Traffic Impact Study

Prepared for submittal to:

CITY OF Billings

for the project:

Clearwater/44 West Subdivision

on behalf of:

Performance Engineering
3412 Colton Blvd., Suite 202
Billings, MT 59102

by:

TRAFFIC & TRANSPORTATION CONSULTING

406 Traffic & Transportation Consulting
P.O. Box 249
Bozeman, MT 59771
406.922.7300

PTOE #1185, certified in 2003

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1 INTRODUCTION

This report documents the Traffic Impact Study (TIS) conducted for the Clearwater/44 West subdivision project in northwest Billings. This is a working title for the project. Some parts of the site could be marketed under a different name before final occupancy. The study was conducted by and under the direction of a Professional Traffic Operations Engineer and Montana-licensed PE with expertise and experience in traffic engineering.

1.1 PROJECT SITE AND STUDY AREA

The overall subdivision site is shown in **Exhibit 1** along with the intersections studied. The existing study intersections were identified during preapplication review with City of Billings staff as:

1. S. 48th Street West at Central Avenue
2. Shiloh Road at Broadwater Avenue
3. Shiloh Road at Central Avenue
4. Shiloh Road at Bell Avenue
5. Shiloh Road at Monad Road

From here forward in this report, existing intersections are generally referred to only by their distinguishing street names (e.g., “Shiloh at Central”) for the sake of brevity. The two new subdivision access points on Central Avenue, Double Haul Lane and S. 44th Street West, have been analyzed for all future scenarios that include project traffic. The site’s third access will be to existing Bell Avenue, which is expected to be extended west into the site to serve the final phase. The new western terminus of Bell will be built to accommodate a potential future connection to the property west of this site, but no such connection has been planned there at the time of this study. The east-west Bell Avenue alignment generally separates the subdivision site into northern and southern parts of similar size.

1.2 LAND USE AND PHASING

The site is currently agricultural land, though it was in the process of being cleared for construction at the time of this study. The subdivision’s proposed land uses will be almost exclusively residential, with 259 single-family detached homes and 125 attached ones. The latter will include 60 attached multi-story units (townhomes) and 65 “cottage” units that would be smaller units not directly classifiable as apartments. One commercial lot sized to support two 11,000 square-foot buildings will be situated near the northwest corner of the site, abutting Central Avenue and Double Haul Lane.

The project is divided into two logical phases. All 125 of the “attached” type of residential units are included in Phase 1 and are located on the northern part of the site. Phase 1 also includes about one half (131) of the total single-family detached units. Phase 2 includes the commercial parcel and all residential lots on the southern part of the site, which are for the remaining 128 single-family homes. Phase 1 is further divided into three sub-phases, termed A, B, and C for this study, to help identify when certain traffic impact mitigation improvements would be needed. The dwelling unit totals for each sub-phase are described later in this report, in the context of this sensitivity analysis. Bell Avenue access was only assumed to be available for Phase 2.

Because the site is generally rural, the types and locations of specific pathways or other facilities and connections for pedestrians and bicycles have not yet been identified. A brief examination of potential traffic calming needs indicated that some streets have long enough blocks that the need for such measures could arise. On-street parking is expected to be allowed throughout the site wherever street width and sight distance allow for it and such parking does not interfere with operations at the Central Avenue access intersections.

Exhibit 2 shows the Clearwater/44 West site plan on which the analysis here is based. It includes land use types, streets, alleys, access points, and parkland areas, as well as phasing. This site plan drawing is provided for illustrative purposes only. The full high-resolution drawing is submitted separately by the applicant.

Exhibit 1. Overall Site Location and Study Intersections

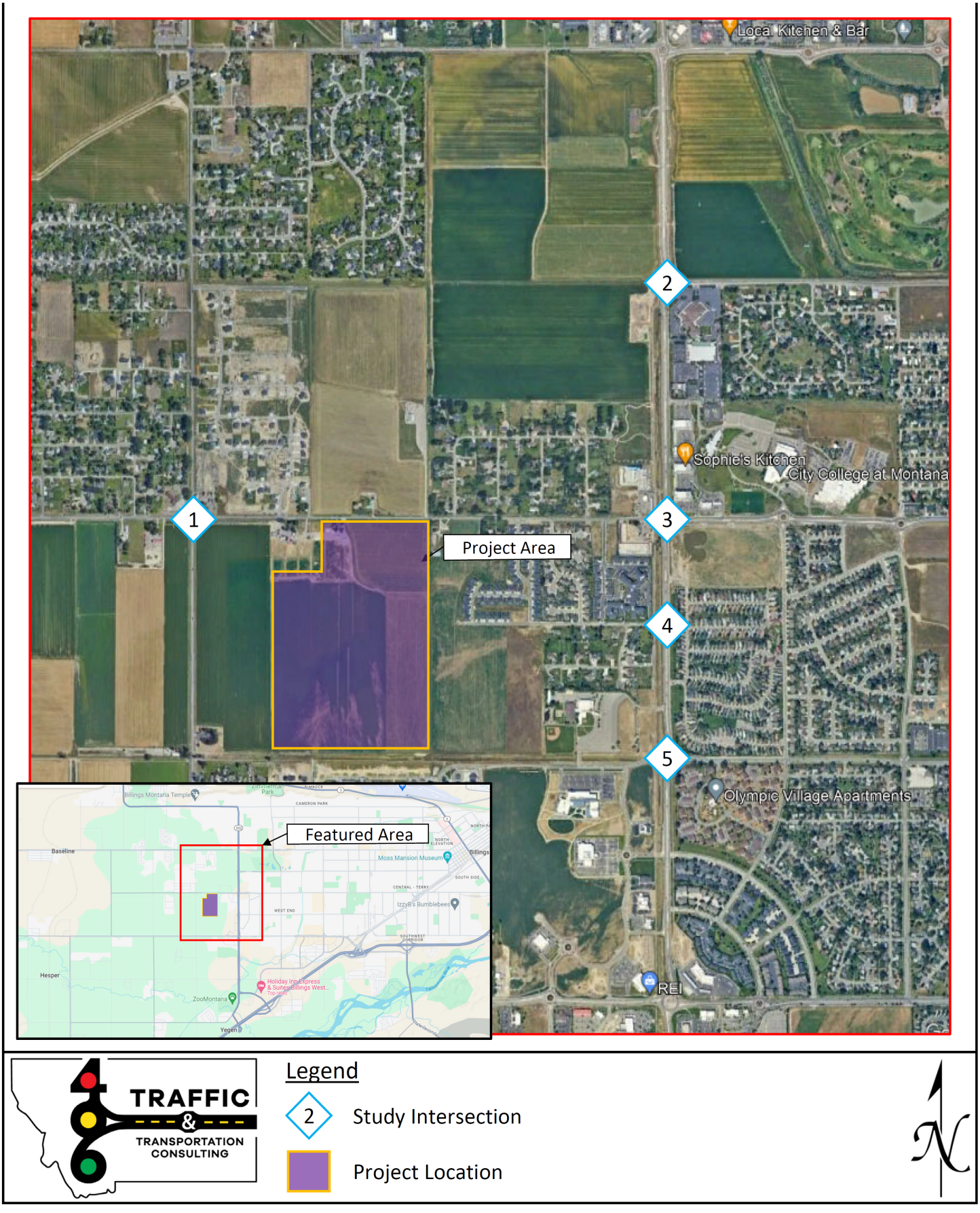
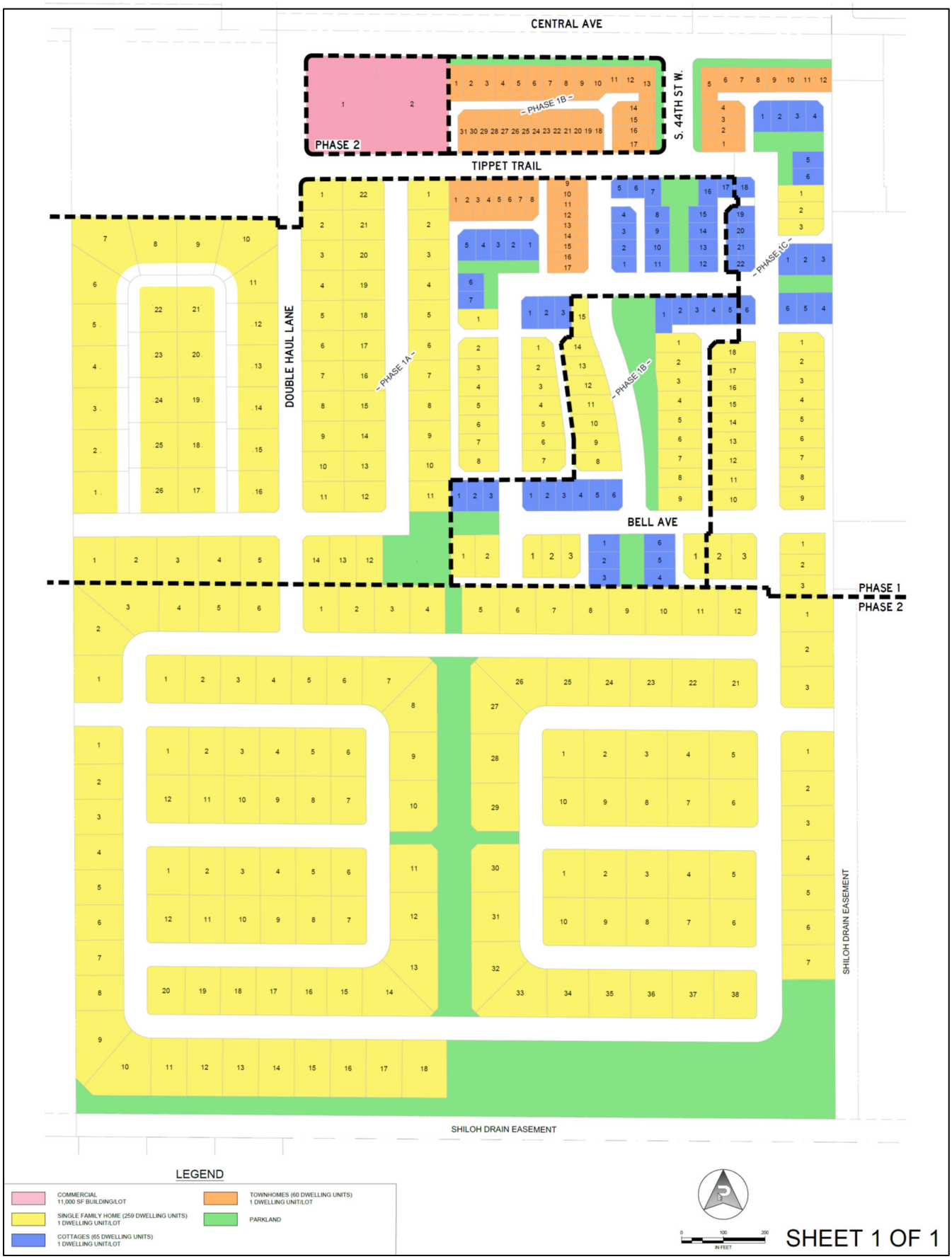


Exhibit 2. Site Plan and Phasing



Excerpted from: Performance Engineering concept site plan provided 7/17/2025

For analysis purposes, both Double Haul Lane and S. 44th Street West are assumed to have one northbound lane and one southbound lane at their intersections with Central, such that vehicles leaving the site waits in a single shared lane whether they are turning right or left.

1.3 Analysis Methods and References

Raw field traffic counts were gathered from other recent traffic study work in the area by Sanbell and provided to this project's applicant team. These raw counts were then adjusted slightly for this TIS based on both (a) recent traffic growth and (b) 2024 City of Billings annualization factors prior to their use in impact analysis.

Trip generation rates, or equations as applicable, are from the Institute of Transportation Engineers (ITE) Trip Generation suite's 11th edition, which was the most current available at the onset of this study. ITE trip generation data, when aggregated across enough varied sites, produce both simple average rates and best-fit equations, either linear or logarithmic, to help the analyst derive proper estimates for their situation. Equations are generally preferred over rates, especially for larger sites where trip generation per unit of land use can diminish with increasing project size. General ITE guidance calls for the use of the fitted curve equation when the data set for the land use type in question is comprised of studies from 20 or more separate sites and when the equation produces a correlation coefficient (R^2) of 0.75 or higher, with 1.0 being the best possible fit.

Operational performance was analyzed at the study intersections through the use of the industry-standard methods presented in the USDOT's Highway Capacity Manual (HCM), published in its modern form as Transportation Research Board Special Report 209. Synchro Studio 12 was employed as both a data repository and a capacity analysis tool, with reports for each intersection generated using Synchro's application of the assumptions of the HCM's 7th edition, the most recent available at the time of this study.

The HCM methodology for intersection capacity analysis produces delay estimates for each turning movement (or "lane group", when multiple turning movements operate from the same lane). These delay estimates are assigned Level of Service (LOS) grades that range from A (best) to F (worst), as indicated in **Exhibit 3**. It's also important to note that for unsignalized intersections with only side-street Stop sign control, LOS for the intersection is represented by the LOS for the worst lane group. "T" intersections with side-street stop control also fall under this category. All stop-controlled intersections in this study area, including the two new proposed accesses to Central, are "T" intersections, where the approach on the stem of the T, rather than a main street turning movement, contains the worst lane group.

Exhibit 3. LOS Definitions

LOS	Delay, seconds per vehicle
A	0 - 10.0
B	10.1 - 15.0
C	15.1 - 25.0
D	25.1 - 35.0
E	35.1 - 50.0
F	50.1 or more

Source: HCM 7th Edition

Operations impacts are determined by how peak hour LOS relates to acceptability standards. Billings employs a LOS standard of C or better. When LOS without the project is D or worse, an operations impact is usually defined when the project would increase delay.

In addition to intersection operations analysis, the need for auxiliary left- and right-turn lanes was examined as part of this study effort. These movements on arterial roadways at stop-controlled site access points with volumes that meet MDT criteria with respect to the department's guidelines indicated in Chapter 28 of its Traffic Engineering Manual. These auxiliary lanes would serve traffic entering the project site. Only locations with free-flowing traffic on the primary street are considered in this auxiliary lane analysis.

Potential mitigation of traffic impacts at the Central/44th intersection included the examination of traffic signal warrants according to the guidance in the Manual on Uniform Traffic Control Devices (MUTCD).

2 EXISTING AND BACKGROUND CONDITIONS

2.1 STREETS AND INTERSECTIONS

Shiloh Road, which also carries the designation of MT-302, is a north-south urban principal arterial according to the MDT (Montana Department of Transportation, and a principal arterial according to the 2023 Billings LRTP (Long Range Transportation Plan). It has two travel lanes in each direction and a speed limit of 45 mph in the study area. Shiloh Road has been a key facilitator of the city's westward expansion, with substantial residential and commercial growth having occurred adjacent to it in recent years. It is characterized by a series of roundabouts at intersections with several of western Billings's east-west arterials and collectors. It also provides access to Interstate 90 via Zoo Drive to the south. A raised median prevents left turns at many two-way stop-controlled intersections, including the one at Bell Avenue. Exclusive left-turn lanes exist at a few select site accesses and local streets. A sidewalk runs along the east side of the road, and a shared-use path called Shiloh Road Trail runs along the west side, much of it separated from the road by a large ditch. There are also two MET Transit bus stops on its east side between the Broadwater and Central roundabouts. These are not considered to be close enough to the project to site to provide meaningful transit access.

Central Avenue is an east-west road that is classified by the MDT as an urban collector to the west of Shiloh Road and as an urban principal arterial to the east of it. Accordingly, it has one travel lane in each direction to the west of Shiloh, and two travel lanes in each direction to the east of it. Its entire length from 64th St W to Montana Avenue is classified as a principal arterial in the 2023 Billings LRTP. It has a speed limit of 45 mph on both sides of Shiloh Road, but it becomes 50 mph to the west of 48th St W. It connects residential neighborhoods to many of western Billings' commercial centers. Central currently has no exclusive turning lanes or multimodal facilities to the west of Shiloh Road. However, the 2023 Billings LRTP shows that a shared-use path and/or trail are planned to be installed on Central Avenue to the west of Shiloh Road. There are also plans to expand Central Avenue to a three-lane cross-section to the west of Shiloh Road: one travel lane in each direction and a center left-turn lane.

48th Street W is a north-south local road according to the MDT, and a principal arterial according to the 2023 Billings LRTP. It has one travel lane in each direction, and its speed limit is 45 mph to the north of Central Avenue and 50 mph to the south of it. It links residences and agricultural properties on the western edges of Billings to the east-west routes that lead into the city, such as Central Avenue and King Avenue. No exclusive turning lanes or multimodal facilities currently exist on 48th in the study area.

Bell Avenue is an east-west local street according to both the MDT and the 2023 Billings LRTP. It has one travel lane in each direction and no posted speed limit. Currently, it provides access to Shiloh Road for a private senior living community and a few other residences. Its eastern terminus is at its intersection with Shiloh Road, where left turns are prohibited. Its western terminus is at a dead-end approximately 2300 feet to the west of this intersection, just past Big Pine Court. While three other streets that intersect Bell Avenue also lead to Central Avenue, these streets traverse private property. As such, Bell Avenue has no outlet for non-residents. The street has no exclusive turning lanes or bike infrastructure, but there is a sidewalk along most of its northern side, starting from the Shiloh Road Trail.

Monad Road is an east-west road that is classified by the MDT as an urban major collector to the east of Shiloh Road and as a local street to the west of it. The 2023 Billings LRTP classifies it as a minor arterial to the east of Shiloh Road, and it was planned to be a collector to the west of Shiloh Road at the time of the LRTP's publishing. West of Shiloh, it has one travel lane in each direction, as well as a center left-turn lane. East of Shiloh Road, it has one travel lane in each direction, but no center left-turn lane. Its speed limit is 35 mph to the east of Shiloh, but it does not have a speed limit posted on the west side. Monad Road connects many of western Billings' residential neighborhoods to the industrial areas near the railroad tracks and to north-south routes such as 32nd Street W and 24th Street W that lead to large commercial centers. It has exclusive right-turn lanes on the east and west legs of the roundabout at Shiloh Road, as well as an exclusive left-turn lane at

Henry Chapple Street. To the east of Shiloh Road, there are sidewalks, designated on-street parking, and unprotected bike lanes on both sides of the road. To the west of Shiloh, there is a shared-use path on much of the north side and a sidewalk on much of the south side of the street. There are also two nearby MET Transit bus stops on the south side of the road: one at Henry Chapple Street and the other at Hurdle Circle.

Broadwater Avenue is an east-west urban principal arterial according to the MDT, and a principal arterial according to the 2023 Billings LRTP. It has one travel lane in each direction and a speed limit of 35 mph in the study area. It serves as a link between residential neighborhoods in western Billings, some small commercial centers, and downtown Billings. Its eastern terminus is at its intersection with Division Street, 1st Ave N, and N 36th Street near downtown. Its western terminus is currently at a roundabout intersection with Shiloh Road. Currently, the roundabout's west leg only connects to two agricultural lots in active use, but the roundabout's infrastructure here has been built out in preparation for a potential westward extension of the road. 48th St W also intersects a road called Broadwater Avenue, but this local road segment is currently disconnected from the rest of the arterial network and is only accessible via 48th Street W. The arterial Broadwater Avenue has an exclusive westbound right-turn lane at the Shiloh roundabout. There is a shared-use path on the road's north side, and there is a sidewalk on the road's south side extending east.

Intersection traffic control currently comes in only three forms at the five existing study intersections: two-way stop control (TWSC), all-way stop control (AWSC), and roundabouts. Each leg of the three roundabouts has a crosswalk with a pedestrian refuge in the splitter island. Most of these crosswalks have solar-powered rectangular rapid flashing beacons. The intersection of Shiloh Road and Bell Avenue is considered two-way stop-controlled even though only one direction of traffic is stop-controlled. Only four movements are permitted at this intersection: northbound and southbound through movements and southbound and eastbound rights. Shiloh Road's center median prevents all left turns. The intersection of 48th Street and Central Avenue is all-way stop-controlled and is augmented with flashing red beacons facing all four directions, but it is projected to be upgraded to signalized control in 2026. **Exhibit 4** shows schematically the existing traffic control and lane arrangements at each existing intersection as well as posted speed limits on selected road segments as of the start of this study effort.

2.2 EXISTING TRAFFIC VOLUMES

Existing (2024) annualized volumes were estimated from raw field counts as described earlier in subsection 1.3 and are shown in **Exhibit 5**. These raw counts are provided in Appendix A.

2.3 HISTORIC GROWTH AND BACKGROUND CONDITION TRAFFIC

The "Background Condition" described here is represented by the volumes and intersection performance after multiple years of traffic growth assumed to occur during the permitting, construction, sales, and occupancy of the project. These steps are expected to be complete for Phase 1A in 2027. The resulting volumes and operating conditions form the basis for evaluating marginal intersection delay effects of traffic generated by this first phase of the Clearwater/44 West subdivision. Each new phase is projected to be completed two years before the last; Phase 1B in 2029, Phase 1C in 2031, and full buildout (Phase 2) in 2033. In order to estimate traffic growth without the project, average daily traffic volumes were gathered from selected MDT periodic data collection locations in the study area. The best and most logical data set available was represented by the four legs of the Shiloh intersection at Central. Data were recorded or estimated by MDT annually on each leg dating back at least 20 years. This historical traffic information is shown in the graph in **Exhibit 6**.

Counts from the most recent ten of these years were used to calculate the average annual growth rate in daily traffic for these four locations in aggregate, which was approximately 3.8% per year. This rate was then applied to the annualized peak hour intersection counts for each study year. Because the four phases of this project will be constructed sequentially and were not considered independent 'all-or-nothing' conditions at each two-year interval, each phase's traffic builds on that of the previous phase and each phase's traffic impacts were analyzed incrementally.

Exhibit 4. Existing Road and Intersection Basics

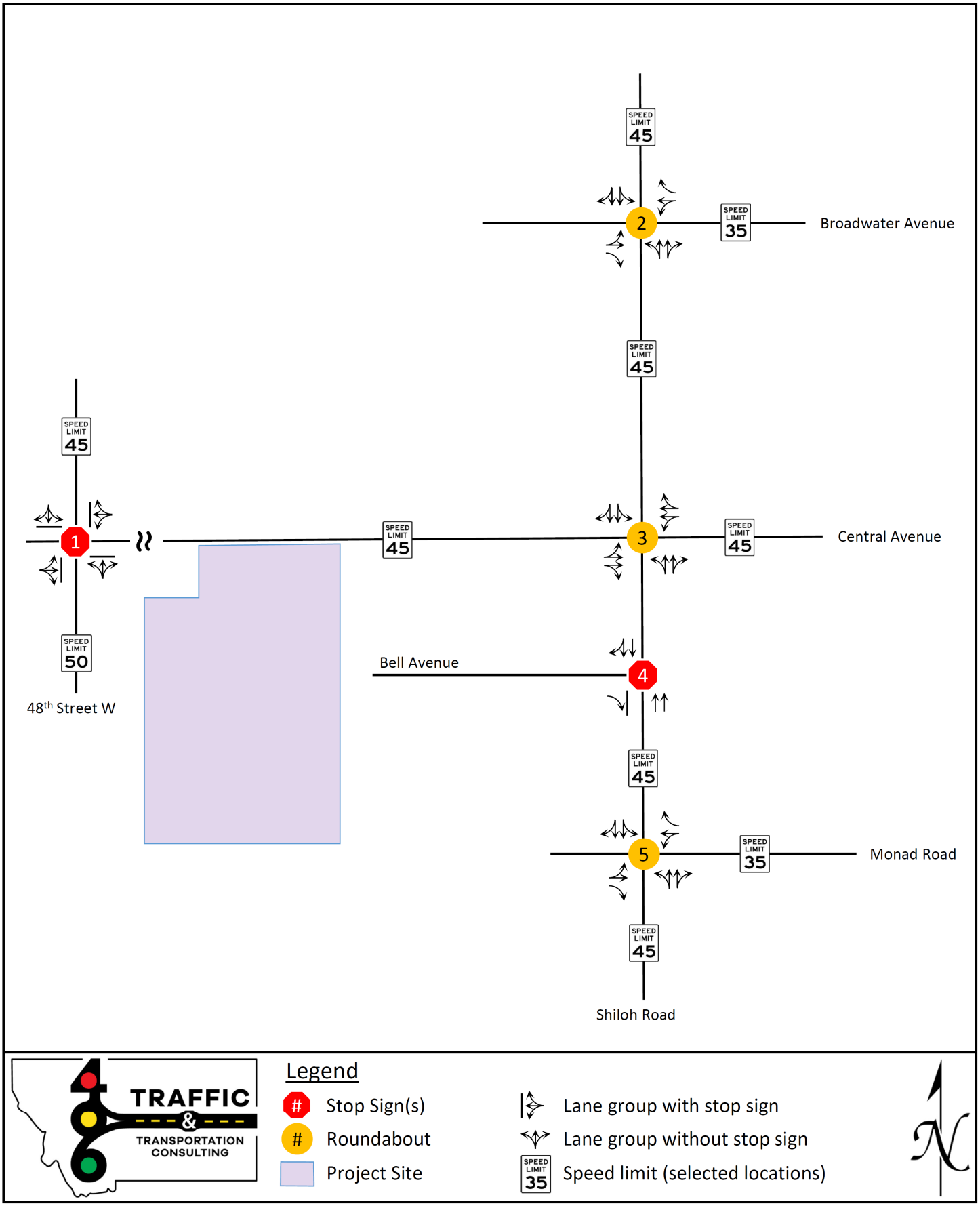


Exhibit 5. Existing Traffic Volumes

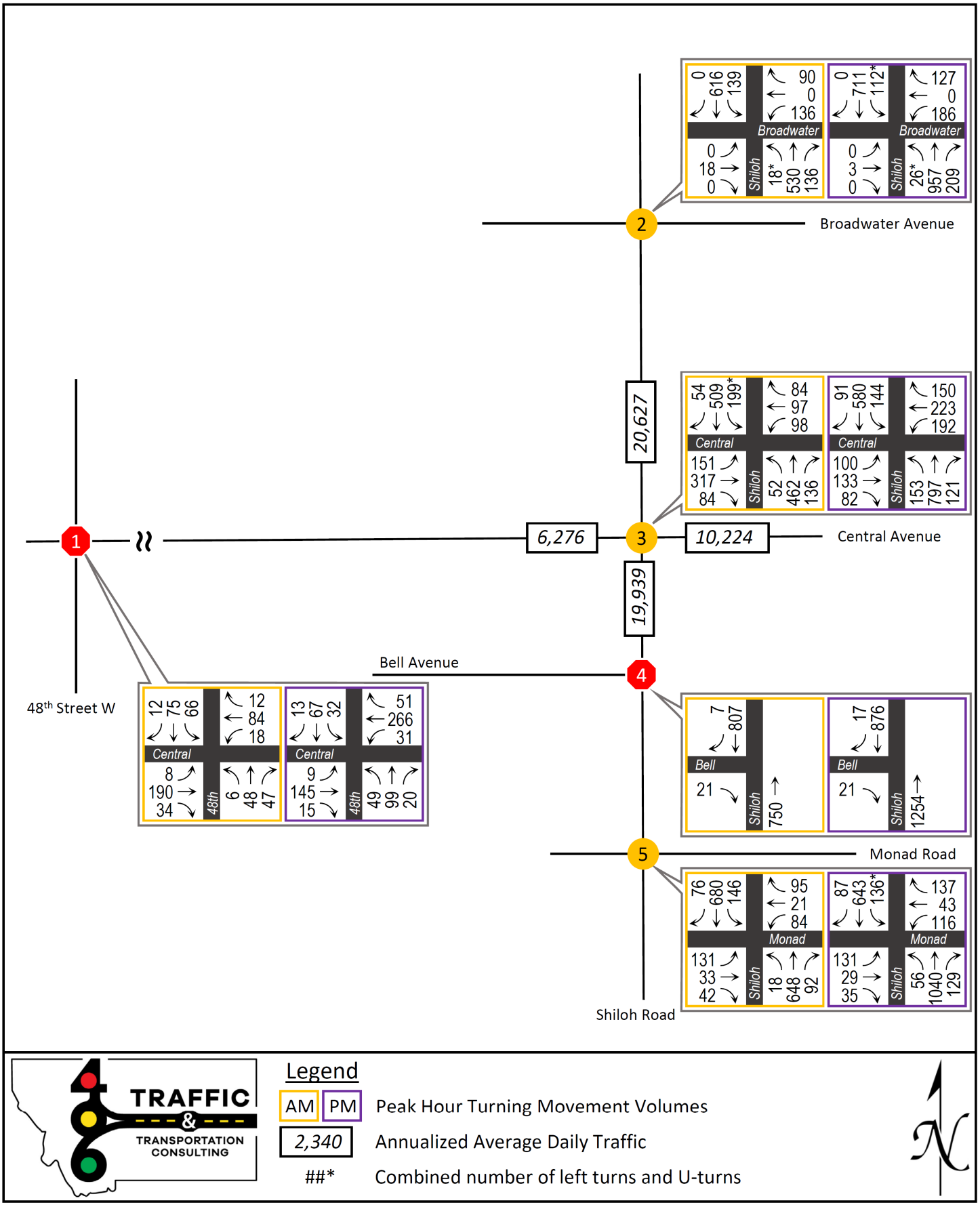
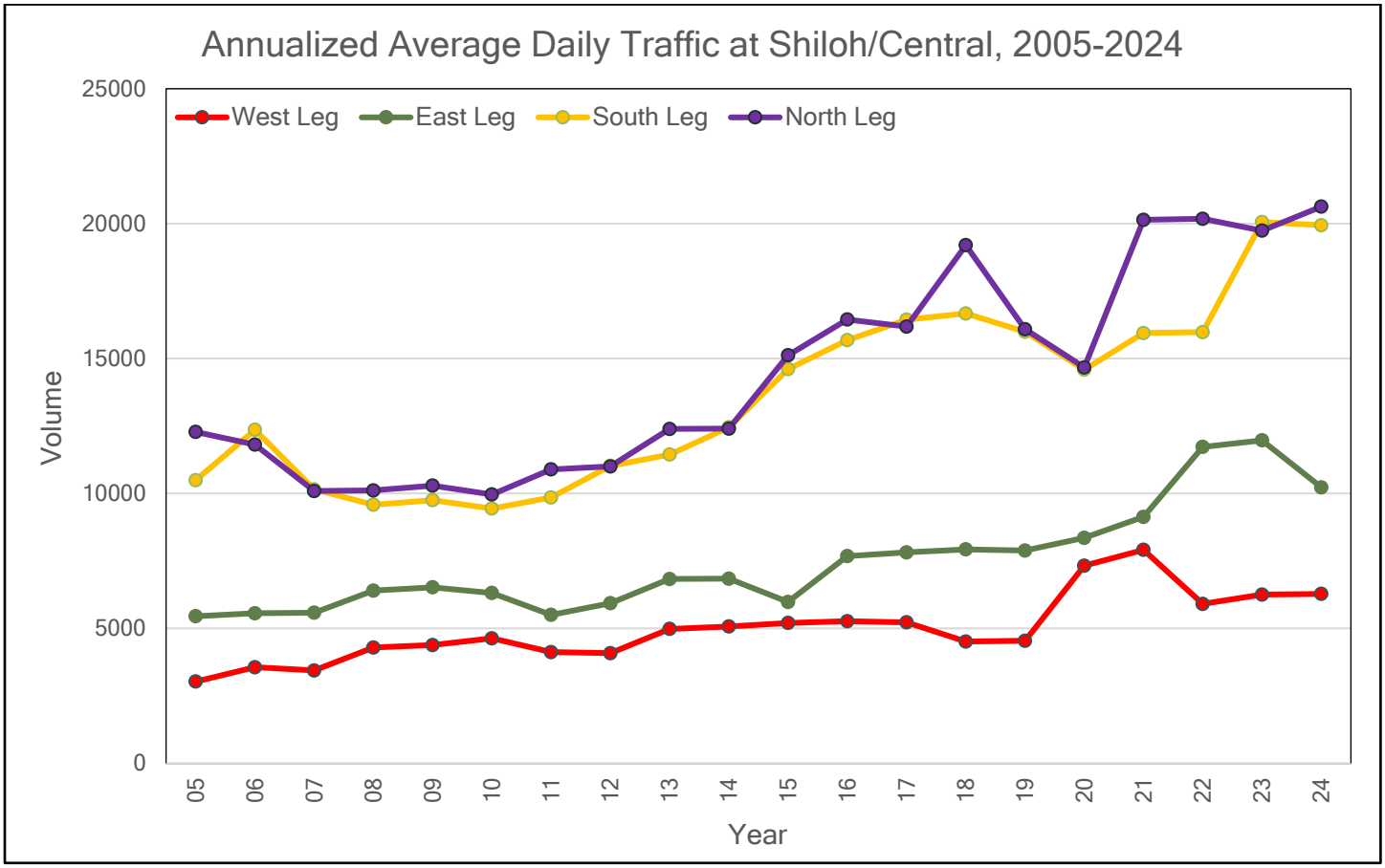


Exhibit 6. Historical Daily Traffic Volumes



2.4 Intersection Traffic Operations Without the Project

The existing and background peak hour intersection Level of Service (LOS) and delay results are shown in **Exhibit 7**. Analysis software results are provided in Appendix B.

Exhibit 7. Existing and Future Background Intersection LOS and Delay

	Intersection	Traffic Control	Peak Hour LOS (delay, in seconds/vehicle)
AM Peak Hour	1. 48th at Central	AWSC	A (9.6)
	2. Shiloh at Broadwater	Roundabout	A (6.0)
	3. Shiloh at Central	Roundabout	B (11.2)
	4. Shiloh at Bell	TWSC*	B (11.9)
	5. Shiloh at Monad	Roundabout	A (9.0)
PM Peak Hour	1. 48th at Central	AWSC	B (12.5)
	2. Shiloh at Broadwater	Roundabout	A (9.1)
	3. Shiloh at Central	Roundabout	B (13.6)
	4. Shiloh at Bell	TWSC*	B (12.2)
	5. Shiloh at Monad	Roundabout	B (10.0)

* *At Intersection 4, the worst lane group, which determines LOS, is Eastbound in both peak hours.*

The results in the table indicate that with 2024 annualized average traffic volume, all intersections operate at LOS B or better. Each roundabout has at least one approach that operates at LOS C in one or both peaks, but no approaches at LOS D or worse. Note that the only movement that must yield at Intersection 4 is eastbound Bell Avenue and that northbound traffic is not considered part of the intersection, due to the median present on Shiloh Road. At Intersection 5 in the PM peak, the delay estimate appears consistent with LOS A, but it is a rounded value that is actually just over 10.0 seconds so the software returns a LOS B result.

3 PROJECT TRIP GENERATION AND DISTRIBUTION

3.1 TRIP GENERATION

Trip generation rates, or equations as applicable, are from the Institute of Transportation Engineers (ITE) Trip Generation package's 11th edition. ITE trip generation data, when aggregated across enough varied sites, produce both simple average rates and best-fit equations, either linear or logarithmic, to help the analyst derive proper estimates for their situation. Equations are generally preferred over rates, especially for larger sites where trip generation per unit of land use can diminish with increasing project size.

Clearwater/44 West will consist almost entirely of residential land uses. Small parkland areas within the subdivision are designed and intended for use by residents and their guests, and will be similar to park spaces located in other residential areas around Billings. For that reason, they will not generate external traffic. The strip retail space in Phase 2, programmed for 22,000 square feet, has not had specific tenants or any sub-type(s) of retail use identified, but no drive-through activity is expected.

Three types of adjustments to trip generation were evaluated for this project. First, a discount is sometimes taken to reflect internal capture where multiple uses are present in a single project site. Second, a modal adjustment can be taken if a facility is clearly served by robust high-capacity transit and serves a clientele inclined to use transit to get there, or if the potential land use mix and walk/bike network are likely to lead to nonmotorized trips, either internal or external. Finally, some land uses such as gas stations or coffee shops attract trips that were already using the adjacent or nearby road network by virtue of improved convenience over a similar site that could have been used before. These are called "pass-by" and "diverted-linked" trips. Pass-by trips are those on streets bordering the site, while diverted-linked trips are those that might go slightly out of their way to stop at the establishment on their way to their destination.

The Phase 2 retail element is the only part of the site considered for these discounts. Due to the retail site's location, small size, and expected similarity to other sites along the Central Avenue corridor, only a small aggregate discount of the first two types was assumed here; it is not expected to support a use special enough or large enough to generate offsite multimodal or pass-by/diverted-linked trip activity. The estimated reduction in vehicle trip use for the on-site retail due to residents' use applied here is 10%. This reduction in retail vehicle trip use could take the form of subdivision residents (a) residents stopping at the on-site retail on their way to/from home, (b) choosing to drive to and from the on-site retail rather than a site farther away due to its proximity and convenience, or (c) choosing to walk or bike to and from the on-site retail for the same reason.

To arrive at phase-specific residential trip generation totals, the land use totals for the entire project (259 single family lots and 125 townhome or cottage lots) were first estimated, then the resulting trip totals were proportioned according to the amount of each home type in each phase. **Exhibit 8** shows trip generation details for each phase of the project.

Exhibit 8. Clearwater/44 West Trip Generation

		Daily	AM Peak Hour	PM Peak Hour
Full Project	ITE Land Use 210 – Single Family Detached Housing: X = 259 dwelling units			
	Equation	Ln(T) = 0.92(X) + 2.68	Ln(T) = 0.91(X) + 0.12	T = 0.60(X) - 3.93
	Peak hour in/out split		*25% / 75%*	*63% / 37%*
	Trips	2,422	177 (44 in / 133 out)	243 (153 in / 90 out)
	ITE Land Use 215 – Single Family Attached Housing: X = 125 dwelling units (townhomes and "cottage" homes)			
	Equation	T = 7.62(X) - 50.48	T=0.52(X) - 5.70	T = 0.60(X) - 3.93
	Peak hour in/out split		*25% / 75%*	*59% / 41%*
	Trips	902	59 (15 in / 44 out)	71 (42 in / 29 out)
	ITE Land Use 822 – Strip Retail Plaza: X = 22 ksf (thousands of square feet)			
	Equation	T = 42.2(X) + 229.68	T = 2.36(X)	T = 6.59(X)
	Peak hour in/out split		*60% / 40%*	*50% / 50%*
	Gross retail trips	1,158	52 (31 in / 21 out)	145 (72 in / 73 out)
	Less 10% internal	-116	-5 (-3 in / -2 out)	-14 (-7 in / -7 out)
	Trips [net]	1,042	47 (28 in / 19 out)	131 (65 in, 66 out)
	Combined net trips, all uses:	**4,366**	**283 (87 in / 196 out)**	**445 (260 in / 185 out)**
by Phase		**Daily**	**AM Peak Hour**	**PM Peak Hour**
1A	ITE Land Use 210 – Single Family Detached Housing: X = 82 dwelling units			
	Trips	767	56 (14 in / 42 out)	77 (48 in / 29 out)
	ITE Land Use 215 – Single Family Attached Housing: X = 44 dwelling units			
	Trips	317	21 (5 in / 16 out)	25 (15 in / 10 out)
	Phase 1A Total Trips	1,084	77 (19 in / 58 out)	102 (63 in / 39 out)
1B	ITE Land Use 210 – Single Family Detached Housing: X = 23 dwelling units			
	Trips	215	16 (4 in / 12 out)	22 (14 in / 8 out)
	ITE Land Use 215 – Single Family Attached Housing: X = 51 dwelling units (townhomes and cottages)			
	Trips	368	24 (6 in / 18 out)	29 (17 in / 12 out)
	Phase 1B Total Trips	583	40 (10 in / 30 out)	51 (31 in / 20 out)
1C	ITE Land Use 210 – Single Family Detached Housing: X = 26 dwelling units			
	Trips	243	17 (4 in / 13 out)	24 (15 in / 9 out)
	ITE Land Use 215 – Single Family Attached Housing: X = 30 dwelling units (townhomes and "cottage" homes)			
	Trips	216	15 (4 in / 11 out)	17 (10 in / 7 out)
	Phase 1C Total Trips	459	32 (8 in / 24 out)	41 (25 in / 16 out)
2	Phase 2 – Single Family Detached Housing: X = 128 dwelling units			
	Trips	1,197	88 (22 in / 66 out)	120 (76 in / 44 out)
	ITE Land Use 822 – Strip Retail Plaza: X = 22 ksf (thousands of square feet)			
	Trips [net]	1,042	47 (28 in / 19 out)	131 (65 in, 66 out)
	Phase 2 Total Trips	2,239	135 (50 in / 85 out)	251 (141 in, 110 out)
	Combined net trips, all phases:	**4,366**	**283 (87 in / 196 out)**	**445 (260 in / 185 out)**

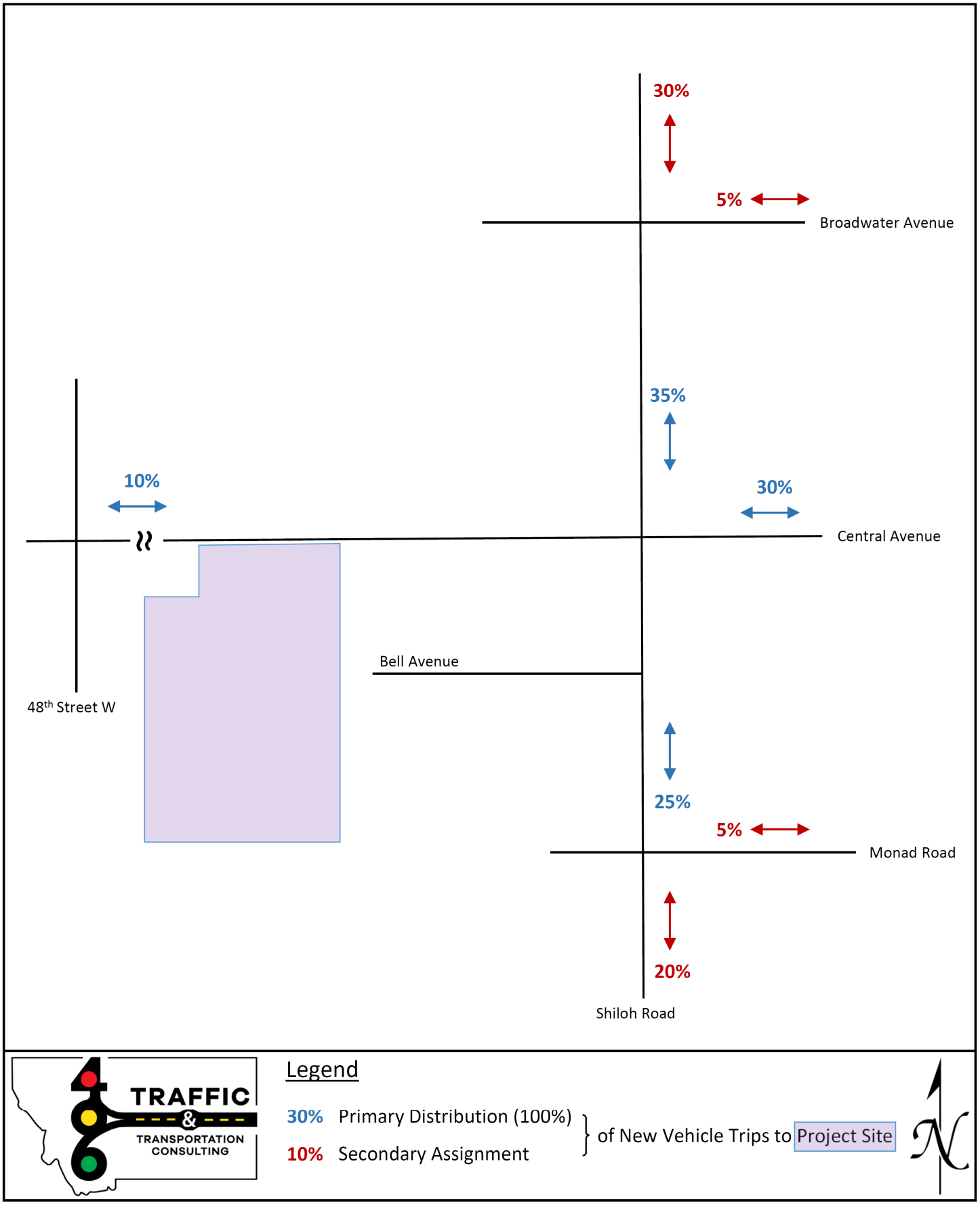
Source: Equations from ITE Trip Generation, 11th Edition.

3.2 TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution has been estimated for the streets surrounding the project site in percentages that add to 100%. Farther from the site, traffic eventually disperses in smaller percentages to/from other routes. Because there is no new information regarding a future developer's plan to connect Bell Avenue and/or the similar connection in Phase 2 to the neighborhood to the west, no Clearwater traffic was assumed to use either such connection. Trip distribution and large-scale assignment percentages are shown in **Exhibit 9**.

Note that the Shiloh median that blocks all left turns results in some differences in routing of in-out pairs once Bell becomes available for Phase 2 access to this site. For example, many residents leaving the site bound for the Shiloh/Monad intersection can turn right at the Shiloh/Bell intersection, but when they return to this site they must go north on Shiloh past Bell, then make a u-turn or left turn at the Shiloh/Central roundabout.

Exhibit 9. Trip Distribution Percentages for New Trips



Background traffic, project trips and total traffic reflected as peak hour intersection turning movement volumes and selected daily link volumes are shown in exhibits for each future phase-specific study year. Only the future traffic for the first phase (1A) is a true "without the project" estimate. Each subsequent phase's impact is assessed with the previous phase assumed to be open. As such, "Phase 2" conditions represent full project buildout. For the sake of report continuity, all 'future traffic volume' exhibits are provided in Appendix C.

4 CAPACITY ANALYSIS

The analysis results described in this section are organized by project phase order. Note again that project traffic by phase is additive such that, for example, Phase 1B also includes Phase 1A. Summaries of intersection capacity and auxiliary turn lane analysis results are provided for each phase in the study area when it's projected to be fully open. As with the existing condition, intersection capacity analysis software output results for the future conditions analyzed are provided in Appendix B. Turn lane warrant summaries for applicable situations are provided in Appendix D and summaries of MUTCD signal warrant analysis for Intersection 7 are provided by phase in Appendix E.

4.1 PHASE 1A

The peak hour intersection Level of Service (LOS) and delay results in 2027 with and without Clearwater/ 44 West subdivision Phase 1A traffic are shown in **Exhibit 10**.

Exhibit 10. Projected 2027 Intersection LOS and Delay: Phase 1A

	Intersection	Traffic Control	LOS (delay, in seconds/vehicle)	
			Background (Without Phase 1A)	With Phase 1A
AM Peak Hour	1. 48th at Central	Signal	A (6.2)	A (6.2)
	2. Shiloh at Broadwater	Roundabout	A (6.5)	A (6.6)
	3. Shiloh at Central	Roundabout	B (14.5)	C (15.9)
	4. Shiloh at Bell	TWSC*	B (12.6)	B (12.7)
	5. Shiloh at Monad	Roundabout	B (10.8)	B (10.9)
	6. Double Haul at Central	TWSC*	-	B (12.5)
	7. 44th at Central	TWSC*	-	B (12.6)
PM Peak Hour	1. 48th at Central	Signal	A (7.0)	A (7.0)
	2. Shiloh at Broadwater	Roundabout	B (11.0)	B (11.2)
	3. Shiloh at Central	Roundabout	C (18.9)	C (21.8)
	4. Shiloh at Bell	TWSC*	B (12.9)	B (13.0)
	5. Shiloh at Monad	Roundabout	B (12.5)	B (12.7)
	6. Double Haul at Central	TWSC*	-	B (11.3)
	7. 44th at Central	TWSC*	-	B (10.7)

* *Worst lane group is Eastbound at Intersection 4 and Northbound at Intersections 6 and 7.*

Both of the site accesses on Central would operate at LOS B in both 2027 peak hours. All intersections and both new site accesses would operate within the City's LOS standard of C or better in both peak hours. As a result of this finding, no additional control beyond a side-street (northbound) stop sign is considered necessary.

A simple look at 2027 Phase 1 turning volumes on Central made it clear that the potential need for auxiliary left turn lanes was worth examining, in accord with the MDT procedures described earlier in this report, in subsection 1.3. Right turn lane volumes at Intersections 6 and 7 would be too low (under 40 vph) for potential auxiliary turn lane consideration. Although left-turning volumes into the site will be higher in the PM peak due to the project's residential nature, conditions on the appropriate MDT left turn chart have been plotted for both peaks. While a westbound left turn auxiliary lane at Double Haul is not justified by Phase 1A traffic under the assumptions in this study, the potential case for such a lane at 44th appears to be inconclusive.

At Intersection 7, no signal warrants would be met under Phase 1A conditions.

4.2 PHASE 1B

The peak hour intersection Level of Service (LOS) and delay results in 2029 with and without Clearwater/44 West subdivision Phase 1B traffic are shown in **Exhibit 11**.

Exhibit 11. Projected 2029 Intersection LOS and Delay: Phase 1B

	Intersection	Traffic Control	LOS (delay, in seconds/vehicle) Without Phase 1B	With Phase 1B
AM Peak Hour	1. 48th at Central	Signal	A (6.4)	A (6.4)
	2. Shiloh at Broadwater	Roundabout	A (7.2)	A (7.2)
	3. Shiloh at Central	Roundabout	C (20.9)	C (22.4)
	4. Shiloh at Bell	TWSC*	B (13.2)	B (13.3)
	5. Shiloh at Monad	Roundabout	B (12.8)	B (13.0)
	6. Double Haul at Central	TWSC*	B (13.0)	B (13.1)
	7. 44th at Central	TWSC*	B (13.0)	B (13.6)
PM Peak Hour	1. 48th at Central	Signal	A (7.3)	A (7.3)
	2. Shiloh at Broadwater	Roundabout	B (13.1)	B (13.3)
	3. Shiloh at Central	Roundabout	D (31.1)	D (33.7)
	4. Shiloh at Bell	TWSC*	B (13.6)	B (13.6)
	5. Shiloh at Monad	Roundabout	C (15.5)	C (15.7)
	6. Double Haul at Central	TWSC*	B (11.7)	B (12.1)
	7. 44th at Central	TWSC*	B (11.0)	B (11.3)

* *Worst lane group is Eastbound at Intersection 4 and Northbound at Intersections 6 and 7.*

Both of the site accesses on Central would operate at LOS B in both 2029 peak hours. The 2029 study year marks the first time an intersection's peak LOS would exceed the City's standard (C or better), with the Shiloh intersection at Central projected operate at LOS D with or without Phase 1B traffic. In addition, each of the four approaches to the intersection would operate at the same LOS with or without Phase 1B traffic. The discussion of mitigating the LOS impact at this location is deferred to the next subsection, on Phase 1C.

With respect to auxiliary turn lanes at Intersections 6 and 7, as with 2027, the 2029 right turn lane volumes would remain too low for potential consideration. Although left-turning volumes into the site will be higher in the PM peak due to the project's residential nature, conditions on the appropriate MDT chart have been plotted for both peaks. A westbound left turn auxiliary lane at 44th would be justified by Phase 1B traffic, but the potential case for such a lane at Double Haul Lane appears to be inconclusive.

Note that the LOS results shown in Exhibit 11 above for the 44th intersection do not reflect the addition of a westbound left turn auxiliary lane, but that lane addition could be expected to result in a slight improvement in overall operations.

At Intersection 7, no signal warrants would be met under Phase 1B conditions.

4.2 PHASE 1C

The peak hour intersection Level of Service (LOS) and delay results in 2031 with and without Clearwater/44 West subdivision Phase 1C traffic are shown in **Exhibit 12**.

Exhibit 12. Projected 2031 Intersection LOS and Delay: Phase 1C

	Intersection	Traffic Control	LOS (delay, in seconds/vehicle) Without Phase 1C	With Phase 1C
AM Peak Hour	1. 48th at Central	Signal	A (6.6)	A (6.6)
	2. Shiloh at Broadwater	Roundabout	A (7.8)	A (7.8)
	3. Shiloh at Central	Roundabout	D (32.8)	E (35.3)
	4. Shiloh at Bell	TWSC*	B (13.9)	B (14.0)
	5. Shiloh at Monad	Roundabout	C (15.8)	C (15.9)
	6. Double Haul at Central	TWSC*	B (13.7)	B (13.7)
	7. 44th at Central	TWSC*	B (14.2)	B (15.0)
PM Peak Hour	1. 48th at Central	Signal	A (7.7)	A (7.7)
	2. Shiloh at Broadwater	Roundabout	C (16.5)	C (16.7)
	3. Shiloh at Central	Roundabout	F (54.2)	F (58.6)
	4. Shiloh at Bell	TWSC*	B (14.3)	B (14.4)
	5. Shiloh at Monad	Roundabout	C (20.6)	C (20.9)
	6. Double Haul at Central	TWSC*	B (12.5)	B (12.5)
	7. 44th at Central	TWSC*	B (11.6)	B (12.0)

* *Worst lane group is Eastbound at Intersection 4 and Northbound at Intersections 6 and 7.*

Both of the site accesses on Central would operate at LOS B in both 2031 peak hours. The Shiloh intersection at Central would remain the only intersection projected operate at LOS D or worse, and it would do so in both peaks with or without Phase 1C traffic. PM peak hour traffic would be expected to experience considerably higher delay than AM peak hour traffic, so the PM case is the one subject to the examination of potential mitigation to reduce projected delay.

To address future capacity deficiencies, a primary tool at roundabouts is the addition of a channelized right turn bypass lane on the approach(es) with the highest right-turning volumes. Such a bypass lane requires widening and would lengthen pedestrian crossings, as with the addition of a turn lane at any intersection. The westbound approach to Shiloh/Central would exhibit the longest delays and queues in the 2031 PM peak hour scenario, so it was the one examined for potential benefit. It also has the highest right-turn volume of the four approaches. Simple testing shows that addition of a bypass lane would reduce westbound delay by about 67%, which would be enough of an improvement to improve the overall intersection PM peak LOS (and delay) from the F (58.6) shown in Exhibit 12 above to E (40.0). Synchro's estimate of the 95th percentile westbound queue would be reduced by about half, from 17 vehicles in each lane to 9 in one lane and 8 in the other. While no site-oriented movements would benefit directly from the bypass lane because it carries no such trips, the secondary benefit makes it worth exploring further as an intersection delay impact mitigation action.

The projection of substandard operations at Shiloh/Central, even without Phase 1C traffic, echoes similar findings for other major Shiloh roundabouts from recent studies. Some of this congestion stems from the scarcity of east-west street network connections other than the major arterials that are generally a mile apart. To that end, a secondary, "bigger-picture" part of the overall solution could involve the westward extension of the east-west streets a half-mile north/south of Central (Broadwater and/or Monad) to help relieve the traffic burden on Grand, Central, and King. Examination of the complex and detailed effects of such extensions are well outside the scope of this project's mitigation analysis but still bear mentioning for general interest. The applicant team encourages the City to consider prioritizing, to the extent practicable, additional east-west connectivity between Shiloh and 48th with eventual functional extensions of Broadwater and/or Monad as additional land use changes occur along those alignments.

With respect to auxiliary turn lanes at Intersections 6 and 7, as with 2027 and 2029 the 2031 right turn lane volumes would remain too low for potential consideration. Although left-turning volumes into the site will be higher in the PM peak due to the project's residential nature, conditions on the appropriate MDT chart have been plotted for both peaks. Westbound left turn auxiliary lanes would be justified by Phase 1C traffic at both Double Haul Lane and 44th.

Note that the LOS results shown in Exhibit 12 above for the Double Haul and 44th intersections do not reflect the addition of westbound left turn auxiliary lanes, but that lane addition could be expected to result in a slight improvement in overall operations.

At Intersection 7, only the Four-Hour signal warrant would be met under Phase 1C conditions.

4.2 PHASE 2

The peak hour intersection Level of Service (LOS) and delay results in 2033 with and without Clearwater/44 West subdivision Phase 2 traffic are shown in **Exhibit 13**.

Exhibit 13. Projected 2033 Intersection LOS and Delay: Phase 2

	Intersection	Traffic Control	LOS (delay, in seconds/vehicle) Without Phase 2	With Phase 2
AM Peak Hour	1. 48th at Central	Signal	A (6.9)	A (6.9)
	2. Shiloh at Broadwater	Roundabout	A (8.5)	A (8.7)
	3. Shiloh at Central	Roundabout	F (58.5)	F (74.9)
	4. Shiloh at Bell	TWSC*	B (14.8)	C (15.6)
	5. Shiloh at Monad	Roundabout	C (21.1)	C (22.3)
	6. Double Haul at Central	TWSC*	B (14.4)	C (16.3)
	7. 44th at Central	TWSC*	C (15.8)	C (18.0)
PM Peak Hour	1. 48th at Central	Signal	A (8.2)	A (8.3)
	2. Shiloh at Broadwater	Roundabout	C (22.3)	C (24.6)
	3. Shiloh at Central	Roundabout	F (96.1)	F (144.6)
	4. Shiloh at Bell	TWSC*	C (15.2)	C (16.2)
	5. Shiloh at Monad	Roundabout	D (30.4)	D (33.5)
	6. Double Haul at Central	TWSC*	B (13.1)	B (14.8)
	7. 44th at Central	TWSC*	B (12.5)	B (14.8)

* *Worst lane group is Eastbound at Intersection 4 and Northbound at Intersections 6 and 7.*

In 2033, both of the site accesses on Central would operate at LOS B in the PM peak hour and at LOS C in the AM peak hour with or without the addition of Phase 2 traffic. The Shiloh intersection at Central would operate at LOS F in both peaks with or without Phase 2 traffic. Increasing background traffic also results in a projection that the Shiloh intersection at Monad would operate beyond the City's standard under the 2033 conditions examined, at LOS D, with or without Phase 2 traffic. At all roundabout intersections, PM peak hour traffic would be expected to experience considerably higher delay than AM peak hour traffic.

Mitigation of the Shiloh/Central condition would take the same form described for Phase 1C impacts, at least in concept: the eventual addition of a westbound right turn bypass lane. Testing with 2033 Phase 2 PM volumes indicates that addition of a bypass lane would reduce westbound delay by about 59%, which would be enough of an improvement to improve the overall intersection PM peak LOS (and delay) from the F (144.6) shown in Exhibit 13 above to F (105.9). Synchro's estimate of the 95th percentile westbound queue would be reduced by about 43%, from 29 vehicles per lane to 17. If additional delay mitigation is needed to reduce overall delay to pre-Phase 2 level [F (96.0)], a northbound right turn lane could also be considered.

No mitigations were tested for the LOS D condition at the Monad intersection.

With respect to auxiliary turn lanes at Intersections 6 and 7, as with previous phases the 2033 right turn lane volumes would remain too low for potential consideration. Because left turn lanes were justified by traffic from the previous phase, no new analysis of those lanes was conducted with the addition of Phase 2 traffic. The potential need for a right turn auxiliary lane was examined for the intersection of Shiloh at Bell, and this analysis indicated that PM peak hour traffic in Phase 2 would help to justify the addition of such a lane. As with previous phases, the LOS results shown in Exhibit 13 above do not reflect the addition of any auxiliary lanes.

At Intersection 7, the Four-Hour signal warrant would be met by a considerable margin under Phase 2 conditions, and the Eight-Hour warrant would be within the margin of estimating/forecasting uncertainty, with minor street volume slightly over the minimum threshold. With these two warrants technically met, a signal could be considered under 2033 conditions at this location. The project team recommends further monitoring of traffic volume conditions and consideration of future traffic to and from the property directly across Central to the north. That development project would create a new fourth leg (a southbound approach) to this intersection and was only in the early stages of planning/permitting at the time this TIS report was completed.

5 COST PARTICIPATION

The net new trips identified in this report were subject to examination under the City's arterial intersection cost participation program to the extent that they would travel through studied intersections. City staff also requested that the two project access intersections on Central be included even though they are effectively local streets (low-speed with parking and driveways, not connected to other major routes) rather than arterials. Critical traffic shares that drive intersection cost participation can be excluded if they fall below 2%, but project trips from all phases are considered together when evaluating such a possibility. Right turns are not considered in cost participation, so intersection 4 (Bell) was omitted here with the permission of City staff because the Shiloh Road median dictates that the intersection's only conflicting critical pairs involve right turns. Phase-specific project trips used in this calculation are documented in the traffic volume graphics provided in Appendix C.

The retail part of the site is scheduled to be developed in Phase 2 but it's located in the area covered by Phase 1A. Because that area is subject to a Subdivision Improvement Agreement that directly benefits the two future retail lots on the Phase 1 property, cost participation associated with retail trips was pulled forward from Phase 2 to Phase 1A.

Exhibit 14 shows the incremental intersection cost participation for the new trips associated and the cost share calculation with each project phase. As shown in the table, no intersections qualify for the "sub-2%" waiver when all phases are considered.

Exhibit 14. Intersection Cost Participation by Phase

	Phase				Project
Intersection	**1A**	**1B**	**1C**	**2**	**Total**
1. 48th at Central	1.1%	0.3%	0.2%	0.6%	2.2%
2. Shiloh at Broadwater	1.9%	0.5%	0.4%	1.2%	4.0%
3. Shiloh at Central	7.4%	1.7%	1.4%	3.3%	13.8%
5. Shiloh at Monad	1.8%	0.4%	0.3%	1.0%	3.5%
Arterial Intersection Subtotal:	**12.2%**	**2.9%**	**2.3%**	**6.1%**	**23.5%**
6. Double Haul at Central (Local)	8.6%	0.3%	0.2%	2.0%	11.1%
7. 44th at Central (Local)	9.2%	2.5%	2.1%	2.8%	16.6%
Total Participation:	**30.0%**	**5.7%**	**4.6%**	**10.9%**	**51.2%**

Note: each % represents the highest project critical-volume share of the two peak hours (AM or PM)

For all six intersections evaluated for cost participation in all phases, the PM peak hour critical-pair traffic volume would be equal to or greater than in the AM peak hour. It's important to note that more than half of the critical traffic shares indicated would occur at the two local intersections (6 and 7), both of which would operate within the City's LOS C standard in both peaks in all project phases. The details of these cost participation calculations are provided in Appendix F.

This concludes the Clearwater/44 West Subdivision TIS.

Appendix A: Original Raw Traffic Count Data for Intersections

Study Name **Central and 48th**
Start Date **8/8/2023**
Start Time **7:30 AM**
Type **Road**
Classification **Totals**

	48th Street Southbound				Central Avenue Westbound				48th Street Northbound				Central Avenue Eastbound			
Start Time	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U
7:00 AM																
7:15 AM																
7:30 AM	3	13	19	0	3	27	2	0	18	9	2	0	5	62	1	0
7:45 AM	3	26	21	0	3	24	5	0	9	10	1	0	12	48	1	0
8:00 AM	4	19	12	0	3	17	5	0	10	13	3	0	10	44	2	0
8:15 AM	2	15	13	0	3	14	5	0	8	14	0	0	6	31	4	0
8:30 AM																
8:45 AM																
4:00 PM																
4:15 PM																
4:30 PM																
4:45 PM																
5:00 PM	1	15	6	0	14	70	7	0	7	23	9	0	5	38	1	0
5:15 PM	3	19	12	0	17	60	12	0	5	30	19	0	5	40	2	0
5:30 PM	4	18	5	0	8	69	6	0	6	20	10	0	2	32	4	0
5:45 PM	5	14	8	0	10	60	5	0	1	23	9	0	2	31	2	0

Study Name **Shiloh & Broadwater**
Start Date **3/7/2024**
Start Time **7:00 AM**
Type **Road**
Classification **Totals**

	Shiloh Road Southbound				Broadwater Avenue Westbound				Shiloh Road Northbound				Eastbound Approach Eastbound			
Start Time	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U
7:00 AM	0	111	22	0	17	0	8	0	23	52	0	0	0	1	0	0
7:15 AM	0	147	52	0	21	0	25	0	35	102	0	6	0	3	0	0
7:30 AM	0	182	63	0	18	0	33	0	28	122	0	2	0	4	0	0
7:45 AM	0	170	34	0	23	0	39	0	38	140	0	4	0	4	0	0
8:00 AM	0	131	22	0	26	0	29	0	39	143	0	6	0	6	0	0
8:15 AM	0	139	21	0	24	0	36	0	32	130	0	6	0	4	0	0
8:30 AM	0	133	23	0	18	0	28	0	42	137	0	5	0	3	0	0
8:45 AM	0	150	49	0	18	0	28	0	34	124	0	3	0	4	0	0
4:00 PM	0	143	17	0	33	0	42	0	27	244	0	5	0	2	0	0
4:15 PM	0	151	25	0	20	0	46	0	36	226	0	2	0	0	1	0
4:30 PM	0	151	31	0	21	0	38	0	50	238	2	2	0	0	0	0
4:45 PM	0	177	21	0	24	0	37	0	35	201	1	3	0	0	0	0
5:00 PM	0	169	23	0	40	0	56	0	56	281	0	8	0	3	0	0
5:15 PM	0	193	32	1	44	0	52	0	63	283	4	8	0	0	0	0
5:30 PM	0	179	35	1	20	0	43	0	57	202	1	1	0	0	0	0
5:45 PM	0	160	33	2	20	1	35	0	43	200	0	0	0	0	0	0

Study Name **Shiloh & Central**
Start Date **3/21/2024**
Start Time **7:00 AM**
Type **Road**
Classification **Totals**

	Shiloh Road Southbound				Central Avenue Westbound				Shiloh Road Northbound				Central Avenue Eastbound			
Start Time	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U
7:00 AM	6	74	22	0	7	13	15	0	19	66	9	1	19	51	15	0
7:15 AM	8	118	48	0	7	18	28	0	32	84	14	0	25	90	17	0
7:30 AM	16	128	69	1	18	25	29	0	41	96	15	0	22	112	36	0
7:45 AM	17	135	67	0	26	19	34	0	36	130	19	0	20	91	42	0
8:00 AM	7	116	32	0	29	25	17	0	33	114	10	0	21	76	37	0
8:15 AM	15	135	31	1	12	29	19	0	27	127	9	0	22	41	38	0
8:30 AM	9	98	29	0	15	30	21	0	26	146	10	0	16	30	31	0
8:45 AM	10	102	31	1	20	22	24	0	17	119	20	0	22	40	30	0
4:00 PM	19	127	37	0	23	51	45	0	35	168	24	0	21	29	27	0
4:15 PM	20	100	34	0	35	41	58	0	26	156	45	0	20	39	25	0
4:30 PM	23	127	35	0	38	50	62	0	30	163	47	0	21	26	27	0
4:45 PM	19	153	33	0	41	45	49	0	26	174	41	0	15	36	23	0
5:00 PM	26	152	34	0	38	63	48	0	31	235	32	0	21	46	23	0
5:15 PM	24	154	43	0	35	67	35	0	35	233	35	0	26	26	28	0
5:30 PM	17	142	35	0	40	74	46	0	32	148	35	0	14	32	27	0
5:45 PM	21	148	30	0	31	46	41	0	32	162	26	0	24	22	30	0

Study Name Shiloh & Bell
Start Date 5/18/2023
Start Time 7:00 AM
Type Road
Classification Totals

	Shiloh Road Southbound				n/a Westbound				Shiloh Road Northbound				Bell Avenue Eastbound			
Start Time	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U
7:00 AM	1	126		0						103	0	0	1		0	0
7:15 AM	0	186		0						111	0	0	2		0	0
7:30 AM	2	181		0						228	0	0	7		0	0
7:45 AM	2	239		0						213	0	0	7		0	0
8:00 AM	1	184		0						169	0	0	7		0	0
8:15 AM	3	233		0						167	0	0	1		0	0
8:30 AM	2	163		0						180	0	0	3		0	0
8:45 AM	6	174		0						169	0	0	5		0	0
4:00 PM	2	225		0						272	0	0	6		0	0
4:15 PM	4	224		0						262	0	0	3		0	0
4:30 PM	3	212		0						311	0	0	2		0	0
4:45 PM	5	212		0						307	0	0	7		0	0
5:00 PM	4	241		0						357	0	0	8		0	0
5:15 PM	5	243		0						324	0	0	4		0	0
5:30 PM	6	213		0						263	0	0	7		0	0
5:45 PM	6	219		0						254	0	0	2		0	0

Study Name Shiloh & Monad
Start Date 10/24/2023
Start Time 7:00 AM
Type Road
Classification Totals

	Shiloh Road Southbound				Monad Road Westbound				Shiloh Road Northbound				Monad Road Eastbound			
Start Time	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U	Right	Thru	Left	U
7:00 AM	6	126	12	0	8	7	12	0	16	67	5	0	10	5	12	0
7:15 AM	12	129	36	0	11	9	15	0	22	113	1	0	13	3	25	0
7:30 AM	9	138	32	0	24	3	22	0	29	175	5	0	17	14	33	0
7:45 AM	16	215	49	0	29	8	21	0	21	190	8	0	12	7	36	0
8:00 AM	23	181	23	0	18	2	22	0	23	142	1	0	9	10	24	0
8:15 AM	26	128	38	0	22	7	17	0	17	123	3	0	2	1	34	0
8:30 AM	12	150	42	5	17	1	15	0	16	111	2	1	5	2	24	0
8:45 AM	10	135	20	0	20	5	9	0	14	109	1	0	10	3	16	0
4:00 PM	16	166	26	0	30	6	21	0	33	210	10	0	12	8	23	0
4:15 PM	15	162	23	0	25	10	20	0	30	203	7	0	6	15	23	0
4:30 PM	21	174	35	0	37	12	29	0	22	233	9	0	8	9	41	0
4:45 PM	18	154	27	1	29	8	32	0	28	236	18	0	6	0	35	0
5:00 PM	16	138	44	0	29	15	27	0	35	277	12	0	9	10	31	0
5:15 PM	30	160	25	0	38	6	25	0	40	266	16	0	11	9	20	0
5:30 PM	19	180	23	0	37	8	34	0	34	183	13	0	9	7	31	0
5:45 PM	24	156	28	0	37	10	16	0	25	176	13	0	11	12	21	0

Appendix B: Intersection Analysis Software Output

Scenario sequence:

Existing

2027 Background

2027 Phase 1A

2029 Without Phase 1B

2029 Phase 1B

2031 Without Phase 1C

2031 Phase 1C

2033 Without Phase 2

2033 Phase 2 (Full project buildout)

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	188	33	18	83	12	6	47	46	66	75	12
Future Vol, veh/h	8	188	33	18	83	12	6	47	46	66	75	12
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	5	5	5	5	5	5	1	1	1
Mvmt Flow	9	211	37	20	93	13	7	53	52	74	84	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.2	9.1	8.8	9.7
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	3%	16%	43%
Vol Thru, %	47%	82%	73%	49%
Vol Right, %	46%	14%	11%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	229	113	153
LT Vol	6	8	18	66
Through Vol	47	188	83	75
RT Vol	46	33	12	12
Lane Flow Rate	111	257	127	172
Geometry Grp	1	1	1	1
Degree of Util (X)	0.151	0.337	0.175	0.24
Departure Headway (Hd)	4.871	4.715	4.972	5.018
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	756	716	710
Service Time	2.946	2.777	3.045	3.088
HCM Lane V/C Ratio	0.152	0.34	0.177	0.242
HCM Control Delay, s/veh	8.8	10.2	9.1	9.7
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.5	1.5	0.6	0.9

Intersection	
Intersection Delay, s/veh	6.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	241	728	803
Demand Flow Rate, veh/h	0	243	742	811
Vehicles Circulating, veh/h	957	594	149	165
Vehicles Exiting, veh/h	19	297	808	672
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	6.1	5.7	6.1
Approach LOS	-	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.601	0.399	0.470	0.530	0.470	0.530
Follow-Up Headway, s	1.000	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	3600	1420	1350	1420	1420	1420	1420	1420
B (Slope)	1.151e-3	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	146	97	349	393	381	430
Cap Entry Lane, veh/h	1196	629	782	857	1240	1240	1222	1222
Entry HV Adj Factor	1.000	1.000	0.993	0.990	0.980	0.981	0.991	0.990
Flow Entry, veh/h	0	0	145	96	342	386	378	426
Cap Entry, veh/h	1196	629	776	848	1215	1217	1211	1210
V/C Ratio	0.000	0.000	0.187	0.113	0.281	0.317	0.312	0.352
Control Delay, s/veh	3.0	5.7	6.6	5.4	5.5	5.9	5.9	6.3
LOS	A	A	A	A	A	A	A	A
95th %tile Queue, veh	0	0	1	0	1	1	1	2

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	620	313	730	857
Demand Flow Rate, veh/h	632	322	753	866
Vehicles Circulating, veh/h	917	768	762	285
Vehicles Exiting, veh/h	234	747	787	805
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.6	8.0	13.7	7.6
Approach LOS	B	A	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.469	0.531	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	297	335	151	171	354	399	407	459
Cap Entry Lane, veh/h	581	651	666	739	670	743	1039	1115
Entry HV Adj Factor	0.981	0.981	0.973	0.969	0.970	0.970	0.990	0.990
Flow Entry, veh/h	291	329	147	166	343	387	403	454
Cap Entry, veh/h	570	639	648	717	649	721	1028	1103
V/C Ratio	0.511	0.514	0.227	0.231	0.529	0.537	0.392	0.412
Control Delay, s/veh	15.3	14.0	8.3	7.7	14.2	13.3	7.7	7.6
LOS	C	B	A	A	B	B	A	A
95th %tile Queue, veh	3	3	1	1	3	3	2	2

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	22	0	766	825	8
Future Vol, veh/h	0	22	0	766	825	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	4	4	2	2
Mvmt Flow	0	25	0	861	927	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	468	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	547	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	547	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.89	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	547	-	-
HCM Lane V/C Ratio	-	0.045	-	-
HCM Ctrl Dly (s/v)	-	11.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	9.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	251	244	924	1100
Demand Flow Rate, veh/h	259	251	933	1111
Vehicles Circulating, veh/h	1122	985	386	154
Vehicles Exiting, veh/h	143	334	995	1082
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.0	9.3	9.2	7.6
Approach LOS	B	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.795	0.205	0.526	0.474	0.471	0.529	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	206	53	132	119	439	494	522	589
Cap Entry Lane, veh/h	481	547	545	615	999	999	1234	1234
Entry HV Adj Factor	0.970	0.962	0.971	0.975	0.989	0.991	0.990	0.990
Flow Entry, veh/h	200	51	128	116	434	490	517	583
Cap Entry, veh/h	466	526	530	599	989	991	1222	1221
V/C Ratio	0.428	0.097	0.242	0.194	0.439	0.494	0.423	0.477
Control Delay, s/veh	15.5	8.1	10.2	8.4	8.7	9.6	7.2	8.0
LOS	C	A	B	A	A	A	A	A
95th %tile Queue, veh	2	0	1	1	2	3	2	3

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	143	15	30	264	50	48	98	20	31	67	13
Future Vol, veh/h	9	143	15	30	264	50	48	98	20	31	67	13
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0	0	0	0
Mvmt Flow	10	166	17	35	307	58	56	114	23	36	78	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.7	14.6	11.2	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	5%	9%	28%
Vol Thru, %	59%	86%	77%	60%
Vol Right, %	12%	9%	15%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	167	344	111
LT Vol	48	9	30	31
Through Vol	98	143	264	67
RT Vol	20	15	50	13
Lane Flow Rate	193	194	400	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.305	0.293	0.567	0.209
Departure Headway (Hd)	5.692	5.44	5.099	5.82
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	629	658	708	614
Service Time	3.742	3.488	3.138	3.873
HCM Lane V/C Ratio	0.307	0.295	0.565	0.21
HCM Control Delay, s/veh	11.2	10.7	14.6	10.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.3	1.2	3.6	0.8

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	360	1370	946
Demand Flow Rate, veh/h	0	360	1370	955
Vehicles Circulating, veh/h	1169	1130	130	244
Vehicles Exiting, veh/h	30	370	1039	1246
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	13.6	9.0	7.6
Approach LOS	-	B	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.594	0.406	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	214	146	644	726	449	506
Cap Entry Lane, veh/h	461	526	477	543	1262	1262	1137	1137
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	0.990	0.991
Flow Entry, veh/h	0	0	214	146	644	726	445	501
Cap Entry, veh/h	461	526	477	543	1261	1262	1126	1127
V/C Ratio	0.000	0.000	0.448	0.269	0.510	0.575	0.395	0.445
Control Delay, s/veh	7.8	6.8	15.8	10.4	8.3	9.5	7.2	8.0
LOS	A	A	C	B	A	A	A	A
95th %tile Queue, veh	0	0	2	1	3	4	2	2

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	339	607	1152	877
Demand Flow Rate, veh/h	339	607	1152	886
Vehicles Circulating, veh/h	993	1130	408	611
Vehicles Exiting, veh/h	504	430	924	1126
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.3	19.9	12.1	12.6
Approach LOS	B	C	B	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.469	0.531	0.470	0.530	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	159	180	285	322	541	611	416	470
Cap Entry Lane, veh/h	541	611	477	543	927	1004	769	845
Entry HV Adj Factor	1.002	0.998	1.001	0.999	1.001	0.999	0.991	0.989
Flow Entry, veh/h	159	180	285	322	541	611	412	465
Cap Entry, veh/h	543	609	478	543	928	1003	762	835
V/C Ratio	0.294	0.295	0.597	0.593	0.583	0.609	0.541	0.556
Control Delay, s/veh	10.8	9.8	21.1	18.8	12.1	12.0	12.8	12.4
LOS	B	A	C	C	B	B	B	B
95th %tile Queue, veh	1	1	4	4	4	4	3	3

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	21	0	1280	896	17
Future Vol, veh/h	0	21	0	1280	896	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	0	23	0	1391	974	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	496	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	525	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	525	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.18	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	525	-	-
HCM Lane V/C Ratio	-	0.044	-	-
HCM Ctrl Dly (s/v)	-	12.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	10.0
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	201	305	1263	893
Demand Flow Rate, veh/h	206	305	1263	902
Vehicles Circulating, veh/h	931	1268	310	222
Vehicles Exiting, veh/h	193	305	827	1351
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.8	14.1	11.1	7.1
Approach LOS	A	B	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.820	0.180	0.538	0.462	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	169	37	164	141	594	669	424	478
Cap Entry Lane, veh/h	573	644	420	483	1071	1071	1160	1160
Entry HV Adj Factor	0.979	0.973	1.000	1.000	0.999	1.001	0.990	0.991
Flow Entry, veh/h	165	36	164	141	594	669	420	473
Cap Entry, veh/h	561	626	420	483	1070	1072	1149	1149
V/C Ratio	0.295	0.057	0.390	0.292	0.555	0.625	0.365	0.412
Control Delay, s/veh	10.6	6.4	15.9	11.9	10.2	11.9	6.8	7.4
LOS	B	A	C	B	B	B	A	A
95th %tile Queue, veh	1	0	2	1	4	5	2	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	210	37	20	93	13	7	53	51	74	84	13
Future Volume (veh/h)	9	210	37	20	93	13	7	53	51	74	84	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1682	1682	1682	1682	1682	1682	1736	1736	1736
Adj Flow Rate, veh/h	10	236	42	22	104	15	8	60	57	83	94	15
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	5	5	5	5	5	5	1	1	1
Cap, veh/h	197	404	70	250	371	49	207	200	178	395	228	31
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	28	1398	243	133	1285	169	50	787	702	526	899	121
Grp Volume(v), veh/h	288	0	0	141	0	0	125	0	0	192	0	0
Grp Sat Flow(s),veh/h/ln	1669	0	0	1587	0	0	1538	0	0	1546	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	2.9	0.0	0.0	1.3	0.0	0.0	1.3	0.0	0.0	2.0	0.0	0.0
Prop In Lane	0.03		0.15	0.16		0.11	0.06		0.46	0.43		0.08
Lane Grp Cap(c), veh/h	671	0	0	670	0	0	585	0	0	654	0	0
V/C Ratio(X)	0.43	0.00	0.00	0.21	0.00	0.00	0.21	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	2341	0	0	2198	0	0	2171	0	0	2205	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	5.4	0.0	0.0	6.0	0.0	0.0	6.2	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.4	0.0	0.0	5.6	0.0	0.0	6.1	0.0	0.0	6.4	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		288			141			125			192	
Approach Delay, s/veh		6.4			5.6			6.1			6.4	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	9.5	10.2	9.5	10.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	25.5	25.5	25.5
Max Q Clear Time (g_c+I1), s	3.3	4.9	4.0	3.3
Green Ext Time (p_c), s	0.5	1.4	0.9	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	6.2
HCM 7th LOS	A

Intersection	
Intersection Delay, s/veh	6.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	269	813	862
Demand Flow Rate, veh/h	0	272	829	871
Vehicles Circulating, veh/h	1035	664	167	185
Vehicles Exiting, veh/h	21	332	868	751
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	6.9	6.3	6.6
Approach LOS	-	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.603	0.397	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	164	108	390	439	409	462
Cap Entry Lane, veh/h	521	589	733	808	1220	1220	1200	1200
Entry HV Adj Factor	1.000	1.000	0.988	0.991	0.980	0.982	0.991	0.989
Flow Entry, veh/h	0	0	162	107	382	431	405	457
Cap Entry, veh/h	521	589	724	800	1196	1198	1189	1187
V/C Ratio	0.000	0.000	0.224	0.134	0.320	0.360	0.341	0.385
Control Delay, s/veh	6.9	6.1	7.5	5.9	6.0	6.5	6.3	6.8
LOS	A	A	A	A	A	A	A	A
95th %tile Queue, veh	0	0	1	0	1	2	2	2

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	694	349	816	955
Demand Flow Rate, veh/h	708	360	840	964
Vehicles Circulating, veh/h	1022	858	851	318
Vehicles Exiting, veh/h	260	833	879	900
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	20.2	9.3	18.5	8.7
Approach LOS	C	A	C	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.469	0.531	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	333	375	169	191	395	445	453	511
Cap Entry Lane, veh/h	527	596	613	685	617	689	1007	1084
Entry HV Adj Factor	0.980	0.981	0.972	0.969	0.970	0.971	0.990	0.990
Flow Entry, veh/h	326	368	164	185	383	432	449	506
Cap Entry, veh/h	516	584	596	664	599	669	998	1073
V/C Ratio	0.632	0.630	0.276	0.279	0.640	0.646	0.450	0.472
Control Delay, s/veh	21.3	19.2	9.7	8.9	19.3	17.9	8.8	8.7
LOS	C	C	A	A	C	C	A	A
95th %tile Queue, veh	4	4	1	1	5	5	2	3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	0	856	922	9
Future Vol, veh/h	0	25	0	856	922	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	4	4	2	2
Mvmt Flow	0	28	0	962	1036	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	523	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	504	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	504	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.57	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	504	-	-
HCM Lane V/C Ratio	-	0.056	-	-
HCM Ctrl Dly (s/v)	-	12.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	280	272	1033	1230
Demand Flow Rate, veh/h	288	280	1043	1242
Vehicles Circulating, veh/h	1255	1099	430	171
Vehicles Exiting, veh/h	158	374	1113	1208
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	18.7	11.1	11.0	8.7
Approach LOS	C	B	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.795	0.205	0.525	0.475	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	229	59	147	133	490	553	584	658
Cap Entry Lane, veh/h	426	489	491	558	960	960	1215	1215
Entry HV Adj Factor	0.972	0.966	0.974	0.970	0.991	0.990	0.990	0.991
Flow Entry, veh/h	223	57	143	129	486	548	578	652
Cap Entry, veh/h	414	472	478	541	952	951	1203	1204
V/C Ratio	0.538	0.121	0.299	0.238	0.510	0.576	0.480	0.541
Control Delay, s/veh	21.1	9.3	12.2	9.9	10.2	11.7	8.1	9.2
LOS	C	A	B	A	B	B	A	A
95th %tile Queue, veh	3	0	1	1	3	4	3	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	160	17	34	295	56	54	109	22	35	75	15
Future Volume (veh/h)	10	160	17	34	295	56	54	109	22	35	75	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	12	186	20	40	343	65	63	127	26	41	87	17
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	0	0	0
Cap, veh/h	168	587	61	190	530	95	270	255	46	259	270	45
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	33	1484	153	76	1341	241	340	1075	194	298	1139	191
Grp Volume(v), veh/h	218	0	0	448	0	0	216	0	0	145	0	0
Grp Sat Flow(s),veh/h/ln	1670	0	0	1658	0	0	1608	0	0	1628	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	5.4	0.0	0.0	2.8	0.0	0.0	1.7	0.0	0.0
Prop In Lane	0.06		0.09	0.09		0.15	0.29		0.12	0.28		0.12
Lane Grp Cap(c), veh/h	815	0	0	816	0	0	571	0	0	574	0	0
V/C Ratio(X)	0.27	0.00	0.00	0.55	0.00	0.00	0.38	0.00	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	1867	0	0	1866	0	0	1828	0	0	1817	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.1	0.0	0.0	6.1	0.0	0.0	8.2	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.5	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.3	0.0	0.0	6.7	0.0	0.0	8.6	0.0	0.0	8.0	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		218			448			216			145	
Approach Delay, s/veh		5.3			6.7			8.6			8.0	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.3		14.2		10.3		14.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		4.8		4.2		3.7		7.4				
Green Ext Time (p_c), s		1.0		1.0		0.7		2.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			7.0									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	11.0
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	402	1531	1057
Demand Flow Rate, veh/h	0	402	1531	1067
Vehicles Circulating, veh/h	1306	1262	145	272
Vehicles Exiting, veh/h	33	414	1161	1392
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	18.2	10.6	8.7
Approach LOS	-	C	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.595	0.405	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	239	163	720	811	501	566
Cap Entry Lane, veh/h	406	468	423	486	1245	1245	1109	1109
Entry HV Adj Factor	1.000	1.000	1.000	1.000	0.999	1.001	0.991	0.990
Flow Entry, veh/h	0	0	239	163	720	811	497	560
Cap Entry, veh/h	406	468	423	486	1244	1245	1099	1097
V/C Ratio	0.000	0.000	0.565	0.336	0.579	0.652	0.452	0.511
Control Delay, s/veh	8.9	7.7	21.8	12.8	9.7	11.4	8.2	9.2
LOS	A	A	C	B	A	B	A	A
95th %tile Queue, veh	0	0	3	1	4	5	2	3

Intersection	
Intersection Delay, s/veh	18.9
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	379	680	1287	980
Demand Flow Rate, veh/h	379	680	1287	990
Vehicles Circulating, veh/h	1110	1262	455	683
Vehicles Exiting, veh/h	563	480	1034	1259
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.7	31.8	15.7	16.6
Approach LOS	B	D	C	C

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.471	0.529	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	178	201	320	360	605	682	465	525
Cap Entry Lane, veh/h	486	553	423	486	888	965	720	795
Entry HV Adj Factor	1.001	0.999	0.999	1.001	1.000	1.000	0.991	0.989
Flow Entry, veh/h	178	201	320	360	605	682	461	519
Cap Entry, veh/h	487	552	422	486	888	965	713	786
V/C Ratio	0.366	0.364	0.757	0.741	0.681	0.707	0.646	0.661
Control Delay, s/veh	13.4	12.0	34.4	29.4	15.7	15.7	17.0	16.3
LOS	B	B	D	D	C	C	C	C
95th %tile Queue, veh	2	2	6	6	6	6	5	5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	0	1430	1001	19
Future Vol, veh/h	0	23	0	1430	1001	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	0	25	0	1554	1088	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	554	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	481	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	481	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	481	-	-
HCM Lane V/C Ratio	-	0.052	-	-
HCM Ctrl Dly (s/v)	-	12.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	224	341	1411	997
Demand Flow Rate, veh/h	229	341	1411	1007
Vehicles Circulating, veh/h	1040	1417	347	248
Vehicles Exiting, veh/h	215	341	922	1510
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.8	18.7	14.2	8.0
Approach LOS	B	C	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.821	0.179	0.537	0.463	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	188	41	183	158	663	748	473	534
Cap Entry Lane, veh/h	519	587	367	426	1036	1036	1133	1133
Entry HV Adj Factor	0.980	0.976	1.000	1.000	1.000	1.000	0.990	0.989
Flow Entry, veh/h	184	40	183	158	663	748	468	528
Cap Entry, veh/h	508	572	367	426	1036	1035	1122	1121
V/C Ratio	0.363	0.070	0.499	0.371	0.640	0.722	0.417	0.471
Control Delay, s/veh	12.9	7.1	21.7	15.2	12.6	15.6	7.6	8.4
LOS	B	A	C	C	B	C	A	A
95th %tile Queue, veh	2	0	3	2	5	7	2	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	211	37	21	97	14	7	53	51	74	84	13
Future Volume (veh/h)	9	211	37	21	97	14	7	53	51	74	84	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1682	1682	1682	1682	1682	1682	1736	1736	1736
Adj Flow Rate, veh/h	10	237	42	24	109	16	8	60	57	83	94	15
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	5	5	5	5	5	5	1	1	1
Cap, veh/h	197	407	71	252	371	49	207	199	178	395	228	31
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	27	1399	243	139	1275	170	50	787	702	526	899	121
Grp Volume(v), veh/h	289	0	0	149	0	0	125	0	0	192	0	0
Grp Sat Flow(s),veh/h/ln	1669	0	0	1584	0	0	1538	0	0	1546	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	2.9	0.0	0.0	1.4	0.0	0.0	1.3	0.0	0.0	2.0	0.0	0.0
Prop In Lane	0.03		0.15	0.16		0.11	0.06		0.46	0.43		0.08
Lane Grp Cap(c), veh/h	674	0	0	672	0	0	584	0	0	653	0	0
V/C Ratio(X)	0.43	0.00	0.00	0.22	0.00	0.00	0.21	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	2335	0	0	2189	0	0	2166	0	0	2200	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	5.5	0.0	0.0	6.0	0.0	0.0	6.2	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.4	0.0	0.0	5.6	0.0	0.0	6.2	0.0	0.0	6.5	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		289			149			125			192	
Approach Delay, s/veh		6.4			5.6			6.2			6.5	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	9.5	10.2	9.5	10.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	25.5	25.5	25.5
Max Q Clear Time (g_c+I1), s	3.3	4.9	4.0	3.4
Green Ext Time (p_c), s	0.5	1.4	0.9	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	6.2
HCM 7th LOS	A

Intersection	
Intersection Delay, s/veh	6.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	270	831	902
Demand Flow Rate, veh/h	0	273	847	911
Vehicles Circulating, veh/h	1076	679	167	186
Vehicles Exiting, veh/h	21	335	909	766
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	7.0	6.4	6.8
Approach LOS	-	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.604	0.396	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	165	108	398	449	428	483
Cap Entry Lane, veh/h	502	569	723	797	1220	1220	1199	1199
Entry HV Adj Factor	1.000	1.000	0.988	0.991	0.981	0.981	0.990	0.989
Flow Entry, veh/h	0	0	163	107	391	440	424	478
Cap Entry, veh/h	502	569	714	790	1197	1197	1187	1186
V/C Ratio	0.000	0.000	0.228	0.135	0.326	0.368	0.357	0.403
Control Delay, s/veh	7.2	6.3	7.7	5.9	6.1	6.6	6.5	7.1
LOS	A	A	A	A	A	A	A	A
95th %tile Queue, veh	0	0	1	0	1	2	2	2

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	751	356	823	962
Demand Flow Rate, veh/h	766	367	847	971
Vehicles Circulating, veh/h	1022	884	889	332
Vehicles Exiting, veh/h	281	852	899	919
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	22.8	9.7	20.3	8.9
Approach LOS	C	A	C	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.469	0.531	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	360	406	172	195	398	449	456	515
Cap Entry Lane, veh/h	527	596	599	670	596	667	995	1071
Entry HV Adj Factor	0.980	0.980	0.973	0.968	0.971	0.971	0.991	0.990
Flow Entry, veh/h	353	398	167	189	387	436	452	510
Cap Entry, veh/h	517	584	583	648	579	648	986	1060
V/C Ratio	0.683	0.682	0.287	0.291	0.668	0.673	0.458	0.481
Control Delay, s/veh	24.1	21.7	10.1	9.3	21.2	19.6	9.0	8.9
LOS	C	C	B	A	C	C	A	A
95th %tile Queue, veh	5	5	1	1	5	5	2	3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	0	862	939	9
Future Vol, veh/h	0	25	0	862	939	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	4	4	2	2
Mvmt Flow	0	28	0	969	1055	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	533	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	497	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	497	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.68	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	497	-	-
HCM Lane V/C Ratio	-	0.057	-	-
HCM Ctrl Dly (s/v)	-	12.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	280	273	1039	1250
Demand Flow Rate, veh/h	288	281	1049	1262
Vehicles Circulating, veh/h	1275	1105	433	171
Vehicles Exiting, veh/h	158	377	1130	1215
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	19.3	11.2	11.1	8.8
Approach LOS	C	B	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.795	0.205	0.523	0.477	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	229	59	147	134	493	556	593	669
Cap Entry Lane, veh/h	418	480	488	555	958	958	1215	1215
Entry HV Adj Factor	0.972	0.966	0.974	0.970	0.991	0.991	0.990	0.990
Flow Entry, veh/h	223	57	143	130	488	551	587	662
Cap Entry, veh/h	406	464	476	538	949	948	1204	1203
V/C Ratio	0.548	0.123	0.301	0.241	0.515	0.581	0.488	0.550
Control Delay, s/veh	21.8	9.5	12.3	10.0	10.3	11.8	8.2	9.3
LOS	C	A	B	B	B	B	A	A
95th %tile Queue, veh	3	0	1	1	3	4	3	3

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	477	1	9	178	4	26
Future Vol, veh/h	477	1	9	178	4	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	536	1	10	200	4	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	537	0	757	537
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	220	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1031	-	376	544
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1031	-	371	544
Mov Cap-2 Maneuver	-	-	-	-	371	-
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	807	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.41	12.52
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	512	-	-	87	-
HCM Lane V/C Ratio	0.066	-	-	0.01	-
HCM Ctrl Dly (s/v)	12.5	-	-	8.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

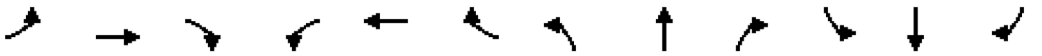
Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	502	1	9	185	2	26
Future Vol, veh/h	502	1	9	185	2	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	564	1	10	208	2	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	565	0	793	565
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	228	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1007	-	358	525
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1007	-	354	525
Mov Cap-2 Maneuver	-	-	-	-	354	-
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.4	12.57
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	507	-	-	84	-
HCM Lane V/C Ratio	0.062	-	-	0.01	-
HCM Ctrl Dly (s/v)	12.6	-	-	8.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	165	17	34	298	57	54	109	23	36	75	15
Future Volume (veh/h)	10	165	17	34	298	57	54	109	23	36	75	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	12	192	20	40	347	66	63	127	27	42	87	17
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	0	0	0
Cap, veh/h	167	593	59	189	534	96	268	254	47	260	269	45
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	32	1490	149	75	1341	241	338	1070	200	304	1134	189
Grp Volume(v), veh/h	224	0	0	453	0	0	217	0	0	146	0	0
Grp Sat Flow(s),veh/h/ln	1671	0	0	1658	0	0	1608	0	0	1627	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	5.5	0.0	0.0	2.8	0.0	0.0	1.8	0.0	0.0
Prop In Lane	0.05		0.09	0.09		0.15	0.29		0.12	0.29		0.12
Lane Grp Cap(c), veh/h	819	0	0	819	0	0	569	0	0	574	0	0
V/C Ratio(X)	0.27	0.00	0.00	0.55	0.00	0.00	0.38	0.00	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	1855	0	0	1852	0	0	1814	0	0	1802	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.1	0.0	0.0	6.1	0.0	0.0	8.2	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.5	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.3	0.0	0.0	6.7	0.0	0.0	8.7	0.0	0.0	8.1	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		224			453			217			146	
Approach Delay, s/veh		5.3			6.7			8.7			8.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.3		14.3		10.3		14.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		4.8		4.3		3.8		7.5				
Green Ext Time (p_c), s		1.0		1.1		0.7		2.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			7.0									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	406	1544	1075
Demand Flow Rate, veh/h	0	406	1544	1085
Vehicles Circulating, veh/h	1328	1273	145	276
Vehicles Exiting, veh/h	33	416	1183	1403
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	18.8	10.7	8.9
Approach LOS	-	C	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.599	0.401	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	243	163	726	818	510	575
Cap Entry Lane, veh/h	398	459	419	481	1245	1245	1105	1105
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	0.990	0.991
Flow Entry, veh/h	0	0	243	163	726	818	505	570
Cap Entry, veh/h	398	459	419	481	1244	1245	1094	1094
V/C Ratio	0.000	0.000	0.581	0.339	0.583	0.657	0.462	0.521
Control Delay, s/veh	9.0	7.8	22.7	13.0	9.8	11.5	8.4	9.4
LOS	A	A	C	B	A	B	A	A
95th %tile Queue, veh	0	0	4	1	4	5	2	3

Intersection	
Intersection Delay, s/veh	21.8
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	418	713	1307	1000
Demand Flow Rate, veh/h	418	713	1307	1010
Vehicles Circulating, veh/h	1110	1295	481	736
Vehicles Exiting, veh/h	636	493	1047	1272
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.5	38.6	17.2	19.3
Approach LOS	B	E	C	C

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.469	0.531	0.470	0.530	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	196	222	335	378	614	693	475	535
Cap Entry Lane, veh/h	486	553	410	472	867	943	686	760
Entry HV Adj Factor	1.002	0.998	1.000	1.000	1.000	1.000	0.990	0.991
Flow Entry, veh/h	196	222	335	378	614	693	470	530
Cap Entry, veh/h	487	552	410	472	868	943	679	753
V/C Ratio	0.403	0.402	0.817	0.800	0.708	0.735	0.693	0.704
Control Delay, s/veh	14.3	12.8	41.8	35.7	17.1	17.3	19.8	18.9
LOS	B	B	E	E	C	C	C	C
95th %tile Queue, veh	2	2	7	7	6	7	6	6

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	0	1449	1013	19
Future Vol, veh/h	0	23	0	1449	1013	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	0	25	0	1575	1101	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	561	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	476	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	476	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.98	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	476	-	-
HCM Lane V/C Ratio	-	0.052	-	-
HCM Ctrl Dly (s/v)	-	13	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	224	344	1427	1010
Demand Flow Rate, veh/h	229	344	1427	1021
Vehicles Circulating, veh/h	1054	1433	349	248
Vehicles Exiting, veh/h	215	343	934	1529
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.1	19.2	14.5	8.1
Approach LOS	B	C	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.821	0.179	0.532	0.468	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	188	41	183	161	671	756	480	541
Cap Entry Lane, veh/h	512	580	361	420	1034	1034	1133	1133
Entry HV Adj Factor	0.980	0.976	1.000	1.000	1.000	1.000	0.989	0.990
Flow Entry, veh/h	184	40	183	161	671	756	475	536
Cap Entry, veh/h	502	566	361	420	1033	1034	1121	1122
V/C Ratio	0.367	0.071	0.507	0.383	0.649	0.731	0.424	0.477
Control Delay, s/veh	13.1	7.2	22.3	15.7	12.9	16.0	7.7	8.5
LOS	B	A	C	C	B	C	A	A
95th %tile Queue, veh	2	0	3	2	5	7	2	3

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	287	4	28	455	3	17
Future Vol, veh/h	287	4	28	455	3	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	322	4	31	511	3	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	327	0	899	325
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	574	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1233	-	310	716
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	563	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1233	-	298	716
Mov Cap-2 Maneuver	-	-	-	-	298	-
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	543	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.46	11.32
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	592	-	-	104	-
HCM Lane V/C Ratio	0.038	-	-	0.026	-
HCM Ctrl Dly (s/v)	11.3	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

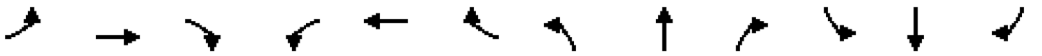
Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	302	2	28	482	1	17
Future Vol, veh/h	302	2	28	482	1	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	339	2	31	542	1	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	342	0	945	340
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	604	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1217	-	291	702
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	545	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1217	-	280	702
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	525	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.44	10.74
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	648	-	-	99	-
HCM Lane V/C Ratio	0.031	-	-	0.026	-
HCM Ctrl Dly (s/v)	10.7	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	227	40	23	104	15	7	57	55	79	90	14
Future Volume (veh/h)	10	227	40	23	104	15	7	57	55	79	90	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1682	1682	1682	1682	1682	1682	1736	1736	1736
Adj Flow Rate, veh/h	11	255	45	26	117	17	8	64	62	89	101	16
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	5	5	5	5	5	5	1	1	1
Cap, veh/h	190	430	74	245	392	52	197	199	181	386	228	31
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	27	1401	242	135	1278	168	45	781	711	529	897	120
Grp Volume(v), veh/h	311	0	0	160	0	0	134	0	0	206	0	0
Grp Sat Flow(s),veh/h/ln	1669	0	0	1582	0	0	1538	0	0	1546	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	1.5	0.0	0.0	1.4	0.0	0.0	2.2	0.0	0.0
Prop In Lane	0.04		0.14	0.16		0.11	0.06		0.46	0.43		0.08
Lane Grp Cap(c), veh/h	694	0	0	689	0	0	577	0	0	645	0	0
V/C Ratio(X)	0.45	0.00	0.00	0.23	0.00	0.00	0.23	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	2245	0	0	2100	0	0	2083	0	0	2111	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.1	0.0	0.0	5.5	0.0	0.0	6.2	0.0	0.0	6.5	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	0.0	0.0	5.6	0.0	0.0	6.4	0.0	0.0	6.8	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		311			160			134			206	
Approach Delay, s/veh		6.5			5.6			6.4			6.8	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.7		10.8		9.7		10.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		3.4		5.2		4.2		3.5				
Green Ext Time (p_c), s		0.6		1.5		1.0		0.8				

Intersection Summary												
HCM 7th Control Delay, s/veh			6.4									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	291	895	972
Demand Flow Rate, veh/h	0	294	913	982
Vehicles Circulating, veh/h	1160	731	180	201
Vehicles Exiting, veh/h	23	362	980	824
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	7.6	6.8	7.3
Approach LOS	-	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.605	0.395	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	178	116	429	484	462	520
Cap Entry Lane, veh/h	464	530	689	763	1206	1206	1183	1183
Entry HV Adj Factor	1.000	1.000	0.989	0.991	0.981	0.980	0.989	0.991
Flow Entry, veh/h	0	0	176	115	421	474	457	515
Cap Entry, veh/h	464	530	681	756	1182	1182	1170	1172
V/C Ratio	0.000	0.000	0.258	0.152	0.356	0.401	0.391	0.440
Control Delay, s/veh	7.8	6.8	8.4	6.4	6.5	7.1	7.0	7.7
LOS	A	A	A	A	A	A	A	A
95th %tile Queue, veh	0	0	1	1	2	2	2	2

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	804	384	887	1037
Demand Flow Rate, veh/h	820	395	914	1048
Vehicles Circulating, veh/h	1104	952	956	359
Vehicles Exiting, veh/h	303	918	968	988
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	32.0	10.9	27.7	10.0
Approach LOS	D	B	D	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.471	0.529	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	385	435	186	209	430	484	493	555
Cap Entry Lane, veh/h	489	556	562	632	560	630	970	1047
Entry HV Adj Factor	0.982	0.980	0.970	0.973	0.970	0.972	0.989	0.990
Flow Entry, veh/h	378	426	180	203	417	470	487	550
Cap Entry, veh/h	480	544	545	615	543	612	959	1037
V/C Ratio	0.787	0.783	0.331	0.331	0.768	0.768	0.508	0.530
Control Delay, s/veh	33.9	30.4	11.5	10.4	29.0	26.5	10.1	10.0
LOS	D	D	B	B	D	D	B	A
95th %tile Queue, veh	7	7	1	1	7	7	3	3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	26	0	928	1010	10
Future Vol, veh/h	0	26	0	928	1010	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	4	4	2	2
Mvmt Flow	0	29	0	1043	1135	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	573	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	468	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	468	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.21	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	468	-	-
HCM Lane V/C Ratio	-	0.062	-	-
HCM Ctrl Dly (s/v)	-	13.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	304	293	1119	1344
Demand Flow Rate, veh/h	313	302	1130	1357
Vehicles Circulating, veh/h	1372	1193	469	185
Vehicles Exiting, veh/h	170	406	1216	1310
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	25.6	12.9	13.0	9.8
Approach LOS	D	B	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.796	0.204	0.523	0.477	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	249	64	158	144	531	599	638	719
Cap Entry Lane, veh/h	382	442	450	515	927	927	1200	1200
Entry HV Adj Factor	0.970	0.969	0.969	0.972	0.991	0.990	0.990	0.991
Flow Entry, veh/h	242	62	153	140	526	593	632	712
Cap Entry, veh/h	371	429	437	501	918	918	1188	1189
V/C Ratio	0.652	0.145	0.351	0.280	0.573	0.646	0.532	0.599
Control Delay, s/veh	29.4	10.5	14.4	11.4	11.9	14.0	9.1	10.4
LOS	D	B	B	B	B	B	A	B
95th %tile Queue, veh	4	1	2	1	4	5	3	4

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	514	1	9	192	4	26
Future Vol, veh/h	514	1	9	192	4	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	578	1	10	216	4	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	579	0	814	578
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	236	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	995	-	347	515
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	803	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	995	-	343	515
Mov Cap-2 Maneuver	-	-	-	-	343	-
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	794	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.39	13.01
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	483	-	-	81	-
HCM Lane V/C Ratio	0.07	-	-	0.01	-
HCM Ctrl Dly (s/v)	13	-	-	8.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

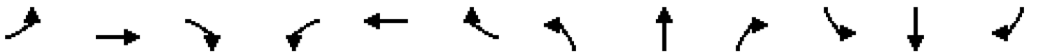
Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	539	1	9	199	2	26
Future Vol, veh/h	539	1	9	199	2	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	606	1	10	224	2	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	607	0	850	606
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	244	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	971	-	331	497
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	971	-	327	497
Mov Cap-2 Maneuver	-	-	-	-	327	-
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.38	13.04
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	479	-	-	78	-
HCM Lane V/C Ratio	0.066	-	-	0.01	-
HCM Ctrl Dly (s/v)	13	-	-	8.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	177	18	36	321	61	58	118	25	38	81	16
Future Volume (veh/h)	11	177	18	36	321	61	58	118	25	38	81	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	13	206	21	42	373	71	67	137	29	44	94	19
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	0	0	0
Cap, veh/h	158	617	60	180	555	100	258	261	49	247	276	48
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	32	1492	146	73	1342	242	333	1075	200	293	1140	197
Grp Volume(v), veh/h	240	0	0	486	0	0	233	0	0	157	0	0
Grp Sat Flow(s),veh/h/ln	1670	0	0	1657	0	0	1608	0	0	1630	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.0	0.0	6.2	0.0	0.0	3.2	0.0	0.0	2.0	0.0	0.0
Prop In Lane	0.05		0.09	0.09		0.15	0.29		0.12	0.28		0.12
Lane Grp Cap(c), veh/h	836	0	0	835	0	0	567	0	0	571	0	0
V/C Ratio(X)	0.29	0.00	0.00	0.58	0.00	0.00	0.41	0.00	0.00	0.27	0.00	0.00
Avail Cap(c_a), veh/h	1747	0	0	1746	0	0	1709	0	0	1698	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.2	0.0	0.0	6.3	0.0	0.0	8.7	0.0	0.0	8.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.4	0.0	0.0	7.0	0.0	0.0	9.2	0.0	0.0	8.5	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		240			486			233			157	
Approach Delay, s/veh		5.4			7.0			9.2			8.5	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.8		15.3		10.8		15.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		5.2		4.5		4.0		8.2				
Green Ext Time (p_c), s		1.1		1.1		0.7		2.6				

Intersection Summary												
HCM 7th Control Delay, s/veh			7.3									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	437	1661	1155
Demand Flow Rate, veh/h	0	437	1661	1167
Vehicles Circulating, veh/h	1428	1370	156	297
Vehicles Exiting, veh/h	36	447	1272	1510
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	24.5	12.3	10.0
Approach LOS	-	C	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.597	0.403	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	261	176	781	880	548	619
Cap Entry Lane, veh/h	363	422	383	443	1232	1232	1084	1084
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	0.991	0.989
Flow Entry, veh/h	0	0	261	176	781	880	543	612
Cap Entry, veh/h	363	422	383	443	1232	1233	1074	1072
V/C Ratio	0.000	0.000	0.682	0.397	0.634	0.714	0.506	0.571
Control Delay, s/veh	9.9	8.5	30.7	15.4	11.0	13.4	9.3	10.6
LOS	A	A	D	C	B	B	A	B
95th %tile Queue, veh	0	0	5	2	5	7	3	4

Intersection	
Intersection Delay, s/veh	31.1
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	446	764	1406	1075
Demand Flow Rate, veh/h	446	764	1406	1086
Vehicles Circulating, veh/h	1195	1391	515	788
Vehicles Exiting, veh/h	679	530	1126	1367
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.1	63.5	22.3	25.7
Approach LOS	C	F	C	D

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.471	0.529	0.470	0.530	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	210	236	359	405	661	745	510	576
Cap Entry Lane, veh/h	450	514	375	435	841	917	654	727
Entry HV Adj Factor	0.998	1.002	1.000	1.000	1.000	1.000	0.991	0.990
Flow Entry, veh/h	210	236	359	405	661	745	505	570
Cap Entry, veh/h	449	515	376	435	840	917	648	719
V/C Ratio	0.467	0.459	0.956	0.930	0.786	0.813	0.780	0.793
Control Delay, s/veh	17.2	15.1	69.5	58.2	22.0	22.5	26.3	25.3
LOS	C	C	F	F	C	C	D	D
95th %tile Queue, veh	2	2	11	11	8	9	7	8

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	0	1559	1090	20
Future Vol, veh/h	0	25	0	1559	1090	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	0	27	0	1695	1185	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	603	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	447	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	447	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.58	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	447	-	-
HCM Lane V/C Ratio	-	0.061	-	-
HCM Ctrl Dly (s/v)	-	13.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	242	371	1535	1086
Demand Flow Rate, veh/h	247	371	1535	1097
Vehicles Circulating, veh/h	1132	1541	375	267
Vehicles Exiting, veh/h	232	369	1004	1645
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.1	24.7	18.2	8.9
Approach LOS	B	C	C	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.822	0.178	0.534	0.466	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	203	44	198	173	721	814	516	581
Cap Entry Lane, veh/h	476	542	327	383	1009	1009	1114	1114
Entry HV Adj Factor	0.982	0.977	1.000	1.000	1.001	0.999	0.989	0.991
Flow Entry, veh/h	199	43	198	173	721	814	510	576
Cap Entry, veh/h	468	530	327	383	1010	1009	1102	1103
V/C Ratio	0.426	0.081	0.605	0.452	0.714	0.806	0.463	0.522
Control Delay, s/veh	15.4	7.8	29.6	19.2	15.5	20.5	8.4	9.4
LOS	C	A	D	C	C	C	A	A
95th %tile Queue, veh	2	0	4	2	6	9	3	3

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	309	4	28	489	3	17
Future Vol, veh/h	309	4	28	489	3	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	347	4	31	549	3	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	352	0	962	349
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	612	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1207	-	284	694
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	541	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1207	-	273	694
Mov Cap-2 Maneuver	-	-	-	-	273	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	521	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.44	11.65
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	564	-	-	97	-
HCM Lane V/C Ratio	0.04	-	-	0.026	-
HCM Ctrl Dly (s/v)	11.7	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	2	28	516	1	17
Future Vol, veh/h	324	2	28	516	1	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	364	2	31	580	1	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	366	0	1008	365
Stage 1	-	-	-	-	365	-
Stage 2	-	-	-	-	643	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1192	-	267	680
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	524	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1192	-	256	680
Mov Cap-2 Maneuver	-	-	-	-	256	-
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	503	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.42	10.98
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	623	-	-	93	-
HCM Lane V/C Ratio	0.032	-	-	0.026	-
HCM Ctrl Dly (s/v)	11	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	228	40	23	106	16	7	57	55	79	90	14
Future Volume (veh/h)	10	228	40	23	106	16	7	57	55	79	90	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1682	1682	1682	1682	1682	1682	1736	1736	1736
Adj Flow Rate, veh/h	11	256	45	26	119	18	8	64	62	89	101	16
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	5	5	5	5	5	5	1	1	1
Cap, veh/h	190	431	74	244	392	54	197	199	181	385	228	31
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	27	1402	241	132	1274	175	45	781	712	529	897	120
Grp Volume(v), veh/h	312	0	0	163	0	0	134	0	0	206	0	0
Grp Sat Flow(s),veh/h/ln	1669	0	0	1582	0	0	1538	0	0	1546	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	1.6	0.0	0.0	1.4	0.0	0.0	2.2	0.0	0.0
Prop In Lane	0.04		0.14	0.16		0.11	0.06		0.46	0.43		0.08
Lane Grp Cap(c), veh/h	695	0	0	690	0	0	577	0	0	644	0	0
V/C Ratio(X)	0.45	0.00	0.00	0.24	0.00	0.00	0.23	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	2242	0	0	2097	0	0	2079	0	0	2107	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	5.5	0.0	0.0	6.3	0.0	0.0	6.5	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	0.0	0.0	5.6	0.0	0.0	6.5	0.0	0.0	6.8	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		312			163			134			206	
Approach Delay, s/veh		6.5			5.6			6.5			6.8	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.7		10.8		9.7		10.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		3.4		5.2		4.2		3.6				
Green Ext Time (p_c), s		0.6		1.5		1.0		0.8				
Intersection Summary												
HCM 7th Control Delay, s/veh			6.4									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	291	903	974
Demand Flow Rate, veh/h	0	294	921	984
Vehicles Circulating, veh/h	1162	738	180	201
Vehicles Exiting, veh/h	23	363	982	831
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	7.7	6.8	7.4
Approach LOS	-	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.605	0.395	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	178	116	433	488	462	522
Cap Entry Lane, veh/h	464	529	685	758	1206	1206	1183	1183
Entry HV Adj Factor	1.000	1.000	0.989	0.991	0.980	0.981	0.991	0.989
Flow Entry, veh/h	0	0	176	115	424	479	458	516
Cap Entry, veh/h	464	529	677	752	1182	1182	1172	1170
V/C Ratio	0.000	0.000	0.260	0.153	0.359	0.405	0.391	0.441
Control Delay, s/veh	7.8	6.8	8.5	6.4	6.5	7.1	7.0	7.7
LOS	A	A	A	A	A	A	A	A
95th %tile Queue, veh	0	0	1	1	2	2	2	2

Intersection	
Intersection Delay, s/veh	22.4
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	834	388	890	1040
Demand Flow Rate, veh/h	851	399	917	1051
Vehicles Circulating, veh/h	1104	966	977	366
Vehicles Exiting, veh/h	313	928	978	999
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	35.1	11.1	29.6	10.2
Approach LOS	E	B	D	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.471	0.529	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	400	451	188	211	431	486	494	557
Cap Entry Lane, veh/h	489	556	555	625	550	619	964	1040
Entry HV Adj Factor	0.980	0.980	0.969	0.974	0.971	0.971	0.990	0.990
Flow Entry, veh/h	392	442	182	206	418	472	489	551
Cap Entry, veh/h	479	544	538	608	533	601	954	1030
V/C Ratio	0.818	0.812	0.339	0.338	0.784	0.785	0.512	0.535
Control Delay, s/veh	37.3	33.2	11.8	10.6	31.0	28.3	10.2	10.1
LOS	E	D	B	B	D	D	B	B
95th %tile Queue, veh	8	8	1	1	7	7	3	3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	26	0	931	1019	10
Future Vol, veh/h	0	26	0	931	1019	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	4	4	2	2
Mvmt Flow	0	29	0	1046	1145	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	578	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	464	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	464	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.28	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	464	-	-
HCM Lane V/C Ratio	-	0.063	-	-
HCM Ctrl Dly (s/v)	-	13.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	13.0
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	304	293	1122	1354
Demand Flow Rate, veh/h	313	302	1133	1367
Vehicles Circulating, veh/h	1382	1196	471	185
Vehicles Exiting, veh/h	170	408	1224	1313
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	26.1	13.0	13.1	9.9
Approach LOS	D	B	B	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.796	0.204	0.523	0.477	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	249	64	158	144	533	600	642	725
Cap Entry Lane, veh/h	379	439	449	514	925	925	1200	1200
Entry HV Adj Factor	0.970	0.969	0.969	0.972	0.990	0.991	0.991	0.990
Flow Entry, veh/h	242	62	153	140	528	595	636	717
Cap Entry, veh/h	367	425	435	499	916	917	1189	1188
V/C Ratio	0.658	0.146	0.352	0.280	0.576	0.649	0.535	0.604
Control Delay, s/veh	30.1	10.6	14.4	11.4	12.0	14.1	9.1	10.6
LOS	D	B	B	B	B	B	A	B
95th %tile Queue, veh	4	1	2	1	4	5	3	4

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	514	1	9	193	5	26
Future Vol, veh/h	514	1	9	193	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	578	1	10	217	6	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	579	0	815	578
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	237	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	995	-	347	515
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	995	-	343	515
Mov Cap-2 Maneuver	-	-	-	-	343	-
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.39	13.14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	477	-	-	80	-
HCM Lane V/C Ratio	0.073	-	-	0.01	-
HCM Ctrl Dly (s/v)	13.1	-	-	8.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

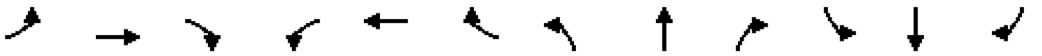
Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	539	1	18	199	3	53
Future Vol, veh/h	539	1	18	199	3	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	606	1	20	224	3	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	607	0	870	606
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	264	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	971	-	322	497
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	780	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	971	-	314	497
Mov Cap-2 Maneuver	-	-	-	-	314	-
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	762	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.73	13.59
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	482	-	-	149	-
HCM Lane V/C Ratio	0.131	-	-	0.021	-
HCM Ctrl Dly (s/v)	13.6	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	179	18	36	322	61	58	118	25	39	81	16
Future Volume (veh/h)	11	179	18	36	322	61	58	118	25	39	81	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	13	208	21	42	374	71	67	137	29	45	94	19
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	0	0	0
Cap, veh/h	158	619	60	179	556	100	258	261	49	249	275	47
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	32	1494	145	73	1342	242	333	1076	200	299	1134	196
Grp Volume(v), veh/h	242	0	0	487	0	0	233	0	0	158	0	0
Grp Sat Flow(s),veh/h/ln	1671	0	0	1657	0	0	1609	0	0	1629	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	6.3	0.0	0.0	3.3	0.0	0.0	2.0	0.0	0.0
Prop In Lane	0.05		0.09	0.09		0.15	0.29		0.12	0.28		0.12
Lane Grp Cap(c), veh/h	837	0	0	835	0	0	567	0	0	571	0	0
V/C Ratio(X)	0.29	0.00	0.00	0.58	0.00	0.00	0.41	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	1746	0	0	1744	0	0	1707	0	0	1694	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.2	0.0	0.0	6.3	0.0	0.0	8.7	0.0	0.0	8.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.4	0.0	0.0	7.0	0.0	0.0	9.2	0.0	0.0	8.5	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		242			487			233			158	
Approach Delay, s/veh		5.4			7.0			9.2			8.5	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.8		15.4		10.8		15.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		5.3		4.6		4.0		8.3				
Green Ext Time (p_c), s		1.1		1.2		0.7		2.6				

Intersection Summary	
HCM 7th Control Delay, s/veh	7.3
HCM 7th LOS	A

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	439	1668	1164
Demand Flow Rate, veh/h	0	439	1668	1176
Vehicles Circulating, veh/h	1439	1376	156	299
Vehicles Exiting, veh/h	36	448	1283	1516
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	25.1	12.4	10.1
Approach LOS	-	D	B	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.599	0.401	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	263	176	784	884	553	623
Cap Entry Lane, veh/h	359	418	381	441	1232	1232	1082	1082
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	0.989	0.990
Flow Entry, veh/h	0	0	263	176	784	884	547	617
Cap Entry, veh/h	359	418	381	441	1232	1232	1070	1071
V/C Ratio	0.000	0.000	0.691	0.399	0.636	0.717	0.511	0.576
Control Delay, s/veh	10.0	8.6	31.5	15.5	11.1	13.5	9.4	10.7
LOS	B	A	D	C	B	B	A	B
95th %tile Queue, veh	0	0	5	2	5	7	3	4

Intersection	
Intersection Delay, s/veh	33.7
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	465	775	1416	1084
Demand Flow Rate, veh/h	465	775	1416	1095
Vehicles Circulating, veh/h	1195	1407	527	809
Vehicles Exiting, veh/h	709	536	1133	1373
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.7	70.2	23.6	28.0
Approach LOS	C	F	C	D

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.471	0.529	0.470	0.530	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	219	246	364	411	666	750	515	580
Cap Entry Lane, veh/h	450	514	370	429	831	907	641	714
Entry HV Adj Factor	0.998	1.002	1.001	0.999	0.999	1.001	0.990	0.991
Flow Entry, veh/h	219	246	364	411	666	750	510	575
Cap Entry, veh/h	449	515	370	429	831	908	635	707
V/C Ratio	0.487	0.478	0.984	0.957	0.801	0.827	0.803	0.812
Control Delay, s/veh	17.8	15.6	76.7	64.4	23.3	23.8	28.7	27.3
LOS	C	C	F	F	C	C	D	D
95th %tile Queue, veh	3	3	11	11	9	10	8	9

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	0	1568	1096	20
Future Vol, veh/h	0	25	0	1568	1096	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	0	27	0	1704	1191	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	607	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	445	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	445	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.62	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	445	-	-
HCM Lane V/C Ratio	-	0.061	-	-
HCM Ctrl Dly (s/v)	-	13.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	15.7
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	242	373	1543	1092
Demand Flow Rate, veh/h	247	373	1543	1103
Vehicles Circulating, veh/h	1138	1549	376	267
Vehicles Exiting, veh/h	232	370	1009	1655
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.2	25.1	18.5	9.0
Approach LOS	B	D	C	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.822	0.178	0.531	0.469	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	203	44	198	175	725	818	518	585
Cap Entry Lane, veh/h	474	540	325	381	1009	1009	1114	1114
Entry HV Adj Factor	0.982	0.977	1.000	1.000	1.000	1.000	0.991	0.989
Flow Entry, veh/h	199	43	198	175	725	818	513	579
Cap Entry, veh/h	465	527	325	381	1009	1008	1103	1102
V/C Ratio	0.428	0.082	0.610	0.460	0.719	0.811	0.465	0.525
Control Delay, s/veh	15.6	7.8	30.0	19.6	15.7	20.9	8.4	9.4
LOS	C	A	D	C	C	C	A	A
95th %tile Queue, veh	2	0	4	2	6	9	3	3

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	311	6	28	490	4	17
Future Vol, veh/h	311	6	28	490	4	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	349	7	31	551	4	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	356	0	966	353
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	613	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1203	-	282	691
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	540	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1203	-	272	691
Mov Cap-2 Maneuver	-	-	-	-	272	-
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	520	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.44	12.05
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	534	-	-	97	-
HCM Lane V/C Ratio	0.044	-	-	0.026	-
HCM Ctrl Dly (s/v)	12.1	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

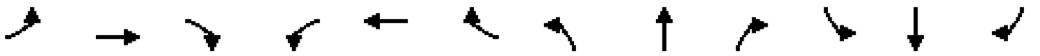
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	4	56	516	2	35
Future Vol, veh/h	324	4	56	516	2	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	364	4	63	580	2	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	369	0	1072	366
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	706	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1190	-	244	679
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	490	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1190	-	225	679
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	451	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.8	11.31
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	612	-	-	176	-
HCM Lane V/C Ratio	0.068	-	-	0.053	-
HCM Ctrl Dly (s/v)	11.3	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	246	43	24	114	18	8	61	60	86	97	16
Future Volume (veh/h)	10	246	43	24	114	18	8	61	60	86	97	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1682	1682	1682	1682	1682	1682	1736	1736	1736
Adj Flow Rate, veh/h	11	276	48	27	128	20	9	69	67	97	109	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	5	5	5	5	5	5	1	1	1
Cap, veh/h	179	453	77	232	411	58	189	205	186	377	234	32
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	23	1408	239	124	1276	181	45	782	710	528	891	124
Grp Volume(v), veh/h	335	0	0	175	0	0	145	0	0	224	0	0
Grp Sat Flow(s),veh/h/ln	1670	0	0	1581	0	0	1537	0	0	1543	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	1.7	0.0	0.0	1.6	0.0	0.0	2.6	0.0	0.0
Prop In Lane	0.03		0.14	0.15		0.11	0.06		0.46	0.43		0.08
Lane Grp Cap(c), veh/h	710	0	0	701	0	0	580	0	0	643	0	0
V/C Ratio(X)	0.47	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	2130	0	0	1989	0	0	1973	0	0	1995	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.2	0.0	0.0	5.6	0.0	0.0	6.5	0.0	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.7	0.0	0.0	5.7	0.0	0.0	6.7	0.0	0.0	7.1	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		335			175			145			224	
Approach Delay, s/veh		6.7			5.7			6.7			7.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.2		11.5		10.2		11.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		3.6		5.7		4.6		3.7				
Green Ext Time (p_c), s		0.7		1.7		1.1		0.8				

Intersection Summary												
HCM 7th Control Delay, s/veh			6.6									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	312	968	1047
Demand Flow Rate, veh/h	0	315	987	1058
Vehicles Circulating, veh/h	1248	792	193	214
Vehicles Exiting, veh/h	24	388	1055	893
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	8.4	7.3	8.0
Approach LOS	-	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.603	0.397	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	190	125	464	523	497	561
Cap Entry Lane, veh/h	428	492	651	724	1191	1191	1169	1169
Entry HV Adj Factor	1.000	1.000	0.989	0.992	0.980	0.981	0.991	0.990
Flow Entry, veh/h	0	0	188	124	455	513	492	555
Cap Entry, veh/h	428	492	645	718	1168	1169	1158	1157
V/C Ratio	0.000	0.000	0.292	0.173	0.389	0.439	0.425	0.480
Control Delay, s/veh	8.4	7.3	9.3	6.9	7.0	7.7	7.5	8.4
LOS	A	A	A	A	A	A	A	A
95th %tile Queue, veh	0	0	1	1	2	2	2	3

Intersection	
Intersection Delay, s/veh	32.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	892	417	956	1116
Demand Flow Rate, veh/h	910	430	985	1127
Vehicles Circulating, veh/h	1184	1035	1045	392
Vehicles Exiting, veh/h	335	995	1049	1073
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	55.8	12.8	44.8	11.5
Approach LOS	F	B	E	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	428	482	202	228	463	522	530	597
Cap Entry Lane, veh/h	454	519	521	589	516	584	941	1018
Entry HV Adj Factor	0.980	0.981	0.971	0.970	0.970	0.970	0.989	0.990
Flow Entry, veh/h	419	473	196	221	449	507	524	591
Cap Entry, veh/h	445	509	506	572	501	567	931	1008
V/C Ratio	0.942	0.929	0.388	0.387	0.897	0.894	0.563	0.587
Control Delay, s/veh	59.8	52.3	13.5	12.2	47.1	42.8	11.5	11.4
LOS	F	F	B	B	E	E	B	B
95th %tile Queue, veh	11	11	2	2	10	11	4	4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	29	0	1001	1095	10
Future Vol, veh/h	0	29	0	1001	1095	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	4	4	2	2
Mvmt Flow	0	33	0	1125	1230	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	621	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	435	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	435	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.94	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	435	-	-
HCM Lane V/C Ratio	-	0.075	-	-
HCM Ctrl Dly (s/v)	-	13.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	325	317	1205	1455
Demand Flow Rate, veh/h	335	327	1216	1469
Vehicles Circulating, veh/h	1485	1283	504	199
Vehicles Exiting, veh/h	183	437	1316	1411
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	37.1	15.2	15.7	11.2
Approach LOS	E	C	C	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.797	0.203	0.523	0.477	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	267	68	171	156	572	644	690	779
Cap Entry Lane, veh/h	344	402	415	477	898	898	1185	1185
Entry HV Adj Factor	0.972	0.971	0.971	0.968	0.990	0.991	0.991	0.990
Flow Entry, veh/h	259	66	166	151	566	638	684	771
Cap Entry, veh/h	335	390	403	462	889	890	1174	1173
V/C Ratio	0.775	0.169	0.412	0.327	0.637	0.717	0.582	0.657
Control Delay, s/veh	43.5	11.9	17.1	13.2	14.1	17.2	10.2	12.0
LOS	E	B	C	B	B	C	B	B
95th %tile Queue, veh	6	1	2	1	5	6	4	5

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	553	1	9	208	5	26
Future Vol, veh/h	553	1	9	208	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	621	1	10	234	6	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	622	0	876	622
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	254	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	958	-	319	487
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	788	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	958	-	316	487
Mov Cap-2 Maneuver	-	-	-	-	316	-
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	779	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.36	13.72
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	448	-	-	75	-
HCM Lane V/C Ratio	0.078	-	-	0.011	-
HCM Ctrl Dly (s/v)	13.7	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

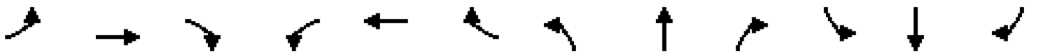
Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	578	1	18	214	3	53
Future Vol, veh/h	578	1	18	214	3	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	649	1	20	240	3	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	651	0	931	650
Stage 1	-	-	-	-	650	-
Stage 2	-	-	-	-	281	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	936	-	296	469
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	936	-	289	469
Mov Cap-2 Maneuver	-	-	-	-	289	-
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.69	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	454	-	-	140	-
HCM Lane V/C Ratio	0.139	-	-	0.022	-
HCM Ctrl Dly (s/v)	14.2	-	-	8.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	192	19	39	346	66	62	127	27	42	87	17
Future Volume (veh/h)	12	192	19	39	346	66	62	127	27	42	87	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	14	223	22	45	402	77	72	148	31	49	101	20
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	0	0	0
Cap, veh/h	149	644	61	171	576	105	248	268	49	241	282	48
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	31	1496	142	73	1339	243	333	1078	199	303	1136	192
Grp Volume(v), veh/h	259	0	0	524	0	0	251	0	0	170	0	0
Grp Sat Flow(s),veh/h/ln	1670	0	0	1655	0	0	1609	0	0	1631	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.9	0.0	0.0	7.3	0.0	0.0	3.8	0.0	0.0	2.3	0.0	0.0
Prop In Lane	0.05		0.08	0.09		0.15	0.29		0.12	0.29		0.12
Lane Grp Cap(c), veh/h	854	0	0	852	0	0	565	0	0	571	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.62	0.00	0.00	0.44	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	1631	0	0	1629	0	0	1595	0	0	1582	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.4	0.0	0.0	6.6	0.0	0.0	9.3	0.0	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.8	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.6	0.0	0.0	7.3	0.0	0.0	9.8	0.0	0.0	9.1	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		259			524			251			170	
Approach Delay, s/veh		5.6			7.3			9.8			9.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.5		16.6		11.5		16.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		5.8		4.9		4.3		9.3				
Green Ext Time (p_c), s		1.2		1.2		0.8		2.8				

Intersection Summary												
HCM 7th Control Delay, s/veh			7.7									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	16.5
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	473	1797	1254
Demand Flow Rate, veh/h	0	473	1797	1267
Vehicles Circulating, veh/h	1550	1482	170	322
Vehicles Exiting, veh/h	39	485	1380	1633
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	36.4	14.8	11.5
Approach LOS	-	E	B	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.598	0.402	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	283	190	845	952	595	672
Cap Entry Lane, veh/h	324	380	345	403	1217	1217	1059	1059
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	0.991	0.989
Flow Entry, veh/h	0	0	283	190	845	952	589	665
Cap Entry, veh/h	324	380	345	403	1216	1217	1049	1048
V/C Ratio	0.000	0.000	0.820	0.472	0.695	0.783	0.562	0.634
Control Delay, s/veh	11.1	9.5	48.0	19.0	12.9	16.6	10.5	12.4
LOS	B	A	E	C	B	C	B	B
95th %tile Queue, veh	0	0	7	2	6	9	4	5

Intersection	
Intersection Delay, s/veh	54.2
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	496	833	1522	1166
Demand Flow Rate, veh/h	496	833	1522	1178
Vehicles Circulating, veh/h	1287	1512	566	867
Vehicles Exiting, veh/h	758	576	1217	1478
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	20.7	125.6	34.6	42.9
Approach LOS	C	F	D	E

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.471	0.529	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	233	263	392	441	715	807	554	624
Cap Entry Lane, veh/h	413	475	336	393	802	878	608	680
Entry HV Adj Factor	1.001	1.000	0.999	1.001	1.000	1.000	0.989	0.990
Flow Entry, veh/h	233	263	392	441	715	807	548	618
Cap Entry, veh/h	413	475	336	393	802	877	601	673
V/C Ratio	0.564	0.553	1.167	1.123	0.892	0.919	0.911	0.918
Control Delay, s/veh	22.2	19.3	137.2	115.3	33.5	35.6	44.0	42.0
LOS	C	C	F	F	D	E	E	E
95th %tile Queue, veh	3	3	16	16	12	14	11	12

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	27	0	1686	1179	22
Future Vol, veh/h	0	27	0	1686	1179	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	0	29	0	1833	1282	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	653	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	415	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	415	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.34	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	415	-	-
HCM Lane V/C Ratio	-	0.071	-	-
HCM Ctrl Dly (s/v)	-	14.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	20.6
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	260	401	1660	1175
Demand Flow Rate, veh/h	266	401	1660	1187
Vehicles Circulating, veh/h	1225	1666	405	288
Vehicles Exiting, veh/h	250	399	1085	1780
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	17.2	34.8	25.2	10.0
Approach LOS	C	D	D	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.823	0.177	0.531	0.469	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	219	47	213	188	780	880	558	629
Cap Entry Lane, veh/h	437	501	292	345	982	982	1093	1093
Entry HV Adj Factor	0.978	0.979	1.000	1.000	1.000	1.000	0.990	0.990
Flow Entry, veh/h	214	46	213	188	780	880	552	623
Cap Entry, veh/h	428	491	292	345	983	982	1082	1082
V/C Ratio	0.501	0.094	0.731	0.546	0.794	0.896	0.511	0.576
Control Delay, s/veh	19.1	8.6	43.3	25.0	20.1	29.7	9.3	10.6
LOS	C	A	E	D	C	D	A	B
95th %tile Queue, veh	3	0	5	3	9	13	3	4

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	334	6	28	528	4	17
Future Vol, veh/h	334	6	28	528	4	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	375	7	31	593	4	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	382	0	1035	379
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	656	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1176	-	257	668
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	516	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1176	-	247	668
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.41	12.49
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	504	-	-	91	-
HCM Lane V/C Ratio	0.047	-	-	0.027	-
HCM Ctrl Dly (s/v)	12.5	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

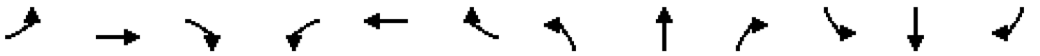
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	347	4	56	554	2	35
Future Vol, veh/h	347	4	56	554	2	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	390	4	63	622	2	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	394	0	1140	392
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	748	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1164	-	222	657
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	468	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1164	-	204	657
Mov Cap-2 Maneuver	-	-	-	-	204	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	429	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.76	11.61
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	586	-	-	165	-
HCM Lane V/C Ratio	0.071	-	-	0.054	-
HCM Ctrl Dly (s/v)	11.6	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	247	43	24	116	18	8	61	60	86	97	16
Future Volume (veh/h)	10	247	43	24	116	18	8	61	60	86	97	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1682	1682	1682	1682	1682	1682	1736	1736	1736
Adj Flow Rate, veh/h	11	278	48	27	130	20	9	69	67	97	109	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	5	5	5	5	5	5	1	1	1
Cap, veh/h	179	456	77	231	414	58	188	205	186	376	233	32
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	23	1410	238	122	1281	179	45	782	710	528	891	124
Grp Volume(v), veh/h	337	0	0	177	0	0	145	0	0	224	0	0
Grp Sat Flow(s),veh/h/ln	1671	0	0	1581	0	0	1537	0	0	1543	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	1.8	0.0	0.0	1.7	0.0	0.0	2.6	0.0	0.0
Prop In Lane	0.03		0.14	0.15		0.11	0.06		0.46	0.43		0.08
Lane Grp Cap(c), veh/h	712	0	0	703	0	0	579	0	0	642	0	0
V/C Ratio(X)	0.47	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	2125	0	0	1985	0	0	1968	0	0	1990	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.2	0.0	0.0	5.6	0.0	0.0	6.5	0.0	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.7	0.0	0.0	5.7	0.0	0.0	6.7	0.0	0.0	7.1	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		337			177			145			224	
Approach Delay, s/veh		6.7			5.7			6.7			7.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.2		11.5		10.2		11.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		3.7		5.7		4.6		3.8				
Green Ext Time (p_c), s		0.7		1.7		1.1		0.9				

Intersection Summary												
HCM 7th Control Delay, s/veh			6.6									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	312	977	1050
Demand Flow Rate, veh/h	0	315	996	1061
Vehicles Circulating, veh/h	1251	799	193	214
Vehicles Exiting, veh/h	24	390	1058	900
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	8.4	7.4	8.0
Approach LOS	-	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.603	0.397	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	190	125	468	528	499	562
Cap Entry Lane, veh/h	427	490	647	720	1191	1191	1169	1169
Entry HV Adj Factor	1.000	1.000	0.989	0.992	0.981	0.981	0.989	0.991
Flow Entry, veh/h	0	0	188	124	459	518	494	557
Cap Entry, veh/h	427	490	640	714	1169	1168	1156	1158
V/C Ratio	0.000	0.000	0.294	0.174	0.393	0.443	0.427	0.481
Control Delay, s/veh	8.4	7.3	9.4	7.0	7.0	7.7	7.5	8.4
LOS	A	A	A	A	A	A	A	A
95th %tile Queue, veh	0	0	1	1	2	2	2	3

Intersection	
Intersection Delay, s/veh	35.3
Intersection LOS	E

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	916	419	959	1118
Demand Flow Rate, veh/h	934	432	988	1129
Vehicles Circulating, veh/h	1184	1046	1061	397
Vehicles Exiting, veh/h	342	1003	1057	1081
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	61.1	13.0	47.9	11.6
Approach LOS	F	B	E	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	439	495	203	229	464	524	531	598
Cap Entry Lane, veh/h	454	519	516	584	509	576	937	1013
Entry HV Adj Factor	0.981	0.981	0.971	0.971	0.971	0.970	0.989	0.991
Flow Entry, veh/h	431	485	197	222	451	508	525	592
Cap Entry, veh/h	445	509	501	566	494	559	927	1004
V/C Ratio	0.966	0.954	0.394	0.392	0.912	0.909	0.567	0.590
Control Delay, s/veh	65.1	57.5	13.7	12.4	50.2	45.8	11.7	11.6
LOS	F	F	B	B	F	E	B	B
95th %tile Queue, veh	12	12	2	2	11	11	4	4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	29	0	1003	1102	10
Future Vol, veh/h	0	29	0	1003	1102	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	4	4	2	2
Mvmt Flow	0	33	0	1127	1238	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	625	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	433	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	433	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	433	-	-
HCM Lane V/C Ratio	-	0.075	-	-
HCM Ctrl Dly (s/v)	-	14	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	325	317	1207	1464
Demand Flow Rate, veh/h	335	327	1218	1478
Vehicles Circulating, veh/h	1494	1285	506	199
Vehicles Exiting, veh/h	183	439	1323	1413
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	38.0	15.3	15.9	11.2
Approach LOS	E	C	C	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.797	0.203	0.523	0.477	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	267	68	171	156	572	646	695	783
Cap Entry Lane, veh/h	342	399	414	476	896	896	1185	1185
Entry HV Adj Factor	0.972	0.971	0.971	0.968	0.991	0.990	0.990	0.991
Flow Entry, veh/h	259	66	166	151	567	640	688	776
Cap Entry, veh/h	332	387	402	461	888	887	1173	1174
V/C Ratio	0.782	0.171	0.413	0.328	0.638	0.721	0.587	0.661
Control Delay, s/veh	44.6	12.1	17.2	13.2	14.1	17.4	10.3	12.1
LOS	E	B	C	B	B	C	B	B
95th %tile Queue, veh	6	1	2	1	5	6	4	5

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	554	1	9	210	5	26
Future Vol, veh/h	554	1	9	210	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	622	1	10	236	6	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	624	0	879	623
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	256	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	958	-	318	486
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	787	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	958	-	314	486
Mov Cap-2 Maneuver	-	-	-	-	314	-
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	777	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.36	13.74
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	447	-	-	74	-
HCM Lane V/C Ratio	0.078	-	-	0.011	-
HCM Ctrl Dly (s/v)	13.7	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

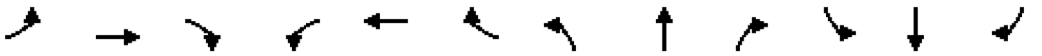
Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	578	2	25	214	5	75
Future Vol, veh/h	578	2	25	214	5	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	649	2	28	240	6	84

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	652	0	947	651
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	297	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	935	-	290	469
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	754	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	935	-	280	469
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	728	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.94	14.99
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	450	-	-	188	-
HCM Lane V/C Ratio	0.2	-	-	0.03	-
HCM Ctrl Dly (s/v)	15	-	-	9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	194	19	39	347	66	62	127	27	42	87	17
Future Volume (veh/h)	12	194	19	39	347	66	62	127	27	42	87	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	14	226	22	45	403	77	72	148	31	49	101	20
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	0	0	0
Cap, veh/h	149	646	60	171	577	105	248	268	49	241	282	48
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	31	1499	140	73	1339	243	333	1078	199	303	1136	192
Grp Volume(v), veh/h	262	0	0	525	0	0	251	0	0	170	0	0
Grp Sat Flow(s),veh/h/ln	1670	0	0	1655	0	0	1609	0	0	1631	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.9	0.0	0.0	7.3	0.0	0.0	3.8	0.0	0.0	2.3	0.0	0.0
Prop In Lane	0.05		0.08	0.09		0.15	0.29		0.12	0.29		0.12
Lane Grp Cap(c), veh/h	855	0	0	853	0	0	565	0	0	570	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.62	0.00	0.00	0.44	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	1630	0	0	1627	0	0	1593	0	0	1580	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.4	0.0	0.0	6.6	0.0	0.0	9.3	0.0	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.8	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.6	0.0	0.0	7.3	0.0	0.0	9.9	0.0	0.0	9.1	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		262			525			251			170	
Approach Delay, s/veh		5.6			7.3			9.9			9.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.5		16.6		11.5		16.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		5.8		4.9		4.3		9.3				
Green Ext Time (p_c), s		1.2		1.3		0.8		2.8				

Intersection Summary												
HCM 7th Control Delay, s/veh			7.7									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	16.7
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	474	1802	1261
Demand Flow Rate, veh/h	0	474	1802	1274
Vehicles Circulating, veh/h	1558	1486	170	323
Vehicles Exiting, veh/h	39	486	1388	1637
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	37.0	14.9	11.6
Approach LOS	-	E	B	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.599	0.401	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	284	190	847	955	599	675
Cap Entry Lane, veh/h	322	378	344	401	1217	1217	1058	1058
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	0.989	0.990
Flow Entry, veh/h	0	0	284	190	847	955	593	668
Cap Entry, veh/h	322	378	344	401	1216	1217	1047	1048
V/C Ratio	0.000	0.000	0.825	0.473	0.696	0.785	0.566	0.638
Control Delay, s/veh	11.2	9.5	49.0	19.1	12.9	16.7	10.7	12.5
LOS	B	A	E	C	B	C	B	B
95th %tile Queue, veh	0	0	7	2	6	9	4	5

Intersection	
Intersection Delay, s/veh	58.6
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	514	842	1531	1175
Demand Flow Rate, veh/h	514	842	1531	1187
Vehicles Circulating, veh/h	1287	1527	578	885
Vehicles Exiting, veh/h	785	582	1223	1484
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	21.6	135.9	37.2	47.4
Approach LOS	C	F	E	E

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.471	0.529	0.470	0.530	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	242	272	396	446	720	811	558	629
Cap Entry Lane, veh/h	413	475	331	388	793	869	598	669
Entry HV Adj Factor	0.998	1.002	0.999	1.001	0.999	1.001	0.990	0.990
Flow Entry, veh/h	242	272	396	446	720	811	552	623
Cap Entry, veh/h	412	476	331	388	793	869	592	663
V/C Ratio	0.586	0.572	1.195	1.150	0.908	0.933	0.933	0.940
Control Delay, s/veh	23.3	20.0	148.0	125.2	36.1	38.2	48.4	46.4
LOS	C	C	F	F	E	E	E	E
95th %tile Queue, veh	4	4	17	17	12	14	12	13

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	27	0	1694	1184	22
Future Vol, veh/h	0	27	0	1694	1184	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	0	29	0	1841	1287	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	655	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	413	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	413	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.38	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	413	-	-
HCM Lane V/C Ratio	-	0.071	-	-
HCM Ctrl Dly (s/v)	-	14.4	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	260	402	1667	1180
Demand Flow Rate, veh/h	266	402	1667	1192
Vehicles Circulating, veh/h	1230	1673	406	288
Vehicles Exiting, veh/h	250	400	1089	1788
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	17.3	35.3	25.7	10.0
Approach LOS	C	E	D	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.823	0.177	0.530	0.470	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	219	47	213	189	783	884	560	632
Cap Entry Lane, veh/h	435	499	290	342	981	981	1093	1093
Entry HV Adj Factor	0.978	0.979	1.000	1.000	1.001	0.999	0.991	0.990
Flow Entry, veh/h	214	46	213	189	783	884	555	626
Cap Entry, veh/h	426	488	290	342	982	981	1082	1081
V/C Ratio	0.503	0.094	0.735	0.552	0.798	0.901	0.513	0.578
Control Delay, s/veh	19.2	8.6	44.1	25.5	20.4	30.4	9.3	10.7
LOS	C	A	E	D	C	D	A	B
95th %tile Queue, veh	3	0	5	3	9	13	3	4

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	336	7	28	529	4	17
Future Vol, veh/h	336	7	28	529	4	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	378	8	31	594	4	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	385	0	1039	381
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	657	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1173	-	256	666
Stage 1	-	-	-	-	690	-
Stage 2	-	-	-	-	516	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1173	-	245	666
Mov Cap-2 Maneuver	-	-	-	-	245	-
Stage 1	-	-	-	-	690	-
Stage 2	-	-	-	-	495	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.41	12.53
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	502	-	-	90	-
HCM Lane V/C Ratio	0.047	-	-	0.027	-
HCM Ctrl Dly (s/v)	12.5	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	347	6	79	554	3	49
Future Vol, veh/h	347	6	79	554	3	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	390	7	89	622	3	55

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	397	0	1193	393
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	800	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1162	-	206	656
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	442	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1162	-	182	656
Mov Cap-2 Maneuver	-	-	-	-	182	-
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	391	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.04	12.03
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	570	-	-	225	-
HCM Lane V/C Ratio	0.102	-	-	0.076	-
HCM Ctrl Dly (s/v)	12	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	265	46	26	124	19	8	66	64	92	105	17
Future Volume (veh/h)	11	265	46	26	124	19	8	66	64	92	105	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1682	1682	1682	1682	1682	1682	1736	1736	1736
Adj Flow Rate, veh/h	12	298	52	29	139	21	9	74	72	103	118	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	5	5	5	5	5	5	1	1	1
Cap, veh/h	171	476	81	222	434	59	178	210	191	365	241	33
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	23	1408	240	120	1285	176	41	783	714	522	899	122
Grp Volume(v), veh/h	362	0	0	189	0	0	155	0	0	240	0	0
Grp Sat Flow(s),veh/h/ln	1670	0	0	1580	0	0	1538	0	0	1543	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	2.0	0.0	0.0	1.9	0.0	0.0	2.9	0.0	0.0
Prop In Lane	0.03		0.14	0.15		0.11	0.06		0.46	0.43		0.08
Lane Grp Cap(c), veh/h	727	0	0	716	0	0	579	0	0	639	0	0
V/C Ratio(X)	0.50	0.00	0.00	0.26	0.00	0.00	0.27	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	2018	0	0	1882	0	0	1870	0	0	1887	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	0.0	0.0	5.7	0.0	0.0	6.8	0.0	0.0	7.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.9	0.0	0.0	5.8	0.0	0.0	7.0	0.0	0.0	7.5	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		362			189			155			240	
Approach Delay, s/veh		6.9			5.8			7.0			7.5	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.6		12.2		10.6		12.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		3.9		6.2		4.9		4.0				
Green Ext Time (p_c), s		0.7		1.8		1.2		0.9				

Intersection Summary												
HCM 7th Control Delay, s/veh			6.9									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	337	1049	1129
Demand Flow Rate, veh/h	0	340	1070	1140
Vehicles Circulating, veh/h	1345	859	208	233
Vehicles Exiting, veh/h	28	419	1137	966
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	9.4	8.0	8.8
Approach LOS	-	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.603	0.397	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	205	135	503	567	536	604
Cap Entry Lane, veh/h	392	453	613	684	1175	1175	1149	1149
Entry HV Adj Factor	1.000	1.000	0.990	0.993	0.980	0.980	0.990	0.990
Flow Entry, veh/h	0	0	203	134	493	556	531	598
Cap Entry, veh/h	392	453	607	679	1152	1152	1137	1138
V/C Ratio	0.000	0.000	0.335	0.197	0.428	0.482	0.467	0.526
Control Delay, s/veh	9.2	8.0	10.6	7.6	7.6	8.4	8.2	9.2
LOS	A	A	B	A	A	A	A	A
95th %tile Queue, veh	0	0	1	1	2	3	3	3

Intersection	
Intersection Delay, s/veh	58.5
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	977	449	1031	1207
Demand Flow Rate, veh/h	996	463	1062	1219
Vehicles Circulating, veh/h	1280	1122	1139	425
Vehicles Exiting, veh/h	364	1079	1137	1160
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	107.9	15.3	83.1	13.6
Approach LOS	F	C	F	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.471	0.529	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	468	528	218	245	499	563	573	646
Cap Entry Lane, veh/h	416	478	481	547	473	539	913	989
Entry HV Adj Factor	0.981	0.981	0.968	0.971	0.971	0.971	0.990	0.990
Flow Entry, veh/h	459	518	211	238	485	547	567	640
Cap Entry, veh/h	408	469	466	531	460	524	904	980
V/C Ratio	1.125	1.104	0.453	0.448	1.054	1.044	0.628	0.653
Control Delay, s/veh	114.6	102.0	16.3	14.4	87.1	79.5	13.6	13.6
LOS	F	F	C	B	F	F	B	B
95th %tile Queue, veh	17	17	2	2	15	16	5	5

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	0	1080	1184	11
Future Vol, veh/h	0	31	0	1080	1184	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	4	4	2	2
Mvmt Flow	0	35	0	1213	1330	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	671	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	403	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	403	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.77	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	403	-	-
HCM Lane V/C Ratio	-	0.086	-	-
HCM Ctrl Dly (s/v)	-	14.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection	
Intersection Delay, s/veh	21.1
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	351	341	1299	1574
Demand Flow Rate, veh/h	362	351	1312	1590
Vehicles Circulating, veh/h	1607	1384	546	213
Vehicles Exiting, veh/h	196	474	1423	1522
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	62.4	18.4	20.5	13.0
Approach LOS	F	C	C	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.796	0.204	0.521	0.479	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	288	74	183	168	617	695	747	843
Cap Entry Lane, veh/h	308	362	378	438	864	864	1170	1170
Entry HV Adj Factor	0.970	0.973	0.972	0.970	0.989	0.991	0.990	0.990
Flow Entry, veh/h	279	72	178	163	610	688	740	834
Cap Entry, veh/h	299	352	367	425	855	856	1159	1158
V/C Ratio	0.936	0.204	0.484	0.384	0.714	0.804	0.639	0.721
Control Delay, s/veh	75.0	13.8	21.1	15.6	17.6	23.0	11.6	14.3
LOS	F	B	C	C	C	C	B	B
95th %tile Queue, veh	9	1	3	2	6	9	5	7

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	596	1	9	225	5	26
Future Vol, veh/h	596	1	9	225	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	670	1	10	253	6	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	671	0	943	670
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	920	-	291	457
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	773	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	920	-	288	457
Mov Cap-2 Maneuver	-	-	-	-	288	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	763	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.34	14.41
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	417	-	-	69	-
HCM Lane V/C Ratio	0.083	-	-	0.011	-
HCM Ctrl Dly (s/v)	14.4	-	-	9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

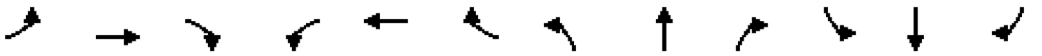
Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	620	2	25	229	5	75
Future Vol, veh/h	620	2	25	229	5	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	697	2	28	257	6	84

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	699	0	1011	698
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	313	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	898	-	265	441
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	741	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	898	-	256	441
Mov Cap-2 Maneuver	-	-	-	-	256	-
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	714	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.9	15.84
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	422	-	-	177	-
HCM Lane V/C Ratio	0.213	-	-	0.031	-
HCM Ctrl Dly (s/v)	15.8	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	208	21	42	373	71	67	137	29	45	93	18
Future Volume (veh/h)	13	208	21	42	373	71	67	137	29	45	93	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	15	242	24	49	434	83	78	159	34	52	108	21
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	0	0	0
Cap, veh/h	139	670	64	163	598	109	239	273	51	230	292	48
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	31	1495	142	75	1334	242	336	1070	202	302	1144	190
Grp Volume(v), veh/h	281	0	0	566	0	0	271	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	0	1652	0	0	1608	0	0	1635	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.3	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	0.0	8.6	0.0	0.0	4.4	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.05		0.09	0.09		0.15	0.29		0.13	0.29		0.12
Lane Grp Cap(c), veh/h	872	0	0	869	0	0	563	0	0	570	0	0
V/C Ratio(X)	0.32	0.00	0.00	0.65	0.00	0.00	0.48	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	1507	0	0	1504	0	0	1472	0	0	1462	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.5	0.0	0.0	7.0	0.0	0.0	10.0	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.8	0.0	0.0	0.6	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.1	0.0	0.0	0.9	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.7	0.0	0.0	7.8	0.0	0.0	10.7	0.0	0.0	9.7	0.0	0.0
LnGrp LOS	A			A			B			A		
Approach Vol, veh/h		281			566			271			181	
Approach Delay, s/veh		5.7			7.8			10.7			9.7	
Approach LOS		A			A			B			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.2		18.1		12.2		18.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		6.4		5.3		4.7		10.6				
Green Ext Time (p_c), s		1.3		1.4		0.9		3.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			8.2									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	22.3
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	508	1937	1354
Demand Flow Rate, veh/h	0	508	1937	1368
Vehicles Circulating, veh/h	1673	1597	181	346
Vehicles Exiting, veh/h	41	521	1492	1759
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	60.2	18.6	13.5
Approach LOS	-	F	C	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.600	0.400	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	305	203	910	1027	643	725
Cap Entry Lane, veh/h	290	342	311	365	1204	1204	1036	1036
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	0.990	0.990
Flow Entry, veh/h	0	0	305	203	910	1027	636	718
Cap Entry, veh/h	290	342	311	365	1205	1204	1026	1026
V/C Ratio	0.000	0.000	0.982	0.556	0.756	0.853	0.620	0.699
Control Delay, s/veh	12.4	10.5	84.1	24.3	15.3	21.5	12.2	14.7
LOS	B	B	F	C	C	C	B	B
95th %tile Queue, veh	0	0	10	3	8	11	4	6

Intersection	
Intersection Delay, s/veh	96.1
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	546	903	1646	1261
Demand Flow Rate, veh/h	546	903	1646	1274
Vehicles Circulating, veh/h	1385	1638	617	946
Vehicles Exiting, veh/h	835	625	1314	1595
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	28.4	222.9	61.1	80.2
Approach LOS	D	F	F	F

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.471	0.529	0.470	0.530	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	257	289	424	479	774	872	599	675
Cap Entry Lane, veh/h	378	437	299	353	765	840	565	635
Entry HV Adj Factor	0.999	1.001	1.001	0.999	1.000	1.000	0.990	0.990
Flow Entry, veh/h	257	289	424	479	774	872	593	668
Cap Entry, veh/h	377	438	299	353	765	841	560	629
V/C Ratio	0.681	0.661	1.417	1.358	1.011	1.038	1.059	1.062
Control Delay, s/veh	31.0	26.1	239.3	208.4	58.6	63.2	81.8	78.9
LOS	D	D	F	F	F	F	F	F
95th %tile Queue, veh	5	5	23	23	18	20	17	18

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	29	0	1821	1273	24
Future Vol, veh/h	0	29	0	1821	1273	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	0	32	0	1979	1384	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	705	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	384	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	384	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	15.22	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	384	-	-
HCM Lane V/C Ratio	-	0.082	-	-
HCM Ctrl Dly (s/v)	-	15.2	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection	
Intersection Delay, s/veh	30.4
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	281	432	1793	1268
Demand Flow Rate, veh/h	287	432	1793	1280
Vehicles Circulating, veh/h	1321	1800	436	309
Vehicles Exiting, veh/h	268	429	1172	1923
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	21.7	54.7	39.3	11.4
Approach LOS	C	F	E	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.819	0.181	0.530	0.470	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	235	52	229	203	843	950	602	678
Cap Entry Lane, veh/h	400	462	258	307	955	955	1072	1072
Entry HV Adj Factor	0.979	0.981	1.000	1.000	1.000	1.000	0.990	0.991
Flow Entry, veh/h	230	51	229	203	843	950	596	672
Cap Entry, veh/h	392	453	258	307	955	955	1061	1062
V/C Ratio	0.587	0.113	0.888	0.660	0.883	0.995	0.562	0.632
Control Delay, s/veh	24.3	9.5	72.1	35.1	28.6	48.7	10.5	12.2
LOS	C	A	F	E	D	E	B	B
95th %tile Queue, veh	4	0	8	4	12	19	4	5

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	362	7	28	569	4	17
Future Vol, veh/h	362	7	28	569	4	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	407	8	31	639	4	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	415	0	1113	411
Stage 1	-	-	-	-	411	-
Stage 2	-	-	-	-	702	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1144	-	231	641
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	491	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1144	-	221	641
Mov Cap-2 Maneuver	-	-	-	-	221	-
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	470	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.39	13.05
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	471	-	-	84	-
HCM Lane V/C Ratio	0.05	-	-	0.027	-
HCM Ctrl Dly (s/v)	13.1	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	373	6	79	594	3	49
Future Vol, veh/h	373	6	79	594	3	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	419	7	89	667	3	55

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	426	0	1267	422
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	845	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1133	-	186	631
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1133	-	163	631
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	369	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.99	12.45
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	542	-	-	211	-
HCM Lane V/C Ratio	0.108	-	-	0.078	-
HCM Ctrl Dly (s/v)	12.5	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	268	46	27	130	20	8	66	65	93	105	17
Future Volume (veh/h)	11	268	46	27	130	20	8	66	65	93	105	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1682	1682	1682	1682	1682	1682	1736	1736	1736
Adj Flow Rate, veh/h	12	301	52	30	146	22	9	74	73	104	118	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	5	5	5	5	5	5	1	1	1
Cap, veh/h	170	479	81	221	437	60	177	208	193	365	240	33
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	23	1410	238	119	1286	176	40	778	719	525	895	122
Grp Volume(v), veh/h	365	0	0	198	0	0	156	0	0	241	0	0
Grp Sat Flow(s),veh/h/ln	1671	0	0	1581	0	0	1537	0	0	1542	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	2.1	0.0	0.0	1.9	0.0	0.0	2.9	0.0	0.0
Prop In Lane	0.03		0.14	0.15		0.11	0.06		0.47	0.43		0.08
Lane Grp Cap(c), veh/h	730	0	0	718	0	0	578	0	0	638	0	0
V/C Ratio(X)	0.50	0.00	0.00	0.28	0.00	0.00	0.27	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	2007	0	0	1872	0	0	1859	0	0	1876	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	0.0	0.0	5.7	0.0	0.0	6.8	0.0	0.0	7.2	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.9	0.0	0.0	5.9	0.0	0.0	7.1	0.0	0.0	7.6	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		365			198			156			241	
Approach Delay, s/veh		6.9			5.9			7.1			7.6	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	10.7	12.3	10.7	12.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	25.5	25.5	25.5
Max Q Clear Time (g_c+I1), s	3.9	6.2	4.9	4.1
Green Ext Time (p_c), s	0.7	1.8	1.2	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	6.9
HCM 7th LOS	A

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	340	1078	1143
Demand Flow Rate, veh/h	0	343	1100	1154
Vehicles Circulating, veh/h	1362	883	208	236
Vehicles Exiting, veh/h	28	425	1154	990
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	9.7	8.2	8.9
Approach LOS	-	A	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.606	0.394	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	208	135	517	583	542	612
Cap Entry Lane, veh/h	386	446	599	670	1175	1175	1146	1146
Entry HV Adj Factor	1.000	1.000	0.990	0.993	0.980	0.980	0.991	0.990
Flow Entry, veh/h	0	0	206	134	507	571	537	606
Cap Entry, veh/h	386	446	593	665	1152	1152	1135	1134
V/C Ratio	0.000	0.000	0.347	0.201	0.440	0.496	0.473	0.534
Control Delay, s/veh	9.3	8.1	11.0	7.8	7.8	8.6	8.4	9.4
LOS	A	A	B	A	A	A	A	A
95th %tile Queue, veh	0	0	2	1	2	3	3	3

Intersection	
Intersection Delay, s/veh	74.9
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1041	466	1049	1223
Demand Flow Rate, veh/h	1062	480	1080	1235
Vehicles Circulating, veh/h	1287	1170	1198	460
Vehicles Exiting, veh/h	408	1108	1151	1190
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	137.0	16.9	108.8	14.9
Approach LOS	F	C	F	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.471	0.529	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	499	563	226	254	508	572	580	655
Cap Entry Lane, veh/h	413	475	460	525	448	513	884	960
Entry HV Adj Factor	0.980	0.980	0.968	0.972	0.971	0.972	0.991	0.990
Flow Entry, veh/h	489	552	219	247	493	556	575	648
Cap Entry, veh/h	405	466	446	510	435	499	876	950
V/C Ratio	1.208	1.184	0.491	0.484	1.133	1.115	0.656	0.682
Control Delay, s/veh	144.4	130.5	18.1	15.9	114.6	103.7	14.9	14.9
LOS	F	F	C	C	F	F	B	B
95th %tile Queue, veh	20	21	3	3	18	18	5	6

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	51	0	1095	1190	21
Future Vol, veh/h	0	51	0	1095	1190	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	4	4	2	2
Mvmt Flow	0	57	0	1230	1337	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	680	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	398	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	398	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	15.56	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	398	-	-
HCM Lane V/C Ratio	-	0.144	-	-
HCM Ctrl Dly (s/v)	-	15.6	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

Intersection	
Intersection Delay, s/veh	22.3
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	351	345	1315	1607
Demand Flow Rate, veh/h	362	355	1328	1623
Vehicles Circulating, veh/h	1640	1400	552	213
Vehicles Exiting, veh/h	196	480	1450	1542
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	69.0	19.0	21.5	13.5
Approach LOS	F	C	C	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.796	0.204	0.515	0.485	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	288	74	183	172	624	704	763	860
Cap Entry Lane, veh/h	299	352	372	432	859	859	1170	1170
Entry HV Adj Factor	0.970	0.973	0.972	0.971	0.990	0.990	0.990	0.990
Flow Entry, veh/h	279	72	178	167	618	697	755	852
Cap Entry, veh/h	290	343	362	419	851	850	1158	1158
V/C Ratio	0.964	0.210	0.491	0.398	0.726	0.819	0.652	0.735
Control Delay, s/veh	83.1	14.3	21.6	16.1	18.2	24.4	12.0	14.9
LOS	F	B	C	C	C	C	B	B
95th %tile Queue, veh	10	1	3	2	7	9	5	7

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	597	6	39	228	12	62
Future Vol, veh/h	597	6	39	228	12	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	671	7	44	256	13	70

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	678	0	1018	674
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	344	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	914	-	263	454
Stage 1	-	-	-	-	506	-
Stage 2	-	-	-	-	718	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	914	-	248	454
Mov Cap-2 Maneuver	-	-	-	-	248	-
Stage 1	-	-	-	-	506	-
Stage 2	-	-	-	-	678	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.33	16.33
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	401	-	-	263	-
HCM Lane V/C Ratio	0.208	-	-	0.048	-
HCM Ctrl Dly (s/v)	16.3	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-

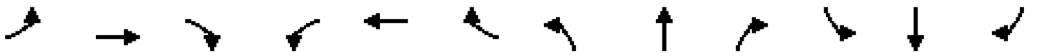
Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	656	3	30	259	8	94
Future Vol, veh/h	656	3	30	259	8	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	737	3	34	291	9	106

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	740	0	1097	739
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	866	-	236	417
Stage 1	-	-	-	-	472	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	866	-	225	417
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	472	-
Stage 2	-	-	-	-	674	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.97	17.97
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	391	-	-	187	-
HCM Lane V/C Ratio	0.293	-	-	0.039	-
HCM Ctrl Dly (s/v)	18	-	-	9.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	218	21	44	381	73	67	137	31	47	93	18
Future Volume (veh/h)	13	218	21	44	381	73	67	137	31	47	93	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	15	253	24	51	443	85	78	159	36	55	108	21
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	0	0	0
Cap, veh/h	136	683	62	162	604	110	235	271	54	232	287	47
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	29	1503	137	77	1330	242	333	1063	212	319	1128	186
Grp Volume(v), veh/h	292	0	0	579	0	0	273	0	0	184	0	0
Grp Sat Flow(s),veh/h/ln	1670	0	0	1649	0	0	1608	0	0	1633	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.5	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	9.0	0.0	0.0	4.6	0.0	0.0	2.8	0.0	0.0
Prop In Lane	0.05		0.08	0.09		0.15	0.29		0.13	0.30		0.11
Lane Grp Cap(c), veh/h	881	0	0	876	0	0	559	0	0	567	0	0
V/C Ratio(X)	0.33	0.00	0.00	0.66	0.00	0.00	0.49	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	1480	0	0	1474	0	0	1444	0	0	1431	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	0.0	7.0	0.0	0.0	10.2	0.0	0.0	9.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.9	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.2	0.0	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.8	0.0	0.0	7.9	0.0	0.0	10.9	0.0	0.0	9.9	0.0	0.0
LnGrp LOS	A			A			B			A		
Approach Vol, veh/h		292			579			273			184	
Approach Delay, s/veh		5.8			7.9			10.9			9.9	
Approach LOS		A			A			B			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.4		18.5		12.4		18.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		6.6		5.5		4.8		11.0				
Green Ext Time (p_c), s		1.3		1.4		0.9		3.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			8.3									
HCM 7th LOS			A									

Intersection	
Intersection Delay, s/veh	24.6
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	0	516	1974	1394
Demand Flow Rate, veh/h	0	516	1974	1408
Vehicles Circulating, veh/h	1721	1628	181	354
Vehicles Exiting, veh/h	41	527	1540	1790
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	70.8	19.7	14.5
Approach LOS	-	F	C	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.500	0.500	0.607	0.393	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	0	0	313	203	928	1046	662	746
Cap Entry Lane, veh/h	277	329	302	356	1204	1204	1029	1029
Entry HV Adj Factor	1.000	1.000	1.000	1.000	1.000	1.000	0.990	0.990
Flow Entry, veh/h	0	0	313	203	928	1046	655	739
Cap Entry, veh/h	277	329	302	356	1204	1205	1018	1019
V/C Ratio	0.000	0.000	1.037	0.570	0.770	0.868	0.643	0.725
Control Delay, s/veh	13.0	10.9	100.2	25.6	16.1	22.9	12.9	15.9
LOS	B	B	F	D	C	C	B	C
95th %tile Queue, veh	0	0	12	3	8	12	5	7

Intersection	
Intersection Delay, s/veh	144.6
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	636	969	1691	1306
Demand Flow Rate, veh/h	636	969	1691	1319
Vehicles Circulating, veh/h	1431	1718	686	1057
Vehicles Exiting, veh/h	945	659	1381	1630
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	43.0	313.7	92.6	136.1
Approach LOS	E	F	F	F

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	LT	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	299	337	455	514	795	896	620	699
Cap Entry Lane, veh/h	362	421	278	330	718	793	511	578
Entry HV Adj Factor	1.000	1.000	1.001	0.999	1.000	1.000	0.990	0.990
Flow Entry, veh/h	299	337	455	514	795	896	614	692
Cap Entry, veh/h	362	421	278	329	718	793	505	573
V/C Ratio	0.826	0.801	1.637	1.559	1.107	1.130	1.214	1.209
Control Delay, s/veh	47.3	39.1	334.7	295.1	89.6	95.2	139.2	133.3
LOS	E	E	F	F	F	F	F	F
95th %tile Queue, veh	7	7	28	30	23	26	23	25

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	42	0	1863	1292	58
Future Vol, veh/h	0	42	0	1863	1292	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	0	46	0	2025	1404	63

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	734	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	367	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	367	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	16.19	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	367	-	-
HCM Lane V/C Ratio	-	0.124	-	-
HCM Ctrl Dly (s/v)	-	16.2	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection	
Intersection Delay, s/veh	33.5
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	1	1
Adj Approach Flow, veh/h	281	439	1829	1301
Demand Flow Rate, veh/h	287	439	1829	1314
Vehicles Circulating, veh/h	1355	1836	441	309
Vehicles Exiting, veh/h	268	434	1201	1966
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	23.1	60.9	44.0	11.8
Approach LOS	C	F	E	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	R	LT	R	LT	TR	LT	TR
Assumed Moves	LT	R	LT	R	LT	TR	LT	TR
RT Channelized								
Lane Util	0.819	0.181	0.522	0.478	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.544	4.544	4.544	4.544
A (Intercept)	1350	1420	1350	1420	1420	1420	1420	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.101e-4	9.101e-4	9.101e-4	9.101e-4
Entry Flow, veh/h	235	52	229	210	860	969	618	696
Cap Entry Lane, veh/h	388	449	249	298	951	951	1072	1072
Entry HV Adj Factor	0.979	0.981	1.000	1.000	1.000	1.000	0.990	0.991
Flow Entry, veh/h	230	51	229	210	860	969	612	690
Cap Entry, veh/h	380	440	249	298	950	951	1061	1062
V/C Ratio	0.605	0.116	0.918	0.704	0.905	1.019	0.577	0.649
Control Delay, s/veh	26.0	9.8	80.1	39.9	31.6	55.0	10.8	12.7
LOS	D	A	F	E	D	F	B	B
95th %tile Queue, veh	4	0	8	5	13	20	4	5

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	366	16	84	573	11	69
Future Vol, veh/h	366	16	84	573	11	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	411	18	94	644	12	78

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	429	0	1253	420
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	833	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1130	-	190	633
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	427	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1130	-	165	633
Mov Cap-2 Maneuver	-	-	-	-	165	-
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	371	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.08	14.83
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	456	-	-	230	-
HCM Lane V/C Ratio	0.197	-	-	0.084	-
HCM Ctrl Dly (s/v)	14.8	-	-	8.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.3	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	425	10	65	650	7	62
Future Vol, veh/h	425	10	65	650	7	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	478	11	73	730	8	70

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	489	0	1360	483
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	876	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1074	-	164	583
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	407	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1074	-	145	583
Mov Cap-2 Maneuver	-	-	-	-	145	-
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	361	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.78	14.75
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	446	-	-	164	-
HCM Lane V/C Ratio	0.174	-	-	0.068	-
HCM Ctrl Dly (s/v)	14.8	-	-	8.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.2	-

Appendix C: Estimated Future Traffic Volume Maps

Exhibit C-1. 2027 Background Traffic

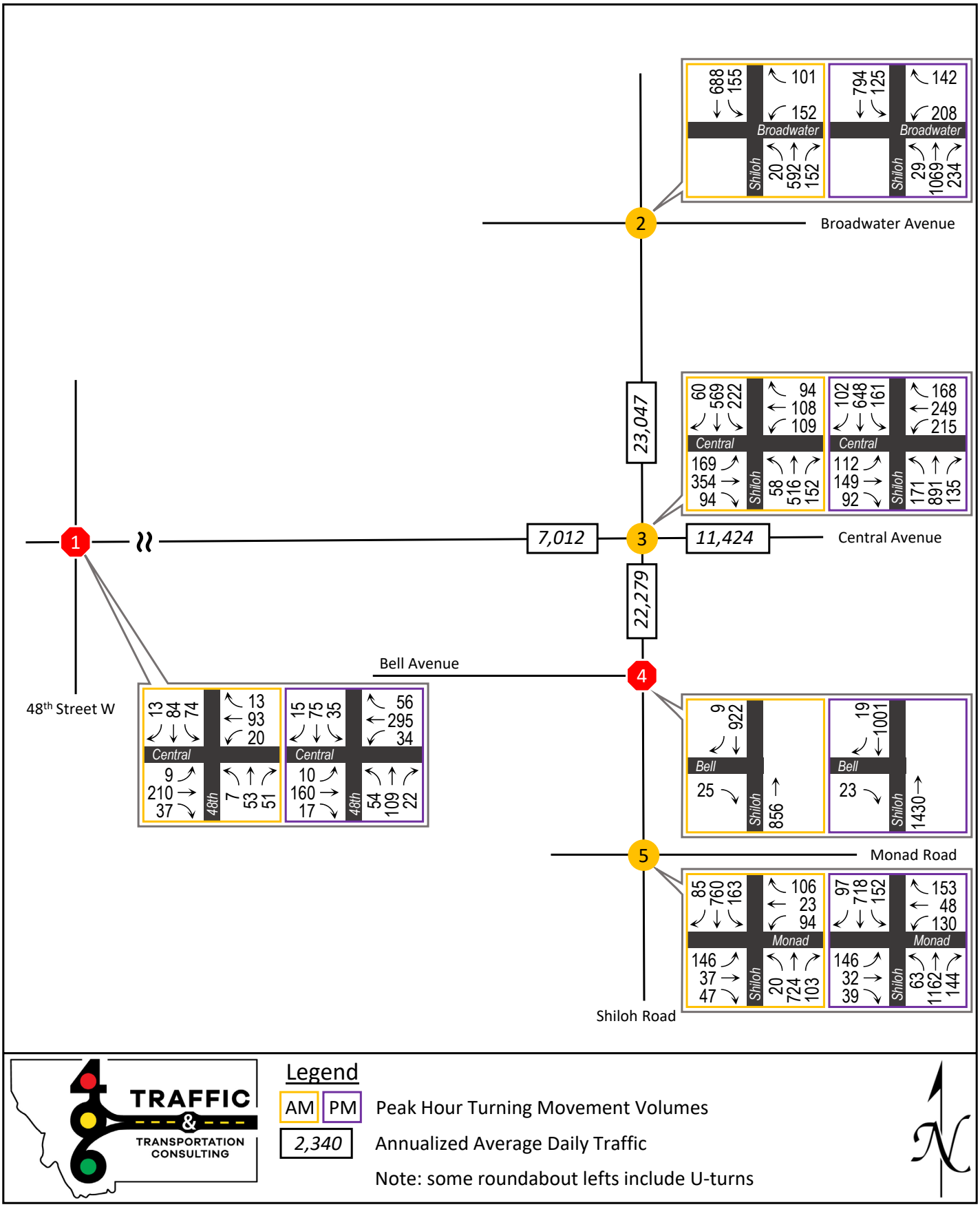


Exhibit C-2. 2027 Phase 1A Project Trips

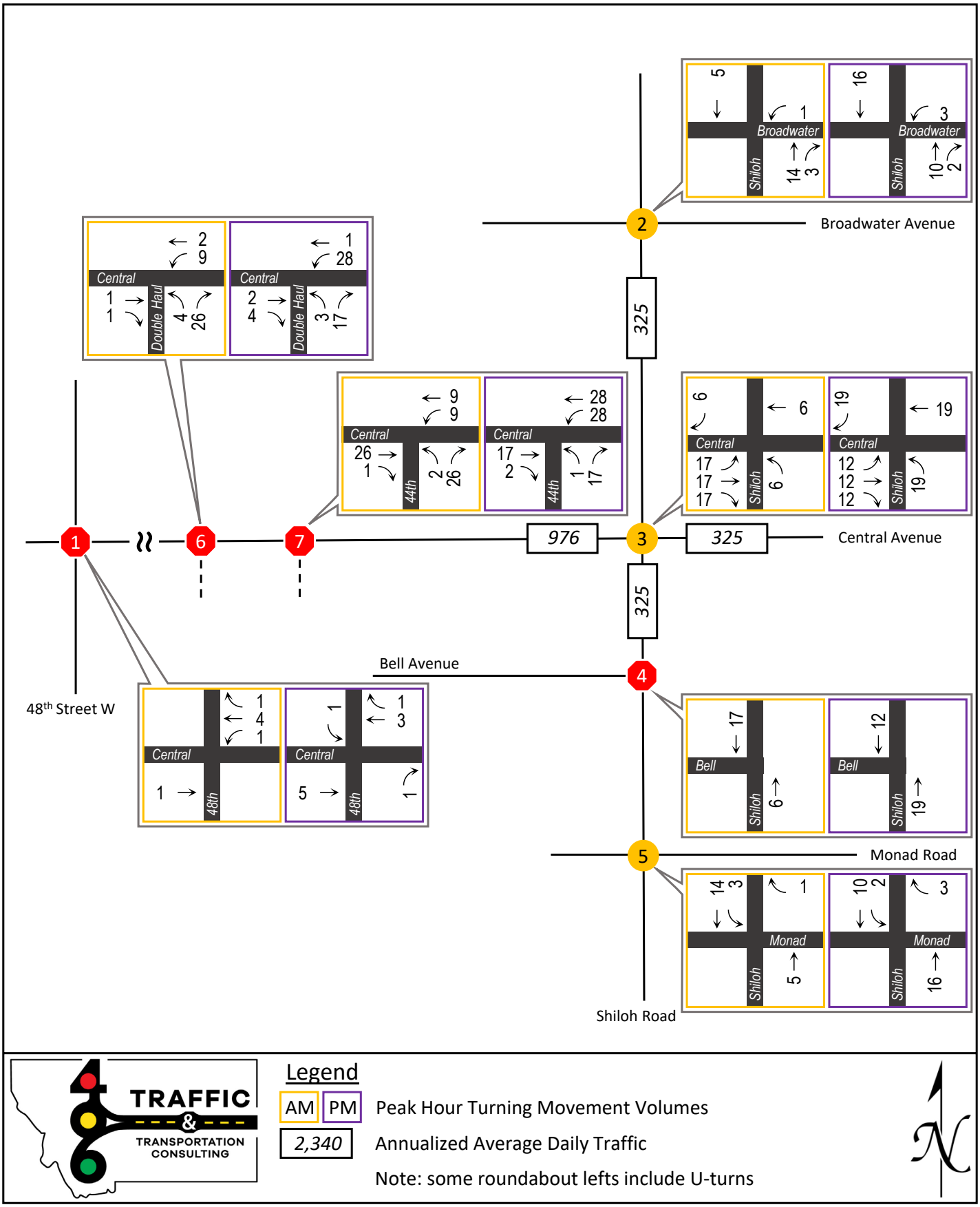


Exhibit C-3. 2027 Phase 1A Total Traffic

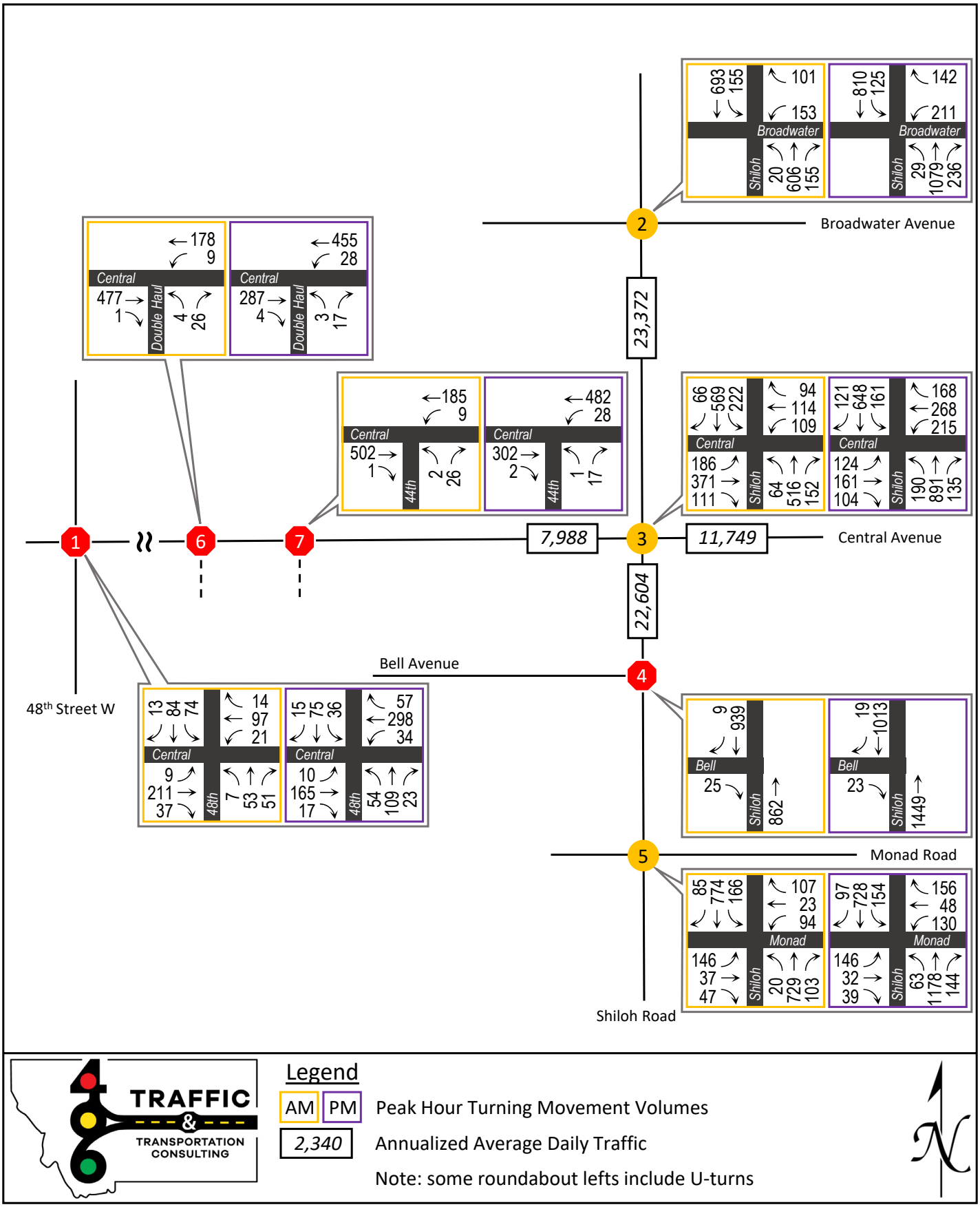


Exhibit C-4. 2029 Traffic Without Phase 1B

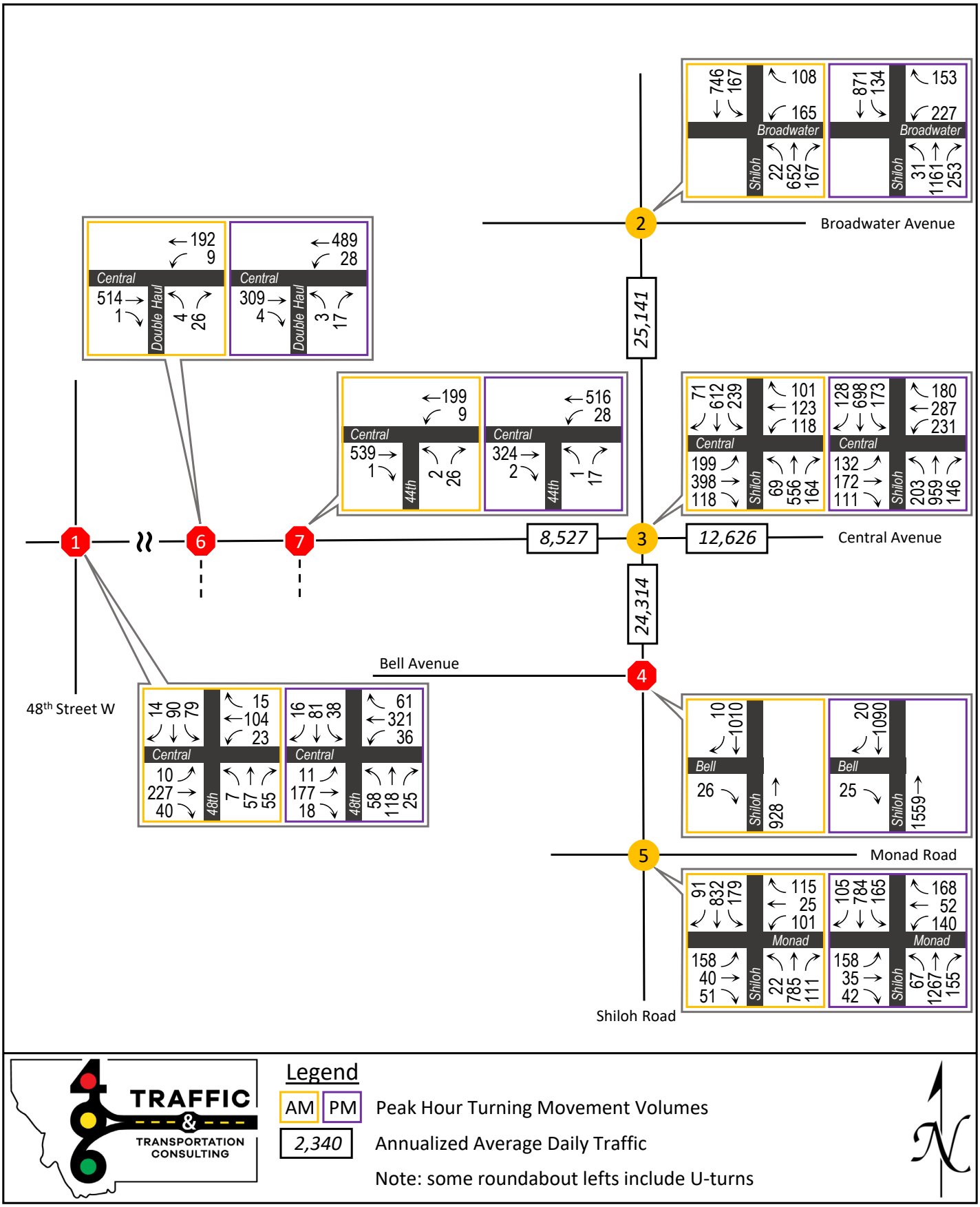


Exhibit C-5. 2029 Phase 1B Project Trips

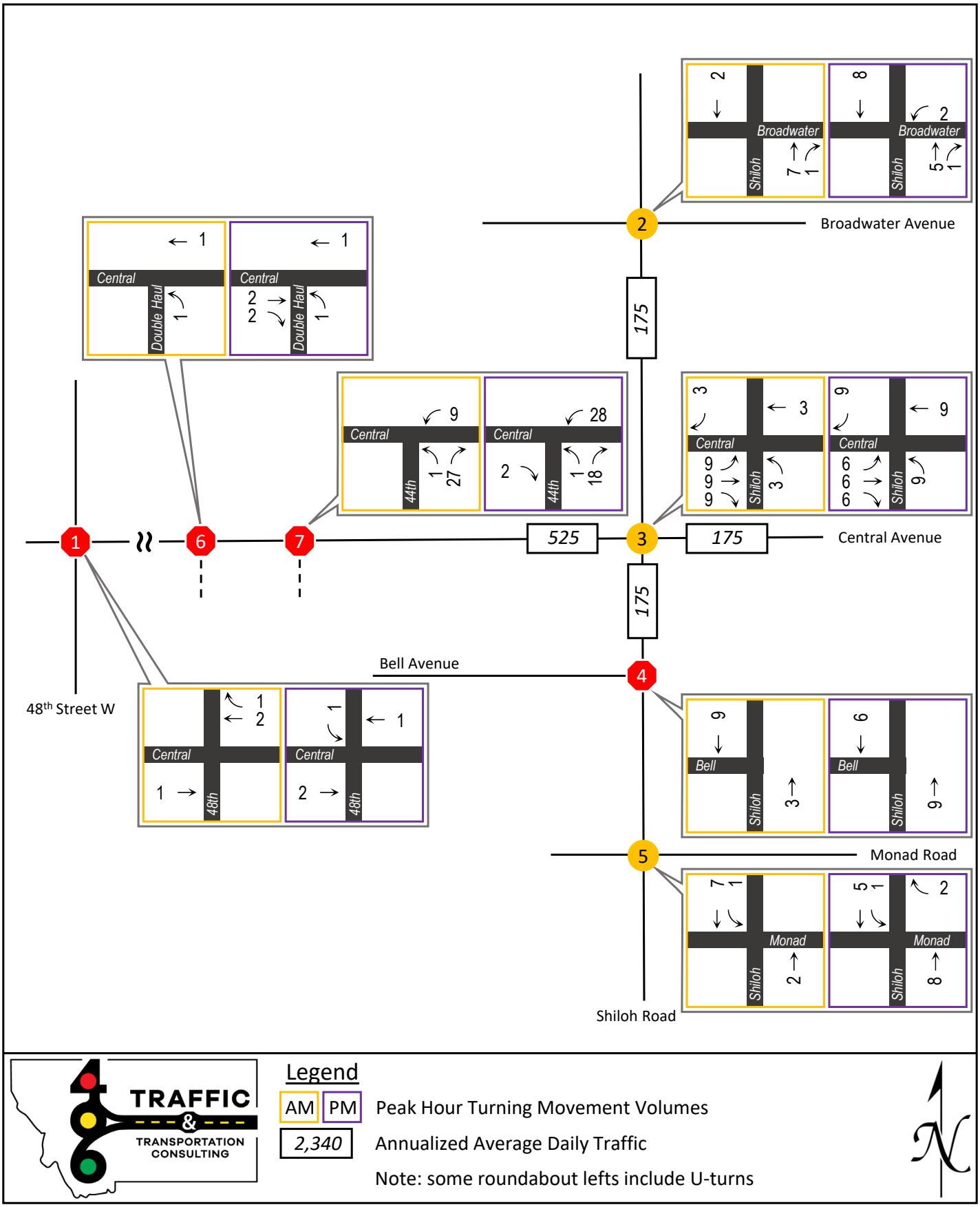


Exhibit C-6. 2029 Phase 1B Total Traffic

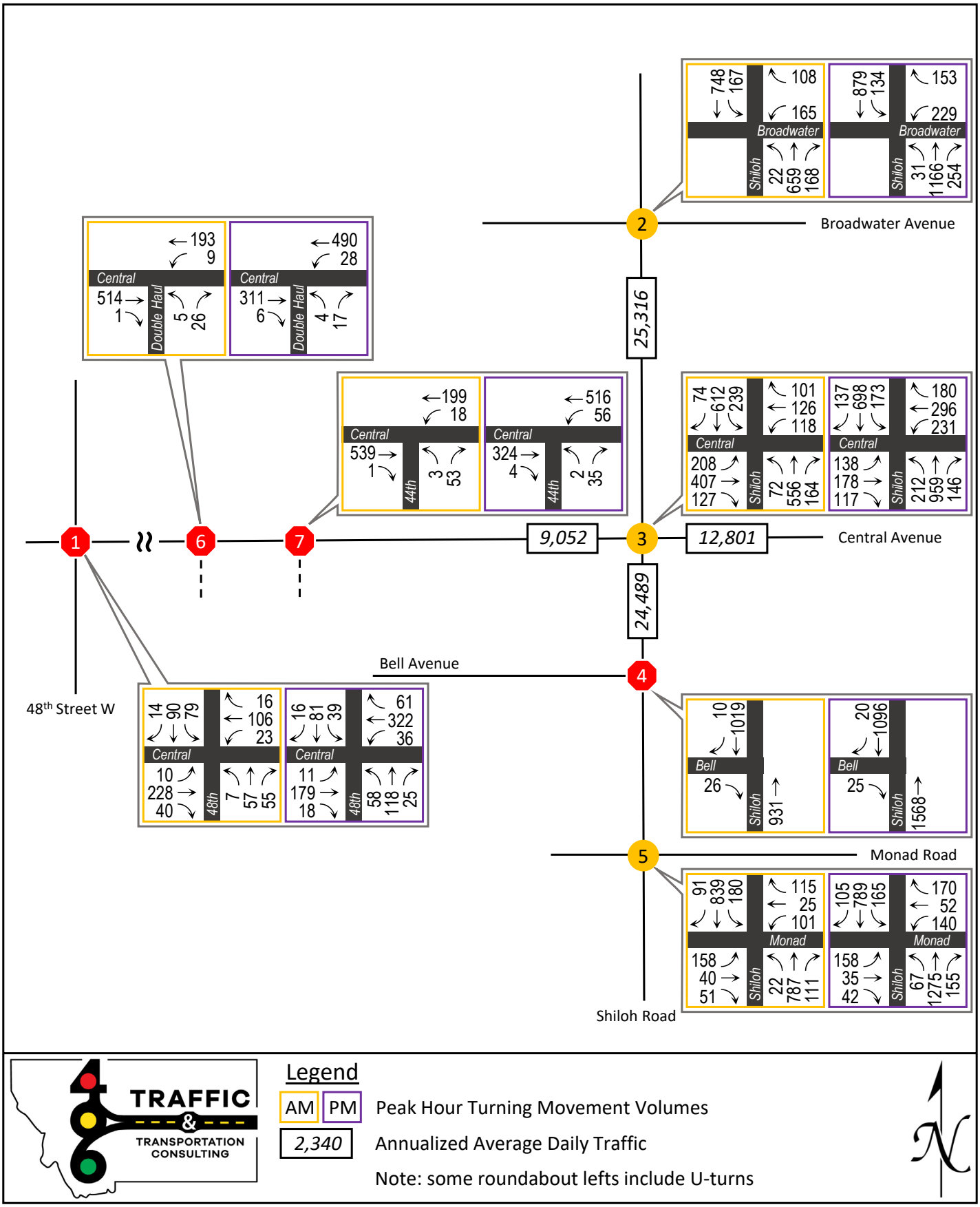


Exhibit C-7. 2031 Traffic Without Phase 1C

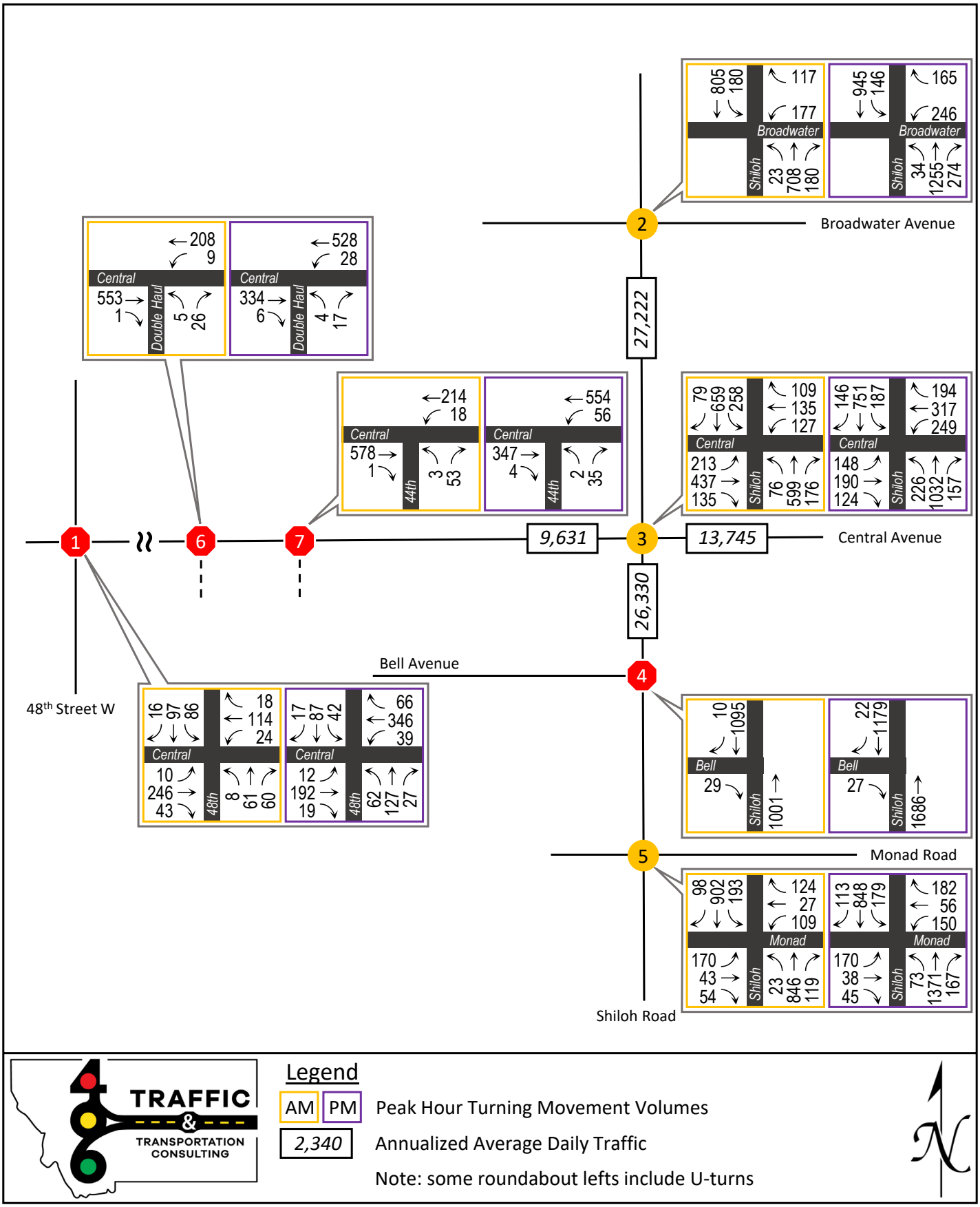


Exhibit C-8. 2031 Phase 1C Project Trips

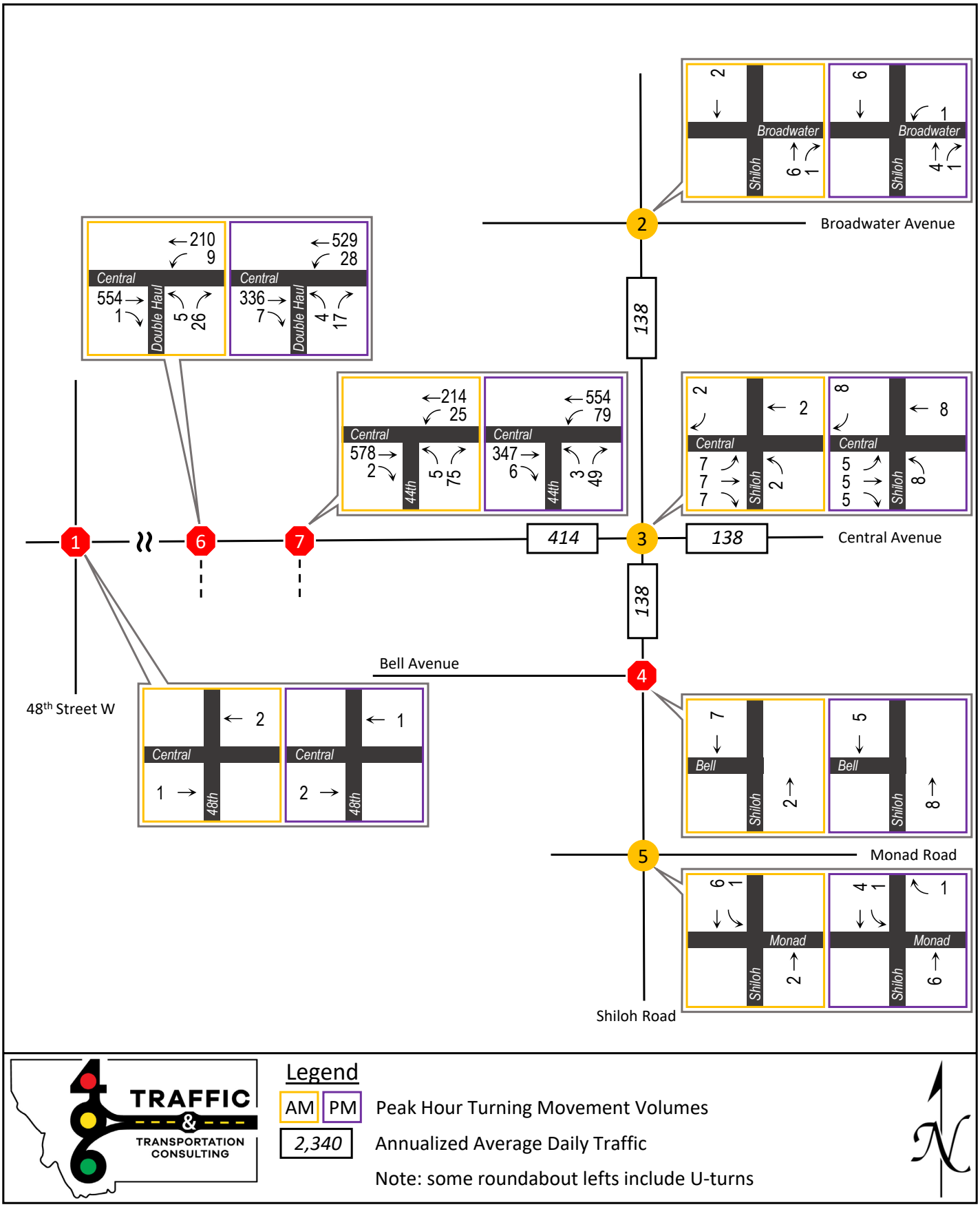


Exhibit C-9. 2031 Phase 1C Total Traffic

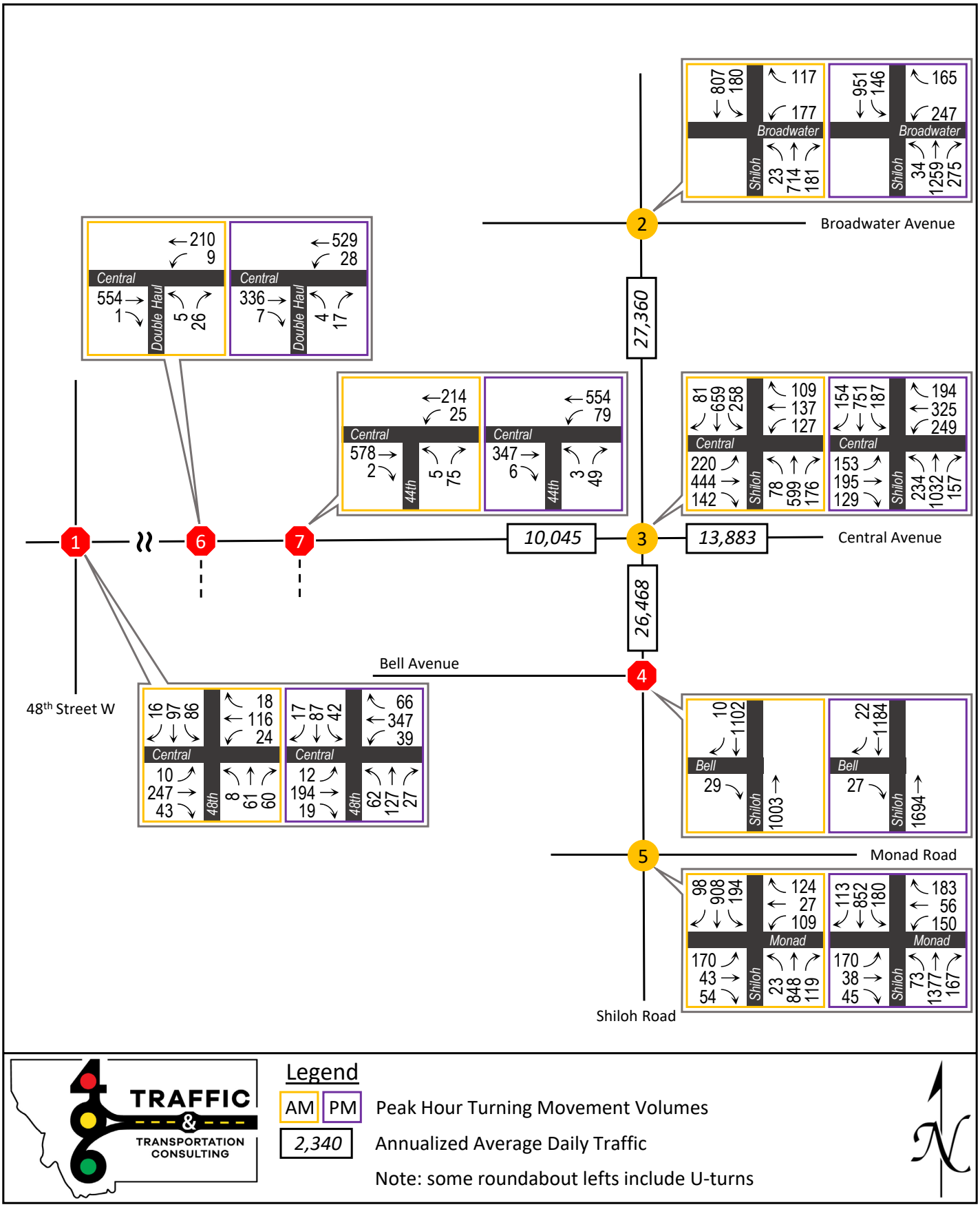


Exhibit C-10. 2033 Traffic Without Phase 2

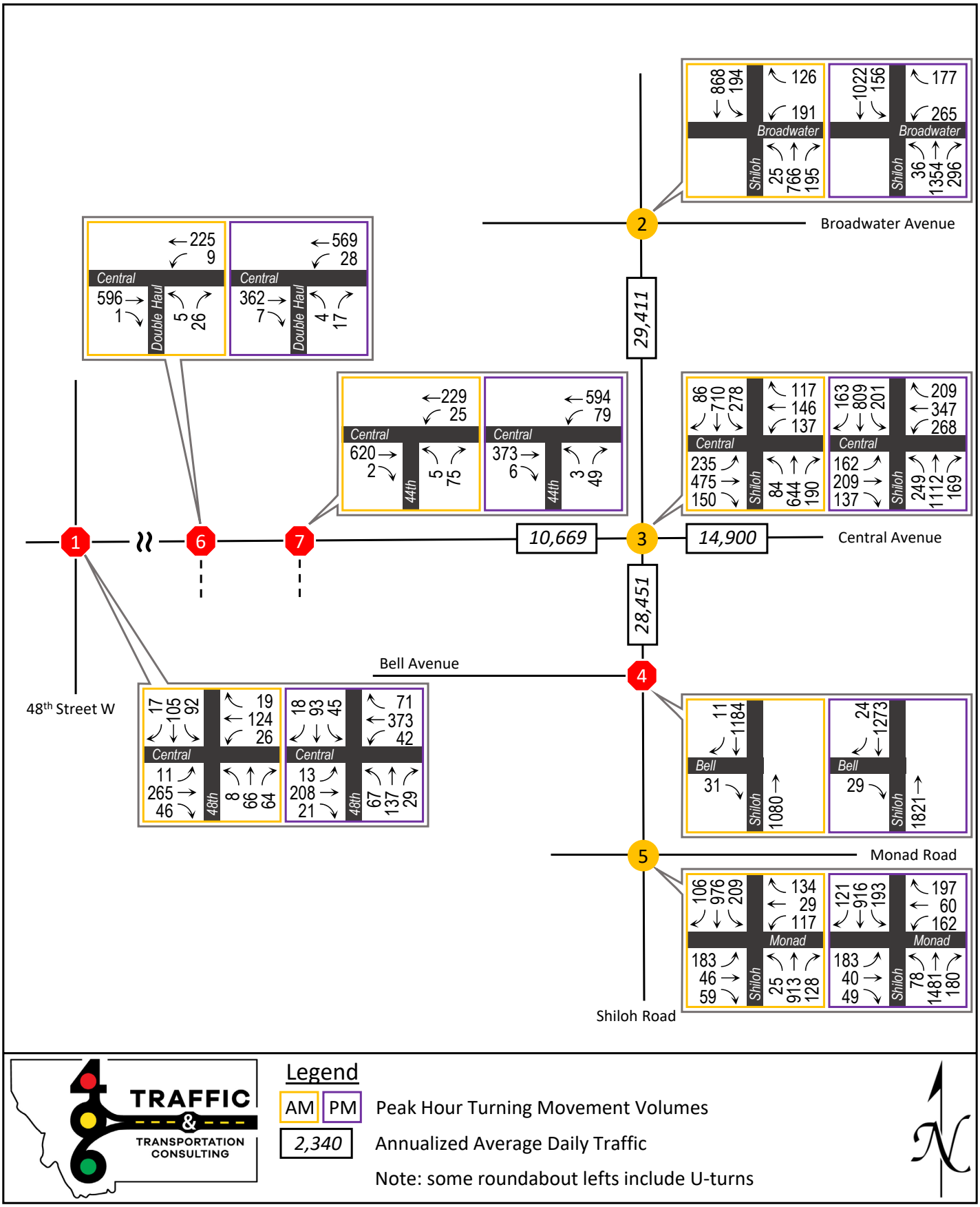


Exhibit C-11. 2033 Phase 2 Project Trips

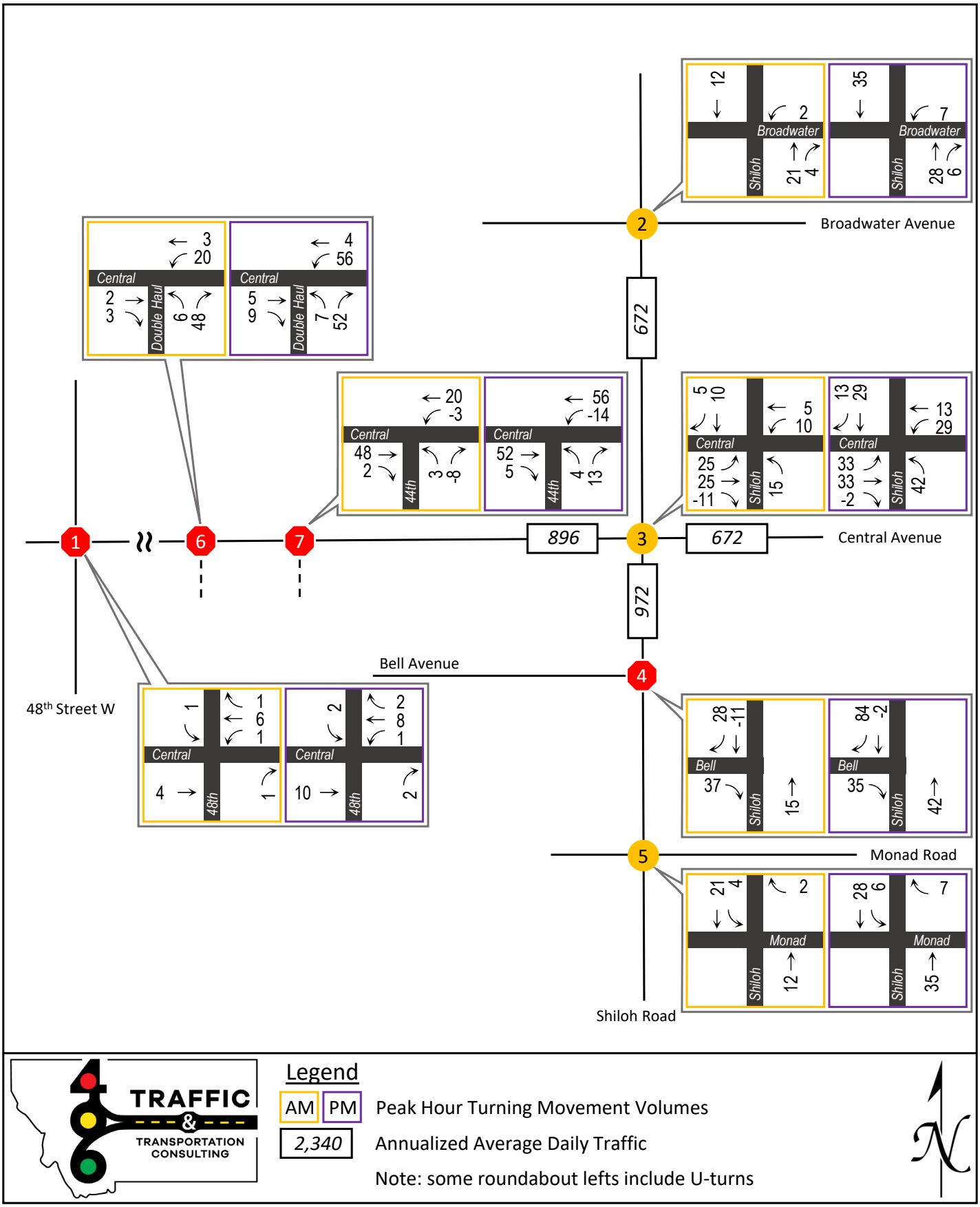
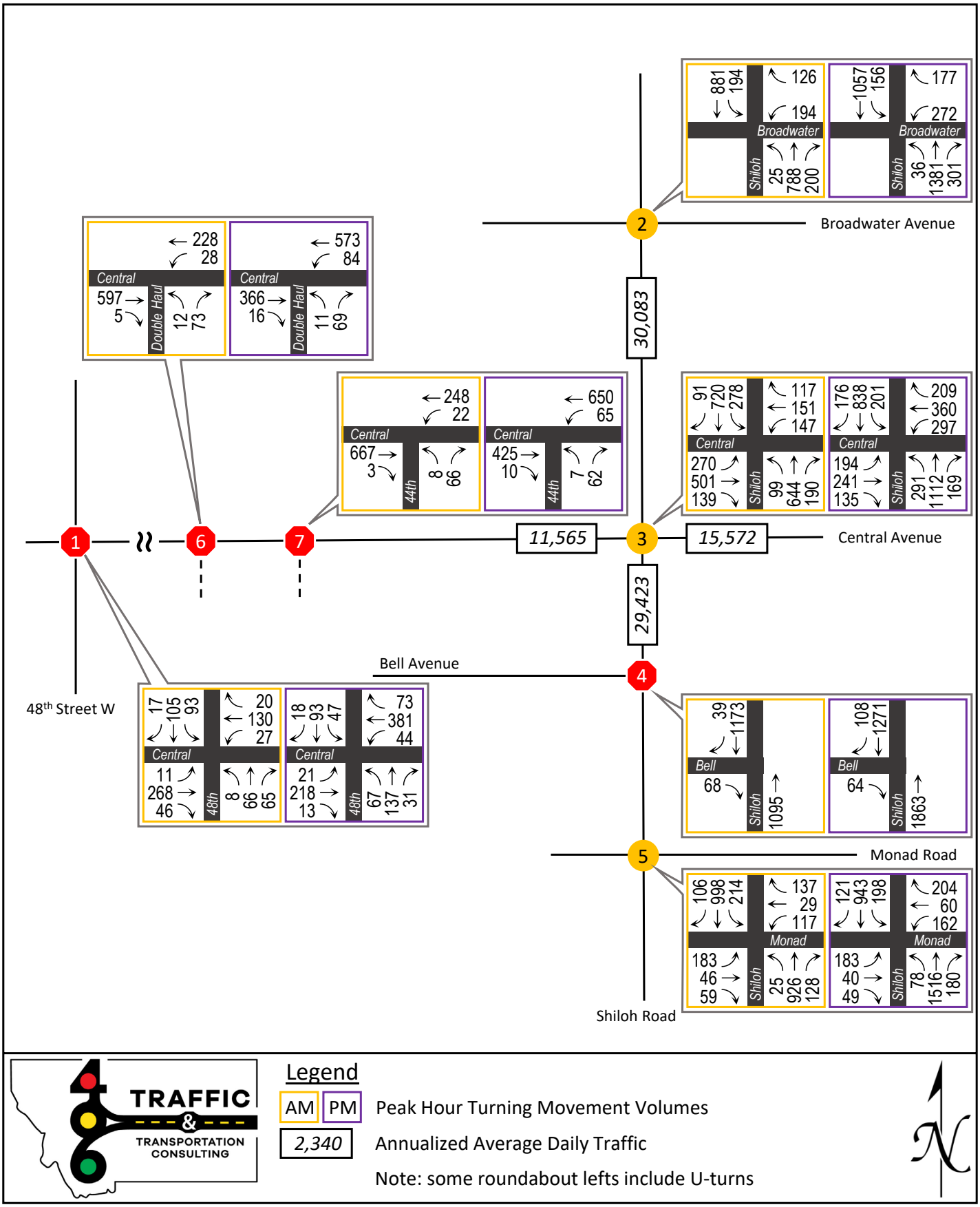
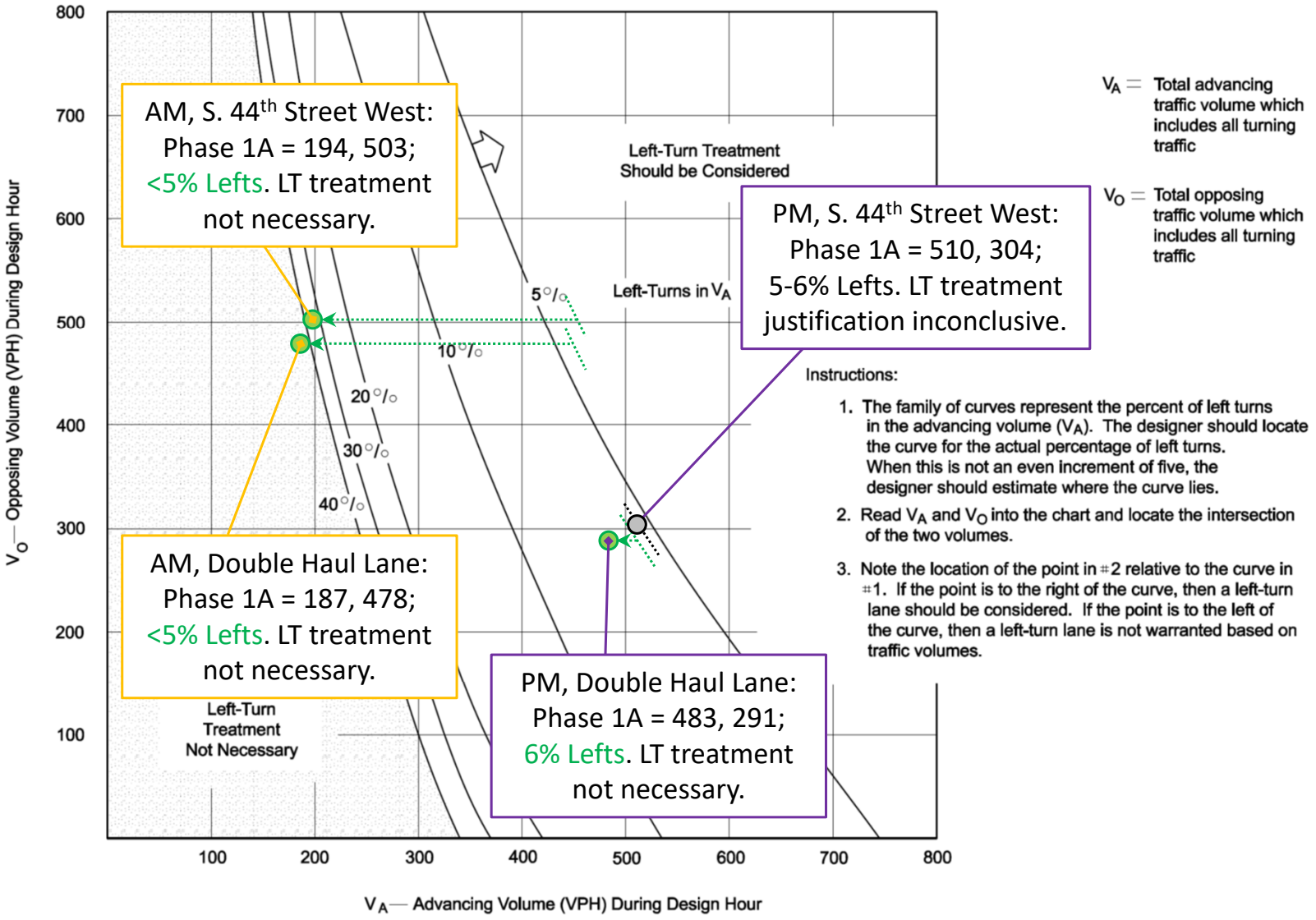


Exhibit C-12. 2033 Total Traffic with Phase 2 (Full project buildout)



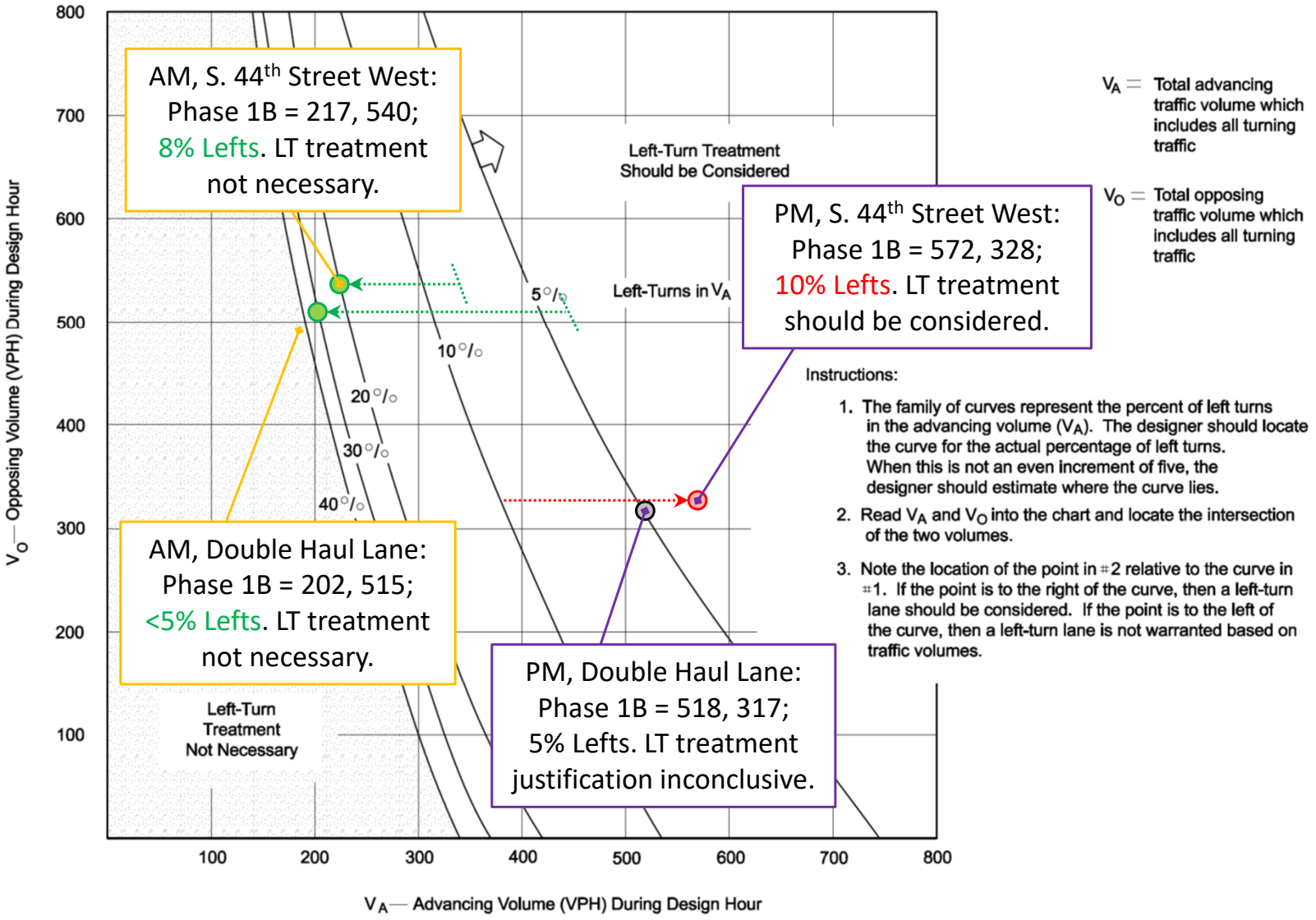
Appendix D: Auxiliary Turn Lane Analysis Charts

Exhibit D-1. 2027 Phase 1A Left Turn Lane Chart



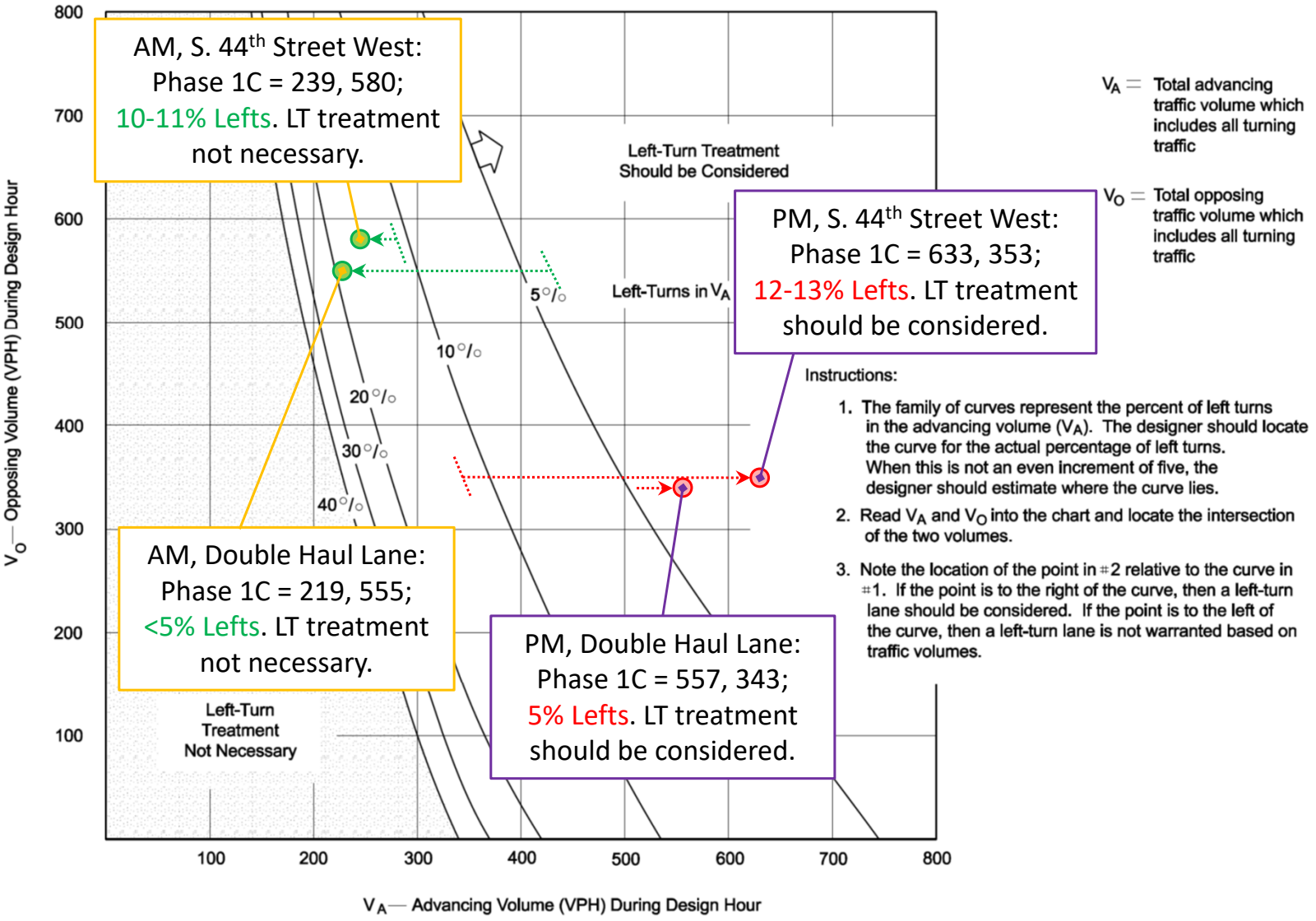
VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (45 MPH)

Exhibit D-2. 2029 Phase 1B Left Turn Lane Chart



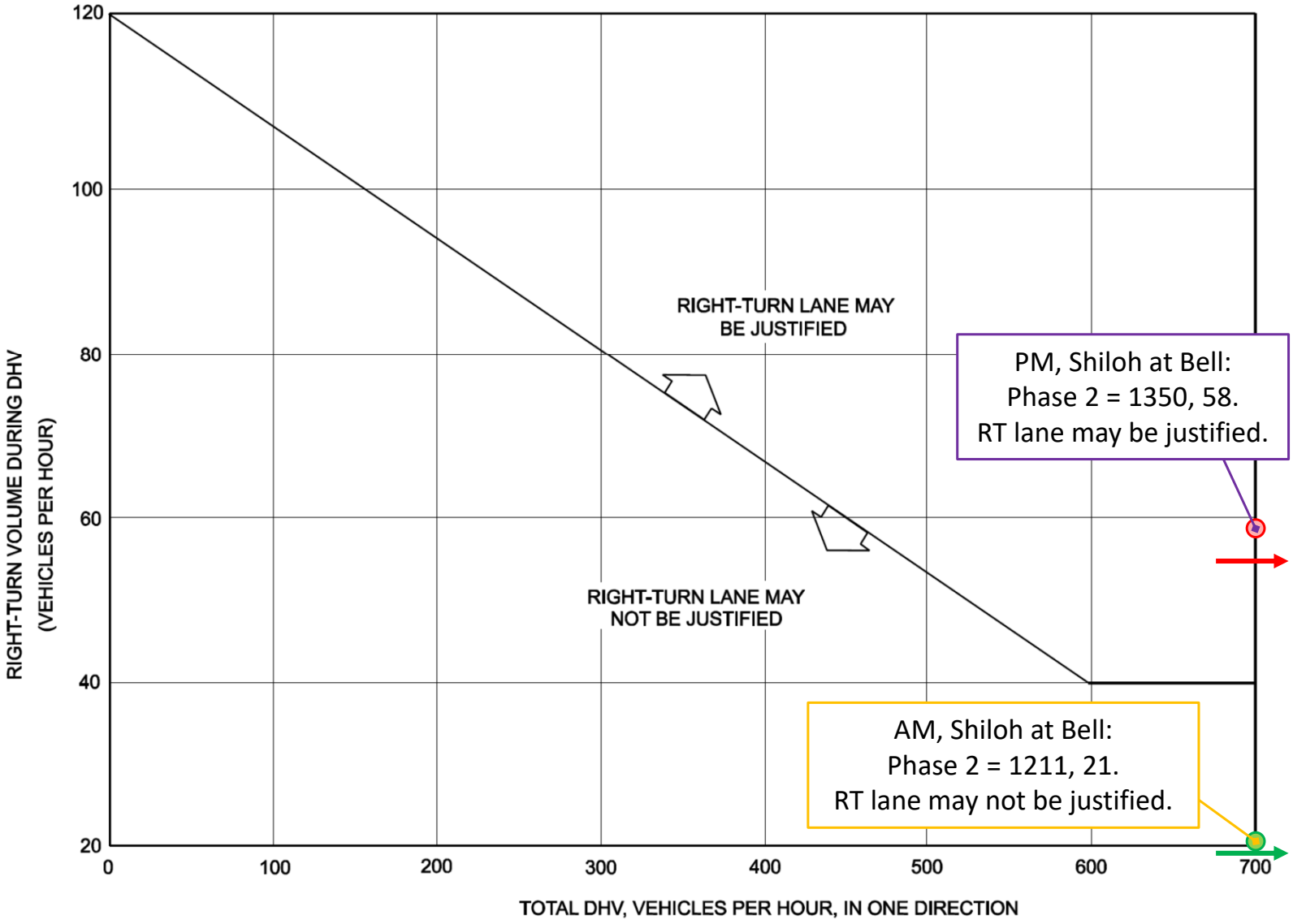
VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (45 MPH)

Exhibit D-3. 2031 Phase 1C Left Turn Lane Chart



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (45 MPH)

Exhibit D-4. 2033 Phase 2 Right Turn Lane Chart



Note: For highways with a design speed below 50 mph (80 km/h) with a DHV < 300 and where right turns are > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Appendix E: 44th at Central Avenue Intersection Signal Warrant Summaries

Traffic Signal Needs Analysis Summary: S 44th St W at Central Ave

Scenario: **Completion of Phase 1A in 2027**
Analysis Date: 8/13/2025 Conducted by: 406 Traffic & Transportation Consulting
Major Street: Central Ave (E/W), 1 moving lane per direction Minor Street: S 44th St W (N/S), 1 moving lane per direction
Speed Limit: 45 mph Number of Approaches: 3

Traffic Volumes

Hour:	1	2	3	4	5	6	7	8	9	10	11	12
Start Time:	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Central Ave Eastbound:	471	452	395	354	370	373	312	263	275	255	304	207
Central Ave Westbound:	179	178	194	215	272	323	317	316	391	425	502	345
S 44th St W Northbound:	28	23	16	14	14	14	15	16	15	18	19	16
Total Entering Volume:	678	653	605	583	656	710	644	595	681	698	825	568
TEV Rank:	5	7	9	11	6	2	**8**	10	**4**	3	**1**	12
Use for:							Warrant 1		Warrant 2		Warrant 3	
Major, Both Directions:	650	630	589	569	642	696	629	579	666	680	806	552
Minor, Higher Direction:	28	23	16	14	14	14	15	16	15	18	19	16

Warrants

			Met?
1	Eight-Hour Vehicular Volume *(either condition)*	*Condition A: Large Volume of Intersecting Traffic*: Major (Both Dir.) Value 629, Minimum 350[c]; Minor (Higher Dir.) Value 15, Minimum 105[c]; Met? No. *or Condition B: Interruption of Continuous Traffic*: Major (Both Dir.) Value 629, Minimum 525[c]; Minor (Higher Dir.) Value 15, Minimum 53[c]; Met? No.	**No**
2	Four-Hour Vehicular Volume	*MUTCD Figure 4C-2 for speed over 40 mph*: Major (Both Dir.) Value 666, Minimum -; Minor (Higher Dir.) Value 15, Minimum 60; Met? No.	**No**
3	Peak Hour* *(either condition)*	*Condition A (must meet all three subconditions)*: 1. Veh-Hrs of Delay — Value 0.1, Minimum 4, Met? No; 2. Minor Volume — Value 19, Minimum 100, Met? No; 3. Total Ent. Volume — Value 825, Minimum 650, Met? Yes. *or Condition B (MUTCD Figure 4C-4)*: Major (Both Dir.) Value 806, Minimum N/A; Minor (Higher Dir.) Value 19, Minimum 75; Met? No.	**No**
4	Pedestrian Volume *(either criterion)*	*Criterion A: Four-hour (MUTCD Figure 4C-7)*: Major (Both Dir.) Value 666; Pedestrians Minimum; Met? n/a. *or Criterion B: One Hour (MUTCD Figure 4C-8)*: Major (Both Dir.) Value 806; Pedestrians Minimum; Met? n/a.	**Not Evaluated**
5	School Crossing	No students projected to cross the major street at this location.	**No**
6	Coordinated Signal System	Only one signal in the roadway network nearby.	**No**
7	Crash Experience ** Condition A not evaluated *(all conditions)*	*Condition B, 1-year Period (Table 4C-4)*: Angle+Ped Crashes Value n/a, Minimum 4; or Fatal+Injury Angle+Ped Value n/a, Minimum 3; Met? n/a. ***and*** *Condition C, 80% of Warrant 1 [Condition A]*: Major (Both Dir.) Value 629, Minimum 629; Minor (Higher Dir.) Minimum 15; Met? n/a. *or Condition B, 3-year Period (Table 4C-5)*: Angle+Ped Crashes Value n/a, Minimum 6; or Fatal+Injury Angle+Ped Value n/a, Minimum 4; Met? n/a. *or Condition C, 80% of Warrant 1 [Condition B]*: Major (Both Dir.) Value 629, Minimum 629; Minor (Higher Dir.) Minimum 15; Met? n/a. *or Condition C, 80% of Warrant 4*: Four Hour Ped; One Hour Ped; Value; Minimum; Met? n/a.	**Not Evaluated**
8	Roadway Network	Not an intersection of two or more major routes.	**No**
9	Intersection Near Grade Xing	No railroad grade crossing nearby.	**No**
		Warrants Met:	**0**
		Recommendation:	**No Signal**

Notes:

c: Warrant 1 minimum values used for "70%" to account to reflect major-street speed over 40 mph

* Warrant 3, Peak Hour, is indicated by the MUTCD as follows: "This signal warrant should be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time."

** No trial of alternatives with observance and enforcement has been attempted for crash reduction at this location.

Traffic Signal Needs Analysis Summary: S 44th St W at Central Ave

Scenario: **Completion of Phase 1B in 2029**
Analysis Date: 8/13/2025 Conducted by: 406 Traffic & Transportation Consulting
Major Street: Central Ave (E/W), 1 moving lane per direction Minor Street: S 44th St W (N/S), 1 moving lane per direction
Speed Limit: 45 mph Number of Approaches: 3

Traffic Volumes

Hour:	1	2	3	4	5	6	7	8	9	10	11	12
Start Time:	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Central Ave Eastbound:	506	486	425	381	399	401	336	283	296	275	328	223
Central Ave Westbound:	199	200	217	241	304	360	353	353	440	480	566	392
S 44th St W Northbound:	62	48	34	27	29	29	29	33	30	34	38	33
Total Entering Volume:	767	734	676	649	732	790	718	669	766	789	932	648
TEV Rank:	**4**	6	9	11	7	2	**8**	10	5	3	**1**	12
Use for:	Warrant 2						Warrant 1				Warrant 3	
Major, Both Directions:	705	686	642	622	703	761	689	636	736	755	894	615
Minor, Higher Direction:	62	48	34	27	29	29	29	33	30	34	38	33

Warrants

		Met?
1 Eight-Hour Vehicular Volume *(either condition)*	*Condition A: Large Volume of Intersecting Traffic* — Major (Both Dir.) Value: 689; Minimum: 350[c]; Minor (Higher Dir.) Value: 29; Minimum: 105[c]; Met? No *or Condition B: Interruption of Continuous Traffic* — Major (Both Dir.) Value: 689; Minimum: 525[c]; Minor (Higher Dir.) Value: 29; Minimum: 53[c]; Met? No	**No**
2 Four-Hour Vehicular Volume	*MUTCD Figure 4C-2 for speed over 40 mph* — Major (Both Dir.) Value: 705; Minimum: -; Minor (Higher Dir.) Value: 62; Minimum: 65; Met? Yes	**No**
3 Peak Hour* *(either condition)*	*Condition A (must meet all three subconditions)* 1. Veh-Hrs of Delay — Value: 0.1; Minimum: 4; Met? No 2. Minor Volume — Value: 38; Minimum: 100; Met? No 3. Total Ent. Volume — Value: 932; Minimum: 650; Met? Yes *or Condition B (MUTCD Figure 4C-4)* — Major (Both Dir.) Value: 894; Minimum: N/A; Minor (Higher Dir.) Value: 38; Minimum: 75; Met? No	**No**
4 Pedestrian Volume *(either criterion)*	*Criterion A: Four-hour (MUTCD Figure 4C-7)* — Major (Both Dir.) Value: 705; Minimum: ; Pedestrians Value: ; Minimum: ; Met? n/a *or Criterion B: One Hour (MUTCD Figure 4C-8)* — Major (Both Dir.) Value: 894; Minimum: ; Pedestrians Value: ; Minimum: ; Met? n/a	**Not Evaluated**
5 School Crossing	No students projected to cross the major street at this location.	**No**
6 Coordinated Signal System	Only one signal in the roadway network nearby.	**No**
7 Crash Experience ** Condition A not evaluated *(all conditions)*	*Condition B, 1-year Period (Table 4C-4)* — Angle+Ped Crashes Value: n/a; Minimum: 4; or Fatal+Injury Angle+Ped Value: n/a; Minimum: 3; Met? n/a ***and*** *Condition C, 80% of Warrant 1 [Condition A]* — Major (Both Dir.) Value: 689; Minimum: ; Minor (Higher Dir.) Value: 29; Minimum: ; Met? n/a *or Condition B, 3-year Period (Table 4C-5)* — Angle+Ped Crashes Value: n/a; Minimum: 6; or Fatal+Injury Angle+Ped Value: n/a; Minimum: 4; Met? n/a *or Condition C, 80% of Warrant 1 [Condition B]* — Major (Both Dir.) Value: 689; Minimum: ; Minor (Higher Dir.) Value: 29; Minimum: ; Met? n/a *or Condition C, 80% of Warrant 4* — Four Hour Ped Value: ; Minimum: ; One Hour Ped Value: ; Minimum: ; Met? n/a	**Not Evaluated**
8 Roadway Network	Not an intersection of two or more major routes.	**No**
9 Intersection Near Grade Xing	No railroad grade crossing nearby.	**No**
	Warrants Met:	**0**
	Recommendation:	**No Signal**

Notes:

c: Warrant 1 minimum values used for "70%" to account to reflect major-street speed over 40 mph

* Warrant 3, Peak Hour, is indicated by the MUTCD as follows: "This signal warrant should be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time."

** No trial of alternatives with observance and enforcement has been attempted for crash reduction at this location.

Traffic Signal Needs Analysis Summary: S 44th St W at Central Ave

Scenario: **Completion of Phase 1C in 2031**
Analysis Date: 8/13/2025 Conducted by: 406 Traffic & Transportation Consulting
Major Street: Central Ave (E/W), 1 moving lane per direction Minor Street: S 44th St W (N/S), 1 moving lane per direction
Speed Limit: 45 mph Number of Approaches: 3

Traffic Volumes

Hour:	1	2	3	4	5	6	7	8	9	10	11	12
Start Time:	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Central Ave Eastbound:	543	522	457	410	429	432	361	304	319	296	353	240
Central Ave Westbound:	219	221	239	266	335	396	388	390	487	532	626	436
S 44th St W Northbound:	87	68	48	38	41	41	41	46	42	48	54	47
Total Entering Volume:	849	811	744	714	805	869	790	740	848	876	1033	723
TEV Rank:	**4**	6	9	12	7	3	**8**	10	5	2	**1**	11
Use for:	Warrant 2						Warrant 1				Warrant 3	
Major, Both Directions:	762	743	696	676	764	828	749	694	806	828	979	676
Minor, Higher Direction:	87	68	48	38	41	41	41	46	42	48	54	47

Warrants

		Met?
1 Eight-Hour Vehicular Volume *(either condition)*	*Condition A: Large Volume of Intersecting Traffic* — Major (Both Dir.) Value 749, Minimum 350[c]; Minor (Higher Dir.) Value 41, Minimum 105[c]; Met? No. *or Condition B: Interruption of Continuous Traffic* — Major (Both Dir.) Value 749, Minimum 525[c]; Minor (Higher Dir.) Value 41, Minimum 53[c]; Met? No	**No**
2 Four-Hour Vehicular Volume	*MUTCD Figure 4C-2 for speed over 40 mph* — Major (Both Dir.) Value 762, Minimum -; Minor (Higher Dir.) Value 87, Minimum 60; Met? Yes	**Yes**
3 Peak Hour* *(either condition)*	*Condition A (must meet all three subconditions)*: 1. Veh-Hrs of Delay — Value 0.2, Minimum 4, Met? No; 2. Minor Volume — Value 54, Minimum 100, Met? No; 3. Total Ent. Volume — Value 1033, Minimum 650, Met? Yes. *or Condition B (MUTCD Figure 4C-4)* — Major (Both Dir.) Value 979, Minimum -; Minor (Higher Dir.) Value 54, Minimum 75; Met? No	**No**
4 Pedestrian Volume *(either criterion)*	*Criterion A: Four-hour (MUTCD Figure 4C-7)* — Major (Both Dir.) Value 762, Minimum -; Pedestrians Value -, Minimum -; Met? n/a. *or Criterion B: One Hour (MUTCD Figure 4C-8)* — Major (Both Dir.) Value 979, Minimum -; Pedestrians Value -, Minimum -; Met? n/a	**Not Evaluated**
5 School Crossing	No students projected to cross the major street at this location.	**No**
6 Coordinated Signal System	Only one signal in the roadway network nearby.	**No**
7 Crash Experience ** Condition A not evaluated *(all conditions)*	*Condition B, 1-year Period (Table 4C-4)* — Angle+Ped Crashes Value n/a, Minimum 4; or Fatal+Injury Angle+Ped Value n/a, Minimum 3; Met? n/a. *or Condition B, 3-year Period (Table 4C-5)* — Angle+Ped Crashes Value n/a, Minimum 6; or Fatal+Injury Angle+Ped Value n/a, Minimum 4; Met? n/a. ***and*** *Condition C, 80% of Warrant 1 [Condition A]* — Major (Both Dir.) Value 749, Minimum -; Minor (Higher Dir.) Value 41, Minimum -; Met? n/a. *or Condition C, 80% of Warrant 1 [Condition B]* — Major (Both Dir.) Value 749, Minimum -; Minor (Higher Dir.) Value 41, Minimum -; Met? n/a. *or Condition C, 80% of Warrant 4* — Four Hour Ped Value -, Minimum -; One Hour Ped Value -, Minimum -; Met? n/a	**Not Evaluated**
8 Roadway Network	Not an intersection of two or more major routes.	**No**
9 Intersection Near Grade Xing	No railroad grade crossing nearby.	**No**
	Warrants Met:	**1**
	Recommendation:	**No Signal**

Notes:

c: Warrant 1 minimum values used for "70%" to account to reflect major-street speed over 40 mph

* Warrant 3, Peak Hour, is indicated by the MUTCD as follows: "This signal warrant should be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time."

** No trial of alternatives with observance and enforcement has been attempted for crash reduction at this location.

Traffic Signal Needs Analysis Summary: S 44th St W at Central Ave

Scenario: **Completion of Phase 2 in 2033**
Analysis Date: 8/13/2025 Conducted by: 406 Traffic & Transportation Consulting
Major Street: Central Ave (E/W), 1 moving lane per direction Minor Street: S 44th St W (N/S), 1 moving lane per direction
Speed Limit: 45 mph Number of Approaches: 3

Traffic Volumes

Hour:	1	2	3	4	5	6	7	8	9	10	11	12
Start Time:	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Central Ave Eastbound:	610	596	527	481	500	503	431	366	389	369	430	306
Central Ave Westbound:	251	266	258	264	301	325	461	461	574	628	728	521
S 44th St W Northbound:	106	83	59	48	50	52	52	58	54	62	67	58
Total Entering Volume:	967	945	844	793	851	880	944	885	1017	1059	1225	885
TEV Rank:	**4**	5	11	12	10	9	6	7	3	2	**1**	**8**
Use for:	Warrant 2										Warrant 3	Warrant 1
Major, Both Directions:	861	862	785	745	801	828	892	828	963	997	1158	827
Minor, Higher Direction:	106	83	59	48	50	52	52	58	54	62	67	58

Warrants

		Met?
1 Eight-Hour Vehicular Volume *(either condition)*	*Condition A: Large Volume of Intersecting Traffic* — Major (Both Dir.) Value 827, Minimum 350[c]; Minor (Higher Dir.) Value 58, Minimum 105[c]; Met? No. *or Condition B: Interruption of Continuous Traffic* — Major (Both Dir.) Value 827, Minimum 525[c]; Minor (Higher Dir.) Value 58, Minimum 53[c]; Met? Yes	**Yes**
2 Four-Hour Vehicular Volume	*MUTCD Figure 4C-2 for speed over 40 mph* — Major (Both Dir.) Value 861, Minimum -; Minor (Higher Dir.) Value 106, Minimum 60; Met? Yes	**Yes**
3 Peak Hour* *(either condition)*	*Condition A (must meet all three subconditions)*: 1. Veh-Hrs of Delay — Value 0.3, Minimum 4; 2. Minor Volume — Value 67, Minimum 100; Met? No; 3. Total Ent. Volume — Value 1225, Minimum 650; Met? Yes. *or Condition B (MUTCD Figure 4C-4)* — Major (Both Dir.) Value 1158, Minimum -; Minor (Higher Dir.) Value 67, Minimum 75; Met? No	**No**
4 Pedestrian Volume *(either criterion)*	*Criterion A: Four-hour (MUTCD Figure 4C-7)* — Major (Both Dir.) Value 861, Minimum; Pedestrians Value, Minimum; Met? n/a. *or Criterion B: One Hour (MUTCD Figure 4C-8)* — Major (Both Dir.) Value 1158, Minimum; Pedestrians Value, Minimum; Met? n/a	**Not Evaluated**
5 School Crossing	No students projected to cross the major street at this location.	**No**
6 Coordinated Signal System	Only one signal in the roadway network nearby.	**No**
7 Crash Experience ** Condition A not evaluated *(all conditions)*	*Condition B, 1-year Period (Table 4C-4)* — Angle+Ped Crashes Value n/a, Minimum 4; or Fatal+Injury Angle+Ped Value n/a, Minimum 3; Met? n/a. *or Condition B, 3-year Period (Table 4C-5)* — Angle+Ped Crashes Value n/a, Minimum 6; or Fatal+Injury Angle+Ped Value n/a, Minimum 4; Met? n/a. ***and*** *Condition C, 80% of Warrant 1 [Condition A]* — Major (Both Dir.) Value 827, Minimum; Minor (Higher Dir.) Value 58, Minimum; Met? n/a. *or Condition C, 80% of Warrant 1 [Condition B]* — Major (Both Dir.) Value 827, Minimum; Minor (Higher Dir.) Value 58, Minimum; Met? n/a. *or Condition C, 80% of Warrant 4* — Four Hour Ped; One Hour Ped Value, Minimum; Met? n/a	**Not Evaluated**
8 Roadway Network	Not an intersection of two or more major routes.	**No**
9 Intersection Near Grade Xing	No railroad grade crossing nearby.	**No**
	Warrants Met:	**2**
	Recommendation:	**Consider Signal**

Notes:

c: Warrant 1 minimum values used for "70%" to account to reflect major-street speed over 40 mph

* Warrant 3, Peak Hour, is indicated by the MUTCD as follows: "This signal warrant should be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time."

** No trial of alternatives with observance and enforcement has been attempted for crash reduction at this location.

Appendix F: Intersection Cost Participation Calculations

City of Billings Intersection Cost Participation Worksheet: Clearwater/44 West Phase 1A + Phase 2 Retail

1: Central at 48th

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	3	3	**10**	**10**
WB L	1	1	1	**1**	**1**
WB T	1	**5**	**5**	8	8
EB L	1	No project traffic			
NB T	1	No project traffic			
SB L	1	**0**	**0**	**2**	**2**
SB T	1	No project traffic			
NB L	1				
Project **Critical** Lane Volume			**5**		**13**
Critical Lane Capacity			1200		1200
% Increase			0.4%		1.1%
Max % Increase			1.1%		

2: Shiloh at Broadwater

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	No project traffic			
WB L	1	**2**	**2**	**6**	**6**
WB T	1	No project traffic			
EB L	1				
NB T	2	**19**	**10**	26	13
SB L	1	No project traffic			
SB T	2	12	6	**32**	**16**
NB L	1	No project traffic			
Project **Critical** Lane Volume			**12**		**22**
Critical Lane Capacity			1140		1140
% Increase			1.1%		1.9%
Max % Increase			1.9%		

3: Shiloh at Central

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	2	23	12	32	16
WB L	1	No project traffic			
WB T	2	**14**	**7**	**38**	**19**
EB L	1	**23**	**23**	**32**	**32**
NB T	2	No project traffic			
SB L	1				
SB T	2				
NB L	1	**14**	**14**	**38**	**38**
Project **Critical** Lane Volume			**44**		**89**
Critical Lane Capacity			1200		1200
% Increase			3.7%		7.4%
Max % Increase			7.4%		

5: Shiloh at Monad

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	No project traffic			
WB L	1				
WB T	1				
EB L	1				
NB T	2	**12**	**6**	**32**	**16**
SB L	1	**4**	**4**	**5**	**5**
SB T	2	19	10	26	13
NB L	1	No project traffic			
Project **Critical** Lane Volume			**10**		**21**
Critical Lane Capacity			1200		1200
% Increase			0.8%		1.8%
Max % Increase			1.8%		

6: West Central Ave Site Access (Double Haul Lane)

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	**1**	**1**	**2**	**2**
WB L	1	**34**	**34**	**86**	**86**
WB T	1	2	2	1	1
EB L	0	No project traffic			
NB T	0	No project traffic			
SB L	0				
SB T	0				
NB L	1	**6**	**6**	**10**	**10**
Project **Critical** Lane Volume			**41**		**98**
Critical Lane Capacity			1140		1140
% Increase			3.6%		8.6%
Max % Increase			8.6%		

7:East Central Ave Site Access (S. 44th St W.)

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	**43**	**43**	**76**	**76**
WB L	1	**9**	**9**	**28**	**28**
WB T	1	34	34	86	86
EB L	1	No project traffic			
NB T	1	No project traffic			
SB L	1				
SB T	1				
NB L	1	**2**	**2**	**1**	**1**
Project **Critical** Lane Volume			**54**		**105**
Critical Lane Capacity			1140		1140
% Increase			4.7%		9.2%
Max % Increase			9.2%		

City of Billings Intersection Cost Participation Worksheet: Clearwater Phase 1B

1: Central at 48th

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	1	1	**2**	**2**
WB L	1	No project traffic			
WB T	1	**2**	**2**	1	1
EB L	1	No project traffic			
NB T	1	No project traffic			
SB L	1	**0**	**0**	**1**	**1**
SB T	1	No project traffic			
NB L	1				
Project **Critical** Lane Volume			**2**		**3**
Critical Lane Capacity			1200		1200
% Increase			0.2%		0.3%
Max % Increase			0.3%		

2: Shiloh at Broadwater

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	No project traffic			
WB L	1	**0**	**0**	**2**	**2**
WB T	1	No project traffic			
EB L	1				
NB T	2	**7**	**4**	5	3
SB L	1	No project traffic			
SB T	2	2	1	**8**	**4**
NB L	1	No project traffic			
Project **Critical** Lane Volume			**4**		**6**
Critical Lane Capacity			1140		1140
% Increase			0.4%		0.5%
Max % Increase			0.5%		

3: Shiloh at Central

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	2	**9**	**5**	6	3
WB L	1	No project traffic			
WB T	2	3	2	**9**	**5**
EB L	1	9	9	**6**	**6**
NB T	2	No project traffic			
SB L	1				
SB T	2				
NB L	1	**3**	**3**	**9**	**9**
Project **Critical** Lane Volume			**14**		**20**
Critical Lane Capacity			1200		1200
% Increase			1.2%		1.7%
Max % Increase			1.7%		

5: Shiloh at Monad

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	No project traffic			
WB L	1				
WB T	1				
EB L	1				
NB T	2	2	1	**8**	**4**
SB L	1	1	1	**1**	**1**
SB T	2	**7**	**4**	5	3
NB L	1	No project traffic			
Project **Critical** Lane Volume			**4**		**5**
Critical Lane Capacity			1200		1200
% Increase			0.3%		0.4%
Max % Increase			0.4%		

6: West Central Ave Site Access (Double Haul Lane)

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	0	0	**2**	**2**
WB L	1	No project traffic			
WB T	1	**1**	**1**	1	1
EB L	0	No project traffic			
NB T	0	No project traffic			
SB L	0				
SB T	0				
NB L	1	**1**	**1**	**1**	**1**
Project **Critical** Lane Volume			**2**		**3**
Critical Lane Capacity			1140		1140
% Increase			0.2%		0.3%
Max % Increase			0.3%		

7:East Central Ave Site Access (S. 44th St W.)

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	No project traffic			
WB L	1	**9**	**9**	**28**	**28**
WB T	1	No project traffic			
EB L	1				
NB T	1	No project traffic			
SB L	1				
SB T	1				
NB L	1	**1**	**1**	**1**	**1**
Project **Critical** Lane Volume			**10**		**29**
Critical Lane Capacity			1140		1140
% Increase			0.9%		2.5%
Max % Increase			2.5%		

City of Billings Intersection Cost Participation Worksheet: Clearwater Phase 1C

1: Central at 48th

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	1	1	**2**	**2**
WB L	1	0	0	**0**	**0**
WB T	1	**2**	**2**	1	1
EB L	1	No project traffic			
NB T	1	No project traffic			
SB L	1	**0**	**0**	**0**	**0**
SB T	1	No project traffic			
NB L	1				
Project **Critical** Lane Volume			**2**		**2**
Critical Lane Capacity			1200		1200
% Increase			0.2%		0.2%
Max % Increase			0.2%		

2: Shiloh at Broadwater

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	No project traffic			
WB L	1	**0**	**0**	**1**	**1**
WB T	1	No project traffic			
EB L	1				
NB T	2	**6**	**3**	4	2
SB L	1	No project traffic			
SB T	2	2	1	**6**	**3**
NB L	1	No project traffic			
Project **Critical** Lane Volume			**3**		**4**
Critical Lane Capacity			1140		1140
% Increase			0.3%		0.4%
Max % Increase			0.4%		

3: Shiloh at Central

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	2	7	4	5	3
WB L	1	No project traffic			
WB T	2	**2**	**1**	**8**	**4**
EB L	1	**7**	**7**	**5**	**5**
NB T	2	No project traffic			
SB L	1				
SB T	2				
NB L	1	**2**	**2**	**8**	**8**
Project **Critical** Lane Volume			**10**		**17**
Critical Lane Capacity			1200		1200
% Increase			0.8%		1.4%
Max % Increase			1.4%		

5: Shiloh at Monad

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	No project traffic			
WB L	1				
WB T	1				
EB L	1				
NB T	2	2	1	**6**	**3**
SB L	1	1	1	**1**	**1**
SB T	2	**6**	**3**	4	2
NB L	1	No project traffic			
Project **Critical** Lane Volume			**3**		**4**
Critical Lane Capacity			1200		1200
% Increase			0.3%		0.3%
Max % Increase			0.3%		

6: West Central Ave Site Access (Double Haul Lane)

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	1	1	**2**	**2**
WB L	1	No project traffic			
WB T	1	**2**	**2**	1	1
EB L	0	No project traffic			
NB T	0	No project traffic			
SB L	0				
SB T	0				
NB L	1	**0**	**0**	**0**	**0**
Project **Critical** Lane Volume			**2**		**2**
Critical Lane Capacity			1140		1140
% Increase			0.2%		0.2%
Max % Increase			0.2%		

7:East Central Ave Site Access (S. 44th St W.)

Lane Group (**critical**)	Lanes	AM Peak Hour Vproject	AM Peak Hour Per Lane	PM Peak Hour Vproject	PM Peak Hour Per Lane
EB T	1	No project traffic			
WB L	1	**7**	**7**	**23**	**23**
WB T	1	No project traffic			
EB L	1				
NB T	1	No project traffic			
SB L	1				
SB T	1				
NB L	1	**2**	**2**	**1**	**1**
Project **Critical** Lane Volume			**9**		**24**
Critical Lane Capacity			1140		1140
% Increase			0.8%		2.1%
Max % Increase			2.1%		

City of Billings Intersection Cost Participation Worksheet: Clearwater Phase 2 (residential only, no retail)

1: Central at 48th

Lane Group		AM Peak Hour		PM Peak Hour	
(**critical**)	Lanes	Vproject	Per Lane	Vproject	Per Lane
EB T	1	2	2	**5**	**5**
WB L	1	1	1	**1**	**1**
WB T	1	**5**	**5**	3	3
EB L	1	No project traffic			
NB T	1	No project traffic			
SB L	1	**0**	**0**	**1**	**1**
SB T	1	No project traffic			
NB L	1				
Project **Critical** Lane Volume			**5**		**7**
Critical Lane Capacity			1200		1200
% Increase			0.4%		0.6%
Max % Increase			0.6%		

2: Shiloh at Broadwater

Lane Group		AM Peak Hour		PM Peak Hour	
(**critical**)	Lanes	Vproject	Per Lane	Vproject	Per Lane
EB T	1	No project traffic			
WB L	1	**1**	**1**	**4**	**4**
WB T	1	No project traffic			
EB L	1				
NB T	2	**16**	**8**	11	6
SB L	1	No project traffic			
SB T	2	5	3	**19**	**10**
NB L	1	No project traffic			
Project **Critical** Lane Volume			**9**		**14**
Critical Lane Capacity			1140		1140
% Increase			0.8%		1.2%
Max % Increase			1.2%		

3: Shiloh at Central

Lane Group		AM Peak Hour		PM Peak Hour	
(**critical**)	Lanes	Vproject	Per Lane	Vproject	Per Lane
EB T	2	20	10	13	7
WB L	1	3	3	11	11
WB T	2	**3**	**2**	**11**	**6**
EB L	1	**20**	**20**	**13**	**13**
NB T	2	No project traffic			
SB L	1				
SB T	2	**4**	**2**	**14**	**7**
NB L	1	**4**	**4**	**14**	**14**
Project **Critical** Lane Volume			**28**		**40**
Critical Lane Capacity			1200		1200
% Increase			2.3%		3.3%
Max % Increase			3.3%		

5: Shiloh at Monad

Lane Group		AM Peak Hour		PM Peak Hour	
(**critical**)	Lanes	Vproject	Per Lane	Vproject	Per Lane
EB T	1	No project traffic			
WB L	1				
WB T	1				
EB L	1				
NB T	2	5	3	**19**	**10**
SB L	1	3	3	**2**	**2**
SB T	2	**16**	**8**	11	6
NB L	1	No project traffic			
Project **Critical** Lane Volume			**8**		**12**
Critical Lane Capacity			1200		1200
% Increase			0.7%		1.0%
Max % Increase			1.0%		

6: West Central Ave Site Access (Double Haul Lane)

Lane Group		AM Peak Hour		PM Peak Hour	
(**critical**)	Lanes	Vproject	Per Lane	Vproject	Per Lane
EB T	1	**1**	**1**	**3**	**3**
WB L	1	**5**	**5**	**17**	**17**
WB T	1	3	3	2	2
EB L	0	No project traffic			
NB T	0	No project traffic			
SB L	0				
SB T	0				
NB L	1	**4**	**4**	**3**	**3**
Project **Critical** Lane Volume			**10**		**23**
Critical Lane Capacity			1140		1140
% Increase			0.9%		2.0%
Max % Increase			2.0%		

7:East Central Ave Site Access (S. 44th St W.)

Lane Group		AM Peak Hour		PM Peak Hour	
(**critical**)	Lanes	Vproject	Per Lane	Vproject	Per Lane
EB T	1	**20**	**20**	**13**	**13**
WB L	1	**5**	**5**	**17**	**17**
WB T	1	5	5	17	17
EB L	1	No project traffic			
NB T	1	No project traffic			
SB L	1				
SB T	1				
NB L	1	**3**	**3**	**2**	**2**
Project **Critical** Lane Volume			**28**		**32**
Critical Lane Capacity			1140		1140
% Increase			2.5%		2.8%
Max % Increase			2.8%		