.7	15.8	25.0	5.6	8.8	10.9	8.5	3.0	7.2	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	242.8	88.4	101.2	441.0	98.5	20.2	27.1	37.9	38.6	24.5	35.9	66.9
LnGrp LOS	F	F	F	F	F	C	C	D	D	C	D	E
Approach Vol, veh/h		2216			2573			2359			1571	
Approach Delay, s/veh		119.4			144.7			34.3			41.5	
Approach LOS		F			F			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	52.0	45.0	13.0	45.0	55.0	42.0	14.0	44.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	40.0	8.0	* 40	17.0	37.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	9.3	27.5	10.0	42.0	23.2	34.6	12.0	41.0
Green Ext Time (p_c), s	0.5	7.6	0.0	0.0	0.0	1.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	89.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.196
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.80	0.20	2.00	1.43	0.57	2.00	1.76	0.24
Final Sat.:	3400	5100	1700	3400	4763	337	3400	2423	977	3400	3000	400
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.20	0.08	0.30	0.30	0.06	0.44	0.44	0.28	0.50	0.50
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #16 Idaho Street at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.080
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Idaho St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 1	1 0	2	0 1	1 0
Volume Module:												
Base Vol:	304	819	251	89	576	134	82	1301	218	254	2107	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	304	819	251	89	576	134	82	1301	218	254	2107	128
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	304	819	251	89	576	134	82	1301	218	254	2107	128
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	304	819	251	89	576	134	82	1301	218	254	2107	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	304	819	251	89	576	134	82	1301	218	254	2107	128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	304	819	251	89	576	134	82	1301	218	254	2107	128
OvlAdjVol:			124			93						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	1.71	0.29	2.00	1.89	0.11
Final Sat.:	1700	3400	1700	1700	3400	1700	3400	2912	488	3400	3205	195
Capacity Analysis Module:												
Vol/Sat:	0.18	0.24	0.15	0.05	0.17	0.08	0.02	0.45	0.45	0.07	0.66	0.66
OvlAdjV/S:			0.07			0.05						
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #17 Euclid St at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.190
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Euclid St						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	129	908	82	185	552	215	143	1249	159	106	2229	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	908	82	185	552	215	143	1249	159	106	2229	252
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	908	82	185	552	215	143	1249	159	106	2229	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	908	82	185	552	215	143	1249	159	106	2229	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	908	82	185	552	215	143	1249	159	106	2229	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	908	82	185	552	215	143	1249	159	106	2229	252
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.83	0.17	1.00	1.44	0.56	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3118	282	1700	2447	953	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.29	0.29	0.11	0.23	0.23	0.08	0.37	0.09	0.06	0.66	0.15
Crit Moves:		****			****			****			****	

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PM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #18 Harbor Blvd at Lambert Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.137
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Harbor Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	281	1339	204	241	1092	235	225	946	209	350	2305	612
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	1339	204	241	1092	235	225	946	209	350	2305	612
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	1339	204	241	1092	235	225	946	209	350	2305	612
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	1339	204	241	1092	235	225	946	209	350	2305	612
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	1339	204	241	1092	235	225	946	209	350	2305	612
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	281	1339	204	241	1092	235	225	946	209	350	2305	612
OvlAdjVol:			29									492
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.47	0.53	2.00	2.46	0.54	2.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	4197	903	3400	4177	923	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.26	0.12	0.07	0.26	0.26	0.07	0.23	0.23	0.10	0.68	0.36
OvlAdjV/S:			0.02									0.29
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
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(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #19 La Mirada Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.997
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	La Mirada Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	1 1	0	2 0	1 1	0	1 0	3 0	1	1 0	2 1	0
Volume Module:												
Base Vol:	401	920	145	314	856	109	121	1499	358	230	1435	156
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	401	920	145	314	856	109	121	1499	358	230	1435	156
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	401	920	145	314	856	109	121	1499	358	230	1435	156
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	401	920	145	314	856	109	121	1499	358	230	1435	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	401	920	145	314	856	109	121	1499	358	230	1435	156
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	401	920	145	314	856	109	121	1499	358	230	1435	156
OvlAdjVol:									135			
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.73	0.27	2.00	1.77	0.23	1.00	3.00	1.00	1.00	2.71	0.29
Final Sat.:	2880	2764	436	2880	2839	361	1600	4800	1600	1600	4329	471
Capacity Analysis Module:												
Vol/Sat:	0.14	0.33	0.33	0.11	0.30	0.30	0.08	0.31	0.22	0.14	0.33	0.33
OvlAdjV/S:									0.08			
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #20 Beach Blvd at La Mirada Blvd/Malvern Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.944
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	123	Level Of Service:	E

Street Name:	Beach Blvd						La Mirada Blvd/Malvern Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	1	0 3	0 1	2	0 2	0 1	2	0 2	1 0
Volume Module:												
Base Vol:	664	2130	206	222	1599	261	388	713	514	277	932	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	664	2130	206	222	1599	261	388	713	514	277	932	251
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	664	2130	206	222	1599	261	388	713	514	277	932	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	664	2130	206	222	1599	261	388	713	514	277	932	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	664	2130	206	222	1599	261	388	713	514	277	932	251
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	664	2130	206	222	1599	261	388	713	514	277	932	251
OvlAdjVol:						67			182			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	3.00	1.00	2.00	2.00	1.00	2.00	2.36	0.64
Final Sat.:	3400	5100	1700	1700	5100	1700	3400	3400	1700	3400	4018	1082
Capacity Analysis Module:												
Vol/Sat:	0.20	0.42	0.12	0.13	0.31	0.15	0.11	0.21	0.30	0.08	0.23	0.23
OvlAdjV/S:						0.04			0.11			
Crit Moves:	****			****			****				****	

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #21 Beach Boulevard at La Habra Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.928
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	107	Level Of Service:	E

Street Name:	Beach Boulevard						La Habra Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	1 0	2	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	273	1465	392	201	1451	142	257	737	155	227	643	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	273	1465	392	201	1451	142	257	737	155	227	643	111
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	273	1465	392	201	1451	142	257	737	155	227	643	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	273	1465	392	201	1451	142	257	737	155	227	643	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	273	1465	392	201	1451	142	257	737	155	227	643	111
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	273	1465	392	201	1451	142	257	737	155	227	643	111
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.37	0.63	1.00	2.73	0.27	1.00	1.65	0.35	1.00	1.71	0.29
Final Sat.:	3400	4023	1077	1700	4645	455	1700	2809	591	1700	2899	501
Capacity Analysis Module:												
Vol/Sat:	0.08	0.36	0.36	0.12	0.31	0.31	0.15	0.26	0.26	0.13	0.22	0.22
Crit Moves:	****			****				****		****		

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Valley View Avenue at Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	1.039
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Valley View Ave						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	292	959	231	93	801	64	151	1312	289	244	1005	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	959	231	93	801	64	151	1312	289	244	1005	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	959	231	93	801	64	151	1312	289	244	1005	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	292	959	231	93	801	64	151	1312	289	244	1005	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	292	959	231	93	801	64	151	1312	289	244	1005	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	292	959	231	93	801	64	151	1312	289	244	1005	100
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.61	0.39	1.00	1.85	0.15	1.00	2.46	0.54	1.00	2.73	0.27
Final Sat.:	1600	2579	621	1600	2963	237	1600	3934	866	1600	4366	434
Capacity Analysis Module:												
Vol/Sat:	0.18	0.37	0.37	0.06	0.27	0.27	0.09	0.33	0.33	0.15	0.23	0.23
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #23 Beach Boulevard at Artesia Boulevard

Cycle (sec):	100	Critical Vol./Cap.(X):	0.917
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	98	Level Of Service:	E

Street Name:	Beach Blvd						Artesia Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	1 0	2 0	2	1 0	2 0	2	0 1	2 0	2	0 1
Volume Module:												
Base Vol:	155	2207	70	157	2000	375	656	637	125	112	553	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	155	2207	70	157	2000	375	656	637	125	112	553	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	155	2207	70	157	2000	375	656	637	125	112	553	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	2207	70	157	2000	375	656	637	125	112	553	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	2207	70	157	2000	375	656	637	125	112	553	250
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	2207	70	157	2000	375	656	637	125	112	553	250
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.91	0.09	2.00	2.53	0.47	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3400	4943	157	3400	4295	805	3400	3400	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.45	0.45	0.05	0.47	0.47	0.19	0.19	0.07	0.03	0.16	0.15
Crit Moves:	****				****		****				****	

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #24 Beach Boulevard at Commonwealth Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.756
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	C

Street Name:	Beach Blvd						Commonwealth Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 0	1	2 0	1 1	0
Volume Module:												
Base Vol:	35	2215	170	100	2042	88	101	250	41	165	264	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	2215	170	100	2042	88	101	250	41	165	264	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	2215	170	100	2042	88	101	250	41	165	264	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	2215	170	100	2042	88	101	250	41	165	264	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	2215	170	100	2042	88	101	250	41	165	264	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	2215	170	100	2042	88	101	250	41	165	264	146
OvlAdjVol:									6			
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.79	0.21	1.00	2.88	0.12	1.00	2.00	1.00	2.00	1.29	0.71
Final Sat.:	1700	4736	364	1700	4889	211	1700	3400	1700	3400	2189	1211
Capacity Analysis Module:												
Vol/Sat:	0.02	0.47	0.47	0.06	0.42	0.42	0.06	0.07	0.02	0.05	0.12	0.12
OvlAdjV/S:									0.00			
Crit Moves:	****			****			****			****		

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PM Year 2035 Plus Project Traffic Conditions
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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 I-5 NB Ramps at Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.529
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Street Name:	I-5 NB Ramps						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0	0	1! 0	0	1	0 1	1	0	2 0 1 1 0
Volume Module:												
Base Vol:	553	14	435	28	8	15	7	151	58	184	128	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	553	14	435	28	8	15	7	151	58	184	128	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	553	14	435	28	8	15	7	151	58	184	128	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	553	14	435	28	8	15	7	151	58	184	128	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	553	14	435	28	8	15	7	151	58	184	128	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	553	14	435	28	8	15	7	151	58	184	128	6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.98	0.02	1.00	0.55	0.16	0.29	1.00	1.44	0.56	2.00	1.91	0.09
Final Sat.:	1658	42	1700	933	267	500	1700	2456	944	3400	3248	152
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.26	0.03	0.03	0.03	0.00	0.06	0.06	0.05	0.04	0.04
Crit Moves:	****			****				****		****		

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #26 Beach Boulevard at Auto Center Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.850
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	D

Street Name:	Beach Blvd						Auto Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	134	1518	95	36	2169	54	386	75	183	126	128	526
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	1518	95	36	2169	54	386	75	183	126	128	526
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	1518	95	36	2169	54	386	75	183	126	128	526
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	1518	95	36	2169	54	386	75	183	126	128	526
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	1518	95	36	2169	54	386	75	183	126	128	526
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	1518	95	36	2169	54	386	75	183	126	128	526
OvlAdjVol:												490
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	2.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	6800	1700	3400	1700	1700	3400	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.06	0.02	0.32	0.03	0.11	0.04	0.11	0.04	0.04	0.31
OvlAdjV/S:												0.29
Crit Moves:	****			****			****					****

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #27 Beach Boulevard at I-5 SB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	D

Street Name:	Beach Blvd						I-5 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2 1	0	2 0	3 0	0	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1629	372	759	1728	0	104	0	305	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1629	372	759	1728	0	104	0	305	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1629	372	759	1728	0	104	0	305	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1629	372	759	1728	0	104	0	305	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1629	372	759	1728	0	104	0	305	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1629	372	759	1728	0	104	0	305	0	0	0
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.44	0.56	2.00	3.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	4152	948	3400	5100	0	1700	0	1700	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.39	0.22	0.34	0.00	0.06	0.00	0.18	0.00	0.00	0.00
Crit Moves:		****		****					****			

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PM Year 2035 Plus Project Traffic Conditions
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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Beach Blvd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.861
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	D

Street Name:	Beach Blvd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	2	0 0	1! 0	0	1 0	2 0	1	3 0	1 1	0
Volume Module:												
Base Vol:	483	76	1241	108	49	28	48	1145	516	1005	1103	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	483	76	1241	108	49	28	48	1145	516	1005	1103	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	483	76	1241	108	49	28	48	1145	516	1005	1103	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	483	76	1241	108	49	28	48	1145	516	1005	1103	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	483	76	1241	108	49	28	48	1145	516	1005	1103	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	483	76	1241	108	49	28	48	1145	516	1005	1103	24
OvlAdjVol:			571									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.73	0.27	2.00	0.59	0.26	0.15	1.00	2.00	1.00	3.00	1.96	0.04
Final Sat.:	2938	462	3400	992	450	257	1700	3400	1700	5100	3328	72
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.37	0.11	0.11	0.11	0.03	0.34	0.30	0.20	0.33	0.33
OvlAdjV/S:			0.17									
Crit Moves:			****	****				****		****		

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.190
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	2	0 1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	49	105	91	542	37	855	795	1500	14	92	1331	844
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	105	91	542	37	855	795	1500	14	92	1331	844
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	105	91	542	37	855	795	1500	14	92	1331	844
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	105	91	542	37	855	795	1500	14	92	1331	844
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	105	91	542	37	855	795	1500	14	92	1331	844
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	105	91	542	37	855	795	1500	14	92	1331	844
OvlAdjVol:						458						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.32	0.68	1.00	0.94	0.06	1.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	541	1159	1700	1591	109	1700	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.05	0.32	0.34	0.50	0.23	0.45	0.45	0.05	0.39	0.50
OvlAdjV/S:						0.27						
Crit Moves:	****			****			****					****

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Intersection	
Int Delay, s/veh	21.8

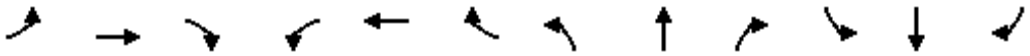
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	2158	2636	155	18	80
Future Vol, veh/h	120	2158	2636	155	18	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	2158	2636	155	18	80

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2791	0	-	0	3817	1396
Stage 1	-	-	-	-	2714	-
Stage 2	-	-	-	-	1103	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 49	-	-	-	~ 9	112
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	251	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 49	-	-	-	0	112
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	251	-

Approach	EB	WB	SB
HCM Control Delay, s	44.1	0	125
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 49	-	-	-	112
HCM Lane V/C Ratio	2.449	-	-	-	0.875
HCM Control Delay (s)	$ 837.2	-	-	-	125
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.5	-	-	-	5.2

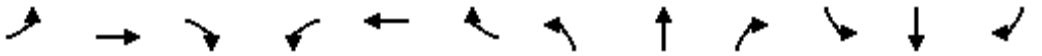
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	428	927	112	526	1123	286	228	1375	640	146	713	244
Future Volume (veh/h)	428	927	112	526	1123	286	228	1375	640	146	713	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	428	927	112	526	1123	286	228	1375	640	146	713	244
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	461	1155	139	518	1362	542	238	1333	832	134	823	282
Arrive On Green	0.13	0.25	0.25	0.15	0.27	0.27	0.13	0.38	0.38	0.08	0.32	0.32
Sat Flow, veh/h	3456	4618	556	3456	5106	1585	1781	3554	1585	1781	2598	889
Grp Volume(v), veh/h	428	682	357	526	1123	286	228	1375	640	146	488	469
Grp Sat Flow(s),veh/h/ln	1728	1702	1770	1728	1702	1585	1781	1777	1585	1781	1777	1710
Q Serve(g_s), s	14.7	22.6	22.7	18.0	24.8	6.4	15.3	45.0	23.7	9.0	31.0	31.0
Cycle Q Clear(g_c), s	14.7	22.6	22.7	18.0	24.8	6.4	15.3	45.0	23.7	9.0	31.0	31.0
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	461	851	443	518	1362	542	238	1333	832	134	563	542
V/C Ratio(X)	0.93	0.80	0.81	1.01	0.82	0.53	0.96	1.03	0.77	1.09	0.87	0.87
Avail Cap(c_a), veh/h	461	851	443	518	1362	542	238	1333	832	134	563	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	42.2	42.3	51.0	41.4	16.6	51.7	37.5	9.7	55.5	38.6	38.6
Incr Delay (d2), s/veh	25.3	7.9	14.5	43.3	5.8	3.7	47.1	33.2	6.8	104.9	16.3	16.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	10.4	11.6	10.9	11.1	4.4	9.9	25.3	8.9	7.9	15.9	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.8	50.1	56.7	94.3	47.2	20.3	98.8	70.7	16.5	160.4	55.0	55.5
LnGrp LOS	E	D	E	F	D	C	F	F	B	F	D	E
Approach Vol, veh/h		1467			1935			2243			1103	
Approach Delay, s/veh		59.5			56.0			58.1			69.1	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	50.0	22.0	35.0	20.0	43.0	20.0	37.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	45.0	18.0	30.0	16.0	38.0	16.0	32.0
Max Q Clear Time (g_c+I1), s	11.0	47.0	20.0	24.7	17.3	33.0	16.7	26.8
Green Ext Time (p_c), s	0.0	0.0	0.0	3.0	0.0	2.6	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	59.6
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	669	204	175	839	208	239	1356	136	148	1207	36
Future Volume (veh/h)	47	669	204	175	839	208	239	1356	136	148	1207	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	669	204	175	839	208	239	1356	136	148	1207	36
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	729	222	212	885	219	266	1397	139	170	1369	41
Arrive On Green	0.03	0.27	0.27	0.08	0.31	0.31	0.10	0.43	0.43	0.06	0.39	0.39
Sat Flow, veh/h	1781	2683	818	1781	2822	699	1781	3263	326	1781	3523	105
Grp Volume(v), veh/h	47	443	430	175	528	519	239	735	757	148	608	635
Grp Sat Flow(s),veh/h/ln	1781	1777	1723	1781	1777	1744	1781	1777	1812	1781	1777	1851
Q Serve(g_s), s	2.3	29.0	29.1	8.3	34.8	34.9	9.7	48.4	49.2	6.0	38.2	38.3
Cycle Q Clear(g_c), s	2.3	29.0	29.1	8.3	34.8	34.9	9.7	48.4	49.2	6.0	38.2	38.3
Prop In Lane	1.00		0.47	1.00		0.40	1.00		0.18	1.00		0.06
Lane Grp Cap(c), veh/h	131	483	468	212	557	547	266	761	776	170	690	719
V/C Ratio(X)	0.36	0.92	0.92	0.82	0.95	0.95	0.90	0.97	0.98	0.87	0.88	0.88
Avail Cap(c_a), veh/h	147	503	488	212	563	552	284	761	776	170	690	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	42.4	42.4	31.8	40.2	40.2	27.9	33.5	33.7	29.0	34.1	34.1
Incr Delay (d2), s/veh	1.6	21.4	22.0	22.4	25.4	25.8	28.0	25.4	26.8	34.9	15.1	14.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	15.5	15.1	4.9	19.0	18.7	6.1	25.7	26.8	4.2	19.1	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	63.8	64.4	54.2	65.6	66.0	55.9	58.9	60.5	63.9	49.2	48.8
LnGrp LOS	D	E	E	D	E	E	E	E	E	E	D	D
Approach Vol, veh/h		920			1222			1731			1391	
Approach Delay, s/veh		62.6			64.1			59.2			50.6	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	56.4	14.0	37.6	16.8	51.6	9.0	42.7
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	50.0	9.0	34.0	13.0	44.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	8.0	51.2	10.3	31.1	11.7	40.3	4.3	36.9
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.1	2.5	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	58.6
HCM 6th LOS	E

APPENDIX O-II

YEAR 2035 BUILDOUT PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS

[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.021
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	4 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	233	1625	230	225	2497	355	182	721	225	259	736	117
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	1625	230	225	2497	355	182	721	225	259	736	117
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	1625	230	225	2497	355	182	721	225	259	736	117
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	1625	230	225	2497	355	182	721	225	259	736	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	1625	230	225	2497	355	182	721	225	259	736	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	1625	230	225	2497	355	182	721	225	259	736	117
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	4.00	1.00	1.00	4.00	1.00	2.00	1.52	0.48	2.00	2.00	1.00
Final Sat.:	1600	6400	1600	1600	6400	1600	2880	2439	761	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.15	0.25	0.14	0.14	0.39	0.22	0.06	0.30	0.30	0.09	0.23	0.07
Crit Moves:	****			****			****			****		

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[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.923
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	102	Level Of Service:	E

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 4	0 2	2	0 4	0 1	2	0 2	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	257	1174	846	447	1849	321	124	1454	211	677	1471	302
OvlAdjVol:			169									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	4.00	2.00	2.00	4.00	1.00	2.00	2.62	0.38	2.00	3.00	1.00
Final Sat.:	3400	6800	3400	3400	6800	1700	3400	4454	646	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.08	0.17	0.25	0.13	0.27	0.19	0.04	0.33	0.33	0.20	0.29	0.18
OvlAdjV/S:			0.05									
Crit Moves:	****			****			****			****		

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[MIT] AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.073
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	0 1	2	0 1	1 0
Volume Module:												
Base Vol:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	1041	300	236	1791	265	415	1132	214	489	1160	231
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.61	0.39	2.00	2.00	1.00	2.00	1.67	0.33
Final Sat.:	3400	5100	1700	3400	4443	657	3400	3400	1700	3400	2835	565
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.18	0.07	0.40	0.40	0.12	0.33	0.13	0.14	0.41	0.41
Crit Moves:	****				****		****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.855
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	13	44	54	578	48	809	446	1293	13	72	1468	530
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	44	54	578	48	809	446	1293	13	72	1468	530
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	44	54	578	48	809	446	1293	13	72	1468	530
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	44	54	578	48	809	446	1293	13	72	1468	530
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	44	54	578	48	809	446	1293	13	72	1468	530
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	44	54	578	48	809	446	1293	13	72	1468	530
OvlAdjVol:						363						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.45	0.55	1.85	0.15	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	763	937	3139	261	3400	3400	3366	34	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.06	0.06	0.18	0.18	0.24	0.13	0.38	0.38	0.04	0.43	0.31
OvlAdjV/S:						0.11						
Crit Moves:		****	****				****				****	

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(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.759
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	54	0	300	85	2569	0	0	2240	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	54	0	300	85	2569	0	0	2240	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	54	0	300	85	2569	0	0	2240	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	54	0	300	85	2569	0	0	2240	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	54	0	300	85	2569	0	0	2240	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	54	0	300	85	2569	0	0	2240	57
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.15	0.00	0.85	1.00	3.00	0.00	0.00	2.93	0.07
Final Sat.:	0	0	0	259	0	1441	1700	5100	0	0	4973	127
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.21	0.00	0.21	0.05	0.50	0.00	0.00	0.45	0.45
Crit Moves:				****			****				****	

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Mirada)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Beach Blvd at Rosecrans Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.950
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	133	Level Of Service:	E

Street Name:	Beach Blvd						Rosecrans Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	4 0	1	1 0	4 0	1	2 0	1 1	0	2 0	2 0	1
Volume Module:												
Base Vol:	242	2297	268	218	1867	259	421	667	195	245	650	176
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	242	2297	268	218	1867	259	421	667	195	245	650	176
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	242	2297	268	218	1867	259	421	667	195	245	650	176
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	242	2297	268	218	1867	259	421	667	195	245	650	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	242	2297	268	218	1867	259	421	667	195	245	650	176
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	242	2297	268	218	1867	259	421	667	195	245	650	176
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00
Lanes:	1.00	4.00	1.00	1.00	4.00	1.00	2.00	1.55	0.45	2.00	2.00	1.00
Final Sat.:	1600	6400	1600	1600	6400	1600	2880	2476	724	2880	3200	1600
Capacity Analysis Module:												
Vol/Sat:	0.15	0.36	0.17	0.14	0.29	0.16	0.15	0.27	0.27	0.09	0.20	0.11
Crit Moves:		****			****				****		****	

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Beach Blvd at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.986
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Beach Blvd						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	4 0	2	2 0	4 0	1	2 0	2 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	364	1768	579	624	1574	348	262	1301	267	628	1232	377
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	4.00	2.00	2.00	4.00	1.00	2.00	2.49	0.51	2.00	3.00	1.00
Final Sat.:	3400	6800	3400	3400	6800	1700	3400	4232	868	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.26	0.17	0.18	0.23	0.20	0.08	0.31	0.31	0.18	0.24	0.22
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #15 Beach Blvd at Lambert Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.069
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Beach Blvd						Lambert Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	2	0 2	0 1	2	0 1	1 0
Volume Module:												
Base Vol:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	429	1729	341	266	1429	101	199	1076	434	939	1513	202
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.80	0.20	2.00	2.00	1.00	2.00	1.76	0.24
Final Sat.:	3400	5100	1700	3400	4763	337	3400	3400	1700	3400	3000	400
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.20	0.08	0.30	0.30	0.06	0.32	0.26	0.28	0.50	0.50
Crit Moves:	****			****			****			****		

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Hacienda Rd at Whittier Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.066
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Hacienda Rd						Whittier Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0 1	0	1 1	0 0	2	2 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	49	105	91	542	37	855	795	1500	14	92	1331	844
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	105	91	542	37	855	795	1500	14	92	1331	844
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	105	91	542	37	855	795	1500	14	92	1331	844
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	105	91	542	37	855	795	1500	14	92	1331	844
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	105	91	542	37	855	795	1500	14	92	1331	844
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	105	91	542	37	855	795	1500	14	92	1331	844
OvlAdjVol:						60						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.54	0.46	1.87	0.13	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1700	911	789	3183	217	3400	3400	3369	31	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.12	0.17	0.17	0.25	0.23	0.45	0.45	0.05	0.39	0.50
OvlAdjV/S:						0.02						
Crit Moves:		****	****				****					****

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[MIT] PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Walnut St at Imperial Hwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.725
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	C

Street Name:	Walnut St						Imperial Hwy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	3 0	0	0 0	2 1	0
Volume Module:												
Base Vol:	0	0	0	18	0	80	120	2158	0	0	2636	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	18	0	80	120	2158	0	0	2636	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	18	0	80	120	2158	0	0	2636	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	18	0	80	120	2158	0	0	2636	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	18	0	80	120	2158	0	0	2636	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	18	0	80	120	2158	0	0	2636	155
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.18	0.00	0.82	1.00	3.00	0.00	0.00	2.83	0.17
Final Sat.:	0	0	0	312	0	1388	1700	5100	0	0	4817	283
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.06	0.00	0.06	0.07	0.42	0.00	0.00	0.55	0.55
Crit Moves:						****	****				****	

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APPENDIX O-III

SIGNAL WARRANT WORKSHEETS

AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

****

Intersection #7 Euclid Street at Sandlewood Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	23	597	14	30	1254	70	59	14	66	3	5	31
ApproachDel:	xxxxxx			xxxxxx			212.5			23.7		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=8.2]
SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=139]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2166]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=39]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2166]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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AM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	23	597	14	30	1254	70	59	14	66	3	5	31

Major Street Volume: 1988
Minor Approach Volume: 139
Minor Approach Volume Threshold: 79 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Delay Signal Warrant Report

****

Intersection #7 Euclid Street at Sandlewood Ave

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Lanes:	1	0	1	1 0	1	0	1	1 0	0	1	0	0 1	0	1	0	0 1
Initial Vol:	34	1213		2	41	870		48	24		2	17	3		6	64
ApproachDel:	xxxxxx				xxxxxx				105.4				28.3			

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=43]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2324]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=73]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2324]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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PM Year 2035 Plus Project Traffic Conditions
2-14-3531-1 Westridge Golf Club Residential Project, La Habra
(City of La Habra)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Euclid Street at Sandlewood Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 1 0	0 1		0 1 0	0 1	
Initial Vol:	34	1213	2	41	870	48	24	2	17	3	6	64

Major Street Volume: 2208
Minor Approach Volume: 73
Minor Approach Volume Threshold: 33 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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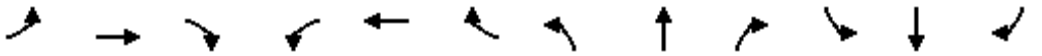
APPENDIX P

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS – CALTRANS (RESIDENTIAL OPTION)

APPENDIX P-I

EXISTING PLUS PROJECT TRAFFIC CONDITIONS



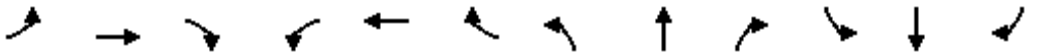
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	631	191	194	619	102	198	1323	187	212	2146	318
Future Volume (veh/h)	161	631	191	194	619	102	198	1323	187	212	2146	318
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	671	203	206	659	109	211	1407	199	226	2283	338
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	721	218	230	895	148	193	2153	668	252	2322	721
Arrive On Green	0.05	0.27	0.27	0.07	0.29	0.29	0.11	0.42	0.42	0.14	0.45	0.45
Sat Flow, veh/h	3456	2688	813	3456	3052	504	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	171	443	431	206	383	385	211	1407	199	226	2283	338
Grp Sat Flow(s),veh/h/ln	1728	1777	1724	1728	1777	1780	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.9	29.2	29.2	7.1	23.3	23.4	13.0	26.4	8.4	15.0	52.9	17.7
Cycle Q Clear(g_c), s	5.9	29.2	29.2	7.1	23.3	23.4	13.0	26.4	8.4	15.0	52.9	17.7
Prop In Lane	1.00		0.47	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	173	477	463	230	521	522	193	2153	668	252	2322	721
V/C Ratio(X)	0.99	0.93	0.93	0.89	0.74	0.74	1.09	0.65	0.30	0.90	0.98	0.47
Avail Cap(c_a), veh/h	173	489	474	230	521	522	193	2153	668	252	2322	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	42.8	42.8	55.6	38.2	38.2	53.5	27.7	16.1	50.7	32.3	22.7
Incr Delay (d2), s/veh	65.3	24.2	24.9	32.7	5.4	5.4	91.9	1.6	1.1	31.2	15.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	15.9	15.5	4.1	10.9	10.9	10.7	10.9	3.2	8.8	24.3	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.2	67.0	67.7	88.2	43.6	43.6	145.4	29.3	17.3	81.9	47.4	24.9
LnGrp LOS	F	E	E	F	D	D	F	C	B	F	D	C
Approach Vol, veh/h		1045			974			1817			2847	
Approach Delay, s/veh		76.3			53.0			41.4			47.4	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	55.8	13.0	37.2	17.0	59.8	10.0	40.2
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	17.0	44.0	8.0	* 33	13.0	48.0	6.0	35.0
Max Q Clear Time (g_c+I1), s	17.0	28.4	9.1	31.2	15.0	54.9	7.9	25.4
Green Ext Time (p_c), s	0.0	9.5	0.0	1.0	0.0	0.0	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	51.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



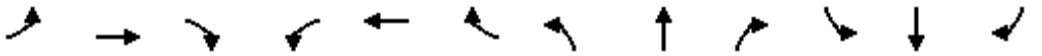
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	15	190	59	29	28	99	1384	18	24	2219	125
Future Volume (veh/h)	206	15	190	59	29	28	99	1384	18	24	2219	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	215	16	198	61	30	29	103	1442	19	25	2311	130
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	393	333	297	183	177	127	2766	859	220	3074	954
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.07	0.54	0.54	0.25	1.00	1.00
Sat Flow, veh/h	1344	1870	1585	1167	874	845	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	215	16	198	61	0	59	103	1442	19	25	2311	130
Grp Sat Flow(s),veh/h/ln	1344	1870	1585	1167	0	1718	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.7	0.8	13.5	5.3	0.0	3.4	6.8	21.6	0.7	1.3	0.0	0.0
Cycle Q Clear(g_c), s	22.1	0.8	13.5	6.1	0.0	3.4	6.8	21.6	0.7	1.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	304	393	333	297	0	361	127	2766	859	220	3074	954
V/C Ratio(X)	0.71	0.04	0.60	0.21	0.00	0.16	0.81	0.52	0.02	0.11	0.75	0.14
Avail Cap(c_a), veh/h	414	546	462	393	0	501	148	2766	859	220	3074	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	47.8	37.8	42.8	40.2	0.0	38.8	54.9	17.6	12.8	40.1	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.0	1.7	0.3	0.0	0.2	24.3	0.7	0.0	0.2	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.4	5.5	1.6	0.0	1.5	3.9	8.5	0.2	0.6	0.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	37.8	44.5	40.5	0.0	39.0	79.2	18.3	12.8	40.3	1.4	0.2
LnGrp LOS	D	D	D	D	A	D	E	B	B	D	A	A
Approach Vol, veh/h		429			120			1564			2466	
Approach Delay, s/veh		47.6			39.8			22.2			1.7	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.8	70.0		30.2	12.6	77.2		30.2				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 65		35.0	10.0	61.0		35.0				
Max Q Clear Time (g_c+I1), s	3.3	23.6		24.1	8.8	2.0		8.1				
Green Ext Time (p_c), s	0.0	15.2		1.1	0.0	38.3		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		14.0	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



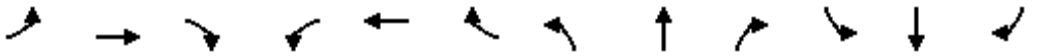
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	0	32	71	0	38	9	1723	22	11	2300	15
Future Volume (veh/h)	52	0	32	71	0	38	9	1723	22	11	2300	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	0	33	74	0	40	9	1795	23	11	2396	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	0	145	159	0	145	371	4034	52	27	2936	911
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.21	0.78	0.78	0.02	0.57	0.57
Sat Flow, veh/h	1367	0	1585	1376	0	1585	1781	5196	67	1781	5106	1585
Grp Volume(v), veh/h	54	0	33	74	0	40	9	1176	642	11	2396	16
Grp Sat Flow(s),veh/h/ln	1367	0	1585	1376	0	1585	1781	1702	1858	1781	1702	1585
Q Serve(g_s), s	4.6	0.0	2.3	6.3	0.0	2.8	0.5	14.2	14.2	0.7	45.1	0.5
Cycle Q Clear(g_c), s	7.4	0.0	2.3	8.6	0.0	2.8	0.5	14.2	14.2	0.7	45.1	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	153	0	145	159	0	145	371	2643	1443	27	2936	911
V/C Ratio(X)	0.35	0.00	0.23	0.46	0.00	0.28	0.02	0.44	0.45	0.40	0.82	0.02
Avail Cap(c_a), veh/h	381	0	409	389	0	409	371	2643	1443	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	50.6	54.6	0.0	50.8	37.8	4.6	4.6	58.5	20.4	10.9
Incr Delay (d2), s/veh	1.4	0.0	0.8	2.1	0.0	1.0	0.0	0.5	0.9	9.3	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.0	2.3	0.0	1.2	0.2	4.3	4.8	0.4	17.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.0	51.4	56.7	0.0	51.8	37.8	5.1	5.5	67.8	23.1	11.0
LnGrp LOS	E	A	D	E	A	D	D	A	A	E	C	B
Approach Vol, veh/h		87			114			1827			2423	
Approach Delay, s/veh		54.0			55.0			5.4			23.2	
Approach LOS		D			D			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	98.2		16.0	30.0	74.0		16.0				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	2.7	16.2		9.4	2.5	47.1		10.6				
Green Ext Time (p_c), s	0.0	22.1		0.3	0.0	18.4		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		17.3	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



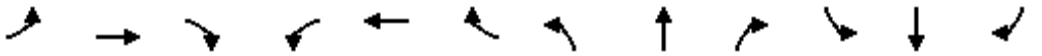
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	975	188	479	1228	274	227	1001	537	329	1610	279
Future Volume (veh/h)	104	975	188	479	1228	274	227	1001	537	329	1610	279
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	1037	200	510	1306	291	241	1065	571	350	1713	297
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	1279	246	346	1824	566	354	1884	1308	259	1702	528
Arrive On Green	0.05	0.30	0.30	0.10	0.36	0.36	0.10	0.37	0.37	0.08	0.33	0.33
Sat Flow, veh/h	3456	4298	828	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	111	821	416	510	1306	291	241	1065	571	350	1713	297
Grp Sat Flow(s),veh/h/ln	1728	1702	1721	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	3.8	26.8	26.9	12.0	26.5	17.3	8.1	20.0	3.3	9.0	40.0	15.0
Cycle Q Clear(g_c), s	3.8	26.8	26.9	12.0	26.5	17.3	8.1	20.0	3.3	9.0	40.0	15.0
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	1013	512	346	1824	566	354	1884	1308	259	1702	528
V/C Ratio(X)	0.66	0.81	0.81	1.48	0.72	0.51	0.68	0.57	0.44	1.35	1.01	0.56
Avail Cap(c_a), veh/h	230	1191	602	346	1957	608	354	1884	1308	259	1702	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	39.0	39.0	54.0	33.3	30.4	52.0	30.2	9.6	55.5	40.0	21.8
Incr Delay (d2), s/veh	4.3	3.7	7.2	229.2	1.2	0.7	4.8	1.1	1.0	181.0	23.4	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	11.6	12.3	16.2	11.0	6.7	3.7	8.3	3.2	10.4	20.1	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	42.7	46.2	283.2	34.5	31.1	56.7	31.3	10.5	236.5	63.4	26.0
LnGrp LOS	E	D	D	F	C	C	E	C	B	F	F	C
Approach Vol, veh/h		1348			2107			1877			2360	
Approach Delay, s/veh		45.3			94.2			28.2			84.4	
Approach LOS		D			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	49.3	17.0	40.7	17.3	45.0	9.9	47.9
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	8.0	* 40	8.0	46.0
Max Q Clear Time (g_c+I1), s	11.0	22.0	14.0	28.9	10.1	42.0	5.8	28.5
Green Ext Time (p_c), s	0.0	9.4	0.0	6.9	0.0	0.0	0.1	9.9

Intersection Summary	
HCM 6th Ctrl Delay	66.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1750	46	104	1901	30	68	14	63	44	6	51
Future Volume (veh/h)	57	1750	46	104	1901	30	68	14	63	44	6	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	1823	48	108	1980	31	82	0	66	46	6	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	2061	640	133	2266	704	226	0	101	462	60	462
Arrive On Green	0.04	0.40	0.40	0.07	0.44	0.44	0.06	0.00	0.06	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3563	0	1585	1584	207	1585
Grp Volume(v), veh/h	59	1823	48	108	1980	31	82	0	66	52	0	53
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	0	1585	1791	0	1585
Q Serve(g_s), s	3.9	39.7	2.2	7.2	42.3	1.3	2.6	0.0	4.9	2.5	0.0	2.9
Cycle Q Clear(g_c), s	3.9	39.7	2.2	7.2	42.3	1.3	2.6	0.0	4.9	2.5	0.0	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.88		1.00
Lane Grp Cap(c), veh/h	76	2061	640	133	2266	704	226	0	101	522	0	462
V/C Ratio(X)	0.78	0.88	0.08	0.81	0.87	0.04	0.36	0.00	0.66	0.10	0.00	0.11
Avail Cap(c_a), veh/h	104	2128	660	148	2266	704	226	0	101	522	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.9	33.2	22.0	54.7	30.3	18.9	53.9	0.0	54.9	31.0	0.0	31.1
Incr Delay (d2), s/veh	21.9	4.8	0.0	26.0	4.1	0.0	4.4	0.0	28.7	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	17.0	0.9	4.2	17.7	0.5	1.3	0.0	2.8	1.2	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.8	37.9	22.1	80.7	34.4	19.0	58.3	0.0	83.6	31.4	0.0	31.6
LnGrp LOS	E	D	C	F	C	B	E	A	F	C	A	C
Approach Vol, veh/h		1930			2119			148			105	
Approach Delay, s/veh		38.8			36.6			69.6			31.5	
Approach LOS		D			D			E			C	

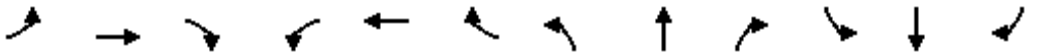
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.6	13.9	53.4		40.0	9.1	58.3				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		6.0	10.0	* 50		35.0	7.0	53.0				
Max Q Clear Time (g_c+I1), s		6.9	9.2	41.7		4.9	5.9	44.3				
Green Ext Time (p_c), s		0.0	0.0	6.7		0.4	0.0	7.3				

Intersection Summary												
HCM 6th Ctrl Delay			38.6									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



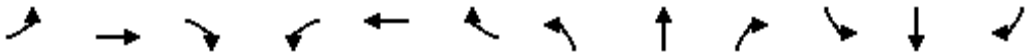
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1545	247	124	1716	97	234	476	132	248	674	194
Future Volume (veh/h)	96	1545	247	124	1716	97	234	476	132	248	674	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	1626	260	131	1806	102	246	501	139	261	709	204
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	2001	621	185	1955	110	1015	1962	875	259	1155	515
Arrive On Green	0.04	0.39	0.39	0.05	0.40	0.40	0.29	0.55	0.55	0.08	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	4945	279	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	101	1626	260	131	1242	666	246	501	139	261	709	204
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1820	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.5	34.1	10.7	4.5	41.7	41.9	6.5	8.8	5.2	9.0	20.2	12.0
Cycle Q Clear(g_c), s	3.5	34.1	10.7	4.5	41.7	41.9	6.5	8.8	5.2	9.0	20.2	12.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	2001	621	185	1345	719	1015	1962	875	259	1155	515
V/C Ratio(X)	0.70	0.81	0.42	0.71	0.92	0.93	0.24	0.26	0.16	1.01	0.61	0.40
Avail Cap(c_a), veh/h	144	2001	621	202	1362	728	1015	1962	875	259	1155	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	32.6	14.8	55.9	34.6	34.6	32.2	14.0	13.2	55.5	34.2	31.4
Incr Delay (d2), s/veh	14.1	2.7	0.5	10.0	10.6	17.6	0.1	0.3	0.4	57.7	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	14.3	3.9	2.2	18.9	21.7	2.8	3.6	1.9	6.0	9.1	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	35.2	15.2	65.9	45.2	52.2	32.3	14.3	13.6	113.2	36.6	33.6
LnGrp LOS	E	D	B	E	D	D	C	B	B	F	D	C
Approach Vol, veh/h		1987			2039			886			1174	
Approach Delay, s/veh		34.4			48.8			19.2			53.1	
Approach LOS		C			D			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	71.7	10.4	52.0	40.7	44.0	10.0	52.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	9.0	40.0	7.0	46.0	10.0	* 39	5.0	* 48
Max Q Clear Time (g_c+I1), s	11.0	10.8	6.5	36.1	8.5	22.2	5.5	43.9
Green Ext Time (p_c), s	0.0	4.1	0.0	7.6	0.1	5.3	0.0	3.6

Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



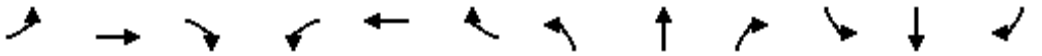
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1473	299	239	1656	59	222	404	206	183	871	54
Future Volume (veh/h)	57	1473	299	239	1656	59	222	404	206	183	871	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	1534	311	249	1725	61	231	421	215	191	907	56
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	1596	322	288	2000	71	259	1139	508	247	1078	67
Arrive On Green	0.05	0.37	0.37	0.08	0.39	0.39	0.08	0.32	0.32	0.07	0.32	0.32
Sat Flow, veh/h	3456	4260	860	3456	5063	179	3456	3554	1585	3456	3400	210
Grp Volume(v), veh/h	59	1224	621	249	1159	627	231	421	215	191	474	489
Grp Sat Flow(s),veh/h/ln	1728	1702	1716	1728	1702	1838	1728	1777	1585	1728	1777	1833
Q Serve(g_s), s	2.0	42.2	42.5	8.5	37.5	37.5	8.0	11.0	12.8	6.5	29.8	29.8
Cycle Q Clear(g_c), s	2.0	42.2	42.5	8.5	37.5	37.5	8.0	11.0	12.8	6.5	29.8	29.8
Prop In Lane	1.00		0.50	1.00		0.10	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	189	1275	643	288	1345	726	259	1139	508	247	563	581
V/C Ratio(X)	0.31	0.96	0.97	0.86	0.86	0.86	0.89	0.37	0.42	0.77	0.84	0.84
Avail Cap(c_a), veh/h	189	1277	643	288	1418	766	259	1139	508	288	563	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	36.6	36.8	54.3	33.3	33.3	55.0	31.4	32.1	54.7	38.2	38.2
Incr Delay (d2), s/veh	0.9	16.5	27.0	22.9	5.5	9.7	29.5	0.9	2.6	10.5	14.2	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	20.1	22.3	4.6	16.2	18.4	4.5	4.9	5.3	3.2	15.1	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	53.2	63.8	77.2	38.8	43.0	84.5	32.4	34.6	65.3	52.3	52.0
LnGrp LOS	E	D	E	E	D	D	F	C	C	E	D	D
Approach Vol, veh/h		1904			2035			867			1154	
Approach Delay, s/veh		56.7			44.8			46.8			54.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	43.5	14.0	50.0	13.0	43.0	11.6	52.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	37.0	10.0	45.0	9.0	38.0	5.0	* 50
Max Q Clear Time (g_c+I1), s	8.5	14.8	10.5	44.5	10.0	31.8	4.0	39.5
Green Ext Time (p_c), s	0.1	3.6	0.0	0.4	0.0	3.1	0.0	7.8

Intersection Summary	
HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



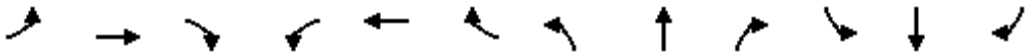
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	1270	304	261	1291	84	311	509	292	248	1198	202
Future Volume (veh/h)	145	1270	304	261	1291	84	311	509	292	248	1198	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	1296	310	266	1317	86	317	519	298	253	1222	206
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	1391	332	322	1615	501	411	1685	523	307	1489	462
Arrive On Green	0.11	0.34	0.34	0.09	0.32	0.32	0.12	0.33	0.33	0.09	0.29	0.29
Sat Flow, veh/h	3456	4114	983	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	148	1072	534	266	1317	86	317	519	298	253	1222	206
Grp Sat Flow(s),veh/h/ln	1728	1702	1693	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	4.8	36.5	36.6	9.1	28.5	3.6	10.7	9.1	18.6	8.6	26.7	12.7
Cycle Q Clear(g_c), s	4.8	36.5	36.6	9.1	28.5	3.6	10.7	9.1	18.6	8.6	26.7	12.7
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	368	1151	573	322	1615	501	411	1685	523	307	1489	462
V/C Ratio(X)	0.40	0.93	0.93	0.83	0.82	0.17	0.77	0.31	0.57	0.82	0.82	0.45
Avail Cap(c_a), veh/h	368	1163	579	346	1830	568	411	1685	523	317	1489	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	38.4	38.4	53.5	37.8	17.1	51.3	30.0	33.2	53.7	39.6	34.6
Incr Delay (d2), s/veh	0.7	13.1	22.1	14.4	2.7	0.2	8.8	0.5	4.5	15.6	5.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	17.1	18.5	4.6	12.2	1.8	5.1	3.8	7.8	4.4	11.8	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	51.5	60.5	67.9	40.5	17.3	60.1	30.5	37.6	69.4	44.8	37.7
LnGrp LOS	D	D	E	E	D	B	E	C	D	E	D	D
Approach Vol, veh/h		1754			1669			1134			1681	
Approach Delay, s/veh		54.2			43.6			40.6			47.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	44.6	15.2	45.6	19.3	40.0	17.8	43.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	11.0	38.0	12.0	41.0	14.0	* 35	10.0	* 43
Max Q Clear Time (g_c+I1), s	10.6	20.6	11.1	38.6	12.7	28.7	6.8	30.5
Green Ext Time (p_c), s	0.0	4.4	0.1	2.0	0.2	4.3	0.1	7.4

Intersection Summary	
HCM 6th Ctrl Delay	47.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



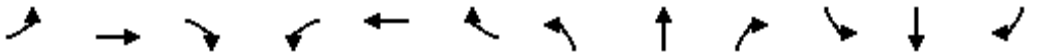
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	982	192	424	1016	153	270	876	254	212	1553	242
Future Volume (veh/h)	258	982	192	424	1016	153	270	876	254	212	1553	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	1012	198	437	1047	158	278	903	262	219	1601	249
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	939	183	403	1110	167	259	3119	968	279	2750	426
Arrive On Green	0.08	0.32	0.32	0.12	0.36	0.36	0.08	0.61	0.61	0.08	0.62	0.62
Sat Flow, veh/h	3456	2964	579	3456	3097	467	3456	5106	1585	3456	4459	691
Grp Volume(v), veh/h	266	606	604	437	600	605	278	903	262	219	1221	629
Grp Sat Flow(s),veh/h/ln	1728	1777	1766	1728	1777	1786	1728	1702	1585	1728	1702	1746
Q Serve(g_s), s	9.2	38.0	38.0	14.0	39.3	39.4	9.0	10.0	11.2	7.5	25.7	25.9
Cycle Q Clear(g_c), s	9.2	38.0	38.0	14.0	39.3	39.4	9.0	10.0	11.2	7.5	25.7	25.9
Prop In Lane	1.00		0.33	1.00		0.26	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	288	563	559	403	637	640	259	3119	968	279	2099	1077
V/C Ratio(X)	0.92	1.08	1.08	1.08	0.94	0.94	1.07	0.29	0.27	0.78	0.58	0.58
Avail Cap(c_a), veh/h	288	563	559	403	637	640	259	3119	968	374	2099	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	41.0	41.0	53.0	37.3	37.4	55.5	11.0	16.0	54.1	13.7	13.8
Incr Delay (d2), s/veh	33.6	60.2	61.5	69.2	22.5	22.9	76.5	0.2	0.7	7.6	1.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	25.8	25.8	9.9	20.7	21.0	6.7	3.7	4.2	3.5	9.8	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.3	101.2	102.5	122.2	59.8	60.3	132.0	11.3	16.7	61.7	14.9	16.1
LnGrp LOS	F	F	F	F	E	E	F	B	B	E	B	B
Approach Vol, veh/h		1476			1642			1443			2069	
Approach Delay, s/veh		99.4			76.6			35.5			20.2	
Approach LOS		F			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	79.3	19.0	43.0	13.0	80.0	14.0	48.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	37.0	14.0	* 38	9.0	41.0	10.0	42.0
Max Q Clear Time (g_c+I1), s	9.5	13.2	16.0	40.0	11.0	27.9	11.2	41.4
Green Ext Time (p_c), s	0.2	8.0	0.0	0.0	0.0	9.7	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	55.2
HCM 6th LOS	E

Notes

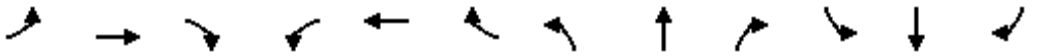
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	663	530	312	683	81	372	1288	250	139	1642	477
Future Volume (veh/h)	112	663	530	312	683	81	372	1288	250	139	1642	477
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	705	564	332	727	86	396	1370	266	148	1747	507
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	897	687	317	1359	160	625	1745	542	293	1659	596
Arrive On Green	0.05	0.25	0.25	0.09	0.29	0.29	0.18	0.34	0.34	0.16	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	3456	4633	544	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	119	705	564	332	533	280	396	1370	266	148	1747	507
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1772	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	4.1	22.2	10.9	11.0	15.7	15.9	12.7	29.0	11.9	9.1	39.0	24.9
Cycle Q Clear(g_c), s	4.1	22.2	10.9	11.0	15.7	15.9	12.7	29.0	11.9	9.1	39.0	24.9
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	897	687	317	998	520	625	1745	542	293	1659	596
V/C Ratio(X)	0.68	0.79	0.82	1.05	0.53	0.54	0.63	0.79	0.49	0.51	1.05	0.85
Avail Cap(c_a), veh/h	346	1125	789	317	1050	547	625	1745	542	293	1659	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	41.8	14.9	54.5	35.5	35.6	45.5	35.5	17.4	45.7	40.5	20.2
Incr Delay (d2), s/veh	4.5	3.0	6.2	63.7	0.5	1.0	2.1	3.6	3.2	1.4	37.5	14.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.1	9.3	7.6	6.6	7.0	5.6	12.5	4.8	4.1	21.8	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	44.8	21.1	118.2	36.0	36.5	47.6	39.2	20.6	47.1	78.0	34.5
LnGrp LOS	E	D	C	F	D	D	D	D	C	D	F	C
Approach Vol, veh/h		1388			1145			2032			2402	
Approach Delay, s/veh		36.5			60.0			38.4			66.9	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.7	46.0	15.0	35.3	25.7	44.0	10.1	40.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	41.0	11.0	38.0	14.0	39.0	12.0	37.0
Max Q Clear Time (g_c+I1), s	11.1	31.0	13.0	24.2	14.7	41.0	6.1	17.9
Green Ext Time (p_c), s	0.0	6.9	0.0	6.1	0.0	0.0	0.1	5.3

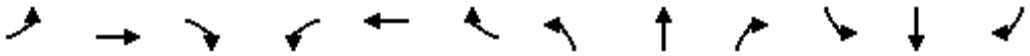
Intersection Summary	
HCM 6th Ctrl Delay	51.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	470	100	231	611	70	258	892	188	143	1417	122
Future Volume (veh/h)	152	470	100	231	611	70	258	892	188	143	1417	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	495	105	243	643	74	272	939	198	151	1492	128
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	601	127	252	775	89	585	1268	266	361	1597	137
Arrive On Green	0.11	0.21	0.21	0.14	0.24	0.24	0.17	0.30	0.30	0.20	0.33	0.33
Sat Flow, veh/h	1781	2920	616	1781	3212	369	3456	4226	888	1781	4790	411
Grp Volume(v), veh/h	160	300	300	243	355	362	272	756	381	151	1060	560
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1804	1728	1702	1710	1781	1702	1796
Q Serve(g_s), s	10.6	19.4	19.6	16.3	22.8	22.8	8.5	24.0	24.1	8.9	36.2	36.2
Cycle Q Clear(g_c), s	10.6	19.4	19.6	16.3	22.8	22.8	8.5	24.0	24.1	8.9	36.2	36.2
Prop In Lane	1.00		0.35	1.00		0.20	1.00		0.52	1.00		0.23
Lane Grp Cap(c), veh/h	189	366	362	252	429	435	585	1021	513	361	1135	599
V/C Ratio(X)	0.85	0.82	0.83	0.96	0.83	0.83	0.47	0.74	0.74	0.42	0.93	0.93
Avail Cap(c_a), veh/h	282	518	513	252	489	496	585	1021	513	361	1135	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	45.5	45.6	51.2	43.2	43.2	44.9	37.8	37.8	41.7	38.7	38.7
Incr Delay (d2), s/veh	14.0	7.1	7.6	46.3	10.3	10.3	0.6	4.8	9.4	0.8	15.0	23.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	9.2	9.3	10.5	11.2	11.4	3.7	10.6	11.4	4.0	17.2	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	52.6	53.2	97.4	53.4	53.5	45.5	42.6	47.2	42.5	53.7	62.5
LnGrp LOS	E	D	D	F	D	D	D	D	D	D	D	E
Approach Vol, veh/h		760			960			1409			1771	
Approach Delay, s/veh		55.8			64.6			44.4			55.5	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.3	41.0	21.0	29.7	24.3	45.0	16.7	34.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	36.0	17.0	35.0	10.0	40.0	19.0	33.0
Max Q Clear Time (g_c+I1), s	10.9	26.1	18.3	21.6	10.5	38.2	12.6	24.8
Green Ext Time (p_c), s	0.1	5.2	0.0	3.1	0.0	1.5	0.2	2.8

Intersection Summary	
HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D



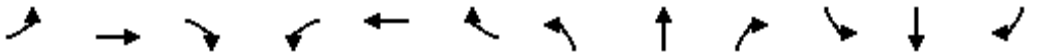
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	446	49	97	618	160	53	1648	69	80	1966	313
Future Volume (veh/h)	385	446	49	97	618	160	53	1648	69	80	1966	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	414	480	53	104	665	172	57	1772	74	86	2114	337
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	993	443	167	810	361	147	2053	86	364	2137	333
Arrive On Green	0.10	0.28	0.28	0.05	0.23	0.23	0.04	0.41	0.41	0.11	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5027	210	3456	4456	694
Grp Volume(v), veh/h	414	480	53	104	665	172	57	1199	647	86	1603	848
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1833	1728	1702	1746
Q Serve(g_s), s	12.0	13.5	3.0	3.5	21.3	8.5	1.9	38.6	38.7	2.7	55.6	57.6
Cycle Q Clear(g_c), s	12.0	13.5	3.0	3.5	21.3	8.5	1.9	38.6	38.7	2.7	55.6	57.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.40
Lane Grp Cap(c), veh/h	346	993	443	167	810	361	147	1390	748	364	1633	837
V/C Ratio(X)	1.20	0.48	0.12	0.62	0.82	0.48	0.39	0.86	0.86	0.24	0.98	1.01
Avail Cap(c_a), veh/h	346	1185	528	202	1036	462	173	1390	748	364	1633	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.0	32.2	56.0	44.0	22.9	55.9	32.4	32.5	49.2	30.7	31.2
Incr Delay (d2), s/veh	113.8	0.4	0.1	4.2	4.2	1.0	1.7	7.3	12.7	0.3	18.4	34.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	5.9	1.2	1.6	9.8	3.3	0.9	17.0	19.4	1.2	26.1	31.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	167.8	36.4	32.3	60.2	48.3	23.9	57.6	39.7	45.1	49.6	49.1	65.6
LnGrp LOS	F	D	C	E	D	C	E	D	D	D	D	F
Approach Vol, veh/h		947			941			1903			2537	
Approach Delay, s/veh		93.6			45.1			42.1			54.6	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	54.0	9.8	38.5	9.1	62.6	16.0	32.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 49	7.0	40.0	6.0	49.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	4.7	40.7	5.5	15.5	3.9	59.6	14.0	23.3
Green Ext Time (p_c), s	0.0	6.6	0.0	3.5	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	55.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



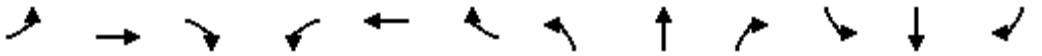
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	168	25	147	223	68	28	1638	143	30	2040	68
Future Volume (veh/h)	55	168	25	147	223	68	28	1638	143	30	2040	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	181	27	158	240	73	30	1761	154	32	2194	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	270	458	268	321	95	380	2272	198	380	2411	80
Arrive On Green	0.04	0.08	0.08	0.08	0.12	0.12	0.21	0.47	0.47	0.21	0.47	0.47
Sat Flow, veh/h	1781	3554	1585	3456	2701	802	1781	4782	417	1781	5076	168
Grp Volume(v), veh/h	59	181	27	158	156	157	30	1252	663	32	1469	798
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1726	1781	1702	1795	1781	1702	1840
Q Serve(g_s), s	3.9	6.0	0.0	5.3	10.2	10.6	1.6	36.7	36.9	1.7	47.8	48.2
Cycle Q Clear(g_c), s	3.9	6.0	0.0	5.3	10.2	10.6	1.6	36.7	36.9	1.7	47.8	48.2
Prop In Lane	1.00		1.00	1.00		0.46	1.00		0.23	1.00		0.09
Lane Grp Cap(c), veh/h	77	270	458	268	211	205	380	1617	853	380	1617	874
V/C Ratio(X)	0.77	0.67	0.06	0.59	0.74	0.77	0.08	0.77	0.78	0.08	0.91	0.91
Avail Cap(c_a), veh/h	119	918	747	268	459	446	380	1617	853	380	1617	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	54.0	30.9	53.5	51.1	51.2	37.8	26.2	26.2	37.8	29.1	29.2
Incr Delay (d2), s/veh	14.9	2.9	0.1	3.3	5.0	5.8	0.1	3.7	6.9	0.1	9.1	15.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.8	0.6	2.4	4.8	4.9	0.7	15.3	17.0	0.8	20.9	24.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	56.9	30.9	56.8	56.0	57.1	37.9	29.8	33.1	37.9	38.2	44.7
LnGrp LOS	E	E	C	E	E	E	D	C	C	D	D	D
Approach Vol, veh/h		267			471			1945			2299	
Approach Delay, s/veh		57.5			56.7			31.1			40.4	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.6	62.0	14.3	14.1	29.6	62.0	9.2	19.3
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	57.0	8.0	* 31	6.0	57.0	8.0	31.0
Max Q Clear Time (g_c+I1), s	3.7	38.9	7.3	8.0	3.6	50.2	5.9	12.6
Green Ext Time (p_c), s	0.0	12.9	0.0	1.2	0.0	6.1	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

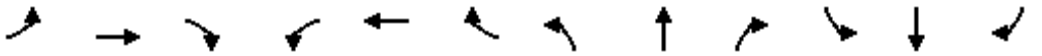
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	102	79	184	74	5	315	9	246	1	1	1
Future Volume (veh/h)	5	102	79	184	74	5	315	9	246	1	1	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	112	87	202	81	5	346	10	270	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	395	283	374	879	54	578	17	528	116	116	116
Arrive On Green	0.05	0.20	0.20	0.11	0.26	0.26	0.33	0.33	0.33	0.20	0.20	0.20
Sat Flow, veh/h	1781	1976	1416	3456	3402	208	1734	50	1585	579	579	579
Grp Volume(v), veh/h	5	100	99	202	42	44	356	0	270	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1615	1728	1777	1833	1784	0	1585	1737	0	0
Q Serve(g_s), s	0.3	5.7	6.3	6.6	2.2	2.2	19.9	0.0	16.4	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	5.7	6.3	6.6	2.2	2.2	19.9	0.0	16.4	0.2	0.0	0.0
Prop In Lane	1.00		0.88	1.00		0.11	0.97		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	89	355	323	374	459	473	595	0	528	347	0	0
V/C Ratio(X)	0.06	0.28	0.31	0.54	0.09	0.09	0.60	0.00	0.51	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	355	323	374	459	473	595	0	528	347	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.3	40.7	40.9	50.7	33.8	33.8	33.3	0.0	32.1	38.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	2.0	2.5	1.6	0.4	0.4	4.4	0.0	3.5	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.7	2.7	3.0	1.0	1.0	9.3	0.0	6.8	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	42.6	43.4	52.2	34.2	34.2	37.7	0.0	35.6	38.5	0.0	0.0
LnGrp LOS	D	D	D	D	C	C	D	A	D	D	A	A
Approach Vol, veh/h		204			288			626			3	
Approach Delay, s/veh		43.3			46.8			36.8			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		45.0	17.0	29.0		29.0	10.0	36.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		40.0	13.0	24.0		24.0	6.0	31.0				
Max Q Clear Time (g_c+I1), s		21.9	8.6	8.3		2.2	2.3	4.2				
Green Ext Time (p_c), s		3.0	0.2	0.9		0.0	0.0	0.4				

Intersection Summary												
HCM 6th Ctrl Delay			40.6									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	72	56	77	99	399	147	1179	94	32	2114	32
Future Volume (veh/h)	228	72	56	77	99	399	147	1179	94	32	2114	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	76	59	81	104	420	155	1241	0	34	2225	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	128	90	979	969	486	212	2350		60	2359	
Arrive On Green	0.08	0.06	0.06	0.28	0.27	0.27	0.12	0.46	0.00	0.03	0.37	0.00
Sat Flow, veh/h	3456	1989	1405	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	240	67	68	81	104	420	155	1241	0	34	2225	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1617	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	8.2	4.4	4.9	2.1	2.6	30.0	10.1	20.8	0.0	2.3	40.2	0.0
Cycle Q Clear(g_c), s	8.2	4.4	4.9	2.1	2.6	30.0	10.1	20.8	0.0	2.3	40.2	0.0
Prop In Lane	1.00		0.87	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	114	104	979	969	486	212	2350		60	2359	
V/C Ratio(X)	0.83	0.59	0.65	0.08	0.11	0.86	0.73	0.53		0.56	0.94	
Avail Cap(c_a), veh/h	288	577	526	979	1036	516	212	2350		252	2359	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.2	54.6	54.9	31.5	32.7	39.3	51.0	23.1	0.0	57.1	36.8	0.0
Incr Delay (d2), s/veh	18.5	4.8	6.8	0.0	0.0	13.7	12.1	0.9	0.0	8.0	9.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	2.1	2.2	0.9	1.2	13.4	5.2	8.4	0.0	1.1	17.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	59.4	61.6	31.6	32.8	52.9	63.1	24.0	0.0	65.1	46.1	0.0
LnGrp LOS	E	E	E	C	C	D	E	C		E	D	
Approach Vol, veh/h		375			605			1396	A		2259	A
Approach Delay, s/veh		68.3			46.6			28.3			46.4	
Approach LOS		E			D			C			D	

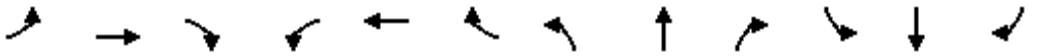
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	60.2	39.0	12.7	19.3	49.0	14.0	37.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	17.0	40.0	6.0	* 39	13.0	* 44	10.0	35.0
Max Q Clear Time (g_c+I1), s	4.3	22.8	4.1	6.9	12.1	42.2	10.2	32.0
Green Ext Time (p_c), s	0.0	8.4	0.0	0.8	0.0	1.7	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

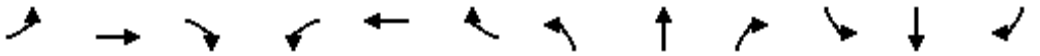
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	0	237	0	0	0	0	1237	159	800	1464	0
Future Volume (veh/h)	180	0	237	0	0	0	0	1237	159	800	1464	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	191	0	252				0	1316	169	851	1557	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	316	0	281				0	1990	256	938	3774	0
Arrive On Green	0.18	0.00	0.18				0.00	0.43	0.43	0.27	0.74	0.00
Sat Flow, veh/h	1781	0	1585				0	4749	588	3456	5274	0
Grp Volume(v), veh/h	191	0	252				0	978	507	851	1557	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1764	1728	1702	0
Q Serve(g_s), s	11.9	0.0	18.7				0.0	27.4	27.4	28.6	13.7	0.0
Cycle Q Clear(g_c), s	11.9	0.0	18.7				0.0	27.4	27.4	28.6	13.7	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	316	0	281				0	1479	767	938	3774	0
V/C Ratio(X)	0.60	0.00	0.90				0.00	0.66	0.66	0.91	0.41	0.00
Avail Cap(c_a), veh/h	371	0	330				0	1479	767	1066	3774	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.5	0.0	48.3				0.0	26.9	26.9	42.3	5.9	0.0
Incr Delay (d2), s/veh	2.1	0.0	23.1				0.0	2.3	4.5	10.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	9.1				0.0	11.4	12.3	13.4	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	0.0	71.4				0.0	29.3	31.4	52.6	6.2	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		443						1485			2408	
Approach Delay, s/veh		61.1						30.0			22.6	
Approach LOS		E						C			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	36.6	57.1		26.3		93.7						
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0						
Max Green Setting (Gmax), s	37.0	44.0		25.0		85.0						
Max Q Clear Time (g_c+I1), s	30.6	29.4		20.7		15.7						
Green Ext Time (p_c), s	2.0	8.8		0.6		19.3						

Intersection Summary												
HCM 6th Ctrl Delay			29.1									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	834	402	1058	921	7	357	47	616	55	41	21
Future Volume (veh/h)	44	834	402	1058	921	7	357	47	616	55	41	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	869	419	1102	959	7	407	0	642	57	43	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1024	457	1189	1657	12	534	0	1226	138	104	53
Arrive On Green	0.06	0.29	0.29	0.24	0.46	0.46	0.15	0.00	0.15	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3616	26	3563	0	3170	828	624	319
Grp Volume(v), veh/h	46	869	419	1102	471	495	407	0	642	122	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1866	1781	0	1585	1771	0	0
Q Serve(g_s), s	3.0	27.6	30.7	25.7	23.5	23.5	13.2	0.0	18.0	7.4	0.0	0.0
Cycle Q Clear(g_c), s	3.0	27.6	30.7	25.7	23.5	23.5	13.2	0.0	18.0	7.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.47		0.18
Lane Grp Cap(c), veh/h	104	1024	457	1189	814	855	534	0	1226	295	0	0
V/C Ratio(X)	0.44	0.85	0.92	0.93	0.58	0.58	0.76	0.00	0.52	0.41	0.00	0.00
Avail Cap(c_a), veh/h	119	1024	457	1214	814	855	534	0	1226	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.6	40.2	41.3	44.8	24.0	24.0	48.9	0.0	28.3	44.7	0.0	0.0
Incr Delay (d2), s/veh	2.9	8.7	25.8	12.0	3.0	2.8	9.9	0.0	1.6	4.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	13.2	15.1	11.9	10.4	10.9	6.6	0.0	7.3	3.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	49.0	67.1	56.8	26.9	26.8	58.8	0.0	29.9	49.0	0.0	0.0
LnGrp LOS	E	D	E	E	C	C	E	A	C	D	A	A
Approach Vol, veh/h		1334			2068			1049			122	
Approach Delay, s/veh		55.0			42.8			41.1			49.0	
Approach LOS		D			D			D			D	

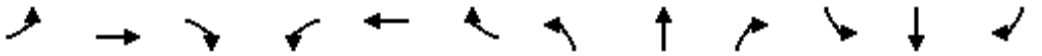
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.0	32.4	39.6	25.0	12.0	60.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	18.0	29.0	34.0	20.0	8.0	* 55
Max Q Clear Time (g_c+I1), s	20.0	27.7	32.7	9.4	5.0	25.5
Green Ext Time (p_c), s	0.0	0.7	0.9	0.4	0.0	7.2

Intersection Summary	
HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	1084	11	65	1266	274	11	40	43	373	43	721
Future Volume (veh/h)	385	1084	11	65	1266	274	11	40	43	373	43	721
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	405	1141	12	68	1333	288	12	42	45	393	45	759
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	1641	17	99	1421	634	49	142	511	76	0	704
Arrive On Green	0.12	0.46	0.46	0.06	0.40	0.40	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	3456	3602	38	1781	3554	1585	0	440	1585	0	0	1585
Grp Volume(v), veh/h	405	563	590	68	1333	288	54	0	45	438	0	759
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	440	0	1585	0	0	1585
Q Serve(g_s), s	10.5	22.7	22.7	3.4	32.4	12.0	0.0	0.0	1.8	0.0	0.0	29.0
Cycle Q Clear(g_c), s	10.5	22.7	22.7	3.4	32.4	12.0	29.0	0.0	1.8	29.0	0.0	29.0
Prop In Lane	1.00		0.02	1.00		1.00	0.22		1.00	0.90		1.00
Lane Grp Cap(c), veh/h	422	809	849	99	1421	634	191	0	511	76	0	704
V/C Ratio(X)	0.96	0.70	0.70	0.69	0.94	0.45	0.28	0.00	0.09	5.77	0.00	1.08
Avail Cap(c_a), veh/h	422	809	849	119	1421	634	191	0	511	76	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.3	19.5	19.5	41.7	25.9	19.8	24.0	0.0	21.3	45.0	0.0	25.0
Incr Delay (d2), s/veh	33.2	4.9	4.7	12.1	13.0	2.3	3.7	0.0	0.3	2175.5	0.0	56.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	9.9	10.4	1.8	15.5	4.7	1.0	0.0	0.7	47.5	0.0	25.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.5	24.4	24.2	53.9	38.9	22.1	27.7	0.0	21.6	2220.5	0.0	81.7
LnGrp LOS	E	C	C	D	D	C	C	A	C	F	A	F
Approach Vol, veh/h		1558			1689			99			1197	
Approach Delay, s/veh		36.8			36.7			24.9			864.3	
Approach LOS		D			D			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.0	10.0	46.0		34.0	15.0	41.0				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		29.0	6.0	* 41		29.0	11.0	36.0				
Max Q Clear Time (g_c+I1), s		31.0	5.4	24.7		31.0	12.5	34.4				
Green Ext Time (p_c), s		0.0	0.0	7.2		0.0	0.0	1.3				

Intersection Summary		
HCM 6th Ctrl Delay		254.5
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	39.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	1880	1826	48	17	120
Future Vol, veh/h	70	1880	1826	48	17	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2089	2029	53	19	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2082	0	-	0	3048	1041
Stage 1	-	-	-	-	2056	-
Stage 2	-	-	-	-	992	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	114	-	-	-	25	195
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	288	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	114	-	-	-	~ 8	195
Mov Cap-2 Maneuver	-	-	-	-	~ 8	-
Stage 1	-	-	-	-	~ 16	-
Stage 2	-	-	-	-	288	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	$ 1094
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	114	-	-	-	50
HCM Lane V/C Ratio	0.682	-	-	-	3.044
HCM Control Delay (s)	86.8	-	-	-	$ 1094
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	3.6	-	-	-	16.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

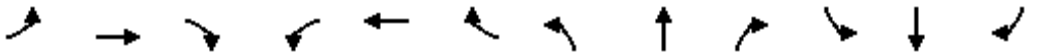
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	376	546	162	184	551	152	207	1973	191	172	1530	221
Future Volume (veh/h)	376	546	162	184	551	152	207	1973	191	172	1530	221
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	384	557	165	188	562	155	211	2013	195	176	1561	226
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	705	208	246	661	182	314	2263	702	134	1702	528
Arrive On Green	0.09	0.26	0.26	0.07	0.24	0.24	0.18	0.44	0.44	0.08	0.33	0.33
Sat Flow, veh/h	3456	2705	799	3456	2754	757	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	384	365	357	188	362	355	211	2013	195	176	1561	226
Grp Sat Flow(s),veh/h/ln	1728	1777	1727	1728	1777	1734	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	11.0	23.0	23.1	6.4	23.3	23.5	13.3	43.5	9.4	9.0	35.2	10.0
Cycle Q Clear(g_c), s	11.0	23.0	23.1	6.4	23.3	23.5	13.3	43.5	9.4	9.0	35.2	10.0
Prop In Lane	1.00		0.46	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	463	450	246	427	417	314	2263	702	134	1702	528
V/C Ratio(X)	1.21	0.79	0.79	0.76	0.85	0.85	0.67	0.89	0.28	1.32	0.92	0.43
Avail Cap(c_a), veh/h	317	533	518	317	533	520	314	2263	702	134	1702	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	41.3	41.3	54.7	43.5	43.6	46.2	30.7	21.2	55.5	38.4	17.5
Incr Delay (d2), s/veh	121.1	6.8	7.3	8.0	10.2	10.8	5.5	5.7	1.0	185.8	9.4	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	10.9	10.7	3.1	11.4	11.3	6.4	18.6	3.7	10.9	16.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.6	48.1	48.6	62.7	53.7	54.3	51.6	36.5	22.2	241.3	47.8	20.0
LnGrp LOS	F	D	D	E	D	D	D	D	C	F	D	C
Approach Vol, veh/h		1106			905			2419			1963	
Approach Delay, s/veh		92.5			55.8			36.6			61.9	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	58.2	12.5	36.3	26.2	45.0	15.0	33.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	46.0	11.0	36.0	15.0	* 40	11.0	36.0
Max Q Clear Time (g_c+I1), s	11.0	45.5	8.4	25.1	15.3	37.2	13.0	25.5
Green Ext Time (p_c), s	0.0	0.5	0.1	3.4	0.0	2.3	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	56.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	17	116	32	14	13	201	2162	47	60	1705	254
Future Volume (veh/h)	246	17	116	32	14	13	201	2162	47	60	1705	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	254	18	120	33	14	13	207	2229	48	62	1758	262
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	342	404	343	321	193	179	236	2681	832	239	2729	847
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.13	0.52	0.52	0.27	1.00	1.00
Sat Flow, veh/h	1383	1870	1585	1251	892	829	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	254	18	120	33	0	27	207	2229	48	62	1758	262
Grp Sat Flow(s),veh/h/ln	1383	1870	1585	1251	0	1721	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	21.5	0.9	7.7	2.6	0.0	1.5	13.7	44.2	1.8	3.3	0.0	0.0
Cycle Q Clear(g_c), s	23.0	0.9	7.7	3.5	0.0	1.5	13.7	44.2	1.8	3.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	342	404	343	321	0	372	236	2681	832	239	2729	847
V/C Ratio(X)	0.74	0.04	0.35	0.10	0.00	0.07	0.88	0.83	0.06	0.26	0.64	0.31
Avail Cap(c_a), veh/h	446	546	462	415	0	502	312	2681	832	239	2729	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	46.6	37.2	39.9	38.6	0.0	37.5	51.1	24.0	14.0	39.3	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.0	0.6	0.1	0.0	0.1	18.9	3.2	0.1	0.5	1.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.4	3.1	0.8	0.0	0.6	7.3	17.9	0.7	1.4	0.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	37.3	40.5	38.7	0.0	37.5	70.0	27.2	14.1	39.7	1.0	0.8
LnGrp LOS	D	D	D	D	A	D	E	C	B	D	A	A
Approach Vol, veh/h		392			60			2484			2082	
Approach Delay, s/veh		47.4			38.2			30.5			2.1	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.1	68.0		30.9	19.9	69.1		30.9				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	* 63		35.0	21.0	50.0		35.0				
Max Q Clear Time (g_c+I1), s	5.3	46.2		25.0	15.7	2.0		5.5				
Green Ext Time (p_c), s	0.0	14.0		0.9	0.3	23.8		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		20.2	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

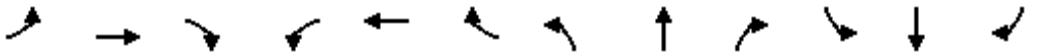
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	16	44	0	23	28	2286	74	38	2008	35
Future Volume (veh/h)	15	0	16	44	0	23	28	2286	74	38	2008	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	0	16	45	0	24	29	2357	76	39	2070	36
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	0	91	127	0	91	432	4012	129	65	2936	911
Arrive On Green	0.06	0.00	0.06	0.06	0.00	0.06	0.24	0.79	0.79	0.04	0.57	0.57
Sat Flow, veh/h	1387	0	1585	1397	0	1585	1781	5082	163	1781	5106	1585
Grp Volume(v), veh/h	15	0	16	45	0	24	29	1575	858	39	2070	36
Grp Sat Flow(s),veh/h/ln	1387	0	1585	1397	0	1585	1781	1702	1841	1781	1702	1585
Q Serve(g_s), s	1.3	0.0	1.2	3.8	0.0	1.7	1.5	21.8	22.0	2.6	34.8	1.2
Cycle Q Clear(g_c), s	3.0	0.0	1.2	5.0	0.0	1.7	1.5	21.8	22.0	2.6	34.8	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	120	0	91	127	0	91	432	2687	1453	65	2936	911
V/C Ratio(X)	0.13	0.00	0.18	0.35	0.00	0.26	0.07	0.59	0.59	0.60	0.71	0.04
Avail Cap(c_a), veh/h	398	0	409	408	0	409	432	2687	1453	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.61	0.61	0.61	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	0.0	53.8	56.2	0.0	54.1	35.0	4.9	5.0	57.0	18.2	11.1
Incr Delay (d2), s/veh	0.5	0.0	0.9	1.7	0.0	1.5	0.0	0.6	1.1	8.7	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	1.4	0.0	0.7	0.7	6.3	7.1	1.3	13.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	0.0	54.8	57.9	0.0	55.6	35.0	5.5	6.1	65.6	19.7	11.2
LnGrp LOS	E	A	D	E	A	E	D	A	A	E	B	B
Approach Vol, veh/h		31			69			2462			2145	
Approach Delay, s/veh		55.4			57.1			6.1			20.4	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	99.7		11.9	34.1	74.0		11.9				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	4.6	24.0		5.0	3.5	36.8		7.0				
Green Ext Time (p_c), s	0.0	31.8		0.1	0.0	21.9		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		13.7	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



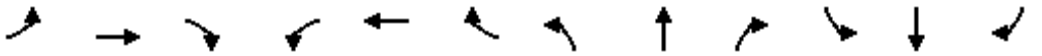
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	1050	236	479	957	324	298	1539	476	383	1294	185
Future Volume (veh/h)	222	1050	236	479	957	324	298	1539	476	383	1294	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	1061	238	484	967	327	301	1555	481	387	1307	187
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1286	288	346	1708	530	432	1830	1279	259	1532	476
Arrive On Green	0.08	0.31	0.31	0.10	0.33	0.33	0.13	0.36	0.36	0.08	0.30	0.30
Sat Flow, veh/h	3456	4171	935	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	224	866	433	484	967	327	301	1555	481	387	1307	187
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	7.6	28.3	28.3	12.0	18.7	20.8	10.0	33.7	2.7	9.0	28.9	8.7
Cycle Q Clear(g_c), s	7.6	28.3	28.3	12.0	18.7	20.8	10.0	33.7	2.7	9.0	28.9	8.7
Prop In Lane	1.00		0.55	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	1049	525	346	1708	530	432	1830	1279	259	1532	476
V/C Ratio(X)	0.79	0.82	0.83	1.40	0.57	0.62	0.70	0.85	0.38	1.49	0.85	0.39
Avail Cap(c_a), veh/h	374	1191	596	346	1745	542	432	1830	1279	259	1532	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.58	0.58	0.58	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	38.5	38.5	54.0	32.8	33.5	50.3	35.5	9.7	55.5	39.5	20.0
Incr Delay (d2), s/veh	8.1	4.4	8.4	196.9	0.4	2.0	2.8	3.1	0.5	241.3	6.2	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	12.3	13.0	14.7	7.7	8.2	4.5	14.3	2.6	12.6	12.9	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	42.9	46.9	250.9	33.2	35.5	53.2	38.6	10.2	296.8	45.8	22.5
LnGrp LOS	E	D	D	F	C	D	D	D	B	F	D	C
Approach Vol, veh/h		1523			1778			2337			1881	
Approach Delay, s/veh		46.9			92.9			34.6			95.1	
Approach LOS		D			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	48.0	17.0	42.0	20.0	41.0	13.9	45.1
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	12.0	* 36	13.0	41.0
Max Q Clear Time (g_c+I1), s	11.0	35.7	14.0	30.3	12.0	30.9	9.6	22.8
Green Ext Time (p_c), s	0.0	2.9	0.0	6.6	0.0	3.7	0.2	7.9

Intersection Summary	
HCM 6th Ctrl Delay	66.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	1576	98	235	1498	60	92	36	219	84	38	136
Future Volume (veh/h)	200	1576	98	235	1498	60	92	36	219	84	38	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	1592	99	237	1513	61	64	76	221	85	38	137
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	1661	516	211	1615	501	548	575	487	398	178	504
Arrive On Green	0.12	0.33	0.33	0.12	0.32	0.32	0.31	0.31	0.31	0.32	0.32	0.32
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1249	559	1585
Grp Volume(v), veh/h	202	1592	99	237	1513	61	64	76	221	123	0	137
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1808	0	1585
Q Serve(g_s), s	12.4	33.6	4.9	13.0	31.7	3.0	2.8	3.2	12.3	5.5	0.0	7.1
Cycle Q Clear(g_c), s	12.4	33.6	4.9	13.0	31.7	3.0	2.8	3.2	12.3	5.5	0.0	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	211	1661	516	211	1615	501	548	575	487	575	0	504
V/C Ratio(X)	0.96	0.96	0.19	1.13	0.94	0.12	0.12	0.13	0.45	0.21	0.00	0.27
Avail Cap(c_a), veh/h	211	1661	516	211	1625	504	548	575	487	575	0	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.2	36.4	26.7	48.5	36.5	26.7	27.4	27.5	30.6	27.4	0.0	28.0
Incr Delay (d2), s/veh	50.4	13.5	0.2	99.9	10.7	0.1	0.4	0.5	3.0	0.8	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	15.8	1.9	11.6	14.5	1.2	1.3	1.5	5.1	2.5	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.6	49.9	26.9	148.4	47.3	26.9	27.8	28.0	33.7	28.3	0.0	29.3
LnGrp LOS	F	D	C	F	D	C	C	C	C	C	A	C
Approach Vol, veh/h		1893			1811			361			260	
Approach Delay, s/veh		53.9			59.8			31.4			28.8	
Approach LOS		D			E			C			C	

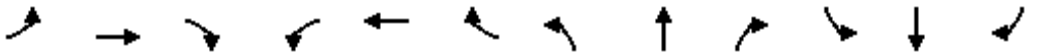
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		39.6	17.0	40.8		40.0	18.0	39.8				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		8.0	13.0	35.0		35.0	13.0	* 35				
Max Q Clear Time (g_c+I1), s		14.3	15.0	35.6		9.1	14.4	33.7				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.1	0.0	1.1				

Intersection Summary												
HCM 6th Ctrl Delay			53.0									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



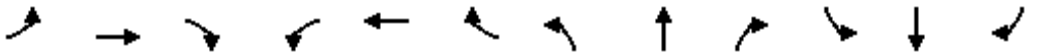
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	1526	261	170	1570	189	348	687	190	206	446	169
Future Volume (veh/h)	267	1526	261	170	1570	189	348	687	190	206	446	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	275	1573	269	175	1619	195	359	708	196	212	460	174
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1917	595	229	1617	194	346	2181	973	269	2103	938
Arrive On Green	0.08	0.38	0.38	0.07	0.35	0.35	0.10	0.61	0.61	0.08	0.59	0.59
Sat Flow, veh/h	3456	5106	1585	3456	4619	555	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	275	1573	269	175	1192	622	359	708	196	212	460	174
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1770	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.5	33.4	15.3	6.0	42.0	42.0	12.0	11.5	6.5	7.2	7.3	7.8
Cycle Q Clear(g_c), s	9.5	33.4	15.3	6.0	42.0	42.0	12.0	11.5	6.5	7.2	7.3	7.8
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1917	595	229	1191	620	346	2181	973	269	2103	938
V/C Ratio(X)	0.95	0.82	0.45	0.76	1.00	1.00	1.04	0.32	0.20	0.79	0.22	0.19
Avail Cap(c_a), veh/h	288	1917	595	230	1191	620	346	2181	973	317	2103	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	33.8	28.2	55.1	39.0	39.0	54.0	11.2	10.2	54.4	11.5	18.6
Incr Delay (d2), s/veh	40.8	3.0	0.5	14.0	26.2	37.1	58.9	0.4	0.5	10.7	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	14.1	5.9	3.0	21.5	24.3	8.0	4.5	2.4	3.5	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.6	36.8	28.7	69.1	65.2	76.1	112.9	11.6	10.7	65.1	11.7	19.0
LnGrp LOS	F	D	C	E	F	F	F	B	B	E	B	B
Approach Vol, veh/h		2117			1989			1263			846	
Approach Delay, s/veh		43.4			68.9			40.2			26.6	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	79.7	12.0	50.0	16.0	77.0	15.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	11.0	39.0	8.0	44.0	12.0	38.0	10.0	* 42
Max Q Clear Time (g_c+I1), s	9.2	13.5	8.0	35.4	14.0	9.8	11.5	44.0
Green Ext Time (p_c), s	0.1	6.0	0.0	6.6	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	48.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



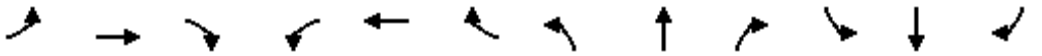
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	1360	237	243	1776	183	319	661	164	130	486	66
Future Volume (veh/h)	122	1360	237	243	1776	183	319	661	164	130	486	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	1402	244	251	1831	189	329	681	169	134	501	68
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1538	267	309	1917	197	374	1230	549	190	920	124
Arrive On Green	0.04	0.35	0.35	0.09	0.41	0.41	0.11	0.35	0.35	0.05	0.29	0.29
Sat Flow, veh/h	3456	4376	761	3456	4704	483	3456	3554	1585	3456	3145	425
Grp Volume(v), veh/h	126	1090	556	251	1322	698	329	681	169	134	282	287
Grp Sat Flow(s),veh/h/ln	1728	1702	1733	1728	1702	1783	1728	1777	1585	1728	1777	1794
Q Serve(g_s), s	4.4	36.7	36.7	8.6	45.2	45.7	11.3	18.6	6.9	4.6	16.0	16.2
Cycle Q Clear(g_c), s	4.4	36.7	36.7	8.6	45.2	45.7	11.3	18.6	6.9	4.6	16.0	16.2
Prop In Lane	1.00		0.44	1.00		0.27	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	144	1196	609	309	1387	727	374	1230	549	190	520	525
V/C Ratio(X)	0.88	0.91	0.91	0.81	0.95	0.96	0.88	0.55	0.31	0.71	0.54	0.55
Avail Cap(c_a), veh/h	144	1220	621	317	1390	728	374	1230	549	259	520	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	37.1	37.2	53.6	34.5	34.6	52.7	31.7	15.6	55.8	35.7	35.7
Incr Delay (d2), s/veh	40.8	10.3	17.8	14.5	14.5	23.9	20.5	1.8	1.5	5.3	4.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	16.7	18.3	4.3	21.1	24.2	5.9	8.3	2.7	2.1	7.5	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.0	47.4	54.9	68.2	49.0	58.5	73.2	33.5	17.0	61.1	39.7	39.8
LnGrp LOS	F	D	D	E	D	E	E	C	B	E	D	D
Approach Vol, veh/h		1772			2271			1179			703	
Approach Delay, s/veh		53.4			54.0			42.2			43.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	46.5	15.7	47.2	17.0	40.1	9.0	53.9
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	11.0	* 43	13.0	35.0	5.0	49.0
Max Q Clear Time (g_c+I1), s	6.6	20.6	10.6	38.7	13.3	18.2	6.4	47.7
Green Ext Time (p_c), s	0.1	5.1	0.0	3.4	0.0	3.2	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	266	1135	204	366	1474	205	350	1075	206	183	708	179
Future Volume (veh/h)	266	1135	204	366	1474	205	350	1075	206	183	708	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	1158	208	373	1504	209	357	1097	210	187	722	183
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	326	1315	236	426	1733	538	403	1764	547	245	1530	475
Arrive On Green	0.09	0.30	0.30	0.12	0.34	0.34	0.12	0.35	0.35	0.07	0.30	0.30
Sat Flow, veh/h	3456	4352	782	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	271	906	460	373	1504	209	357	1097	210	187	722	183
Grp Sat Flow(s),veh/h/ln	1728	1702	1730	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	9.2	30.4	30.4	12.7	33.1	12.0	12.2	21.5	8.2	6.4	13.8	11.0
Cycle Q Clear(g_c), s	9.2	30.4	30.4	12.7	33.1	12.0	12.2	21.5	8.2	6.4	13.8	11.0
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	326	1029	523	426	1733	538	403	1764	547	245	1530	475
V/C Ratio(X)	0.83	0.88	0.88	0.88	0.87	0.39	0.89	0.62	0.38	0.76	0.47	0.39
Avail Cap(c_a), veh/h	346	1078	548	432	1745	542	403	1764	547	317	1530	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	39.8	39.8	51.7	37.1	30.2	52.2	32.7	13.9	54.8	34.3	33.3
Incr Delay (d2), s/veh	15.0	8.3	14.9	17.9	4.9	0.5	20.3	1.7	2.0	7.9	1.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	13.8	15.0	6.6	14.4	4.7	6.4	9.1	3.2	3.0	5.9	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.4	48.2	54.7	69.6	42.1	30.6	72.5	34.4	15.9	62.7	35.3	35.6
LnGrp LOS	E	D	D	E	D	C	E	C	B	E	D	D
Approach Vol, veh/h		1637			2086			1664			1092	
Approach Delay, s/veh		53.3			45.8			40.3			40.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	46.4	19.8	41.3	18.0	41.0	15.3	45.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	38.0	15.0	* 38	14.0	35.0	12.0	41.0
Max Q Clear Time (g_c+I1), s	8.4	23.5	14.7	32.4	14.2	15.8	11.2	35.1
Green Ext Time (p_c), s	0.1	7.3	0.0	3.9	0.0	5.6	0.1	4.6

Intersection Summary	
HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

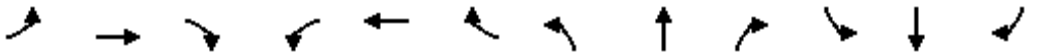
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	936	268	461	1069	177	377	1492	292	239	1209	90
Future Volume (veh/h)	179	936	268	461	1069	177	377	1492	292	239	1209	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	985	282	485	1125	186	397	1571	307	252	1273	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	926	264	451	1301	214	391	3019	937	240	2656	198
Arrive On Green	0.05	0.34	0.34	0.13	0.43	0.43	0.11	0.59	0.59	0.07	0.55	0.55
Sat Flow, veh/h	3456	2729	778	3456	3054	503	3456	5106	1585	3456	4848	362
Grp Volume(v), veh/h	188	640	627	485	653	658	397	1571	307	252	894	474
Grp Sat Flow(s),veh/h/ln	1728	1777	1730	1728	1777	1780	1728	1702	1585	1728	1702	1805
Q Serve(g_s), s	6.0	39.0	39.0	15.0	38.4	38.7	13.0	20.9	13.5	8.0	18.5	18.5
Cycle Q Clear(g_c), s	6.0	39.0	39.0	15.0	38.4	38.7	13.0	20.9	13.5	8.0	18.5	18.5
Prop In Lane	1.00		0.45	1.00		0.28	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	180	603	587	451	757	758	391	3019	937	240	1865	989
V/C Ratio(X)	1.04	1.06	1.07	1.08	0.86	0.87	1.02	0.52	0.33	1.05	0.48	0.48
Avail Cap(c_a), veh/h	180	603	587	451	757	758	391	3019	937	240	1865	989
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	38.0	38.0	50.0	29.9	30.0	51.0	13.9	16.9	53.5	15.9	15.9
Incr Delay (d2), s/veh	78.7	54.1	56.9	64.3	10.1	10.5	49.7	0.6	0.9	71.3	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	25.7	25.5	10.5	18.1	18.3	8.3	7.9	5.1	5.8	7.2	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.2	92.1	94.9	114.3	40.0	40.5	100.7	14.5	17.8	124.8	16.8	17.6
LnGrp LOS	F	F	F	F	D	D	F	B	B	F	B	B
Approach Vol, veh/h		1455			1796			2275			1620	
Approach Delay, s/veh		98.6			60.3			30.0			33.8	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	74.0	20.0	44.0	17.0	69.0	10.0	54.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	35.0	15.0	* 39	13.0	30.0	6.0	48.0
Max Q Clear Time (g_c+I1), s	10.0	22.9	17.0	41.0	15.0	20.5	8.0	40.7
Green Ext Time (p_c), s	0.0	8.8	0.0	0.0	0.0	5.9	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	52.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



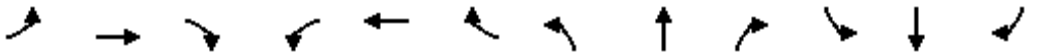
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	306	632	433	239	860	234	555	1815	173	194	1327	164
Future Volume (veh/h)	306	632	433	239	860	234	555	1815	173	194	1327	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	312	645	442	244	878	239	566	1852	177	198	1354	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1021	753	259	1048	284	649	1937	601	193	1489	621
Arrive On Green	0.10	0.29	0.29	0.08	0.26	0.26	0.19	0.38	0.38	0.11	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	3997	1083	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	312	645	442	244	747	370	566	1852	177	198	1354	167
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1675	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	10.7	19.0	5.0	8.4	24.9	25.1	19.1	42.4	9.4	13.0	30.7	4.3
Cycle Q Clear(g_c), s	10.7	19.0	5.0	8.4	24.9	25.1	19.1	42.4	9.4	13.0	30.7	4.3
Prop In Lane	1.00		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1021	753	259	893	439	649	1937	601	193	1489	621
V/C Ratio(X)	0.90	0.63	0.59	0.94	0.84	0.84	0.87	0.96	0.29	1.03	0.91	0.27
Avail Cap(c_a), veh/h	346	1125	799	259	993	489	649	1937	601	193	1489	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	37.2	10.2	55.2	41.8	41.9	47.3	36.3	26.0	53.5	41.0	9.7
Incr Delay (d2), s/veh	25.8	1.0	1.0	40.2	5.9	11.6	12.5	12.4	1.2	71.7	9.8	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	8.4	5.2	5.1	11.1	11.7	9.3	19.5	3.8	9.7	14.1	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.2	38.2	11.2	95.4	47.7	53.5	59.8	48.7	27.3	125.2	50.7	10.8
LnGrp LOS	E	D	B	F	D	D	E	D	C	F	D	B
Approach Vol, veh/h		1399			1361			2595			1719	
Approach Delay, s/veh		38.8			57.8			49.7			55.4	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	50.5	13.0	39.5	27.5	40.0	16.0	36.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	13.0	42.0	9.0	38.0	20.0	* 35	12.0	35.0
Max Q Clear Time (g_c+I1), s	15.0	44.4	10.4	21.0	21.1	32.7	12.7	27.1
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8	0.0	1.8	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	645	139	179	589	100	246	1281	300	181	1254	128
Future Volume (veh/h)	230	645	139	179	589	100	246	1281	300	181	1254	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	672	145	186	614	104	256	1334	312	189	1306	133
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	765	165	193	699	118	415	1413	330	244	1687	172
Arrive On Green	0.14	0.26	0.26	0.11	0.23	0.23	0.12	0.34	0.34	0.14	0.36	0.36
Sat Flow, veh/h	1781	2908	627	1781	3041	514	3456	4135	966	1781	4709	480
Grp Volume(v), veh/h	240	410	407	186	358	360	256	1098	548	189	944	495
Grp Sat Flow(s),veh/h/ln	1781	1777	1758	1781	1777	1778	1728	1702	1697	1781	1702	1784
Q Serve(g_s), s	16.0	26.6	26.6	12.5	23.3	23.4	8.4	37.6	37.7	12.3	29.6	29.6
Cycle Q Clear(g_c), s	16.0	26.6	26.6	12.5	23.3	23.4	8.4	37.6	37.7	12.3	29.6	29.6
Prop In Lane	1.00		0.36	1.00		0.29	1.00		0.57	1.00		0.27
Lane Grp Cap(c), veh/h	252	468	463	193	409	409	415	1163	580	244	1220	639
V/C Ratio(X)	0.95	0.88	0.88	0.96	0.88	0.88	0.62	0.94	0.95	0.78	0.77	0.77
Avail Cap(c_a), veh/h	252	518	513	193	459	459	415	1163	580	244	1220	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	42.3	42.4	53.3	44.6	44.6	50.2	38.4	38.4	50.0	34.2	34.2
Incr Delay (d2), s/veh	43.2	14.7	15.0	54.2	16.0	16.4	2.7	16.0	26.1	14.5	4.8	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	13.5	13.4	8.5	12.0	12.1	3.8	18.0	19.6	6.5	12.9	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.3	57.0	57.3	107.4	60.6	61.0	52.9	54.4	64.5	64.5	39.0	43.1
LnGrp LOS	F	E	E	F	E	E	D	D	E	E	D	D
Approach Vol, veh/h		1057			904			1902			1628	
Approach Delay, s/veh		65.6			70.4			57.1			43.2	
Approach LOS		E			E			E			D	

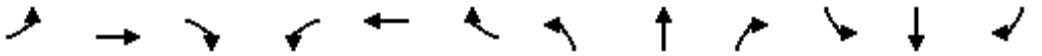
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.4	46.0	17.0	36.6	18.4	48.0	21.0	32.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	41.0	13.0	35.0	11.0	43.0	17.0	31.0
Max Q Clear Time (g_c+I1), s	14.3	39.7	14.5	28.6	10.4	31.6	18.0	25.4
Green Ext Time (p_c), s	0.0	1.1	0.0	2.7	0.1	7.1	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	56.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	527	562	78	100	485	223	87	1838	61	141	1657	312
Future Volume (veh/h)	527	562	78	100	485	223	87	1838	61	141	1657	312
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	538	573	80	102	495	228	89	1876	62	144	1691	318
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	976	435	167	644	287	554	1861	61	554	1585	296
Arrive On Green	0.14	0.27	0.27	0.05	0.18	0.18	0.16	0.37	0.37	0.16	0.37	0.37
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5077	168	3456	4323	806
Grp Volume(v), veh/h	538	573	80	102	495	228	89	1257	681	144	1328	681
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1840	1728	1702	1725
Q Serve(g_s), s	17.0	16.7	3.1	3.5	15.9	11.8	2.7	44.0	44.0	4.4	44.0	44.0
Cycle Q Clear(g_c), s	17.0	16.7	3.1	3.5	15.9	11.8	2.7	44.0	44.0	4.4	44.0	44.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.47
Lane Grp Cap(c), veh/h	490	976	435	167	644	287	554	1248	675	554	1248	633
V/C Ratio(X)	1.10	0.59	0.18	0.61	0.77	0.79	0.16	1.01	1.01	0.26	1.06	1.08
Avail Cap(c_a), veh/h	490	1333	594	202	1036	462	554	1248	675	554	1248	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	37.6	15.2	56.0	46.7	23.8	43.4	38.0	38.0	44.1	38.0	38.0
Incr Delay (d2), s/veh	70.4	0.6	0.2	3.7	2.0	4.9	0.1	27.2	36.9	0.2	44.4	58.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	7.4	1.8	1.6	7.2	4.8	1.2	22.7	26.3	1.9	25.6	28.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.9	38.2	15.4	59.7	48.7	28.8	43.5	65.2	74.9	44.4	82.4	96.0
LnGrp LOS	F	D	B	E	D	C	D	F	F	D	F	F
Approach Vol, veh/h		1191			825			2027			2153	
Approach Delay, s/veh		74.5			44.6			67.5			84.2	
Approach LOS		E			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.3	49.0	9.8	37.9	23.3	49.0	21.0	26.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	44.0	7.0	45.0	6.0	44.0	17.0	35.0
Max Q Clear Time (g_c+I1), s	6.4	46.0	5.5	18.7	4.7	46.0	19.0	17.9
Green Ext Time (p_c), s	0.0	0.0	0.0	4.4	0.0	0.0	0.0	3.8

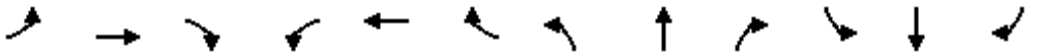
Intersection Summary	
HCM 6th Ctrl Delay	71.6
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	203	37	125	223	119	31	1812	126	79	1679	70
Future Volume (veh/h)	77	203	37	125	223	119	31	1812	126	79	1679	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	81	214	39	132	235	125	33	1907	133	83	1767	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	497	509	187	310	159	323	2234	155	352	2387	100
Arrive On Green	0.06	0.14	0.14	0.05	0.14	0.14	0.18	0.46	0.46	0.20	0.47	0.47
Sat Flow, veh/h	1781	3554	1585	3456	2271	1166	1781	4875	339	1781	5026	210
Grp Volume(v), veh/h	81	214	39	132	182	178	33	1330	710	83	1196	645
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1660	1781	1702	1809	1781	1702	1833
Q Serve(g_s), s	5.4	6.6	0.3	4.5	11.8	12.4	1.9	41.7	42.0	4.7	34.1	34.2
Cycle Q Clear(g_c), s	5.4	6.6	0.3	4.5	11.8	12.4	1.9	41.7	42.0	4.7	34.1	34.2
Prop In Lane	1.00		1.00	1.00		0.70	1.00		0.19	1.00		0.11
Lane Grp Cap(c), veh/h	102	497	509	187	242	227	323	1560	829	352	1617	870
V/C Ratio(X)	0.79	0.43	0.08	0.71	0.75	0.79	0.10	0.85	0.86	0.24	0.74	0.74
Avail Cap(c_a), veh/h	119	918	696	230	459	429	323	1560	829	352	1617	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	47.2	16.9	55.8	49.8	50.1	41.0	28.9	29.0	40.5	25.5	25.5
Incr Delay (d2), s/veh	26.1	0.6	0.1	7.3	4.6	5.9	0.1	6.1	11.1	0.3	3.1	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.0	0.6	2.2	5.6	5.5	0.8	17.8	20.3	2.1	14.1	15.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.9	47.8	17.0	63.1	54.5	56.0	41.1	35.0	40.1	40.8	28.6	31.2
LnGrp LOS	F	D	B	E	D	E	D	C	D	D	C	C
Approach Vol, veh/h		334			492			2073			1924	
Approach Delay, s/veh		52.5			57.4			36.8			30.0	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	60.0	10.5	21.8	25.7	62.0	10.9	21.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	55.0	8.0	31.0	6.0	57.0	8.0	31.0
Max Q Clear Time (g_c+I1), s	6.7	44.0	6.5	8.6	3.9	36.2	7.4	14.4
Green Ext Time (p_c), s	0.0	8.9	0.1	1.4	0.0	13.6	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D



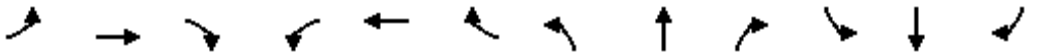
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	131	47	126	111	6	517	12	367	25	7	13
Future Volume (veh/h)	7	131	47	126	111	6	517	12	367	25	7	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	138	49	133	117	6	544	13	386	26	7	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	477	163	450	1072	55	697	17	634	191	52	103
Arrive On Green	0.01	0.18	0.18	0.13	0.31	0.31	0.40	0.40	0.40	0.20	0.20	0.20
Sat Flow, veh/h	1781	2600	888	3456	3440	175	1742	42	1585	957	258	515
Grp Volume(v), veh/h	7	93	94	133	60	63	557	0	386	47	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1711	1728	1777	1839	1783	0	1585	1730	0	0
Q Serve(g_s), s	0.5	5.4	5.7	4.2	2.9	2.9	32.7	0.0	23.2	2.7	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.4	5.7	4.2	2.9	2.9	32.7	0.0	23.2	2.7	0.0	0.0
Prop In Lane	1.00		0.52	1.00		0.10	0.98		1.00	0.55		0.30
Lane Grp Cap(c), veh/h	19	326	314	450	553	573	713	0	634	346	0	0
V/C Ratio(X)	0.38	0.28	0.30	0.30	0.11	0.11	0.78	0.00	0.61	0.14	0.00	0.00
Avail Cap(c_a), veh/h	89	326	314	450	553	573	713	0	634	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.0	42.2	42.4	47.2	29.4	29.5	31.4	0.0	28.6	39.5	0.0	0.0
Incr Delay (d2), s/veh	12.2	2.2	2.5	0.4	0.4	0.4	8.3	0.0	4.3	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.6	1.8	1.3	1.4	15.5	0.0	9.5	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	44.4	44.8	47.6	29.8	29.8	39.7	0.0	32.9	40.3	0.0	0.0
LnGrp LOS	E	D	D	D	C	C	D	A	C	D	A	A
Approach Vol, veh/h		194			256			943			47	
Approach Delay, s/veh		45.6			39.0			36.9			40.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		53.0	20.8	27.0		29.0	5.2	42.5				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		48.0	7.0	* 22		24.0	6.0	23.0				
Max Q Clear Time (g_c+I1), s		34.7	6.2	7.7		4.7	2.5	4.9				
Green Ext Time (p_c), s		4.4	0.0	0.8		0.2	0.0	0.5				

Intersection Summary	
HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



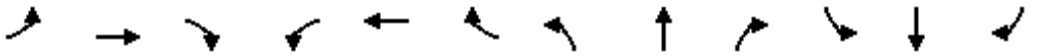
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	325	58	157	113	112	421	85	1178	86	22	1780	37
Future Volume (veh/h)	325	58	157	113	112	421	85	1178	86	22	1780	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	339	60	164	118	117	439	89	1227	0	23	1854	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	396	281	251	172	332	677	505	1574		594	2306	
Arrive On Green	0.11	0.16	0.16	0.05	0.09	0.09	0.28	0.31	0.00	0.33	0.36	0.00
Sat Flow, veh/h	3456	1777	1585	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	339	60	164	118	117	439	89	1227	0	23	1854	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	11.6	3.5	11.7	4.0	3.7	6.8	4.5	26.3	0.0	1.0	31.2	0.0
Cycle Q Clear(g_c), s	11.6	3.5	11.7	4.0	3.7	6.8	4.5	26.3	0.0	1.0	31.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	396	281	251	172	332	677	505	1574		594	2306	
V/C Ratio(X)	0.86	0.21	0.65	0.69	0.35	0.65	0.18	0.78		0.04	0.80	
Avail Cap(c_a), veh/h	432	622	555	230	1036	991	505	1574		594	2306	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.2	44.0	47.4	56.1	51.0	12.0	32.4	37.8	0.0	27.0	34.7	0.0
Incr Delay (d2), s/veh	14.6	0.4	2.9	5.2	0.6	1.1	0.2	3.9	0.0	0.0	3.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	1.6	4.8	1.9	1.7	5.5	2.0	11.4	0.0	0.5	12.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.8	44.4	50.3	61.3	51.6	13.0	32.6	41.7	0.0	27.0	37.8	0.0
LnGrp LOS	E	D	D	E	D	B	C	D		C	D	
Approach Vol, veh/h		563			674			1316	A		1877	A
Approach Delay, s/veh		59.6			28.2			41.1			37.7	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	44.0	42.0	10.0	24.0	38.0	48.0	17.8	16.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	15.0	37.0	8.0	42.0	9.0	43.0	15.0	35.0
Max Q Clear Time (g_c+I1), s	3.0	28.3	6.0	13.7	6.5	33.2	13.6	8.8
Green Ext Time (p_c), s	0.0	5.3	0.1	1.4	0.0	7.8	0.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

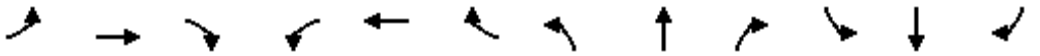
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	0	245	0	0	0	0	1260	234	669	1390	0
Future Volume (veh/h)	77	0	245	0	0	0	0	1260	234	669	1390	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	79	0	250				0	1286	239	683	1418	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	312	0	277				0	2104	391	767	3787	0
Arrive On Green	0.18	0.00	0.18				0.00	0.49	0.49	0.22	0.74	0.00
Sat Flow, veh/h	1781	0	1585				0	4494	804	3456	5274	0
Grp Volume(v), veh/h	79	0	250				0	1012	513	683	1418	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1726	1728	1702	0
Q Serve(g_s), s	4.6	0.0	18.5				0.0	26.1	26.1	23.0	11.9	0.0
Cycle Q Clear(g_c), s	4.6	0.0	18.5				0.0	26.1	26.1	23.0	11.9	0.0
Prop In Lane	1.00		1.00				0.00		0.47	1.00		0.00
Lane Grp Cap(c), veh/h	312	0	277				0	1656	839	767	3787	0
V/C Ratio(X)	0.25	0.00	0.90				0.00	0.61	0.61	0.89	0.37	0.00
Avail Cap(c_a), veh/h	371	0	330				0	1656	839	922	3787	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.7	0.0	48.5				0.0	22.5	22.5	45.3	5.5	0.0
Incr Delay (d2), s/veh	0.4	0.0	23.9				0.0	1.7	3.3	9.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	9.1				0.0	10.6	11.2	10.8	3.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.0	72.3				0.0	24.2	25.8	54.8	5.8	0.0
LnGrp LOS	D	A	E				A	C	C	D	A	A
Approach Vol, veh/h		329						1525			2101	
Approach Delay, s/veh		65.3						24.8			21.7	
Approach LOS		E						C			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	30.6	63.4		26.0		94.0
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	32.0	49.0		25.0		85.0
Max Q Clear Time (g_c+I1), s	25.0	28.1		20.5		13.9
Green Ext Time (p_c), s	1.6	11.4		0.5		16.4

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	977	444	874	911	21	417	69	1098	101	44	25
Future Volume (veh/h)	42	977	444	874	911	21	417	69	1098	101	44	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	1007	458	901	939	22	481	0	1132	104	45	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1066	476	913	1516	36	583	0	1095	191	83	48
Arrive On Green	0.05	0.30	0.30	0.18	0.43	0.43	0.16	0.00	0.16	0.18	0.18	0.18
Sat Flow, veh/h	1781	3554	1585	5023	3549	83	3563	0	3170	1052	455	263
Grp Volume(v), veh/h	43	1007	458	901	470	491	481	0	1132	175	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1855	1781	0	1585	1770	0	0
Q Serve(g_s), s	2.6	30.4	31.3	19.7	22.7	22.7	14.4	0.0	18.0	9.9	0.0	0.0
Cycle Q Clear(g_c), s	2.6	30.4	31.3	19.7	22.7	22.7	14.4	0.0	18.0	9.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.59		0.15
Lane Grp Cap(c), veh/h	81	1066	476	913	759	793	583	0	1095	322	0	0
V/C Ratio(X)	0.53	0.94	0.96	0.99	0.62	0.62	0.83	0.00	1.03	0.54	0.00	0.00
Avail Cap(c_a), veh/h	97	1066	476	913	759	793	583	0	1095	322	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	51.4	37.6	37.9	44.9	24.5	24.5	44.5	0.0	36.0	40.9	0.0	0.0
Incr Delay (d2), s/veh	5.3	17.1	33.1	26.4	3.8	3.6	12.6	0.0	36.2	6.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	15.5	16.3	10.3	10.1	10.5	7.3	0.0	19.8	4.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.7	54.7	71.0	71.3	28.3	28.1	57.0	0.0	72.2	47.3	0.0	0.0
LnGrp LOS	E	D	E	E	C	C	E	A	F	D	A	A
Approach Vol, veh/h		1508			1862			1613			175	
Approach Delay, s/veh		59.7			49.0			67.7			47.3	
Approach LOS		E			D			E			D	

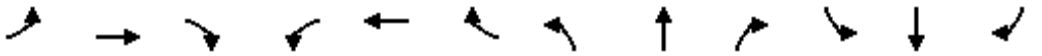
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.0	24.0	38.0		25.0	10.0	52.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		18.0	20.0	33.0		20.0	6.0	* 47				
Max Q Clear Time (g_c+I1), s		20.0	21.7	33.3		11.9	4.6	24.7				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.5	0.0	6.6				

Intersection Summary												
HCM 6th Ctrl Delay			57.9									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	723	1286	12	83	1101	425	44	76	82	286	26	753
Future Volume (veh/h)	723	1286	12	83	1101	425	44	76	82	286	26	753
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	745	1326	12	86	1135	438	45	78	85	295	27	776
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	785	1837	17	130	1260	562	45	59	447	63	0	807
Arrive On Green	0.23	0.51	0.51	0.07	0.35	0.35	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	3456	3609	33	1781	3554	1585	0	209	1585	0	0	1585
Grp Volume(v), veh/h	745	653	685	86	1135	438	123	0	85	322	0	776
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	209	0	1585	0	0	1585
Q Serve(g_s), s	23.4	31.4	31.4	5.2	33.3	27.1	0.0	0.0	4.5	0.0	0.0	31.0
Cycle Q Clear(g_c), s	23.4	31.4	31.4	5.2	33.3	27.1	31.0	0.0	4.5	31.0	0.0	31.0
Prop In Lane	1.00		0.02	1.00		1.00	0.37		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	785	905	949	130	1260	562	104	0	447	63	0	807
V/C Ratio(X)	0.95	0.72	0.72	0.66	0.90	0.78	1.19	0.00	0.19	5.13	0.00	0.96
Avail Cap(c_a), veh/h	785	905	949	130	1260	562	104	0	447	63	0	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.9	21.0	21.0	49.7	33.7	31.7	38.4	0.0	30.0	55.0	0.0	26.0
Incr Delay (d2), s/veh	20.6	5.0	4.7	12.0	10.5	10.3	147.3	0.0	0.9	1895.6	0.0	23.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	13.7	14.4	2.7	15.9	11.8	7.1	0.0	1.8	34.8	0.0	23.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.4	25.9	25.7	61.7	44.2	41.9	185.7	0.0	30.9	1950.6	0.0	49.6
LnGrp LOS	E	C	C	E	D	D	F	A	C	F	A	D
Approach Vol, veh/h		2083			1659			208			1098	
Approach Delay, s/veh		38.9			44.5			122.4			607.1	
Approach LOS		D			D			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		36.0	13.0	61.0		36.0	30.0	44.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		31.0	8.0	56.0		31.0	25.0	39.0				
Max Q Clear Time (g_c+I1), s		33.0	7.2	33.4		33.0	25.4	35.3				
Green Ext Time (p_c), s		0.0	0.0	10.2		0.0	0.0	2.8				

Intersection Summary	
HCM 6th Ctrl Delay	167.8
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	1720	2096	135	11	71
Future Vol, veh/h	113	1720	2096	135	11	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	1773	2161	139	11	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2300	0	-	0	3172	1150
Stage 1	-	-	-	-	2231	-
Stage 2	-	-	-	-	941	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 88	-	-	-	21	165
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	307	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 88	-	-	-	0	165
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	307	-

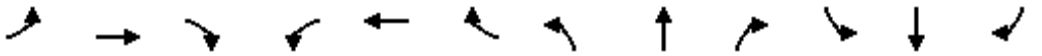
Approach	EB	WB	SB
HCM Control Delay, s	17.9	0	47.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 88	-	-	-	165
HCM Lane V/C Ratio	1.324	-	-	-	0.512
HCM Control Delay (s)	291	-	-	-	47.7
HCM Lane LOS	F	-	-	-	E
HCM 95th %tile Q(veh)	8.6	-	-	-	2.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX P-II

EXISTING PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	446	49	97	618	160	53	1648	69	80	1966	313
Future Volume (veh/h)	385	446	49	97	618	160	53	1648	69	80	1966	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	414	480	53	104	665	172	57	1772	74	86	2114	337
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	1035	462	167	822	442	147	2328	97	163	2388	741
Arrive On Green	0.11	0.29	0.29	0.05	0.23	0.23	0.04	0.46	0.46	0.05	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5027	210	3456	5106	1585
Grp Volume(v), veh/h	414	480	53	104	665	172	57	1199	647	86	2114	337
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1833	1728	1702	1585
Q Serve(g_s), s	13.0	13.3	2.9	3.5	21.2	10.5	1.9	35.1	35.1	2.9	45.1	17.2
Cycle Q Clear(g_c), s	13.0	13.3	2.9	3.5	21.2	10.5	1.9	35.1	35.1	2.9	45.1	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	374	1035	462	167	822	442	147	1576	849	163	2388	741
V/C Ratio(X)	1.11	0.46	0.11	0.62	0.81	0.39	0.39	0.76	0.76	0.53	0.89	0.45
Avail Cap(c_a), veh/h	374	1303	581	202	1125	577	173	1576	849	173	2388	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	34.8	31.2	56.0	43.6	35.0	55.9	26.7	26.7	55.9	29.0	21.6
Incr Delay (d2), s/veh	78.2	0.3	0.1	4.2	3.2	0.6	1.7	3.5	6.4	2.6	5.3	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	5.8	1.1	1.6	9.7	4.1	0.9	14.7	16.5	1.3	19.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.7	35.2	31.3	60.2	46.8	35.6	57.6	30.2	33.1	58.5	34.3	23.6
LnGrp LOS	F	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		947			941			1903			2537	
Approach Delay, s/veh		77.2			46.2			32.0			33.7	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	60.6	9.8	40.0	9.1	61.1	17.0	32.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	45.0	7.0	44.0	6.0	45.0	13.0	38.0
Max Q Clear Time (g_c+I1), s	4.9	37.1	5.5	15.3	3.9	47.1	15.0	23.2
Green Ext Time (p_c), s	0.0	6.3	0.0	3.6	0.0	0.0	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	1084	11	65	1266	274	11	40	43	373	43	721
Future Volume (veh/h)	385	1084	11	65	1266	274	11	40	43	373	43	721
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	405	1141	12	68	1333	288	12	42	45	425	0	759
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	886	2278	24	87	1481	660	119	55	59	831	0	1552
Arrive On Green	0.26	0.63	0.63	0.05	0.42	0.42	0.07	0.07	0.07	0.23	0.00	0.23
Sat Flow, veh/h	3456	3602	38	1781	3554	1585	1781	826	885	3563	0	3170
Grp Volume(v), veh/h	405	563	590	68	1333	288	12	0	87	425	0	759
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1711	1781	0	1585
Q Serve(g_s), s	11.8	20.4	20.4	4.5	42.0	15.5	0.8	0.0	6.0	12.5	0.0	0.0
Cycle Q Clear(g_c), s	11.8	20.4	20.4	4.5	42.0	15.5	0.8	0.0	6.0	12.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	886	1124	1179	87	1481	660	119	0	114	831	0	1552
V/C Ratio(X)	0.46	0.50	0.50	0.78	0.90	0.44	0.10	0.00	0.76	0.51	0.00	0.49
Avail Cap(c_a), veh/h	886	1124	1179	119	1481	660	119	0	114	831	0	1552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.6	11.9	11.9	56.4	32.7	25.0	52.6	0.0	55.1	40.0	0.0	20.5
Incr Delay (d2), s/veh	0.4	1.6	1.5	20.2	9.1	2.1	1.7	0.0	37.5	2.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.2	8.6	2.5	19.5	6.2	0.4	0.0	3.8	5.7	0.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	13.5	13.4	76.6	41.8	27.0	54.3	0.0	92.6	42.3	0.0	21.7
LnGrp LOS	D	B	B	E	D	C	D	A	F	D	A	C
Approach Vol, veh/h		1558			1689			99			1184	
Approach Delay, s/veh		19.8			40.7			88.0			29.1	
Approach LOS		B			D			F			C	

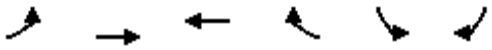
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.0	9.9	80.9		33.0	35.8	55.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		8.0	8.0	57.0		28.0	15.0	* 50				
Max Q Clear Time (g_c+I1), s		8.0	6.5	22.4		14.5	13.8	44.0				
Green Ext Time (p_c), s		0.0	0.0	9.7		4.4	0.2	4.5				

Intersection Summary	
HCM 6th Ctrl Delay	31.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



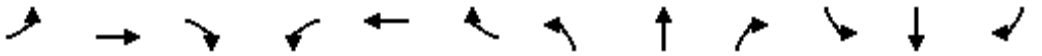
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	1880	1826	48	17	120
Future Volume (veh/h)	70	1880	1826	48	17	120
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	78	2089	2029	53	19	133
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	99	3106	2657	69	63	438
Arrive On Green	0.06	0.61	0.52	0.52	0.31	0.31
Sat Flow, veh/h	1781	5274	5285	133	203	1421
Grp Volume(v), veh/h	78	2089	1349	733	153	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1846	1634	0
Q Serve(g_s), s	5.2	32.5	37.9	38.0	8.6	0.0
Cycle Q Clear(g_c), s	5.2	32.5	37.9	38.0	8.6	0.0
Prop In Lane	1.00			0.07	0.12	0.87
Lane Grp Cap(c), veh/h	99	3106	1767	959	504	0
V/C Ratio(X)	0.78	0.67	0.76	0.76	0.30	0.00
Avail Cap(c_a), veh/h	163	3106	1767	959	504	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.9	15.6	23.0	23.0	31.7	0.0
Incr Delay (d2), s/veh	12.6	1.2	3.2	5.8	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	12.3	15.4	17.5	3.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	68.6	16.8	26.2	28.8	33.2	0.0
LnGrp LOS	E	B	C	C	C	A
Approach Vol, veh/h		2167	2082		153	
Approach Delay, s/veh		18.6	27.1		33.2	
Approach LOS		B	C		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	78.0	42.0	10.7	67.3
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	73.0	37.0	11.0	58.0
Max Q Clear Time (g_c+I1), s	34.5	10.6	7.2	40.0
Green Ext Time (p_c), s	24.7	0.5	0.0	13.7

Intersection Summary	
HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



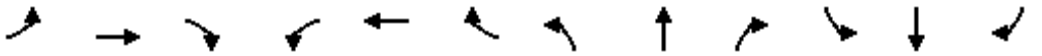
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	527	562	78	100	485	223	87	1838	61	141	1657	312
Future Volume (veh/h)	527	562	78	100	485	223	87	1838	61	141	1657	312
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	538	573	80	102	495	228	89	1876	62	144	1691	318
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	1011	451	167	650	369	164	2372	78	173	2399	745
Arrive On Green	0.14	0.28	0.28	0.05	0.18	0.18	0.05	0.47	0.47	0.05	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5077	168	3456	5106	1585
Grp Volume(v), veh/h	538	573	80	102	495	228	89	1257	681	144	1691	318
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1840	1728	1702	1585
Q Serve(g_s), s	17.0	16.5	4.6	3.5	15.9	10.3	3.0	37.4	37.5	5.0	31.5	9.2
Cycle Q Clear(g_c), s	17.0	16.5	4.6	3.5	15.9	10.3	3.0	37.4	37.5	5.0	31.5	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	490	1011	451	167	650	369	164	1590	860	173	2399	745
V/C Ratio(X)	1.10	0.57	0.18	0.61	0.76	0.62	0.54	0.79	0.79	0.83	0.70	0.43
Avail Cap(c_a), veh/h	490	1392	621	230	1125	581	173	1590	860	173	2399	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	36.6	32.4	56.0	46.6	20.5	55.9	27.0	27.0	56.5	25.2	7.0
Incr Delay (d2), s/veh	70.4	0.5	0.2	3.6	1.9	1.7	3.1	4.1	7.4	28.0	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	7.2	1.8	1.6	7.2	3.9	1.4	15.7	17.8	2.8	12.9	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.9	37.1	32.5	59.6	48.4	22.2	59.0	31.1	34.4	84.5	27.0	8.8
LnGrp LOS	F	D	C	E	D	C	E	C	C	F	C	A
Approach Vol, veh/h		1191			825			2027			2153	
Approach Delay, s/veh		75.1			42.6			33.4			28.2	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	61.1	9.8	39.1	9.7	61.4	22.0	26.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	41.0	8.0	47.0	6.0	41.0	17.0	* 38
Max Q Clear Time (g_c+I1), s	7.0	39.5	5.5	18.5	5.0	33.5	19.0	17.9
Green Ext Time (p_c), s	0.0	1.3	0.1	4.5	0.0	6.2	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	723	1286	12	83	1101	425	44	76	82	286	26	753
Future Volume (veh/h)	723	1286	12	83	1101	425	44	76	82	286	26	753
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	745	1326	12	86	1135	438	45	78	85	314	0	776
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1206	2213	20	108	1125	502	148	68	74	831	0	1846
Arrive On Green	0.35	0.61	0.61	0.06	0.32	0.32	0.08	0.08	0.08	0.23	0.00	0.23
Sat Flow, veh/h	3456	3609	33	1781	3554	1585	1781	818	892	3563	0	3170
Grp Volume(v), veh/h	745	653	685	86	1135	438	45	0	163	314	0	776
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1710	1781	0	1585
Q Serve(g_s), s	21.5	26.9	27.0	5.7	38.0	31.3	2.9	0.0	10.0	8.9	0.0	0.0
Cycle Q Clear(g_c), s	21.5	26.9	27.0	5.7	38.0	31.3	2.9	0.0	10.0	8.9	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	1206	1090	1144	108	1125	502	148	0	142	831	0	1846
V/C Ratio(X)	0.62	0.60	0.60	0.80	1.01	0.87	0.30	0.00	1.14	0.38	0.00	0.42
Avail Cap(c_a), veh/h	1206	1090	1144	119	1125	502	148	0	142	831	0	1846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.4	14.2	14.2	55.6	41.0	38.7	51.7	0.0	55.0	38.7	0.0	13.9
Incr Delay (d2), s/veh	1.0	2.4	2.3	28.1	28.9	18.6	5.2	0.0	119.3	1.3	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	11.1	11.6	3.4	20.9	14.6	1.5	0.0	9.0	4.0	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	16.6	16.5	83.8	69.9	57.3	56.9	0.0	174.3	40.0	0.0	14.6
LnGrp LOS	C	B	B	F	F	E	E	A	F	D	A	B
Approach Vol, veh/h		2083			1659			208			1090	
Approach Delay, s/veh		22.6			67.3			148.9			21.9	
Approach LOS		C			E			F			C	

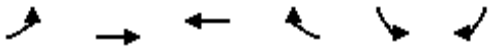
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.0	11.3	78.6		33.0	46.9	43.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		10.0	8.0	55.0		28.0	25.0	* 38				
Max Q Clear Time (g_c+I1), s		12.0	7.7	29.0		10.9	23.5	40.0				
Green Ext Time (p_c), s		0.0	0.0	10.9		4.4	0.5	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			42.4									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	113	1720	2096	135	11	71
Future Volume (veh/h)	113	1720	2096	135	11	71
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	116	1773	2161	139	11	73
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	142	3276	2591	166	58	386
Arrive On Green	0.08	0.64	0.53	0.53	0.28	0.28
Sat Flow, veh/h	1781	5274	5073	313	212	1405
Grp Volume(v), veh/h	116	1773	1495	805	85	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1814	1636	0
Q Serve(g_s), s	7.7	22.9	44.3	45.1	4.8	0.0
Cycle Q Clear(g_c), s	7.7	22.9	44.3	45.1	4.8	0.0
Prop In Lane	1.00			0.17	0.13	0.86
Lane Grp Cap(c), veh/h	142	3276	1799	958	450	0
V/C Ratio(X)	0.81	0.54	0.83	0.84	0.19	0.00
Avail Cap(c_a), veh/h	223	3276	1799	958	450	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.3	11.8	23.8	24.0	33.3	0.0
Incr Delay (d2), s/veh	12.1	0.6	4.6	8.8	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	8.4	18.3	20.9	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	66.4	12.4	28.4	32.8	34.2	0.0
LnGrp LOS	E	B	C	C	C	A
Approach Vol, veh/h		1889	2300		85	
Approach Delay, s/veh		15.8	30.0		34.2	
Approach LOS		B	C		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	82.0	38.0	13.6	68.4
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	77.0	33.0	15.0	58.0
Max Q Clear Time (g_c+I1), s	24.9	6.8	9.7	47.1
Green Ext Time (p_c), s	22.6	0.2	0.1	9.5

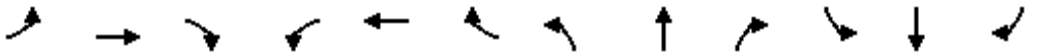
Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX P-III

YEAR 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS



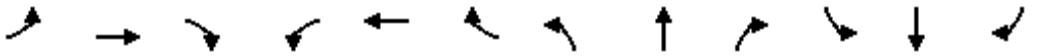
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	680	212	245	694	111	220	1534	217	222	2359	336
Future Volume (veh/h)	172	680	212	245	694	111	220	1534	217	222	2359	336
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	716	223	258	731	117	232	1615	228	234	2483	354
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	689	215	259	920	147	193	1830	568	757	3489	1083
Arrive On Green	0.04	0.26	0.26	0.08	0.30	0.30	0.11	0.36	0.36	0.43	0.68	0.68
Sat Flow, veh/h	3456	2667	831	3456	3068	491	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	181	477	462	258	423	425	232	1615	228	234	2483	354
Grp Sat Flow(s),veh/h/ln	1728	1777	1721	1728	1777	1782	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.0	31.0	31.0	9.0	26.3	26.3	13.0	35.6	12.9	10.4	36.0	10.9
Cycle Q Clear(g_c), s	5.0	31.0	31.0	9.0	26.3	26.3	13.0	35.6	12.9	10.4	36.0	10.9
Prop In Lane	1.00		0.48	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	459	445	259	533	535	193	1830	568	757	3489	1083
V/C Ratio(X)	1.26	1.04	1.04	1.00	0.79	0.79	1.20	0.88	0.40	0.31	0.71	0.33
Avail Cap(c_a), veh/h	144	459	445	259	533	535	193	1830	568	757	3489	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	44.5	44.5	55.5	38.6	38.6	53.5	36.1	28.9	22.8	11.7	7.7
Incr Delay (d2), s/veh	159.9	52.5	53.2	54.6	8.1	8.1	129.9	6.6	2.1	0.2	1.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	20.2	19.7	5.9	12.6	12.6	12.8	15.7	5.3	4.4	12.8	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	217.4	97.0	97.7	110.0	46.7	46.7	183.4	42.7	31.0	23.1	13.0	8.6
LnGrp LOS	F	F	F	F	D	D	F	D	C	C	B	A
Approach Vol, veh/h		1120			1106			2075			3071	
Approach Delay, s/veh		116.8			61.5			57.1			13.2	
Approach LOS		F			E			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	57.0	48.0	14.0	36.0	17.0	88.0	9.0	41.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	19.0	* 43	9.0	* 31	13.0	49.0	5.0	35.0
Max Q Clear Time (g_c+I1), s	12.4	37.6	11.0	33.0	15.0	38.0	7.0	28.3
Green Ext Time (p_c), s	0.4	4.4	0.0	0.0	0.0	10.3	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	48.6
HCM 6th LOS	D

Notes

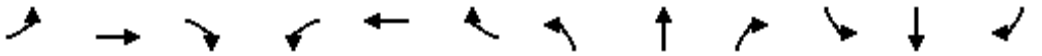
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	16	200	62	30	29	104	1605	19	25	2435	131
Future Volume (veh/h)	216	16	200	62	30	29	104	1605	19	25	2435	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	225	17	208	65	31	30	108	1672	20	26	2536	136
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	408	346	304	191	184	250	2766	859	220	2681	832
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.14	0.54	0.54	0.25	1.00	1.00
Sat Flow, veh/h	1341	1870	1585	1156	873	845	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	225	17	208	65	0	61	108	1672	20	26	2536	136
Grp Sat Flow(s),veh/h/ln	1341	1870	1585	1156	0	1718	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.6	0.9	14.2	5.6	0.0	3.5	6.7	26.8	0.7	1.4	0.0	0.0
Cycle Q Clear(g_c), s	23.1	0.9	14.2	6.5	0.0	3.5	6.7	26.8	0.7	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	408	346	304	0	375	250	2766	859	220	2681	832
V/C Ratio(X)	0.72	0.04	0.60	0.21	0.00	0.16	0.43	0.60	0.02	0.12	0.95	0.16
Avail Cap(c_a), veh/h	413	546	462	389	0	501	250	2766	859	220	2681	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	47.4	37.0	42.2	39.6	0.0	38.0	47.2	18.7	12.8	40.1	0.0	0.0
Incr Delay (d2), s/veh	4.0	0.0	1.7	0.3	0.0	0.2	1.2	1.0	0.0	0.2	6.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.4	5.7	1.6	0.0	1.5	3.0	10.5	0.3	0.6	1.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	37.0	43.9	39.9	0.0	38.2	48.4	19.7	12.8	40.3	6.7	0.3
LnGrp LOS	D	D	D	D	A	D	D	B	B	D	A	A
Approach Vol, veh/h		450			126			1800			2698	
Approach Delay, s/veh		47.4			39.1			21.4			6.7	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.8	70.0		31.2	20.8	68.0		31.2				
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	65.0		35.0	8.0	63.0		35.0				
Max Q Clear Time (g_c+I1), s	3.4	28.8		25.1	8.7	2.0		8.5				
Green Ext Time (p_c), s	0.0	17.8		1.1	0.0	44.6		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			B									



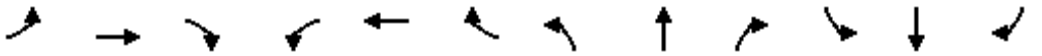
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	0	34	71	0	38	9	1961	22	11	2524	16
Future Volume (veh/h)	55	0	34	71	0	38	9	1961	22	11	2524	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	0	35	74	0	40	9	2043	23	11	2629	17
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	0	147	159	0	147	369	4035	45	27	2936	911
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.21	0.78	0.78	0.02	0.57	0.57
Sat Flow, veh/h	1367	0	1585	1373	0	1585	1781	5205	59	1781	5106	1585
Grp Volume(v), veh/h	57	0	35	74	0	40	9	1336	730	11	2629	17
Grp Sat Flow(s),veh/h/ln	1367	0	1585	1373	0	1585	1781	1702	1860	1781	1702	1585
Q Serve(g_s), s	4.9	0.0	2.5	6.3	0.0	2.8	0.5	17.4	17.5	0.7	54.1	0.6
Cycle Q Clear(g_c), s	7.7	0.0	2.5	8.8	0.0	2.8	0.5	17.4	17.5	0.7	54.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	155	0	147	159	0	147	369	2639	1442	27	2936	911
V/C Ratio(X)	0.37	0.00	0.24	0.46	0.00	0.27	0.02	0.51	0.51	0.40	0.90	0.02
Avail Cap(c_a), veh/h	381	0	409	387	0	409	369	2639	1442	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	0.0	50.5	54.6	0.0	50.7	37.9	5.0	5.0	58.5	22.3	11.0
Incr Delay (d2), s/veh	1.5	0.0	0.8	2.1	0.0	1.0	0.0	0.6	1.1	9.3	4.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	1.0	2.3	0.0	1.2	0.2	5.3	6.0	0.4	21.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	0.0	51.3	56.7	0.0	51.6	37.9	5.6	6.1	67.8	27.1	11.0
LnGrp LOS	E	A	D	E	A	D	D	A	A	E	C	B
Approach Vol, veh/h		92			114			2075			2657	
Approach Delay, s/veh		54.0			54.9			5.9			27.2	
Approach LOS		D			D			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	98.0		16.1	29.9	74.0		16.1				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	2.7	19.5		9.7	2.5	56.1		10.8				
Green Ext Time (p_c), s	0.0	26.6		0.3	0.0	11.9		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		19.4	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



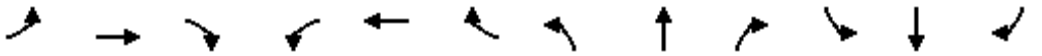
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1169	199	554	1389	301	243	1108	650	356	1745	303
Future Volume (veh/h)	117	1169	199	554	1389	301	243	1108	650	356	1745	303
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	1231	209	583	1462	317	256	1166	684	375	1837	319
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1435	244	346	1957	608	225	1737	1228	259	1745	542
Arrive On Green	0.05	0.33	0.33	0.10	0.38	0.38	0.07	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	3456	4394	746	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	123	954	486	583	1462	317	256	1166	684	375	1837	319
Grp Sat Flow(s),veh/h/ln	1728	1702	1736	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	4.2	31.5	31.5	12.0	29.7	18.5	7.8	23.4	6.6	9.0	41.0	16.1
Cycle Q Clear(g_c), s	4.2	31.5	31.5	12.0	29.7	18.5	7.8	23.4	6.6	9.0	41.0	16.1
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1111	567	346	1957	608	225	1737	1228	259	1745	542
V/C Ratio(X)	0.69	0.86	0.86	1.69	0.75	0.52	1.14	0.67	0.56	1.45	1.05	0.59
Avail Cap(c_a), veh/h	259	1191	608	346	1957	608	225	1737	1228	259	1745	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.8	37.8	54.0	32.0	28.5	56.1	33.9	12.7	55.5	39.5	21.2
Incr Delay (d2), s/veh	4.7	6.1	11.2	321.5	1.6	0.8	97.8	1.8	1.6	221.5	37.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	13.9	15.0	20.6	12.4	7.1	6.5	9.9	4.5	11.9	22.8	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	43.9	49.0	375.5	33.6	29.3	153.9	35.7	14.3	277.0	76.5	25.9
LnGrp LOS	E	D	D	F	C	C	F	D	B	F	F	C
Approach Vol, veh/h		1563			2362			2106			2531	
Approach Delay, s/veh		46.8			117.4			43.1			99.9	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	45.8	17.0	44.2	12.8	46.0	10.2	51.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	7.0	* 41	9.0	45.0
Max Q Clear Time (g_c+I1), s	11.0	25.4	14.0	33.5	9.8	43.0	6.2	31.7
Green Ext Time (p_c), s	0.0	9.0	0.0	5.7	0.0	0.0	0.1	9.1

Intersection Summary	
HCM 6th Ctrl Delay	81.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	2081	47	108	2164	32	69	15	65	46	6	54
Future Volume (veh/h)	60	2081	47	108	2164	32	69	15	65	46	6	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	2168	49	112	2254	33	83	0	68	48	6	56
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	2251	699	104	2379	739	1072	0	477	464	58	462
Arrive On Green	0.04	0.44	0.44	0.06	0.47	0.47	0.30	0.00	0.30	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3563	0	1585	1592	199	1585
Grp Volume(v), veh/h	62	2168	49	112	2254	33	83	0	68	54	0	56
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	0	1585	1791	0	1585
Q Serve(g_s), s	4.1	49.5	2.1	7.0	50.6	1.4	2.0	0.0	3.8	2.6	0.0	3.1
Cycle Q Clear(g_c), s	4.1	49.5	2.1	7.0	50.6	1.4	2.0	0.0	3.8	2.6	0.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	74	2251	699	104	2379	739	1072	0	477	522	0	462
V/C Ratio(X)	0.84	0.96	0.07	1.08	0.95	0.04	0.08	0.00	0.14	0.10	0.00	0.12
Avail Cap(c_a), veh/h	74	2255	700	104	2379	739	1072	0	477	522	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.1	32.6	19.4	56.5	30.6	17.5	30.0	0.0	30.6	31.0	0.0	31.2
Incr Delay (d2), s/veh	53.1	11.5	0.0	110.8	9.0	0.0	0.1	0.0	0.6	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	22.2	0.8	6.3	22.0	0.5	0.9	0.0	1.5	1.2	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.2	44.1	19.4	167.3	39.7	17.5	30.2	0.0	31.3	31.4	0.0	31.7
LnGrp LOS	F	D	B	F	D	B	C	A	C	C	A	C
Approach Vol, veh/h		2279			2399			151			110	
Approach Delay, s/veh		45.4			45.3			30.7			31.6	
Approach LOS		D			D			C			C	

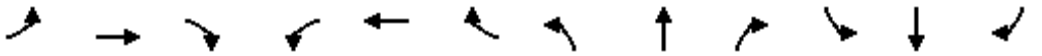
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		42.0	12.0	57.9		40.0	9.0	60.9				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		6.0	7.0	* 53		35.0	5.0	55.0				
Max Q Clear Time (g_c+I1), s		5.8	9.0	51.5		5.1	6.1	52.6				
Green Ext Time (p_c), s		0.0	0.0	1.4		0.4	0.0	2.2				

Intersection Summary		
HCM 6th Ctrl Delay		44.6
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



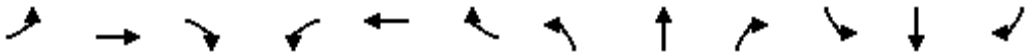
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	1852	272	158	1937	102	278	518	201	260	715	204
Future Volume (veh/h)	101	1852	272	158	1937	102	278	518	201	260	715	204
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	106	1949	286	166	2039	107	293	545	212	274	753	215
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	2042	634	202	2029	106	1696	2603	1161	288	1125	502
Arrive On Green	0.04	0.40	0.40	0.06	0.41	0.41	0.49	0.73	0.73	0.08	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	4968	260	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	106	1949	286	166	1395	751	293	545	212	274	753	215
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1824	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.6	44.4	11.9	5.7	49.0	49.0	5.7	5.8	5.0	9.5	22.0	12.9
Cycle Q Clear(g_c), s	3.6	44.4	11.9	5.7	49.0	49.0	5.7	5.8	5.0	9.5	22.0	12.9
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	2042	634	202	1390	745	1696	2603	1161	288	1125	502
V/C Ratio(X)	0.74	0.95	0.45	0.82	1.00	1.01	0.17	0.21	0.18	0.95	0.67	0.43
Avail Cap(c_a), veh/h	144	2042	634	202	1390	745	1696	2603	1161	288	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	34.9	14.8	55.9	35.5	35.5	17.0	5.1	5.0	54.8	35.5	32.4
Incr Delay (d2), s/veh	17.8	11.1	0.5	23.3	25.0	35.2	0.0	0.2	0.3	40.0	3.2	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	20.1	4.3	3.1	24.6	28.5	2.3	2.0	1.6	5.7	10.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	46.0	15.3	79.2	60.5	70.7	17.0	5.3	5.3	94.7	38.7	35.1
LnGrp LOS	E	D	B	E	F	F	B	A	A	F	D	D
Approach Vol, veh/h		2341			2312			1050			1242	
Approach Delay, s/veh		43.6			65.1			8.6			50.4	
Approach LOS		D			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	93.9	11.0	53.0	64.9	43.0	10.0	54.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	10.0	38.0	7.0	47.0	10.0	* 38	5.0	* 49
Max Q Clear Time (g_c+I1), s	11.5	7.8	7.7	46.4	7.7	24.0	5.6	51.0
Green Ext Time (p_c), s	0.0	4.8	0.0	0.5	0.2	5.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



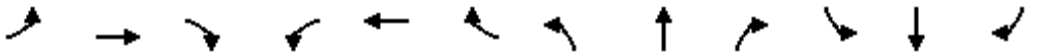
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	1824	314	277	1892	94	233	433	259	238	932	70
Future Volume (veh/h)	77	1824	314	277	1892	94	233	433	259	238	932	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	1900	327	289	1971	98	243	451	270	248	971	73
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	1758	298	288	2166	107	259	1036	462	1093	1814	136
Arrive On Green	0.04	0.40	0.40	0.08	0.43	0.43	0.08	0.29	0.29	0.32	0.54	0.54
Sat Flow, veh/h	3456	4395	745	3456	4983	247	3456	3554	1585	3456	3350	252
Grp Volume(v), veh/h	80	1465	762	289	1345	724	243	451	270	248	515	529
Grp Sat Flow(s),veh/h/ln	1728	1702	1736	1728	1702	1826	1728	1777	1585	1728	1777	1825
Q Serve(g_s), s	2.7	48.0	48.0	10.0	44.3	44.6	8.4	12.4	19.7	6.3	22.5	22.5
Cycle Q Clear(g_c), s	2.7	48.0	48.0	10.0	44.3	44.6	8.4	12.4	19.7	6.3	22.5	22.5
Prop In Lane	1.00		0.43	1.00		0.14	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	140	1362	695	288	1479	794	259	1036	462	1093	962	988
V/C Ratio(X)	0.57	1.08	1.10	1.00	0.91	0.91	0.94	0.44	0.58	0.23	0.54	0.54
Avail Cap(c_a), veh/h	144	1362	695	288	1503	806	259	1036	462	1093	962	988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	36.0	36.0	55.0	31.7	31.8	55.2	34.5	46.2	30.2	17.8	17.8
Incr Delay (d2), s/veh	5.1	47.5	63.9	53.9	8.4	14.5	39.3	1.3	5.3	0.1	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	28.4	32.1	6.5	19.5	22.4	5.1	5.5	8.4	2.7	9.6	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	83.5	99.9	108.9	40.1	46.3	94.5	35.8	51.6	30.3	19.9	19.9
LnGrp LOS	E	F	F	F	D	D	F	D	D	C	B	B
Approach Vol, veh/h		2307			2358			964			1292	
Approach Delay, s/veh		88.2			50.5			55.0			21.9	
Approach LOS		F			D			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.4	40.0	14.0	53.0	13.0	70.4	9.8	57.2
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	9.0	* 35	10.0	48.0	9.0	35.0	5.0	* 53
Max Q Clear Time (g_c+I1), s	8.3	21.7	12.0	50.0	10.4	24.5	4.7	46.6
Green Ext Time (p_c), s	0.1	3.3	0.0	0.0	0.0	5.0	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



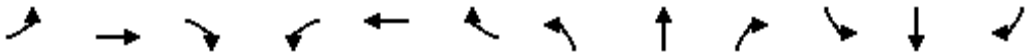
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	1480	339	289	1493	326	344	634	313	292	1284	292
Future Volume (veh/h)	350	1480	339	289	1493	326	344	634	313	292	1284	292
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	357	1510	346	295	1523	333	351	647	319	298	1310	298
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1468	335	288	1676	520	374	2240	695	288	2113	656
Arrive On Green	0.10	0.35	0.35	0.08	0.33	0.33	0.11	0.44	0.44	0.08	0.41	0.41
Sat Flow, veh/h	3456	4157	947	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	357	1235	621	295	1523	333	351	647	319	298	1310	298
Grp Sat Flow(s),veh/h/ln	1728	1702	1700	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	42.4	42.4	10.0	34.3	19.9	12.1	9.8	17.0	10.0	24.3	14.2
Cycle Q Clear(g_c), s	12.0	42.4	42.4	10.0	34.3	19.9	12.1	9.8	17.0	10.0	24.3	14.2
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1202	600	288	1676	520	374	2240	695	288	2113	656
V/C Ratio(X)	1.03	1.03	1.03	1.02	0.91	0.64	0.94	0.29	0.46	1.03	0.62	0.45
Avail Cap(c_a), veh/h	346	1202	600	288	1702	528	374	2240	695	288	2113	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	38.8	38.8	55.0	38.6	29.4	53.1	21.6	23.7	55.0	27.7	19.3
Incr Delay (d2), s/veh	57.2	33.1	45.8	59.4	7.5	2.5	31.0	0.3	2.2	62.3	1.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	22.9	25.0	6.7	15.3	7.9	6.9	4.0	6.7	6.8	10.1	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.2	71.9	84.6	114.4	46.1	31.9	84.1	22.0	25.8	117.3	29.1	21.6
LnGrp LOS	F	F	F	F	D	C	F	C	C	F	C	C
Approach Vol, veh/h		2213			2151			1317			1906	
Approach Delay, s/veh		81.8			53.3			39.5			41.7	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	58.0	14.0	47.4	17.0	55.0	17.0	44.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	40.0	10.0	42.0	13.0	37.0	12.0	* 40
Max Q Clear Time (g_c+I1), s	12.0	19.0	12.0	44.4	14.1	26.3	14.0	36.3
Green Ext Time (p_c), s	0.0	5.7	0.0	0.0	0.0	7.1	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	56.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



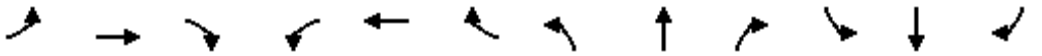
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	1068	202	461	1094	161	283	983	283	223	1690	254
Future Volume (veh/h)	271	1068	202	461	1094	161	283	983	283	223	1690	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	279	1101	208	475	1128	166	292	1013	292	230	1742	262
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	995	187	346	1088	160	345	3110	965	288	2657	397
Arrive On Green	0.08	0.33	0.33	0.10	0.35	0.35	0.10	0.61	0.61	0.08	0.59	0.59
Sat Flow, veh/h	3456	2984	562	3456	3109	456	3456	5106	1585	3456	4484	670
Grp Volume(v), veh/h	279	654	655	475	643	651	292	1013	292	230	1320	684
Grp Sat Flow(s),veh/h/ln	1728	1777	1769	1728	1777	1788	1728	1702	1585	1728	1702	1750
Q Serve(g_s), s	9.0	40.0	40.0	12.0	42.0	42.0	10.0	11.6	10.6	7.8	30.9	31.4
Cycle Q Clear(g_c), s	9.0	40.0	40.0	12.0	42.0	42.0	10.0	11.6	10.6	7.8	30.9	31.4
Prop In Lane	1.00		0.32	1.00		0.26	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	259	592	590	346	622	626	345	3110	965	288	2017	1037
V/C Ratio(X)	1.08	1.10	1.11	1.37	1.03	1.04	0.85	0.33	0.30	0.80	0.65	0.66
Avail Cap(c_a), veh/h	259	592	590	346	622	626	346	3110	965	346	2017	1037
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	40.0	40.0	54.0	39.0	39.0	53.1	11.4	11.2	54.0	16.3	16.4
Incr Delay (d2), s/veh	77.7	68.7	71.3	185.9	45.3	46.6	17.4	0.3	0.8	10.6	1.7	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	28.5	28.8	14.1	25.8	26.2	5.2	4.4	3.8	3.8	12.0	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.2	108.7	111.3	239.9	84.3	85.6	70.6	11.7	12.0	64.6	17.9	19.7
LnGrp LOS	F	F	F	F	F	F	E	B	B	E	B	B
Approach Vol, veh/h		1588			1769			1597			2234	
Approach Delay, s/veh		114.1			126.6			22.5			23.3	
Approach LOS		F			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	79.1	16.0	45.0	16.0	77.1	14.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	12.0	39.0	12.0	39.0	12.0	39.0	9.0	* 42
Max Q Clear Time (g_c+I1), s	9.8	13.6	14.0	42.0	12.0	33.4	11.0	44.0
Green Ext Time (p_c), s	0.2	9.3	0.0	0.0	0.0	4.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	68.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



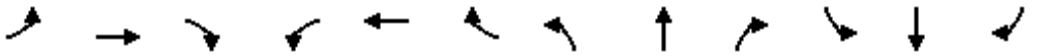
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	708	591	341	729	85	409	1450	270	145	1815	562
Future Volume (veh/h)	177	708	591	341	729	85	409	1450	270	145	1815	562
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	745	622	359	767	89	431	1526	284	153	1911	592
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	609	1125	727	288	1000	115	492	2042	634	579	3018	1216
Arrive On Green	0.18	0.32	0.32	0.08	0.22	0.22	0.14	0.40	0.40	0.33	0.59	0.59
Sat Flow, veh/h	3456	3554	1585	3456	4643	535	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	186	745	622	359	561	295	431	1526	284	153	1911	592
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1774	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.6	21.8	38.0	10.0	18.6	18.8	14.7	30.7	19.0	7.6	29.4	12.6
Cycle Q Clear(g_c), s	5.6	21.8	38.0	10.0	18.6	18.8	14.7	30.7	19.0	7.6	29.4	12.6
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	609	1125	727	288	733	382	492	2042	634	579	3018	1216
V/C Ratio(X)	0.31	0.66	0.85	1.25	0.77	0.77	0.88	0.75	0.45	0.26	0.63	0.49
Avail Cap(c_a), veh/h	609	1125	727	288	1021	532	547	2042	634	579	3018	1216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	35.4	28.9	55.0	44.2	44.3	50.4	30.8	38.4	29.9	16.0	9.3
Incr Delay (d2), s/veh	0.3	1.5	9.8	136.6	2.3	4.6	13.9	2.5	2.3	0.2	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	9.6	17.5	9.8	8.0	8.7	7.3	12.9	7.8	3.3	11.2	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	36.9	38.7	191.6	46.5	48.9	64.3	33.4	40.7	30.1	17.1	10.7
LnGrp LOS	D	D	D	F	D	D	E	C	D	C	B	B
Approach Vol, veh/h		1553			1215			2241			2656	
Approach Delay, s/veh		38.4			90.0			40.2			16.4	
Approach LOS		D			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.0	53.0	14.0	43.0	21.1	76.9	26.2	30.8
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	* 48	10.0	38.0	19.0	35.0	12.0	* 36
Max Q Clear Time (g_c+I1), s	9.6	32.7	12.0	40.0	16.7	31.4	7.6	20.8
Green Ext Time (p_c), s	0.0	10.3	0.0	0.0	0.4	3.4	0.2	5.1

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



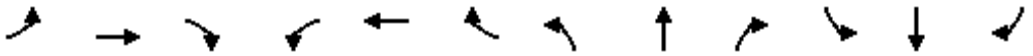
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	499	105	272	655	74	271	983	216	150	1518	128
Future Volume (veh/h)	160	499	105	272	655	74	271	983	216	150	1518	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	525	111	286	689	78	285	1035	227	158	1598	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	639	134	252	807	91	288	1257	275	323	1949	165
Arrive On Green	0.11	0.22	0.22	0.14	0.25	0.25	0.08	0.30	0.30	0.18	0.41	0.41
Sat Flow, veh/h	1781	2921	615	1781	3218	364	3456	4191	918	1781	4797	405
Grp Volume(v), veh/h	168	318	318	286	380	387	285	840	422	158	1134	599
Grp Sat Flow(s),veh/h/ln	1781	1777	1760	1781	1777	1805	1728	1702	1705	1781	1702	1797
Q Serve(g_s), s	11.1	20.5	20.6	17.0	24.5	24.5	9.9	27.5	27.6	9.6	35.6	35.6
Cycle Q Clear(g_c), s	11.1	20.5	20.6	17.0	24.5	24.5	9.9	27.5	27.6	9.6	35.6	35.6
Prop In Lane	1.00		0.35	1.00		0.20	1.00		0.54	1.00		0.23
Lane Grp Cap(c), veh/h	195	388	385	252	445	452	288	1021	512	323	1383	730
V/C Ratio(X)	0.86	0.82	0.83	1.13	0.85	0.85	0.99	0.82	0.82	0.49	0.82	0.82
Avail Cap(c_a), veh/h	223	518	513	252	548	556	288	1021	512	323	1383	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	44.6	44.7	51.5	42.9	42.9	54.9	39.0	39.1	44.1	31.7	31.7
Incr Delay (d2), s/veh	25.0	7.6	8.1	97.4	10.6	10.5	50.1	7.5	14.0	1.1	5.5	10.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	9.8	9.8	14.4	12.0	12.2	6.3	12.5	13.4	4.3	15.4	17.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	52.2	52.8	148.9	53.4	53.4	105.0	46.5	53.1	45.3	37.2	41.8
LnGrp LOS	E	D	D	F	D	D	F	D	D	D	D	D
Approach Vol, veh/h		804			1053			1547			1891	
Approach Delay, s/veh		57.7			79.3			59.1			39.3	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.8	41.0	21.0	31.2	14.0	53.8	17.2	35.1
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 36	17.0	35.0	10.0	40.0	15.0	37.0
Max Q Clear Time (g_c+I1), s	11.6	29.6	19.0	22.6	11.9	37.6	13.1	26.5
Green Ext Time (p_c), s	0.1	4.1	0.0	3.2	0.0	2.0	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	55.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



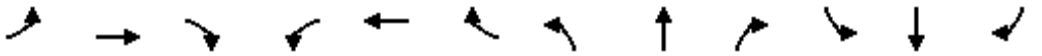
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	484	94	104	664	168	100	1848	72	84	2196	328
Future Volume (veh/h)	404	484	94	104	664	168	100	1848	72	84	2196	328
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	425	509	99	109	699	177	105	1945	76	88	2312	345
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	965	430	168	841	375	168	2143	84	334	2169	313
Arrive On Green	0.08	0.27	0.27	0.05	0.24	0.24	0.05	0.43	0.43	0.10	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5042	197	3456	4506	651
Grp Volume(v), veh/h	425	509	99	109	699	177	105	1312	709	88	1728	929
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1753
Q Serve(g_s), s	10.0	14.6	5.8	3.7	22.4	8.8	3.6	43.3	43.5	2.8	57.8	57.8
Cycle Q Clear(g_c), s	10.0	14.6	5.8	3.7	22.4	8.8	3.6	43.3	43.5	2.8	57.8	57.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.37
Lane Grp Cap(c), veh/h	288	965	430	168	841	375	168	1447	780	334	1639	844
V/C Ratio(X)	1.48	0.53	0.23	0.65	0.83	0.47	0.63	0.91	0.91	0.26	1.05	1.10
Avail Cap(c_a), veh/h	288	1096	489	230	1036	462	173	1447	780	334	1639	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	37.2	34.0	56.1	43.5	23.0	56.0	32.3	32.3	50.2	31.1	31.1
Incr Delay (d2), s/veh	232.0	0.4	0.3	4.1	4.8	0.9	6.7	9.8	16.5	0.4	38.1	62.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.6	6.4	2.3	1.7	10.4	3.4	1.7	19.3	22.4	1.2	31.4	38.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	287.0	37.6	34.2	60.2	48.3	23.9	62.7	42.1	48.8	50.7	69.3	93.4
LnGrp LOS	F	D	C	E	D	C	E	D	D	D	F	F
Approach Vol, veh/h		1033			985			2126			2745	
Approach Delay, s/veh		139.9			45.3			45.3			76.8	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	56.0	9.8	37.6	9.8	62.8	14.0	33.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 51	8.0	37.0	6.0	51.0	10.0	35.0
Max Q Clear Time (g_c+I1), s	4.8	45.5	5.7	16.6	5.6	59.8	12.0	24.4
Green Ext Time (p_c), s	0.0	4.8	0.1	3.7	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	72.1
HCM 6th LOS	E

Notes

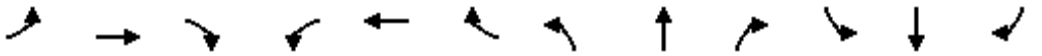
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	183	26	177	252	81	29	1867	166	36	2305	82
Future Volume (veh/h)	62	183	26	177	252	81	29	1867	166	36	2305	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	193	27	186	265	85	31	1965	175	38	2426	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	424	489	202	348	109	337	2308	204	337	2448	86
Arrive On Green	0.05	0.12	0.12	0.06	0.13	0.13	0.19	0.48	0.48	0.19	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2662	835	1781	4776	423	1781	5064	178
Grp Volume(v), veh/h	65	193	27	186	175	175	31	1397	743	38	1626	886
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1720	1781	1702	1794	1781	1702	1838
Q Serve(g_s), s	4.3	6.1	0.2	6.4	11.4	11.8	1.7	43.2	43.8	2.1	56.7	57.7
Cycle Q Clear(g_c), s	4.3	6.1	0.2	6.4	11.4	11.8	1.7	43.2	43.8	2.1	56.7	57.7
Prop In Lane	1.00		1.00	1.00		0.49	1.00		0.24	1.00		0.10
Lane Grp Cap(c), veh/h	83	424	489	202	232	225	337	1645	867	337	1645	888
V/C Ratio(X)	0.78	0.46	0.06	0.92	0.75	0.78	0.09	0.85	0.86	0.11	0.99	1.00
Avail Cap(c_a), veh/h	104	918	709	202	459	444	337	1645	867	337	1645	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	49.2	17.3	56.2	50.3	50.5	40.2	27.2	27.3	40.3	30.7	30.9
Incr Delay (d2), s/veh	25.2	0.8	0.0	42.3	4.9	5.7	0.1	5.7	10.6	0.1	19.6	29.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.7	0.4	4.0	5.4	5.4	0.8	18.3	20.7	1.0	26.8	31.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	50.0	17.4	98.5	55.2	56.2	40.3	32.8	38.0	40.5	50.2	60.4
LnGrp LOS	F	D	B	F	E	E	D	C	D	D	D	E
Approach Vol, veh/h		285			536			2171			2550	
Approach Delay, s/veh		54.2			70.5			34.7			53.6	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.7	63.0	11.0	19.3	26.7	63.0	9.6	20.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	58.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	4.1	45.8	8.4	8.1	3.7	59.7	6.3	13.8
Green Ext Time (p_c), s	0.0	10.1	0.0	1.2	0.0	0.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D



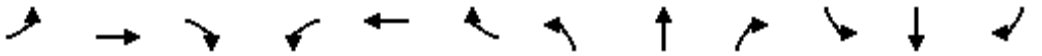
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	110	83	215	84	5	331	9	268	1	1	1
Future Volume (veh/h)	5	110	83	215	84	5	331	9	268	1	1	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	116	87	226	88	5	348	9	282	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	14	368	255	432	1057	60	565	15	515	116	116	116
Arrive On Green	0.01	0.18	0.18	0.12	0.31	0.31	0.32	0.32	0.32	0.20	0.20	0.20
Sat Flow, veh/h	1781	2005	1392	3456	3420	193	1738	45	1585	579	579	579
Grp Volume(v), veh/h	5	102	101	226	45	48	357	0	282	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1620	1728	1777	1836	1783	0	1585	1737	0	0
Q Serve(g_s), s	0.3	6.0	6.5	7.3	2.2	2.2	20.3	0.0	17.5	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	6.0	6.5	7.3	2.2	2.2	20.3	0.0	17.5	0.2	0.0	0.0
Prop In Lane	1.00		0.86	1.00		0.11	0.97		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	14	326	297	432	549	567	580	0	515	347	0	0
V/C Ratio(X)	0.37	0.31	0.34	0.52	0.08	0.08	0.62	0.00	0.55	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	326	297	461	549	567	580	0	515	347	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.2	42.4	42.7	49.2	29.4	29.4	34.2	0.0	33.3	38.5	0.0	0.0
Incr Delay (d2), s/veh	15.6	2.5	3.1	1.0	0.3	0.3	4.8	0.0	4.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.9	2.9	3.2	1.0	1.0	9.5	0.0	7.3	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	44.9	45.8	50.1	29.7	29.7	39.0	0.0	37.4	38.5	0.0	0.0
LnGrp LOS	E	D	D	D	C	C	D	A	D	D	A	A
Approach Vol, veh/h		208			319			639			3	
Approach Delay, s/veh		46.1			44.2			38.3			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	20.0	27.0		29.0	4.9	42.1				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		39.0	16.0	* 22		24.0	6.0	32.0				
Max Q Clear Time (g_c+I1), s		22.3	9.3	8.5		2.2	2.3	4.2				
Green Ext Time (p_c), s		3.0	0.4	0.9		0.0	0.0	0.4				

Intersection Summary		
HCM 6th Ctrl Delay		41.3
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	76	64	81	104	419	168	1394	99	34	2392	48
Future Volume (veh/h)	248	76	64	81	104	419	168	1394	99	34	2392	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	80	67	85	109	441	177	1467	0	36	2518	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	132	100	264	278	634	193	1872		573	3785	
Arrive On Green	0.08	0.07	0.07	0.08	0.08	0.08	0.11	0.37	0.00	0.32	0.59	0.00
Sat Flow, veh/h	3456	1924	1460	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	261	73	74	85	109	441	177	1467	0	36	2518	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1607	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	9.0	4.8	5.4	2.8	3.5	5.0	11.8	30.6	0.0	1.7	31.8	0.0
Cycle Q Clear(g_c), s	9.0	4.8	5.4	2.8	3.5	5.0	11.8	30.6	0.0	1.7	31.8	0.0
Prop In Lane	1.00		0.91	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	122	110	264	278	634	193	1872		573	3785	
V/C Ratio(X)	1.01	0.60	0.67	0.32	0.39	0.70	0.92	0.78		0.06	0.67	
Avail Cap(c_a), veh/h	259	563	509	264	1036	972	193	1872		573	3785	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.5	54.3	54.6	52.5	52.6	14.8	53.0	33.8	0.0	28.2	16.7	0.0
Incr Delay (d2), s/veh	57.7	4.7	6.8	0.7	0.9	1.4	42.2	3.4	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	2.3	2.4	1.2	1.6	6.8	7.5	13.1	0.0	0.7	11.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.2	59.0	61.4	53.2	53.5	16.2	95.1	37.1	0.0	28.2	17.6	0.0
LnGrp LOS	F	E	E	D	D	B	F	D		C	B	
Approach Vol, veh/h		408			635			1644	A		2554	A
Approach Delay, s/veh		94.1			27.6			43.4			17.8	
Approach LOS		F			C			D			B	

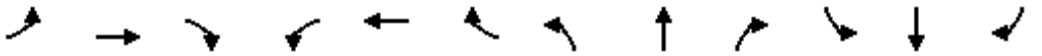
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.6	49.0	14.2	13.2	17.0	75.6	13.0	14.4
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 44	6.0	* 38	13.0	45.0	9.0	35.0
Max Q Clear Time (g_c+I1), s	3.7	32.6	4.8	7.4	13.8	33.8	11.0	7.0
Green Ext Time (p_c), s	0.0	7.4	0.0	0.8	0.0	10.3	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



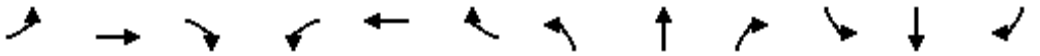
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	0	291	0	0	0	0	1460	169	859	1695	0
Future Volume (veh/h)	196	0	291	0	0	0	0	1460	169	859	1695	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	206	0	306				0	1537	178	904	1784	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	321	0	285				0	1810	209	993	3714	0
Arrive On Green	0.18	0.00	0.18				0.00	0.39	0.39	0.29	0.73	0.00
Sat Flow, veh/h	1781	0	1585				0	4809	537	3456	5274	0
Grp Volume(v), veh/h	206	0	306				0	1127	588	904	1784	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1774	1728	1702	0
Q Serve(g_s), s	10.7	0.0	18.0				0.0	30.2	30.3	25.2	14.6	0.0
Cycle Q Clear(g_c), s	10.7	0.0	18.0				0.0	30.2	30.3	25.2	14.6	0.0
Prop In Lane	1.00		1.00				0.00		0.30	1.00		0.00
Lane Grp Cap(c), veh/h	321	0	285				0	1328	692	993	3714	0
V/C Ratio(X)	0.64	0.00	1.07				0.00	0.85	0.85	0.91	0.48	0.00
Avail Cap(c_a), veh/h	321	0	285				0	1328	692	1002	3714	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.0	0.0	41.0				0.0	27.8	27.8	34.4	5.7	0.0
Incr Delay (d2), s/veh	4.3	0.0	73.9				0.0	6.9	12.5	12.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	12.8				0.0	13.1	14.7	12.0	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	0.0	114.9				0.0	34.7	40.3	46.4	6.2	0.0
LnGrp LOS	D	A	F				A	C	D	D	A	A
Approach Vol, veh/h		512						1715			2688	
Approach Delay, s/veh		85.7						36.6			19.7	
Approach LOS		F						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	33.7	44.0		23.0		77.7
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	29.0	* 39		18.0		72.0
Max Q Clear Time (g_c+I1), s	27.2	32.3		20.0		16.6
Green Ext Time (p_c), s	0.8	5.3		0.0		23.3

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	963	436	1129	1011	7	393	49	674	58	43	22
Future Volume (veh/h)	46	963	436	1129	1011	7	393	49	674	58	43	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	1003	454	1176	1053	7	445	0	702	60	45	23
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1036	462	1214	1689	11	505	0	1215	138	104	53
Arrive On Green	0.06	0.29	0.29	0.24	0.47	0.47	0.14	0.00	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3619	24	3563	0	3170	830	623	318
Grp Volume(v), veh/h	48	1003	454	1176	517	543	445	0	702	128	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1866	1781	0	1585	1772	0	0
Q Serve(g_s), s	3.1	33.4	34.1	27.8	26.3	26.3	14.7	0.0	17.0	7.8	0.0	0.0
Cycle Q Clear(g_c), s	3.1	33.4	34.1	27.8	26.3	26.3	14.7	0.0	17.0	7.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.47		0.18
Lane Grp Cap(c), veh/h	104	1036	462	1214	829	871	505	0	1215	295	0	0
V/C Ratio(X)	0.46	0.97	0.98	0.97	0.62	0.62	0.88	0.00	0.58	0.43	0.00	0.00
Avail Cap(c_a), veh/h	119	1036	462	1214	829	871	505	0	1215	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.7	41.9	42.2	45.1	24.1	24.1	50.5	0.0	29.3	44.9	0.0	0.0
Incr Delay (d2), s/veh	3.2	21.2	37.6	18.7	3.5	3.4	19.5	0.0	2.0	4.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	17.5	18.0	13.6	11.7	12.2	7.9	0.0	8.3	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	63.1	79.8	63.8	27.6	27.4	70.0	0.0	31.3	49.5	0.0	0.0
LnGrp LOS	E	E	E	E	C	C	E	A	C	D	A	A
Approach Vol, veh/h		1505			2236			1147			128	
Approach Delay, s/veh		68.0			46.6			46.3			49.5	
Approach LOS		E			D			D			D	

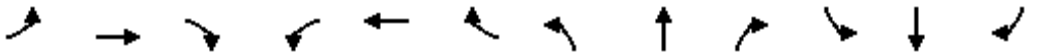
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	22.0	33.0	40.0	25.0	12.0	61.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	17.0	29.0	35.0	20.0	8.0	* 56
Max Q Clear Time (g_c+I1), s	19.0	29.8	36.1	9.8	5.1	28.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	8.1

Intersection Summary	
HCM 6th Ctrl Delay	53.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	421	1234	12	68	1385	293	12	42	45	395	45	764
Future Volume (veh/h)	421	1234	12	68	1385	293	12	42	45	395	45	764
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	443	1299	13	72	1458	308	13	44	47	416	47	804
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	1642	16	104	1432	639	49	137	511	76	0	704
Arrive On Green	0.12	0.46	0.46	0.06	0.40	0.40	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	3456	3605	36	1781	3554	1585	0	426	1585	0	0	1585
Grp Volume(v), veh/h	443	640	672	72	1458	308	57	0	47	463	0	804
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	426	0	1585	0	0	1585
Q Serve(g_s), s	11.0	27.6	27.6	3.6	36.3	13.0	0.0	0.0	1.9	0.0	0.0	29.0
Cycle Q Clear(g_c), s	11.0	27.6	27.6	3.6	36.3	13.0	29.0	0.0	1.9	29.0	0.0	29.0
Prop In Lane	1.00		0.02	1.00		1.00	0.23		1.00	0.90		1.00
Lane Grp Cap(c), veh/h	422	809	849	104	1432	639	187	0	511	76	0	704
V/C Ratio(X)	1.05	0.79	0.79	0.69	1.02	0.48	0.31	0.00	0.09	6.10	0.00	1.14
Avail Cap(c_a), veh/h	422	809	849	119	1432	639	187	0	511	76	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.5	20.9	20.9	41.6	26.9	19.9	24.1	0.0	21.3	45.0	0.0	25.0
Incr Delay (d2), s/veh	57.2	7.8	7.4	13.3	28.3	2.6	4.2	0.0	0.4	2321.6	0.0	80.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	12.5	13.0	1.9	20.1	5.1	1.0	0.0	0.7	50.7	0.0	29.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.7	28.6	28.3	54.9	55.2	22.5	28.3	0.0	21.7	2366.6	0.0	105.0
LnGrp LOS	F	C	C	D	F	C	C	A	C	F	A	F
Approach Vol, veh/h		1755			1838			104			1267	
Approach Delay, s/veh		45.7			49.7			25.3			931.5	
Approach LOS		D			D			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.0	10.3	46.0		34.0	15.0	41.3				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		29.0	6.0	* 41		29.0	11.0	36.0				
Max Q Clear Time (g_c+I1), s		31.0	5.6	29.6		31.0	13.0	38.3				
Green Ext Time (p_c), s		0.0	0.0	6.6		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			272.8									
HCM 6th LOS			F									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	176.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	74	2231	2114	54	21	126
Future Vol, veh/h	74	2231	2114	54	21	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	2348	2225	57	22	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2282	0	-	0	3349	1141
Stage 1	-	-	-	-	2254	-
Stage 2	-	-	-	-	1095	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	90	-	-	-	~ 17	167
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	254	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	90	-	-	-	~ 2	167
Mov Cap-2 Maneuver	-	-	-	-	~ 2	-
Stage 1	-	-	-	-	~ 5	-
Stage 2	-	-	-	-	254	-

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	$ 5473.9
HCM LOS			F

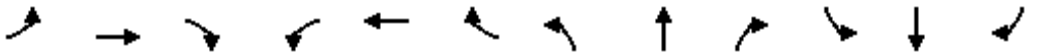
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	90	-	-	-	13
HCM Lane V/C Ratio	0.865	-	-	-	11.903
HCM Control Delay (s)	143.2	-	-	-	$ 5473.9
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	4.7	-	-	-	20.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	629	184	232	615	161	228	2170	254	185	1763	245
Future Volume (veh/h)	398	629	184	232	615	161	228	2170	254	185	1763	245
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	406	642	188	237	628	164	233	2214	259	189	1799	250
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	688	201	327	716	187	238	2220	689	119	1880	584
Arrive On Green	0.09	0.25	0.25	0.09	0.26	0.26	0.13	0.43	0.43	0.07	0.37	0.37
Sat Flow, veh/h	3456	2711	793	3456	2789	727	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	406	420	410	237	400	392	233	2214	259	189	1799	250
Grp Sat Flow(s),veh/h/ln	1728	1777	1728	1728	1777	1739	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	11.0	27.8	27.8	8.0	25.9	26.0	15.7	51.9	9.3	8.0	41.2	10.5
Cycle Q Clear(g_c), s	11.0	27.8	27.8	8.0	25.9	26.0	15.7	51.9	9.3	8.0	41.2	10.5
Prop In Lane	1.00		0.46	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	451	438	327	456	447	238	2220	689	119	1880	584
V/C Ratio(X)	1.28	0.93	0.93	0.72	0.88	0.88	0.98	1.00	0.38	1.59	0.96	0.43
Avail Cap(c_a), veh/h	317	459	446	432	518	507	238	2220	689	119	1880	584
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	43.8	43.8	52.8	42.8	42.8	51.8	33.8	11.2	56.0	37.0	15.4
Incr Delay (d2), s/veh	148.8	25.8	26.6	4.1	14.2	14.7	52.9	18.4	1.6	302.1	12.8	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	15.4	15.1	3.7	13.1	12.9	10.5	24.6	3.5	13.6	19.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	203.3	69.6	70.4	56.9	57.0	57.5	104.7	52.3	12.8	358.1	49.8	17.7
LnGrp LOS	F	E	E	E	E	E	F	D	B	F	D	B
Approach Vol, veh/h		1236			1029			2706			2238	
Approach Delay, s/veh		113.8			57.2			53.0			72.2	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	57.2	15.4	35.5	20.0	49.2	15.0	35.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	48.0	15.0	31.0	16.0	40.0	11.0	35.0
Max Q Clear Time (g_c+I1), s	10.0	53.9	10.0	29.8	17.7	43.2	13.0	28.0
Green Ext Time (p_c), s	0.0	0.0	0.3	0.6	0.0	0.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	70.0
HCM 6th LOS	E



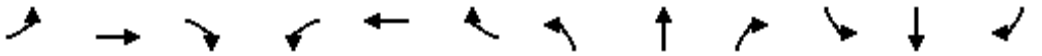
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	18	122	34	15	14	211	2370	49	63	1962	267
Future Volume (veh/h)	258	18	122	34	15	14	211	2370	49	63	1962	267
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	19	126	35	15	14	218	2443	51	65	2023	275
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	353	422	358	331	201	187	245	2766	859	192	2655	824
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.14	0.54	0.54	0.22	1.00	1.00
Sat Flow, veh/h	1381	1870	1585	1243	890	831	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	266	19	126	35	0	29	218	2443	51	65	2023	275
Grp Sat Flow(s),veh/h/ln	1381	1870	1585	1243	0	1721	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	22.6	1.0	8.0	2.7	0.0	1.6	14.4	50.5	1.8	3.7	0.0	0.0
Cycle Q Clear(g_c), s	24.1	1.0	8.0	3.7	0.0	1.6	14.4	50.5	1.8	3.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	353	422	358	331	0	388	245	2766	859	192	2655	824
V/C Ratio(X)	0.75	0.05	0.35	0.11	0.00	0.07	0.89	0.88	0.06	0.34	0.76	0.33
Avail Cap(c_a), veh/h	444	546	462	413	0	502	267	2766	859	192	2655	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	46.1	36.3	39.1	37.8	0.0	36.6	50.8	24.2	13.0	43.5	0.0	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.6	0.1	0.0	0.1	27.1	4.5	0.1	0.8	1.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.4	3.2	0.8	0.0	0.7	8.3	20.5	0.7	1.6	0.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	36.4	39.7	37.9	0.0	36.7	78.0	28.7	13.2	44.3	1.7	0.9
LnGrp LOS	D	D	D	D	A	D	E	C	B	D	A	A
Approach Vol, veh/h		411			64			2712			2363	
Approach Delay, s/veh		47.2			37.4			32.4			2.7	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.9	70.0		32.1	20.5	67.4		32.1				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 65		35.0	18.0	53.0		35.0				
Max Q Clear Time (g_c+I1), s	5.7	52.5		26.1	16.4	2.0		5.7				
Green Ext Time (p_c), s	0.0	11.3		0.9	0.1	30.2		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		20.9	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



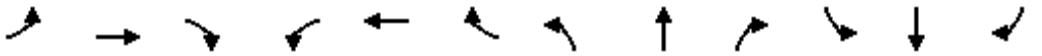
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	0	17	44	0	23	29	2504	74	38	2283	37
Future Volume (veh/h)	16	0	17	44	0	23	29	2504	74	38	2283	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	0	18	45	0	24	30	2581	76	39	2354	38
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	0	93	127	0	93	429	4018	118	65	2936	911
Arrive On Green	0.06	0.00	0.06	0.06	0.00	0.06	0.24	0.79	0.79	0.04	0.57	0.57
Sat Flow, veh/h	1387	0	1585	1395	0	1585	1781	5098	149	1781	5106	1585
Grp Volume(v), veh/h	16	0	18	45	0	24	30	1718	939	39	2354	38
Grp Sat Flow(s),veh/h/ln	1387	0	1585	1395	0	1585	1781	1702	1844	1781	1702	1585
Q Serve(g_s), s	1.3	0.0	1.3	3.8	0.0	1.7	1.6	25.9	26.4	2.6	43.6	1.3
Cycle Q Clear(g_c), s	3.1	0.0	1.3	5.1	0.0	1.7	1.6	25.9	26.4	2.6	43.6	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	122	0	93	127	0	93	429	2683	1453	65	2936	911
V/C Ratio(X)	0.13	0.00	0.19	0.35	0.00	0.26	0.07	0.64	0.65	0.60	0.80	0.04
Avail Cap(c_a), veh/h	398	0	409	405	0	409	429	2683	1453	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	0.0	53.8	56.2	0.0	54.0	35.1	5.4	5.5	57.0	20.1	11.1
Incr Delay (d2), s/veh	0.5	0.0	1.0	1.7	0.0	1.4	0.0	0.6	1.2	8.7	2.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	1.4	0.0	0.7	0.7	7.5	8.5	1.3	17.1	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	0.0	54.7	57.8	0.0	55.4	35.2	6.1	6.7	65.6	22.5	11.2
LnGrp LOS	E	A	D	E	A	E	D	A	A	E	C	B
Approach Vol, veh/h		34			69			2687			2431	
Approach Delay, s/veh		55.3			57.0			6.6			23.0	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	99.6		12.1	33.9	74.0		12.1				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	4.6	28.4		5.1	3.6	45.6		7.1				
Green Ext Time (p_c), s	0.0	32.4		0.1	0.0	19.2		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		15.2	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



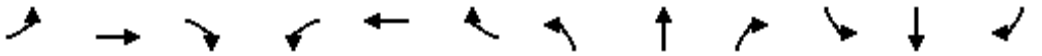
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	1229	253	594	1163	356	315	1668	548	418	1432	208
Future Volume (veh/h)	247	1229	253	594	1163	356	315	1668	548	418	1432	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	249	1241	256	600	1175	360	318	1685	554	422	1446	210
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	1415	292	346	1796	558	203	1746	1233	259	1787	555
Arrive On Green	0.09	0.33	0.33	0.10	0.35	0.35	0.06	0.34	0.34	0.08	0.35	0.35
Sat Flow, veh/h	3456	4242	875	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	249	996	501	600	1175	360	318	1685	554	422	1446	210
Grp Sat Flow(s),veh/h/ln	1728	1702	1713	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	8.5	33.1	33.1	12.0	23.2	22.9	7.0	38.9	3.2	9.0	30.8	9.0
Cycle Q Clear(g_c), s	8.5	33.1	33.1	12.0	23.2	22.9	7.0	38.9	3.2	9.0	30.8	9.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	1136	571	346	1796	558	203	1746	1233	259	1787	555
V/C Ratio(X)	0.80	0.88	0.88	1.74	0.65	0.65	1.57	0.97	0.45	1.63	0.81	0.38
Avail Cap(c_a), veh/h	432	1191	600	346	1796	558	203	1746	1233	259	1787	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.47	0.47	0.47	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	37.7	37.7	54.0	32.7	32.6	56.5	38.8	11.4	55.5	35.4	16.9
Incr Delay (d2), s/veh	7.2	7.4	13.4	343.2	0.9	2.6	267.7	8.6	0.6	299.7	4.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	14.8	15.8	21.7	9.7	9.1	10.6	17.4	3.4	14.7	13.3	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	45.1	51.1	397.2	33.6	35.2	324.1	47.4	12.0	355.2	39.4	18.8
LnGrp LOS	E	D	D	F	C	D	F	D	B	F	D	B
Approach Vol, veh/h		1746			2135			2557			2078	
Approach Delay, s/veh		49.0			136.0			74.2			101.5	
Approach LOS		D			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	46.1	17.0	45.0	12.1	47.0	14.8	47.2
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	6.0	* 42	15.0	39.0
Max Q Clear Time (g_c+I1), s	11.0	40.9	14.0	35.1	9.0	32.8	10.5	25.2
Green Ext Time (p_c), s	0.0	0.0	0.0	5.0	0.0	6.5	0.3	8.0

Intersection Summary	
HCM 6th Ctrl Delay	91.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	1851	100	245	1840	63	95	38	229	88	40	143
Future Volume (veh/h)	210	1851	100	245	1840	63	95	38	229	88	40	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	1870	101	247	1859	64	67	79	231	89	40	144
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1915	594	208	1830	568	609	639	542	364	164	462
Arrive On Green	0.13	0.38	0.38	0.12	0.36	0.36	0.34	0.34	0.34	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1247	561	1585
Grp Volume(v), veh/h	212	1870	101	247	1859	64	67	79	231	129	0	144
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1808	0	1585
Q Serve(g_s), s	14.2	43.3	5.1	14.0	43.0	3.2	3.1	3.5	13.5	6.5	0.0	8.5
Cycle Q Clear(g_c), s	14.2	43.3	5.1	14.0	43.0	3.2	3.1	3.5	13.5	6.5	0.0	8.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	223	1915	594	208	1830	568	609	639	542	527	0	462
V/C Ratio(X)	0.95	0.98	0.17	1.19	1.02	0.11	0.11	0.12	0.43	0.24	0.00	0.31
Avail Cap(c_a), veh/h	223	1915	594	208	1830	568	609	639	542	527	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.1	37.0	25.0	53.0	38.5	25.7	27.0	27.2	30.4	32.4	0.0	33.1
Incr Delay (d2), s/veh	46.8	15.4	0.1	122.6	25.1	0.1	0.4	0.4	2.4	1.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	20.4	2.0	13.3	21.8	1.2	1.4	1.6	5.5	3.0	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.0	52.4	25.2	175.6	63.6	25.8	27.4	27.5	32.9	33.5	0.0	34.9
LnGrp LOS	F	D	C	F	F	C	C	C	C	C	A	C
Approach Vol, veh/h		2183			2170			377			273	
Approach Delay, s/veh		55.6			75.3			30.8			34.2	
Approach LOS		E			E			C			C	

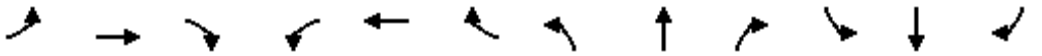
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.0	18.0	50.0		40.0	20.0	48.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		8.0	14.0	44.0		35.0	15.0	* 43				
Max Q Clear Time (g_c+I1), s		15.5	16.0	45.3		10.5	16.2	45.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.2	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	61.1
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



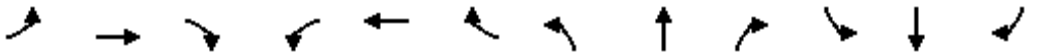
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	1756	315	255	1886	198	392	736	251	216	491	177
Future Volume (veh/h)	280	1756	315	255	1886	198	392	736	251	216	491	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	289	1810	325	263	1944	204	404	759	259	223	506	182
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	1787	555	259	1644	171	1949	2981	1330	259	1214	542
Arrive On Green	0.07	0.35	0.35	0.08	0.35	0.35	0.56	0.84	0.84	0.08	0.34	0.34
Sat Flow, veh/h	3456	5106	1585	3456	4697	489	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	289	1810	325	263	1405	743	404	759	259	223	506	182
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1782	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	8.0	42.0	15.2	9.0	42.0	42.0	6.9	5.2	3.8	7.7	13.1	10.2
Cycle Q Clear(g_c), s	8.0	42.0	15.2	9.0	42.0	42.0	6.9	5.2	3.8	7.7	13.1	10.2
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	1787	555	259	1191	624	1949	2981	1330	259	1214	542
V/C Ratio(X)	1.25	1.01	0.59	1.01	1.18	1.19	0.21	0.25	0.19	0.86	0.42	0.34
Avail Cap(c_a), veh/h	230	1787	555	259	1191	624	1949	2981	1330	259	1214	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	39.0	18.2	55.5	39.0	39.0	12.9	2.0	1.9	54.9	30.3	29.4
Incr Delay (d2), s/veh	144.9	24.5	1.6	59.7	89.5	101.4	0.1	0.2	0.3	24.2	1.1	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	21.3	5.8	6.1	32.0	35.6	2.7	1.3	0.9	4.2	5.8	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	200.9	63.5	19.8	115.2	128.5	140.4	13.0	2.2	2.2	79.0	31.4	31.1
LnGrp LOS	F	F	B	F	F	F	B	A	A	E	C	C
Approach Vol, veh/h		2424			2411			1422			911	
Approach Delay, s/veh		74.0			130.7			5.2			43.0	
Approach LOS		E			F			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	106.7	13.0	47.0	73.7	46.0	13.0	47.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	9.0	43.0	9.0	41.0	11.0	* 41	8.0	* 42
Max Q Clear Time (g_c+I1), s	9.7	7.2	11.0	44.0	8.9	15.1	10.0	44.0
Green Ext Time (p_c), s	0.0	7.3	0.0	0.0	0.3	4.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	75.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



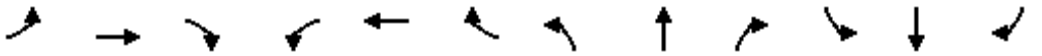
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	1621	249	304	2160	234	335	713	206	173	523	91
Future Volume (veh/h)	147	1621	249	304	2160	234	335	713	206	173	523	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	1671	257	313	2227	241	345	735	212	178	539	94
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1713	262	317	1992	212	317	1066	476	1209	1715	298
Arrive On Green	0.04	0.38	0.38	0.09	0.43	0.43	0.09	0.30	0.30	0.35	0.57	0.57
Sat Flow, veh/h	3456	4468	684	3456	4686	499	3456	3554	1585	3456	3027	526
Grp Volume(v), veh/h	152	1271	657	313	1607	861	345	735	212	178	316	317
Grp Sat Flow(s),veh/h/ln	1728	1702	1747	1728	1702	1781	1728	1777	1585	1728	1777	1776
Q Serve(g_s), s	5.0	44.1	44.6	10.9	51.0	51.0	11.0	21.9	15.1	4.2	11.2	11.3
Cycle Q Clear(g_c), s	5.0	44.1	44.6	10.9	51.0	51.0	11.0	21.9	15.1	4.2	11.2	11.3
Prop In Lane	1.00		0.39	1.00		0.28	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	144	1305	670	317	1447	757	317	1066	476	1209	1007	1006
V/C Ratio(X)	1.06	0.97	0.98	0.99	1.11	1.14	1.09	0.69	0.45	0.15	0.31	0.32
Avail Cap(c_a), veh/h	144	1305	670	317	1447	757	317	1066	476	1209	1007	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	36.4	36.6	54.4	34.5	34.5	54.5	37.1	46.2	26.7	13.7	13.7
Incr Delay (d2), s/veh	90.6	19.0	29.9	47.2	60.3	77.4	76.5	3.7	3.0	0.1	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	21.4	24.1	6.8	32.6	37.7	8.1	10.0	6.4	1.8	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.1	55.4	66.4	101.6	94.8	111.9	131.0	40.7	49.2	26.8	14.5	14.5
LnGrp LOS	F	E	E	F	F	F	F	D	D	C	B	B
Approach Vol, veh/h		2080			2781			1292			811	
Approach Delay, s/veh		65.6			100.9			66.2			17.2	
Approach LOS		E			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	48.0	41.0	15.0	51.0	15.0	74.0	10.0	56.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	10.0	* 36	11.0	45.0	11.0	35.0	5.0	* 51
Max Q Clear Time (g_c+I1), s	6.2	23.9	12.9	46.6	13.0	13.3	7.0	53.0
Green Ext Time (p_c), s	0.2	4.6	0.0	0.0	0.0	4.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	74.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



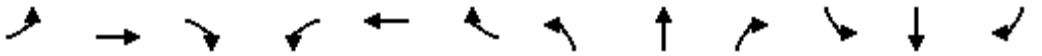
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	1358	231	395	1736	297	388	1164	232	295	835	375
Future Volume (veh/h)	373	1358	231	395	1736	297	388	1164	232	295	835	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	381	1386	236	403	1771	303	396	1188	237	301	852	383
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1391	237	432	1702	528	403	3064	951	288	2893	898
Arrive On Green	0.12	0.32	0.32	0.13	0.33	0.33	0.12	0.60	0.60	0.08	0.57	0.57
Sat Flow, veh/h	3456	4392	747	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	381	1074	548	403	1771	303	396	1188	237	301	852	383
Grp Sat Flow(s),veh/h/ln	1728	1702	1736	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	13.1	37.8	37.8	13.9	40.0	18.9	13.7	14.6	10.0	10.0	10.4	16.6
Cycle Q Clear(g_c), s	13.1	37.8	37.8	13.9	40.0	18.9	13.7	14.6	10.0	10.0	10.4	16.6
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	1078	550	432	1702	528	403	3064	951	288	2893	898
V/C Ratio(X)	0.95	1.00	1.00	0.93	1.04	0.57	0.98	0.39	0.25	1.05	0.29	0.43
Avail Cap(c_a), veh/h	403	1078	550	432	1702	528	403	3064	951	288	2893	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	40.9	40.9	52.0	40.0	33.0	52.9	12.5	15.9	55.0	13.5	14.9
Incr Delay (d2), s/veh	31.1	26.4	37.6	27.3	33.2	1.5	40.0	0.4	0.6	65.3	0.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	19.5	21.7	7.6	21.7	7.5	8.2	5.5	3.8	7.0	4.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.7	67.4	78.6	79.3	73.2	34.5	92.9	12.9	16.5	120.3	13.8	16.3
LnGrp LOS	F	E	E	E	F	C	F	B	B	F	B	B
Approach Vol, veh/h		2003			2477			1821			1536	
Approach Delay, s/veh		73.5			69.4			30.8			35.3	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	78.0	20.0	43.0	18.0	74.0	18.0	45.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	39.0	15.0	* 38	14.0	35.0	14.0	39.0
Max Q Clear Time (g_c+I1), s	12.0	16.6	15.9	39.8	15.7	18.6	15.1	42.0
Green Ext Time (p_c), s	0.0	10.2	0.0	0.0	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



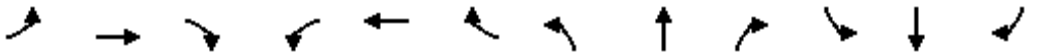
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	1015	281	507	1161	186	396	1632	322	251	1350	95
Future Volume (veh/h)	188	1015	281	507	1161	186	396	1632	322	251	1350	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	1068	296	534	1222	196	417	1718	339	264	1421	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	964	265	403	1202	192	346	3021	938	259	2760	194
Arrive On Green	0.07	0.35	0.35	0.12	0.39	0.39	0.10	0.59	0.59	0.08	0.57	0.57
Sat Flow, veh/h	3456	2754	757	3456	3070	490	3456	5106	1585	3456	4870	343
Grp Volume(v), veh/h	198	686	678	534	704	714	417	1718	339	264	993	528
Grp Sat Flow(s),veh/h/ln	1728	1777	1734	1728	1777	1782	1728	1702	1585	1728	1702	1809
Q Serve(g_s), s	6.8	42.0	42.0	14.0	47.0	47.0	12.0	24.8	13.3	9.0	21.4	21.4
Cycle Q Clear(g_c), s	6.8	42.0	42.0	14.0	47.0	47.0	12.0	24.8	13.3	9.0	21.4	21.4
Prop In Lane	1.00		0.44	1.00		0.27	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	230	622	607	403	696	698	346	3021	938	259	1929	1025
V/C Ratio(X)	0.86	1.10	1.12	1.32	1.01	1.02	1.21	0.57	0.36	1.02	0.51	0.51
Avail Cap(c_a), veh/h	230	622	607	403	696	698	346	3021	938	259	1929	1025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	39.0	39.0	53.0	36.5	36.5	54.0	15.1	12.7	55.5	15.9	15.9
Incr Delay (d2), s/veh	26.3	67.8	72.9	162.4	37.2	39.8	117.2	0.8	1.1	60.8	1.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	29.7	29.8	15.2	27.1	27.7	10.8	9.5	4.9	6.1	8.4	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.7	106.8	111.9	215.4	73.7	76.3	171.2	15.9	13.8	116.3	16.9	17.8
LnGrp LOS	F	F	F	F	F	F	F	B	B	F	B	B
Approach Vol, veh/h		1562			1952			2474			1785	
Approach Delay, s/veh		105.8			113.4			41.8			31.8	
Approach LOS		F			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	77.0	18.0	47.0	16.0	74.0	13.0	52.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	9.0	38.0	14.0	41.0	12.0	35.0	8.0	* 47
Max Q Clear Time (g_c+I1), s	11.0	26.8	16.0	44.0	14.0	23.4	8.8	49.0
Green Ext Time (p_c), s	0.0	8.8	0.0	0.0	0.0	7.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	70.4
HCM 6th LOS	E

Notes

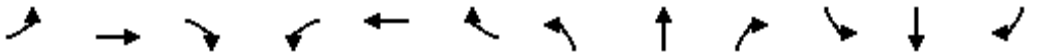
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	366	673	485	261	920	245	626	2013	194	203	1511	246
Future Volume (veh/h)	366	673	485	261	920	245	626	2013	194	203	1511	246
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	373	687	495	266	939	250	639	2054	198	207	1542	251
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	879	630	384	1105	293	518	2084	647	148	1744	673
Arrive On Green	0.08	0.25	0.25	0.11	0.28	0.28	0.15	0.41	0.41	0.08	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	4016	1066	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	373	687	495	266	795	394	639	2054	198	207	1542	251
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1678	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	10.0	21.6	20.9	8.9	26.5	26.6	18.0	47.8	6.9	10.0	34.2	4.1
Cycle Q Clear(g_c), s	10.0	21.6	20.9	8.9	26.5	26.6	18.0	47.8	6.9	10.0	34.2	4.1
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	879	630	384	937	462	518	2084	647	148	1744	673
V/C Ratio(X)	1.30	0.78	0.79	0.69	0.85	0.85	1.23	0.99	0.31	1.39	0.88	0.37
Avail Cap(c_a), veh/h	288	1155	753	384	1021	504	518	2084	647	148	1744	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	42.1	14.6	51.3	41.1	41.2	51.0	35.2	11.3	55.0	37.3	9.6
Incr Delay (d2), s/veh	156.2	2.6	4.6	5.2	6.4	12.4	120.7	16.6	1.2	213.2	7.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	9.8	7.9	4.1	11.9	12.5	16.4	22.5	2.6	13.3	15.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	211.2	44.8	19.3	56.6	47.6	53.6	171.7	51.8	12.5	268.2	44.2	11.1
LnGrp LOS	F	D	B	E	D	D	F	D	B	F	D	B
Approach Vol, veh/h		1555			1455			2891			2000	
Approach Delay, s/veh		76.6			50.9			75.6			63.3	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	54.0	17.4	34.7	22.0	46.0	14.0	38.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	46.0	7.0	39.0	18.0	38.0	10.0	36.0
Max Q Clear Time (g_c+I1), s	12.0	49.8	10.9	23.6	20.0	36.2	12.0	28.6
Green Ext Time (p_c), s	0.0	0.0	0.0	6.0	0.0	1.6	0.0	4.4

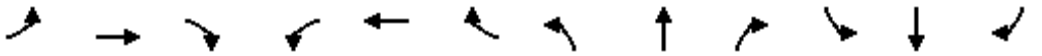
Intersection Summary	
HCM 6th Ctrl Delay	68.1
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	691	146	217	625	105	258	1383	342	190	1370	134
Future Volume (veh/h)	242	691	146	217	625	105	258	1383	342	190	1370	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	252	720	152	226	651	109	269	1441	356	198	1427	140
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	797	168	193	730	122	410	1397	344	226	1655	162
Arrive On Green	0.14	0.27	0.27	0.11	0.24	0.24	0.12	0.34	0.34	0.13	0.35	0.35
Sat Flow, veh/h	1781	2920	616	1781	3046	509	3456	4088	1006	1781	4727	464
Grp Volume(v), veh/h	252	438	434	226	379	381	269	1199	598	198	1028	539
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1779	1728	1702	1689	1781	1702	1787
Q Serve(g_s), s	17.0	28.5	28.6	13.0	24.8	24.8	8.9	41.0	41.0	13.1	33.7	33.7
Cycle Q Clear(g_c), s	17.0	28.5	28.6	13.0	24.8	24.8	8.9	41.0	41.0	13.1	33.7	33.7
Prop In Lane	1.00		0.35	1.00		0.29	1.00		0.60	1.00		0.26
Lane Grp Cap(c), veh/h	252	485	480	193	426	426	410	1163	577	226	1191	625
V/C Ratio(X)	1.00	0.90	0.90	1.17	0.89	0.89	0.66	1.03	1.04	0.87	0.86	0.86
Avail Cap(c_a), veh/h	252	518	513	193	459	459	410	1163	577	226	1191	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	42.1	42.1	53.5	44.1	44.1	50.5	39.5	39.5	51.4	36.3	36.3
Incr Delay (d2), s/veh	56.2	18.4	18.6	118.5	18.3	18.6	3.8	34.6	47.1	29.4	8.3	14.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	14.9	14.8	12.2	13.0	13.1	4.1	22.4	24.3	7.7	15.2	17.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.7	60.5	60.7	172.0	62.4	62.7	54.3	74.1	86.6	80.8	44.7	50.9
LnGrp LOS	F	E	E	F	E	E	D	F	F	F	D	D
Approach Vol, veh/h		1124			986			2066			1765	
Approach Delay, s/veh		71.2			87.7			75.2			50.6	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	46.0	17.0	37.8	18.2	47.0	21.0	33.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	41.0	13.0	35.0	12.0	42.0	17.0	31.0
Max Q Clear Time (g_c+I1), s	15.1	43.0	15.0	30.6	10.9	35.7	19.0	26.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.1	4.7	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	69.2
HCM 6th LOS	E



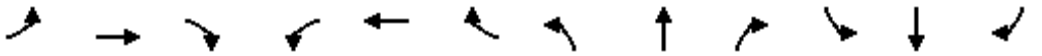
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	553	602	118	106	529	236	146	2085	66	148	1888	327
Future Volume (veh/h)	553	602	118	106	529	236	146	2085	66	148	1888	327
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	564	614	120	108	540	241	149	2128	67	151	1927	334
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	934	417	168	692	309	173	1992	63	479	2145	366
Arrive On Green	0.12	0.26	0.26	0.05	0.19	0.19	0.05	0.39	0.39	0.14	0.49	0.49
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5086	160	3456	4391	748
Grp Volume(v), veh/h	564	614	120	108	540	241	149	1422	773	151	1486	775
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1842	1728	1702	1736
Q Serve(g_s), s	14.0	18.5	7.2	3.7	17.3	12.6	5.1	47.0	47.0	4.7	47.6	49.5
Cycle Q Clear(g_c), s	14.0	18.5	7.2	3.7	17.3	12.6	5.1	47.0	47.0	4.7	47.6	49.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.43
Lane Grp Cap(c), veh/h	403	934	417	168	692	309	173	1333	721	479	1663	848
V/C Ratio(X)	1.40	0.66	0.29	0.64	0.78	0.78	0.86	1.07	1.07	0.32	0.89	0.91
Avail Cap(c_a), veh/h	403	1214	542	230	1036	462	173	1333	721	479	1663	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	39.4	35.3	56.1	45.9	24.1	56.6	36.5	36.5	46.6	27.9	28.4
Incr Delay (d2), s/veh	194.0	0.8	0.4	4.1	2.2	4.9	33.3	44.6	54.2	0.4	7.8	15.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.9	8.2	2.9	1.7	7.8	5.1	3.0	27.3	31.5	2.1	20.5	23.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	247.0	40.2	35.6	60.1	48.1	29.0	89.9	81.1	90.7	46.9	35.7	44.3
LnGrp LOS	F	D	D	E	D	C	F	F	F	D	D	D
Approach Vol, veh/h		1298			889			2344			2412	
Approach Delay, s/veh		129.7			44.4			84.8			39.2	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.6	52.0	9.8	36.5	10.0	63.6	18.0	28.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 47	8.0	41.0	6.0	47.0	14.0	35.0
Max Q Clear Time (g_c+I1), s	6.7	49.0	5.7	20.5	7.1	51.5	16.0	19.3
Green Ext Time (p_c), s	0.0	0.0	0.1	4.6	0.0	0.0	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	72.2
HCM 6th LOS	E

Notes

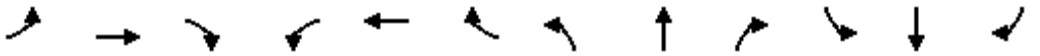
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	236	39	156	249	132	33	2092	160	93	1928	83
Future Volume (veh/h)	95	236	39	156	249	132	33	2092	160	93	1928	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	248	41	164	262	139	35	2202	168	98	2029	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	530	489	202	339	174	283	2300	174	298	2427	104
Arrive On Green	0.06	0.15	0.15	0.06	0.15	0.15	0.16	0.47	0.47	0.17	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2270	1167	1781	4843	366	1781	5021	215
Grp Volume(v), veh/h	100	248	41	164	203	198	35	1541	829	98	1374	742
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1660	1781	1702	1804	1781	1702	1832
Q Serve(g_s), s	6.7	7.7	0.3	5.6	13.2	13.8	2.0	52.1	53.5	5.8	41.9	42.2
Cycle Q Clear(g_c), s	6.7	7.7	0.3	5.6	13.2	13.8	2.0	52.1	53.5	5.8	41.9	42.2
Prop In Lane	1.00		1.00	1.00		0.70	1.00		0.20	1.00		0.12
Lane Grp Cap(c), veh/h	104	530	489	202	265	248	283	1617	857	298	1645	885
V/C Ratio(X)	0.96	0.47	0.08	0.81	0.77	0.80	0.12	0.95	0.97	0.33	0.83	0.84
Avail Cap(c_a), veh/h	104	918	662	202	459	429	283	1617	857	298	1645	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	46.7	17.5	55.9	49.0	49.3	43.3	30.2	30.6	44.0	26.9	26.9
Incr Delay (d2), s/veh	76.0	0.6	0.1	21.9	4.6	5.8	0.2	13.7	23.6	0.6	5.2	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	3.4	0.6	3.1	6.2	6.1	0.9	23.7	28.0	2.6	17.7	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.4	47.3	17.6	77.7	53.7	55.1	43.5	44.0	54.2	44.6	32.0	36.3
LnGrp LOS	F	D	B	E	D	E	D	D	D	D	C	D
Approach Vol, veh/h		389			565			2405			2214	
Approach Delay, s/veh		66.0			61.2			47.5			34.0	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.1	62.0	11.0	22.9	23.1	63.0	11.0	22.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	7.0	57.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	7.8	55.5	7.6	9.7	4.0	44.2	8.7	15.8
Green Ext Time (p_c), s	0.0	1.4	0.0	1.6	0.0	11.1	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D



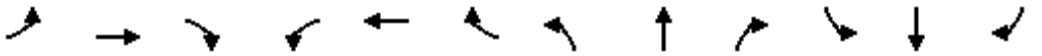
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	142	49	174	121	6	543	13	411	26	7	14
Future Volume (veh/h)	7	142	49	174	121	6	543	13	411	26	7	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	149	52	183	127	6	572	14	433	27	7	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	457	154	259	857	40	667	16	608	190	49	106
Arrive On Green	0.01	0.17	0.17	0.07	0.25	0.25	0.38	0.38	0.38	0.20	0.20	0.20
Sat Flow, veh/h	1781	2611	878	3456	3456	162	1741	43	1585	952	247	529
Grp Volume(v), veh/h	7	100	101	183	65	68	586	0	433	49	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1712	1728	1777	1841	1783	0	1585	1728	0	0
Q Serve(g_s), s	0.5	5.9	6.2	6.2	3.4	3.5	36.2	0.0	27.8	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.9	6.2	6.2	3.4	3.5	36.2	0.0	27.8	2.8	0.0	0.0
Prop In Lane	1.00		0.51	1.00		0.09	0.98		1.00	0.55		0.31
Lane Grp Cap(c), veh/h	19	311	300	259	441	456	684	0	608	346	0	0
V/C Ratio(X)	0.38	0.32	0.34	0.71	0.15	0.15	0.86	0.00	0.71	0.14	0.00	0.00
Avail Cap(c_a), veh/h	89	311	300	288	441	456	684	0	608	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.0	43.3	43.4	54.2	35.2	35.2	34.0	0.0	31.4	39.5	0.0	0.0
Incr Delay (d2), s/veh	12.2	2.7	3.0	6.8	0.7	0.7	13.1	0.0	7.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	2.9	2.9	1.6	1.7	17.9	0.0	11.7	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	46.0	46.4	61.0	35.9	35.9	47.1	0.0	38.4	40.4	0.0	0.0
LnGrp LOS	E	D	D	E	D	D	D	A	D	D	A	A
Approach Vol, veh/h		208			316			1019			49	
Approach Delay, s/veh		47.1			50.5			43.4			40.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		51.0	14.0	26.0		29.0	5.2	34.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		46.0	10.0	* 21		24.0	6.0	25.0				
Max Q Clear Time (g_c+I1), s		38.2	8.2	8.2		4.8	2.5	5.5				
Green Ext Time (p_c), s		3.5	0.1	0.8		0.2	0.0	0.6				

Intersection Summary	
HCM 6th Ctrl Delay	45.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



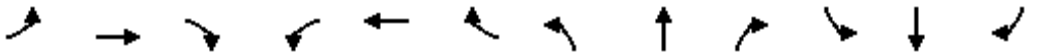
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	365	61	173	119	118	441	126	1433	90	23	2048	51
Future Volume (veh/h)	365	61	173	119	118	441	126	1433	90	23	2048	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	380	64	180	124	123	459	131	1493	0	24	2133	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	292	260	178	352	621	506	1745		521	2252	
Arrive On Green	0.12	0.16	0.16	0.05	0.10	0.10	0.28	0.34	0.00	0.29	0.35	0.00
Sat Flow, veh/h	3456	1777	1585	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	380	64	180	124	123	459	131	1493	0	24	2133	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	13.1	3.7	12.8	4.2	3.9	7.3	6.8	32.6	0.0	1.2	38.7	0.0
Cycle Q Clear(g_c), s	13.1	3.7	12.8	4.2	3.9	7.3	6.8	32.6	0.0	1.2	38.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	292	260	178	352	621	506	1745		521	2252	
V/C Ratio(X)	0.94	0.22	0.69	0.70	0.35	0.74	0.26	0.86		0.05	0.95	
Avail Cap(c_a), veh/h	403	607	542	230	1036	926	506	1745		521	2252	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.6	43.5	47.3	56.0	50.4	14.3	33.2	36.7	0.0	30.4	37.9	0.0
Incr Delay (d2), s/veh	30.5	0.4	3.3	6.1	0.6	1.8	0.3	5.6	0.0	0.0	10.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	1.7	5.3	2.0	1.8	6.7	3.0	14.3	0.0	0.5	16.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.1	43.9	50.6	62.1	51.0	16.1	33.4	42.4	0.0	30.5	48.0	0.0
LnGrp LOS	F	D	D	E	D	B	C	D		C	D	
Approach Vol, veh/h		624			706			1624	A		2157	A
Approach Delay, s/veh		69.7			30.2			41.7			47.8	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.1	46.0	10.2	24.7	38.1	47.0	18.0	16.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	41.0	8.0	41.0	11.0	42.0	14.0	35.0
Max Q Clear Time (g_c+I1), s	3.2	34.6	6.2	14.8	8.8	40.7	15.1	9.3
Green Ext Time (p_c), s	0.0	4.7	0.1	1.5	0.1	1.2	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



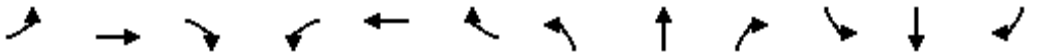
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	0	279	0	0	0	0	1538	247	717	1631	0
Future Volume (veh/h)	98	0	279	0	0	0	0	1538	247	717	1631	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	100	0	285				0	1569	252	732	1664	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	346	0	308				0	1922	308	855	3688	0
Arrive On Green	0.19	0.00	0.19				0.00	0.43	0.43	0.25	0.72	0.00
Sat Flow, veh/h	1781	0	1585				0	4605	710	3456	5274	0
Grp Volume(v), veh/h	100	0	285				0	1203	618	732	1664	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1743	1728	1702	0
Q Serve(g_s), s	5.8	0.0	21.2				0.0	37.2	37.4	24.3	16.1	0.0
Cycle Q Clear(g_c), s	5.8	0.0	21.2				0.0	37.2	37.4	24.3	16.1	0.0
Prop In Lane	1.00		1.00				0.00		0.41	1.00		0.00
Lane Grp Cap(c), veh/h	346	0	308				0	1475	755	855	3688	0
V/C Ratio(X)	0.29	0.00	0.93				0.00	0.82	0.82	0.86	0.45	0.00
Avail Cap(c_a), veh/h	356	0	317				0	1475	755	864	3688	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.3	0.0	47.5				0.0	29.8	29.9	43.1	6.9	0.0
Incr Delay (d2), s/veh	0.5	0.0	31.4				0.0	5.1	9.6	8.5	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	11.0				0.0	15.9	17.3	11.3	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	0.0	78.9				0.0	34.9	39.5	51.6	7.3	0.0
LnGrp LOS	D	A	E				A	C	D	D	A	A
Approach Vol, veh/h		385						1821			2396	
Approach Delay, s/veh		69.3						36.4			20.8	
Approach LOS		E						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.7	57.0		28.3		91.7
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	30.0	* 52		24.0		86.0
Max Q Clear Time (g_c+I1), s	26.3	39.4		23.2		18.1
Green Ext Time (p_c), s	1.1	9.3		0.1		21.8

Intersection Summary			
HCM 6th Ctrl Delay			31.0
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1080	488	949	1041	22	456	72	1171	106	46	26
Future Volume (veh/h)	44	1080	488	949	1041	22	456	72	1171	106	46	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	1113	503	978	1073	23	523	0	1207	109	47	27
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	1096	489	1859	2305	49	653	0	1755	176	76	44
Arrive On Green	0.04	0.31	0.31	0.37	0.65	0.65	0.18	0.00	0.18	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3557	76	3563	0	3170	1055	455	261
Grp Volume(v), veh/h	45	1113	503	978	536	560	523	0	1207	183	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1857	1781	0	1585	1771	0	0
Q Serve(g_s), s	3.0	37.0	37.0	18.3	18.2	18.2	16.9	0.0	0.0	11.5	0.0	0.0
Cycle Q Clear(g_c), s	3.0	37.0	37.0	18.3	18.2	18.2	16.9	0.0	0.0	11.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.60		0.15
Lane Grp Cap(c), veh/h	69	1096	489	1859	1151	1203	653	0	1755	295	0	0
V/C Ratio(X)	0.65	1.02	1.03	0.53	0.47	0.47	0.80	0.00	0.69	0.62	0.00	0.00
Avail Cap(c_a), veh/h	119	1096	489	1859	1151	1203	653	0	1755	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.9	41.5	41.5	29.6	10.6	10.6	46.9	0.0	19.3	46.5	0.0	0.0
Incr Delay (d2), s/veh	9.8	31.2	48.4	0.3	1.4	1.3	10.0	0.0	2.2	9.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	20.7	20.8	7.4	7.2	7.5	8.4	0.0	12.2	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	72.7	89.9	29.8	12.0	11.9	56.9	0.0	21.5	55.9	0.0	0.0
LnGrp LOS	E	F	F	C	B	B	E	A	C	E	A	A
Approach Vol, veh/h		1661			2074			1730			183	
Approach Delay, s/veh		77.7			20.4			32.2			55.9	
Approach LOS		E			C			C			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	27.0	49.5	42.0	25.0	8.7	82.8
Change Period (Y+Rc), s	5.0	5.0	* 5	5.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	22.0	* 37	20.0	8.0	51.0
Max Q Clear Time (g_c+I1), s	18.9	20.3	39.0	13.5	5.0	20.2
Green Ext Time (p_c), s	2.2	0.8	0.0	0.5	0.0	8.7

Intersection Summary	
HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	768	1415	13	87	1256	450	46	80	86	305	27	807
Future Volume (veh/h)	768	1415	13	87	1256	450	46	80	86	305	27	807
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	792	1459	13	90	1295	464	47	82	89	314	28	832
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	768	1765	16	139	1224	546	55	72	423	77	0	775
Arrive On Green	0.22	0.49	0.49	0.08	0.34	0.34	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	3456	3609	32	1781	3554	1585	0	271	1585	0	0	1585
Grp Volume(v), veh/h	792	718	754	90	1295	464	129	0	89	342	0	832
Grp Sat Flow(s),veh/h/ln	1728	1777	1865	1781	1777	1585	271	0	1585	0	0	1585
Q Serve(g_s), s	20.0	31.2	31.2	4.4	31.0	24.4	0.0	0.0	3.9	0.0	0.0	24.0
Cycle Q Clear(g_c), s	20.0	31.2	31.2	4.4	31.0	24.4	24.0	0.0	3.9	24.0	0.0	24.0
Prop In Lane	1.00		0.02	1.00		1.00	0.36		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	768	869	912	139	1224	546	127	0	423	77	0	775
V/C Ratio(X)	1.03	0.83	0.83	0.65	1.06	0.85	1.02	0.00	0.21	4.46	0.00	1.07
Avail Cap(c_a), veh/h	768	869	912	139	1224	546	127	0	423	77	0	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	19.7	19.7	40.3	29.5	27.3	32.3	0.0	25.6	45.0	0.0	23.0
Incr Delay (d2), s/veh	40.8	8.9	8.5	10.2	42.5	15.2	84.7	0.0	1.1	1585.5	0.0	54.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	14.0	14.7	2.3	19.8	11.2	5.8	0.0	1.6	35.5	0.0	26.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.8	28.6	28.3	50.5	72.0	42.6	117.0	0.0	26.8	1630.5	0.0	77.0
LnGrp LOS	F	C	C	D	F	D	F	A	C	F	A	F
Approach Vol, veh/h		2264			1849			218			1174	
Approach Delay, s/veh		45.0			63.6			80.2			529.5	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	29.0	12.0	49.0	29.0	25.0	36.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	24.0	7.0	44.0	24.0	20.0	31.0
Max Q Clear Time (g_c+I1), s	26.0	6.4	33.2	26.0	22.0	33.0
Green Ext Time (p_c), s	0.0	0.0	7.1	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	156.0
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	20.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	2037	2490	146	17	75
Future Vol, veh/h	119	2037	2490	146	17	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	2100	2567	151	18	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2718	0	-	0	3729	1359
Stage 1	-	-	-	-	2643	-
Stage 2	-	-	-	-	1086	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 53	-	-	-	~ 10	119
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	257	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 53	-	-	-	0	119
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	257	-

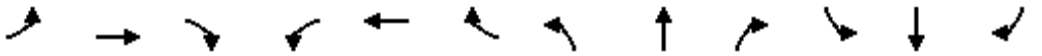
Approach	EB	WB	SB
HCM Control Delay, s	42.3	0	103.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 53	-	-	-	119
HCM Lane V/C Ratio	2.315	-	-	-	0.797
HCM Control Delay (s)	$ 766.6	-	-	-	103.3
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.4	-	-	-	4.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX P-IV

YEAR 2023 CUMULATIVE PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS



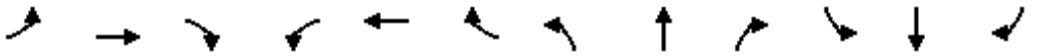
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1169	199	554	1389	301	243	1108	650	356	1745	303
Future Volume (veh/h)	117	1169	199	554	1389	301	243	1108	650	356	1745	303
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	1231	209	583	1462	317	256	1166	684	375	1837	319
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1435	244	346	1957	608	312	2135	1205	288	2037	502
Arrive On Green	0.05	0.33	0.33	0.10	0.38	0.38	0.09	0.33	0.33	0.08	0.32	0.32
Sat Flow, veh/h	3456	4394	746	3456	5106	1585	3456	6434	2790	3456	6434	1585
Grp Volume(v), veh/h	123	954	486	583	1462	317	256	1166	684	375	1837	319
Grp Sat Flow(s),veh/h/ln	1728	1702	1736	1728	1702	1585	1728	1609	1395	1728	1609	1585
Q Serve(g_s), s	4.2	31.5	31.5	12.0	29.7	18.5	8.7	17.7	6.9	10.0	32.8	16.8
Cycle Q Clear(g_c), s	4.2	31.5	31.5	12.0	29.7	18.5	8.7	17.7	6.9	10.0	32.8	16.8
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1111	567	346	1957	608	312	2135	1205	288	2037	502
V/C Ratio(X)	0.69	0.86	0.86	1.69	0.75	0.52	0.82	0.55	0.57	1.30	0.90	0.64
Avail Cap(c_a), veh/h	259	1191	608	346	1957	608	312	2135	1205	288	2037	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.8	37.8	54.0	32.0	28.5	53.6	32.7	13.0	55.0	39.2	23.3
Incr Delay (d2), s/veh	4.7	6.1	11.2	321.5	1.6	0.8	14.2	0.9	1.7	159.0	7.0	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	13.9	15.0	20.6	12.4	7.1	4.4	7.0	4.5	10.7	13.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	43.9	49.0	375.5	33.6	29.3	67.8	33.6	14.7	214.0	46.2	29.3
LnGrp LOS	E	D	D	F	C	C	E	C	B	F	D	C
Approach Vol, veh/h		1563			2362			2106			2531	
Approach Delay, s/veh		46.8			117.4			31.6			68.9	
Approach LOS		D			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	44.8	17.0	44.2	15.8	43.0	10.2	51.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	10.0	38.0	12.0	* 42	10.0	* 38	9.0	45.0
Max Q Clear Time (g_c+I1), s	12.0	19.7	14.0	33.5	10.7	34.8	6.2	31.7
Green Ext Time (p_c), s	0.0	11.0	0.0	5.7	0.0	2.9	0.1	9.1

Intersection Summary	
HCM 6th Ctrl Delay	69.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



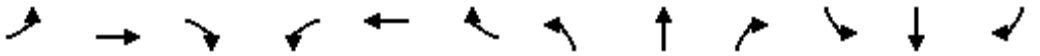
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	708	591	341	729	85	409	1450	270	145	1815	562
Future Volume (veh/h)	177	708	591	341	729	85	409	1450	270	145	1815	562
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	745	622	359	767	89	431	1526	284	153	1911	592
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	688	1125	713	374	1010	116	461	1957	608	564	3700	1227
Arrive On Green	0.20	0.32	0.32	0.11	0.22	0.22	0.13	0.38	0.38	0.32	0.57	0.57
Sat Flow, veh/h	3456	3554	1585	3456	4643	535	3456	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	186	745	622	359	561	295	431	1526	284	153	1911	592
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1774	1728	1702	1585	1781	1609	1585
Q Serve(g_s), s	5.5	21.8	38.0	12.4	18.5	18.7	14.8	31.5	18.8	7.7	21.5	11.9
Cycle Q Clear(g_c), s	5.5	21.8	38.0	12.4	18.5	18.7	14.8	31.5	18.8	7.7	21.5	11.9
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	688	1125	713	374	740	386	461	1957	608	564	3700	1227
V/C Ratio(X)	0.27	0.66	0.87	0.96	0.76	0.76	0.94	0.78	0.47	0.27	0.52	0.48
Avail Cap(c_a), veh/h	688	1125	713	374	1078	562	461	1957	608	564	3700	1227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	35.4	29.9	53.2	44.0	44.1	51.5	32.5	37.5	30.6	15.4	9.1
Incr Delay (d2), s/veh	0.2	1.5	11.5	35.8	1.9	3.7	26.6	3.2	2.6	0.3	0.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	9.6	18.1	7.2	8.0	8.6	8.1	13.4	7.7	3.4	7.8	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	36.9	41.3	89.0	45.8	47.8	78.1	35.7	40.1	30.9	15.9	10.5
LnGrp LOS	D	D	D	F	D	D	E	D	D	C	B	B
Approach Vol, veh/h		1553			1215			2241			2656	
Approach Delay, s/veh		39.2			59.1			44.4			15.6	
Approach LOS		D			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	44.0	51.0	17.0	43.0	20.0	75.0	28.9	31.1
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	5.0	* 46	13.0	38.0	16.0	35.0	13.0	* 38
Max Q Clear Time (g_c+I1), s	9.7	33.5	14.4	40.0	16.8	23.5	7.5	20.7
Green Ext Time (p_c), s	0.0	8.8	0.0	0.0	0.0	9.9	0.3	5.4

Intersection Summary	
HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

Notes

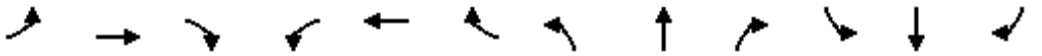
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	484	94	104	664	168	100	1848	72	84	2196	328
Future Volume (veh/h)	404	484	94	104	664	168	100	1848	72	84	2196	328
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	425	509	99	109	699	177	105	1945	76	88	2312	345
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	979	437	168	856	457	168	2412	94	164	2437	756
Arrive On Green	0.08	0.28	0.28	0.05	0.24	0.24	0.05	0.48	0.48	0.05	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5042	197	3456	5106	1585
Grp Volume(v), veh/h	425	509	99	109	699	177	105	1312	709	88	2312	345
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1585
Q Serve(g_s), s	10.0	14.5	5.8	3.7	22.3	10.7	3.6	39.2	39.4	3.0	51.9	17.5
Cycle Q Clear(g_c), s	10.0	14.5	5.8	3.7	22.3	10.7	3.6	39.2	39.4	3.0	51.9	17.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	288	979	437	168	856	457	168	1628	878	164	2437	756
V/C Ratio(X)	1.48	0.52	0.23	0.65	0.82	0.39	0.63	0.81	0.81	0.54	0.95	0.46
Avail Cap(c_a), veh/h	288	1244	555	173	1125	577	173	1628	878	173	2437	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	36.8	33.6	56.1	43.0	34.2	56.0	26.6	26.6	55.9	30.0	21.0
Incr Delay (d2), s/veh	232.0	0.4	0.3	7.9	3.6	0.5	6.7	4.4	7.9	2.9	9.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.6	6.4	2.3	1.8	10.2	4.2	1.7	16.5	18.7	1.4	22.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	287.0	37.2	33.8	64.0	46.7	34.8	62.7	30.9	34.5	58.8	39.6	22.9
LnGrp LOS	F	D	C	E	D	C	E	C	C	E	D	C
Approach Vol, veh/h		1033			985			2126			2745	
Approach Delay, s/veh		139.6			46.4			33.7			38.1	
Approach LOS		F			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	62.4	9.8	38.1	9.8	62.3	14.0	33.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	48.0	6.0	42.0	6.0	48.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	5.0	41.4	5.7	16.5	5.6	53.9	12.0	24.3
Green Ext Time (p_c), s	0.0	5.6	0.0	3.9	0.0	0.0	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	421	1234	12	68	1385	293	12	42	45	395	45	764
Future Volume (veh/h)	421	1234	12	68	1385	293	12	42	45	395	45	764
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	443	1299	13	72	1458	308	13	44	47	450	0	804
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1123	2577	26	92	1540	687	89	41	44	831	0	1770
Arrive On Green	0.32	0.71	0.71	0.05	0.43	0.43	0.05	0.05	0.05	0.23	0.00	0.23
Sat Flow, veh/h	3456	3605	36	1781	3554	1585	1781	827	884	3563	0	3170
Grp Volume(v), veh/h	443	640	672	72	1458	308	13	0	91	450	0	804
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1711	1781	0	1585
Q Serve(g_s), s	11.9	19.3	19.3	4.8	47.3	16.4	0.8	0.0	6.0	13.3	0.0	0.0
Cycle Q Clear(g_c), s	11.9	19.3	19.3	4.8	47.3	16.4	0.8	0.0	6.0	13.3	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	1123	1270	1333	92	1540	687	89	0	86	831	0	1770
V/C Ratio(X)	0.39	0.50	0.50	0.78	0.95	0.45	0.15	0.00	1.06	0.54	0.00	0.45
Avail Cap(c_a), veh/h	1123	1270	1333	119	1540	687	89	0	86	831	0	1770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.4	7.6	7.6	56.2	32.7	23.9	54.5	0.0	57.0	40.4	0.0	15.7
Incr Delay (d2), s/veh	0.2	1.4	1.4	22.1	13.4	2.1	3.4	0.0	115.6	2.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	7.1	7.5	2.7	22.6	6.5	0.5	0.0	5.3	6.1	0.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	9.0	9.0	78.4	46.0	26.0	58.0	0.0	172.6	42.9	0.0	16.5
LnGrp LOS	C	A	A	E	D	C	E	A	F	D	A	B
Approach Vol, veh/h		1755			1838			104			1254	
Approach Delay, s/veh		14.7			43.9			158.3			26.0	
Approach LOS		B			D			F			C	

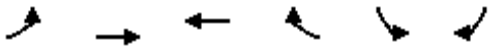
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.0	10.2	90.9		33.0	44.1	57.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		6.0	8.0	59.0		28.0	15.0	* 52				
Max Q Clear Time (g_c+I1), s		8.0	6.8	21.3		15.3	13.9	49.3				
Green Ext Time (p_c), s		0.0	0.0	12.1		4.5	0.2	2.3				

Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



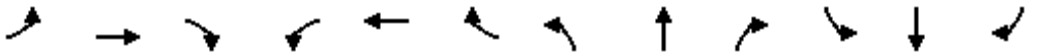
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	74	2231	2114	54	21	126
Future Volume (veh/h)	74	2231	2114	54	21	126
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	78	2348	2225	57	22	133
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	99	3191	2744	70	67	407
Arrive On Green	0.06	0.63	0.54	0.54	0.29	0.29
Sat Flow, veh/h	1781	5274	5288	131	231	1396
Grp Volume(v), veh/h	78	2348	1477	805	156	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1847	1637	0
Q Serve(g_s), s	5.2	38.3	42.7	43.0	9.0	0.0
Cycle Q Clear(g_c), s	5.2	38.3	42.7	43.0	9.0	0.0
Prop In Lane	1.00			0.07	0.14	0.85
Lane Grp Cap(c), veh/h	99	3191	1825	990	478	0
V/C Ratio(X)	0.79	0.74	0.81	0.81	0.33	0.00
Avail Cap(c_a), veh/h	134	3191	1825	990	478	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.0	15.6	22.8	22.9	33.3	0.0
Incr Delay (d2), s/veh	19.4	1.6	4.0	7.3	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	14.4	17.4	19.9	3.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	75.4	17.2	26.8	30.2	35.1	0.0
LnGrp LOS	E	B	C	C	D	A
Approach Vol, veh/h		2426	2282		156	
Approach Delay, s/veh		19.0	28.0		35.1	
Approach LOS		B	C		D	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	80.0	40.0	10.7	69.3
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	75.0	35.0	9.0	62.0
Max Q Clear Time (g_c+I1), s	40.3	11.0	7.2	45.0
Green Ext Time (p_c), s	26.2	0.5	0.0	14.0

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

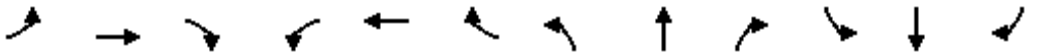
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	1229	253	594	1163	356	315	1668	548	418	1432	208
Future Volume (veh/h)	247	1229	253	594	1163	356	315	1668	548	418	1432	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	249	1241	256	600	1175	360	318	1685	554	422	1446	210
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	1415	292	346	1762	547	402	2091	1186	316	1930	476
Arrive On Green	0.09	0.33	0.33	0.10	0.35	0.35	0.12	0.32	0.32	0.09	0.30	0.30
Sat Flow, veh/h	3456	4242	875	3456	5106	1585	3456	6434	2790	3456	6434	1585
Grp Volume(v), veh/h	249	996	501	600	1175	360	318	1685	554	422	1446	210
Grp Sat Flow(s),veh/h/ln	1728	1702	1713	1728	1702	1585	1728	1609	1395	1728	1609	1585
Q Serve(g_s), s	8.5	33.1	33.1	12.0	23.5	17.2	10.7	28.7	11.2	11.0	24.4	9.8
Cycle Q Clear(g_c), s	8.5	33.1	33.1	12.0	23.5	17.2	10.7	28.7	11.2	11.0	24.4	9.8
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	306	1136	571	346	1762	547	402	2091	1186	316	1930	476
V/C Ratio(X)	0.81	0.88	0.88	1.74	0.67	0.66	0.79	0.81	0.47	1.34	0.75	0.44
Avail Cap(c_a), veh/h	346	1191	600	346	1787	555	402	2091	1186	316	1930	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.47	0.47	0.47	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	37.7	37.7	54.0	33.4	18.5	51.6	37.0	11.7	54.5	37.9	19.9
Incr Delay (d2), s/veh	12.6	7.4	13.4	343.2	0.9	2.8	5.1	1.6	0.6	171.4	2.7	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	14.8	15.8	21.7	9.8	6.7	4.9	11.4	3.4	12.3	9.9	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.3	45.1	51.1	397.2	34.4	21.3	56.7	38.7	12.3	226.0	40.6	22.9
LnGrp LOS	E	D	D	F	C	C	E	D	B	F	D	C
Approach Vol, veh/h		1746			2135			2557			2078	
Approach Delay, s/veh		49.8			134.1			35.2			76.5	
Approach LOS		D			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	44.0	16.0	45.0	18.0	41.0	14.6	46.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	42.0	12.0	36.0	12.0	42.0
Max Q Clear Time (g_c+I1), s	13.0	30.7	14.0	35.1	12.7	26.4	10.5	25.5
Green Ext Time (p_c), s	0.0	7.0	0.0	5.0	0.0	6.8	0.1	9.0

Intersection Summary	
HCM 6th Ctrl Delay	73.1
HCM 6th LOS	E



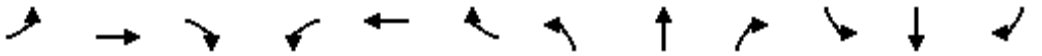
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	366	673	485	261	920	245	626	2013	194	203	1511	246
Future Volume (veh/h)	366	673	485	261	920	245	626	2013	194	203	1511	246
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	373	687	495	266	939	250	639	2054	198	207	1542	251
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	883	701	344	1130	300	669	2052	637	163	1877	581
Arrive On Green	0.08	0.25	0.25	0.10	0.28	0.28	0.19	0.40	0.40	0.09	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	4016	1066	3456	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	373	687	495	266	795	394	639	2054	198	207	1542	251
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1678	1728	1702	1585	1781	1609	1585
Q Serve(g_s), s	9.0	21.6	7.2	9.0	26.3	26.4	22.0	48.2	7.1	11.0	26.8	7.3
Cycle Q Clear(g_c), s	9.0	21.6	7.2	9.0	26.3	26.4	22.0	48.2	7.1	11.0	26.8	7.3
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	883	701	344	958	472	669	2052	637	163	1877	581
V/C Ratio(X)	1.44	0.78	0.71	0.77	0.83	0.83	0.96	1.00	0.31	1.27	0.82	0.43
Avail Cap(c_a), veh/h	259	1185	835	344	1078	532	669	2052	637	163	1877	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	42.0	27.1	52.7	40.4	40.5	47.9	35.9	11.8	54.5	39.6	11.4
Incr Delay (d2), s/veh	218.2	2.4	2.2	10.5	5.1	10.0	24.2	20.0	1.3	159.8	4.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	9.7	11.7	4.4	11.6	12.1	11.7	23.3	2.7	12.2	11.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	273.7	44.4	29.3	63.2	45.5	50.5	72.1	55.9	13.1	214.3	43.8	13.7
LnGrp LOS	F	D	C	E	D	D	E	F	B	F	D	B
Approach Vol, veh/h		1555			1455			2891			2000	
Approach Delay, s/veh		94.6			50.1			56.6			57.7	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	53.2	16.9	34.8	28.2	40.0	13.0	38.8
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	11.0	44.0	7.0	* 40	20.0	* 35	9.0	38.0
Max Q Clear Time (g_c+I1), s	13.0	50.2	11.0	23.6	24.0	28.8	11.0	28.4
Green Ext Time (p_c), s	0.0	0.0	0.0	6.2	0.0	4.9	0.0	5.3

Intersection Summary	
HCM 6th Ctrl Delay	63.1
HCM 6th LOS	E

Notes

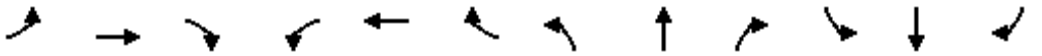
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	553	602	118	106	529	236	146	2085	66	148	1888	327
Future Volume (veh/h)	553	602	118	106	529	236	146	2085	66	148	1888	327
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	564	614	120	108	540	241	149	2128	67	151	1927	334
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	941	420	168	700	391	173	2474	78	173	2484	771
Arrive On Green	0.12	0.26	0.26	0.05	0.20	0.20	0.05	0.49	0.49	0.05	0.49	0.49
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5086	160	3456	5106	1585
Grp Volume(v), veh/h	564	614	120	108	540	241	149	1422	773	151	1927	334
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1842	1728	1702	1585
Q Serve(g_s), s	14.0	18.4	7.2	3.7	17.3	16.2	5.1	44.2	44.5	5.2	37.4	16.5
Cycle Q Clear(g_c), s	14.0	18.4	7.2	3.7	17.3	16.2	5.1	44.2	44.5	5.2	37.4	16.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	403	941	420	168	700	391	173	1656	896	173	2484	771
V/C Ratio(X)	1.40	0.65	0.29	0.64	0.77	0.62	0.86	0.86	0.86	0.87	0.78	0.43
Avail Cap(c_a), veh/h	403	1273	568	259	1125	581	173	1656	896	173	2484	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	39.2	35.1	56.1	45.6	40.1	56.6	27.2	27.3	56.6	25.4	20.0
Incr Delay (d2), s/veh	194.0	0.8	0.4	4.1	1.8	1.6	33.3	6.0	10.7	35.6	2.4	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.9	8.1	2.8	1.7	7.8	6.5	3.0	18.8	21.6	3.1	15.2	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	247.0	40.0	35.4	60.1	47.5	41.7	89.9	33.2	38.0	92.2	27.9	21.8
LnGrp LOS	F	D	D	E	D	D	F	C	D	F	C	C
Approach Vol, veh/h		1298			889			2344			2412	
Approach Delay, s/veh		129.5			47.5			38.4			31.1	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	63.4	9.8	36.8	10.0	63.4	18.0	28.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	44.0	9.0	43.0	6.0	44.0	14.0	38.0
Max Q Clear Time (g_c+I1), s	7.2	46.5	5.7	20.4	7.1	39.4	16.0	19.3
Green Ext Time (p_c), s	0.0	0.0	0.1	4.7	0.0	4.2	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	54.0
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	768	1415	13	87	1256	450	46	80	86	305	27	807
Future Volume (veh/h)	768	1415	13	87	1256	450	46	80	86	305	27	807
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	792	1459	13	90	1295	464	47	82	89	334	0	832
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1411	2749	24	113	1451	647	119	55	59	831	0	2034
Arrive On Green	0.41	0.76	0.76	0.06	0.41	0.41	0.07	0.07	0.07	0.23	0.00	0.23
Sat Flow, veh/h	3456	3609	32	1781	3554	1585	1781	820	890	3563	0	3170
Grp Volume(v), veh/h	792	718	754	90	1295	464	47	0	171	334	0	832
Grp Sat Flow(s),veh/h/ln	1728	1777	1865	1781	1777	1585	1781	0	1710	1781	0	1585
Q Serve(g_s), s	21.1	19.4	19.4	6.0	40.7	29.4	3.0	0.0	8.0	9.5	0.0	0.0
Cycle Q Clear(g_c), s	21.1	19.4	19.4	6.0	40.7	29.4	3.0	0.0	8.0	9.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	1411	1353	1420	113	1451	647	119	0	114	831	0	2034
V/C Ratio(X)	0.56	0.53	0.53	0.80	0.89	0.72	0.40	0.00	1.50	0.40	0.00	0.41
Avail Cap(c_a), veh/h	1411	1353	1420	134	1451	647	119	0	114	831	0	2034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	5.7	5.7	55.4	33.0	29.7	53.7	0.0	56.0	38.9	0.0	10.4
Incr Delay (d2), s/veh	0.5	1.5	1.4	24.3	8.7	6.7	9.6	0.0	265.1	1.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	6.6	7.0	3.4	18.9	12.2	1.7	0.0	11.8	4.3	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	7.2	7.1	79.7	41.8	36.4	63.3	0.0	321.1	40.4	0.0	11.1
LnGrp LOS	C	A	A	E	D	D	E	A	F	D	A	B
Approach Vol, veh/h		2264			1849			218			1166	
Approach Delay, s/veh		14.4			42.3			265.5			19.5	
Approach LOS		B			D			F			B	

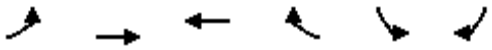
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.0	11.6	97.4		33.0	55.0	54.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		8.0	9.0	56.0		28.0	16.0	* 49				
Max Q Clear Time (g_c+I1), s		10.0	8.0	21.4		11.5	23.1	42.7				
Green Ext Time (p_c), s		0.0	0.0	14.2		4.7	0.0	4.8				

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	119	2037	2490	146	17	75
Future Volume (veh/h)	119	2037	2490	146	17	75
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	123	2100	2567	151	18	77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	149	3276	2591	150	85	363
Arrive On Green	0.08	0.64	0.52	0.52	0.28	0.28
Sat Flow, veh/h	1781	5274	5105	286	309	1321
Grp Volume(v), veh/h	123	2100	1759	959	96	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1819	1647	0
Q Serve(g_s), s	8.2	30.0	60.9	63.0	5.4	0.0
Cycle Q Clear(g_c), s	8.2	30.0	60.9	63.0	5.4	0.0
Prop In Lane	1.00			0.16	0.19	0.80
Lane Grp Cap(c), veh/h	149	3276	1787	955	453	0
V/C Ratio(X)	0.83	0.64	0.98	1.00	0.21	0.00
Avail Cap(c_a), veh/h	163	3276	1787	955	453	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.1	13.1	28.0	28.5	33.5	0.0
Incr Delay (d2), s/veh	26.6	1.0	17.9	30.3	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	11.0	28.0	34.1	2.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	80.7	14.1	45.9	58.8	34.6	0.0
LnGrp LOS	F	B	D	F	C	A
Approach Vol, veh/h		2223	2718		96	
Approach Delay, s/veh		17.7	50.5		34.6	
Approach LOS		B	D		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	82.0	38.0	14.0	68.0
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	77.0	33.0	11.0	62.0
Max Q Clear Time (g_c+I1), s	32.0	7.4	10.2	65.0
Green Ext Time (p_c), s	27.3	0.3	0.0	0.0

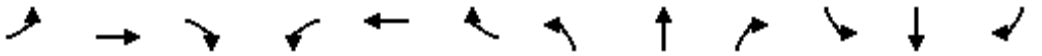
Intersection Summary	
HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX P-V

YEAR 2035 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS



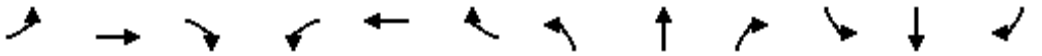
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	721	225	259	736	117	233	1625	230	225	2497	355
Future Volume (veh/h)	182	721	225	259	736	117	233	1625	230	225	2497	355
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	182	721	225	259	736	117	233	1625	230	225	2497	355
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	689	215	259	921	146	1004	4329	1344	251	2128	660
Arrive On Green	0.04	0.26	0.26	0.08	0.30	0.30	0.56	0.85	0.85	0.14	0.42	0.42
Sat Flow, veh/h	3456	2666	832	3456	3071	488	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	182	481	465	259	426	427	233	1625	230	225	2497	355
Grp Sat Flow(s),veh/h/ln	1728	1777	1721	1728	1777	1783	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.0	31.0	31.0	9.0	26.5	26.5	7.9	8.5	9.7	14.9	50.0	32.8
Cycle Q Clear(g_c), s	5.0	31.0	31.0	9.0	26.5	26.5	7.9	8.5	9.7	14.9	50.0	32.8
Prop In Lane	1.00		0.48	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	459	444	259	533	535	1004	4329	1344	251	2128	660
V/C Ratio(X)	1.26	1.05	1.05	1.00	0.80	0.80	0.23	0.38	0.17	0.90	1.17	0.54
Avail Cap(c_a), veh/h	144	459	444	259	533	535	1004	4329	1344	252	2128	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	44.5	44.5	55.5	38.7	38.7	13.1	2.0	15.8	50.7	35.0	69.3
Incr Delay (d2), s/veh	162.5	54.8	55.5	55.7	8.4	8.4	0.1	0.2	0.3	31.0	83.5	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	20.5	19.9	5.9	12.7	12.7	3.2	1.8	3.6	8.8	36.6	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	220.0	99.3	100.0	111.2	47.0	47.1	13.3	2.3	16.1	81.7	118.5	72.5
LnGrp LOS	F	F	F	F	D	D	B	A	B	F	F	E
Approach Vol, veh/h		1128			1112			2088			3077	
Approach Delay, s/veh		119.1			62.0			5.0			110.5	
Approach LOS		F			E			A			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.9	107.6	14.0	36.0	73.5	55.0	9.0	41.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	17.0	45.0	9.0	* 31	12.0	* 50	5.0	35.0
Max Q Clear Time (g_c+I1), s	16.9	11.7	11.0	33.0	9.9	52.0	7.0	28.5
Green Ext Time (p_c), s	0.0	17.7	0.0	0.0	0.1	0.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	74.8
HCM 6th LOS	E

Notes

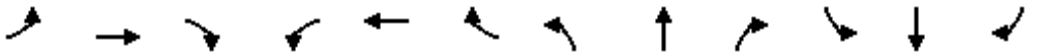
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	17	212	66	32	31	110	1699	20	27	2576	139
Future Volume (veh/h)	229	17	212	66	32	31	110	1699	20	27	2576	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	17	212	66	32	31	110	1699	20	27	2576	139
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	416	352	308	194	188	242	2766	859	213	2681	832
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.14	0.54	0.54	0.24	1.00	1.00
Sat Flow, veh/h	1339	1870	1585	1152	873	845	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	229	17	212	66	0	63	110	1699	20	27	2576	139
Grp Sat Flow(s),veh/h/ln	1339	1870	1585	1152	0	1718	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	20.0	0.9	14.4	5.7	0.0	3.6	6.8	27.4	0.7	1.4	0.0	0.0
Cycle Q Clear(g_c), s	23.5	0.9	14.4	6.6	0.0	3.6	6.8	27.4	0.7	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	318	416	352	308	0	382	242	2766	859	213	2681	832
V/C Ratio(X)	0.72	0.04	0.60	0.21	0.00	0.16	0.45	0.61	0.02	0.13	0.96	0.17
Avail Cap(c_a), veh/h	411	546	462	388	0	501	242	2766	859	213	2681	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	47.2	36.6	41.9	39.2	0.0	37.7	47.7	18.9	12.8	40.8	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	1.7	0.3	0.0	0.2	1.3	1.0	0.0	0.2	8.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.4	5.8	1.7	0.0	1.5	3.1	10.8	0.3	0.6	2.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	36.7	43.5	39.6	0.0	37.9	49.1	19.9	12.8	41.0	8.1	0.3
LnGrp LOS	D	D	D	D	A	D	D	B	B	D	A	A
Approach Vol, veh/h		458			129			1829			2742	
Approach Delay, s/veh		47.3			38.7			21.6			8.1	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.3	70.0		31.7	20.3	68.0		31.7				
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	65.0		35.0	8.0	63.0		35.0				
Max Q Clear Time (g_c+I1), s	3.4	29.4		25.5	8.8	2.0		8.6				
Green Ext Time (p_c), s	0.0	18.0		1.1	0.0	45.5		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			17.1									
HCM 6th LOS			B									



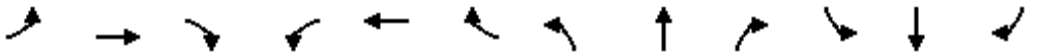
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	0	36	71	0	38	10	2078	22	11	2674	17
Future Volume (veh/h)	58	0	36	71	0	38	10	2078	22	11	2674	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	0	36	71	0	38	10	2078	22	11	2674	17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	0	145	156	0	145	372	4046	43	27	2936	911
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.21	0.78	0.78	0.02	0.57	0.57
Sat Flow, veh/h	1370	0	1585	1372	0	1585	1781	5209	55	1781	5106	1585
Grp Volume(v), veh/h	58	0	36	71	0	38	10	1357	743	11	2674	17
Grp Sat Flow(s),veh/h/ln	1370	0	1585	1372	0	1585	1781	1702	1860	1781	1702	1585
Q Serve(g_s), s	4.9	0.0	2.5	6.1	0.0	2.7	0.5	17.8	17.8	0.7	56.1	0.6
Cycle Q Clear(g_c), s	7.6	0.0	2.5	8.6	0.0	2.7	0.5	17.8	17.8	0.7	56.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	154	0	145	156	0	145	372	2644	1445	27	2936	911
V/C Ratio(X)	0.38	0.00	0.25	0.45	0.00	0.26	0.03	0.51	0.51	0.40	0.91	0.02
Avail Cap(c_a), veh/h	383	0	409	385	0	409	372	2644	1445	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	50.7	54.7	0.0	50.8	37.8	5.0	5.0	58.5	22.8	11.0
Incr Delay (d2), s/veh	1.5	0.0	0.9	2.1	0.0	1.0	0.0	0.6	1.1	9.3	5.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.0	2.2	0.0	1.1	0.2	5.3	6.0	0.4	22.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	0.0	51.6	56.8	0.0	51.7	37.8	5.6	6.1	67.8	28.3	11.0
LnGrp LOS	E	A	D	E	A	D	D	A	A	E	C	B
Approach Vol, veh/h		94			109			2110			2702	
Approach Delay, s/veh		54.2			55.0			5.9			28.3	
Approach LOS		D			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	98.2		15.9	30.1	74.0		15.9				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	2.7	19.8		9.6	2.5	58.1		10.6				
Green Ext Time (p_c), s	0.0	27.2		0.3	0.0	10.3		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		19.9	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



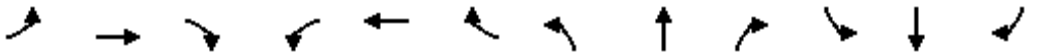
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1454	211	677	1471	302	257	1174	846	447	1849	321
Future Volume (veh/h)	124	1454	211	677	1471	302	257	1174	846	447	1849	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	1454	211	677	1471	302	257	1174	846	447	1849	321
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	1560	226	346	2058	639	1698	3912	2417	259	1745	542
Arrive On Green	0.05	0.35	0.35	0.10	0.40	0.40	0.49	0.77	0.77	0.08	0.34	0.34
Sat Flow, veh/h	3456	4504	653	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	124	1099	566	677	1471	302	257	1174	846	447	1849	321
Grp Sat Flow(s),veh/h/ln	1728	1702	1753	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	4.2	37.4	37.4	12.0	29.0	16.9	4.9	8.4	13.9	9.0	41.0	29.8
Cycle Q Clear(g_c), s	4.2	37.4	37.4	12.0	29.0	16.9	4.9	8.4	13.9	9.0	41.0	29.8
Prop In Lane	1.00		0.37	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	1179	607	346	2058	639	1698	3912	2417	259	1745	542
V/C Ratio(X)	0.69	0.93	0.93	1.96	0.71	0.47	0.15	0.30	0.35	1.72	1.06	0.59
Avail Cap(c_a), veh/h	259	1191	613	346	2058	639	1698	3912	2417	259	1745	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.8	37.9	54.0	30.0	26.4	16.8	4.3	16.9	55.5	39.5	71.9
Incr Delay (d2), s/veh	4.7	12.9	21.2	442.0	1.2	0.5	0.0	0.2	0.3	341.9	39.4	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	17.4	19.4	26.4	12.0	6.4	2.0	2.6	3.8	16.2	23.2	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	50.7	59.1	496.0	31.2	27.0	16.8	4.4	17.3	397.4	78.9	76.6
LnGrp LOS	E	D	E	F	C	C	B	A	B	F	F	E
Approach Vol, veh/h		1789			2450			2277			2617	
Approach Delay, s/veh		54.0			159.1			10.6			133.0	
Approach LOS		D			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	98.4	17.0	46.6	65.4	46.0	10.2	53.4
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	12.0	* 42	7.0	* 41	9.0	45.0
Max Q Clear Time (g_c+I1), s	11.0	15.9	14.0	39.4	6.9	43.0	6.2	31.0
Green Ext Time (p_c), s	0.0	13.7	0.0	2.1	0.0	0.0	0.1	9.4

Intersection Summary	
HCM 6th Ctrl Delay	94.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	2652	50	113	2247	34	70	16	67	49	6	57
Future Volume (veh/h)	63	2652	50	113	2247	34	70	16	67	49	6	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	2652	50	113	2247	34	81	0	67	49	6	57
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	2383	740	74	2425	753	1128	0	502	465	57	462
Arrive On Green	0.04	0.47	0.47	0.04	0.47	0.47	0.32	0.00	0.32	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3563	0	1585	1595	195	1585
Grp Volume(v), veh/h	63	2652	50	113	2247	34	81	0	67	55	0	57
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	0	1585	1791	0	1585
Q Serve(g_s), s	4.2	56.0	2.1	5.0	49.5	1.4	1.9	0.0	3.6	2.7	0.0	3.2
Cycle Q Clear(g_c), s	4.2	56.0	2.1	5.0	49.5	1.4	1.9	0.0	3.6	2.7	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	74	2383	740	74	2425	753	1128	0	502	522	0	462
V/C Ratio(X)	0.85	1.11	0.07	1.52	0.93	0.05	0.07	0.00	0.13	0.11	0.00	0.12
Avail Cap(c_a), veh/h	74	2383	740	74	2425	753	1128	0	502	522	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.1	32.0	17.6	57.5	29.5	16.9	28.7	0.0	29.3	31.1	0.0	31.2
Incr Delay (d2), s/veh	56.7	57.4	0.0	292.0	6.9	0.0	0.1	0.0	0.6	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	34.8	0.8	8.3	21.1	0.5	0.8	0.0	1.5	1.2	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.8	89.4	17.7	349.5	36.4	16.9	28.8	0.0	29.8	31.5	0.0	31.8
LnGrp LOS	F	F	B	F	D	B	C	A	C	C	A	C
Approach Vol, veh/h		2765			2394			148			112	
Approach Delay, s/veh		88.7			50.9			29.3			31.6	
Approach LOS		F			D			C			C	

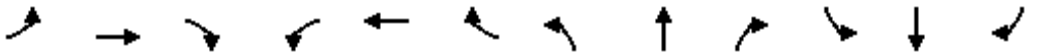
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	10.0	61.0		40.0	9.0	62.0				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		5.0	5.0	* 56		35.0	5.0	56.0				
Max Q Clear Time (g_c+I1), s		5.6	7.0	58.0		5.2	6.2	51.5				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.5	0.0	4.2				

Intersection Summary												
HCM 6th Ctrl Delay			69.2									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



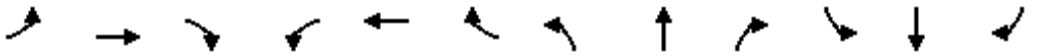
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	2241	416	167	1979	108	302	549	213	276	737	207
Future Volume (veh/h)	130	2241	416	167	1979	108	302	549	213	276	737	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	2241	416	167	1979	108	302	549	213	276	737	207
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	2085	647	173	2106	115	259	1125	502	1770	2709	1208
Arrive On Green	0.04	0.41	0.41	0.05	0.43	0.43	0.08	0.32	0.32	0.51	0.76	0.76
Sat Flow, veh/h	3456	5106	1585	3456	4956	270	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	130	2241	416	167	1357	730	302	549	213	276	737	207
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1822	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	4.5	49.0	38.2	5.8	45.7	46.1	9.0	15.0	12.7	5.1	7.5	4.3
Cycle Q Clear(g_c), s	4.5	49.0	38.2	5.8	45.7	46.1	9.0	15.0	12.7	5.1	7.5	4.3
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	2085	647	173	1447	774	259	1125	502	1770	2709	1208
V/C Ratio(X)	0.90	1.07	0.64	0.97	0.94	0.94	1.17	0.49	0.42	0.16	0.27	0.17
Avail Cap(c_a), veh/h	144	2085	647	173	1447	774	259	1125	502	1770	2709	1208
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.3	35.5	65.3	56.9	33.0	33.1	55.5	33.1	32.4	15.5	4.3	3.9
Incr Delay (d2), s/veh	47.3	43.3	2.2	58.4	11.9	19.7	108.1	1.5	2.6	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	28.1	15.6	3.9	20.8	24.0	7.8	6.7	5.3	2.0	2.4	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.6	78.8	67.4	115.3	44.9	52.8	163.6	34.6	35.0	15.5	4.5	4.2
LnGrp LOS	F	F	E	F	D	D	F	C	C	B	A	A
Approach Vol, veh/h		2787			2254			1064			1220	
Approach Delay, s/veh		78.3			52.7			71.3			7.0	
Approach LOS		E			D			E			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	67.5	43.0	11.0	54.0	13.0	97.5	9.0	56.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 38	6.0	* 49	9.0	38.0	5.0	50.0
Max Q Clear Time (g_c+I1), s	7.1	17.0	7.8	51.0	11.0	9.5	6.5	48.1
Green Ext Time (p_c), s	0.2	4.5	0.0	0.0	0.0	6.6	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	57.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



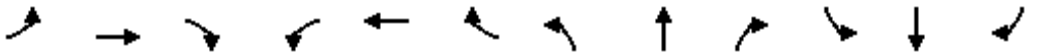
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	2269	332	294	2005	343	247	582	275	624	988	74
Future Volume (veh/h)	168	2269	332	294	2005	343	247	582	275	624	988	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	2269	332	294	2005	343	247	582	275	624	988	74
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1731	246	202	1725	289	259	1096	489	2214	2957	221
Arrive On Green	0.04	0.38	0.38	0.06	0.39	0.39	0.08	0.31	0.31	0.64	0.88	0.88
Sat Flow, veh/h	3456	4517	642	3456	4404	738	3456	3554	1585	3456	3351	251
Grp Volume(v), veh/h	168	1694	907	294	1540	808	247	582	275	624	524	538
Grp Sat Flow(s),veh/h/ln	1728	1702	1755	1728	1702	1738	1728	1777	1585	1728	1777	1825
Q Serve(g_s), s	5.0	46.0	46.0	7.0	47.0	47.0	8.5	16.3	27.9	9.5	5.9	5.9
Cycle Q Clear(g_c), s	5.0	46.0	46.0	7.0	47.0	47.0	8.5	16.3	27.9	9.5	5.9	5.9
Prop In Lane	1.00		0.37	1.00		0.42	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	144	1305	673	202	1333	681	259	1096	489	2214	1568	1610
V/C Ratio(X)	1.17	1.30	1.35	1.46	1.16	1.19	0.95	0.53	0.56	0.28	0.33	0.33
Avail Cap(c_a), veh/h	144	1305	673	202	1333	681	259	1096	489	2214	1568	1610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	37.0	37.0	56.5	36.5	36.5	55.3	34.3	89.0	9.5	1.2	1.2
Incr Delay (d2), s/veh	126.8	139.8	166.7	231.6	78.8	98.4	43.0	1.8	4.6	0.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	44.0	50.4	9.5	33.7	38.0	5.3	7.3	11.9	3.5	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.3	176.8	203.7	288.1	115.3	134.9	98.3	36.2	93.7	9.5	1.8	1.7
LnGrp LOS	F	F	F	F	F	F	F	D	F	A	A	A
Approach Vol, veh/h		2769			2642			1104			1686	
Approach Delay, s/veh		186.1			140.5			64.4			4.6	
Approach LOS		F			F			E			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	82.9	42.0	11.0	51.0	13.0	111.9	10.0	52.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	13.0	* 37	7.0	45.0	9.0	41.0	5.0	* 47
Max Q Clear Time (g_c+I1), s	11.5	29.9	9.0	48.0	10.5	7.9	7.0	49.0
Green Ext Time (p_c), s	0.4	2.8	0.0	0.0	0.0	8.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	117.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



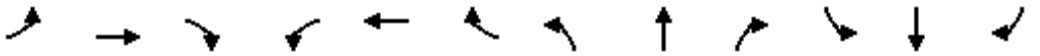
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1896	802	378	1621	346	544	672	335	310	1504	309
Future Volume (veh/h)	370	1896	802	378	1621	346	544	672	335	310	1504	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	1896	802	378	1621	346	544	672	335	310	1504	309
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1406	541	230	1767	548	777	1787	555	661	1617	502
Arrive On Green	0.10	0.39	0.39	0.07	0.35	0.35	0.22	0.35	0.35	0.19	0.32	0.32
Sat Flow, veh/h	3456	3628	1395	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	370	1767	931	378	1621	346	544	672	335	310	1504	309
Grp Sat Flow(s),veh/h/ln	1728	1702	1619	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.0	46.5	46.5	8.0	36.5	21.9	17.4	11.8	21.0	9.6	34.2	19.9
Cycle Q Clear(g_c), s	12.0	46.5	46.5	8.0	36.5	21.9	17.4	11.8	21.0	9.6	34.2	19.9
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1320	628	230	1767	548	777	1787	555	661	1617	502
V/C Ratio(X)	1.07	1.34	1.48	1.64	0.92	0.63	0.70	0.38	0.60	0.47	0.93	0.62
Avail Cap(c_a), veh/h	346	1320	628	230	1787	555	777	1787	555	661	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.7	36.7	56.0	37.6	32.8	42.8	29.2	32.5	43.1	39.7	34.8
Incr Delay (d2), s/veh	68.5	157.9	225.7	307.1	8.0	2.3	2.8	0.6	4.8	0.5	11.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	47.8	57.3	13.3	16.3	8.7	7.7	4.9	8.8	4.1	15.8	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.5	194.7	262.5	363.1	45.6	35.1	45.6	29.8	37.4	43.6	50.7	40.4
LnGrp LOS	F	F	F	F	D	D	D	C	D	D	D	D
Approach Vol, veh/h		3068			2345			1551			2123	
Approach Delay, s/veh		206.5			95.2			37.0			48.2	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.5	47.0	12.0	51.5	31.5	43.0	17.0	46.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	42.0	8.0	46.0	10.0	38.0	12.0	* 42
Max Q Clear Time (g_c+I1), s	11.6	23.0	10.0	48.5	19.4	36.2	14.0	38.5
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	1.5	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	111.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



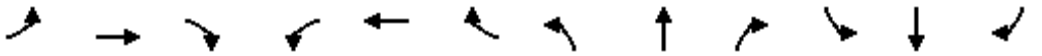
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	1132	214	489	1160	231	300	1041	300	236	1791	265
Future Volume (veh/h)	415	1132	214	489	1160	231	300	1041	300	236	1791	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	1132	214	489	1160	231	300	1041	300	236	1791	265
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	995	187	346	1060	210	259	1532	476	1325	2772	407
Arrive On Green	0.08	0.33	0.33	0.10	0.36	0.36	0.08	0.30	0.30	0.38	0.62	0.62
Sat Flow, veh/h	3456	2985	562	3456	2957	585	3456	5106	1585	3456	4496	660
Grp Volume(v), veh/h	415	672	674	489	694	697	300	1041	300	236	1353	703
Grp Sat Flow(s),veh/h/ln	1728	1777	1769	1728	1777	1765	1728	1702	1585	1728	1702	1752
Q Serve(g_s), s	10.0	40.0	40.0	12.0	43.0	43.0	9.0	21.5	19.6	5.4	30.3	30.9
Cycle Q Clear(g_c), s	10.0	40.0	40.0	12.0	43.0	43.0	9.0	21.5	19.6	5.4	30.3	30.9
Prop In Lane	1.00		0.32	1.00		0.33	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	288	592	590	346	637	632	259	1532	476	1325	2099	1080
V/C Ratio(X)	1.44	1.13	1.14	1.42	1.09	1.10	1.16	0.68	0.63	0.18	0.64	0.65
Avail Cap(c_a), veh/h	288	592	590	346	637	632	259	1532	476	1325	2099	1080
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	40.0	40.0	54.0	38.5	38.5	55.5	36.9	36.3	24.5	14.6	14.7
Incr Delay (d2), s/veh	217.2	79.8	83.3	203.1	62.7	66.9	105.2	2.5	6.2	0.1	1.5	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	30.3	30.8	15.0	29.4	30.0	7.7	9.3	8.4	2.2	11.5	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.2	119.8	123.3	257.1	101.2	105.4	160.7	39.4	42.5	24.6	16.2	17.8
LnGrp LOS	F	F	F	F	F	F	F	D	D	C	B	B
Approach Vol, veh/h		1761			1880			1641			2292	
Approach Delay, s/veh		157.1			143.3			62.1			17.5	
Approach LOS		F			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	52.0	41.0	17.0	45.0	13.0	80.0	14.0	48.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 36	12.0	* 40	9.0	41.0	10.0	42.0
Max Q Clear Time (g_c+I1), s	7.4	23.5	14.0	42.0	11.0	32.9	12.0	45.0
Green Ext Time (p_c), s	0.4	6.6	0.0	0.0	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	90.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



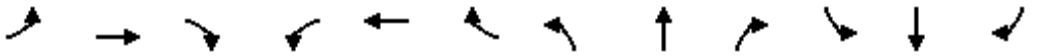
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	742	790	361	773	86	434	1536	286	153	1921	596
Future Volume (veh/h)	209	742	790	361	773	86	434	1536	286	153	1921	596
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	742	790	361	773	86	434	1536	286	153	1921	596
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	612	1125	729	288	1001	111	494	2042	634	579	3014	1216
Arrive On Green	0.18	0.32	0.32	0.08	0.21	0.21	0.14	0.40	0.40	0.33	0.59	0.59
Sat Flow, veh/h	3456	3554	1585	3456	4666	516	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	209	742	790	361	563	296	434	1536	286	153	1921	596
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1777	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.4	21.6	38.0	10.0	18.7	18.9	14.8	31.0	19.2	7.6	29.7	12.8
Cycle Q Clear(g_c), s	6.4	21.6	38.0	10.0	18.7	18.9	14.8	31.0	19.2	7.6	29.7	12.8
Prop In Lane	1.00		1.00	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	612	1125	729	288	730	381	494	2042	634	579	3014	1216
V/C Ratio(X)	0.34	0.66	1.08	1.25	0.77	0.78	0.88	0.75	0.45	0.26	0.64	0.49
Avail Cap(c_a), veh/h	612	1125	729	288	993	518	547	2042	634	579	3014	1216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	35.4	32.4	55.0	44.3	44.4	50.4	30.9	38.5	29.9	16.1	9.3
Incr Delay (d2), s/veh	0.3	1.4	58.5	139.4	2.6	5.1	14.1	2.6	2.3	0.2	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	9.5	32.2	9.9	8.1	8.8	7.3	13.0	7.8	3.3	11.4	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	36.8	90.9	194.4	46.9	49.6	64.5	33.5	40.8	30.1	17.2	10.7
LnGrp LOS	D	D	F	F	D	D	E	C	D	C	B	B
Approach Vol, veh/h		1741			1220			2256			2670	
Approach Delay, s/veh		62.2			91.2			40.4			16.5	
Approach LOS		E			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.0	53.0	14.0	43.0	21.2	76.8	26.3	30.7
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	* 48	10.0	38.0	19.0	35.0	13.0	* 35
Max Q Clear Time (g_c+I1), s	9.6	33.0	12.0	40.0	16.8	31.7	8.4	20.9
Green Ext Time (p_c), s	0.0	10.2	0.0	0.0	0.4	3.1	0.3	4.9

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



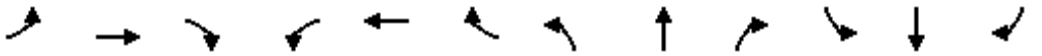
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	529	111	288	694	93	287	1158	228	181	1608	136
Future Volume (veh/h)	170	529	111	288	694	93	287	1158	228	181	1608	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	529	111	288	694	93	287	1158	228	181	1608	136
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	659	138	252	807	108	288	1320	260	296	1917	162
Arrive On Green	0.11	0.23	0.23	0.14	0.26	0.26	0.08	0.31	0.31	0.17	0.40	0.40
Sat Flow, veh/h	1781	2926	611	1781	3150	422	3456	4280	843	1781	4796	405
Grp Volume(v), veh/h	170	320	320	288	391	396	287	921	465	181	1141	603
Grp Sat Flow(s),veh/h/ln	1781	1777	1760	1781	1777	1794	1728	1702	1719	1781	1702	1797
Q Serve(g_s), s	11.3	20.4	20.6	17.0	25.2	25.2	10.0	30.8	30.8	11.3	36.3	36.4
Cycle Q Clear(g_c), s	11.3	20.4	20.6	17.0	25.2	25.2	10.0	30.8	30.8	11.3	36.3	36.4
Prop In Lane	1.00		0.35	1.00		0.24	1.00		0.49	1.00		0.23
Lane Grp Cap(c), veh/h	197	400	397	252	455	460	288	1050	530	296	1360	718
V/C Ratio(X)	0.86	0.80	0.81	1.14	0.86	0.86	1.00	0.88	0.88	0.61	0.84	0.84
Avail Cap(c_a), veh/h	223	518	513	252	548	553	288	1050	530	296	1360	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	43.9	44.0	51.5	42.6	42.6	55.0	39.3	39.4	46.4	32.5	32.5
Incr Delay (d2), s/veh	25.4	6.7	7.1	100.1	11.3	11.3	52.0	10.3	18.3	3.6	6.3	11.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	9.7	9.7	14.6	12.4	12.6	6.4	14.2	15.5	5.3	15.9	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.9	50.6	51.1	151.6	53.9	53.9	107.0	49.7	57.6	50.1	38.8	43.9
LnGrp LOS	E	D	D	F	D	D	F	D	E	D	D	D
Approach Vol, veh/h		810			1075			1673			1925	
Approach Delay, s/veh		56.5			80.1			61.7			41.5	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	42.0	21.0	32.0	14.0	53.0	17.3	35.8
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	* 37	17.0	35.0	10.0	40.0	15.0	37.0
Max Q Clear Time (g_c+I1), s	13.3	32.8	19.0	22.6	12.0	38.4	13.3	27.2
Green Ext Time (p_c), s	0.0	3.1	0.0	3.2	0.0	1.4	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	57.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



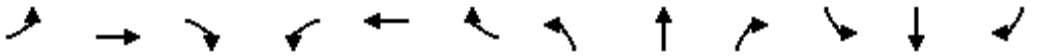
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	466	513	100	110	695	178	106	1958	76	89	2325	390
Future Volume (veh/h)	466	513	100	110	695	178	106	1958	76	89	2325	390
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	466	513	100	110	695	178	106	1958	76	89	2325	390
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	990	442	168	838	374	168	2102	81	337	2101	339
Arrive On Green	0.09	0.28	0.28	0.05	0.24	0.24	0.05	0.42	0.42	0.10	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5044	195	3456	4432	714
Grp Volume(v), veh/h	466	513	100	110	695	178	106	1320	714	89	1764	951
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1742
Q Serve(g_s), s	11.0	14.6	5.8	3.8	22.3	8.9	3.6	44.3	44.6	2.9	56.9	56.9
Cycle Q Clear(g_c), s	11.0	14.6	5.8	3.8	22.3	8.9	3.6	44.3	44.6	2.9	56.9	56.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.41
Lane Grp Cap(c), veh/h	317	990	442	168	838	374	168	1418	765	337	1614	826
V/C Ratio(X)	1.47	0.52	0.23	0.65	0.83	0.48	0.63	0.93	0.93	0.26	1.09	1.15
Avail Cap(c_a), veh/h	317	1125	502	230	1036	462	173	1418	765	337	1614	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	36.5	33.3	56.1	43.6	23.0	56.0	33.4	33.4	50.2	31.6	31.6
Incr Delay (d2), s/veh	228.5	0.4	0.3	4.2	4.8	0.9	7.0	12.2	19.9	0.4	52.4	82.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	6.4	2.3	1.7	10.3	3.4	1.7	20.3	23.6	1.3	34.2	41.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	283.0	36.9	33.6	60.3	48.3	23.9	63.0	45.6	53.3	50.6	84.0	113.6
LnGrp LOS	F	D	C	E	D	C	E	D	D	D	F	F
Approach Vol, veh/h		1079			983			2140			2804	
Approach Delay, s/veh		142.9			45.2			49.0			93.0	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	55.0	9.8	38.4	9.8	61.9	15.0	33.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 50	8.0	38.0	6.0	50.0	11.0	35.0
Max Q Clear Time (g_c+I1), s	4.9	46.6	5.8	16.6	5.6	58.9	13.0	24.3
Green Ext Time (p_c), s	0.0	3.1	0.1	3.8	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	80.5
HCM 6th LOS	F

Notes

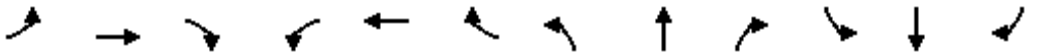
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	194	28	188	267	86	31	1978	176	43	2441	87
Future Volume (veh/h)	66	194	28	188	267	86	31	1978	176	43	2441	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	194	28	188	267	86	31	1978	176	43	2441	87
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	429	489	202	350	110	334	2309	204	334	2447	87
Arrive On Green	0.05	0.12	0.12	0.06	0.13	0.13	0.19	0.48	0.48	0.19	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2659	838	1781	4776	422	1781	5063	179
Grp Volume(v), veh/h	66	194	28	188	176	177	31	1406	748	43	1636	892
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1720	1781	1702	1794	1781	1702	1838
Q Serve(g_s), s	4.4	6.1	0.2	6.5	11.5	11.9	1.7	43.6	44.3	2.4	57.4	58.0
Cycle Q Clear(g_c), s	4.4	6.1	0.2	6.5	11.5	11.9	1.7	43.6	44.3	2.4	57.4	58.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		0.24	1.00		0.10
Lane Grp Cap(c), veh/h	85	429	489	202	234	227	334	1645	867	334	1645	888
V/C Ratio(X)	0.78	0.45	0.06	0.93	0.75	0.78	0.09	0.85	0.86	0.13	0.99	1.00
Avail Cap(c_a), veh/h	104	918	707	202	459	444	334	1645	867	334	1645	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	49.1	17.3	56.3	50.2	50.4	40.3	27.3	27.5	40.6	30.8	31.0
Incr Delay (d2), s/veh	25.7	0.7	0.0	44.7	4.9	5.7	0.1	5.9	11.0	0.2	20.9	31.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.8	0.4	4.1	5.4	5.5	0.8	18.5	21.0	1.1	27.3	32.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.3	49.8	17.4	100.9	55.1	56.1	40.4	33.2	38.5	40.8	51.8	62.1
LnGrp LOS	F	D	B	F	E	E	D	C	D	D	D	F
Approach Vol, veh/h		288			541			2185			2571	
Approach Delay, s/veh		54.1			71.4			35.1			55.2	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.5	63.0	11.0	19.5	26.5	63.0	9.7	20.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	58.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	4.4	46.3	8.5	8.1	3.7	60.0	6.4	13.9
Green Ext Time (p_c), s	0.0	9.8	0.0	1.2	0.0	0.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D



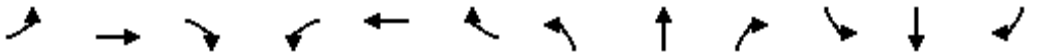
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	117	90	228	89	5	345	10	284	1	1	1
Future Volume (veh/h)	5	117	90	228	89	5	345	10	284	1	1	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	117	90	228	89	5	345	10	284	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	14	364	259	432	1057	59	563	16	515	116	116	116
Arrive On Green	0.01	0.18	0.18	0.12	0.31	0.31	0.32	0.32	0.32	0.20	0.20	0.20
Sat Flow, veh/h	1781	1983	1410	3456	3422	191	1733	50	1585	579	579	579
Grp Volume(v), veh/h	5	104	103	228	46	48	355	0	284	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1616	1728	1777	1836	1784	0	1585	1737	0	0
Q Serve(g_s), s	0.3	6.1	6.7	7.4	2.2	2.2	20.1	0.0	17.7	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	6.1	6.7	7.4	2.2	2.2	20.1	0.0	17.7	0.2	0.0	0.0
Prop In Lane	1.00		0.87	1.00		0.10	0.97		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	14	326	296	432	549	567	580	0	515	347	0	0
V/C Ratio(X)	0.37	0.32	0.35	0.53	0.08	0.08	0.61	0.00	0.55	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	326	296	461	549	567	580	0	515	347	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.2	42.5	42.7	49.2	29.4	29.4	34.1	0.0	33.3	38.5	0.0	0.0
Incr Delay (d2), s/veh	15.6	2.6	3.2	1.0	0.3	0.3	4.8	0.0	4.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.9	2.9	3.3	1.0	1.0	9.5	0.0	7.4	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	45.1	46.0	50.2	29.7	29.7	38.9	0.0	37.5	38.5	0.0	0.0
LnGrp LOS	E	D	D	D	C	C	D	A	D	D	A	A
Approach Vol, veh/h		212			322			639			3	
Approach Delay, s/veh		46.2			44.2			38.3			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	20.0	27.0		29.0	4.9	42.1				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		39.0	16.0	* 22		24.0	6.0	32.0				
Max Q Clear Time (g_c+I1), s		22.1	9.4	8.7		2.2	2.3	4.2				
Green Ext Time (p_c), s		3.0	0.4	0.9		0.0	0.0	0.5				

Intersection Summary		
HCM 6th Ctrl Delay		41.3
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	123	68	86	110	530	178	1477	171	88	2533	51
Future Volume (veh/h)	263	123	68	86	110	530	178	1477	171	88	2533	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	123	68	86	110	530	178	1477	0	88	2533	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	277	144	163	336	660	193	1787		574	3680	
Arrive On Green	0.08	0.12	0.12	0.05	0.09	0.09	0.11	0.35	0.00	0.32	0.57	0.00
Sat Flow, veh/h	3456	2259	1177	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	263	95	96	86	110	530	178	1477	0	88	2533	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1659	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	9.0	6.0	6.5	2.9	3.5	6.5	11.9	31.7	0.0	4.2	33.3	0.0
Cycle Q Clear(g_c), s	9.0	6.0	6.5	2.9	3.5	6.5	11.9	31.7	0.0	4.2	33.3	0.0
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	218	203	163	336	660	193	1787		574	3680	
V/C Ratio(X)	1.01	0.44	0.47	0.53	0.33	0.80	0.92	0.83		0.15	0.69	
Avail Cap(c_a), veh/h	259	563	525	173	1036	973	193	1787		574	3680	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.5	48.8	49.0	55.9	50.8	14.9	53.0	35.7	0.0	29.0	18.1	0.0
Incr Delay (d2), s/veh	59.7	1.4	1.7	2.6	0.6	3.1	43.4	4.5	0.0	0.1	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	2.7	2.8	1.3	1.6	8.6	7.6	13.8	0.0	1.8	12.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.2	50.2	50.7	58.5	51.3	18.0	96.4	40.2	0.0	29.1	19.2	0.0
LnGrp LOS	F	D	D	E	D	B	F	D		C	B	
Approach Vol, veh/h		454			726			1655	A		2621	A
Approach Delay, s/veh		88.0			27.8			46.2			19.5	
Approach LOS		F			C			D			B	

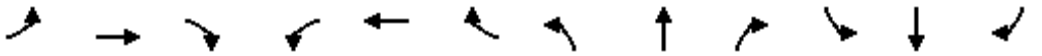
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.6	47.0	9.7	19.7	17.0	73.6	13.0	16.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	16.0	* 42	6.0	38.0	13.0	45.0	9.0	35.0
Max Q Clear Time (g_c+I1), s	6.2	33.7	4.9	8.5	13.9	35.3	11.0	8.5
Green Ext Time (p_c), s	0.1	5.8	0.0	1.1	0.0	8.9	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



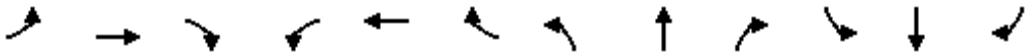
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	0	308	0	0	0	0	1547	280	909	1795	0
Future Volume (veh/h)	208	0	308	0	0	0	0	1547	280	909	1795	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	208	0	308				0	1547	280	909	1795	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	341	0	304				0	1740	314	979	3702	0
Arrive On Green	0.19	0.00	0.19				0.00	0.40	0.40	0.28	0.73	0.00
Sat Flow, veh/h	1781	0	1585				0	4517	784	3456	5274	0
Grp Volume(v), veh/h	208	0	308				0	1210	617	909	1795	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1729	1728	1702	0
Q Serve(g_s), s	12.8	0.0	23.0				0.0	39.7	40.0	30.7	17.9	0.0
Cycle Q Clear(g_c), s	12.8	0.0	23.0				0.0	39.7	40.0	30.7	17.9	0.0
Prop In Lane	1.00		1.00				0.00		0.45	1.00		0.00
Lane Grp Cap(c), veh/h	341	0	304				0	1362	692	979	3702	0
V/C Ratio(X)	0.61	0.00	1.01				0.00	0.89	0.89	0.93	0.48	0.00
Avail Cap(c_a), veh/h	341	0	304				0	1362	692	1008	3702	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.4	0.0	48.5				0.0	33.5	33.6	41.8	7.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	55.2				0.0	8.9	16.2	14.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	13.7				0.0	17.7	19.5	14.9	5.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	0.0	103.7				0.0	42.4	49.8	55.9	7.5	0.0
LnGrp LOS	D	A	F				A	D	D	E	A	A
Approach Vol, veh/h		516						1827			2704	
Approach Delay, s/veh		81.0						44.9			23.7	
Approach LOS		F						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	39.0	53.0		28.0		92.0
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	35.0	* 48		23.0		87.0
Max Q Clear Time (g_c+I1), s	32.7	42.0		25.0		19.9
Green Ext Time (p_c), s	1.0	5.0		0.0		25.1

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	972	575	1196	1072	7	550	52	699	61	44	25
Future Volume (veh/h)	49	972	575	1196	1072	7	550	52	699	61	44	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	972	575	1196	1072	7	587	0	699	61	44	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	1007	449	1959	2322	15	594	0	1765	138	100	57
Arrive On Green	0.04	0.28	0.28	0.39	0.64	0.64	0.17	0.00	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3619	24	3563	0	3170	829	598	340
Grp Volume(v), veh/h	49	972	575	1196	526	553	587	0	699	130	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1866	1781	0	1585	1768	0	0
Q Serve(g_s), s	3.3	32.4	34.0	22.9	18.1	18.1	19.7	0.0	0.0	7.9	0.0	0.0
Cycle Q Clear(g_c), s	3.3	32.4	34.0	22.9	18.1	18.1	19.7	0.0	0.0	7.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.47		0.19
Lane Grp Cap(c), veh/h	72	1007	449	1959	1140	1197	594	0	1765	295	0	0
V/C Ratio(X)	0.68	0.97	1.28	0.61	0.46	0.46	0.99	0.00	0.40	0.44	0.00	0.00
Avail Cap(c_a), veh/h	119	1007	449	1959	1140	1197	594	0	1765	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	42.4	43.0	29.3	11.0	11.0	49.9	0.0	15.1	45.0	0.0	0.0
Incr Delay (d2), s/veh	10.9	21.1	142.4	0.6	1.3	1.3	34.2	0.0	0.7	4.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	17.0	30.9	9.2	7.2	7.6	11.6	0.0	5.5	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	63.6	185.4	29.9	12.3	12.2	84.1	0.0	15.8	49.7	0.0	0.0
LnGrp LOS	E	E	F	C	B	B	F	A	B	D	A	A
Approach Vol, veh/h		1596			2275			1286			130	
Approach Delay, s/veh		107.6			21.5			47.0			49.7	
Approach LOS		F			C			D			D	

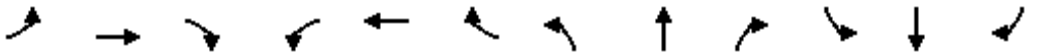
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.0	51.8	39.0		25.0	8.8	82.0				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		20.0	27.0	* 34		20.0	8.0	53.0				
Max Q Clear Time (g_c+I1), s		21.7	24.9	36.0		9.9	5.3	20.1				
Green Ext Time (p_c), s		0.0	1.2	0.0		0.4	0.0	8.7				

Intersection Summary	
HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	446	1293	13	72	1468	530	13	44	54	578	48	809
Future Volume (veh/h)	446	1293	13	72	1468	530	13	44	54	578	48	809
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	446	1293	13	72	1468	530	13	44	54	578	48	809
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	538	1402	14	198	1224	546	49	138	546	77	0	793
Arrive On Green	0.16	0.39	0.39	0.11	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	3456	3604	36	1781	3554	1585	0	401	1585	0	0	1585
Grp Volume(v), veh/h	446	637	669	72	1468	530	57	0	54	626	0	809
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	401	0	1585	0	0	1585
Q Serve(g_s), s	11.3	30.8	30.8	3.4	31.0	29.6	0.0	0.0	2.1	0.0	0.0	31.0
Cycle Q Clear(g_c), s	11.3	30.8	30.8	3.4	31.0	29.6	31.0	0.0	2.1	31.0	0.0	31.0
Prop In Lane	1.00		0.02	1.00		1.00	0.23		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	538	691	725	198	1224	546	187	0	546	77	0	793
V/C Ratio(X)	0.83	0.92	0.92	0.36	1.20	0.97	0.30	0.00	0.10	8.14	0.00	1.02
Avail Cap(c_a), veh/h	538	691	725	198	1224	546	187	0	546	77	0	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.8	26.2	26.2	37.1	29.5	29.1	23.2	0.0	20.0	45.0	0.0	22.5
Incr Delay (d2), s/veh	10.5	19.7	19.1	1.1	97.8	31.9	4.2	0.0	0.4	3238.1	0.0	37.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	16.1	16.8	1.5	29.2	15.6	1.0	0.0	0.8	70.9	0.0	17.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	46.0	45.3	38.2	127.3	61.0	27.4	0.0	20.4	3283.1	0.0	59.8
LnGrp LOS	D	D	D	D	F	E	C	A	C	F	A	F
Approach Vol, veh/h		1752			2070			111			1435	
Approach Delay, s/veh		46.1			107.2			24.0			1465.9	
Approach LOS		D			F			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		36.0	14.0	40.0		36.0	18.0	36.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		31.0	10.0	35.0		31.0	14.0	31.0				
Max Q Clear Time (g_c+I1), s		33.0	5.4	32.8		33.0	13.3	33.0				
Green Ext Time (p_c), s		0.0	0.0	1.6		0.0	0.1	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			448.8									
HCM 6th LOS			F									

Intersection	
Int Delay, s/veh	41.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	2569	2240	57	54	300
Future Vol, veh/h	85	2569	2240	57	54	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	2569	2240	57	54	300

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2297	0	-	0	3467	1149
Stage 1	-	-	-	-	2269	-
Stage 2	-	-	-	-	1198	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	88	-	-	-	~ 14	~ 165
Stage 1	-	-	-	-	~ 38	-
Stage 2	-	-	-	-	223	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	88	-	-	-	0	~ 165
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	~ 1	-
Stage 2	-	-	-	-	223	-

Approach	EB	WB	SB
HCM Control Delay, s	5.5	0	$ 580.3
HCM LOS			F

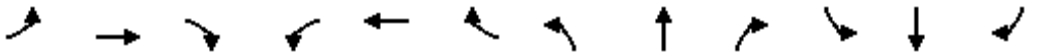
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	88	-	-	-	165
HCM Lane V/C Ratio	0.966	-	-	-	2.145
HCM Control Delay (s)	171.8	-	-	-	$ 580.3
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	5.5	-	-	-	28.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	421	667	195	245	650	176	242	2297	268	218	1867	259
Future Volume (veh/h)	421	667	195	245	650	176	242	2297	268	218	1867	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	421	667	195	245	650	176	242	2297	268	218	1867	259
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	739	216	288	732	198	208	2140	664	134	1928	598
Arrive On Green	0.09	0.27	0.27	0.08	0.26	0.26	0.12	0.42	0.42	0.08	0.38	0.38
Sat Flow, veh/h	3456	2712	792	3456	2765	748	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	421	437	425	245	417	409	242	2297	268	218	1867	259
Grp Sat Flow(s),veh/h/ln	1728	1777	1728	1728	1777	1736	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	10.9	28.5	28.5	8.4	27.1	27.2	14.0	50.3	10.3	9.0	43.1	10.7
Cycle Q Clear(g_c), s	10.9	28.5	28.5	8.4	27.1	27.2	14.0	50.3	10.3	9.0	43.1	10.7
Prop In Lane	1.00		0.46	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	484	471	288	470	459	208	2140	664	134	1928	598
V/C Ratio(X)	1.34	0.90	0.90	0.85	0.89	0.89	1.16	1.07	0.40	1.63	0.97	0.43
Avail Cap(c_a), veh/h	315	518	504	288	518	506	208	2140	664	134	1928	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	42.1	42.1	54.3	42.4	42.4	53.0	34.8	12.9	55.5	36.6	14.9
Incr Delay (d2), s/veh	171.2	18.3	18.8	20.8	16.0	16.5	113.9	42.5	1.8	315.6	14.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	14.8	14.5	4.5	13.9	13.7	12.8	28.6	3.9	15.7	20.1	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	225.7	60.4	60.9	75.1	58.4	58.9	166.9	77.3	14.7	371.1	50.9	17.2
LnGrp LOS	F	E	E	E	E	E	F	F	B	F	D	B
Approach Vol, veh/h		1283			1071			2807			2344	
Approach Delay, s/veh		114.8			62.4			79.1			77.0	
Approach LOS		F			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	55.3	14.0	37.7	18.0	50.3	14.9	36.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	48.0	10.0	35.0	14.0	43.0	10.0	35.0
Max Q Clear Time (g_c+I1), s	11.0	52.3	10.4	30.5	16.0	45.1	12.9	29.2
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.0	0.0	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	82.2
HCM 6th LOS	F



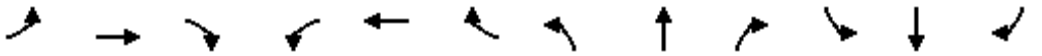
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	19	129	36	16	15	224	2506	52	67	2076	283
Future Volume (veh/h)	273	19	129	36	16	15	224	2506	52	67	2076	283
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	19	129	36	16	15	224	2506	52	67	2076	283
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	360	433	367	337	206	193	251	2766	859	181	2608	810
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.14	0.54	0.54	0.20	1.00	1.00
Sat Flow, veh/h	1378	1870	1585	1240	888	833	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	273	19	129	36	0	31	224	2506	52	67	2076	283
Grp Sat Flow(s),veh/h/ln	1378	1870	1585	1240	0	1721	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	23.2	0.9	8.2	2.8	0.0	1.7	14.8	53.0	1.9	3.9	0.0	0.0
Cycle Q Clear(g_c), s	24.9	0.9	8.2	3.7	0.0	1.7	14.8	53.0	1.9	3.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	433	367	337	0	399	251	2766	859	181	2608	810
V/C Ratio(X)	0.76	0.04	0.35	0.11	0.00	0.08	0.89	0.91	0.06	0.37	0.80	0.35
Avail Cap(c_a), veh/h	443	546	462	412	0	502	267	2766	859	181	2608	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	45.8	35.8	38.6	37.2	0.0	36.1	50.7	24.8	13.0	44.5	0.0	0.0
Incr Delay (d2), s/veh	5.9	0.0	0.6	0.1	0.0	0.1	28.2	5.5	0.1	1.0	2.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.4	3.2	0.9	0.0	0.7	8.6	21.7	0.7	1.7	0.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	35.8	39.1	37.4	0.0	36.2	78.9	30.3	13.2	45.5	2.0	0.9
LnGrp LOS	D	D	D	D	A	D	E	C	B	D	A	A
Approach Vol, veh/h		421			67			2782			2426	
Approach Delay, s/veh		47.2			36.8			33.9			3.1	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.2	70.0		32.8	20.9	66.3		32.8				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 65		35.0	18.0	53.0		35.0				
Max Q Clear Time (g_c+I1), s	5.9	55.0		26.9	16.8	2.0		5.7				
Green Ext Time (p_c), s	0.0	9.2		0.9	0.1	31.4		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		21.8	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



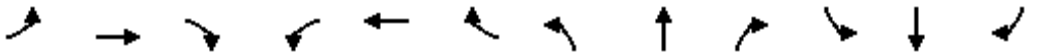
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	0	18	44	0	23	31	2653	74	38	2419	39
Future Volume (veh/h)	17	0	18	44	0	23	31	2653	74	38	2419	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	0	18	44	0	23	31	2653	74	38	2419	39
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	0	92	126	0	92	431	4031	112	64	2936	911
Arrive On Green	0.06	0.00	0.06	0.06	0.00	0.06	0.24	0.79	0.79	0.04	0.57	0.57
Sat Flow, veh/h	1388	0	1585	1395	0	1585	1781	5107	141	1781	5106	1585
Grp Volume(v), veh/h	17	0	18	44	0	23	31	1762	965	38	2419	39
Grp Sat Flow(s),veh/h/ln	1388	0	1585	1395	0	1585	1781	1702	1845	1781	1702	1585
Q Serve(g_s), s	1.4	0.0	1.3	3.7	0.0	1.7	1.6	27.1	27.7	2.5	45.9	1.3
Cycle Q Clear(g_c), s	3.1	0.0	1.3	5.0	0.0	1.7	1.6	27.1	27.7	2.5	45.9	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	121	0	92	126	0	92	431	2687	1456	64	2936	911
V/C Ratio(X)	0.14	0.00	0.20	0.35	0.00	0.25	0.07	0.66	0.66	0.59	0.82	0.04
Avail Cap(c_a), veh/h	399	0	409	405	0	409	431	2687	1456	89	2936	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.45	0.45	0.45	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	0.0	53.8	56.2	0.0	54.0	35.1	5.5	5.6	57.0	20.6	11.1
Incr Delay (d2), s/veh	0.5	0.0	1.0	1.6	0.0	1.4	0.0	0.6	1.1	8.5	2.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	1.4	0.0	0.7	0.7	7.8	8.8	1.3	18.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	0.0	54.9	57.9	0.0	55.4	35.1	6.1	6.7	65.5	23.4	11.2
LnGrp LOS	E	A	D	E	A	E	D	A	A	E	C	B
Approach Vol, veh/h		35			67			2758			2496	
Approach Delay, s/veh		55.4			57.0			6.6			23.8	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	99.7		12.0	34.0	74.0		12.0				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	69.0		31.0	6.0	* 69		31.0				
Max Q Clear Time (g_c+I1), s	4.5	29.7		5.1	3.6	47.9		7.0				
Green Ext Time (p_c), s	0.0	32.3		0.1	0.0	17.9		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		15.6	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



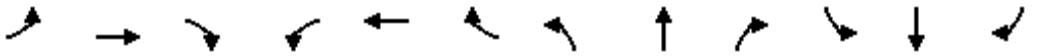
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	1301	267	628	1232	377	364	1768	579	624	1574	348
Future Volume (veh/h)	262	1301	267	628	1232	377	364	1768	579	624	1574	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	1301	267	628	1232	377	364	1768	579	624	1574	348
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	1445	297	288	1733	538	1115	2881	1807	288	1617	502
Arrive On Green	0.09	0.34	0.34	0.08	0.34	0.34	0.32	0.56	0.56	0.08	0.32	0.32
Sat Flow, veh/h	3456	4246	871	3456	5106	1585	3456	5106	2790	3456	5106	1585
Grp Volume(v), veh/h	262	1043	525	628	1232	377	364	1768	579	624	1574	348
Grp Sat Flow(s),veh/h/ln	1728	1702	1714	1728	1702	1585	1728	1702	1395	1728	1702	1585
Q Serve(g_s), s	8.9	35.0	35.0	10.0	25.2	24.7	9.6	27.7	5.7	10.0	36.5	25.2
Cycle Q Clear(g_c), s	8.9	35.0	35.0	10.0	25.2	24.7	9.6	27.7	5.7	10.0	36.5	25.2
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	1159	583	288	1733	538	1115	2881	1807	288	1617	502
V/C Ratio(X)	0.82	0.90	0.90	2.18	0.71	0.70	0.33	0.61	0.32	2.17	0.97	0.69
Avail Cap(c_a), veh/h	374	1191	600	288	1733	538	1115	2881	1807	288	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.42	0.42	0.42	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	37.6	37.6	55.0	34.5	34.4	30.8	17.4	13.2	55.0	40.5	42.7
Incr Delay (d2), s/veh	11.7	9.3	16.4	542.6	1.4	4.0	0.1	0.4	0.2	536.4	16.9	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	15.9	17.1	26.0	10.6	10.1	4.0	10.6	3.6	25.8	17.6	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.2	47.0	54.1	597.6	35.9	38.4	30.8	17.8	13.4	591.4	57.4	50.4
LnGrp LOS	E	D	D	F	D	D	C	B	B	F	E	D
Approach Vol, veh/h		1830			2237			2711			2546	
Approach Delay, s/veh		51.6			194.0			18.6			187.3	
Approach LOS		D			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	73.2	15.0	45.8	44.2	43.0	15.1	45.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	10.0	40.0	10.0	* 42	12.0	* 38	13.0	39.0
Max Q Clear Time (g_c+I1), s	12.0	29.7	12.0	37.0	11.6	38.5	10.9	27.2
Green Ext Time (p_c), s	0.0	8.7	0.0	3.9	0.1	0.0	0.2	7.5

Intersection Summary	
HCM 6th Ctrl Delay	113.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	1918	103	257	1949	67	99	40	241	93	42	152
Future Volume (veh/h)	223	1918	103	257	1949	67	99	40	241	93	42	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	223	1918	103	257	1949	67	70	81	241	93	42	152
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1957	608	208	1872	581	594	623	528	363	164	462
Arrive On Green	0.13	0.38	0.38	0.12	0.37	0.37	0.33	0.33	0.33	0.29	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1246	563	1585
Grp Volume(v), veh/h	223	1918	103	257	1949	67	70	81	241	135	0	152
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1808	0	1585
Q Serve(g_s), s	15.0	44.5	5.1	14.0	44.0	3.4	3.3	3.6	14.3	6.9	0.0	9.0
Cycle Q Clear(g_c), s	15.0	44.5	5.1	14.0	44.0	3.4	3.3	3.6	14.3	6.9	0.0	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	223	1957	608	208	1872	581	594	623	528	527	0	462
V/C Ratio(X)	1.00	0.98	0.17	1.24	1.04	0.12	0.12	0.13	0.46	0.26	0.00	0.33
Avail Cap(c_a), veh/h	223	1957	608	208	1872	581	594	623	528	527	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.5	36.5	24.4	53.0	38.0	25.1	27.8	27.9	31.4	32.5	0.0	33.3
Incr Delay (d2), s/veh	60.7	15.8	0.1	140.7	32.4	0.1	0.4	0.4	2.8	1.2	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	20.9	2.0	14.4	23.6	1.3	1.5	1.7	5.9	3.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.2	52.3	24.5	193.7	70.4	25.2	28.2	28.3	34.3	33.7	0.0	35.2
LnGrp LOS	F	D	C	F	F	C	C	C	C	C	A	D
Approach Vol, veh/h		2244			2273			392			287	
Approach Delay, s/veh		57.1			83.0			31.9			34.5	
Approach LOS		E			F			C			C	

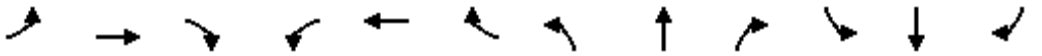
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	46.0	18.0	51.0	40.0	20.0	49.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	7.0	14.0	45.0	35.0	15.0	* 44
Max Q Clear Time (g_c+I1), s	16.3	16.0	46.5	11.0	17.0	46.0
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	65.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



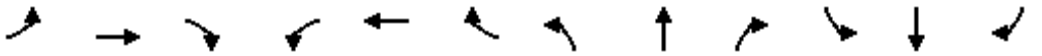
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	1860	327	270	1997	202	397	869	266	229	511	188
Future Volume (veh/h)	324	1860	327	270	1997	202	397	869	266	229	511	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	324	1860	327	270	1997	202	397	869	266	229	511	188
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	1872	581	230	1690	170	1738	2705	1206	230	1125	502
Arrive On Green	0.07	0.37	0.37	0.07	0.36	0.36	0.50	0.76	0.76	0.07	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	4716	473	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	324	1860	327	270	1437	762	397	869	266	229	511	188
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1785	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	8.0	43.5	14.3	8.0	43.0	43.0	7.7	9.3	5.8	7.9	13.8	11.0
Cycle Q Clear(g_c), s	8.0	43.5	14.3	8.0	43.0	43.0	7.7	9.3	5.8	7.9	13.8	11.0
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	1872	581	230	1220	640	1738	2705	1206	230	1125	502
V/C Ratio(X)	1.41	0.99	0.56	1.17	1.18	1.19	0.23	0.32	0.22	0.99	0.45	0.37
Avail Cap(c_a), veh/h	230	1872	581	230	1220	640	1738	2705	1206	230	1125	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.9	15.9	56.0	38.5	38.5	16.8	4.5	4.1	56.0	32.7	31.8
Incr Delay (d2), s/veh	206.8	19.2	1.2	113.6	88.8	101.2	0.1	0.3	0.4	57.5	1.3	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	21.1	5.3	7.1	32.6	36.4	3.1	3.0	1.8	5.3	6.1	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	262.8	57.1	17.1	169.6	127.3	139.7	16.8	4.8	4.5	113.5	34.0	33.9
LnGrp LOS	F	E	B	F	F	F	B	A	A	F	C	C
Approach Vol, veh/h		2511			2469			1532			928	
Approach Delay, s/veh		78.4			135.8			7.9			53.6	
Approach LOS		E			F			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	97.3	12.0	49.0	66.3	43.0	13.0	48.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	8.0	43.0	8.0	43.0	13.0	* 38	8.0	* 43
Max Q Clear Time (g_c+I1), s	9.9	11.3	10.0	45.5	9.7	15.8	10.0	45.0
Green Ext Time (p_c), s	0.0	8.4	0.0	0.0	0.5	4.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	79.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



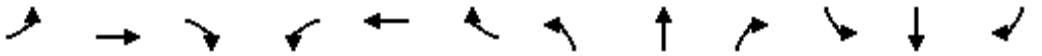
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	1717	263	322	2287	248	355	789	218	183	554	96
Future Volume (veh/h)	168	1717	263	322	2287	248	355	789	218	183	554	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	1717	263	322	2287	248	355	789	218	183	554	96
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1677	255	317	1953	208	288	1155	515	1421	2004	346
Arrive On Green	0.04	0.38	0.38	0.09	0.42	0.42	0.08	0.32	0.32	0.41	0.66	0.66
Sat Flow, veh/h	3456	4471	681	3456	4686	499	3456	3554	1585	3456	3030	523
Grp Volume(v), veh/h	168	1305	675	322	1649	886	355	789	218	183	324	326
Grp Sat Flow(s),veh/h/ln	1728	1702	1748	1728	1702	1781	1728	1777	1585	1728	1777	1776
Q Serve(g_s), s	5.0	45.0	45.0	11.0	50.0	50.0	10.0	23.1	16.6	4.0	9.1	9.1
Cycle Q Clear(g_c), s	5.0	45.0	45.0	11.0	50.0	50.0	10.0	23.1	16.6	4.0	9.1	9.1
Prop In Lane	1.00		0.39	1.00		0.28	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	144	1277	655	317	1418	742	288	1155	515	1421	1175	1175
V/C Ratio(X)	1.17	1.02	1.03	1.02	1.16	1.19	1.23	0.68	0.42	0.13	0.28	0.28
Avail Cap(c_a), veh/h	144	1277	655	317	1418	742	288	1155	515	1421	1175	1175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	37.5	37.5	54.5	35.0	35.0	55.0	35.1	52.6	22.0	8.4	8.4
Incr Delay (d2), s/veh	126.8	30.9	43.2	54.8	81.4	100.2	131.2	3.3	2.5	0.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	23.8	26.7	7.2	36.1	41.7	9.6	10.5	7.0	1.6	3.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.3	68.4	80.7	109.3	116.4	135.2	186.2	38.4	55.2	22.0	9.0	9.0
LnGrp LOS	F	F	F	F	F	F	F	D	E	C	A	A
Approach Vol, veh/h		2148			2857			1362			833	
Approach Delay, s/veh		81.3			121.5			79.6			11.9	
Approach LOS		F			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	55.4	44.0	15.0	50.0	14.0	85.4	10.0	55.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	8.0	* 39	11.0	44.0	10.0	37.0	5.0	* 50
Max Q Clear Time (g_c+I1), s	6.0	25.1	13.0	47.0	12.0	11.1	7.0	52.0
Green Ext Time (p_c), s	0.1	5.3	0.0	0.0	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	88.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



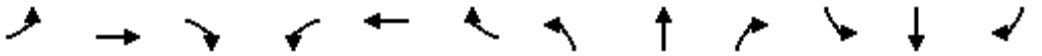
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	395	1439	382	419	1839	315	804	1234	321	313	862	396
Future Volume (veh/h)	395	1439	382	419	1839	315	804	1234	321	313	862	396
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	1439	382	419	1839	315	804	1234	321	313	862	396
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1340	354	230	1659	515	1440	1702	528	1353	1574	489
Arrive On Green	0.08	0.33	0.33	0.07	0.32	0.32	0.42	0.33	0.33	0.39	0.31	0.31
Sat Flow, veh/h	3456	4021	1062	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	395	1217	604	419	1839	315	804	1234	321	313	862	396
Grp Sat Flow(s),veh/h/ln	1728	1702	1679	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.0	40.0	40.0	8.0	39.0	14.6	21.2	25.5	20.3	7.3	16.9	32.6
Cycle Q Clear(g_c), s	10.0	40.0	40.0	8.0	39.0	14.6	21.2	25.5	20.3	7.3	16.9	32.6
Prop In Lane	1.00		0.63	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1135	560	230	1659	515	1440	1702	528	1353	1574	489
V/C Ratio(X)	1.37	1.07	1.08	1.82	1.11	0.61	0.56	0.73	0.61	0.23	0.55	0.81
Avail Cap(c_a), veh/h	288	1135	560	230	1659	515	1440	1702	528	1353	1574	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	40.0	40.0	56.0	40.5	18.1	26.6	35.2	33.4	24.4	34.5	53.3
Incr Delay (d2), s/veh	187.8	48.4	61.2	385.0	58.0	2.1	0.5	2.7	5.1	0.1	1.4	13.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	24.1	25.7	15.8	25.0	5.6	8.8	10.9	8.5	3.0	7.2	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	242.8	88.4	101.2	441.0	98.5	20.2	27.1	37.9	38.6	24.5	35.9	66.9
LnGrp LOS	F	F	F	F	F	C	C	D	D	C	D	E
Approach Vol, veh/h		2216			2573			2359			1571	
Approach Delay, s/veh		119.4			144.7			34.3			41.5	
Approach LOS		F			F			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	52.0	45.0	13.0	45.0	55.0	42.0	14.0	44.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.0	40.0	8.0	* 40	17.0	37.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	9.3	27.5	10.0	42.0	23.2	34.6	12.0	41.0
Green Ext Time (p_c), s	0.5	7.6	0.0	0.0	0.0	1.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	89.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



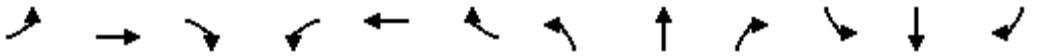
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	1076	434	939	1513	202	429	1729	341	266	1429	101
Future Volume (veh/h)	199	1076	434	939	1513	202	429	1729	341	266	1429	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	1076	434	939	1513	202	429	1729	341	266	1429	101
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	891	352	518	1394	184	259	1489	462	2033	3960	280
Arrive On Green	0.06	0.36	0.36	0.15	0.44	0.44	0.08	0.29	0.29	0.59	0.81	0.81
Sat Flow, veh/h	3456	2488	983	3456	3156	416	3456	5106	1585	3456	4868	344
Grp Volume(v), veh/h	199	762	748	939	843	872	429	1729	341	266	999	531
Grp Sat Flow(s),veh/h/ln	1728	1777	1693	1728	1777	1795	1728	1702	1585	1728	1702	1808
Q Serve(g_s), s	6.9	43.0	43.0	18.0	53.0	53.0	9.0	35.0	33.9	4.1	9.3	9.3
Cycle Q Clear(g_c), s	6.9	43.0	43.0	18.0	53.0	53.0	9.0	35.0	33.9	4.1	9.3	9.3
Prop In Lane	1.00		0.58	1.00		0.23	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	202	637	607	518	785	793	259	1489	462	2033	2769	1471
V/C Ratio(X)	0.99	1.20	1.23	1.81	1.07	1.10	1.66	1.16	0.74	0.13	0.36	0.36
Avail Cap(c_a), veh/h	202	637	607	518	785	793	259	1489	462	2033	2769	1471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	38.5	38.5	51.0	33.5	33.5	55.5	42.5	81.1	11.0	3.0	3.0
Incr Delay (d2), s/veh	59.5	103.4	118.5	372.8	53.9	62.8	311.5	80.3	10.1	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	36.6	37.5	34.6	33.8	36.1	15.1	25.6	15.0	1.6	2.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	116.0	141.9	157.0	423.8	87.4	96.3	367.0	122.8	91.2	11.0	3.3	3.6
LnGrp LOS	F	F	F	F	F	F	F	F	F	B	A	A
Approach Vol, veh/h		1709			2654			2499			1796	
Approach Delay, s/veh		145.5			209.3			160.4			4.6	
Approach LOS		F			F			F			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	76.8	40.0	22.0	48.0	13.0	103.8	12.0	58.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	7.0	* 35	18.0	42.0	9.0	33.0	7.0	* 53
Max Q Clear Time (g_c+I1), s	6.1	37.0	20.0	45.0	11.0	11.3	8.9	55.0
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0	0.0	11.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	140.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



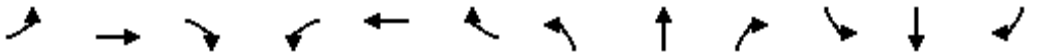
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	713	514	277	932	251	664	2130	206	222	1599	261
Future Volume (veh/h)	388	713	514	277	932	251	664	2130	206	222	1599	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	388	713	514	277	932	251	664	2130	206	222	1599	261
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	899	652	350	1086	291	547	2063	640	148	1680	667
Arrive On Green	0.09	0.25	0.25	0.10	0.27	0.27	0.16	0.40	0.40	0.08	0.33	0.33
Sat Flow, veh/h	3456	3554	1585	3456	4006	1075	3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	388	713	514	277	792	391	664	2130	206	222	1599	261
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1677	1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	11.0	22.5	21.3	9.4	26.5	26.6	19.0	48.5	7.4	10.0	36.7	13.7
Cycle Q Clear(g_c), s	11.0	22.5	21.3	9.4	26.5	26.6	19.0	48.5	7.4	10.0	36.7	13.7
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	899	652	350	923	454	547	2063	640	148	1680	667
V/C Ratio(X)	1.22	0.79	0.79	0.79	0.86	0.86	1.21	1.03	0.32	1.50	0.95	0.39
Avail Cap(c_a), veh/h	317	1125	753	350	993	489	547	2063	640	148	1680	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	41.9	14.0	52.7	41.5	41.6	50.5	35.8	11.7	55.0	39.3	24.1
Incr Delay (d2), s/veh	126.0	3.2	4.9	11.6	7.2	13.8	112.1	28.8	1.3	255.0	13.2	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	10.2	8.1	4.6	12.0	12.7	16.7	25.1	2.8	15.0	17.2	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	180.5	45.0	18.9	64.3	48.8	55.4	162.6	64.5	13.0	310.0	52.5	25.8
LnGrp LOS	F	D	B	E	D	E	F	F	B	F	D	C
Approach Vol, veh/h		1615			1460			3000			2082	
Approach Delay, s/veh		69.3			53.5			82.7			76.6	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	53.5	17.2	35.4	23.0	44.5	15.0	37.5
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	46.0	8.0	* 38	19.0	37.0	11.0	35.0
Max Q Clear Time (g_c+I1), s	12.0	50.5	11.4	24.5	21.0	38.7	13.0	28.6
Green Ext Time (p_c), s	0.0	0.0	0.0	5.9	0.0	0.0	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	73.3
HCM 6th LOS	E

Notes

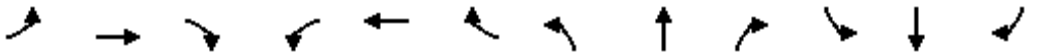
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	737	155	227	643	111	273	1465	392	201	1451	142
Future Volume (veh/h)	257	737	155	227	643	111	273	1465	392	201	1451	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	257	737	155	227	643	111	273	1465	392	201	1451	142
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	809	170	208	738	127	397	1405	374	190	1616	158
Arrive On Green	0.15	0.28	0.28	0.12	0.24	0.24	0.11	0.35	0.35	0.11	0.34	0.34
Sat Flow, veh/h	1781	2922	614	1781	3031	522	3456	4015	1067	1781	4729	463
Grp Volume(v), veh/h	257	448	444	227	377	377	273	1241	616	201	1044	549
Grp Sat Flow(s),veh/h/ln	1781	1777	1760	1781	1777	1776	1728	1702	1678	1781	1702	1787
Q Serve(g_s), s	17.2	29.3	29.3	14.0	24.4	24.5	9.1	42.0	42.0	12.8	35.0	35.0
Cycle Q Clear(g_c), s	17.2	29.3	29.3	14.0	24.4	24.5	9.1	42.0	42.0	12.8	35.0	35.0
Prop In Lane	1.00		0.35	1.00		0.29	1.00		0.64	1.00		0.26
Lane Grp Cap(c), veh/h	267	492	487	208	433	432	397	1191	587	190	1163	611
V/C Ratio(X)	0.96	0.91	0.91	1.09	0.87	0.87	0.69	1.04	1.05	1.06	0.90	0.90
Avail Cap(c_a), veh/h	267	518	513	208	459	459	397	1191	587	190	1163	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	42.0	42.0	53.0	43.6	43.6	51.0	39.0	39.0	53.6	37.5	37.5
Incr Delay (d2), s/veh	44.5	19.8	20.0	89.2	15.8	16.1	4.9	37.5	50.7	81.7	11.0	18.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	15.4	15.3	11.4	12.6	12.6	4.2	23.4	25.2	10.0	16.1	18.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.1	61.8	62.0	142.2	59.4	59.7	55.9	76.5	89.7	135.3	48.5	56.1
LnGrp LOS	F	E	E	F	E	E	E	F	F	F	D	E
Approach Vol, veh/h		1149			981			2130			1794	
Approach Delay, s/veh		69.3			78.7			77.7			60.5	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.8	47.0	18.0	38.2	17.8	46.0	22.0	34.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	42.0	14.0	35.0	12.0	41.0	18.0	31.0
Max Q Clear Time (g_c+I1), s	14.8	44.0	16.0	31.3	11.1	37.0	19.2	26.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.1	3.2	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	71.2
HCM 6th LOS	E



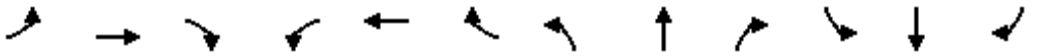
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	656	637	125	112	553	250	155	2207	70	157	2000	375
Future Volume (veh/h)	656	637	125	112	553	250	155	2207	70	157	2000	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	656	637	125	112	553	250	155	2207	70	157	2000	375
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	984	439	169	713	318	459	2412	76	173	1663	304
Arrive On Green	0.13	0.28	0.28	0.05	0.20	0.20	0.13	0.47	0.47	0.05	0.38	0.38
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5085	161	3456	4337	794
Grp Volume(v), veh/h	656	637	125	112	553	250	155	1475	802	157	1559	816
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1841	1728	1702	1727
Q Serve(g_s), s	15.0	19.0	5.2	3.8	17.7	18.0	4.9	48.2	48.7	5.4	46.0	46.0
Cycle Q Clear(g_c), s	15.0	19.0	5.2	3.8	17.7	18.0	4.9	48.2	48.7	5.4	46.0	46.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	432	984	439	169	713	318	459	1615	874	173	1305	662
V/C Ratio(X)	1.52	0.65	0.28	0.66	0.78	0.79	0.34	0.91	0.92	0.91	1.19	1.23
Avail Cap(c_a), veh/h	432	1244	555	230	1036	462	459	1615	874	173	1305	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	38.2	16.8	56.1	45.4	45.5	47.3	29.3	29.4	56.7	37.0	37.0
Incr Delay (d2), s/veh	245.0	0.8	0.4	4.4	2.3	5.5	0.4	9.5	16.1	43.3	95.5	117.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.2	8.3	2.8	1.8	8.0	7.5	2.1	21.2	24.7	3.4	36.0	40.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	297.5	39.0	17.1	60.5	47.7	51.0	47.7	38.7	45.4	100.0	132.5	154.2
LnGrp LOS	F	D	B	E	D	D	D	D	D	F	F	F
Approach Vol, veh/h		1418			915			2432			2532	
Approach Delay, s/veh		156.7			50.2			41.5			137.5	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	61.9	9.9	38.2	20.9	51.0	19.0	29.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	6.0	46.0	8.0	42.0	6.0	* 46	15.0	35.0
Max Q Clear Time (g_c+I1), s	7.4	50.7	5.8	21.0	6.9	48.0	17.0	20.0
Green Ext Time (p_c), s	0.0	0.0	0.1	4.8	0.0	0.0	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	98.3
HCM 6th LOS	F

Notes

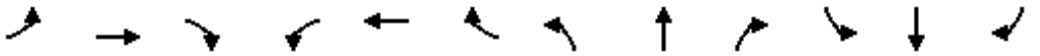
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	250	41	165	264	146	35	2215	170	100	2042	88
Future Volume (veh/h)	101	250	41	165	264	146	35	2215	170	100	2042	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	250	41	165	264	146	35	2215	170	100	2042	88
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	541	489	202	340	182	278	2299	175	293	2426	104
Arrive On Green	0.06	0.15	0.15	0.06	0.15	0.15	0.16	0.47	0.47	0.16	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	3456	2234	1198	1781	4840	368	1781	5020	216
Grp Volume(v), veh/h	101	250	41	165	208	202	35	1551	834	100	1383	747
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1655	1781	1702	1804	1781	1702	1832
Q Serve(g_s), s	6.8	7.7	0.3	5.7	13.5	14.1	2.0	52.7	54.2	6.0	42.4	42.7
Cycle Q Clear(g_c), s	6.8	7.7	0.3	5.7	13.5	14.1	2.0	52.7	54.2	6.0	42.4	42.7
Prop In Lane	1.00		1.00	1.00		0.72	1.00		0.20	1.00		0.12
Lane Grp Cap(c), veh/h	104	541	489	202	271	252	278	1617	857	293	1645	885
V/C Ratio(X)	0.97	0.46	0.08	0.82	0.77	0.80	0.13	0.96	0.97	0.34	0.84	0.84
Avail Cap(c_a), veh/h	104	918	657	202	459	427	278	1617	857	293	1645	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	46.4	17.5	55.9	48.8	49.1	43.6	30.4	30.8	44.4	27.0	27.1
Incr Delay (d2), s/veh	79.0	0.6	0.1	22.6	4.6	5.8	0.2	14.6	24.9	0.7	5.4	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	3.5	0.6	3.1	6.3	6.2	0.9	24.1	28.6	2.7	17.9	20.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.5	47.0	17.6	78.4	53.4	54.9	43.8	45.0	55.6	45.1	32.3	36.7
LnGrp LOS	F	D	B	E	D	D	D	D	E	D	C	D
Approach Vol, veh/h		392			575			2420			2230	
Approach Delay, s/veh		66.7			61.1			48.6			34.4	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.7	62.0	11.0	23.3	22.7	63.0	11.0	23.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	7.0	57.0	7.0	31.0	6.0	58.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	8.0	56.2	7.7	9.7	4.0	44.7	8.8	16.1
Green Ext Time (p_c), s	0.0	0.8	0.0	1.6	0.0	10.8	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D



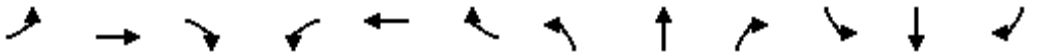
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	151	58	184	128	6	553	14	435	28	8	15
Future Volume (veh/h)	7	151	58	184	128	6	553	14	435	28	8	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	151	58	184	128	6	553	14	435	28	8	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	466	172	259	886	41	652	17	594	190	54	102
Arrive On Green	0.01	0.18	0.18	0.07	0.26	0.26	0.38	0.38	0.38	0.20	0.20	0.20
Sat Flow, veh/h	1781	2541	938	3456	3457	161	1739	44	1585	950	272	509
Grp Volume(v), veh/h	7	104	105	184	65	69	567	0	435	51	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1702	1728	1777	1841	1783	0	1585	1731	0	0
Q Serve(g_s), s	0.5	6.1	6.5	6.2	3.4	3.5	35.0	0.0	28.4	2.9	0.0	0.0
Cycle Q Clear(g_c), s	0.5	6.1	6.5	6.2	3.4	3.5	35.0	0.0	28.4	2.9	0.0	0.0
Prop In Lane	1.00		0.55	1.00		0.09	0.98		1.00	0.55		0.29
Lane Grp Cap(c), veh/h	19	326	312	259	455	472	669	0	594	346	0	0
V/C Ratio(X)	0.38	0.32	0.34	0.71	0.14	0.15	0.85	0.00	0.73	0.15	0.00	0.00
Avail Cap(c_a), veh/h	89	326	312	288	455	472	669	0	594	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.0	42.5	42.7	54.2	34.5	34.5	34.4	0.0	32.3	39.6	0.0	0.0
Incr Delay (d2), s/veh	12.2	2.6	2.9	7.0	0.7	0.6	12.7	0.0	7.8	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.9	3.0	3.0	1.6	1.6	17.3	0.0	12.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	45.1	45.6	61.2	35.1	35.1	47.0	0.0	40.1	40.5	0.0	0.0
LnGrp LOS	E	D	D	E	D	D	D	A	D	D	A	A
Approach Vol, veh/h		216			318			1002			51	
Approach Delay, s/veh		46.2			50.2			44.0			40.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		50.0	14.0	27.0		29.0	5.2	35.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		45.0	10.0	* 22		24.0	6.0	26.0				
Max Q Clear Time (g_c+I1), s		37.0	8.2	8.5		4.9	2.5	5.5				
Green Ext Time (p_c), s		3.5	0.1	0.9		0.2	0.0	0.6				

Intersection Summary												
HCM 6th Ctrl Delay			45.4									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



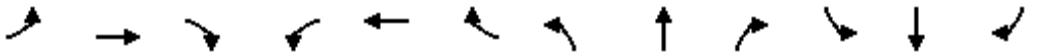
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	75	183	126	128	526	134	1518	95	36	2169	54
Future Volume (veh/h)	386	75	183	126	128	526	134	1518	95	36	2169	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	386	75	183	126	128	526	134	1518	0	36	2169	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	297	265	180	395	634	485	1745		514	2306	
Arrive On Green	0.11	0.17	0.17	0.05	0.11	0.11	0.27	0.34	0.00	0.29	0.36	0.00
Sat Flow, veh/h	3456	1777	1585	3456	3554	1585	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	386	75	183	126	128	526	134	1518	0	36	2169	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	13.0	4.4	13.0	4.3	4.0	8.4	7.1	33.4	0.0	1.8	39.2	0.0
Cycle Q Clear(g_c), s	13.0	4.4	13.0	4.3	4.0	8.4	7.1	33.4	0.0	1.8	39.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	297	265	180	395	634	485	1745		514	2306	
V/C Ratio(X)	1.03	0.25	0.69	0.70	0.32	0.83	0.28	0.87		0.07	0.94	
Avail Cap(c_a), veh/h	374	592	528	230	1036	920	485	1745		514	2306	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.5	43.4	47.0	55.9	49.2	15.0	34.4	37.0	0.0	31.0	37.3	0.0
Incr Delay (d2), s/veh	54.7	0.4	3.2	6.4	0.5	4.3	0.3	6.2	0.0	0.1	9.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	2.0	5.4	2.0	1.8	8.5	3.1	14.7	0.0	0.8	16.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.2	43.9	50.2	62.3	49.6	19.3	34.7	43.3	0.0	31.0	46.5	0.0
LnGrp LOS	F	D	D	E	D	B	C	D		C	D	
Approach Vol, veh/h		644			780			1652	A		2205	A
Approach Delay, s/veh		84.3			31.2			42.6			46.2	
Approach LOS		F			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.7	46.0	10.3	25.1	36.7	48.0	17.0	18.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	41.0	8.0	40.0	11.0	43.0	13.0	35.0
Max Q Clear Time (g_c+I1), s	3.8	35.4	6.3	15.0	9.1	41.2	15.0	10.4
Green Ext Time (p_c), s	0.0	4.2	0.1	1.6	0.1	1.7	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



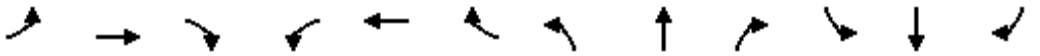
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	0	305	0	0	0	0	1629	372	759	1728	0
Future Volume (veh/h)	104	0	305	0	0	0	0	1629	372	759	1728	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	104	0	305				0	1629	372	759	1728	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	327	0	291				0	1874	424	835	3744	0
Arrive On Green	0.18	0.00	0.18				0.00	0.45	0.45	0.24	0.73	0.00
Sat Flow, veh/h	1781	0	1585				0	4332	941	3456	5274	0
Grp Volume(v), veh/h	104	0	305				0	1329	672	759	1728	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1701	1728	1702	0
Q Serve(g_s), s	6.1	0.0	22.0				0.0	42.3	43.1	25.6	16.4	0.0
Cycle Q Clear(g_c), s	6.1	0.0	22.0				0.0	42.3	43.1	25.6	16.4	0.0
Prop In Lane	1.00		1.00				0.00		0.55	1.00		0.00
Lane Grp Cap(c), veh/h	327	0	291				0	1532	765	835	3744	0
V/C Ratio(X)	0.32	0.00	1.05				0.00	0.87	0.88	0.91	0.46	0.00
Avail Cap(c_a), veh/h	327	0	291				0	1532	765	864	3744	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.5	0.0	49.0				0.0	29.8	30.0	44.2	6.4	0.0
Incr Delay (d2), s/veh	0.6	0.0	66.4				0.0	6.9	13.6	13.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	14.0				0.0	18.3	20.1	12.4	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	0.0	115.4				0.0	36.7	43.6	57.4	6.9	0.0
LnGrp LOS	D	A	F				A	D	D	E	A	A
Approach Vol, veh/h		409						2001			2487	
Approach Delay, s/veh		97.0						39.0			22.3	
Approach LOS		F						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.0	59.0		27.0		93.0
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	30.0	* 54		22.0		88.0
Max Q Clear Time (g_c+I1), s	27.6	45.1		24.0		18.4
Green Ext Time (p_c), s	0.8	7.4		0.0		23.5

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	1145	516	1005	1103	24	483	76	1241	108	49	28
Future Volume (veh/h)	48	1145	516	1005	1103	24	483	76	1241	108	49	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	1145	516	1005	1103	24	537	0	1241	108	49	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1096	489	1811	2266	49	623	0	1698	172	78	45
Arrive On Green	0.04	0.31	0.31	0.36	0.64	0.64	0.17	0.00	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	5023	3556	77	3563	0	3170	1034	469	268
Grp Volume(v), veh/h	48	1145	516	1005	551	576	537	0	1241	185	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1674	1777	1856	1781	0	1585	1770	0	0
Q Serve(g_s), s	3.2	37.0	37.0	19.2	19.6	19.6	17.6	0.0	0.0	11.7	0.0	0.0
Cycle Q Clear(g_c), s	3.2	37.0	37.0	19.2	19.6	19.6	17.6	0.0	0.0	11.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.58		0.15
Lane Grp Cap(c), veh/h	71	1096	489	1811	1132	1183	623	0	1698	295	0	0
V/C Ratio(X)	0.68	1.04	1.06	0.55	0.49	0.49	0.86	0.00	0.73	0.63	0.00	0.00
Avail Cap(c_a), veh/h	104	1096	489	1811	1132	1183	623	0	1698	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.8	41.5	41.5	30.7	11.4	11.4	48.1	0.0	21.3	46.5	0.0	0.0
Incr Delay (d2), s/veh	10.6	39.7	56.2	0.4	1.5	1.4	14.5	0.0	2.8	9.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	22.0	21.9	7.8	7.8	8.2	9.0	0.0	13.5	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	81.2	97.7	31.0	12.9	12.9	62.6	0.0	24.1	56.2	0.0	0.0
LnGrp LOS	E	F	F	C	B	B	E	A	C	E	A	A
Approach Vol, veh/h		1709			2132			1778			185	
Approach Delay, s/veh		85.8			21.5			35.7			56.2	
Approach LOS		F			C			D			E	

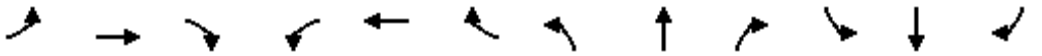
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	26.0	48.3	42.0	25.0	8.8	81.5
Change Period (Y+Rc), s	5.0	5.0	* 5	5.0	4.0	5.0
Max Green Setting (Gmax), s	21.0	23.0	* 37	20.0	7.0	53.0
Max Q Clear Time (g_c+I1), s	19.6	21.2	39.0	13.7	5.2	21.6
Green Ext Time (p_c), s	1.1	0.9	0.0	0.5	0.0	9.1

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	795	1500	14	92	1331	844	49	105	91	542	37	855
Future Volume (veh/h)	795	1500	14	92	1331	844	49	105	91	542	37	855
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	795	1500	14	92	1331	844	49	105	91	542	37	855
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	576	1486	14	117	1106	493	53	89	564	77	0	828
Arrive On Green	0.17	0.41	0.41	0.07	0.31	0.31	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	3456	3607	34	1781	3554	1585	0	250	1585	0	0	1585
Grp Volume(v), veh/h	795	738	776	92	1331	844	154	0	91	579	0	855
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	250	0	1585	0	0	1585
Q Serve(g_s), s	15.0	37.1	37.1	4.6	28.0	28.0	0.0	0.0	3.5	0.0	0.0	32.0
Cycle Q Clear(g_c), s	15.0	37.1	37.1	4.6	28.0	28.0	32.0	0.0	3.5	32.0	0.0	32.0
Prop In Lane	1.00		0.02	1.00		1.00	0.32		1.00	0.94		1.00
Lane Grp Cap(c), veh/h	576	732	768	117	1106	493	142	0	564	77	0	828
V/C Ratio(X)	1.38	1.01	1.01	0.79	1.20	1.71	1.09	0.00	0.16	7.48	0.00	1.03
Avail Cap(c_a), veh/h	576	732	768	119	1106	493	142	0	564	77	0	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	26.5	26.5	41.4	31.0	31.0	26.3	0.0	19.8	45.0	0.0	21.5
Incr Delay (d2), s/veh	181.8	35.4	34.9	28.1	100.5	328.7	101.0	0.0	0.6	2941.0	0.0	40.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.7	21.9	22.9	2.9	26.9	55.3	6.0	0.0	1.4	65.0	0.0	24.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	219.3	61.9	61.3	69.6	131.5	359.7	127.3	0.0	20.4	2986.0	0.0	61.6
LnGrp LOS	F	F	F	E	F	F	F	A	C	F	A	F
Approach Vol, veh/h		2309			2267			245			1434	
Approach Delay, s/veh		115.9			214.0			87.6			1242.3	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		37.0	10.9	42.1		37.0	20.0	33.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		32.0	6.0	37.0		32.0	15.0	28.0				
Max Q Clear Time (g_c+I1), s		34.0	6.6	39.1		34.0	17.0	30.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	408.6
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	21.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	2158	2636	155	18	80
Future Vol, veh/h	120	2158	2636	155	18	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	2158	2636	155	18	80

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2791	0	-	0	3817	1396
Stage 1	-	-	-	-	2714	-
Stage 2	-	-	-	-	1103	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	~ 49	-	-	-	~ 9	112
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	251	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	~ 49	-	-	-	0	112
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	251	-

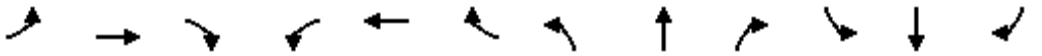
Approach	EB	WB	SB
HCM Control Delay, s	44.1	0	125
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	~ 49	-	-	-	112
HCM Lane V/C Ratio	2.449	-	-	-	0.875
HCM Control Delay (s)	$ 837.2	-	-	-	125
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	12.5	-	-	-	5.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX P-VI

YEAR 2035 BUILDOUT PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS



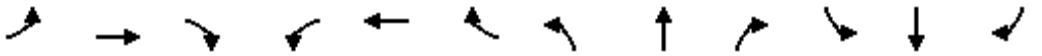
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	721	225	259	736	117	233	1625	230	225	2497	355
Future Volume (veh/h)	182	721	225	259	736	117	233	1625	230	225	2497	355
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	182	721	225	259	736	117	233	1625	230	225	2497	355
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	711	222	259	870	388	593	3748	923	253	2466	608
Arrive On Green	0.09	0.27	0.27	0.08	0.24	0.24	0.33	0.58	0.58	0.14	0.38	0.38
Sat Flow, veh/h	3456	2666	832	3456	3554	1585	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	182	481	465	259	736	117	233	1625	230	225	2497	355
Grp Sat Flow(s),veh/h/ln	1728	1777	1721	1728	1777	1585	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	6.1	32.0	32.0	9.0	23.7	7.2	12.1	16.9	8.5	14.9	46.0	21.4
Cycle Q Clear(g_c), s	6.1	32.0	32.0	9.0	23.7	7.2	12.1	16.9	8.5	14.9	46.0	21.4
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	306	474	459	259	870	388	593	3748	923	253	2466	608
V/C Ratio(X)	0.59	1.01	1.01	1.00	0.85	0.30	0.39	0.43	0.25	0.89	1.01	0.58
Avail Cap(c_a), veh/h	306	474	459	259	1036	462	593	3748	923	282	2466	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	44.0	44.0	55.5	43.2	36.9	30.7	14.0	12.2	50.6	37.0	29.4
Incr Delay (d2), s/veh	3.1	45.0	45.7	55.7	5.7	0.4	0.4	0.4	0.6	26.0	21.2	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	19.8	19.3	5.9	11.0	2.9	5.3	6.1	3.1	8.4	21.3	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	89.0	89.7	111.2	48.9	37.3	31.2	14.4	12.9	76.6	58.2	33.5
LnGrp LOS	E	F	F	F	D	D	C	B	B	E	F	C
Approach Vol, veh/h		1128			1112			2088			3077	
Approach Delay, s/veh		83.9			62.2			16.1			56.7	
Approach LOS		F			E			B			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	75.0	13.0	37.0	45.0	51.0	15.6	34.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	19.0	42.0	9.0	32.0	15.0	* 46	6.0	* 35
Max Q Clear Time (g_c+I1), s	16.9	18.9	11.0	34.0	14.1	48.0	8.1	25.7
Green Ext Time (p_c), s	0.1	14.2	0.0	0.0	0.1	0.0	0.0	3.7

Intersection Summary	
HCM 6th Ctrl Delay	50.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



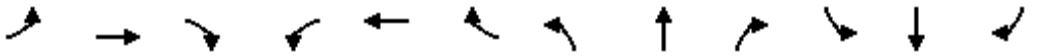
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1454	211	677	1471	302	257	1174	846	447	1849	321
Future Volume (veh/h)	124	1454	211	677	1471	302	257	1174	846	447	1849	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	1454	211	677	1471	302	257	1174	846	447	1849	321
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1560	226	346	2059	639	1669	4876	2393	288	2252	555
Arrive On Green	0.05	0.35	0.35	0.10	0.40	0.40	0.48	0.76	0.76	0.08	0.35	0.35
Sat Flow, veh/h	3456	4504	653	3456	5106	1585	3456	6434	2790	3456	6434	1585
Grp Volume(v), veh/h	124	1099	566	677	1471	302	257	1174	846	447	1849	321
Grp Sat Flow(s),veh/h/ln	1728	1702	1753	1728	1702	1585	1728	1609	1395	1728	1609	1585
Q Serve(g_s), s	4.2	37.4	37.4	12.0	29.0	16.9	5.0	6.5	14.4	10.0	31.5	29.5
Cycle Q Clear(g_c), s	4.2	37.4	37.4	12.0	29.0	16.9	5.0	6.5	14.4	10.0	31.5	29.5
Prop In Lane	1.00		0.37	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1179	607	346	2059	639	1669	4876	2393	288	2252	555
V/C Ratio(X)	0.70	0.93	0.93	1.96	0.71	0.47	0.15	0.24	0.35	1.55	0.82	0.58
Avail Cap(c_a), veh/h	230	1191	613	346	2059	639	1669	4876	2393	288	2252	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	37.8	37.9	54.0	30.0	26.4	17.3	4.3	17.3	55.0	35.6	70.7
Incr Delay (d2), s/veh	6.1	12.9	21.2	442.0	1.2	0.5	0.0	0.1	0.4	265.0	3.5	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	17.4	19.4	26.4	12.0	6.4	2.0	1.9	3.9	14.9	12.7	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	50.7	59.1	496.0	31.2	26.9	17.4	4.4	17.7	320.0	39.1	75.1
LnGrp LOS	E	D	E	F	C	C	B	A	B	F	D	E
Approach Vol, veh/h		1789			2450			2277			2617	
Approach Delay, s/veh		54.1			159.1			10.8			91.5	
Approach LOS		D			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	97.5	17.0	46.6	64.5	47.0	10.2	53.4
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	10.0	38.0	12.0	* 42	6.0	* 42	8.0	46.0
Max Q Clear Time (g_c+I1), s	12.0	16.4	14.0	39.4	7.0	33.5	6.2	31.0
Green Ext Time (p_c), s	0.0	13.2	0.0	2.1	0.0	7.2	0.1	9.9

Intersection Summary	
HCM 6th Ctrl Delay	82.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



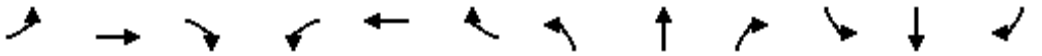
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	2269	332	294	2005	343	247	582	275	624	988	74
Future Volume (veh/h)	168	2269	332	294	2005	343	247	582	275	624	988	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	2269	332	294	2005	343	247	582	275	624	988	74
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1731	246	173	1761	295	310	1155	515	2217	3147	1403
Arrive On Green	0.04	0.38	0.38	0.05	0.40	0.40	0.09	0.32	0.32	0.64	0.89	0.89
Sat Flow, veh/h	3456	4517	642	3456	4404	738	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	168	1694	907	294	1540	808	247	582	275	624	988	74
Grp Sat Flow(s),veh/h/ln	1728	1702	1755	1728	1702	1738	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.0	46.0	46.0	6.0	48.0	48.0	8.4	15.9	17.0	9.5	5.3	0.7
Cycle Q Clear(g_c), s	5.0	46.0	46.0	6.0	48.0	48.0	8.4	15.9	17.0	9.5	5.3	0.7
Prop In Lane	1.00		0.37	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	1305	673	173	1362	695	310	1155	515	2217	3147	1403
V/C Ratio(X)	1.17	1.30	1.35	1.70	1.13	1.16	0.80	0.50	0.53	0.28	0.31	0.05
Avail Cap(c_a), veh/h	144	1305	673	173	1362	695	432	1155	515	2217	3147	1403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	37.0	37.0	57.0	36.0	36.0	53.6	32.7	33.1	9.4	1.1	0.8
Incr Delay (d2), s/veh	126.8	139.8	166.7	339.2	68.9	88.2	7.0	1.6	3.9	0.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	44.0	50.4	10.8	32.4	36.8	4.0	7.1	7.1	3.5	0.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.3	176.8	203.7	396.2	104.9	124.2	60.6	34.3	37.0	9.5	1.4	0.9
LnGrp LOS	F	F	F	F	F	F	E	C	D	A	A	A
Approach Vol, veh/h		2769			2642			1104			1686	
Approach Delay, s/veh		186.1			143.2			40.8			4.3	
Approach LOS		F			F			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	84.0	44.0	11.0	51.0	14.7	113.3	9.0	53.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	* 39	6.0	* 46	15.0	35.0	5.0	47.0
Max Q Clear Time (g_c+I1), s	11.5	19.0	8.0	48.0	10.4	7.3	7.0	50.0
Green Ext Time (p_c), s	0.0	4.9	0.0	0.0	0.3	8.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	115.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



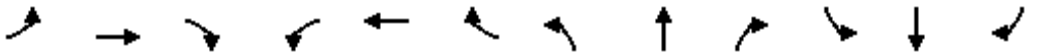
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1896	802	378	1621	346	544	672	335	310	1504	309
Future Volume (veh/h)	370	1896	802	378	1621	346	544	672	335	310	1504	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	1896	802	378	1621	346	544	672	335	310	1504	309
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	1413	544	230	1734	538	881	1787	555	881	1787	726
Arrive On Green	0.11	0.39	0.39	0.07	0.34	0.34	0.25	0.35	0.35	0.25	0.35	0.35
Sat Flow, veh/h	3456	3628	1395	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	370	1767	931	378	1621	346	544	672	335	310	1504	309
Grp Sat Flow(s),veh/h/ln	1728	1702	1619	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.8	46.7	46.7	8.0	36.9	22.1	16.7	11.8	23.1	8.8	32.6	2.7
Cycle Q Clear(g_c), s	12.8	46.7	46.7	8.0	36.9	22.1	16.7	11.8	23.1	8.8	32.6	2.7
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	1326	631	230	1734	538	881	1787	555	881	1787	726
V/C Ratio(X)	0.99	1.33	1.48	1.64	0.93	0.64	0.62	0.38	0.60	0.35	0.84	0.43
Avail Cap(c_a), veh/h	374	1326	631	230	1745	542	881	1787	555	881	1787	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	36.6	36.6	56.0	38.3	33.5	39.5	29.2	39.4	36.6	35.9	21.9
Incr Delay (d2), s/veh	43.3	155.0	222.5	307.1	9.9	2.6	1.3	0.6	4.8	0.2	5.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	47.5	57.0	13.3	16.7	8.8	7.2	4.9	9.7	3.8	14.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.7	191.6	259.1	363.1	48.3	36.1	40.9	29.8	44.2	36.8	40.9	23.7
LnGrp LOS	F	F	F	F	D	D	D	C	D	D	D	C
Approach Vol, veh/h		3068			2345			1551			2123	
Approach Delay, s/veh		200.7			97.2			36.8			37.8	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	35.3	47.0	12.0	51.7	35.3	47.0	18.0	45.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	42.0	8.0	46.0	6.0	42.0	13.0	* 41
Max Q Clear Time (g_c+I1), s	10.8	25.1	10.0	48.7	18.7	34.6	14.8	38.9
Green Ext Time (p_c), s	0.0	5.5	0.0	0.0	0.0	5.7	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	107.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



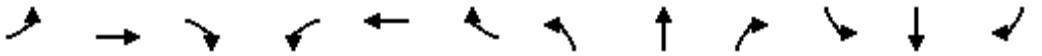
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	1132	214	489	1160	231	300	1041	300	236	1791	265
Future Volume (veh/h)	415	1132	214	489	1160	231	300	1041	300	236	1791	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	1132	214	489	1160	231	300	1041	300	236	1791	265
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1125	502	346	1010	200	358	1957	608	2059	3974	583
Arrive On Green	0.08	0.32	0.32	0.10	0.34	0.34	0.10	0.38	0.38	0.60	0.88	0.88
Sat Flow, veh/h	3456	3554	1585	3456	2957	585	3456	5106	1585	3456	4496	660
Grp Volume(v), veh/h	415	1132	214	489	694	697	300	1041	300	236	1353	703
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1765	1728	1702	1585	1728	1702	1752
Q Serve(g_s), s	10.0	38.0	20.0	12.0	41.0	41.0	10.2	19.0	17.3	3.6	9.2	9.3
Cycle Q Clear(g_c), s	10.0	38.0	20.0	12.0	41.0	41.0	10.2	19.0	17.3	3.6	9.2	9.3
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	288	1125	502	346	607	603	358	1957	608	2059	3009	1548
V/C Ratio(X)	1.44	1.01	0.43	1.42	1.14	1.16	0.84	0.53	0.49	0.11	0.45	0.45
Avail Cap(c_a), veh/h	288	1125	502	346	607	603	403	1957	608	2059	3009	1548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	41.0	79.0	54.0	39.5	39.5	52.8	28.7	28.1	10.5	1.3	1.4
Incr Delay (d2), s/veh	217.2	28.3	0.6	203.1	83.0	87.7	13.2	1.0	2.9	0.0	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	20.8	8.2	15.0	31.6	32.1	5.1	7.9	7.0	1.4	1.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.2	69.3	79.6	257.1	122.5	127.2	66.0	29.7	31.0	10.5	1.8	2.3
LnGrp LOS	F	F	E	F	F	F	E	C	C	B	A	A
Approach Vol, veh/h		1761			1880			1641			2292	
Approach Delay, s/veh		118.3			159.2			36.6			2.9	
Approach LOS		F			F			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	78.1	51.0	17.0	43.0	16.4	112.7	14.0	46.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 46	12.0	* 38	14.0	38.0	10.0	40.0
Max Q Clear Time (g_c+I1), s	5.6	21.0	14.0	40.0	12.2	11.3	12.0	43.0
Green Ext Time (p_c), s	0.0	9.6	0.0	0.0	0.2	18.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	75.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



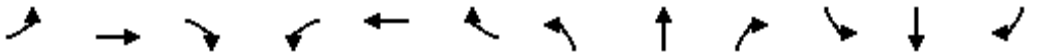
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	742	790	361	773	86	434	1536	286	153	1921	596
Future Volume (veh/h)	209	742	790	361	773	86	434	1536	286	153	1921	596
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	742	790	361	773	86	434	1536	286	153	1921	596
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	741	1214	820	317	1021	113	607	2253	699	180	2306	908
Arrive On Green	0.21	0.34	0.34	0.09	0.22	0.22	0.18	0.44	0.44	0.10	0.36	0.36
Sat Flow, veh/h	3456	3554	1585	3456	4666	516	3456	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	209	742	790	361	563	296	434	1536	286	153	1921	596
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1777	1728	1702	1585	1781	1609	1585
Q Serve(g_s), s	6.1	20.8	36.5	11.0	18.6	18.8	14.2	28.9	13.7	10.1	32.8	5.2
Cycle Q Clear(g_c), s	6.1	20.8	36.5	11.0	18.6	18.8	14.2	28.9	13.7	10.1	32.8	5.2
Prop In Lane	1.00		1.00	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	741	1214	820	317	745	389	607	2253	699	180	2306	908
V/C Ratio(X)	0.28	0.61	0.96	1.14	0.76	0.76	0.72	0.68	0.41	0.85	0.83	0.66
Avail Cap(c_a), veh/h	741	1244	833	317	1106	578	607	2253	699	208	2306	908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	32.9	27.9	54.5	43.9	43.9	46.6	26.8	19.6	53.0	35.2	17.6
Incr Delay (d2), s/veh	0.2	0.9	22.5	93.9	1.7	3.4	4.0	1.7	1.8	24.4	3.7	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	9.1	16.6	8.9	8.0	8.6	6.4	11.9	5.4	5.7	13.3	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	33.7	50.4	148.4	45.5	47.3	50.6	28.5	21.4	77.4	38.9	21.3
LnGrp LOS	D	C	D	F	D	D	D	C	C	E	D	C
Approach Vol, veh/h		1741			1220			2256			2670	
Approach Delay, s/veh		42.0			76.4			31.9			37.2	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	57.9	15.0	46.0	26.1	48.0	29.7	31.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	14.0	35.0	11.0	42.0	6.0	* 43	14.0	39.0
Max Q Clear Time (g_c+I1), s	12.1	30.9	13.0	38.5	16.2	34.8	8.1	20.8
Green Ext Time (p_c), s	0.1	3.4	0.0	2.5	0.0	7.3	0.3	5.5

Intersection Summary	
HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



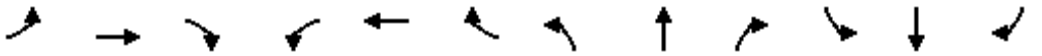
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	466	513	100	110	695	178	106	1958	76	89	2325	390
Future Volume (veh/h)	466	513	100	110	695	178	106	1958	76	89	2325	390
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	466	513	100	110	695	178	106	1958	76	89	2325	390
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1035	461	168	852	568	168	1933	75	409	2357	732
Arrive On Green	0.10	0.29	0.29	0.05	0.24	0.24	0.05	0.38	0.38	0.12	0.46	0.46
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5044	195	3456	5106	1585
Grp Volume(v), veh/h	466	513	100	110	695	178	106	1320	714	89	2325	390
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1835	1728	1702	1585
Q Serve(g_s), s	12.0	14.4	5.7	3.8	22.2	2.0	3.6	46.0	46.0	2.8	54.0	21.1
Cycle Q Clear(g_c), s	12.0	14.4	5.7	3.8	22.2	2.0	3.6	46.0	46.0	2.8	54.0	21.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	346	1035	461	168	852	568	168	1305	703	409	2357	732
V/C Ratio(X)	1.35	0.50	0.22	0.65	0.82	0.31	0.63	1.01	1.01	0.22	0.99	0.53
Avail Cap(c_a), veh/h	346	1303	581	173	1125	690	173	1305	703	409	2357	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	35.2	32.2	56.1	43.1	13.4	56.0	37.0	37.0	47.9	31.9	23.1
Incr Delay (d2), s/veh	174.9	0.4	0.2	8.2	3.6	0.3	7.0	27.8	37.6	0.3	15.6	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.6	6.3	2.2	1.8	10.1	2.3	1.7	23.7	27.5	1.2	24.8	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	228.9	35.6	32.4	64.3	46.7	13.7	63.0	64.8	74.6	48.1	47.5	25.8
LnGrp LOS	F	D	C	E	D	B	E	F	F	D	D	C
Approach Vol, veh/h		1079			983			2140			2804	
Approach Delay, s/veh		118.8			42.7			68.0			44.5	
Approach LOS		F			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	51.0	9.8	39.9	9.8	60.4	16.0	33.8
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 46	6.0	44.0	6.0	46.0	12.0	38.0
Max Q Clear Time (g_c+I1), s	4.8	48.0	5.8	16.4	5.6	56.0	14.0	24.2
Green Ext Time (p_c), s	0.0	0.0	0.0	4.0	0.0	0.0	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	62.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	446	1293	13	72	1468	530	13	44	54	578	48	809
Future Volume (veh/h)	446	1293	13	72	1468	530	13	44	54	578	48	809
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	446	1293	13	72	1468	530	13	44	54	612	0	809
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1139	2504	25	92	1451	647	134	57	70	831	0	1784
Arrive On Green	0.33	0.69	0.69	0.05	0.41	0.41	0.08	0.08	0.08	0.23	0.00	0.23
Sat Flow, veh/h	3456	3604	36	1781	3554	1585	1781	764	938	3563	0	3170
Grp Volume(v), veh/h	446	637	669	72	1468	530	13	0	98	612	0	809
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1702	1781	0	1585
Q Serve(g_s), s	11.9	20.5	20.5	4.8	49.0	35.7	0.8	0.0	6.8	19.1	0.0	0.0
Cycle Q Clear(g_c), s	11.9	20.5	20.5	4.8	49.0	35.7	0.8	0.0	6.8	19.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	1139	1234	1295	92	1451	647	134	0	128	831	0	1784
V/C Ratio(X)	0.39	0.52	0.52	0.78	1.01	0.82	0.10	0.00	0.77	0.74	0.00	0.45
Avail Cap(c_a), veh/h	1139	1234	1295	134	1451	647	134	0	128	831	0	1784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	8.7	8.7	56.2	35.5	31.6	51.7	0.0	54.5	42.6	0.0	15.4
Incr Delay (d2), s/veh	0.2	1.5	1.5	16.7	26.5	11.1	1.4	0.0	35.0	5.8	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	7.8	8.1	2.6	26.0	15.4	0.4	0.0	4.1	9.0	0.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.2	10.3	10.2	72.9	62.0	42.6	53.2	0.0	89.4	48.3	0.0	16.2
LnGrp LOS	C	B	B	E	F	D	D	A	F	D	A	B
Approach Vol, veh/h		1752			2070			111			1421	
Approach Delay, s/veh		15.6			57.4			85.2			30.1	
Approach LOS		B			E			F			C	

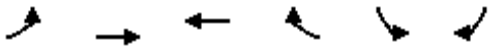
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	14.0	10.2	88.5	33.0	44.7	54.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	9.0	9.0	55.0	28.0	15.0	* 49
Max Q Clear Time (g_c+I1), s	8.8	6.8	22.5	21.1	13.9	51.0
Green Ext Time (p_c), s	0.0	0.0	11.5	3.5	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



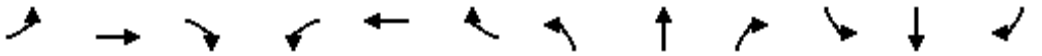
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	2569	2240	57	54	300
Future Volume (veh/h)	85	2569	2240	57	54	300
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	85	2569	2240	57	54	300
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	107	2681	2209	56	98	542
Arrive On Green	0.06	0.52	0.43	0.43	0.39	0.39
Sat Flow, veh/h	1781	5274	5289	130	249	1385
Grp Volume(v), veh/h	85	2569	1487	810	355	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1847	1638	0
Q Serve(g_s), s	5.7	57.7	51.8	51.8	20.2	0.0
Cycle Q Clear(g_c), s	5.7	57.7	51.8	51.8	20.2	0.0
Prop In Lane	1.00			0.07	0.15	0.85
Lane Grp Cap(c), veh/h	107	2681	1469	797	642	0
V/C Ratio(X)	0.79	0.96	1.01	1.02	0.55	0.00
Avail Cap(c_a), veh/h	148	2681	1469	797	642	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.6	27.2	34.1	34.1	28.3	0.0
Incr Delay (d2), s/veh	17.7	10.1	26.6	36.1	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	24.8	26.2	30.5	8.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	73.3	37.3	60.7	70.2	31.8	0.0
LnGrp LOS	E	D	F	F	C	A
Approach Vol, veh/h		2654	2297		355	
Approach Delay, s/veh		38.5	64.1		31.8	
Approach LOS		D	E		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			68.0		52.0	11.2	56.8
Change Period (Y+Rc), s			5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s			63.0		47.0	10.0	49.0
Max Q Clear Time (g_c+I1), s			59.7		22.2	7.7	53.8
Green Ext Time (p_c), s			3.2		1.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

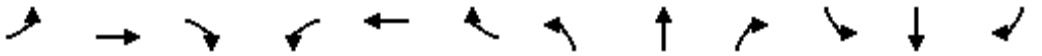
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	421	667	195	245	650	176	242	2297	268	218	1867	259
Future Volume (veh/h)	421	667	195	245	650	176	242	2297	268	218	1867	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	421	667	195	245	650	176	242	2297	268	218	1867	259
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	488	746	218	312	796	355	267	2636	649	134	2154	531
Arrive On Green	0.14	0.28	0.28	0.09	0.22	0.22	0.15	0.41	0.41	0.08	0.33	0.33
Sat Flow, veh/h	3456	2712	792	3456	3554	1585	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	421	437	425	245	650	176	242	2297	268	218	1867	259
Grp Sat Flow(s),veh/h/ln	1728	1777	1728	1728	1777	1585	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	14.3	28.4	28.4	8.3	20.8	9.4	16.0	39.3	10.4	9.0	32.6	10.5
Cycle Q Clear(g_c), s	14.3	28.4	28.4	8.3	20.8	9.4	16.0	39.3	10.4	9.0	32.6	10.5
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	488	489	475	312	796	355	267	2636	649	134	2154	531
V/C Ratio(X)	0.86	0.89	0.89	0.79	0.82	0.50	0.91	0.87	0.41	1.63	0.87	0.49
Avail Cap(c_a), veh/h	547	533	518	518	1036	462	267	2636	649	134	2154	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	41.8	41.8	53.5	44.2	26.4	50.2	32.5	13.1	55.5	37.4	14.5
Incr Delay (d2), s/veh	12.3	16.5	17.0	4.4	4.0	1.1	31.6	4.3	1.9	315.6	5.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	14.6	14.2	3.8	9.6	3.7	9.5	15.8	4.0	15.7	13.4	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.7	58.3	58.8	57.9	48.2	27.5	81.8	36.8	15.0	371.1	42.4	17.7
LnGrp LOS	E	E	E	E	D	C	F	D	B	F	D	B
Approach Vol, veh/h		1283			1071			2807			2344	
Approach Delay, s/veh		59.9			47.0			38.6			70.3	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	54.2	14.8	38.0	22.0	45.2	21.0	31.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	39.0	18.0	36.0	18.0	30.0	19.0	35.0
Max Q Clear Time (g_c+I1), s	11.0	41.3	10.3	30.4	18.0	34.6	16.3	22.8
Green Ext Time (p_c), s	0.0	0.0	0.5	2.6	0.0	0.0	0.5	4.0

Intersection Summary	
HCM 6th Ctrl Delay	53.3
HCM 6th LOS	D



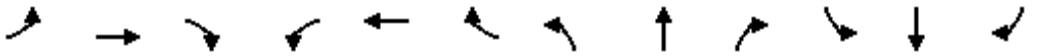
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	1301	267	628	1232	377	364	1768	579	624	1574	348
Future Volume (veh/h)	262	1301	267	628	1232	377	364	1768	579	624	1574	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	1301	267	628	1232	377	364	1768	579	624	1574	348
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1445	297	288	1781	553	968	3571	1781	346	2359	581
Arrive On Green	0.08	0.34	0.34	0.08	0.35	0.35	0.28	0.56	0.56	0.10	0.37	0.37
Sat Flow, veh/h	3456	4246	871	3456	5106	1585	3456	6434	2790	3456	6434	1585
Grp Volume(v), veh/h	262	1043	525	628	1232	377	364	1768	579	624	1574	348
Grp Sat Flow(s),veh/h/ln	1728	1702	1714	1728	1702	1585	1728	1609	1395	1728	1609	1585
Q Serve(g_s), s	9.0	35.0	35.0	10.0	24.9	24.4	10.2	20.2	6.2	12.0	24.6	24.0
Cycle Q Clear(g_c), s	9.0	35.0	35.0	10.0	24.9	24.4	10.2	20.2	6.2	12.0	24.6	24.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1159	583	288	1781	553	968	3571	1781	346	2359	581
V/C Ratio(X)	0.91	0.90	0.90	2.18	0.69	0.68	0.38	0.50	0.33	1.81	0.67	0.60
Avail Cap(c_a), veh/h	288	1191	600	288	1787	555	968	3571	1781	346	2359	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.42	0.42	0.42	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	37.6	37.6	55.0	33.5	33.4	34.8	16.4	13.7	54.0	31.9	39.0
Incr Delay (d2), s/veh	30.8	9.3	16.4	542.6	1.2	3.4	0.1	0.2	0.2	373.9	1.5	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	15.9	17.1	26.0	10.4	9.8	4.3	7.3	3.8	23.1	9.7	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.3	47.0	54.1	597.6	34.7	36.8	34.9	16.6	13.9	427.9	33.4	43.5
LnGrp LOS	F	D	D	F	C	D	C	B	B	F	C	D
Approach Vol, veh/h		1830			2237			2711			2546	
Approach Delay, s/veh		54.5			193.1			18.5			131.4	
Approach LOS		D			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	72.4	15.0	45.8	39.4	49.0	14.0	46.8
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	12.0	38.0	10.0	* 42	6.0	* 44	10.0	42.0
Max Q Clear Time (g_c+I1), s	14.0	22.2	12.0	37.0	12.2	26.6	11.0	26.9
Green Ext Time (p_c), s	0.0	12.6	0.0	3.9	0.0	11.8	0.0	8.9

Intersection Summary	
HCM 6th Ctrl Delay	98.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



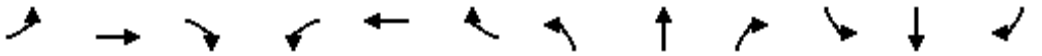
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	1717	263	322	2287	248	355	789	218	183	554	96
Future Volume (veh/h)	168	1717	263	322	2287	248	355	789	218	183	554	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	1717	263	322	2287	248	355	789	218	183	554	96
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1677	255	317	1953	208	1917	2860	1276	230	1096	489
Arrive On Green	0.04	0.38	0.38	0.09	0.42	0.42	0.55	0.80	0.80	0.07	0.31	0.31
Sat Flow, veh/h	3456	4471	681	3456	4686	499	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	168	1305	675	322	1649	886	355	789	218	183	554	96
Grp Sat Flow(s),veh/h/ln	1728	1702	1748	1728	1702	1781	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.0	45.0	45.0	11.0	50.0	50.0	6.1	6.7	3.7	6.3	15.3	5.4
Cycle Q Clear(g_c), s	5.0	45.0	45.0	11.0	50.0	50.0	6.1	6.7	3.7	6.3	15.3	5.4
Prop In Lane	1.00		0.39	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	1277	655	317	1418	742	1917	2860	1276	230	1096	489
V/C Ratio(X)	1.17	1.02	1.03	1.02	1.16	1.19	0.19	0.28	0.17	0.79	0.51	0.20
Avail Cap(c_a), veh/h	144	1277	655	317	1418	742	1917	2860	1276	230	1096	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	37.5	37.5	54.5	35.0	35.0	13.3	2.9	2.7	55.2	34.0	30.6
Incr Delay (d2), s/veh	126.8	30.9	43.2	54.8	81.4	100.2	0.0	0.2	0.3	17.2	1.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	23.8	26.7	7.2	36.1	41.7	2.4	1.9	1.0	3.3	6.9	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.3	68.4	80.7	109.3	116.4	135.2	13.3	3.2	2.9	72.4	35.7	31.5
LnGrp LOS	F	F	F	F	F	F	B	A	A	E	D	C
Approach Vol, veh/h		2148			2857			1362			833	
Approach Delay, s/veh		81.3			121.5			5.8			43.3	
Approach LOS		F			F			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	102.6	15.0	50.0	72.6	42.0	10.0	55.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	8.0	39.0	11.0	44.0	10.0	* 37	5.0	* 50
Max Q Clear Time (g_c+I1), s	8.3	8.7	13.0	47.0	8.1	17.3	7.0	52.0
Green Ext Time (p_c), s	0.0	7.2	0.0	0.0	0.3	4.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	78.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



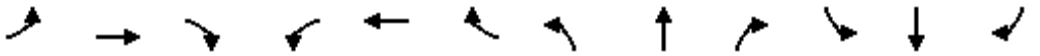
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	395	1439	382	419	1839	315	804	1234	321	313	862	396
Future Volume (veh/h)	395	1439	382	419	1839	315	804	1234	321	313	862	396
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	1439	382	419	1839	315	804	1234	321	313	862	396
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1273	336	288	1659	515	1353	1830	568	1267	1702	660
Arrive On Green	0.08	0.32	0.32	0.08	0.32	0.32	0.39	0.36	0.36	0.37	0.33	0.33
Sat Flow, veh/h	3456	4021	1062	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	395	1217	604	419	1839	315	804	1234	321	313	862	396
Grp Sat Flow(s),veh/h/ln	1728	1702	1679	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.0	38.0	38.0	10.0	39.0	15.4	22.1	24.5	19.6	7.6	16.2	21.6
Cycle Q Clear(g_c), s	10.0	38.0	38.0	10.0	39.0	15.4	22.1	24.5	19.6	7.6	16.2	21.6
Prop In Lane	1.00		0.63	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1078	532	288	1659	515	1353	1830	568	1267	1702	660
V/C Ratio(X)	1.37	1.13	1.14	1.45	1.11	0.61	0.59	0.67	0.57	0.25	0.51	0.60
Avail Cap(c_a), veh/h	288	1078	532	288	1659	515	1353	1830	568	1267	1702	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	41.0	41.0	55.0	40.5	20.0	28.9	32.6	31.0	26.5	32.1	35.5
Incr Delay (d2), s/veh	187.8	70.1	82.3	223.1	58.0	2.1	0.7	2.0	4.0	0.1	1.1	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	26.2	27.6	13.3	25.0	5.9	9.2	10.4	8.1	3.2	6.9	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	242.8	111.1	123.3	278.1	98.5	22.1	29.6	34.6	35.0	26.6	33.2	39.4
LnGrp LOS	F	F	F	F	F	C	C	C	D	C	C	D
Approach Vol, veh/h		2216			2573			2359			1571	
Approach Delay, s/veh		137.9			118.4			33.0			33.4	
Approach LOS		F			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.0	48.0	15.0	43.0	52.0	45.0	14.0	44.0
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	43.0	10.0	* 38	14.0	40.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	9.6	26.5	12.0	40.0	24.1	23.6	12.0	41.0
Green Ext Time (p_c), s	0.2	9.2	0.0	0.0	0.0	7.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	84.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



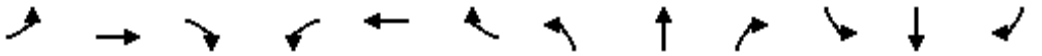
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	1076	434	939	1513	202	429	1729	341	266	1429	101
Future Volume (veh/h)	199	1076	434	939	1513	202	429	1729	341	266	1429	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	1076	434	939	1513	202	429	1729	341	266	1429	101
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1125	502	576	1420	187	374	1659	515	2007	3923	277
Arrive On Green	0.04	0.32	0.32	0.17	0.45	0.45	0.11	0.32	0.32	0.58	0.81	0.81
Sat Flow, veh/h	3456	3554	1585	3456	3156	416	3456	5106	1585	3456	4868	344
Grp Volume(v), veh/h	199	1076	434	939	843	872	429	1729	341	266	999	531
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1795	1728	1702	1585	1728	1702	1808
Q Serve(g_s), s	5.0	35.6	38.0	20.0	54.0	54.0	13.0	39.0	22.2	4.2	9.7	9.7
Cycle Q Clear(g_c), s	5.0	35.6	38.0	20.0	54.0	54.0	13.0	39.0	22.2	4.2	9.7	9.7
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	144	1125	502	576	800	808	374	1659	515	2007	2743	1457
V/C Ratio(X)	1.38	0.96	0.86	1.63	1.05	1.08	1.15	1.04	0.66	0.13	0.36	0.36
Avail Cap(c_a), veh/h	144	1125	502	576	800	808	374	1659	515	2007	2743	1457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	40.2	129.3	50.0	33.0	33.0	53.5	40.5	34.8	11.4	3.2	3.2
Incr Delay (d2), s/veh	209.1	17.3	14.6	291.5	47.1	55.3	92.5	33.9	6.6	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	18.0	2.0	31.9	32.9	35.1	10.4	21.3	9.5	1.6	2.7	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	266.6	57.5	143.9	341.5	80.1	88.3	146.0	74.4	41.4	11.5	3.6	3.9
LnGrp LOS	F	E	F	F	F	F	F	F	D	B	A	A
Approach Vol, veh/h		1709			2654			2499			1796	
Approach Delay, s/veh		103.8			175.3			82.2			4.8	
Approach LOS		F			F			F			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	76.7	44.0	25.0	43.0	17.0	103.7	9.0	59.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	5.0	* 39	20.0	* 38	13.0	31.0	5.0	53.0
Max Q Clear Time (g_c+I1), s	6.2	41.0	22.0	40.0	15.0	11.7	7.0	56.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	98.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	713	514	277	932	251	664	2130	206	222	1599	261
Future Volume (veh/h)	388	713	514	277	932	251	664	2130	206	222	1599	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	388	713	514	277	932	251	664	2130	206	222	1599	261
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	920	705	334	1124	302	643	2099	652	134	1877	594
Arrive On Green	0.08	0.26	0.26	0.10	0.28	0.28	0.19	0.41	0.41	0.08	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	4006	1075	3456	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	388	713	514	277	792	391	664	2130	206	222	1599	261
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1677	1728	1702	1585	1781	1609	1585
Q Serve(g_s), s	10.0	22.3	9.6	9.4	26.2	26.3	22.3	49.3	7.3	9.0	28.1	7.6
Cycle Q Clear(g_c), s	10.0	22.3	9.6	9.4	26.2	26.3	22.3	49.3	7.3	9.0	28.1	7.6
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	920	705	334	955	470	643	2099	652	134	1877	594
V/C Ratio(X)	1.35	0.78	0.73	0.83	0.83	0.83	1.03	1.01	0.32	1.66	0.85	0.44
Avail Cap(c_a), veh/h	288	1244	850	334	1078	531	643	2099	652	134	1877	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	41.2	27.4	53.2	40.5	40.5	48.8	35.3	11.5	55.5	40.1	11.2
Incr Delay (d2), s/veh	177.6	2.2	2.6	15.8	5.0	9.9	44.1	23.4	1.3	328.4	5.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	10.0	12.4	4.8	11.5	12.1	13.5	24.4	2.8	16.2	11.7	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	232.6	43.4	29.9	69.0	45.5	50.4	92.9	58.7	12.8	383.9	45.2	13.5
LnGrp LOS	F	D	C	E	D	D	F	F	B	F	D	B
Approach Vol, veh/h		1615			1460			3000			2082	
Approach Delay, s/veh		84.6			51.2			63.1			77.3	
Approach LOS		F			D			E			E	

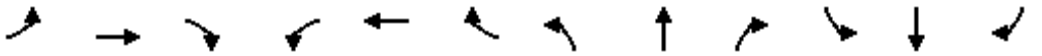
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	54.3	16.6	36.1	27.3	40.0	14.0	38.7
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	9.0	45.0	6.0	* 42	19.0	* 35	10.0	38.0
Max Q Clear Time (g_c+I1), s	11.0	51.3	11.4	24.3	24.3	30.1	12.0	28.3
Green Ext Time (p_c), s	0.0	0.0	0.0	6.7	0.0	4.0	0.0	5.4

Intersection Summary	
HCM 6th Ctrl Delay	68.9
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

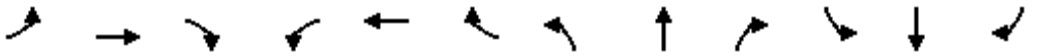
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	656	637	125	112	553	250	155	2207	70	157	2000	375
Future Volume (veh/h)	656	637	125	112	553	250	155	2207	70	157	2000	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	656	637	125	112	553	250	155	2207	70	157	2000	375
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	461	810	361	368	714	398	173	2368	75	173	2378	738
Arrive On Green	0.13	0.23	0.23	0.11	0.20	0.20	0.05	0.47	0.47	0.05	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5085	161	3456	5106	1585
Grp Volume(v), veh/h	656	637	125	112	553	250	155	1475	802	157	2000	375
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1841	1728	1702	1585
Q Serve(g_s), s	16.0	20.2	6.6	3.6	17.7	11.4	5.4	49.0	49.5	5.4	41.3	12.1
Cycle Q Clear(g_c), s	16.0	20.2	6.6	3.6	17.7	11.4	5.4	49.0	49.5	5.4	41.3	12.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	461	810	361	368	714	398	173	1585	857	173	2378	738
V/C Ratio(X)	1.42	0.79	0.35	0.30	0.77	0.63	0.90	0.93	0.94	0.91	0.84	0.51
Avail Cap(c_a), veh/h	461	1421	634	368	1125	581	173	1585	857	173	2378	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	43.6	27.3	49.5	45.4	20.3	56.7	30.2	30.3	56.7	28.2	8.4
Incr Delay (d2), s/veh	203.0	1.7	0.6	0.5	1.8	1.6	40.6	11.2	18.5	43.3	3.8	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.9	9.1	2.6	1.6	8.0	4.3	3.3	21.9	25.6	3.4	17.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	255.0	45.3	27.8	50.0	47.2	21.9	97.3	41.4	48.9	100.0	32.0	10.8
LnGrp LOS	F	D	C	D	D	C	F	D	D	F	C	B
Approach Vol, veh/h		1418			915			2432			2532	
Approach Delay, s/veh		140.8			40.6			47.5			33.1	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	60.9	16.8	32.4	10.0	60.9	20.0	29.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	42.0	6.0	48.0	6.0	42.0	16.0	38.0
Max Q Clear Time (g_c+I1), s	7.4	51.5	5.6	22.2	7.4	43.3	18.0	19.7
Green Ext Time (p_c), s	0.0	0.0	0.0	5.1	0.0	0.0	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	59.7
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	795	1500	14	92	1331	844	49	105	91	542	37	855
Future Volume (veh/h)	795	1500	14	92	1331	844	49	105	91	542	37	855
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	795	1500	14	92	1331	844	49	105	91	568	0	855
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1123	2712	25	116	1718	766	134	69	60	831	0	1770
Arrive On Green	0.32	0.75	0.75	0.07	0.48	0.48	0.08	0.08	0.08	0.23	0.00	0.23
Sat Flow, veh/h	3456	3607	34	1781	3554	1585	1781	925	801	3563	0	3170
Grp Volume(v), veh/h	795	738	776	92	1331	844	49	0	196	568	0	855
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1585	1781	0	1726	1781	0	1585
Q Serve(g_s), s	24.2	21.2	21.2	6.1	37.1	58.0	3.1	0.0	9.0	17.5	0.0	0.0
Cycle Q Clear(g_c), s	24.2	21.2	21.2	6.1	37.1	58.0	3.1	0.0	9.0	17.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	1123	1336	1401	116	1718	766	134	0	129	831	0	1770
V/C Ratio(X)	0.71	0.55	0.55	0.79	0.77	1.10	0.37	0.00	1.51	0.68	0.00	0.48
Avail Cap(c_a), veh/h	1123	1336	1401	193	1718	766	134	0	129	831	0	1770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.5	6.3	6.3	55.3	25.6	31.0	52.8	0.0	55.5	42.0	0.0	16.0
Incr Delay (d2), s/veh	2.1	1.7	1.6	11.5	3.5	64.0	7.6	0.0	266.8	4.5	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	7.4	7.8	3.1	16.1	34.9	1.7	0.0	13.5	8.2	0.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	8.0	7.9	66.8	29.1	95.0	60.4	0.0	322.3	46.5	0.0	17.0
LnGrp LOS	D	A	A	E	C	F	E	A	F	D	A	B
Approach Vol, veh/h		2309			2267			245			1423	
Approach Delay, s/veh		18.2			55.1			269.9			28.8	
Approach LOS		B			E			F			C	

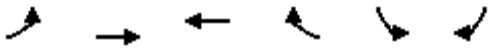
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	14.0	11.8	96.2	33.0	45.0	63.0
Change Period (Y+Rc), s	5.0	4.0	5.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	9.0	13.0	51.0	28.0	6.0	* 58
Max Q Clear Time (g_c+I1), s	11.0	8.1	23.2	19.5	26.2	60.0
Green Ext Time (p_c), s	0.0	0.1	13.4	4.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	2158	2636	155	18	80
Future Volume (veh/h)	120	2158	2636	155	18	80
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	120	2158	2636	155	18	80
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	147	3276	2597	150	82	366
Arrive On Green	0.08	0.64	0.53	0.53	0.28	0.28
Sat Flow, veh/h	1781	5274	5106	286	299	1330
Grp Volume(v), veh/h	120	2158	1804	987	99	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1819	1646	0
Q Serve(g_s), s	8.0	31.5	63.1	63.1	5.6	0.0
Cycle Q Clear(g_c), s	8.0	31.5	63.1	63.1	5.6	0.0
Prop In Lane	1.00			0.16	0.18	0.81
Lane Grp Cap(c), veh/h	147	3276	1790	957	453	0
V/C Ratio(X)	0.82	0.66	1.01	1.03	0.22	0.00
Avail Cap(c_a), veh/h	223	3276	1790	957	453	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.2	13.3	28.4	28.4	33.6	0.0
Incr Delay (d2), s/veh	13.2	1.1	23.2	37.4	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	11.6	30.1	36.0	2.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.3	14.4	51.6	65.9	34.7	0.0
LnGrp LOS	E	B	F	F	C	A
Approach Vol, veh/h		2278	2791		99	
Approach Delay, s/veh		17.2	56.6		34.7	
Approach LOS		B	E		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	82.0	38.0	13.9	68.1
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	77.0	33.0	15.0	58.0
Max Q Clear Time (g_c+I1), s	33.5	7.6	10.0	65.1
Green Ext Time (p_c), s	27.8	0.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	38.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX Q

BASIC FREEWAY SEGMENT ANALYSIS - RESIDENTIAL OPTION

APPENDIX Q-I

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6100	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1704
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	26.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5798	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1620
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7600	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2123
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	57.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	36.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7723	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2158
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	56.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	37.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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APPENDIX Q-II

YEAR 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6580	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1838
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6305	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1761
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8251	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2305
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	53.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	43.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8420	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	2352
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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APPENDIX Q-III

YEAR 2035 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6975	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1851
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6554	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1740
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, North of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8508	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	2258
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	54.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	41.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, South of Imperial Highway	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	65.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8587	Heavy Vehicle Adjustment Factor (f_{HV})	0.942
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	2279
Total Trucks, %	6.14	Capacity (c), pc/h/ln	2350
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2350
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	54.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	42.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.0		

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APPENDIX R

MERGE/DIVERGE ANALYSIS - RESIDENTIAL OPTION

APPENDIX R-I

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6100	1104
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	6816	1234
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.58	0.62

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	19.7
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.539
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1286
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	52.6
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	70.2
Flow in Lanes 1 and 2 (v12), pc/h	3222	Ramp Junction Speed (S), mi/h	59.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	23.0
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4996	208
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5583	232
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.62	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	19.2
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.305
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1675
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.189	Outer Lanes Freeway Speed (SO), mi/h	60.8
Flow in Lanes 1 and 2 (v12), pc/h	2233	Ramp Junction Speed (S), mi/h	59.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	2465	Average Density (D), pc/mi/ln	24.4
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5204	594
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5815	664
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.69	0.33

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	24.0
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.347
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1745
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.135	Outer Lanes Freeway Speed (SO), mi/h	60.5
Flow in Lanes 1 and 2 (v12), pc/h	2326	Ramp Junction Speed (S), mi/h	58.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	2990	Average Density (D), pc/mi/ln	27.5
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7600	1244
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	8493	1390
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.72	0.70

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	24.2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.553
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1524
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	52.3
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	69.3
Flow in Lanes 1 and 2 (v12), pc/h	3746	Ramp Junction Speed (S), mi/h	58.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	28.9
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6356	469
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7102	524
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.81	0.26

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.0
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.372
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2131
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.152	Outer Lanes Freeway Speed (SO), mi/h	59.1
Flow in Lanes 1 and 2 (v12), pc/h	2841	Ramp Junction Speed (S), mi/h	57.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	3365	Average Density (D), pc/mi/ln	32.9
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Existing + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6825	898
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7627	1003
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.92	0.50

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	32.1
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.495
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2288
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	53.6
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.092	Outer Lanes Freeway Speed (SO), mi/h	58.6
Flow in Lanes 1 and 2 (v12), pc/h	3051	Ramp Junction Speed (S), mi/h	56.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	4054	Average Density (D), pc/mi/ln	38.5
Level of Service (LOS)	D		

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APPENDIX R-II

YEAR 2023 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6580	1262
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7353	1410
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.71

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.9
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.555
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1261
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	52.2
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	70.3
Flow in Lanes 1 and 2 (v12), pc/h	3360	Ramp Junction Speed (S), mi/h	58.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	25.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5318	230
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5943	257
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.66	0.13

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.5
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.314
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1783
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	57.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.186	Outer Lanes Freeway Speed (SO), mi/h	60.4
Flow in Lanes 1 and 2 (v12), pc/h	2377	Ramp Junction Speed (S), mi/h	59.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	2634	Average Density (D), pc/mi/ln	26.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5548	757
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	6200	846
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.75	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.5
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.378
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1860
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.112	Outer Lanes Freeway Speed (SO), mi/h	60.1
Flow in Lanes 1 and 2 (v12), pc/h	2480	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	3326	Average Density (D), pc/mi/ln	30.3
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8251	1454
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	9220	1625
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.78	0.81

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.574
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1622
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	68.9
Flow in Lanes 1 and 2 (v12), pc/h	4132	Ramp Junction Speed (S), mi/h	58.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	31.7
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6797	499
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7595	558
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.87	0.28

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.8
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.402
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2279
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	55.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.148	Outer Lanes Freeway Speed (SO), mi/h	58.6
Flow in Lanes 1 and 2 (v12), pc/h	3038	Ramp Junction Speed (S), mi/h	57.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3596	Average Density (D), pc/mi/ln	35.6
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2023 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (EB)	Time Period Analyzed	PM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7296	1124
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	8153	1256
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	1.00	0.63

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	35.6
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.627
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2446
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	50.6
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.061	Outer Lanes Freeway Speed (SO), mi/h	57.6
Flow in Lanes 1 and 2 (v12), pc/h	3261	Ramp Junction Speed (S), mi/h	54.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	4517	Average Density (D), pc/mi/ln	43.6
Level of Service (LOS)	E		

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APPENDIX R-III

YEAR 2035 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, Imperial Hwy Off-Ramp	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6975	1466
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7404	1556
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.78

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	21.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.568
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1232
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	51.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	70.4
Flow in Lanes 1 and 2 (v12), pc/h	3460	Ramp Junction Speed (S), mi/h	58.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	25.4
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information			
Analyst	JT	Date	9/26/2018
Agency	LLG Engineers	Analysis Year	Year 2035 + Project
Jurisdiction	SR-57 SB, Imperial Hwy On-Ramp (WB)	Time Period Analyzed	AM Peak Hour
Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5509	244
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	5848	259
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.65	0.13

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.2
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.312
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1755
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	57.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.185	Outer Lanes Freeway Speed (SO), mi/h	60.5
Flow in Lanes 1 and 2 (v12), pc/h	2339	Ramp Junction Speed (S), mi/h	59.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	2598	Average Density (D), pc/mi/ln	25.7
Level of Service (LOS)	C		

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Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5753	801
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	6107	850
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.74	0.43

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.3
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.375
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1832
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.112	Outer Lanes Freeway Speed (SO), mi/h	60.2
Flow in Lanes 1 and 2 (v12), pc/h	2443	Ramp Junction Speed (S), mi/h	58.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	3293	Average Density (D), pc/mi/ln	29.8
Level of Service (LOS)	C		

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Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1360
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8508	1641
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	9032	1742
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.77	0.87

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.585
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1546
Distance to Downstream Ramp (LDOWN), ft	10000	Off-Ramp Influenece Area Speed (SR), mi/h	51.5
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	69.2
Flow in Lanes 1 and 2 (v12), pc/h	4133	Ramp Junction Speed (S), mi/h	57.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	31.3
Level of Service (LOS)	C		

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Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	880
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6867	529
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7290	562
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.84	0.28

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.9
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.386
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2187
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.1
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.148	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	2916	Ramp Junction Speed (S), mi/h	57.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	3478	Average Density (D), pc/mi/ln	34.1
Level of Service (LOS)	C		

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Project Description	2-14-3531-1 Westridge Residential Development, La Habra		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	730
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7396	1191
Peak Hour Factor (PHF)	1.00	1.00
Total Trucks, %	6.14	6.14
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.942	0.942
Flow Rate (vi),pc/h	7851	1264
Capacity (c), pc/h	9400	2000
Volume-to-Capacity Ratio (v/c)	0.97	0.63

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	34.7
Distance to Upstream Ramp (LUP), ft	10000	Speed Index (M)	0.589
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2356
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	51.5
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.060	Outer Lanes Freeway Speed (SO), mi/h	58.1
Flow in Lanes 1 and 2 (v12), pc/h	3140	Ramp Junction Speed (S), mi/h	54.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	4404	Average Density (D), pc/mi/ln	41.7
Level of Service (LOS)	D		

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