ATTACHMENT B

Draft Addendum To
Mitigated Negative Declaration (SCH #2003062057)

Background

Grant Park Development is seeking approval of a Tentative Parcel Map and Use Permit for the Dunnigan Truck and Travel Center ("DTTC") located at the junction of Interstate 5 and County Road 8. The project was originally approved under Zoning File # 2002-001, which established a Planned Development Overlay and approved Tentative Map #4565 with a Conditional Use Permit for a wastewater system expansion.

The environmental analysis for the originally proposed DTTC project was a Mitigated Negative Declaration tiered from the Dunnigan General Plan and Specific Developments Projects Environmental Impact Report SCH #93053066. The Yolo County Board of Supervisors approved the DTTC project and adopted the Mitigated Negative Declaration (SCH #2003062057) on January 6, 2004. The project has since expired, and the applicant seeks reapproval of the project, with slight modifications from the original application. The project is subject to the California Environmental Quality Act (CEQA). The CEQA requirements are described below.

CEQA Requirements

This document has been prepared as an Addendum to the Mitigated Negative Declaration (SCH #2003062057) ("MND") in accordance with the CEQA Guidelines, Section 15164.

CEQA Guidelines Section 15164 provides that "an addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred." The conditions in Section 15162 include substantial changes in the project or the circumstances under which the project is undertaken that result in new significant environmental effects, or new significant information showing new significant environmental effects, among others. Pursuant to Section 15164(e), a brief explanation is provided herein to document the County's decision that a subsequent EIR or negative declaration is not required.

The Guidelines go on to state that: (1) the addendum need not be circulated but can be included in or attached to the final EIR or negative declaration (Section 15164(c)), and (2) the County must consider the addendum with the final EIR or negative declaration prior to making a decision on the project (Section 15164(d)).

The analysis provided in this document demonstrates that the circumstances and impacts identified in the MND remain substantively unchanged and supports the finding that an addendum to the MND is the appropriate level of review.

Summary of Changes from the Project Description in the MND

The DTTC applicant has requested a Tentative Parcel Map (Map #5259) dividing a 100-acre property into four parcels with a remainder, and a Use Permit to construct and operate a truck stop, a truck dealership, and truck repairs and servicing. The DTTC is generally consistent with the Project Description in the MND, which proposed the following uses on the divided parcels:

- Parcel 1 (13 acres): A travel center including truck, RV, and auto fueling; a fast-food restaurant; a convenience store; truck supplies; a truck drivers lounge; showers and overnight truck parking.

- Parcel 3 (12 acres): A tire shop; a truck wash; travel-oriented retail shops; a truck drivers' lounge and restaurant; and overnight truck parking.

- Parcel 2 (10 acres): A restaurant, a 60-room motel, and parking.

- Parcel 4 (10 acres): A new and used truck dealership providing tractor-trailer sales, parts, and repair services.

- The remainder (55 acres): Truck-related Highway Services Commercial to be determined.

Changes to the proposed DTTC adjust the areas for the resulting parcels and provide more detailed descriptions for the land uses:

- Parcel 1 (15.83 acres): A travel center including truck, auto, and RV fueling; EV charging; quick service restaurants; a convenience store; truck and driver supplies; a truck drivers lounge; showers; and approximately four acres of overnight truck parking.

- Parcel 3 (12.72 acres): A tire shop; truck service center; travel-oriented retail shops; a full-service restaurant; and overnight truck parking.

- Parcel 2 (10.01 acres): A drive-thru restaurant, a 60-room motel, and parking.

- Parcel 4 (5.65 acres) A new and used truck dealership that would provide truck sales, parts, and repair services.

- The remainder (48.33 acres) would support the above uses with water and wastewater facilities and stormwater detention.

Access to the site would be provided by a roundabout installed by the developer to provide a safe entrance to the project area.

Proposed Project Evaluation

The following is an evaluation of potential changes in the project or regulatory environment since the last approval of the DTTC project and the adopted MND. The analysis in Table 1 (below) shows that the project remains substantively unchanged, such that an Addendum is warranted under Section 15164.

Table 1. Review of the Proposed Dunnigan Truck and Travel Center Relative to the Initial Study Environmental Checklist Factors

Environmental Factor	Discussion	Section 15162 Factors
Land Use	No change to the DTTC project is proposed that would further impact land use/ planning or agricultural resources. The uses remain the same with a travel center, truck services, new truck sales, motel, restaurants, and travel related retail, which are all permitted in Highway Service Commercial zoning. The MND found impacts to land uses to be less than significant. Agricultural conversion mitigation would be required, as provided in the Dunnigan EIR and the County's Agricultural Conservation and Mitigation Program.	No additional impact; no changed circumstances; no new information.
Population and Housing	The Dunnigan EIR determined that any impacts to population and housing resulting from the jobs created by the DTTC project would be less than significant. No change to the project is proposed which would further impact population and housing. No housing is proposed or impacted by the project.	No additional impact; no changed circumstances; no new information.
Geologic Problems	The MND contained a number of mitigation measures that would reduce any potential geologic impacts to a less-than-significant level. No change to the project is proposed which would impact geology.	No additional impact; no changed circumstances; no new information.
Water	The MND described a drainage study that confirmed the DTTC project's proposed detention basin's capacity to limits run-off during a 100-year storm event. Further, the MND described hydrogeologic analysis that determined an adequate water supply exists for the project. No change to the project is proposed which would impact water resources.	No additional impact; no changed circumstances; no new information.
Air Quality	The MND analyzed air quality impacts from construction activities and proposed mitigation measures that would reduce potential impacts to less-than-significant levels. The Dunnigan EIR also implemented air quality design strategies to reduce emissions from the DTTC, though the impacts were considered significant and unavoidable. No change to the project is proposed which would impact air quality.	No additional impact; no changed circumstances; no new information.

Environmental Factor	Discussion	Section 15162 Factors
Transportation/ Circulation	The MND proposed mitigation measures including a roundabout at the DTTC project entrance, additional lanes on County Road 8 and interstate off ramps, and traffic controls to reduce the potential impacts of the project to levels of service to a less than significant level. An updated Traffic Impact Study (TIS) based on 2023 roadway conditions was provided by Connor and Gaskins in January 2024 and reviewed by the California Department of Transportation (Caltrans) and Yolo County Public Works Division. This study recommends modifying the mitigation measure of the MND by providing a more in-depth proposal for traffic improvements as discussed below. As discussed further below, this change would not result in an increase in transportation or circulation-related impacts.	No additional impact; no changed circumstances; no new information.
Biological Resources	The MND found the DTTC to have potentially significant impacts on biological resources but proposed various mitigation measures to reduce those impacts to less-than-significant levels. An updated Biological Resources Assessment conducted by Jim Estep and published April 7, 2023 (BRA) was provided. The project lies within the Yolo County Habitat Conservation Plan/Natural Community Conservation Plan, which requires Avoidance and Minimization Measures (AMMs) to reduce impacts. The Biological Resources Assessment found that AMMs applicable to this project included: AMMs 4, 5, 7, 8, 9, 16, and 18 which would be incorporated into the project as conditions of approval. The protection provided by the AMMs would be superior to those in the Dunnigan EIR's mitigation measures. Thus, as further discussed below, the mitigation measures can be removed from the project without resulting in an increase in impacts to biological resources.	No additional impact; no changed circumstances; no new information.
Energy and Mineral Resources	The MND described various efficiency standards with which the project is required to comply and determined that it would not pose a significant impact. No change to the project is proposed which would impact energy and mineral resources.	No additional impact; no changed circumstances; no new information.
Hazards	The MND listed Federal, State, and local regulations that keep potential impacts from various hazards to a less than significant level. No change to the project is proposed which would impact hazards.	No additional impact; no changed circumstances; no new information.
Noise	The MND determined that any noise impacts from the project would be less than significant. No change to the project is proposed which would impact noise.	No additional impact; no changed circumstances; no new information.

Environmental Factor	Discussion	Section 15162 Factors
Public Services	The MND provided mitigation measures to offset the DTTC's potential impacts to the Fire Protection District and other public services so that the impacts would be less than significant. No change to the project is proposed which would impact public services.	No additional impact; no changed circumstances; no new information.
Utility and Services Systems	The MND relied on the Dunnigan Facilities Plan analysis included in the EIR and proposed a connection to the Dunnigan Water Works (DWW) facilities for water and wastewater services. The DTTC included expanding wastewater facilities at the DWW site on the eastside of I-5 pending approval by the Regional Water Quality Control Board so that impacts of the project on utilities would be less than significant. Although the project no longer proposes to connect to offsite services, onsite services were discussed in the EIR and it found that with required approvals by the Regional Water Quality Control Board (RWQCB), the impacts would be less than significant which is the same level of impact determined in the MND.	No additional impact; no changed circumstances; no new information.
Aesthetics	The MND included general mitigation measures to reduce aesthetic impacts to less than significant levels. No change to the project is proposed which would impact aesthetics.	No additional impact; no changed circumstances; no new information.
Cultural Resources	The MND found no evidence of paleontological, archaeological, or historic resources so that there would be no impact to these resources. No change to the project is proposed which would impact cultural or tribal cultural resources.	No additional impact; no changed circumstances; no new information.
Recreation	The MND found that the project would not generate population increase so that there would be no impact to increased demand or use of existing recreational facilities. No change to the project is proposed which would impact recreation.	No additional impact; no changed circumstances; no new information.

Discussion

The analysis above demonstrates that none of the conditions described in Section 15162 calling for the preparation of a subsequent negative declaration are present. Regulatory changes since the MND was approved in 2004, require changes to mitigation measures for biological resources and transportation/circulation. As discussed below, the changes to the mitigation measures do not result in significant changes to the project or its environmental impacts.

Biological Resources

Biological Resources are discussed in Section 4.8 of the Dunnigan EIR and unchanged in the Tiered IS/MND. Although not a substantial change, the implementation of the Yolo County Habitat Conservation Plan and Natural Community Conservation Plan (HCP/NCCP) starting in 2019 changed the regulatory environment for biological resources and requires Avoidance and Minimization Measures (AMM) to prevent potential impacts to biological resources.

To comply with the HCP/NCCP, a Biological Resources Assessment was conducted by Jim Estep and published April 7, 2023. The assessment found that the DTTC is covered by the Yolo County Habitat Conservation Plan/Natural Community Conservation Plan which requires Avoidance and Minimization Measures (AMMs) to reduce impacts. These AMMs are similar to and further reduce impacts to Biological Resources mitigation measures 5-7 so that these mitigation measures adopted for the project may be removed. The conditioned AMMs include:

- **AMM 3. Confine and Delineate Work Areas.** Where natural communities and covered species habitat are present, workers will confine land clearing to the minimum area necessary to facilitate construction activities. Workers will restrict movement of heavy equipment to and from the project site to established roadways to minimize natural community and covered species habitat disturbance. The project proponent will clearly identify boundaries of work areas using temporary fencing or equivalent and will identify areas designated as environmentally sensitive. All construction vehicles, other equipment, and personnel will avoid these designated areas.

- **AMM 4. Cover Trenches and Holes during Construction and Maintenance.** To prevent injury and mortality of giant garter snake and western pond turtle, workers will cover open trenches and holes associated with implementation of covered activities that affect habitat for these species or design the trenches and holes with escape ramps that can be used during non-working hours. The construction contractor will inspect open trenches and holes prior to filling and contact a qualified biologist to remove or release any trapped wildlife found in the trenches or holes.

- **AMM 5. Control Fugitive Dust**. Workers will minimize the spread of dust from work sites to natural communities or covered species habitats on adjacent lands.

- **AMM 7. Control Nighttime Lighting of Project Construction Sites**. Workers will direct all lights for nighttime lighting of project construction sites into the project construction area and minimize the lighting of natural habitat areas adjacent to the project construction area.

- **AMM 8. Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas.** Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land).

- **AMM 9. Establish Resource Protection Buffers around Sensitive Natural Communities**
  o *Lacustrine and riverine:* Outside urban planning units, 100 feet from the top of banks. (This applies to the proximity of the proposed detention basin adjacent to

Bird Creek.)

- **AMM 16. Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite.** The applicant will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

  If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000) within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior.

- **AMM18, Minimize Take and Adverse Effects on Western Burrowing Owl.** The project proponent will retain a qualified biologist to conduct planning-level surveys and identify western burrowing owl habitat (as defined in Appendix A) within or adjacent to (i.e., within 500 feet of) a covered activity. If habitat for this species is present, additional surveys for the species by a qualified biologist are required, consistent with CDFW guidelines (2012). If burrowing owls are identified during the planning-level survey, the project proponent will minimize activities that will affect occupied habitat as follows, by implementing preconstruction surveys and other AMMs. If burrowing owls are not found during the planning level survey, then pre-construction surveys are not needed.

  If the project does not fully avoid direct and indirect effects on nesting sites (i.e., if the project cannot adhere to the resource protection buffers described above), the project proponent will retain a qualified biologist to conduct pre-construction surveys and document the presence or absence of western burrowing owls that could be affected by the covered activity. Prior to any ground disturbance related to covered activities, the qualified biologist will conduct the preconstruction surveys within 3 days prior to ground disturbance in areas identified in the planning-level surveys as having suitable burrowing owl burrows, consistent with CDFW preconstruction survey guidelines. The qualified biologist will conduct the pre-construction surveys 3 days prior to ground disturbance. Time lapses between ground disturbing activities will trigger subsequent surveys prior to ground disturbance. If the biologist finds the site to be occupied by western burrowing owls during the breeding season (February 1 to August 31), the project proponent will avoid all nest sites during the remainder of the breeding season or while the nest is occupied by adults or young. Occupation includes individuals or family groups that forage on or near the site following fledging. Avoidance will be based on the resource protection buffer distances described above, Construction may occur inside of the resource protection buffer during the breeding season if the nest is not disturbed and the project

proponent develops an AMM plan that is approved by the Conservancy, CDFW, and USFWS prior to project construction.

Biological Resources mitigation measures 1-4 addressed retention of native trees and protection and restoration of Bird Creek. Mitigation measures 5-7 required consultation with the California Department of Fish and Game (CDFG) in the protection of Swainson's hawk and burrowing owl nests and foraging areas. The adopted HCP/NCCP now provides standard requirements to avoid and minimize impacts to Swainson's hawk and burrowing owl nesting sites in AMM 16 and 18 above respectively so that additional consultation with the State and National wildlife agencies are not needed for these covered species. Additional coverage is provided to protect habitat including foraging areas.

The HCP/NCCP and AMMs 16 and 18 reduce the Project's potential impacts to Swainson's hawk and burrowing owls to less than significant so that mitigation measures 5-7 are no longer needed or desired.

Transportation/ Circulation

The MND refers to a traffic study prepared by Grandy and Associates in 2002 that found that increases in traffic resulting from the proposed development would lead to significant impacts in the County's Level of Service standards. Two sets of mitigation measures were offered to reduce the Project's traffic impacts. Direct and near-term mitigation measures included a roundabout at the project entrance and additional lanes between the roundabout and southbound Interstate 5. Additional mitigations to the junction of I-5 and CR 8 include three-way stop signs at the northbound and southbound intersections with a separate left turn lane on the northbound exit ramp and a separate right turn lane on the southbound exit ramp. Long term mitigation measures include a fair share payment toward traffic signals when they are determined to be necessary.

An updated Traffic Impact Study (TIS) based on 2023 roadway conditions was provided by Connor and Gaskins in January 2024 and reviewed by the California Department of Transportation (Caltrans) and Yolo County Public Works Division. This study modifies the mitigation measure of the Dunnigan EIR by providing an updated proposal for traffic improvements.

MM6a. The Applicant shall install a single-lane roundabout with an inscribed diameter of 190 feet on County Road 8 at the project access point. The developer shall widen County Road 8, between the I-5 southbound ramps and the project access to provide a three-lane section. This section of CR 8 shall include eastbound and westbound lanes that feed the roundabout at the western terminus and the CR 8 overpass of I-5 at the eastern terminus of the section and an outer eastbound lane on this section of CR 8 that shall terminate with a right turn onto the southbound on-ramp to I-5. The existing portion of this segment of CR 8 shall be resurfaced.

The Applicant shall provide an exclusive 160-foot right tum lane for the southbound exit ramp and a left turn only lane for the northbound exit ramp of Interstate 5. Additionally, stop signs for east and west bound traffic on County Road 8 and a fair share contribution for installation of traffic signals shall be provided when Caltrans determines it is necessary.

The more recent Connor and Gaskins traffic study clarifies and combines the duplicative sets of mitigation measures in the MND to require the roundabout, the right turn lanes on the interstate off ramps, and three lanes on County Road 8 (CR 8) west of the interstate so as not to conflict

with the roundabout. The mitigation measures also clarify that the applicant will be responsible for stop signs at the CR 8/I-5 interchanges when required by Caltrans and to pay a fair share toward traffic signals should they become necessary.

Determination

The proposed Project, which seeks to approve an expired Tentative Parcel Map and permitted land uses, does not represent a substantive change to the previously approved project as analyzed under the adopted MND.

In order to assess whether additional CEQA review is required for the additional operations, an analysis of the applicability of Section 15162 of the CEQA Guidelines has been prepared. The table on the following page provides verbatim wording from the Guidelines and a corresponding analysis of the applicability of each section to the proposed project.

TABLE 2: Comparison of CEQA Requirements and Request

CEQA Requirement Section 15162(a)	**Relationship to Proposed Project**
When an EIR has been certified or negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole record, one or more of the following:	The Dunnigan Truck and Travel Center Rezoning, Tentative Subdivision Map, and Conditional Use Permit Initial Study/Mitigated Negative Declaration ("MND") was adopted by the Yolo County Board of Supervisors on January 6, 2004. The MND tiered off the Dunnigan General Plan EIR (SCH# 93053066) certified by the Yolo County Board of Supervisors on September 3, 1997. The information below summarizes the substantial evidence in support of the County's determination that the preparation of a subsequent EIR or negative declaration is not required.
(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;	There are no changes in the proposed project that would require major revision of the MND, which analyzed and mitigated the potential significant impacts of the Project. As shown in Table 1, the land uses and scale of the project remains the same. The applicant has satisfied some of the mitigation measures included in the MND related to transportation. Most of the other mitigation measures relate to site development that has not changed substantially; therefore, no new significant environmental effects would occur as a result of the amended project.

CEQA Requirement Section 15162(a)	Relationship to Proposed Project
(2) Substantial changes will occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or	The project was approved in 2004 prior to adoption of the Yolo County Habitat Conservation Plan/Natural Communities Conservation Plan and the formalized Vehicle Miles Traveled analysis. The analysis of the biological resources and Traffic/Circulation sections was revised and the mitigation measures for these sections received a minor revision as discussed above. The project was evaluated with respect to the circumstances under which the development is or will be undertaken that would warrant major revisions to the previous CEQA review. As described above, the proposed project is substantially the same and would not create new significant environmental effects or increase previously identified effects. Therefore, the County has concluded that the proposed project is not a substantial change in circumstances that requires major revisions to the MND or result in an increase of project-related impacts.
(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:	There has been no new information of substantial importance that has become known since the MND was adopted in 2004. The proposed project remains substantially the same and will not cause any new significant effects that were not discussed in the MND.[1]
(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;	The proposed project remains substantially the same and will not have any significant effects that were not discussed in the adopted MND as there is no additional development included in the project proposal.
(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;	No significant effects previously examined and mitigated in the EIR will be made more severe by the proposed amendments to the approved project. In fact, clarification of proposed transportation improvements and avoidance and minimization measures now required by the Yolo County HCP/NCCP reduce previously identified potential impacts to Transportation and Biological Resources to levels less than the prior mitigated impacts as described below.

[1] Since the MND was adopted in 2004, the CEQA Guidelines have been revised to include other resource categories, with impacts to greenhouse gas ("GHG") emissions being the most significant. GHGs were not addressed in the Dunnigan EIR or the MND. This does not trigger the need for subsequent or supplemental review because GHG emissions are not "new information" under CEQA, as GHG emissions were known as a potential environmental issue before 2004. *See Citizens for Responsible Equitable Environmental Development (CREED) v. City of San Diego* (2011) 196 Cal.App.4th 515 (holding that GHGs did not require supplemental or subsequent EIR to 2002 EIR because GHG impacts on climate change were known in the 1970s); *see also Citizens Against Airport Pollution v. City of San Jose* (2014) 227 Cal.App.4th 788 (holding that addendum did not need to analyze GHGs because their impacts was not new information).

CEQA Requirement Section 15162(a)	Relationship to Proposed Project
(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or	The EIR adopted for this project considered 3 alternatives including no additional development in the Dunnigan area, development only as allowed under the 1981 General Plan and an option to allow expanded development in addition to that allowed in the 2001 Dunnigan Plan. None of these alternatives were previously found not to be feasible; they were eliminated for other reasons that have not changed. The adopted tiering ND did not revisit the alternatives and included the relevant mitigation measures. None of the mitigation measures were found not to be feasible however the biological resources and circulation mitigation measures were updated to meet current regulatory requirements.
(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.	The proposed project has not substantially changed from the prior approval. No new alternatives or mitigations are proposed for the project though as identified in the preceding discussion, existing mitigations for biological resources and circulation have been updated for the current regulatory environment and revised.

CONCLUSION

Based on the analysis provided above, the proposed Project, which would approve a Tentative Parcel Map (Map #5259) and approve a Use Permit to construct and operate a truck stop, a truck dealership, and truck repairs and servicing for the Dunnigan Truck and Travel Center, would not result in new or more severe environmental impacts for which additional CEQA review is required. Additionally, the mitigation measures for the biological resources and circulation have been updated to meet current regulatory circumstances and do not require additional CEQA review. These include compliance with the Yolo County HCP/NCCP which requires standard Avoidance and Minimization Measures. The AMMs will eliminate the need for biological resources mitigation measure 5-7. Additionally, the updated Traffic Impact Study clarified the road safety improvements and replaced the existing mitigation measures. The DTTC project is substantially the same as previously evaluated through the adopted IS/MND. This addendum shall be attached to the existing Mitigated Negative Declaration (SCH #2003062057).

APPENDIX A

TRAFFIC IMPACT STUDY

DUNNIGAN TRAVEL CENTER
DRAFT TRANSPORTATION IMPACT STUDY

JANUARY 2024

PREPARED FOR:

DKS

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DOCUMENT DESCRIPTION

CLIENT	Connor & Gaskins Unlimited, LLC
DKS Project Number	23059-000
Project Name	Dunnigan Travel Center
Document Name	Transportation Impact Study
File Path	\\Dks-ad1-sac\p\2023\23059-000 Dunnigan Travel Center TIA\07 Deliverables\02 Reports
Date Document Issued	01/08/2024

VERSION CONTROL

VERSION NUMBER	DATE	DESCRIPTION OF CHANGE	PRIMARY AUTHOR
1-0	10/10/2023	Initial Document	Sean Carney
1-1	10/19/2023	Draft Review	JMP
2-0	10/24/2023	Submittal	JMP
3-0	01/08/2024	Revised Submittal	SNC/JMP

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INTRODUCTION

This report has been prepared to present the findings of a Transportation Impact Study (TIS) for the Dunnigan Travel Center development, located in unincorporated Yolo County, California. The analysis focuses on the project's impact along the I-5 interchange with County Road 8 and site circulation. The analysis includes consideration of motorized vehicle traffic impacts on roadway capacity, and potential impacts to transit service, bicyclists, and pedestrians. Quantitative transportation analyses have been conducted for the following scenarios:

EXISTING CONDITIONS (2023)

Existing conditions are based upon existing 2023 roadway conditions.

EXISTING PLUS PROJECT CONDITIONS (2023)

Existing conditions plus the traffic associated with the Dunnigan Travel Center development.

CUMULATIVE CONDITIONS (2040)

Cumulative conditions are reflective of all planned uses in the area and are estimated by the regional travel model without development on the project site.

CUMULATIVE PLUS PROJECT CONDITIONS (2040)

Cumulative conditions plus the traffic associated with the Dunnigan Travel Center development.

PROJECT DESCRIPTION

The proposed project is located southwest of the I-5 interchange at County Road 8 and County Road 90B, as shown in **Figure 1**.

The proposed development would be accessed via two (2) site driveways, one (1) at the County Road 8 and County Road 90B intersection and one (1) along County Road 90B. The project site plan is shown **Figure 2**. The site driveway, located at Bird Creek Road along County Road 8, will provide a north-south connection and site circulation within the development. It is noted that once the project is developed, County Road 90B will be abandoned between County Road 8 and the future internal road, Commerce Way.

The proposed development, Dunnigan Travel Center, consists of two phases, regarding land use summary. Phase I consists of commercial land use, truck repair and amenities, with fueling, and EV charging. Phase II consists of travel related retail and restaurants, truck sales, a hotel. Phase I of Dunnigan Travel Center includes a 16,573 square feet travel center, truck service with 17,614 square feet, fueling pumps, and parking spots for semi-trucks, recreational vehicles, and automobiles. Phase II of the proposed development includes 49,356 square feet of travel related retail/restaurant uses, a 6,242 square feet fast food restaurant, a truck sales land use of 32,271

square feet, and a three-floor hotel with 60 rooms. A breakdown of the land use of Phase I and Phase II is found in **Table 1** and **Table 2**.

FIGURE 1: SITE LOCATION

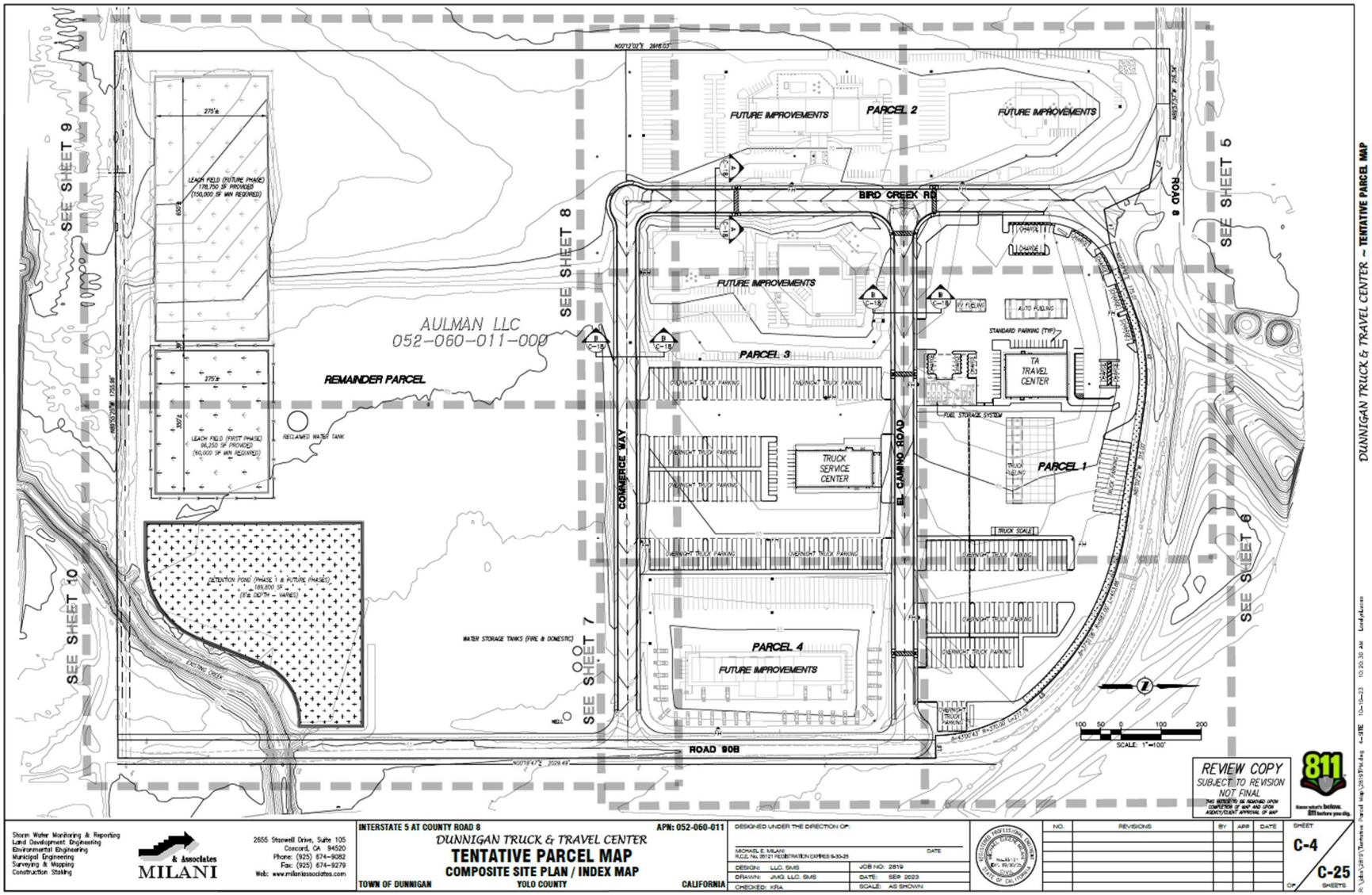


FIGURE 2: SITE PLAN

TABLE 1: PHASE I LAND USE SUMMARY

LAND USE	COMPONENTS	BUILDING SIZE (SQFT) OR NUMBER OF PUMPS
FUELING PUMPS	Semi-Truck Fueling Pumps	10 (10 Fueling Positions)
	RV Fueling Pumps	3 (6 Fueling Positions)
	Automobile Fueling Pumps	10 (20 Fueling Positions)
TRAVEL CENTER	Storage/B.O.H.	2,683
	Kitchen	2,648
	Trucker Amenities	2,951
	Shopping/F.O.H.	8,291
TRUCK SERVICE	Workshop	11,883
	Storage/B.O.H.	4,042
	Office/F.O.H.	1,689

Source: Connor & Gaskins Unlimited, LLC, June 5, 2023.

TABLE 2: PHASE II LAND USE SUMMARY

LAND USE	BUILDING SIZE (SQFT)
TRAVEL RELATED RETAIL	25,500
TRAVEL RELATED RETAIL/RESTAURANT	23,856
FAST FOOD RESTAURANT	6,242
TRUCK SALES	32,271
HOTEL	25,537 per floor (60 rooms)

Source: Connor & Gaskins Unlimited, LLC, August 30, 2023.

PROJECT SETTING

The roadway, transit, bicycle, and pedestrian transportation systems within the study area are described below.

ROADWAY SYSTEM

The roadway system near the proposed project is described below.

I-5 Interchange is a major north-south route of the Interstate Highway System, running along Yolo County, California. The on- and off-ramps along the I-5 Interchange provide regional access to the site. The posted speed limit along the interchange, within the vicinity of the site, is 70 mph.

County Road 8 is a minor east-west collector adjacent to the site, which stretches from County Road 89A to County Road 99W and provides direct access via one (1) driveway. This road has one (1) travel lane in each direction and the posted speed limit is 55 mph.

County Road 90B is a north-south local road adjacent to the site, which stretches from County Road 8 to County Road 89B and provides access via two (2) driveways. This road has one (1) travel lane in each direction and the posted speed limit is 55 mph. It is noted that once the proposed project is developed, County Road 90B will be abandoned from County Road 8 to Commerce Way.

Bird Creek Road is a minor north-south street and intersects with County Road 8 and County Road 9 intersection, providing direct access to the site. This street is a project-developed roadway. Bird Creek Road intersects with El Camino Road and Commerce Way. This street has one (1) travel lane in each direction and the posted speed limit is 25 mph.

El Camino Road is a minor east-west street between Bird Creek Road and County Road 90B and provides direct access to the site. This street is a project-developed roadway. This street has one (1) travel lane in each direction and the posted speed limit is 25 mph.

Commerce Way is a minor east-west street between Bird Creek Road and County Road 90B and provides direct access to the site. This street is a project-developed roadway. This street has one (1) travel lane in each direction and the posted speed limit is 25 mph.

EXISTING PEDESTRIAN SYSTEM

There are no existing pedestrian facilities within the vicinity of the site.

EXISTING BICYCLE SYSTEM

There are no existing bicycle facilities within the vicinity of the site.

EXISTING TRANSIT SYSTEM

There are no existing transit facilities within the vicinity of the site.

STUDY INTERSECTIONS

The study intersections are shown in **Figure 3**. This analysis has examined the potential effects of the proposed development during peak hour operations. The following three existing intersections have been included in the analysis:

1. County Road 8 and County Road 90B [TWSC]
2. County Road 8 and I-5 SB Ramps [TWSC]
3. County Road 8 and I-5 NB Ramps [TWSC]

Under the build scenarios, the following intersection has been included in the analysis:

4. Bird Creek Road and El Camino Road [AWSC]

It is noted that the lane configuration and road alignment along County Road 8 and County Road 90B will be modified. Primary vehicular access to the site will be located along County Road 8, where County Road 90B originally intersects.

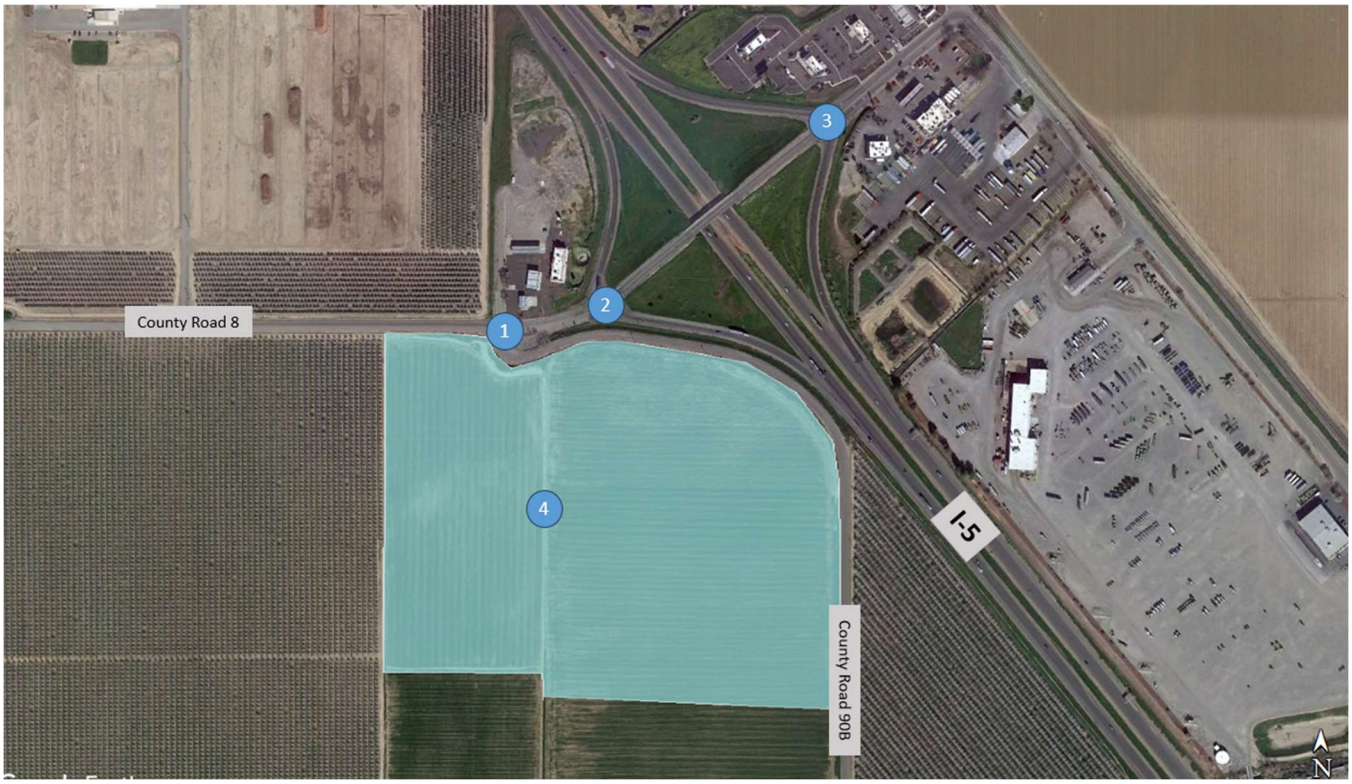


FIGURE 3: STUDY INTERSECTIONS

STUDY TIME PERIOD AND DATA COLLECTION

Operating conditions during the weekday morning (7:00 a.m. to 9:00 a.m.) and afternoon (4:00 p.m. to 6:00 p.m.) peak periods were evaluated to capture the highest potential impacts for the proposed project as well as the highest volumes on the study road network. Intersection counts are provided in **Appendix A**. As stated, weekday a.m. and p.m. peak hours were evaluated for the following scenarios:

- **Existing Conditions**: Existing peak hour volume, lane geometry, and traffic control
- **Existing plus Project Conditions**: Existing peak hour volumes plus net-new project-generated trips estimated for the proposed development.
- **Cumulative Conditions**: Cumulative peak hour volumes, lane geometry, and traffic control
- **Cumulative plus Project Conditions**: Cumulative peak hour volumes plus net-new project-generated trips estimated for the proposed development.

Traffic volume data representative of a typical weekday was collected on Wednesday, May 12, 2023, while local schools were in session.

REGULATORY SETTING

The purpose of this TIS is to evaluate potential traffic deficiencies and impacts of the proposed development on surrounding facilities. This TIS was prepared in accordance with the City Transportation Impact Study Guidelines (February 2010).

CEQA DEFICIENCY CRITERIA

The main transportation related CEQA criteria is based on the effect of a proposed projects VMT generation related to regional averages. Certain types of projects however can be screened out based on local policy, or lacking that, OPR guidance, due to the type of proposed land use or nearby transportation infrastructure, such as:

- Size of development (less than 50,000 square feet of locally serving commercial)
- Intensity of trip generation (less than a defined number of daily or peak hour generated trips)
- Nearby high-quality transit (within a half-mile of a transit stop)
- Location within an identified VMT efficient area and consistent with local or regional Land Use planning

In addition to the screening criteria for CEQA VMT-based analysis, a project could still have a significant CEQA transportation impact if it conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Potential examples of the latter could include one or more of the following:

- Eliminates or adversely affects an existing bikeway or pedestrian facility in a way that would discourage its use; or
- Interferes with the implementation of a planned bikeway as shown in the Bicycle Master Plan, or be in conflict with the Pedestrian Master Plan; or
- Fails to provide adequate access for bicyclists and pedestrians, resulting in unsafe conditions, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflicts.
- Eliminates or adversely affect existing transit access, service, or operations; or
- Interferes with the implementation of planned transit service.
- Substantially increases hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

LOCAL TRANSPORTATION DEFICIENCY CRITERIA

Per the Yolo County Vehicle LOS Threshold Policy, the County seeks to maintain a Level of Service C or better for roadways and intersections within the unincorporated county. If a project may result in worse than LOS C conditions or require additional improvements to retain the required level of service, the County may not approve the proposed development. However, it is noted that an exception may be considered, as specified in Policy CI-3-1.

The Project would be considered significant and responsible for improving an **intersection** deficiency if:

- The roadway segment or intersection operates unacceptably according to Policy CI-3.1 and CI-3.2 under a no project scenario and the addition of project trips causes overall traffic operations on the facility to operate unacceptably.
- The roadway segment or intersection operates unacceptably according to Policy CI-3.1 and CI-3.2 under a no project scenario and the project adds 10 or more peak hour trips.
- The project fails to provide safe accommodation of forecast truck traffic or temporary construction-related truck traffic.
- The project adds 100 daily passenger vehicle trips to an existing roadway that does not meet current County design standards.
- The addition of project traffic causes an all-way stop-controlled or side street stop-controlled intersection to meet Caltrans signal warrant criteria. All intersections shall first be evaluated with roundabout intersection control.

ANALYSIS METHODOLOGY

INTERSECTION LEVEL OF SERVICE

Intersection analyses were conducted using a methodology outlined in the Transportation Research Board's Special Report 209, Highway Capacity Manual 6th Edition (HCM 6). The methodology utilized is known as "operational analysis." This procedure calculates an average control delay per vehicle at an intersection and assigns a level of service designation based upon the delay. **Table 3** presents the level of service criteria for intersections in accordance with the HCM 6 methodology.

A model of the proposed study network was built in Synchro 11. Synchro model parameters were consistent with the Yolo County Transportation Impact Study Guidelines. Analysis was completed using this model in SimTraffic and compared to HCM 6 delay thresholds.

TABLE 3: INTERSECTION LEVEL-OF-SERVICE

LEVEL OF SERVICE (LOS)	TOTAL DELAY PER VEHICLE (SECONDS)	
	SIGNALIZED	UNSIGNALIZED
A	< 10	< 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	> 80	> 50

Source: Highway Capacity Manual 6th Edition, Transportation Research Board.

INTERSECTION QUEUING ANALYSIS

Queue lengths at intersections and driveways have been estimated based upon the 95th percentile queue. SimTraffic was used to compute the queue length for unsignalized intersections.

TRAVEL DEMAND FORECASTING

SACOG's SACSIM19 Activity Based Travel Demand Model was used to estimate project trip distribution on study area roadways. Model detail is very limited around the project area, including no interchanges along I-5 between its interchange with I-505 and Road 6 in central Dunnigan. To more properly represent the Study Area and the project in the model, the Road 8 interchange and its associated ramps and intersections were added, along with zone "centroids" for the added TAZs, and six additional TAZs were split from the original SACSIM zones. **Figure 4** shows both the default SACSIM roadway network and TAZ centroids (on the left) and the modified network and TAZs (on the right). In the maps, the base TAZs (SACOG) are shown as pink triangles (TAZ 1-1533), while the TAZ splits (DKS) are shown as purple triangles (TAZs 1534-1539).

Specific nodes (intersections between roadway links) were selected for volume outputs and use in volume forecasting. For the "no project" model runs, land uses on Study Area parcels were not changed (only TAZ number was changed) while for "plus project " scenarios (for use in project trip distribution) land uses (based on employment) were estimated and placed on project parcels.

The travel demand model shows very limited traffic growth within the study area, therefore a flat growth rate of 5% is applied to the existing counts and then rounded up to 5 to represent cumulative volume condition.

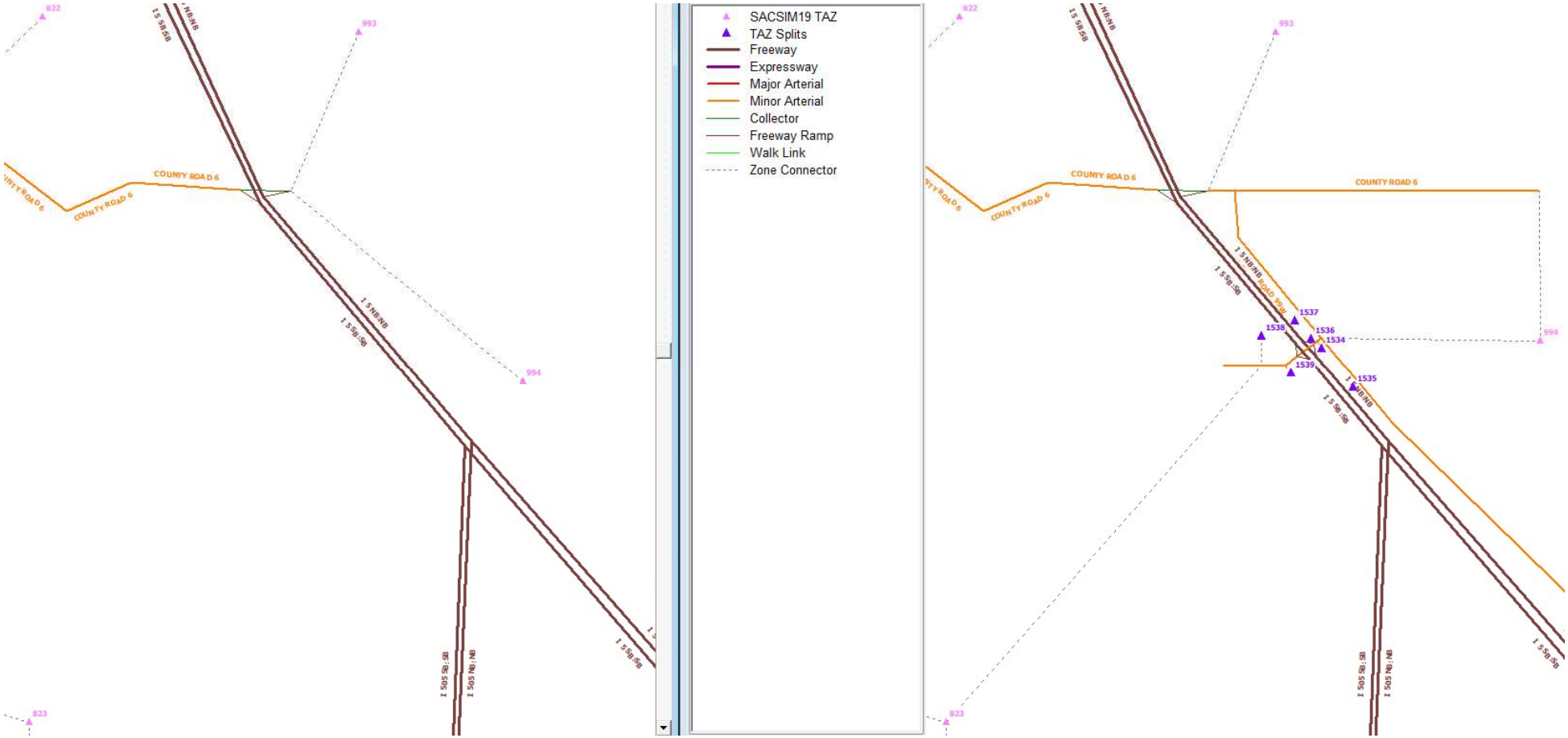


FIGURE 4: SACSIM NETWORK MODIFICATIONS

PROJECT TRAVEL CHARACTERISTICS

TRIP GENERATION

Development-generated vehicle trips have been estimated based on the site statistics listed in **Table 1** and **Table 2** and partially based on the rates published in the ITE Trip Generation Manual, 11th Edition. The closest available ITE land use code was used for each element of the project site to estimate typical AM and PM peak hour trips as well as daily trip generation. Since the ITE TripGen has limited data samples for truck stop land use, this analysis adds another truck trip generation study published by the City of Fontana[1] as an additional reference for more comprehensive trip estimation. The technical memorandum of how the trip generation and distribution was derived is provided in **Appendix B**.

The resulting expected trip generation for the proposed project is shown in **Table 4**. The project is expected to generate a total of 492 new vehicles trips (249 inbound and 243 outbound) in the a.m. peak hour and 564 new vehicles trips (293 inbound and 271 outbound) in the p.m. peak hour.

[1] https://www.tampabayfreight.com/pdfs/Freight%20Library/Fontana%20Truck%20Generation%20Study.pdf

TRIP DISTRIBUTION

Figure 5 and **Figure 6** illustrate the project trip distribution based upon travel patterns from the 2016 SacSIM Travel Demand Model select zones during a.m. and p.m. peak hours. Distribution is based on existing land use patterns.

TABLE 4: ESTIMATED PROJECT TOTAL TRIP GENERATION

	VEHICLE TRIPS (INCLUDING TRUCK TRIPS)					
	AM PEAK HOUR			PM PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
TOTAL TRIPS						
Phase I	137	132	269	201	200	402
Phase II	352	344	696	389	356	745
Total	**489**	**476**	**965**	**590**	**556**	**1146**
PASS-BY TRIPS						
Phase I	-104	-100	-205	-151	-150	-301
Phase II	-136	-132	-268	-147	-135	-282
Total	**-240**	**-232**	**-473**	**-298**	**-285**	**-583**
NEW TRIPS						
Phase I	33	32	65	50	50	100
Phase II	216	212	428	242	221	463
Total	**249**	**243**	**492**	**293**	**271**	**564**

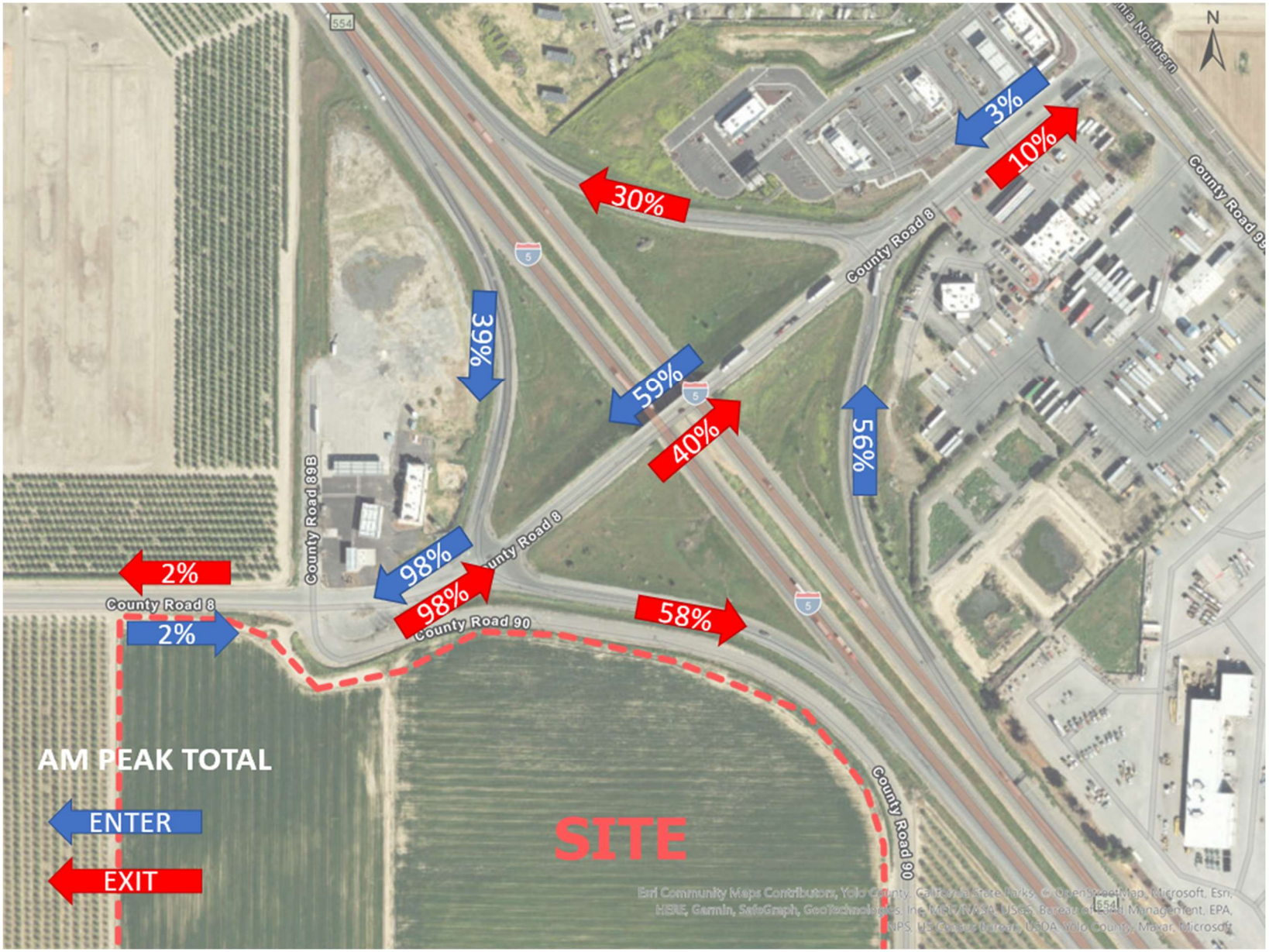


FIGURE 5: A.M. PEAK HOUR PROJECT TRIP DISTRIBUTION

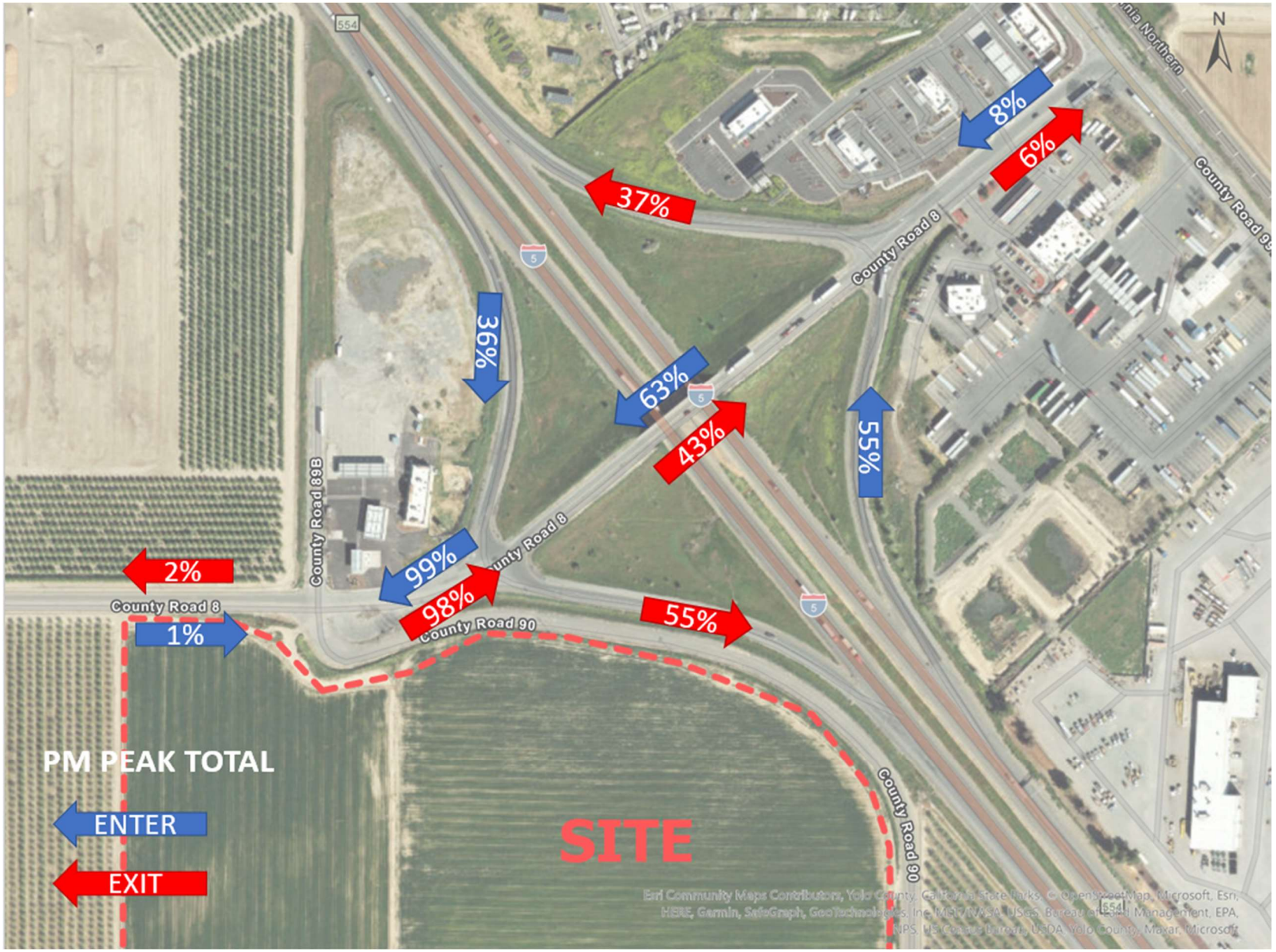


FIGURE 6: P.M. PEAK HOUR PROJECT TRIP DISTRIBUTION

ANALYSIS RESULTS

CEQA SIGNIFICANCE

VMT DEFICIENCY:

The majority of the proposed land use can be characterized as locally serving commercial uses, to vehicles that would already be passing by on the interstate, and under the 50,000 square foot threshold. The developments proposed, with the exception of the truck sales depot, are generally ubiquitous, and nothing about the project site would cause it to draw any regional trips. As such, the majority of the land use under the Proposed Project meets the locally serving VMT screening criteria and requires no further analysis.

The proposed truck sales center is a unique land use which, while small, does not fall under the screening criteria for small retail/commercial development. Truck sales is an infrequently developed use, and as such, generally draws a regional demand for its consumer base. The location in northern Yolo County away from any major population centers means that the truck sales will likely increase regional VMT per employee rather than reduce it per the adopted CEQA guidelines. The project applicant has not provided market analysis for this use, and thus an estimate of the net effect on regional VMT from this land use cannot be fully determined at this time. Based on the estimated 15-20 full-time employees for the sales center, it is unlikely that this will result in a substantial effect on regional VMT and thus the truck sales center should be considered for overriding consideration of this CEQA impact.

VMT RECOMMENDATION:

There are no VMT-related recommendations.

BICYCLE AND PEDESTRIAN DEFICIENCY:

The proposed project would not adversely affect existing or planned pedestrian or bicycle facilities. The project is in a greenfield area where these facilities do not currently exist.

The existing site design shows planned locations for sidewalks and striped pedestrian crossings, however it does not illustrate where planned bicycle facilities, if any, would be located on-site. Bicycle facilities should be accommodated within the proposed cross section to provide separation where possible between cyclists and heavy truck traffic.

BICYCLE AND PEDESTRIAN RECOMMENDATION:

The project should construct pedestrian and bicycle facilities along its frontage to County Standards. Additionally, the project should provide bicycle facilities on internal site roadways to provide separation where possible between cyclists and heavy trucks.

TRANSIT DEFICIENCY:

The proposed project would not adversely affect existing or planned transit facilities. The project is in an area where no existing or planned transit service exists.

TRANSIT RECOMMENDATION:

There are no transit-related recommendations.

SAFETY DEFICICENCY:

There were two severe injury crashes located within the study area that occurred within the last 5 years (2018-2022). One involved a truck on the southbound I-5 offramp that overturned due to unsafe speed, the other involved a car that hit the guardrail that was caused by a DUI. Both crashes were single vehicle incidents resulting from driver behavior, and there is no expectation that the proposed project would increase safety risk in the area.

SAFETY RECOMMENDATION:

There are no safety-related recommendations.

EXISTING CONDITIONS (2023)

Existing conditions are based upon existing 2023 roadway conditions. All study area intersections were counted on Wednesday, May 12, 2023. Intersection geometry and existing peak hour traffic volumes are shown in **Figure 7**.

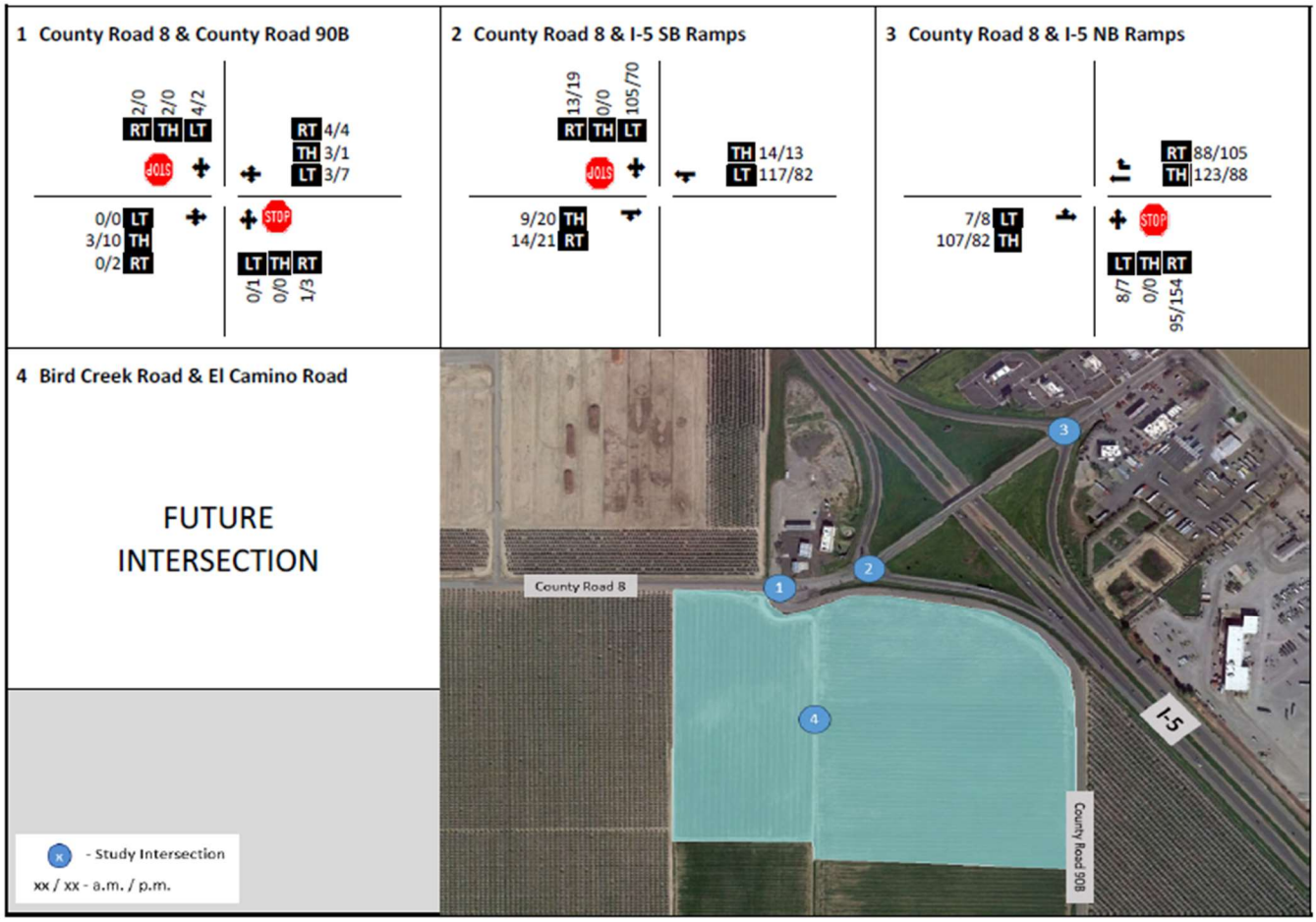


FIGURE 7: EXISTING INTERSECTION GEOMETRY AND PEAK HOUR TRAFFIC VOLUMES

Table 5 summarizes the existing peak hour intersection operating conditions without the project. Results indicate that all study intersections are expected to operate at LOS C or better. SimTraffic worksheets for existing conditions are provided in **Appendix C**.

TABLE 5: EXISTING CONDITIONS INTERSECTION OPERATIONS ANALYSIS

INTERSECTION	CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		DELAY (SECONDS)	LOS	DELAY (SECONDS)	LOS
1. COUNTY ROAD 8 AND COUNTY ROAD 90B	TWSC	1.0 [4.6-SBLTR]	A [A]	0.7 [3.5-SBLTR]	A [A]
2. COUNTY ROAD 8 AND I-5 SB RAMPS	TWSC	2.9 [5.4-SBLTR]	A [B]	2.3 [4.8-SBLTR]	A [B]
3. COUNTY ROAD 8 AND I-5 NB RAMPS	TWSC	1.9 [7.7-NBLTR]	A [A]	2.5 [8.3-NBLTR]	A [A]

Source: DKS Associates, 2023.

1. [Worst stop-controlled delay] for TWSC intersections

Table 6 summarizes the existing queueing results, as well as the queues on the interchange on- and off-ramps.

TABLE 6: EXISTING CONDITIONS QUEUING ANALYSIS

INTERSECTION	TURNING MOVEMENT	STORAGE LENGTH (FT)	95TH PERCENTILE QUEUE (FT)	
			AM PEAK HOUR	PM PEAK HOUR
1. COUNTY ROAD 8 AND COUNTY ROAD 90B	NBLTR	---[1]	10	30
	SBLTR	100	40	20
2. COUNTY ROAD 8 AND I-5 SB RAMPS	SBLTR	1190	80	60
3. COUNTY ROAD 8 AND I-5 NB RAMPS	NBLTR	1460	80	100

Source: DKS Associates, 2023.

1. NB approach for Intersection #1 does not have a storage lane. There are no conflicts proximate to this intersection.

EXISTING PLUS PROJECT CONDITIONS (2023)

Project trips, shown in **Figure 8**, were developed from the site trip generation and the trip distribution. Existing plus project peak hour traffic volumes are shown in **Figure 9**.

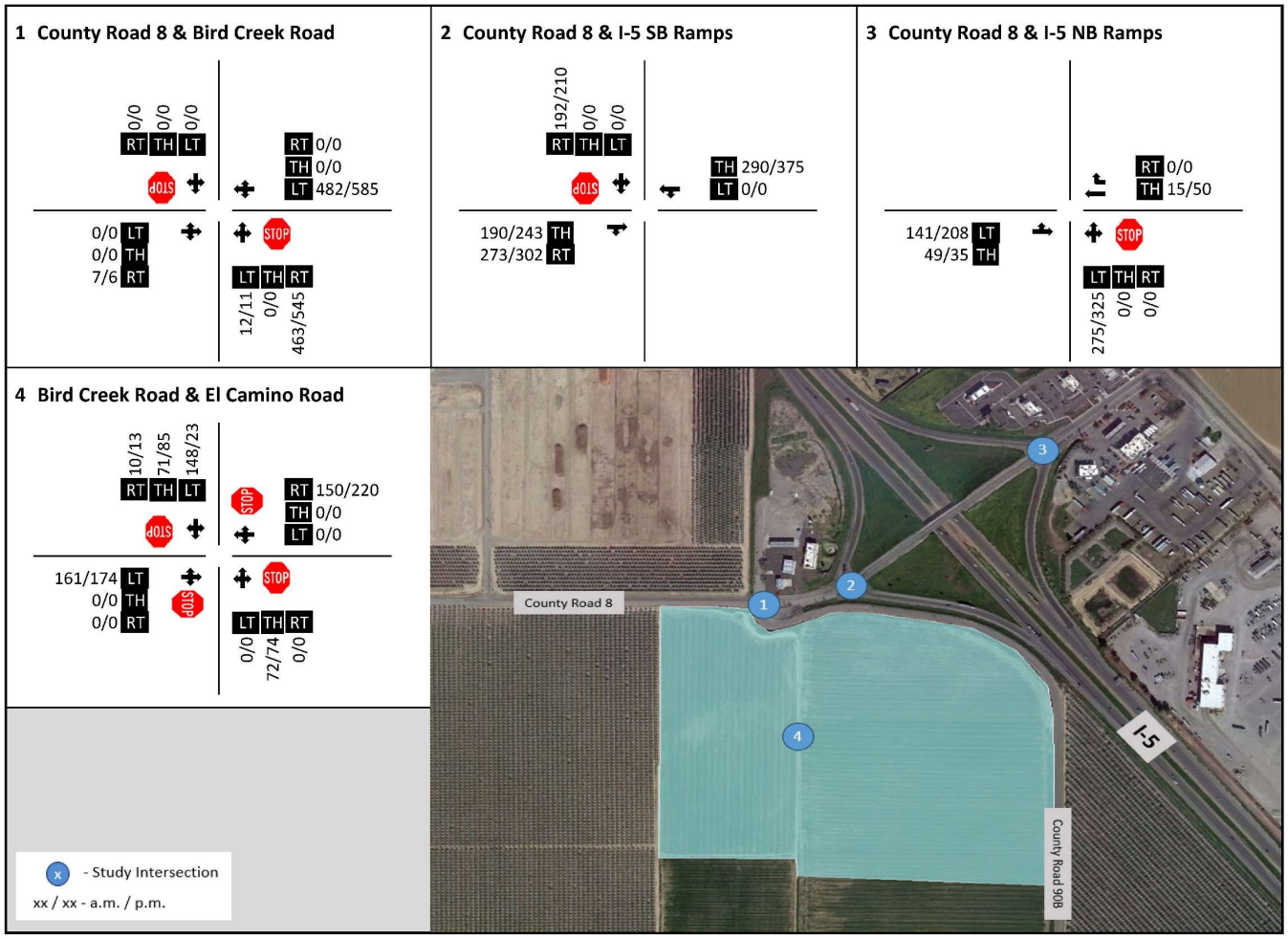


FIGURE 8: A.M. AND P.M. SITE TRIPS

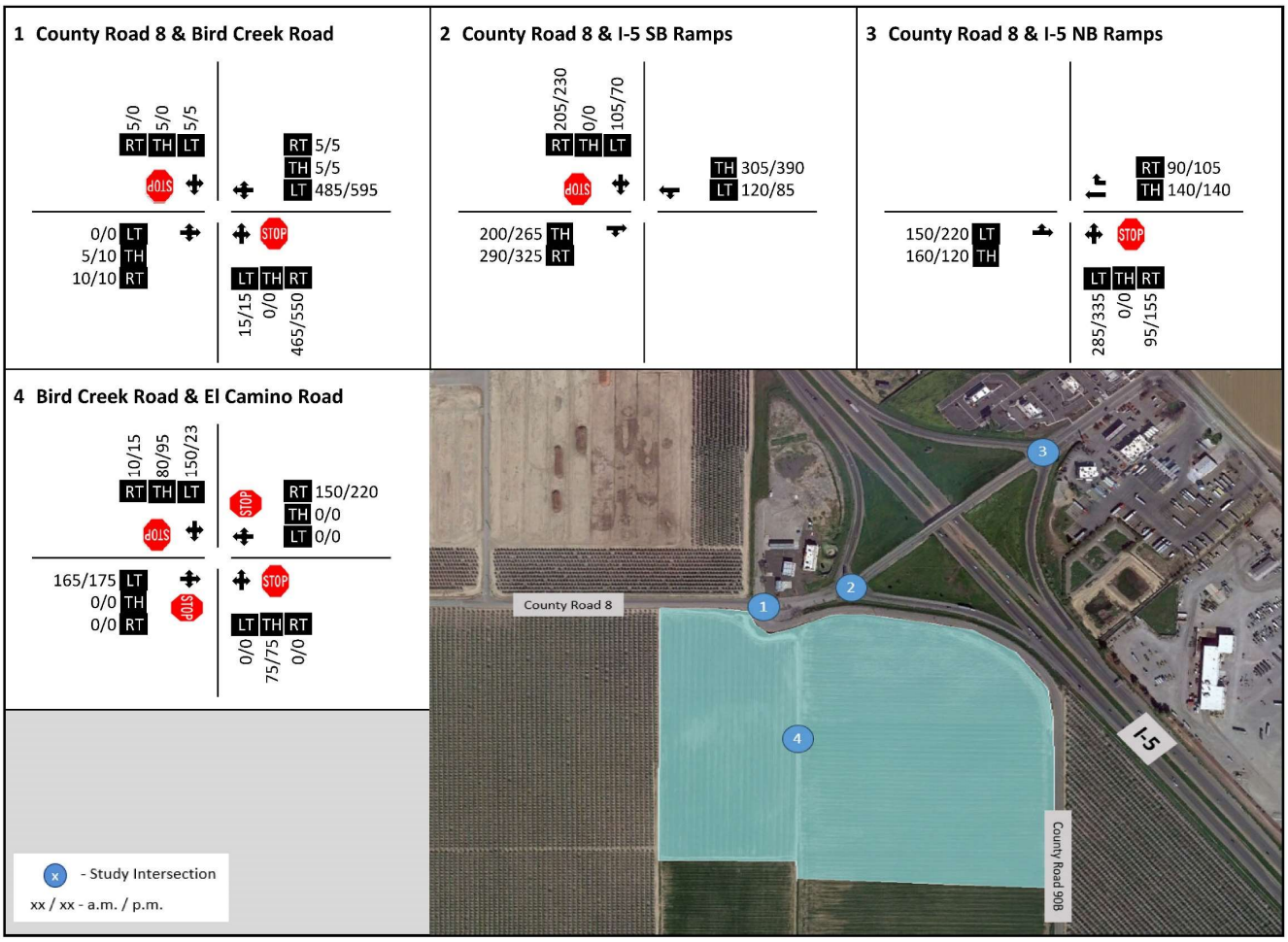


FIGURE 9: EXISTING PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES

Table 7 summarizes traffic operations analysis results for the existing conditions plus traffic associated with the Dunnigan Travel Center. Results do not indicate that the proposed project traffic would have a significant impact on operations at any study intersection, based on the definition of significant impact outlined earlier in the **Regulatory Setting** section of this report. All intersections remain at LOS C or better, which is acceptable. Synchro worksheets for existing plus project conditions are provided in **Appendix C**.

TABLE 7: EXISTING WITH PROJECT INTERSECTION OPERATIONS ANALYSIS

INTERSECTION	CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		DELAY (SECONDS)	LOS	DELAY (SECONDS)	LOS
1. COUNTY ROAD 8 AND COUNTY ROAD 90B	TWSC	2.9 [13.2-NBLTR]	A [B]	3.5 [21.1-SBLTR]	B [C]
2. COUNTY ROAD 8 AND I-5 SB RAMPS	TWSC	17.1 [55.8-SBLTR]	C [F]	21.5 [84.1-SBLTR]	C [F]
3. COUNTY ROAD 8 AND I-5 NB RAMPS	TWSC	11.4 [26.1-NBLTR]	B [D]	99.0 [226.0-NBLTR]	F [F]
4. BIRD CREEK ROAD AND EL CAMINO ROAD	AWSC	5.9	A	6.7	A

Source: DKS Associates, 2023.

1. [Worst stop-controlled delay] for TWSC intersections

Table 9 summarizes the existing plus project queue deficiencies, as well as the queues on the I-5 on- and off-ramps.

TABLE 8: EXISTING WITH PROJECT QUEUING ANALYSIS

INTERSECTION	TURNING MOVEMENT	STORAGE LENGTH (FT)	95TH PERCENTILE QUEUE (FT)	
			AM PEAK HOUR	PM PEAK HOUR
1. COUNTY ROAD 8 AND COUNTY ROAD 90B	NBLTR	360	40	50
	SBLTR	100	30	20
2. COUNTY ROAD 8 AND I-5 SB RAMPS	SBLTR	1190	430	620
3. COUNTY ROAD 8 AND I-5 NB RAMPS	NBLTR	1150	340	**1340**
4. BIRD CREEK ROAD AND EL CAMINO ROAD[1]	NBLTR	600	80	70
	EBLTR	400	90	100
	WBLTR	1000	90	110
	SBLTR	360	80	80

1. The storage lengths for this new intersection are estimated to be the distance between the intersection to nearest street turning given no specific measurements were provided.

CUMULATIVE YEAR (2040) SCENARIO CONDITIONS

Estimated cumulative year (2040) peak hour traffic volumes are shown in **Figure 10**.

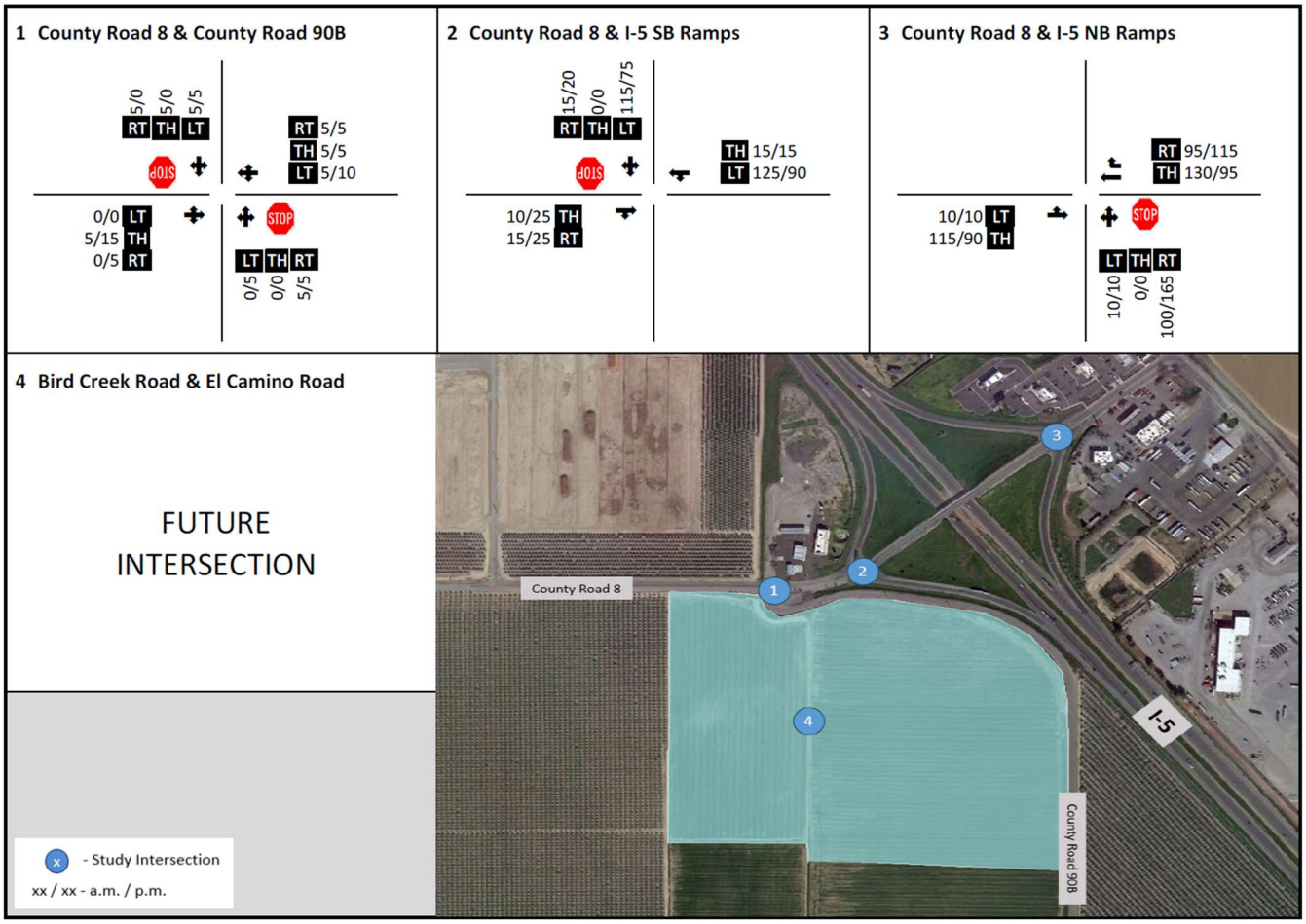


FIGURE 10: CUMULATIVE YEAR (2040) PEAK HOUR TRAFFIC VOLUMES

Table 11 summarizes traffic operations analysis results for the cumulative (2040) condition without project traffic, estimated by the regional travel model. Results of the traffic operations analysis results indicate that all intersections are expected to operate at LOS C or better. Synchro worksheets for cumulative conditions are provided in **Appendix C**.

TABLE 9: CUMULATIVE YEAR (2040) INTERSECTION OPERATIONS ANALYSIS

INTERSECTION	CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		DELAY (SECONDS)	LOS	DELAY (SECONDS)	LOS
1. COUNTY ROAD 8 AND COUNTY ROAD 90B	TWSC	1.4 [6.3-SBLTR]	A [A]	0.9 [5.2-SBLTR]	A [A]
2. COUNTY ROAD 8 AND I-5 SB RAMPS	TWSC	4.0 [7.1-SBLTR]	A [A]	2.9 [6.1-SBLTR]	A [A]
3. COUNTY ROAD 8 AND I-5 NB RAMPS	TWSC	1.8 [6.5-NBLTR]	A [A]	2.4 [6.8-NBLTR]	A [A]

Source: DKS Associates, 2023.

1. [Worst stop-controlled delay] for TWSC intersections

Table 12 summarizes the cumulative year queue deficiencies, as well as the queues on the interchange ramps.

TABLE 10: CUMULATIVE YEAR (2040) QUEUING ANALYSIS

INTERSECTION	TURNING MOVEMENT	STORAGE LENGTH (FT)	95TH PERCENTILE QUEUE (FT)	
			AM PEAK HOUR	PM PEAK HOUR
1. COUNTY ROAD 8 AND COUNTY ROAD 90B	NBLTR	---[1]	40	50
	SBLTR	100	60	30
2. COUNTY ROAD 8 AND I-5 SB RAMPS	SBLTR	1,190	100	80
3. COUNTY ROAD 8 AND I-5 NB RAMPS	NBLTR	1,150	90	110

Source: DKS Associates, 2023.

1. NB approach for Intersection #1 does not have a storage lane. There are no conflicts proximate to this intersection.

CUMULATIVE YEAR (2040) PLUS PROJECT CONDITIONS

Cumulative year (2040) plus project peak hour traffic volumes are shown in **Figure 11**.

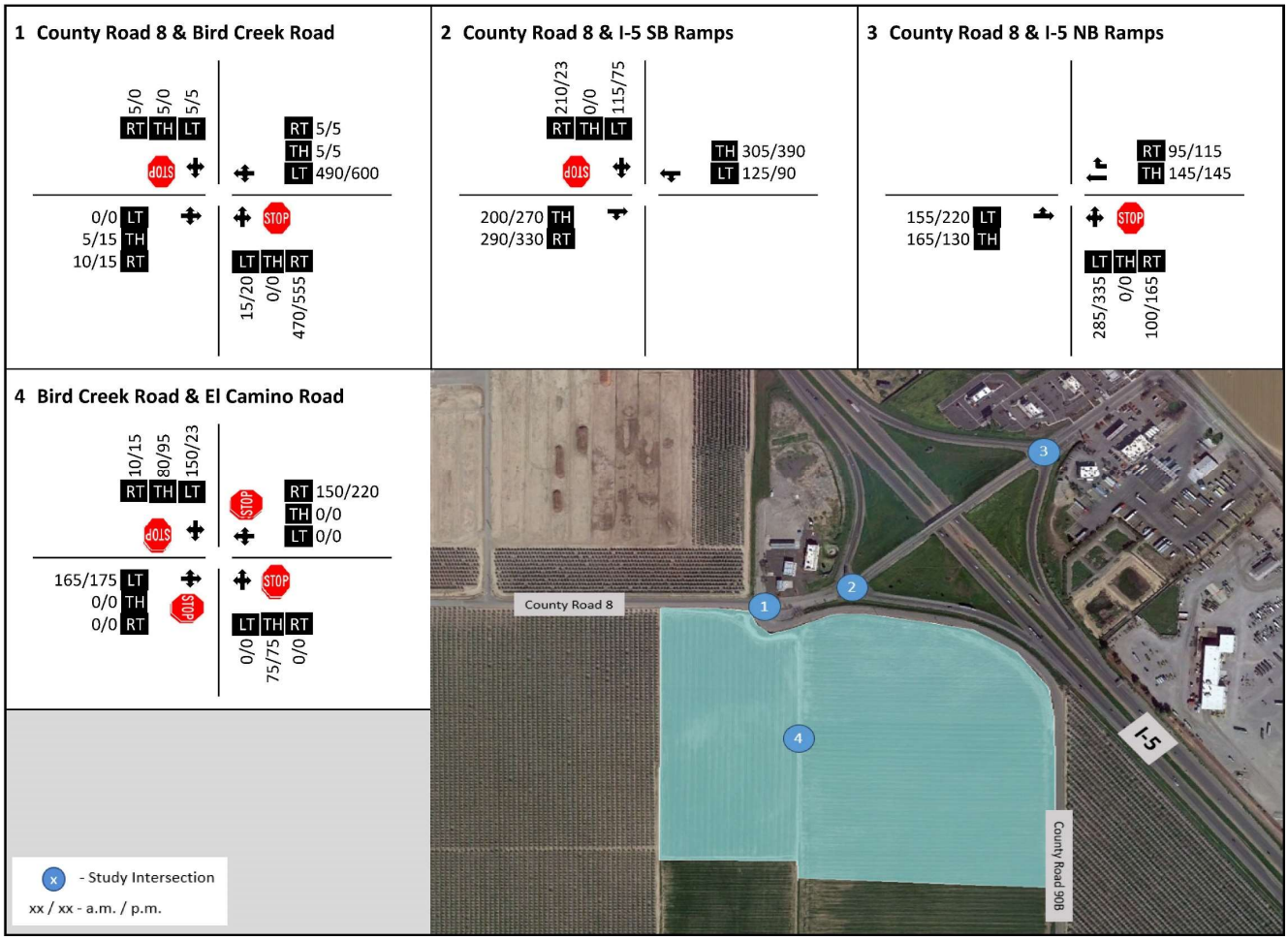


FIGURE 11: CUMULATIVE YEAR (2040) PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES

TABLE 11 summarizes traffic operations analysis results for cumulative year plus project conditions. Results do not indicate that the proposed project traffic would have a significant impact on operations at any study intersection, based on the definition of significant impact outlined earlier in the **Regulatory Setting** section of this report. Synchro worksheets for cumulative plus project conditions are provided in **Appendix C**.

TABLE 11: CUMULATIVE YEAR (2040) PLUS PROJECT INTERSECTION OPERATIONS ANALYSIS

INTERSECTION	CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		DELAY (SECONDS)	LOS	DELAY (SECONDS)	LOS
1. COUNTY ROAD 8 AND COUNTY ROAD 90B	TWSC	2.9 [12.4-SBLTR]	A [B]	3.6 [21.2-SBLTR]	A [C]
2. COUNTY ROAD 8 AND I-5 SB RAMPS	TWSC	30.2 [112.6-SBLTR]	D [F]	16.5 [70.9-SBLTR]	C [F]
3. COUNTY ROAD 8 AND I-5 NB RAMPS	TWSC	12.9 [30.2-NBLTR]	B [D]	130.1 [295.0-NBLTR]	F [F]
4. BIRD CREEK ROAD AND EL CAMINO ROAD	AWSC	6.0	A	6.8	A

Source: DKS Associates, 2023.

1. [Worst stop-controlled delay] for TWSC intersections

Table 15 summarizes the cumulative year plus project queue deficiencies.

TABLE 12: CUMULATIVE YEAR PLUS PROJECT QUEUING ANALYSIS

INTERSECTION	TURNING MOVEMENT	STORAGE LENGTH (FT)	95TH PERCENTILE QUEUE (FT)	
			AM PEAK HOUR	PM PEAK HOUR
1. COUNTY ROAD 8 AND COUNTY ROAD 90B	NBR	500	50	110
	SBLTR	100	20	20
2. COUNTY ROAD 8 AND I-5 SB RAMPS	SBLTR	1190	710	480
3. COUNTY ROAD 8 AND I-5 NB RAMPS	NBLTR	1150	370	**1360**
4. BIRD CREEK ROAD AND EL CAMINO ROAD[1]	NBLTR	600	70	80
	EBLTR	400	90	100
	WBLTR	1000	90	110
	SBL	500	90	110

Source: DKS Associates, 2023.

1. The storage lengths for this new intersection are estimated to be the distance between the intersection to nearest street turning given no specific measurements were provided.

WARRANT ANALYSIS

A preliminary warrant analysis was performed to determine if the interchange off-ramps and the internal intersection (Bird Creek Road and El Camino Road) would meet the thresholds to warrant an all-way stop-controlled (AWSC) or traffic signal with the build (plus project) traffic conditions. The results are summarized in **Table 13**.

TABLE 13: PRELIMINARY WARRANT SUMMARY

WARRANT	RELEVANT CRITERIA	LOCATION MEETS CRITERIA		
		County Road 8 & Bird Creek Road	County Road 8 and SB I-5 Ramps	County Road 8 and NB I-5 Ramps
WARRANT 1: EIGHT-HOUR VEHICULAR VOLUME	At least 8 hours of high traffic volumes for main and side street	No	No	No
WARRANT 2: FOUR-HOUR VEHICULAR VOLUME	At least 4 hours of high traffic volumes for main and side street	No	No	No
WARRANT 3: PEAK HOUR	More than 100 vehicles in an hour on a side street with high main street volumes	No	No	No
WARRANT 4: PEDESTRIAN VOLUME	More than 133 pedestrian crossings in an hour with high main street volumes	No	No	No
WARRANT 5: SCHOOL CROSSING	Schoolchildren crossing	No	No	No
WARRANT 6: COORDINATED SIGNAL SYSTEM	Internal to a coordinated signal system	No	No	No
WARRANT 7: CRASH EXPERIENCE	Five or more relevant crashes in a 12-month period	No	No	No
WARRANT 8: ROADWAY NETWORK	Intersection of two or more major routes	No	No	No
WARRANT 9: NEAR A GRADE CROSSING	Adjacent to an at-grade crossing	No	No	No
MULTIWAY STOP CRITERIA A	Installed as an Interim condition before installing a signal	No	No	No
MULTIWAY STOP CRITERIA B	Five or more relevant crashes in a 12-month period	No	No	No

WARRANT	RELEVANT CRITERIA	LOCATION MEETS CRITERIA		
		County Road 8 & Bird Creek Road	County Road 8 and SB I-5 Ramps	County Road 8 and NB I-5 Ramps
MULTIWAY STOP CRITERIA C	8 Hours volumes of major street greater than 300 vph and minor street 200 vph with delay exceeding 30 sec/veh	No	No	No
MULTIWAY STOP OPTIONAL CRITERIA	The need to control left turn conflicts	**Yes**	**Yes**	**Yes**

Based on the results of this preliminary warrant analysis, no signal warrants are met. The volumes and delays at these three intersections with the project do necessitate the need for additional control based on the significant increase in left turning volumes at these locations.

MITIGATION ANALYSIS

Based on this analysis, the project causes operational and safety deficiencies at the interchange with I-5. Delays are increased significantly, the southbound off ramp queue is approaching the full ramp length, and the northbound off ramp queue exceeds the ramp length in the PM peak hour. Various mitigation scenarios were tested to determine the most appropriate control modifications which can address this queueing. All three off site study intersections were tested with similar control for each scenario, but mitigations can be mixed on a per intersection basis dependent on non-traffic related concerns such as cost or right of way impacts.

Four mitigation scenarios were tested in this analysis:

Scenario 1: All Way Stop Control (AWSC) improvement with additional turn lanes

Scenario 2: Roundabout (RAB) control

Scenario 3: Signal control with additional turn lanes

Scenario 4: Developer preferred alternative which adds turn lanes and select additional stop control

Table 14 summarizes the comparison of geometrics between these scenarios.

Table 15 shows a comparison of the delay results from these scenarios. **Tables 16-21** the queueing results for these scenarios. Based on this analysis, any of the mitigation scenarios could potentially work based on the traffic results. Based on the cost and right of way impacts, either Scenarios 1 or 4 are recommended for implementation at all three intersections. Based on the traffic flows, a roundabout can be considered for the project entrance.

TABLE 14: COMPARISON OF INTERSECTION GEOMETRICS FOR MITIGATION SCENARIOS

		RD 90B & RD 8				I-5 SB RAMPS & RD 8			I-5 NB RAMPS & RD 8		
		NB	SB	EB	WB	SB	EB	WB	NB	EB	WB
BASELINE	Control	Stop	Stop	Free	Free	Stop	Free	Free	Stop	Free	Free
	Geometry										
SCENARIO 1- AWSC	Control	Stop (Yield Right)	Stop	Stop	Stop	Stop	Stop (Yield Right)	Stop	Stop	Stop	Stop
	Geometry										
SCENARIO 2- RAB	Control	Yield				Yield			Yield		
	Geometry										
SCENARIO 3- SIGNAL	Control	Signal (Yield Right)	Signal	Signal	Signal	Signal	Signal (Yield Right)	Signal	Signal	Signal	Signal (Yield Right)
	Geometry										
SCENARIO 4- DEVELOPER PREFERED	Control	Stop (Yield Right)	Stop	Stop	Stop	Stop	Stop (Yield Right)	Free	Stop	Free	Stop
	Geometry										

TABLE 15: COMPARISON OF LEVEL OF SERVICE RESULTS

		1. Rd 90B & Rd 8		2. I5 SB On Ramp/I5 SB Off Ramp & Rd 8		3. I5 NB Off Ramp/I5 NB On Ramp & Rd 8		4. BIRD CREEK ROAD AND EL CAMINO ROAD	
		Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
CUMULATIVE PLUS PROJECT	AM PEAK	2.9 [12.4-SB]	A [B]	**30.2 [112.6-SB]**	**D [F]**	12.9 **[30.2-NB]**	B **[D]**	6.0 [7.6-NB]	A [A]
	PM PEAK	3.6 [21.2-SB]	A [C]	16.5 **[70.9-SB]**	C **[F]**	**130.1 [295-NB]**	**F [F]**	6.8 [7.9-NB]	A [A]
MITIGATION: CUMULATIVE PLUS PROJECT - AWSC	AM PEAK	5.5	A	8.7	A	9.5	A	5.9	A
	PM PEAK	6.8	A	9.3	A	12.2	B	6.7	A
MITIGATION: CUMULATIVE PLUS PROJECT - RAB	AM PEAK	2.6	A	4.4	A	6.3	A	6.0	A
	PM PEAK	3	A	4.5	A	9.6	A	6.9	A
MITIGATION: CUMULATIVE PLUS PROJECT - SIGNAL	AM PEAK	5.3	A	14.5	B	16.6	C	6.2	A
	PM PEAK	6.1	A	16	C	18.2	C	7.1	A
MITIGATION: CUMULATIVE PLUS PROJECT - DEVELOPER PREFERRED	AM PEAK	4.8	A	6.6	A	8.3	A	6.6	A
	PM PEAK	6.7	A	7.1	A	12.9	B	7.3	A

TABLE 16: MITIGATION QUEUEING TABLE-CUMULATIVE PLUS PROJECT-AWSC

INTERSECTIONS	TURNING MOVEMENTS	STORAGE LENGTH (FT)	95TH PERCENTILE QUEUE (FT)	
			AM PEAK HOUR	PM PEAK HOUR
1. Rd 90B & Rd 8	WBL	295	130	150
	WBT/WBR	295	50	50
	NBL/NBT	500	40	50
	EBL/EBT/ETR	500	60	50
	SBL/SBT/SBR	100	30	20
2. I5 SB On Ramp/I5 SB Off Ramp & Rd 8	SBL/SBT	1,190	80	70
	SBR	250	80	90
3. I5 NB Off Ramp/I5 NB On Ramp & Rd 8	NBL/NBT	1,150	140	180
	NBR	250	80	120
4. Bird Creek Rd & Camino Rd	WBL/WBT/WBR	1,000	90	110
	EBL/EBT/ETR	400	90	100
	NBL/NBT/NBR	600	70	80
	SBL	150	90	110
	SBT/SBR	500	80	80

TABLE 17: MITIGATION QUEUEING TABLE-CUMULATIVE PLUS PROJECT-RAB

INTERSECTIONS	TURNING MOVEMENTS	STORAGE LENGTH (FT)	95TH PERCENTILE QUEUE (FT)	
			AM PEAK HOUR	PM PEAK HOUR
1. Rd 90B & Rd 8	WBL	295	50	90
	WBT/WBR	295	30	30
	NBL/NBT	500	10	10
	EBL/EBT/ETR	500	50	60
	SBL/SBT/SBR	100	30	20
2. I5 SB On Ramp/I5 SB Off Ramp & Rd 8	SBL/SBT/SBR	1,190	120	120
3. I5 NB Off Ramp/I5 NB On Ramp & Rd 8	NBL/NBT	1,150	140	230
	NBR	250	80	160
4. Bird Creek Rd & Camino Rd	WBL/WBT/WBR	1,000	90	110
	EBL/EBT/ETR	400	90	100
	NBL/NBT/NBR	600	70	70
	SBL	150	90	110
	SBT/SBR	500	70	80

TABLE 18: MITIGATION QUEUEING TABLE-CUMULATIVE PLUS PROJECT-SIGNAL

INTERSECTIONS	TURNING MOVEMENTS	STORAGE LENGTH (FT)	95TH PERCENTILE QUEUE (FT)	
			AM PEAK HOUR	PM PEAK HOUR
1. Rd 90B & Rd 8	WBL	295	180	200
	WBT/WBR	295	20	20
	NBL/NBT	500	40	50
	EBL/EBT/ETR	500	50	70
	SBL/SBT/SBR	100	30	20
2. I5 SB On Ramp/I5 SB Off Ramp & Rd 8	SBL/SBT	1,190	110	90
	SBR	250	100	130
3. I5 NB Off Ramp/I5 NB On Ramp & Rd 8	NBL/NBT	1,150	210	250
	NBR	250	80	150
4. Bird Creek Rd & Camino Rd	WBL/WBT/WBR	1,000	90	110
	EBL/EBT/ETR	400	90	100
	NBL/NBT/NBR	600	80	80
	SBL	150	100	120
	SBT/SBR	500	70	80

TABLE 19: MITIGATION QUEUEING TABLE-CUMULATIVE PLUS PROJECT-DEVELOPER PREFERED

INTERSECTIONS	TURNING MOVEMENTS	STORAGE LENGTH (FT)	95TH PERCENTILE QUEUE (FT)	
			AM PEAK HOUR	PM PEAK HOUR
1. Rd 90B & Rd 8	WBL	295	120	190
	WBT/WBR	295	50	50
	NBL/NBT	500	40	50
	EBL/EBT/ETR	500	60	60
	SBL/SBT/SBR	100	30	20
2. I5 SB On Ramp/I5 SB Off Ramp & Rd 8	SBL/SBT	1,190	90	80
	SBR	250	90	90
3. I5 NB Off Ramp/I5 NB On Ramp & Rd 8	NBL/NBT	1,150	180	300
	NBR	250	100	170
4. Bird Creek Rd & Camino Rd	WBL/WBT/WBR	1,000	90	110
	EBL/EBT/ETR	400	100	100
	NBL/NBT/NBR	600	80	80
	SBL	150	80	90
	SBT/SBR	500	70	70

CONCLUSION

The majority of the Proposed Project land use is screened from VMT analysis. The proposed Truck Sales use represents a potential regional draw and is not screened. The location of the Proposed Project in northern Yolo County away from any major population centers means that it will likely increase regional VMT per employee rather than reduce it per the adopted CEQA guidelines. Based on the estimated 15-20 full-time employees for the sales center, it is unlikely that this will result in a substantial effect on regional VMT and thus the truck sales center should be considered for overriding consideration of this CEQA impact.

The unmitigated Proposed Project results in a queue that can spill over to NB I-5 from intersection #3 during the PM peak as well as degraded operations at both ramp intersections. However, the implementation of any of the proposed mitigations for each of the study intersections sufficiently addresses queuing and operations though, from a cost and footprint standpoint, the AWSC (Scenario 1) and Select Stop Control (Scenario 4) are preferred. The mitigated Proposed Project does not trigger any additional CEQA impacts or operational deficiencies. Internal and frontage site design is recommended to construct pedestrian and bicycle facilities to County Standards. Additionally, the project should provide bicycle facilities on internal site roadways to provide separation where possible between cyclists and heavy trucks.

APPENDIX

DKS

428 J STREET, SUITE 340 • SACRAMENTO, CA 95814 • 916.368.2000 • DKSASSOCIATES.COM

CONTENTS

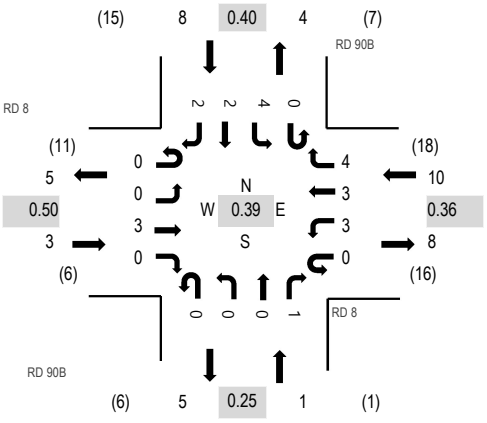
APPENDIX A. TRAFFIC COUNTS

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 RD 90B & RD 8 AM
Date: Wednesday, May 31, 2023
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour

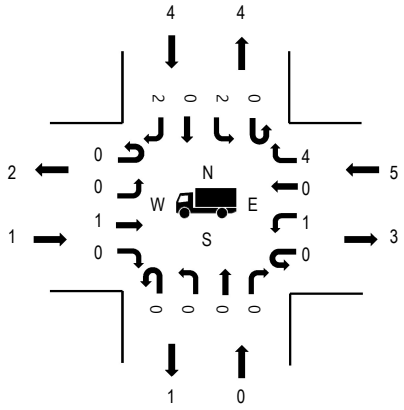
Motorized Vehicles



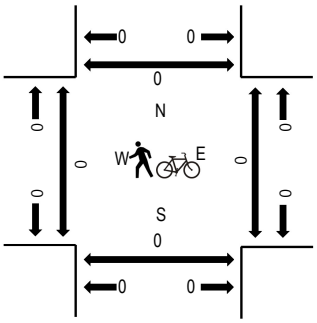
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	33.3%	0.50
WB	50.0%	0.36
NB	0.0%	0.25
SB	50.0%	0.40
All	45.5%	0.39

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	RD 8 Eastbound				RD 8 Westbound				RD 90B Northbound				RD 90B Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	19
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	18
7:30 AM	0	0	2	0	0	1	3	3	0	0	0	0	0	3	2	0	14	22
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	18
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
8:15 AM	0	0	1	0	0	2	0	1	0	0	0	0	0	1	0	1	6	
8:30 AM	0	0	0	1	0	0	5	0	0	0	0	0	0	4	0	0	10	
8:45 AM	0	1	1	0	0	0	0	2	0	0	0	0	0	1	0	0	5	
Count Total	0	1	4	1	0	3	9	6	0	0	0	1	0	11	2	2	40	
Peak Hour	0	0	3	0	0	3	3	4	0	0	0	1	0	4	2	2	22	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

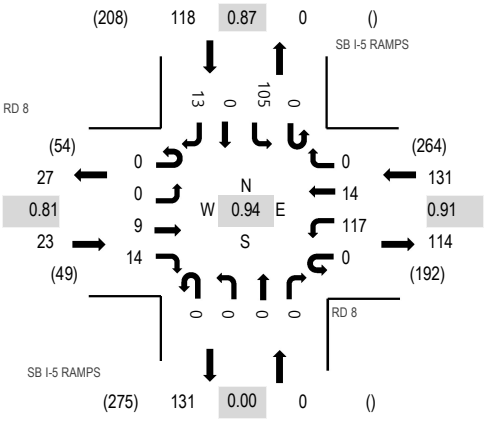
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	1	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:30 AM	0	0	3	1	4	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	1	1	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	1	0	2	2	5	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	0	0	4	2	6	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:45 AM	1	0	2	0	3	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	2	0	11	7	20	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	1	0	5	4	10	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 SB I-5 RAMPS & RD 8 AM
Date: Wednesday, May 31, 2023
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour

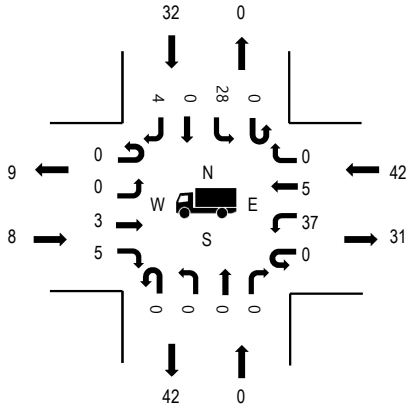
Motorized Vehicles



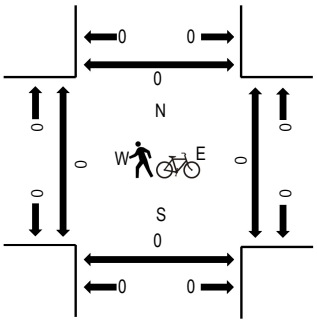
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	34.8%	0.81
WB	32.1%	0.91
NB	0.0%	0.00
SB	27.1%	0.87
All	30.1%	0.94

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	RD 8 Eastbound				RD 8 Westbound				SB I-5 RAMPS Northbound				SB I-5 RAMPS Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	1	2	0	34	0	0	0	0	0	0	0	15	0	3	55	249
7:15 AM	0	0	4	4	0	28	1	0	0	0	0	0	0	22	2	5	66	261
7:30 AM	0	0	3	5	0	30	5	0	0	0	0	0	0	13	1	9	66	259
7:45 AM	0	0	4	3	0	35	0	0	0	0	0	0	0	16	0	4	62	265
8:00 AM	0	0	1	2	0	32	2	0	0	0	0	0	0	28	0	2	67	272
8:15 AM	0	0	2	5	0	26	6	0	0	0	0	0	0	21	0	4	64	
8:30 AM	0	0	1	4	0	33	5	0	0	0	0	0	0	25	0	4	72	
8:45 AM	0	0	5	3	0	26	1	0	0	0	0	0	0	31	0	3	69	
Count Total	0	0	21	28	0	244	20	0	0	0	0	0	0	171	3	34	521	
Peak Hour	0	0	9	14	0	117	14	0	0	0	0	0	0	105	0	13	272	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

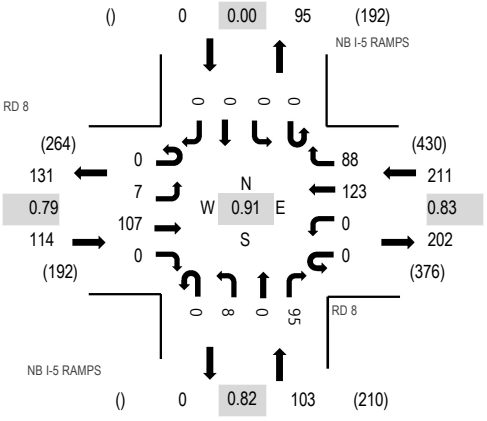
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	8	1	9	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	3	0	6	7	16	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:30 AM	1	0	9	2	12	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	2	0	11	10	23	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	1	0	13	8	22	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	4	0	8	8	20	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	2	0	15	6	23	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:45 AM	1	0	6	10	17	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	14	0	76	52	142	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	8	0	42	32	82	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 NB I-5 RAMPS & RD 8 AM
Date: Wednesday, May 31, 2023
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour

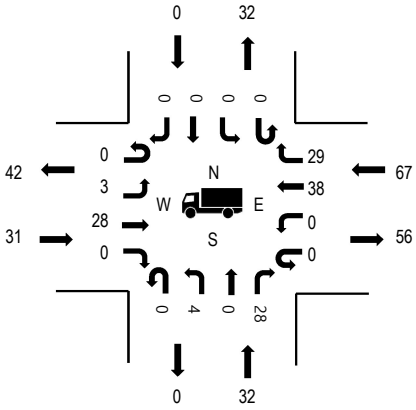
Motorized Vehicles



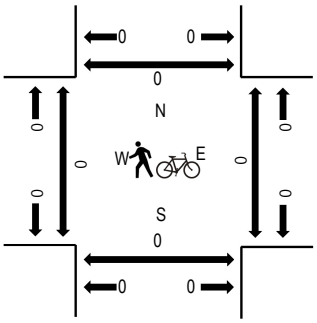
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	27.2%	0.79
WB	31.8%	0.83
NB	31.1%	0.82
SB	0.0%	0.00
All	30.4%	0.91

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	RD 8 Eastbound				RD 8 Westbound				NB I-5 RAMPS Northbound				NB I-5 RAMPS Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	1	15	0	0	0	34	20	0	0	0	23	0	0	0	0	93	404
7:15 AM	0	1	25	0	0	0	28	19	0	1	0	33	0	0	0	0	107	419
7:30 AM	0	1	15	0	0	0	32	34	0	3	0	28	0	0	0	0	113	404
7:45 AM	0	1	19	0	0	0	33	19	0	2	1	16	0	0	0	0	91	401
8:00 AM	0	2	27	0	0	0	32	19	0	2	0	26	0	0	0	0	108	428
8:15 AM	0	1	22	0	0	0	29	20	0	3	0	17	0	0	0	0	92	
8:30 AM	0	0	26	0	0	0	35	22	0	3	0	24	0	0	0	0	110	
8:45 AM	0	4	32	0	0	0	27	27	0	0	0	28	0	0	0	0	118	
Count Total	0	11	181	0	0	0	250	180	0	14	1	195	0	0	0	0	832	
Peak Hour	0	7	107	0	0	0	123	88	0	8	0	95	0	0	0	0	428	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

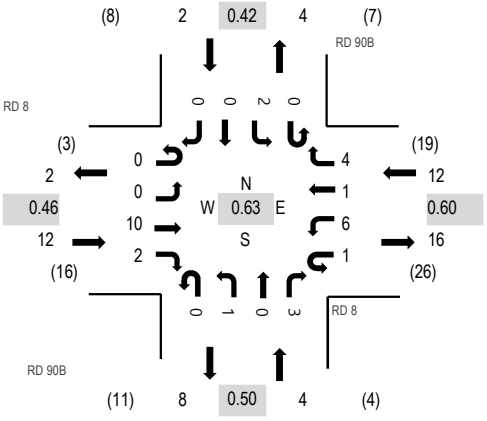
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	11	20	0	31	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	7	8	12	0	27	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:30 AM	1	10	14	0	25	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	11	6	13	0	30	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	8	12	21	0	41	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	8	4	12	0	24	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	6	8	19	0	33	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:45 AM	9	8	15	0	32	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	50	67	126	0	243	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	31	32	67	0	130	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 RD 90B & RD 8 PM
Date: Wednesday, May 31, 2023
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour

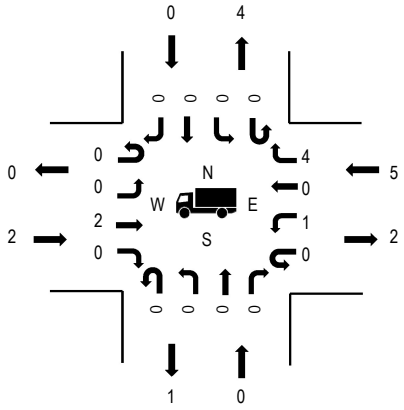
Motorized Vehicles



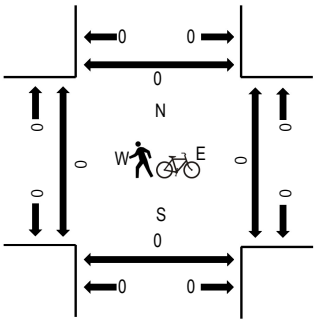
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	16.7%	0.46
WB	41.7%	0.60
NB	0.0%	0.50
SB	0.0%	0.42
All	23.3%	0.63

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	RD 8 Eastbound				RD 8 Westbound				RD 90B Northbound				RD 90B Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	3	0	0	1	0	0	0	0	0	0	0	2	0	0	6	25
4:15 PM	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	3	23
4:30 PM	0	0	6	1	0	3	0	1	0	0	0	1	0	0	0	0	12	30
4:45 PM	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	4	18
5:00 PM	0	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0	4	22
5:15 PM	0	0	3	0	0	2	1	2	0	0	0	0	0	2	0	0	10	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	2	1	2	0	0	0	0	0	3	0	0	8	
Count Total	0	0	14	2	1	9	2	7	0	1	0	3	0	8	0	0	47	
Peak Hour	0	0	10	2	1	6	1	4	0	1	0	3	0	2	0	0	30	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

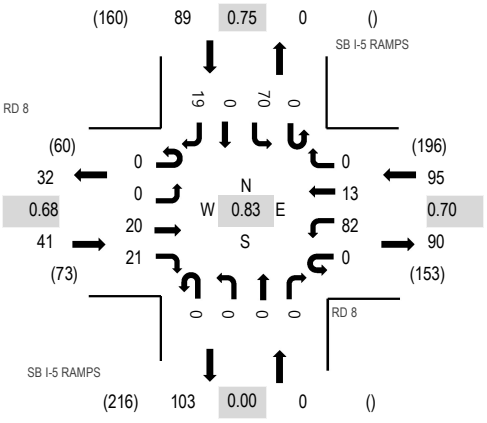
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	2	2	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	0	0	1	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	2	0	2	0	4	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	1	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	0	0	2	0	2	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	0	0	3	2	5	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	2	0	9	4	15	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	2	0	5	0	7	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 SB I-5 RAMPS & RD 8 PM
Date: Wednesday, May 31, 2023
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour

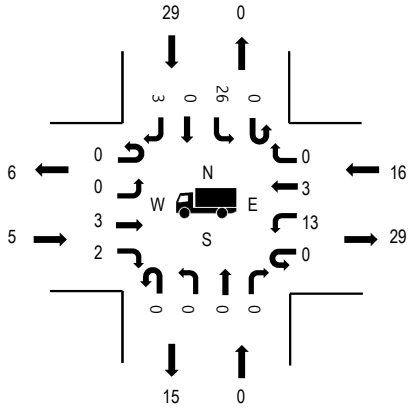
Motorized Vehicles



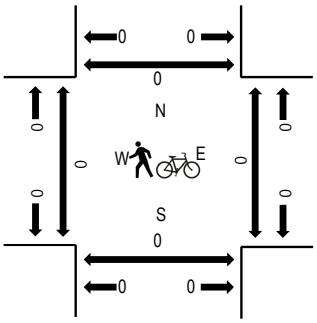
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	12.2%	0.68
WB	16.8%	0.70
NB	0.0%	0.00
SB	32.6%	0.75
All	22.2%	0.83

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	RD 8 Eastbound				RD 8 Westbound				SB I-5 RAMPS Northbound				SB I-5 RAMPS Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	6	9	0	34	3	0	0	0	0	0	0	12	0	3	67	214
4:15 PM	0	0	0	6	0	17	1	0	0	0	0	0	0	14	0	7	45	202
4:30 PM	0	0	9	4	0	20	6	0	0	0	0	0	0	16	0	2	57	225
4:45 PM	0	0	1	3	0	20	2	0	0	0	0	0	0	15	0	4	45	225
5:00 PM	0	0	4	5	0	25	1	0	0	0	0	0	0	15	0	5	55	215
5:15 PM	0	0	6	9	0	17	4	0	0	0	0	0	0	24	0	8	68	
5:30 PM	0	0	4	2	0	23	3	0	0	0	0	0	0	15	1	9	57	
5:45 PM	0	0	2	3	0	18	2	0	0	0	0	0	0	10	0	0	35	
Count Total	0	0	32	41	0	174	22	0	0	0	0	0	0	121	1	38	429	
Peak Hour	0	0	20	21	0	82	13	0	0	0	0	0	0	70	0	19	225	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

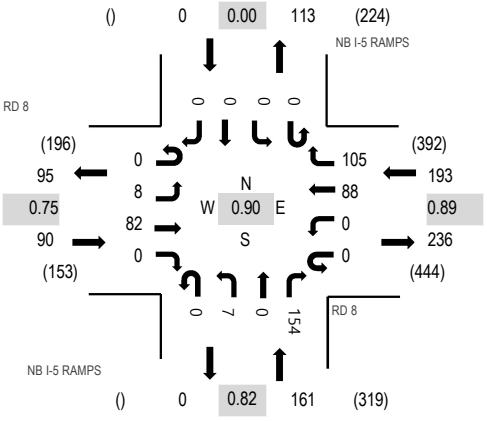
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	4	0	6	3	13	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	1	0	5	5	11	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	2	0	3	6	11	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	0	5	4	9	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	2	0	6	8	16	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	1	0	2	11	14	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	0	7	7	14	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	2	0	4	3	9	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	12	0	38	47	97	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	5	0	16	29	50	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 NB I-5 RAMPS & RD 8 PM
Date: Wednesday, May 31, 2023
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour

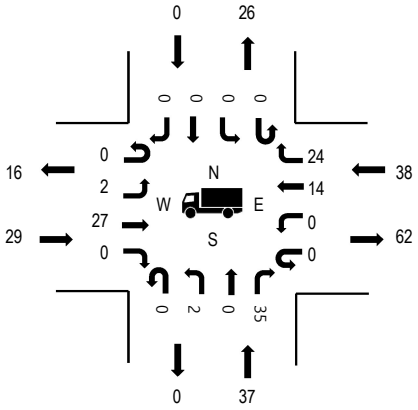
Motorized Vehicles



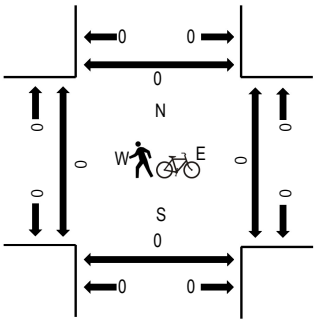
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	32.2%	0.75
WB	19.7%	0.89
NB	23.0%	0.82
SB	0.0%	0.00
All	23.4%	0.90

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	RD 8 Eastbound				RD 8 Westbound				NB I-5 RAMPS Northbound				NB I-5 RAMPS Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	3	15	0	0	0	35	23	0	2	0	39	0	0	0	0	117	432
4:15 PM	0	0	14	0	0	0	17	24	0	1	0	41	0	0	0	0	97	418
4:30 PM	0	5	20	0	0	0	23	25	0	3	0	44	0	0	0	0	120	444
4:45 PM	0	1	15	0	0	0	21	31	0	1	0	29	0	0	0	0	98	440
5:00 PM	0	2	17	0	0	0	26	23	0	0	0	35	0	0	0	0	103	432
5:15 PM	0	0	30	0	0	0	18	26	0	3	0	46	0	0	0	0	123	
5:30 PM	0	2	17	0	0	0	25	32	0	1	1	38	0	0	0	0	116	
5:45 PM	0	2	10	0	0	0	19	24	0	1	0	34	0	0	0	0	90	
Count Total	0	15	138	0	0	0	184	208	0	12	1	306	0	0	0	0	864	
Peak Hour	0	8	82	0	0	0	88	105	0	7	0	154	0	0	0	0	444	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	4	4	13	0	21	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	4	8	9	0	21	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	8	14	7	0	29	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	4	7	10	0	21	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	8	9	12	0	29	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	9	7	9	0	25	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	4	4	12	0	20	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	4	5	8	0	17	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	45	58	80	0	183	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	29	37	38	0	104	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

APPENDIX B: TRIP GENERATION AND DISTRIBUTION MEMO

DKS 428 J STREET, SUITE 340 • SACRAMENTO, CA 95814 • 916.368.2000 • DKSASSOCIATES.COM

TRIP GENERATION AND DISTRIBUTION MEMORANDUM

DATE: September 5, 2023

TO: Mark Kavulich | Connor & Gaskins Unlimited, LLC

FROM: Josh Pilachowski | DKS Associates
Sean Carney | DKS Associates
Zoey Li | DKS Associates

SUBJECT: Traffic Analysis for Travel Center at I-5 Interchange at Road 8 Project #23059-000

This memorandum summarizes the results of the trip generation and distribution analysis of the proposed development at Road 8 and Road 90B, partially based on the rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. The project proposes two phases of construction located southwest of the I-5 interchange with County Road 8 in unincorporated Yolo County. The project site is accessed from the intersection of County Road 8 and County Road 90B. The proposed Phase I land use consists of commercial land use, truck repair and amenities, with fueling and EV charging. Phase II land use consists of travel related retail and restaurants, truck sales, and a hotel.

PROJECT DESCRIPTION

As illustrated in **Figure 1**, the project is located on the southwest side of I-5 at the interchange with County Road 8. **Figure 2** illustrates the proposed site plan. **Table 1** and **Table 2** summarize the land use of Phase I and Phase II utilized in the calculation of trip generation. The land use information was taken directly from the land use summary included in the project description information provided by the applicant to the County.

Phase I of the project includes a 16,573 square feet travel center, truck service with 17,614 square feet, fueling pumps, and parking spots for semi-trucks, recreational vehicles, and automobiles. The proposed Phase II includes 49,356 square feet of travel related retail/restaurant uses, a 6,242 square feet fast food restaurant, a truck sales land use of 32,271 square feet, and a three-floor hotel with 60 rooms.

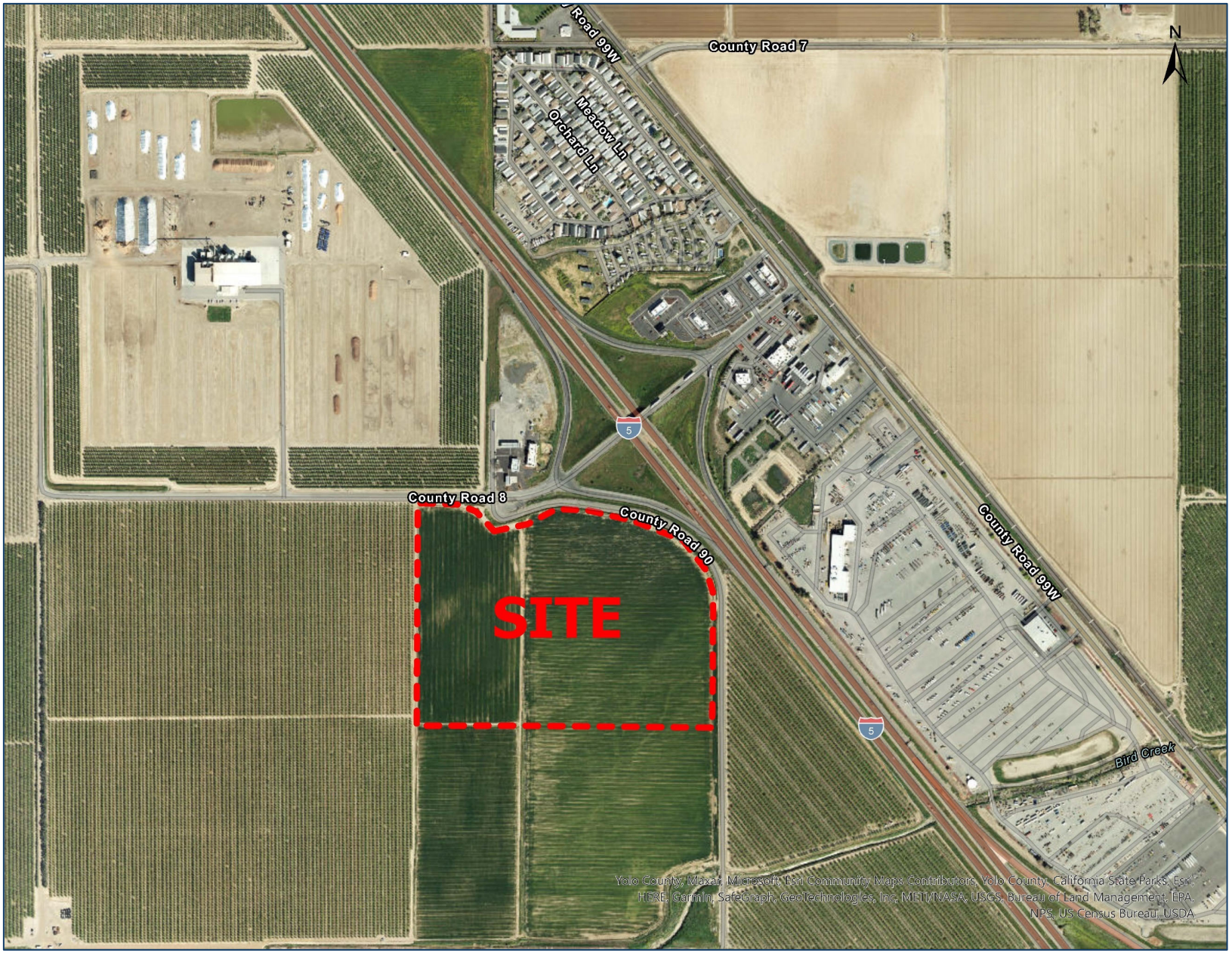
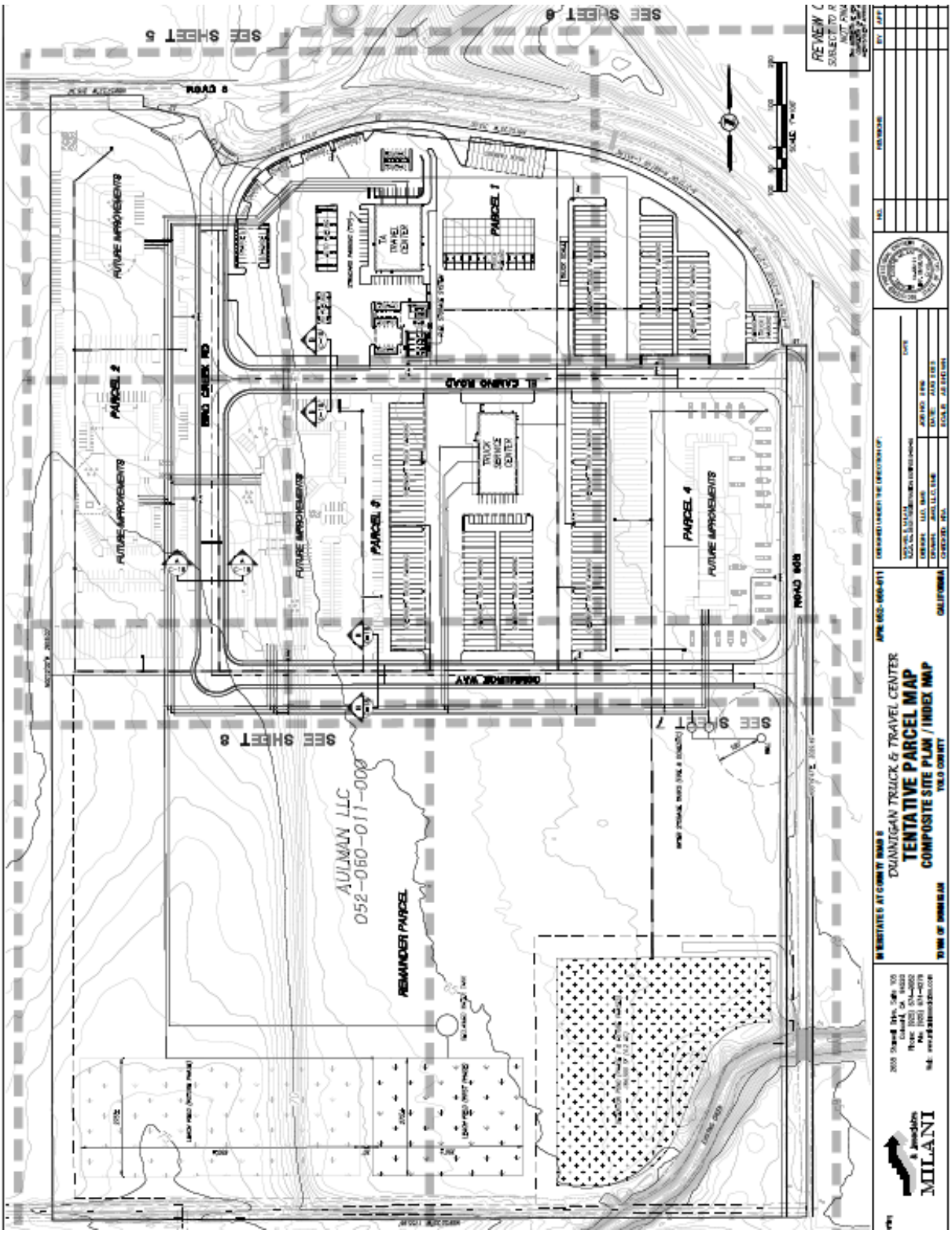


FIGURE 1: SITE LOCATION



Source: Connor & Gaskins Unlimited, LLC, May 24, 2023.

FIGURE 2: PRELIMINARY SITE PLAN

TABLE 1: PHASE I LAND USE SUMMARY

LAND USE	COMPONENTS	BUILDING SIZE (SQFT) OR NUMBER OF PUMPS
FUELING PUMPS	Semi-Truck Fueling Pumps	10 (10 Fueling Positions)
	RV Fueling Pumps	3 (6 Fueling Positions)
	Automobile Fueling Pumps	10 (20 Fueling Positions)
TRAVEL CENTER	Storage/B.O.H.	2,683
	Kitchen	2,648
	Trucker Amenities	2,951
	Shopping/F.O.H.	8,291
TRUCK SERVICE	Workshop	11,883
	Storage/B.O.H.	4,042
	Office/F.O.H.	1,689

Source: Connor & Gaskins Unlimited, LLC, June 5, 2023.

TABLE 2: PHASE II LAND USE SUMMARY

LAND USE	BUILDING SIZE (SQFT)
TRAVEL RELATED RETAIL	25,500
TRAVEL RELATED RETAIL/RESTAURANT	23,856
FAST FOOD RESTAURANT	6,242
TRUCK SALES	32,271
HOTEL	25,537 per floor (60 rooms)

Source: Connor & Gaskins Unlimited, LLC, August 30, 2023.

TRIP GENERATION ESTIMATION

Given the proposed land use information, the trip generation is estimated. The trips generated from the Phase I land use are estimated by categorizing the land use into two main uses: a gas station that includes 20 vehicle fueling positions and amenities, and a truck stop that provides truck services with 16 fueling positions (for semi-trucks and RVs) and amenities. The trip generation estimation for Phase II is analyzed according to the defined land uses and combines the uses for travel related retail and travel related retail/restaurant as a shopping plaza based on the total square footage. The detailed trip generation estimations are summarized below.

PHASE I

GAS STATION

According to ITE TripGen 11th Edition (2021), the trips generated by a gas station with a convenience store (ITE Code 945) are estimated based on the number of the vehicle fueling positions (VFP). The gross floor area of the proposed gas station is estimated to fall into the ITE range of 2,000-4,000 square feet. **Table 3** summarizes the daily, AM peak hour, and PM peak hour vehicular trip generation of the gas station land use, according to ITE TripGen 11th Edition. The gas station use is estimated to generate 5,302 daily trips, 329 AM peak hour trips, and 383 PM peak hour trips.

TABLE 3: ESTIMATED GAS STATION TOTAL TRIP GENERATION

TOTAL VEHICLE TRIPS						
DAILY	AM PEAK HOUR			PM PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
5,302	165	164	329	191	192	383

According to ITE Trip Generation 11th Edition (2021), the recommended average pass-by trip percentage for gas stations with between 9 and 20 VFP and convenience stores on site in AM peak period is 76% and 75% in PM peak period.

TRUCK STOP

Since the ITE TripGen has limited data samples for truck stop land use, this analysis adds another truck trip generation study published by the City of Fontana[1] as an additional reference for more comprehensive trip estimation. The Fontana Truck Trip Generation Study provides two trip estimations for truck stop land use using different variables, including the number of vehicle fueling

[1] https://www.tampabayfreight.com/pdfs/Freight%20Library/Fontana%20Truck%20Generation%20Study.pdf

positions (VFP) and acres of the site area. Both estimation methods are applied to the proposed truck stop land use for comparison. The proposed truck stop land use includes 16 fueling positions for semi-trucks and recreational vehicles, and the project site is roughly estimated to be 18 acres.

The trip generation results by using ITE Trip Generation 11th Edition and the Fontana Truck Trip Generation Study are compared to choose the calculation with the most appropriate trip generation for final estimations. **Table 4** compares the trip rates and trip generation for truck stop land use from the ITE Trip Generation 11th Edition to the Fontana Truck Trip Generation Study. The Fontana study estimates more trips generated by the proposed truck stop with an estimated site area to be 18 acres. Given the large range of trip generation values from these sources, more context is needed to produce an accurate estimate. The sites used in the Fontana study are located in a dense urban environment adjacent to a high-volume freeway (I-10) while the proposed project site is in a low-density rural environment adjacent to a low volume freeway (I-5). The peak hour and daily volume reports[2] for both adjacent freeway segments were referenced to compare. The I-10 segment has approximately 222,000 AADT and 16,000 bi-directional vehicles during the peak hour, while the I-5 segment has approximately 36,000 AADT and 3,200 bi-directional vehicles during the peak hour. Given that trip generation for this land use is mainly driven from pass-by traffic, it is reasonable to estimate that the trip generation rate based on the number of Truck and RV fueling positions from the Fontana study is appropriate to use in this context.

TABLE 4: ESTIMATED TRUCK STOP TOTAL TRIP GENERATION

SOURCE	TRIP GENERATION VARIABLES	TOTAL VEHICLE TRIPS (LIGHT VEHICLES AND HEAVY VEHICLES)						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
ITE Trip Gen 11th Edition – Truck Stop (Land Use Code: 950)[1]	16 VFP[3]	3,584	120	115	235	122	121	243
Fontana Truck Trip Generation Study – Truck Stops[2]	**16 VFP[3]**	**1,023**	**17**	**17**	**34**	**79**	**79**	**159**
	18 Acres	6,474	194	194	388	258	258	516

Note: **Bolded** numbers represent recommended truck generation rates

[1] ITE Trip Generation Manual, 11th Edition, Sep 2021. Land use code 950, Truck Stop.

[2] Truck Trip Generation Study, City of Fontana, August 2003.

[3] VFP: Vehicle Fueling Positions.

[2] Caltrans Traffic Census Program, 2021 AADT, https://dot.ca.gov/programs/traffic-operations/census

Since there is no pass-by trip rate available for truck stop land use in ITE Trip Generation Handbook, the pass-by trip calculation uses the same percentages as the recommended average pass-by trip percentage of gas station land use.

Table 5 summarizes the final trip generation estimates for the proposed project Phase I after deducting the pass-by trips of the land uses.

TABLE 5: ESTIMATED PROJECT PHASE I TOTAL TRIP GENERATION

PROPOSED USE	PASS-BY % AM (PM)	VEHICLE TRIPS (INCLUDING TRUCK TRIPS)					
		AM PEAK HOUR			PM PEAK HOUR		
		ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
TOTAL TRIPS							
Gas Station		120	115	235	122	121	243
Truck Stop		17	17	34	79	79	159
Total		**137**	**132**	**269**	**201**	**200**	**402**
PASS-BY TRIPS							
Gas Station	76% (75%)	-91	-87	-179	-92	-91	-182
Truck Stop	76% (75%)	-13	-13	-26	-59	-59	-119
Total		**-104**	**-100**	**-205**	**-151**	**-150**	**-301**
NEW TRIPS							
Gas Station		29	28	56	31	30	61
Truck Stop		4	4	8	20	20	40
Total		**33**	**32**	**65**	**50**	**50**	**100**

PHASE II

TRAVEL RELATED RETAIL/RESTAURANT

The proposed land uses in Phase II of the project include 25,500 square feet of travel related retail and 23,856 square feet of travel related retail/restaurant. This analysis combined the two similar land uses and estimated the trips generated from the combination of 49,356 square feet using the land use type "Shopping Plaza (40-150K Square Feet) without supermarket" in the ITE TripGen Handbook to represent the retail and food land uses.

According to ITE TripGen 11th Edition (2021), the trips generated by a shopping plaza of 40-150 thousand square feet (KSF) with no supermarket (ITE Code 821) are estimated based on the number of KSF of the construction. **Table 6** summarizes the daily, AM peak hour, and PM peak hour vehicular trip generation of the shopping plaza land use, according to ITE TripGen 11th Edition. The shopping plaza land use is estimated to generate 3,333 daily trips, 275 AM peak hour trips, and 267 PM peak hour trips.

TABLE 6: ESTIMATED SHOPPING PLAZA (40-150K) WITH NO SUPERMARKET TOTAL TRIP GENERATION

TOTAL VEHICLE TRIPS						
DAILY	AM PEAK HOUR			PM PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
3,333	135	140	275	144	123	267

According to ITE Trip Generation 11th Edition (2021), the recommended average pass-by trip percentage for shopping plaza (40-150K) for PM peak period on weekdays is 40%. This rate is used to estimate pass-by trips generated for the proposed travel-related retail/restaurant for both AM and PM peak periods.

FAST FOOD RESTAURANT

According to ITE TripGen 11th Edition (2021), the trips generated by fast-food restaurants with a drive-through window (ITE Code 934) are estimated based on the construction KSF. **Table 7** summarizes the daily, AM peak hour, and PM peak hour vehicular trip generation of the fast-food restaurant land use, according to ITE TripGen 11th Edition. The proposed fast-food restaurant is estimated to generate 2,917 daily trips, 316 AM peak hour trips, and 318 PM peak hour trips.

TABLE 7: ESTIMATED FAST FOOD RESTAURANT TOTAL TRIP GENERATION

TOTAL VEHICLE TRIPS						
DAILY	AM PEAK HOUR			PM PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
2,917	164	152	316	162	156	318

According to ITE Trip Generation 11th Edition (2021), the recommended average pass-by trip percentage for fast food restaurants with drive-through window in AM peak period is 50% and 55% in PM peak period.

TRUCK SALES

Since the ITE TripGen does not include land use for truck sales, this analysis uses the truck trip generation study published by the previously referenced City of Fontana as an additional reference for the trip estimation. The Fontana Truck Trip Generation Study (2003) provides average trip generation rates according to the KSF of the project sites. **Table 8** summarizes the daily, AM peak hour, and PM peak hour vehicular trip generation of the truck sales land use, according to the Fontana Truck Trip Generation Study. The proposed truck sales land use is estimated to generate 969 daily trips, 73 AM peak hour trips, and 124 PM peak hour trips.

TABLE 8: ESTIMATED TRUCK SALES TOTAL TRIP GENERATION

TOTAL VEHICLE TRIPS						
DAILY	AM PEAK HOUR			PM PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
969	36	37	73	62	62	124

Since there is no pass-by trip rate available for truck sales land use in the Fontana Truck Trip Generation Study, the pass-by trip generation rate is estimated to be zero given the characteristics of the land use type from a logical perspective.

HOTEL

According to ITE TripGen 11th Edition (2021), the trips generated by hotels (ITE Code 310) are estimated based on the number of rooms. **Table 9** summarizes the daily, AM peak hour, and PM peak hour vehicular trip generation of the hotel land use, according to ITE TripGen 11th Edition. The proposed hotel with 60 rooms is estimated to generate 479 daily trips, 32 AM peak hour trips, and 36 PM peak hour trips. Given the lodging characteristics of the land use type, pass-by trip generation estimation does not apply to hotel land uses.

TABLE 9: ESTIMATED HOTEL TOTAL TRIP GENERATION

TOTAL VEHICLE TRIPS						
DAILY	AM PEAK HOUR			PM PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
479	17	15	32	21	15	36

Table 10 summarizes the trip generation estimates for the proposed project Phase II after deducting the pass-by trips of the land uses.

TABLE 6: ESTIMATED PROJECT PHASE II TOTAL TRIP GENERATION

PROPOSED USE	PASS-BY % AM (PM)	VEHICLE TRIPS (INCLUDING TRUCK TRIPS)					
		AM PEAK HOUR			PM PEAK HOUR		
		ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
TOTAL TRIPS							
Travel Related Retail/Restaurant		135	140	275	144	123	267
Fast Food Restaurant		164	152	316	162	156	318
Truck Sales		36	37	73	62	62	124
Hotel		17	15	32	21	15	36
Total		**352**	**344**	**696**	**389**	**356**	**745**
PASS-BY TRIPS							
Travel Related Retail/Restaurant	40% (40%)	-54	-56	-110	-58	-49	-107
Fast Food Restaurant	50% (55%)	-82	-76	-158	-89	-86	-175
Truck Sales					NA		
Hotel					NA		
Total		**-136**	**-132**	**-268**	**-147**	**-135**	**-282**
NEW TRIPS							
Travel Related Retail/Restaurant		81	84	165	86	74	160
Fast Food Restaurant		82	76	158	73	70	143
Truck Sales		36	37	73	62	62	124
Hotel		17	15	32	21	15	36
Total		**216**	**212**	**428**	**242**	**221**	**463**

PROJECT TOTAL

Table 11 summarizes the trip generation estimates for the proposed project including both Phase I and Phase II.

TABLE 7: ESTIMATED PROJECT TOTAL TRIP GENERATION

	VEHICLE TRIPS (INCLUDING TRUCK TRIPS)					
	AM PEAK HOUR			PM PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
TOTAL TRIPS						
Phase I	137	132	269	201	200	402
Phase II	352	344	696	389	356	745
Total	**489**	**476**	**965**	**590**	**556**	**1146**
PASS-BY TRIPS						
Phase I	-104	-100	-205	-151	-150	-301
Phase II	-136	-132	-268	-147	-135	-282
Total	**-240**	**-232**	**-473**	**-298**	**-285**	**-583**
NEW TRIPS						
Phase I	33	32	65	50	50	100
Phase II	216	212	428	242	221	463
Total	**249**	**243**	**492**	**293**	**271**	**564**

TRIP DISTRIBUTION ESTIMATES

PASS-BY TRIPS

It is assumed that pass-by trips all come from the freeway and continue in the direction of approach. **Figure 3** and **Figure 4** illustrate the project pass-by trip distribution based upon the travel patterns from the 2016 SacSIM Travel Demand Model during AM and PM peak hours. The 2016 SacSIM Travel Demand Model indicates that the NB and SB traffic on I-5 in AM peak period are 43% and 57%, and PM peak period percentages are 54% and 46% for NB and SB traffic.

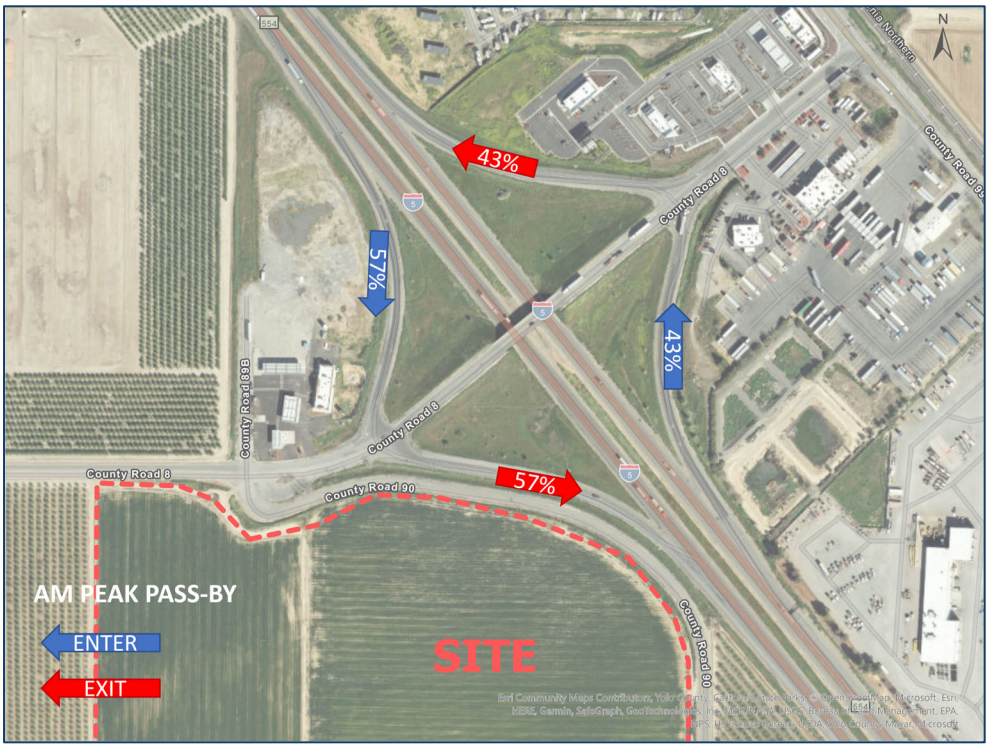


FIGURE 3: AM PEAK PROJECT PASS-BY TRIP DISTRIBUTION

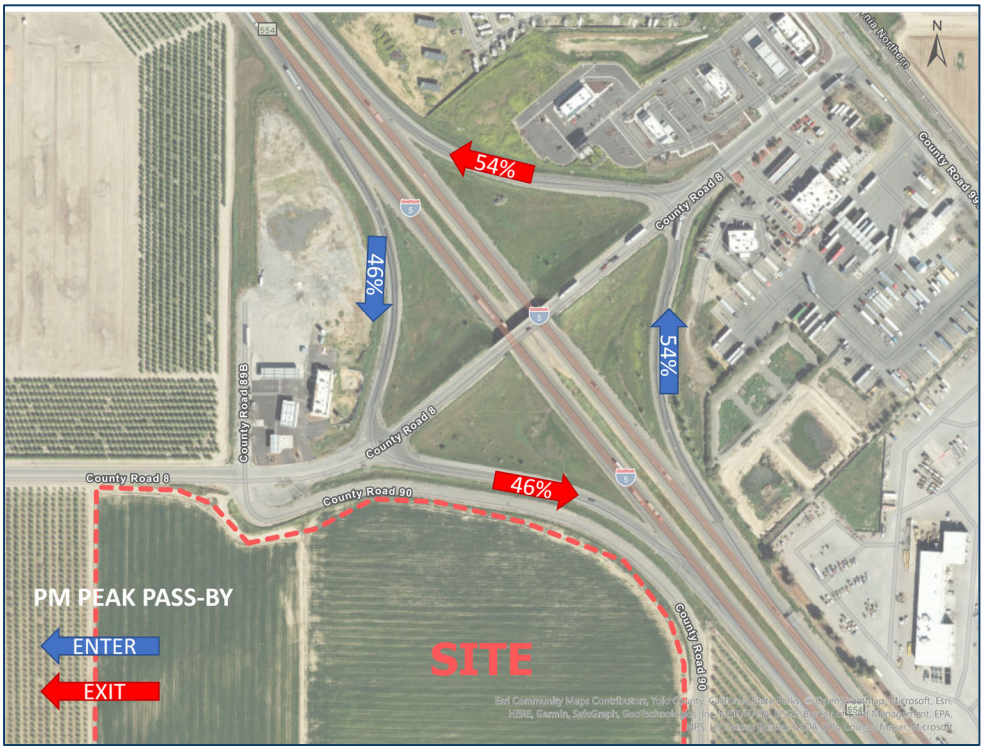


FIGURE 4: PM PEAK PROJECT PASS-BY TRIP DISTRIBUTION

NET NEW TRIPS

New trips are split between the freeway and local roads and would return to the direction they came from. The zone split and roadway network edits are made to the 2016 SacSIM Travel Demand Model to enable select zone analysis for the project site. **Figure 5** and **Figure 6** illustrate the project net new trips distribution based upon the travel patterns from the 2016 SacSIM Travel Demand Model select zone analysis during AM and PM peak hours.

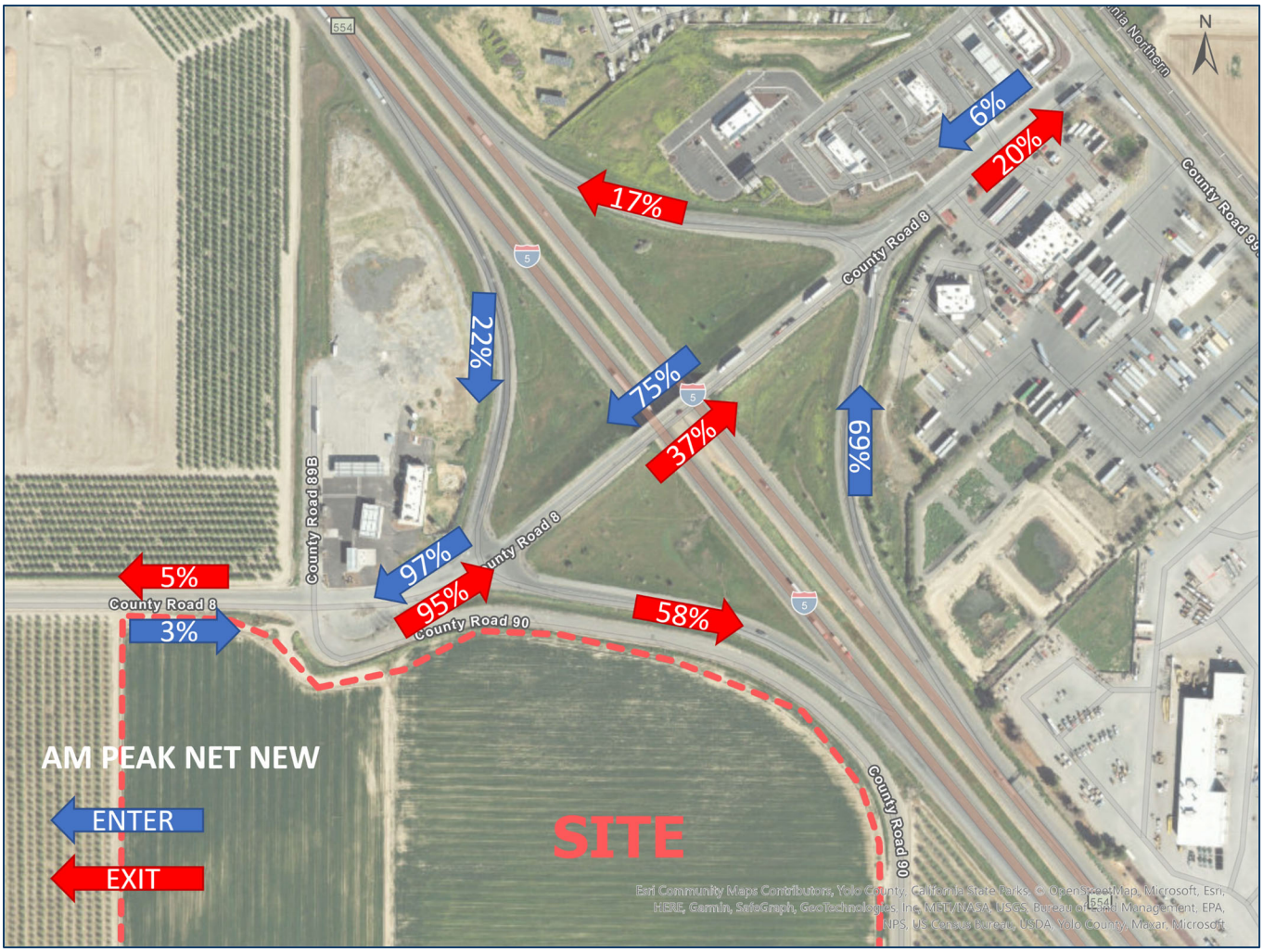


FIGURE 5: AM PEAK PROJECT NET NEW TRIP DISTRIBUTION

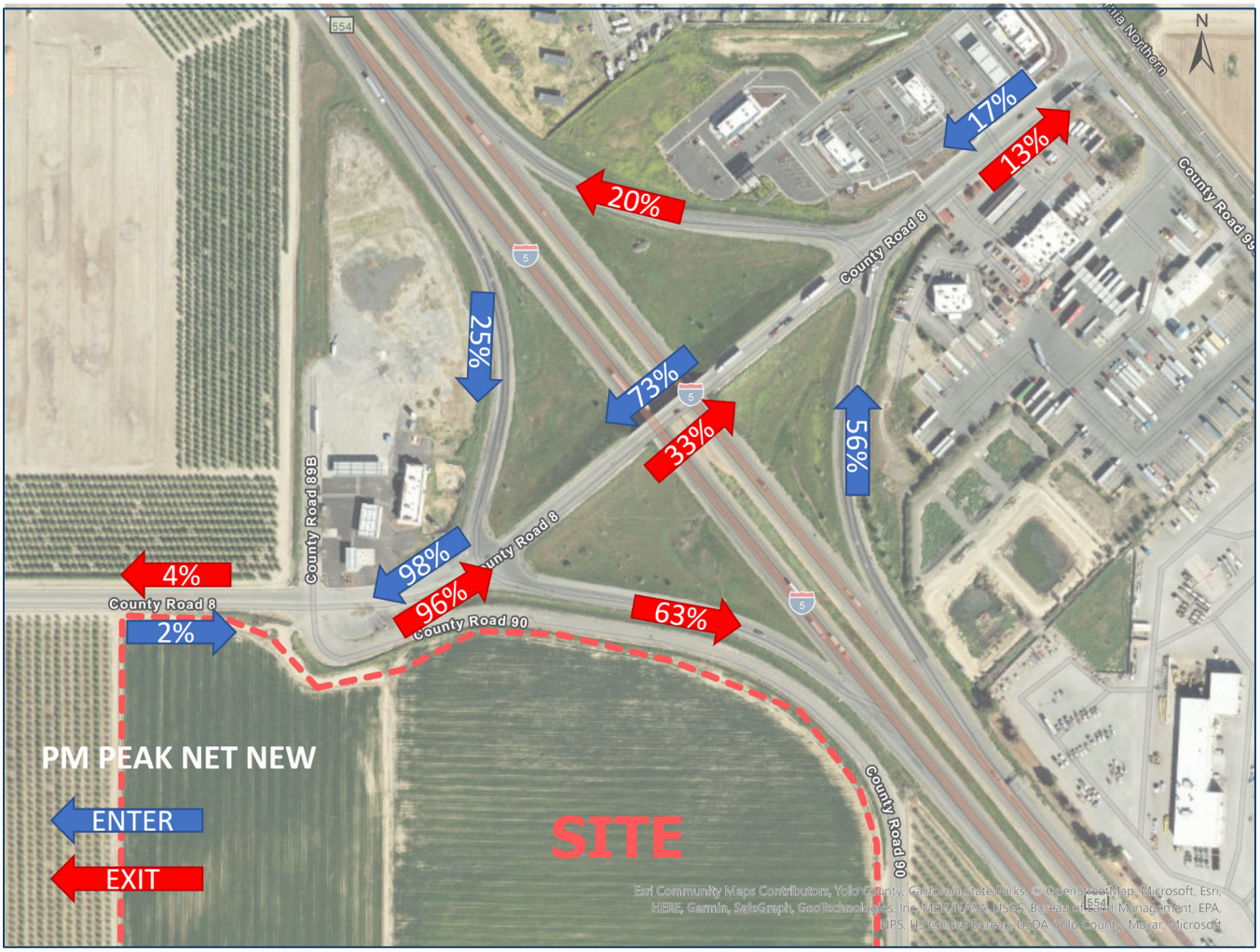


FIGURE 6: PM PEAK PROJECT NET NEW TRIP DISTRIBUTION

PROJECT TOTAL TRIPS

Figure 7 and **Figure 8** illustrate the project's total trips distribution including both pass-by trips and net new trips during AM and PM peak hours.

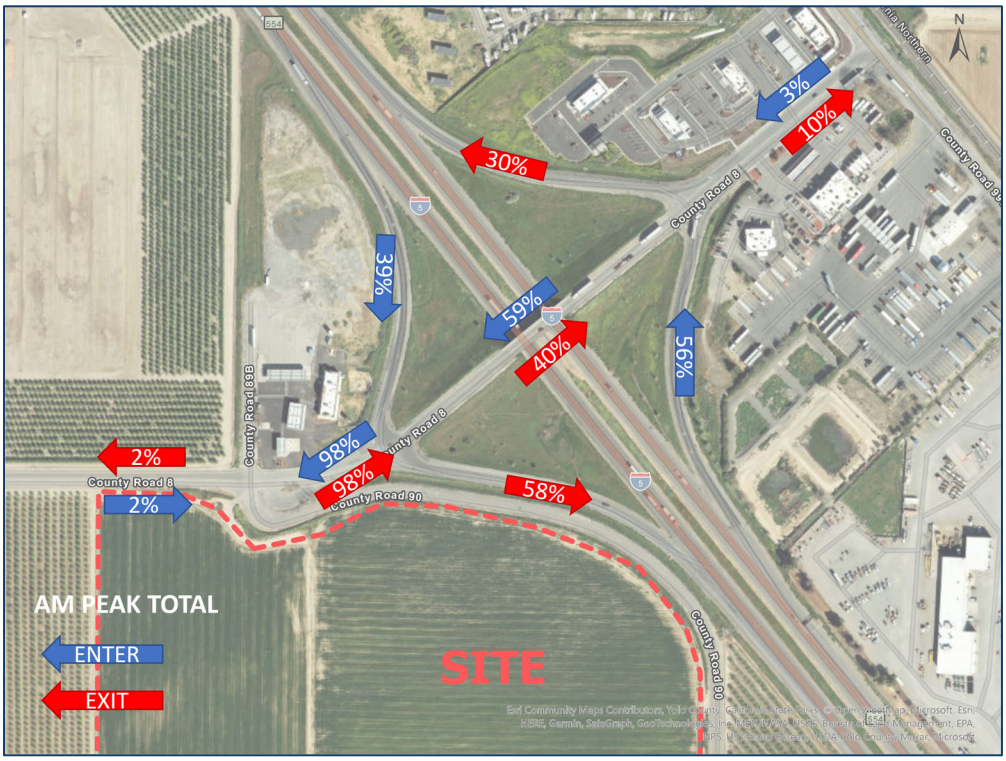


FIGURE 7: AM PEAK PROJECT TOTAL TRIP DISTRIBUTION

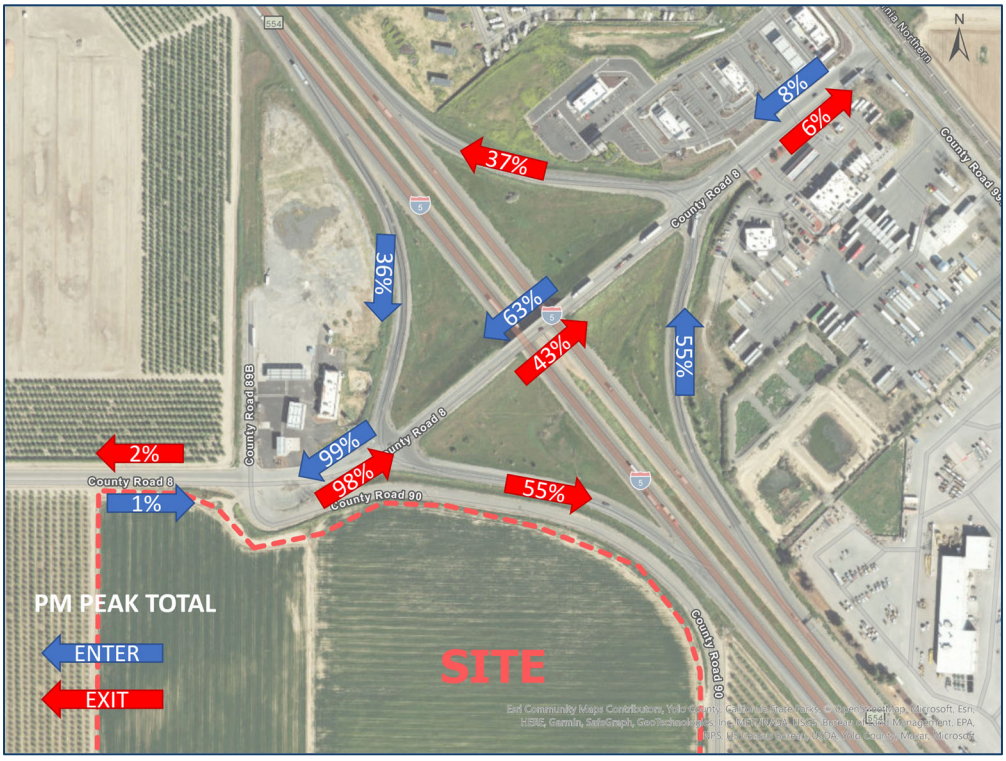


FIGURE 8: PM PEAK PROJECT TOTAL TRIP DISTRIBUTION

APPENDIX C: SIMTRAFFIC ANALYSIS WORKSHEETS

Summary of All Intervals

Run Number	2	3	4	6	7	Avg
Start Time	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	477	455	472	452	445	462
Vehs Exited	475	453	479	451	441	459
Starting Vehs	7	7	13	4	8	7
Ending Vehs	9	9	6	5	12	7
Denied Entry Before	0	0	1	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	217	208	218	207	203	211
Travel Time (hr)	7.5	7.1	7.6	7.2	7.1	7.3
Total Delay (hr)	0.5	0.5	0.6	0.5	0.6	0.6
Total Stops	221	238	249	247	229	236
Fuel Used (gal)	7.5	7.3	7.5	7.2	7.1	7.3

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	6	7	Avg
Vehs Entered	118	110	111	101	85	104
Vehs Exited	117	110	119	95	88	105
Starting Vehs	7	7	13	4	8	7
Ending Vehs	8	7	5	10	5	7
Denied Entry Before	0	0	1	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	53	52	54	46	40	49
Travel Time (hr)	1.9	1.7	1.9	1.6	1.4	1.7
Total Delay (hr)	0.1	0.1	0.1	0.1	0.1	0.1
Total Stops	62	53	66	52	39	53
Fuel Used (gal)	1.9	1.8	1.8	1.6	1.4	1.7

Interval #2 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	4	6	7	Avg
Vehs Entered	139	114	135	117	129	127
Vehs Exited	140	113	132	119	124	125
Starting Vehs	8	7	5	10	5	7
Ending Vehs	7	8	8	8	10	7
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	66	53	62	55	57	58
Travel Time (hr)	2.3	1.8	2.2	1.9	2.0	2.0
Total Delay (hr)	0.2	0.1	0.2	0.1	0.2	0.2
Total Stops	71	59	65	61	64	64
Fuel Used (gal)	2.3	1.9	2.2	1.9	2.0	2.1

Interval #3 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	6	7	Avg
Vehs Entered	104	111	107	105	125	111
Vehs Exited	104	108	103	109	126	110
Starting Vehs	7	8	8	8	10	7
Ending Vehs	7	11	12	4	9	8
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	47	49	48	51	60	51
Travel Time (hr)	1.6	1.7	1.7	1.8	2.1	1.8
Total Delay (hr)	0.1	0.1	0.1	0.1	0.2	0.1
Total Stops	42	57	57	62	64	56
Fuel Used (gal)	1.6	1.7	1.6	1.7	2.1	1.8

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	6	7	Avg
Vehs Entered	116	120	119	129	106	117
Vehs Exited	114	122	125	128	103	118
Starting Vehs	7	11	12	4	9	8
Ending Vehs	9	9	6	5	12	7
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	52	55	55	55	46	53
Travel Time (hr)	1.8	1.9	1.9	2.0	1.6	1.8
Total Delay (hr)	0.1	0.1	0.1	0.2	0.1	0.1
Total Stops	46	69	61	72	62	60
Fuel Used (gal)	1.7	1.8	1.9	1.9	1.6	1.8

1: Rd 90B & Rd 8 Performance by movement

Movement	EBT	WBL	WBT	WBR	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	1.2	0.7	0.1	2.2	4.1	4.5	2.2	0.9
Vehicles Entered	15	2	25	5	1	3	2	4	57
Vehicles Exited	15	2	25	5	1	3	2	4	57
Hourly Exit Rate	15	2	25	5	1	3	2	4	57
Input Volume	18	3	24	4	1	4	2	2	59
% of Volume	82	67	102	125	100	75	100	200	97
Denied Entry Before	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	0.5	0.1	1.3	1.2	5.2	2.7	2.8
Vehicles Entered	8	15	107	16	102	14	262
Vehicles Exited	8	15	108	16	102	14	263
Hourly Exit Rate	8	15	108	16	102	14	263
Input Volume	12	14	117	16	105	13	278
% of Volume	65	105	92	103	97	106	95
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	3.9	0.2	0.2
Total Delay (hr)	0.0	0.1	0.0	0.1	0.0	0.1	0.2
Total Del/Veh (s)	1.6	2.0	0.2	2.1	3.8	2.8	1.8
Vehicles Entered	5	104	115	90	8	98	420
Vehicles Exited	5	105	115	89	8	97	419
Hourly Exit Rate	5	105	115	89	8	97	419
Input Volume	7	108	123	88	8	95	430
% of Volume	69	97	93	101	97	102	97
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.5
Total Del/Veh (s)	4.0
Vehicles Entered	462
Vehicles Exited	459
Hourly Exit Rate	459
Input Volume	1226
% of Volume	37
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Rd 90B & Rd 8

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	5	21	55
Average Queue (ft)	0	1	9
95th Queue (ft)	4	9	37
Link Distance (ft)	337	1172	500
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	WB	SB
Directions Served	LT	LTR
Maximum Queue (ft)	48	86
Average Queue (ft)	5	38
95th Queue (ft)	25	72
Link Distance (ft)	1073	1268
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	NB	NB
Directions Served	LT	L	TR
Maximum Queue (ft)	12	44	74
Average Queue (ft)	0	6	23
95th Queue (ft)	7	24	54
Link Distance (ft)	1073		1037
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	0

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	2	3	5	6	7	Avg
Start Time	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	477	521	487	508	464	491
Vehs Exited	475	518	485	504	462	488
Starting Vehs	7	8	5	4	5	6
Ending Vehs	9	11	7	8	7	8
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	205	223	209	222	203	212
Travel Time (hr)	7.2	7.9	7.5	7.8	7.1	7.5
Total Delay (hr)	0.5	0.6	0.6	0.6	0.6	0.6
Total Stops	246	269	261	270	263	262
Fuel Used (gal)	7.2	8.0	7.4	7.8	7.1	7.5

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	6	7	Avg
Vehs Entered	102	141	117	113	112	115
Vehs Exited	103	141	117	111	108	116
Starting Vehs	7	8	5	4	5	6
Ending Vehs	6	8	5	6	9	3
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	42	62	51	50	48	51
Travel Time (hr)	1.5	2.2	1.8	1.7	1.6	1.8
Total Delay (hr)	0.1	0.2	0.1	0.1	0.1	0.1
Total Stops	57	65	64	59	62	62
Fuel Used (gal)	1.5	2.2	1.8	1.7	1.6	1.8

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	5	6	7	Avg
Vehs Entered	136	131	137	151	132	136
Vehs Exited	131	129	136	146	133	135
Starting Vehs	6	8	5	6	9	3
Ending Vehs	11	10	6	11	8	8
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	58	54	54	64	58	58
Travel Time (hr)	2.0	1.9	2.0	2.3	2.1	2.1
Total Delay (hr)	0.2	0.2	0.2	0.2	0.2	0.2
Total Stops	63	74	70	84	72	72
Fuel Used (gal)	2.0	2.0	1.9	2.3	2.1	2.1

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	6	7	Avg
Vehs Entered	102	126	113	123	112	116
Vehs Exited	108	130	111	128	110	118
Starting Vehs	11	10	6	11	8	8
Ending Vehs	5	6	8	6	10	6
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	45	54	50	56	50	51
Travel Time (hr)	1.6	2.0	1.8	2.0	1.8	1.8
Total Delay (hr)	0.1	0.2	0.1	0.2	0.1	0.1
Total Stops	53	67	55	64	63	60
Fuel Used (gal)	1.5	2.0	1.8	2.0	1.8	1.8

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	6	7	Avg
Vehs Entered	137	123	120	121	108	121
Vehs Exited	133	118	121	119	111	121
Starting Vehs	5	6	8	6	10	6
Ending Vehs	9	11	7	8	7	8
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	60	53	54	52	47	53
Travel Time (hr)	2.1	1.9	1.9	1.8	1.7	1.9
Total Delay (hr)	0.2	0.1	0.1	0.1	0.1	0.1
Total Stops	73	63	72	63	66	66
Fuel Used (gal)	2.1	1.9	1.8	1.8	1.6	1.9

1: Rd 90B & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.3	0.0	0.0	0.2		0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.1	1.4	0.7	0.2		2.2	3.4	0.6
Vehicles Entered	36	2	5	26	5	0	4	2	80
Vehicles Exited	36	2	5	26	5	0	4	2	80
Hourly Exit Rate	36	2	5	26	5	0	4	2	80
Input Volume	36	2	7	26	4	1	3	2	81
% of Volume	100	100	69	100	125	0	133	100	98
Denied Entry Before	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Total Del/Veh (s)	0.6	0.2	1.4	0.8	4.6	2.3	2.2
Vehicles Entered	25	21	76	14	71	18	225
Vehicles Exited	25	21	77	14	71	18	226
Hourly Exit Rate	25	21	77	14	71	18	226
Input Volume	26	21	82	14	70	19	233
% of Volume	94	99	94	98	101	94	97
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	3.7	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.2	0.3
Total Del/Veh (s)	1.8	2.0	0.2	2.3	4.6	3.6	2.3
Vehicles Entered	8	83	81	104	8	153	437
Vehicles Exited	8	84	81	104	8	152	437
Hourly Exit Rate	8	84	81	104	8	152	437
Input Volume	8	83	88	105	7	154	446
% of Volume	97	101	92	99	110	99	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.6
Total Del/Veh (s)	4.0
Vehicles Entered	491
Vehicles Exited	488
Hourly Exit Rate	488
Input Volume	1248
% of Volume	39
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Rd 90B & Rd 8

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	55	44
Average Queue (ft)	4	2
95th Queue (ft)	25	17
Link Distance (ft)	1172	500
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	WB	SB
Directions Served	LT	LTR
Maximum Queue (ft)	52	67
Average Queue (ft)	5	32
95th Queue (ft)	27	58
Link Distance (ft)	1073	1268
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	NB	NB
Directions Served	LT	L	TR
Maximum Queue (ft)	17	50	89
Average Queue (ft)	1	6	32
95th Queue (ft)	12	25	66
Link Distance (ft)	1073		1037
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	2
Queuing Penalty (veh)		0	0

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	7	Avg
Start Time	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1550	1588	1583	1602	1589	1580
Vehs Exited	1545	1616	1609	1602	1603	1594
Starting Vehs	41	58	52	48	62	52
Ending Vehs	46	30	26	48	48	40
Denied Entry Before	0	0	0	1	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	699	724	717	719	721	716
Travel Time (hr)	38.8	39.4	40.6	39.8	43.3	40.4
Total Delay (hr)	10.8	10.5	12.0	11.2	14.4	11.8
Total Stops	1716	1737	1737	1803	1797	1759
Fuel Used (gal)	29.0	29.7	29.4	29.8	30.5	29.7

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	7	Avg
Vehs Entered	365	384	402	391	353	378
Vehs Exited	374	401	419	379	377	391
Starting Vehs	41	58	52	48	62	52
Ending Vehs	32	41	35	60	38	42
Denied Entry Before	0	0	0	1	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	165	179	183	172	165	173
Travel Time (hr)	8.5	10.9	11.4	8.8	9.8	9.9
Total Delay (hr)	1.9	3.8	4.2	1.9	3.2	3.0
Total Stops	394	429	429	427	388	411
Fuel Used (gal)	6.7	7.8	7.7	7.0	7.0	7.2

Interval #2 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	7	Avg
Vehs Entered	455	413	398	418	428	421
Vehs Exited	421	418	387	426	412	412
Starting Vehs	32	41	35	60	38	42
Ending Vehs	66	36	46	52	54	50
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	1	0	0
Travel Distance (mi)	200	188	179	194	187	190
Travel Time (hr)	12.6	9.9	9.7	12.6	10.2	11.0
Total Delay (hr)	4.5	2.3	2.5	4.8	2.8	3.4
Total Stops	559	450	437	500	482	485
Fuel Used (gal)	8.5	7.6	7.2	8.4	7.6	7.9

Interval #3 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	7	Avg
Vehs Entered	353	375	401	387	393	380
Vehs Exited	396	377	416	399	392	396
Starting Vehs	66	36	46	52	54	50
Ending Vehs	23	34	31	40	55	35
Denied Entry Before	0	0	0	1	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	170	167	181	176	176	174
Travel Time (hr)	9.3	8.7	10.1	9.6	10.3	9.6
Total Delay (hr)	2.5	2.1	3.0	2.6	3.2	2.7
Total Stops	370	395	453	451	454	424
Fuel Used (gal)	7.1	6.7	7.5	7.3	7.5	7.2

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	7	Avg
Vehs Entered	377	416	382	406	415	400
Vehs Exited	354	420	387	398	422	396
Starting Vehs	23	34	31	40	55	35
Ending Vehs	46	30	26	48	48	40
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	165	190	173	178	193	180
Travel Time (hr)	8.4	9.8	9.4	8.9	12.9	9.9
Total Delay (hr)	2.0	2.2	2.4	1.9	5.2	2.7
Total Stops	393	463	418	425	473	435
Fuel Used (gal)	6.8	7.6	7.0	7.0	8.4	7.4

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.9
Total Del/Veh (s)	0.5	0.1	3.0	2.0	1.8	13.2	0.5	2.8	8.2	7.9	2.0	2.9
Vehicles Entered	21	13	473	42	5	14	32	470	7	11	7	1095
Vehicles Exited	21	13	474	42	5	14	32	469	7	11	7	1095
Hourly Exit Rate	21	13	474	42	5	14	32	469	7	11	7	1095
Input Volume	20	10	485	41	5	15	32	470	5	10	5	1098
% of Volume	106	127	98	103	100	92	101	100	140	107	140	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.3	0.1
Total Delay (hr)	0.3	0.3	0.4	0.6	1.8	2.7	6.1
Total Del/Veh (s)	5.0	4.2	13.1	6.4	55.5	46.2	17.2
Vehicles Entered	220	297	108	316	110	201	1252
Vehicles Exited	220	298	109	317	113	206	1263
Hourly Exit Rate	220	298	109	317	113	206	1263
Input Volume	224	290	120	326	105	205	1272
% of Volume	98	103	91	97	107	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.3	0.3	0.2
Total Delay (hr)	0.2	0.1	0.0	0.0	2.0	0.6	2.9
Total Del/Veh (s)	4.5	2.8	0.5	0.4	25.8	21.9	11.2
Vehicles Entered	148	181	132	97	270	95	923
Vehicles Exited	147	182	132	96	272	96	925
Hourly Exit Rate	147	182	132	96	272	96	925
Input Volume	150	176	140	90	285	95	936
% of Volume	98	103	94	107	95	101	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.2	0.2	0.2	0.1	0.0	1.0
Total Del/Veh (s)	6.2	4.6	7.5	5.6	6.4	3.1	5.8
Vehicles Entered	151	153	81	145	82	12	624
Vehicles Exited	151	154	81	144	82	12	624
Hourly Exit Rate	151	154	81	144	82	12	624
Input Volume	165	150	75	150	81	10	630
% of Volume	92	103	108	96	102	117	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.1	0.1	0.0	0.5
Total Del/Veh (s)	4.3	1.5	3.6	1.1	0.5	1.7
Vehicles Entered	97	386	100	268	157	1008
Vehicles Exited	97	385	99	268	156	1005
Hourly Exit Rate	97	385	99	268	156	1005
Input Volume	95	390	100	268	165	1017
% of Volume	102	99	99	100	95	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	11.7
Total Del/Veh (s)	25.8
Vehicles Entered	1580
Vehicles Exited	1594
Hourly Exit Rate	1594
Input Volume	6408
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Bird Creek Rd & Rd 8

Movement	WB	NB	NB	SB
Directions Served	LTR	LT	R	LTR
Maximum Queue (ft)	85	55	63	50
Average Queue (ft)	18	13	4	11
95th Queue (ft)	57	40	45	30
Link Distance (ft)	316	286	286	536
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	WB	SB
Directions Served	TR	LT	LTR
Maximum Queue (ft)	46	251	534
Average Queue (ft)	5	80	194
95th Queue (ft)	23	178	425
Link Distance (ft)	316	1090	1065
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	WB	NB
Directions Served	LT	T	R	LTR
Maximum Queue (ft)	104	3	13	417
Average Queue (ft)	27	0	0	161
95th Queue (ft)	73	2	6	337
Link Distance (ft)	1090	611	611	1014
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	97	111	92	100	81
Average Queue (ft)	52	49	41	50	44
95th Queue (ft)	84	84	73	82	74
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	SB
Directions Served	R	TR	LT
Maximum Queue (ft)	76	19	106
Average Queue (ft)	39	1	30
95th Queue (ft)	64	10	74
Link Distance (ft)	170	173	286
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	4	6	7	Avg
Start Time	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1841	1840	1826	1836	1861	1841
Vehs Exited	1814	1866	1806	1827	1832	1829
Starting Vehs	49	70	54	46	54	56
Ending Vehs	76	44	74	55	83	67
Denied Entry Before	0	0	2	0	0	0
Denied Entry After	32	0	9	0	11	10
Travel Distance (mi)	836	834	831	824	834	832
Travel Time (hr)	91.4	89.0	68.0	57.3	77.4	76.6
Total Delay (hr)	58.0	55.5	34.6	24.4	44.0	43.3
Total Stops	1939	1931	1990	2170	1921	1988
Fuel Used (gal)	44.1	43.8	39.0	36.6	41.1	40.9

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	4	6	7	Avg
Vehs Entered	445	475	447	410	476	450
Vehs Exited	451	483	449	410	456	449
Starting Vehs	49	70	54	46	54	56
Ending Vehs	43	62	52	46	74	51
Denied Entry Before	0	0	2	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	207	209	213	186	211	205
Travel Time (hr)	13.1	18.7	13.0	10.4	13.9	13.8
Total Delay (hr)	4.8	10.3	4.4	3.0	5.6	5.6
Total Stops	518	519	575	470	569	531
Fuel Used (gal)	8.7	10.2	9.2	7.7	9.2	9.0

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	4	6	7	Avg
Vehs Entered	522	506	472	508	476	499
Vehs Exited	474	454	446	465	474	461
Starting Vehs	43	62	52	46	74	51
Ending Vehs	91	114	78	89	76	88
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	22	15	1	0	25	12
Travel Distance (mi)	219	211	205	212	211	212
Travel Time (hr)	19.6	26.7	13.6	17.7	22.0	19.9
Total Delay (hr)	10.7	18.2	5.4	9.3	13.6	11.4
Total Stops	577	558	553	618	493	559
Fuel Used (gal)	10.5	11.9	9.0	10.0	11.0	10.5

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	4	6	7	Avg
Vehs Entered	417	432	452	434	441	435
Vehs Exited	437	471	459	467	445	458
Starting Vehs	91	114	78	89	76	88
Ending Vehs	71	75	71	56	72	67
Denied Entry Before	22	15	1	0	25	12
Denied Entry After	47	2	7	0	1	11
Travel Distance (mi)	200	206	208	209	204	206
Travel Time (hr)	29.3	26.7	20.5	15.4	21.7	22.7
Total Delay (hr)	21.3	18.4	12.2	7.0	13.5	14.5
Total Stops	397	366	440	522	398	427
Fuel Used (gal)	12.2	12.0	10.5	9.5	10.7	11.0

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	4	6	7	Avg
Vehs Entered	457	427	455	484	468	460
Vehs Exited	452	458	452	485	457	459
Starting Vehs	71	75	71	56	72	67
Ending Vehs	76	44	74	55	83	67
Denied Entry Before	47	2	7	0	1	11
Denied Entry After	32	0	9	0	11	10
Travel Distance (mi)	209	207	205	216	208	209
Travel Time (hr)	29.5	16.9	20.8	13.8	19.7	20.2
Total Delay (hr)	21.2	8.6	12.6	5.1	11.4	11.8
Total Stops	447	488	422	560	461	475
Fuel Used (gal)	12.7	9.7	10.4	9.4	10.3	10.5

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.6	0.0	0.0	0.1	0.0	0.5	0.0	0.0	1.3
Total Del/Veh (s)	0.5	0.1	3.5	2.8	3.1	19.9	0.8	3.3	21.0	13.2	3.5
Vehicles Entered	47	10	590	46	6	20	38	561	4	6	1328
Vehicles Exited	47	10	589	46	6	20	38	560	4	6	1326
Hourly Exit Rate	47	10	589	46	6	20	38	560	4	6	1326
Input Volume	40	10	595	50	5	20	38	550	5	5	1318
% of Volume	118	98	99	92	120	101	100	102	80	120	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.4	0.7	0.2
Total Delay (hr)	0.5	0.5	0.4	0.9	1.7	4.7	8.6
Total Del/Veh (s)	5.7	5.0	16.9	8.0	83.7	70.0	21.5
Vehicles Entered	301	330	85	403	70	236	1425
Vehicles Exited	301	330	86	405	71	237	1430
Hourly Exit Rate	301	330	86	405	71	237	1430
Input Volume	294	325	85	419	70	230	1422
% of Volume	103	102	101	97	101	103	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	5.1	2.0	7.1
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	53.8	51.1	23.3
Total Delay (hr)	0.3	0.1	0.0	0.0	16.3	6.8	23.6
Total Del/Veh (s)	5.0	3.6	0.7	0.4	172.2	166.1	76.9
Vehicles Entered	230	136	145	103	330	142	1086
Vehicles Exited	230	135	144	102	320	141	1072
Hourly Exit Rate	230	135	144	102	320	141	1072
Input Volume	220	137	145	105	335	155	1097
% of Volume	104	99	99	97	96	91	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	8	2	10

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.4	0.3	0.2	0.4	0.2	0.0	1.5
Total Del/Veh (s)	7.2	5.5	8.0	6.7	6.9	3.7	6.6
Vehicles Entered	187	214	74	227	95	17	814
Vehicles Exited	187	213	74	227	95	17	813
Hourly Exit Rate	187	213	74	227	95	17	813
Input Volume	175	220	75	235	96	15	816
% of Volume	107	97	99	97	99	111	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.0	0.0
Total Delay (hr)	0.2	0.2	0.2	0.2	0.0	0.7
Total Del/Veh (s)	5.4	1.4	6.0	1.7	0.5	2.1
Vehicles Entered	108	474	94	379	169	1224
Vehicles Exited	108	475	94	378	170	1225
Hourly Exit Rate	108	475	94	378	170	1225
Input Volume	100	470	100	380	165	1215
% of Volume	108	101	94	99	103	101
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	7.2
Denied Del/Veh (s)	14.1
Total Delay (hr)	36.1
Total Del/Veh (s)	68.5
Vehicles Entered	1841
Vehicles Exited	1829
Hourly Exit Rate	1829
Input Volume	7538
% of Volume	24
Denied Entry Before	0
Denied Entry After	10

Intersection: 1: Bird Creek Rd & Rd 8

Movement	WB	NB	NB	SB
Directions Served	LTR	LT	R	LTR
Maximum Queue (ft)	101	65	174	21
Average Queue (ft)	32	19	16	5
95th Queue (ft)	79	50	92	18
Link Distance (ft)	316	286	286	536
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	WB	SB
Directions Served	TR	LT	LTR
Maximum Queue (ft)	47	330	664
Average Queue (ft)	5	103	252
95th Queue (ft)	26	243	620
Link Distance (ft)	316	1090	1065
Upstream Blk Time (%)			2
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	WB	NB
Directions Served	LT	T	R	LTR
Maximum Queue (ft)	136	6	20	1042
Average Queue (ft)	39	0	1	763
95th Queue (ft)	94	3	11	1335
Link Distance (ft)	1090	611	611	1014
Upstream Blk Time (%)				45
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	114	138	82	130	85
Average Queue (ft)	58	59	39	62	48
95th Queue (ft)	93	107	69	104	78
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	SB
Directions Served	R	TR	LT
Maximum Queue (ft)	95	5	158
Average Queue (ft)	44	0	49
95th Queue (ft)	78	4	119
Link Distance (ft)	170	173	286
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	6	7	Avg
Start Time	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	514	559	528	523	527	530
Vehs Exited	512	557	526	518	531	529
Starting Vehs	7	10	8	5	17	10
Ending Vehs	9	12	10	10	13	10
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	221	246	228	225	228	230
Travel Time (hr)	9.0	9.9	9.1	9.1	9.2	9.2
Total Delay (hr)	0.7	0.7	0.7	0.7	0.7	0.7
Total Stops	279	294	280	280	270	280
Fuel Used (gal)	7.7	8.6	8.1	8.0	8.0	8.1

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	6	7	Avg
Vehs Entered	126	134	145	102	125	125
Vehs Exited	121	137	142	98	133	127
Starting Vehs	7	10	8	5	17	10
Ending Vehs	12	7	11	9	9	7
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	54	59	64	42	58	55
Travel Time (hr)	2.2	2.4	2.5	1.7	2.3	2.2
Total Delay (hr)	0.2	0.2	0.2	0.1	0.2	0.2
Total Stops	70	74	71	54	70	67
Fuel Used (gal)	1.9	2.1	2.3	1.5	2.0	2.0

Interval #2 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	6	7	Avg
Vehs Entered	150	151	128	149	155	145
Vehs Exited	160	149	130	147	155	147
Starting Vehs	12	7	11	9	9	7
Ending Vehs	2	9	9	11	9	7
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	66	64	55	65	66	63
Travel Time (hr)	2.7	2.6	2.2	2.6	2.7	2.5
Total Delay (hr)	0.2	0.2	0.2	0.2	0.2	0.2
Total Stops	79	79	72	77	74	76
Fuel Used (gal)	2.3	2.2	1.9	2.3	2.3	2.2

Interval #3 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	6	7	Avg
Vehs Entered	121	119	117	124	130	123
Vehs Exited	117	118	116	130	130	121
Starting Vehs	2	9	9	11	9	7
Ending Vehs	6	10	10	5	9	6
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	50	53	49	55	57	53
Travel Time (hr)	2.0	2.1	2.0	2.2	2.3	2.1
Total Delay (hr)	0.1	0.1	0.1	0.2	0.2	0.2
Total Stops	63	59	61	71	67	65
Fuel Used (gal)	1.7	1.9	1.8	2.0	2.0	1.9

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	6	7	Avg
Vehs Entered	117	155	138	148	117	137
Vehs Exited	114	153	138	143	113	131
Starting Vehs	6	10	10	5	9	6
Ending Vehs	9	12	10	10	13	10
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	51	70	60	64	47	58
Travel Time (hr)	2.1	2.8	2.4	2.6	1.9	2.4
Total Delay (hr)	0.2	0.2	0.2	0.2	0.1	0.2
Total Stops	67	82	76	78	59	73
Fuel Used (gal)	1.8	2.4	2.1	2.2	1.7	2.0

1: Rd 90B & Rd 8 Performance by movement

Movement	EBT	WBL	WBT	WBR	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	2.4	0.4	0.3	2.5	4.0	6.2	2.8	1.3
Vehicles Entered	21	5	32	6	7	4	5	7	87
Vehicles Exited	21	5	31	6	7	4	5	7	86
Hourly Exit Rate	21	5	31	6	7	4	5	7	86
Input Volume	20	5	30	5	5	5	5	5	80
% of Volume	106	100	104	120	140	80	100	140	108
Denied Entry Before	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.2	0.0	0.3
Total Del/Veh (s)	0.5	0.4	2.6	1.6	6.9	3.9	3.9
Vehicles Entered	21	15	125	20	113	21	315
Vehicles Exited	21	15	125	20	113	21	315
Hourly Exit Rate	21	15	125	20	113	21	315
Input Volume	18	15	125	22	115	15	310
% of Volume	114	98	100	93	98	138	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.1
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.1	0.2
Total Del/Veh (s)	4.3	1.5	0.2	0.5	6.3	4.3	1.7
Vehicles Entered	8	123	135	94	10	103	473
Vehicles Exited	8	123	135	95	10	103	474
Hourly Exit Rate	8	123	135	95	10	103	474
Input Volume	10	122	135	95	10	100	472
% of Volume	78	101	100	100	98	103	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.7
Total Del/Veh (s)	4.4
Vehicles Entered	530
Vehicles Exited	529
Hourly Exit Rate	529
Input Volume	1373
% of Volume	39
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Rd 90B & Rd 8

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	6	53	78
Average Queue (ft)	0	8	17
95th Queue (ft)	5	34	57
Link Distance (ft)	377	690	555
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	WB	SB
Directions Served	LT	LTR
Maximum Queue (ft)	88	127
Average Queue (ft)	7	51
95th Queue (ft)	35	94
Link Distance (ft)	1086	1066
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	NB
Directions Served	LT	LTR
Maximum Queue (ft)	48	103
Average Queue (ft)	3	52
95th Queue (ft)	22	85
Link Distance (ft)	1086	963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	3	5	6	7	Avg
Start Time	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	551	580	556	572	529	557
Vehs Exited	558	579	556	568	531	558
Starting Vehs	13	8	8	6	12	9
Ending Vehs	6	9	8	10	10	9
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	221	227	224	227	215	223
Travel Time (hr)	9.1	9.2	9.2	9.2	8.6	9.1
Total Delay (hr)	0.7	0.6	0.7	0.6	0.6	0.6
Total Stops	296	287	303	274	262	282
Fuel Used (gal)	7.9	8.1	7.9	8.1	7.6	7.9

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	3	5	6	7	Avg
Vehs Entered	130	148	129	123	121	130
Vehs Exited	134	144	129	121	121	130
Starting Vehs	13	8	8	6	12	9
Ending Vehs	9	12	8	8	12	8
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	53	57	53	48	49	52
Travel Time (hr)	2.2	2.3	2.1	1.9	1.9	2.1
Total Delay (hr)	0.2	0.1	0.1	0.1	0.1	0.1
Total Stops	68	70	71	49	63	66
Fuel Used (gal)	1.9	2.1	1.8	1.7	1.7	1.8

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	3	5	6	7	Avg
Vehs Entered	156	146	171	167	150	156
Vehs Exited	159	148	165	160	155	158
Starting Vehs	9	12	8	8	12	8
Ending Vehs	6	10	14	15	7	9
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	62	57	65	66	63	63
Travel Time (hr)	2.5	2.3	2.7	2.7	2.5	2.6
Total Delay (hr)	0.2	0.1	0.2	0.2	0.2	0.2
Total Stops	83	68	94	88	75	81
Fuel Used (gal)	2.2	2.0	2.4	2.4	2.2	2.2

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	3	5	6	7	Avg
Vehs Entered	131	139	122	125	132	129
Vehs Exited	131	139	124	136	130	131
Starting Vehs	6	10	14	15	7	9
Ending Vehs	6	10	12	4	9	8
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	53	55	50	52	53	53
Travel Time (hr)	2.2	2.2	2.1	2.1	2.2	2.2
Total Delay (hr)	0.2	0.2	0.2	0.1	0.2	0.2
Total Stops	81	78	62	62	65	70
Fuel Used (gal)	1.9	2.0	1.8	1.8	1.9	1.9

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	3	5	6	7	Avg
Vehs Entered	134	147	134	157	126	139
Vehs Exited	134	148	138	151	125	139
Starting Vehs	6	10	12	4	9	8
Ending Vehs	6	9	8	10	10	9
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	53	58	56	61	50	56
Travel Time (hr)	2.1	2.4	2.3	2.5	2.0	2.3
Total Delay (hr)	0.2	0.2	0.2	0.1	0.1	0.1
Total Stops	64	71	76	75	59	69
Fuel Used (gal)	1.9	2.0	2.0	2.2	1.7	1.9

1: Rd 90B & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.1	2.0	0.4	0.2	5.1	2.3	4.5	0.9
Vehicles Entered	39	6	10	34	6	3	7	5	110
Vehicles Exited	39	6	10	33	6	3	7	5	109
Hourly Exit Rate	39	6	10	33	6	3	7	5	109
Input Volume	40	5	10	32	5	5	5	5	107
% of Volume	98	120	98	105	120	60	140	100	102
Denied Entry Before	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.0	0.2
Total Del/Veh (s)	0.4	0.2	2.7	0.9	5.9	2.9	2.9
Vehicles Entered	33	27	89	24	69	19	261
Vehicles Exited	33	27	88	24	69	19	260
Hourly Exit Rate	33	27	88	24	69	19	260
Input Volume	33	25	90	21	75	20	264
% of Volume	101	109	98	113	92	94	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.2	0.3	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.3
Total Del/Veh (s)	3.5	1.3	0.1	0.5	6.6	4.9	2.2
Vehicles Entered	10	85	103	120	10	158	486
Vehicles Exited	10	85	102	120	10	159	486
Hourly Exit Rate	10	85	102	120	10	159	486
Input Volume	10	90	100	115	10	165	491
% of Volume	98	94	102	105	98	96	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.6
Total Del/Veh (s)	3.7
Vehicles Entered	557
Vehicles Exited	558
Hourly Exit Rate	558
Input Volume	1406
% of Volume	40
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Rd 90B & Rd 8

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	22	59	46
Average Queue (ft)	1	13	5
95th Queue (ft)	11	47	28
Link Distance (ft)	377	690	555
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	WB	SB
Directions Served	LT	LTR
Maximum Queue (ft)	64	101
Average Queue (ft)	9	39
95th Queue (ft)	43	78
Link Distance (ft)	1086	1066
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	NB
Directions Served	LT	R	LTR
Maximum Queue (ft)	32	9	129
Average Queue (ft)	2	0	65
95th Queue (ft)	16	7	105
Link Distance (ft)	1086	623	963
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	2	3	5	6	7	Avg
Start Time	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1620	1621	1612	1678	1625	1630
Vehs Exited	1607	1613	1635	1662	1631	1628
Starting Vehs	42	32	60	42	48	42
Ending Vehs	55	40	37	58	42	44
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	738	727	737	743	737	736
Travel Time (hr)	54.6	39.9	49.8	48.8	40.0	46.6
Total Delay (hr)	25.5	11.0	20.5	19.3	10.4	17.3
Total Stops	1786	1758	1814	1856	1828	1806
Fuel Used (gal)	33.4	29.6	32.6	32.7	30.2	31.7

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	6	7	Avg
Vehs Entered	410	402	396	369	367	387
Vehs Exited	403	392	414	378	384	394
Starting Vehs	42	32	60	42	48	42
Ending Vehs	49	42	42	33	31	38
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	1	0	0	0	0	0
Travel Distance (mi)	184	176	183	167	170	176
Travel Time (hr)	12.9	9.5	12.3	8.4	9.0	10.4
Total Delay (hr)	5.6	2.5	5.0	1.8	2.2	3.4
Total Stops	453	425	436	393	419	426
Fuel Used (gal)	8.1	7.2	8.1	6.8	7.0	7.4

Interval #2 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	5	6	7	Avg
Vehs Entered	424	398	443	464	452	435
Vehs Exited	422	386	427	441	434	421
Starting Vehs	49	42	42	33	31	38
Ending Vehs	51	54	58	56	49	51
Denied Entry Before	1	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	193	176	199	196	198	193
Travel Time (hr)	14.6	10.0	15.9	12.7	11.2	12.9
Total Delay (hr)	7.0	3.0	8.0	4.8	3.2	5.2
Total Stops	448	465	539	494	501	491
Fuel Used (gal)	8.8	7.3	9.3	8.4	8.1	8.4

Interval #3 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	6	7	Avg
Vehs Entered	367	408	387	402	418	397
Vehs Exited	381	423	406	403	414	406
Starting Vehs	51	54	58	56	49	51
Ending Vehs	37	39	39	55	53	44
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	173	193	177	185	189	183
Travel Time (hr)	13.9	10.5	11.8	13.5	10.2	12.0
Total Delay (hr)	7.1	2.9	4.8	6.1	2.6	4.7
Total Stops	411	423	405	469	451	432
Fuel Used (gal)	8.2	7.8	8.0	8.5	7.7	8.0

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	6	7	Avg
Vehs Entered	419	413	386	443	388	409
Vehs Exited	401	412	388	440	399	410
Starting Vehs	37	39	39	55	53	44
Ending Vehs	55	40	37	58	42	44
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	188	181	178	194	180	184
Travel Time (hr)	13.2	9.9	9.8	14.3	9.6	11.4
Total Delay (hr)	5.8	2.6	2.7	6.5	2.4	4.0
Total Stops	474	445	434	500	457	460
Fuel Used (gal)	8.3	7.3	7.3	9.0	7.4	7.9

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.9
Total Del/Veh (s)	0.5	0.1	3.1	2.1	1.7	11.9	0.6	2.7	12.3	12.2	2.8	2.9
Vehicles Entered	25	12	490	47	7	17	32	461	4	5	6	1106
Vehicles Exited	25	12	489	48	7	17	32	460	4	5	6	1105
Hourly Exit Rate	25	12	489	48	7	17	32	460	4	5	6	1105
Input Volume	25	10	490	46	5	15	32	470	5	5	5	1108
% of Volume	101	117	100	104	140	111	101	98	80	100	120	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.3	0.3	0.1
Total Delay (hr)	0.3	0.3	0.4	0.6	3.6	5.7	11.0
Total Del/Veh (s)	5.0	4.2	12.3	7.1	112.3	93.0	30.4
Vehicles Entered	222	289	125	326	112	215	1289
Vehicles Exited	221	289	126	326	112	215	1289
Hourly Exit Rate	221	289	126	326	112	215	1289
Input Volume	230	290	125	332	115	210	1302
% of Volume	96	100	101	98	97	102	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.3	0.3	0.2
Total Delay (hr)	0.2	0.1	0.0	0.0	2.4	0.7	3.5
Total Del/Veh (s)	4.3	2.8	0.5	0.4	29.9	24.9	12.8
Vehicles Entered	154	179	152	96	280	106	967
Vehicles Exited	152	180	152	96	278	106	964
Hourly Exit Rate	152	180	152	96	278	106	964
Input Volume	155	186	150	95	285	100	972
% of Volume	98	97	101	101	97	106	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.2	0.2	0.2	0.1	0.0	1.0
Total Del/Veh (s)	6.7	4.4	7.5	5.8	6.3	2.9	6.0
Vehicles Entered	161	145	78	150	79	10	623
Vehicles Exited	161	144	78	149	79	10	621
Hourly Exit Rate	161	144	78	149	79	10	621
Input Volume	165	150	75	150	81	10	630
% of Volume	98	96	104	99	98	98	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.1	0.1	0.0	0.5
Total Del/Veh (s)	4.3	1.4	3.9	1.2	0.5	1.7
Vehicles Entered	91	383	96	270	164	1004
Vehicles Exited	92	383	96	270	164	1005
Hourly Exit Rate	92	383	96	270	164	1005
Input Volume	95	390	100	268	165	1018
% of Volume	97	98	96	101	99	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	17.2
Total Del/Veh (s)	37.0
Vehicles Entered	1630
Vehicles Exited	1628
Hourly Exit Rate	1628
Input Volume	6520
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Bird Creek Rd & Rd 8

Movement	WB	NB	NB	SB
Directions Served	LTR	LT	R	LTR
Maximum Queue (ft)	73	47	72	20
Average Queue (ft)	17	15	4	6
95th Queue (ft)	53	43	48	19
Link Distance (ft)	316	286	286	536
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	WB	SB
Directions Served	TR	LT	LTR
Maximum Queue (ft)	53	298	637
Average Queue (ft)	5	91	331
95th Queue (ft)	26	209	706
Link Distance (ft)	316	1090	1065
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	NB
Directions Served	LT	R	LTR
Maximum Queue (ft)	95	12	400
Average Queue (ft)	28	0	176
95th Queue (ft)	70	8	363
Link Distance (ft)	1090	611	1014
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	112	108	79	112	79
Average Queue (ft)	53	49	40	53	40
95th Queue (ft)	90	85	70	92	69
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	SB	SB
Directions Served	R	TR	LT	TR
Maximum Queue (ft)	84	5	98	32
Average Queue (ft)	37	0	29	1
95th Queue (ft)	67	2	78	23
Link Distance (ft)	170	173	286	286
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	5	6	7	Avg
Start Time	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1845	1857	1816	1846	1860	1844
Vehs Exited	1816	1832	1764	1840	1821	1815
Starting Vehs	59	82	32	58	46	54
Ending Vehs	88	107	84	64	85	85
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	55	16	2	0	44	24
Travel Distance (mi)	834	823	813	819	829	824
Travel Time (hr)	104.8	109.5	59.8	61.4	87.8	84.7
Total Delay (hr)	71.4	76.6	27.4	28.7	54.5	51.7
Total Stops	1859	1800	2080	2045	1995	1953
Fuel Used (gal)	47.1	47.8	36.7	37.6	43.1	42.5

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	5	6	7	Avg
Vehs Entered	446	477	456	433	476	456
Vehs Exited	453	485	433	448	454	456
Starting Vehs	59	82	32	58	46	54
Ending Vehs	52	74	55	43	68	58
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	25	0	0	0	5
Travel Distance (mi)	208	210	198	195	208	204
Travel Time (hr)	15.9	20.9	10.1	10.3	13.6	14.2
Total Delay (hr)	7.6	12.5	2.2	2.5	5.3	6.0
Total Stops	524	496	503	471	576	513
Fuel Used (gal)	9.4	10.8	7.9	8.0	9.1	9.0

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	5	6	7	Avg
Vehs Entered	513	478	478	503	470	487
Vehs Exited	485	481	468	462	458	470
Starting Vehs	52	74	55	43	68	58
Ending Vehs	80	71	65	84	80	80
Denied Entry Before	0	25	0	0	0	5
Denied Entry After	46	47	3	5	23	24
Travel Distance (mi)	221	217	215	211	207	214
Travel Time (hr)	22.1	30.0	16.6	18.0	20.0	21.4
Total Delay (hr)	13.2	21.3	8.0	9.5	11.7	12.8
Total Stops	552	513	561	575	492	537
Fuel Used (gal)	11.2	12.8	9.9	10.2	10.3	10.9

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	5	6	7	Avg
Vehs Entered	434	442	445	443	465	445
Vehs Exited	442	442	433	460	455	447
Starting Vehs	80	71	65	84	80	80
Ending Vehs	72	71	77	67	90	76
Denied Entry Before	46	47	3	5	23	24
Denied Entry After	62	36	0	0	30	25
Travel Distance (mi)	200	200	202	205	206	202
Travel Time (hr)	34.0	29.9	15.9	17.8	24.3	24.4
Total Delay (hr)	26.0	21.9	7.9	9.6	15.9	16.3
Total Stops	377	382	521	471	473	447
Fuel Used (gal)	13.3	12.5	9.4	9.9	11.3	11.3

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	5	6	7	Avg
Vehs Entered	452	460	437	467	449	452
Vehs Exited	436	424	430	470	454	443
Starting Vehs	72	71	77	67	90	76
Ending Vehs	88	107	84	64	85	85
Denied Entry Before	62	36	0	0	30	25
Denied Entry After	55	16	2	0	44	24
Travel Distance (mi)	205	196	198	209	208	203
Travel Time (hr)	32.8	28.7	17.2	15.4	29.9	24.8
Total Delay (hr)	24.7	20.8	9.3	7.0	21.6	16.7
Total Stops	406	409	495	528	454	461
Fuel Used (gal)	13.1	11.7	9.6	9.5	12.4	11.3

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.5	0.0	1.3
Total Del/Veh (s)	0.5	0.2	3.5	2.5	1.9	18.2	0.8	3.5	21.1	3.5
Vehicles Entered	45	18	556	45	7	25	38	556	4	1294
Vehicles Exited	45	18	555	45	7	25	38	556	4	1293
Hourly Exit Rate	45	18	555	45	7	25	38	556	4	1293
Input Volume	45	15	595	50	5	20	38	550	5	1323
% of Volume	100	118	93	90	140	127	100	101	80	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.6	0.9	0.2
Total Delay (hr)	0.5	0.5	0.4	0.8	1.5	2.9	6.5
Total Del/Veh (s)	5.7	5.1	15.3	7.1	70.3	45.9	16.6
Vehicles Entered	294	330	87	392	75	224	1402
Vehicles Exited	294	329	87	390	72	217	1389
Hourly Exit Rate	294	329	87	390	72	217	1389
Input Volume	294	330	90	419	75	230	1438
% of Volume	100	100	97	93	96	94	97
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	1	1

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	10.1	5.4	15.5
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	108.9	115.9	49.7
Total Delay (hr)	0.3	0.1	0.0	0.0	17.0	8.2	25.8
Total Del/Veh (s)	5.2	3.5	0.6	0.5	186.1	178.8	82.6
Vehicles Entered	222	139	148	113	319	160	1101
Vehicles Exited	222	140	147	113	308	153	1083
Hourly Exit Rate	222	140	147	113	308	153	1083
Input Volume	220	141	150	115	335	165	1126
% of Volume	101	99	98	98	92	93	96
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	16	7	23

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.4	0.3	0.2	0.4	0.2	0.0	1.5
Total Del/Veh (s)	7.5	5.8	7.8	6.7	6.8	3.3	6.7
Vehicles Entered	186	213	74	221	92	14	800
Vehicles Exited	187	212	74	221	92	15	801
Hourly Exit Rate	187	212	74	221	92	15	801
Input Volume	175	220	75	235	96	15	816
% of Volume	107	96	99	94	96	98	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	0.2	0.1	0.2	0.0	0.7
Total Del/Veh (s)	5.4	1.4	5.6	1.6	0.5	2.0
Vehicles Entered	105	473	92	361	154	1185
Vehicles Exited	105	474	91	361	154	1185
Hourly Exit Rate	105	474	91	361	154	1185
Input Volume	100	470	100	380	165	1215
% of Volume	105	101	91	95	93	98
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	15.7
Denied Del/Veh (s)	30.2
Total Delay (hr)	36.1
Total Del/Veh (s)	68.3
Vehicles Entered	1844
Vehicles Exited	1815
Hourly Exit Rate	1815
Input Volume	7623
% of Volume	24
Denied Entry Before	0
Denied Entry After	24

Intersection: 1: Bird Creek Rd & Rd 8

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	8	85	56	175	17
Average Queue (ft)	0	30	22	22	2
95th Queue (ft)	4	70	50	109	11
Link Distance (ft)	582	316	286	286	536
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	WB	SB
Directions Served	TR	LT	LTR
Maximum Queue (ft)	31	258	579
Average Queue (ft)	4	93	188
95th Queue (ft)	20	206	474
Link Distance (ft)	316	1090	1065
Upstream Blk Time (%)			1
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	NB
Directions Served	LT	R	LTR
Maximum Queue (ft)	128	14	1075
Average Queue (ft)	39	1	831
95th Queue (ft)	87	5	1351
Link Distance (ft)	1090	611	1014
Upstream Blk Time (%)			50
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	125	163	78	131	87
Average Queue (ft)	59	64	38	64	45
95th Queue (ft)	96	114	66	105	72
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	SB	SB
Directions Served	R	TR	LT	TR
Maximum Queue (ft)	97	9	174	34
Average Queue (ft)	43	0	45	1
95th Queue (ft)	75	5	116	25
Link Distance (ft)	170	173	286	286
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

APPENDIX D: WARRANT ANALYSIS

MUTCD WARRANT 3, PEAK HOUR

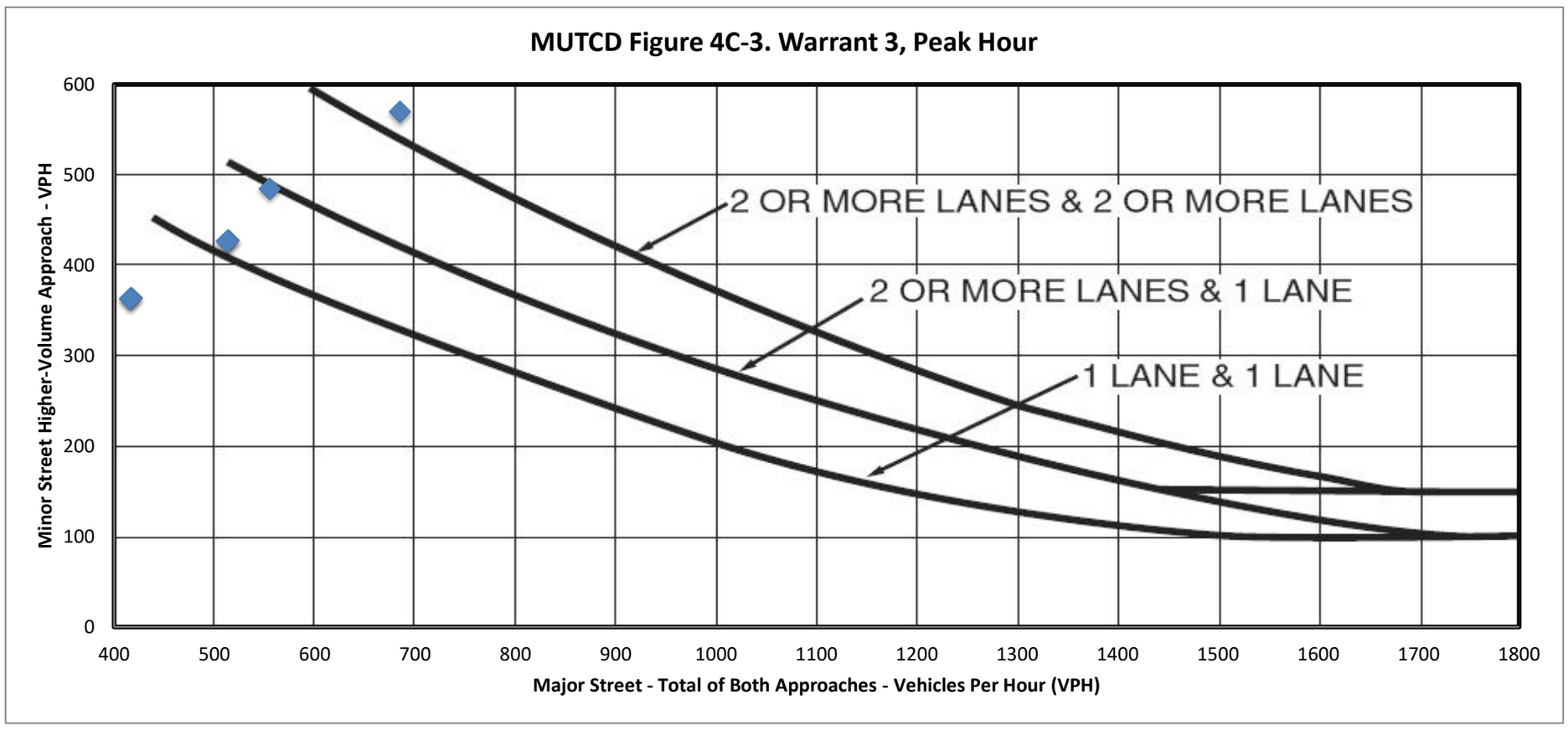
Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

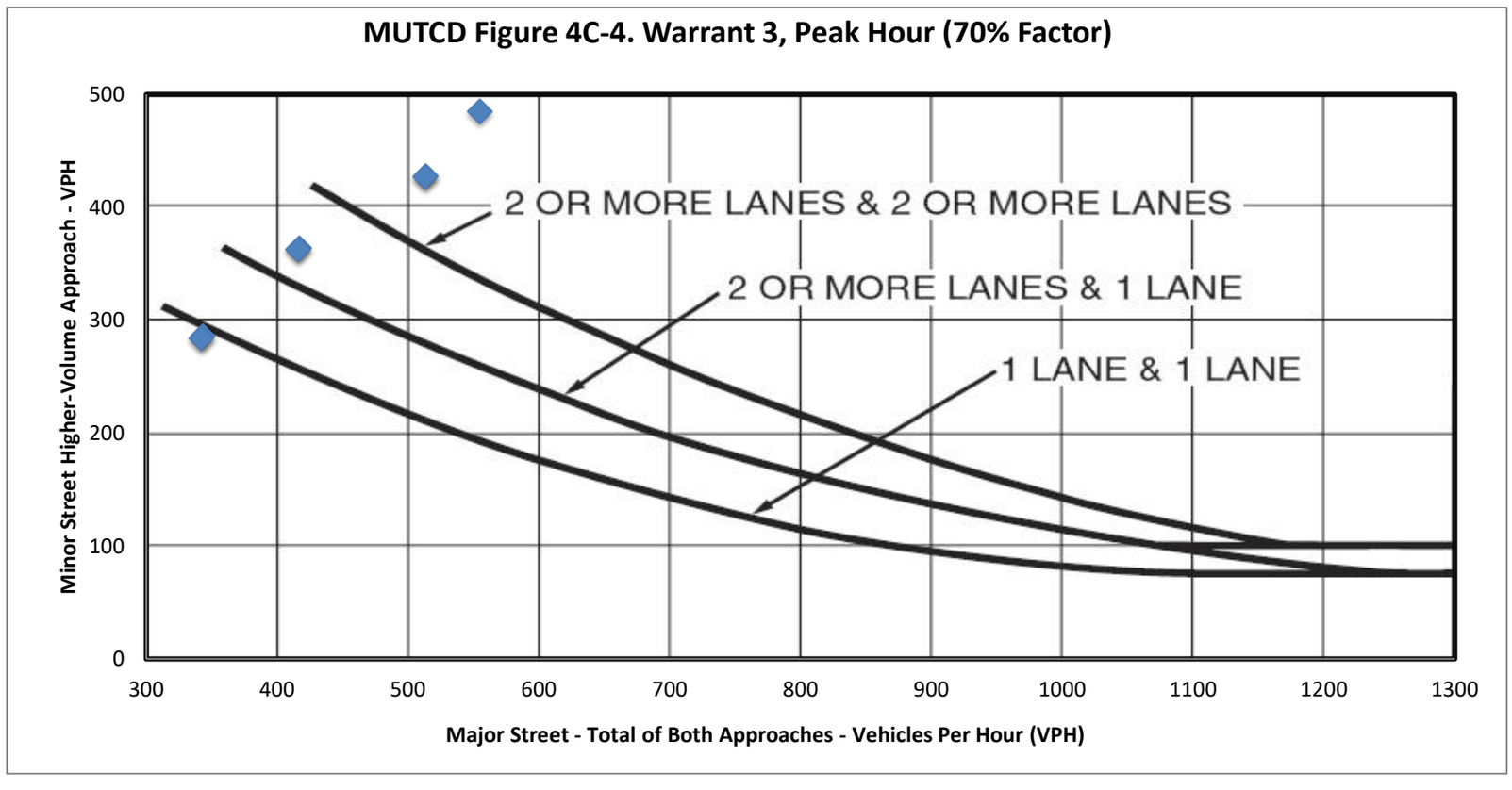
Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	Yes

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	Yes
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	Yes
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	Yes
**If applicable, attach all supporting calculations and documentation.*	

Total Number of Unique Hours Met On Figure 4C-4
2

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
6:45 AM	0	0	
7:00 AM	0	0	
7:15 AM	139	122	
7:30 AM	278	243	
7:45 AM	417	364	Met
8:00 AM	555	485	Met
8:15 AM	416	363	Met
8:30 AM	277	242	
8:45 AM	138	121	
9:00 AM	0	0	
9:15 AM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	0	0	
3:30 PM	0	0	
3:45 PM	172	143	
4:00 PM	343	286	
4:15 PM	514	428	Met
4:30 PM	685	570	Met
4:45 PM	513	427	Met
5:00 PM	342	284	
5:15 PM	171	142	
5:30 PM	0	0	
5:45 PM	0	0	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	


MUTCD Figure 4C-3. Warrant 3, Peak Hour
Minor Street Higher-Volume Approach - VPH
600
500
400
300
200
100
0
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE


MUTCD Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
Minor Street Higher-Volume Approach - VPH
500
400
300
200
100
0
300
400
500
600
700
800
900
1000
1100
1200
1300
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE

MUTCD WARRANT 3, PEAK HOUR

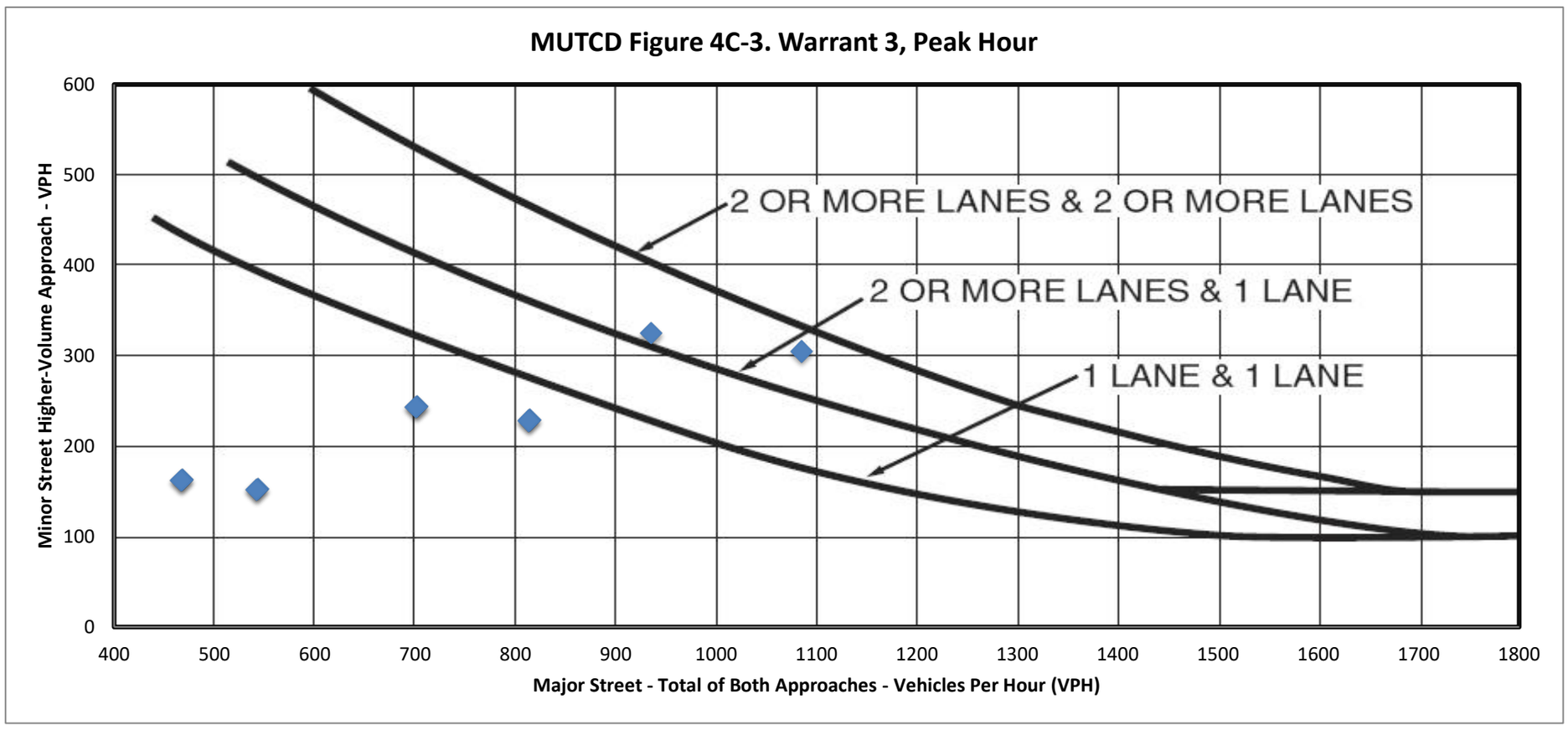
Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

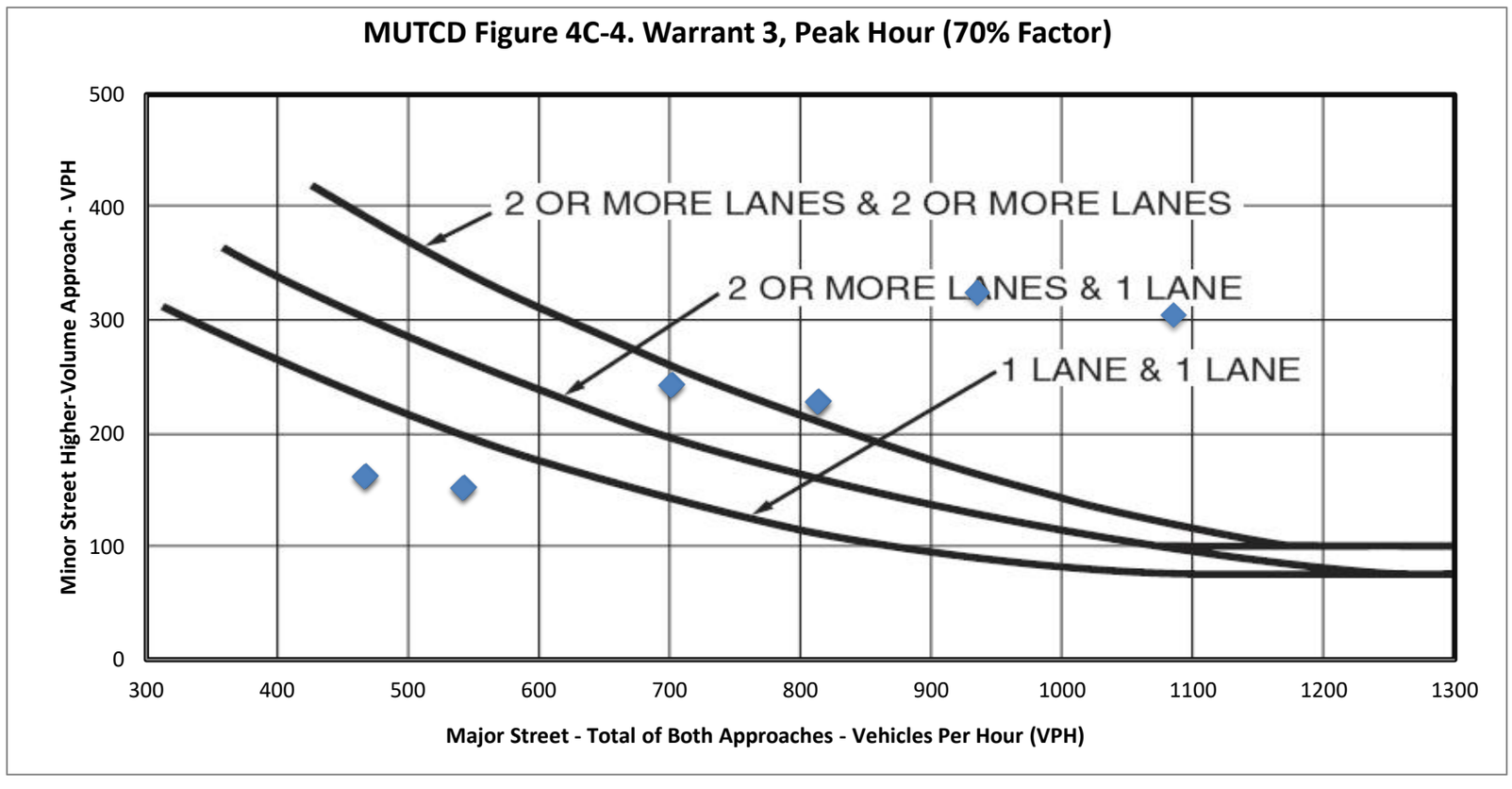
Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	Yes

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	Yes
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	Yes
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	Yes
**If applicable, attach all supporting calculations and documentation.*	

Total Number of Unique Hours Met On Figure 4C-4
2

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
6:45 AM	0	0	
7:00 AM	0	0	
7:15 AM	234	82	
7:30 AM	468	163	
7:45 AM	702	244	Met
8:00 AM	935	325	Met
8:15 AM	701	243	Met
8:30 AM	467	162	
8:45 AM	233	81	
9:00 AM	0	0	
9:15 AM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	0	0	
3:30 PM	0	0	
3:45 PM	272	77	
4:00 PM	543	153	
4:15 PM	814	229	Met
4:30 PM	1085	305	Met
4:45 PM	813	228	Met
5:00 PM	542	152	
5:15 PM	271	76	
5:30 PM	0	0	
5:45 PM	0	0	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	


MUTCD Figure 4C-3. Warrant 3, Peak Hour
Minor Street Higher-Volume Approach - VPH
600
500
400
300
200
100
0
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)


MUTCD Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
Minor Street Higher-Volume Approach - VPH
500
400
300
200
100
0
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE
300
400
500
600
700
800
900
1000
1100
1200
1300
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)

MUTCD WARRANT 3, PEAK HOUR

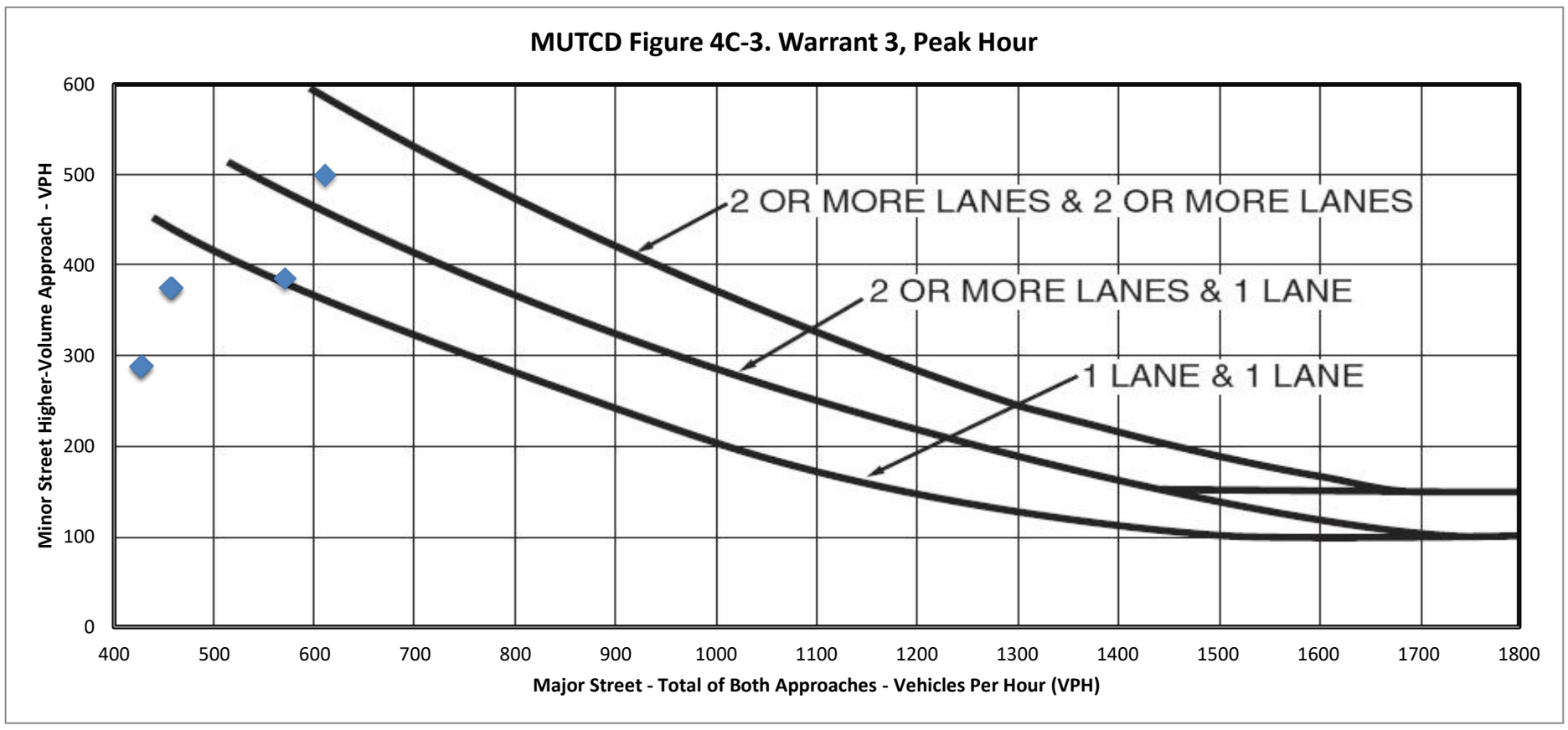
Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

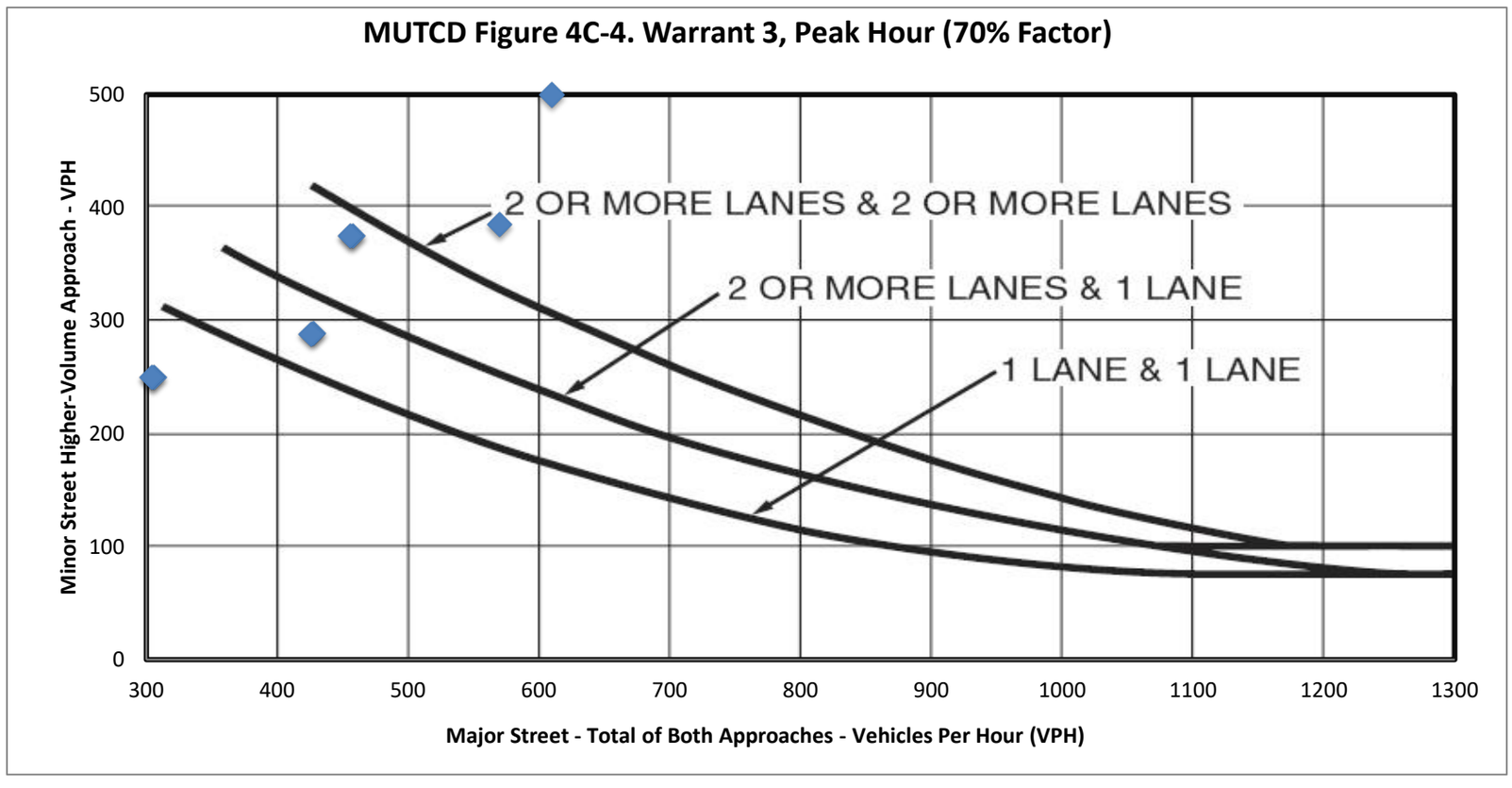
Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	Yes

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	Yes
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	Yes
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	Yes
**If applicable, attach all supporting calculations and documentation.*	

Total Number of Unique Hours Met On Figure 4C-4
2

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
6:45 AM	0	0	
7:00 AM	0	0	
7:15 AM	144	97	
7:30 AM	286	193	
7:45 AM	428	289	Met
8:00 AM	570	385	Met
8:15 AM	426	288	Met
8:30 AM	284	192	
8:45 AM	142	96	
9:00 AM	0	0	
9:15 AM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	0	0	
3:30 PM	0	0	
3:45 PM	154	125	
4:00 PM	306	250	
4:15 PM	458	375	Met
4:30 PM	610	500	Met
4:45 PM	456	375	Met
5:00 PM	304	250	
5:15 PM	152	125	
5:30 PM	0	0	
5:45 PM	0	0	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	


MUTCD Figure 4C-3. Warrant 3, Peak Hour
Minor Street Higher-Volume Approach - VPH
600
500
400
300
200
100
0
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE


MUTCD Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
Minor Street Higher-Volume Approach - VPH
500
400
300
200
100
0
300
400
500
600
700
800
900
1000
1100
1200
1300
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE

MUTCD WARRANT 3, PEAK HOUR

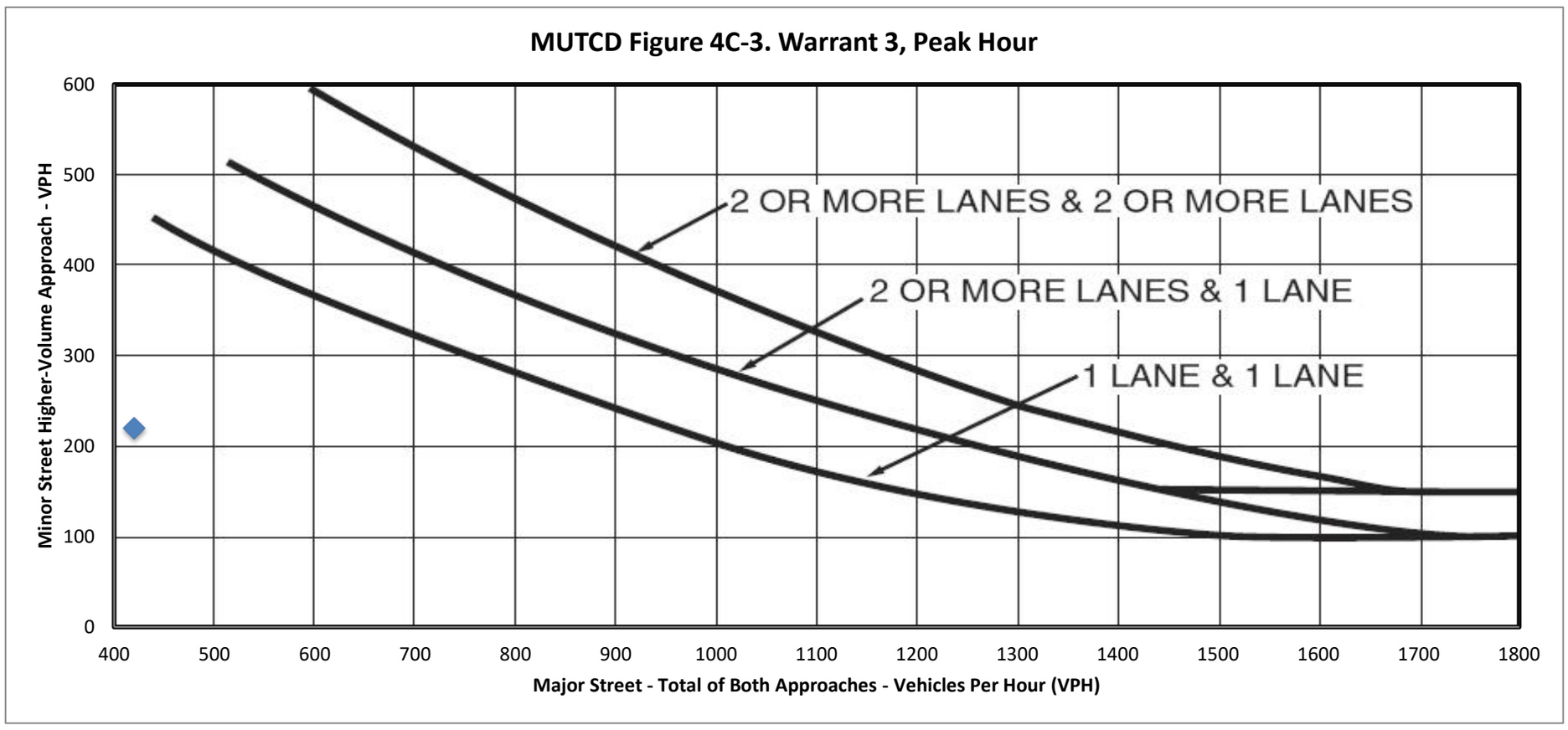
Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

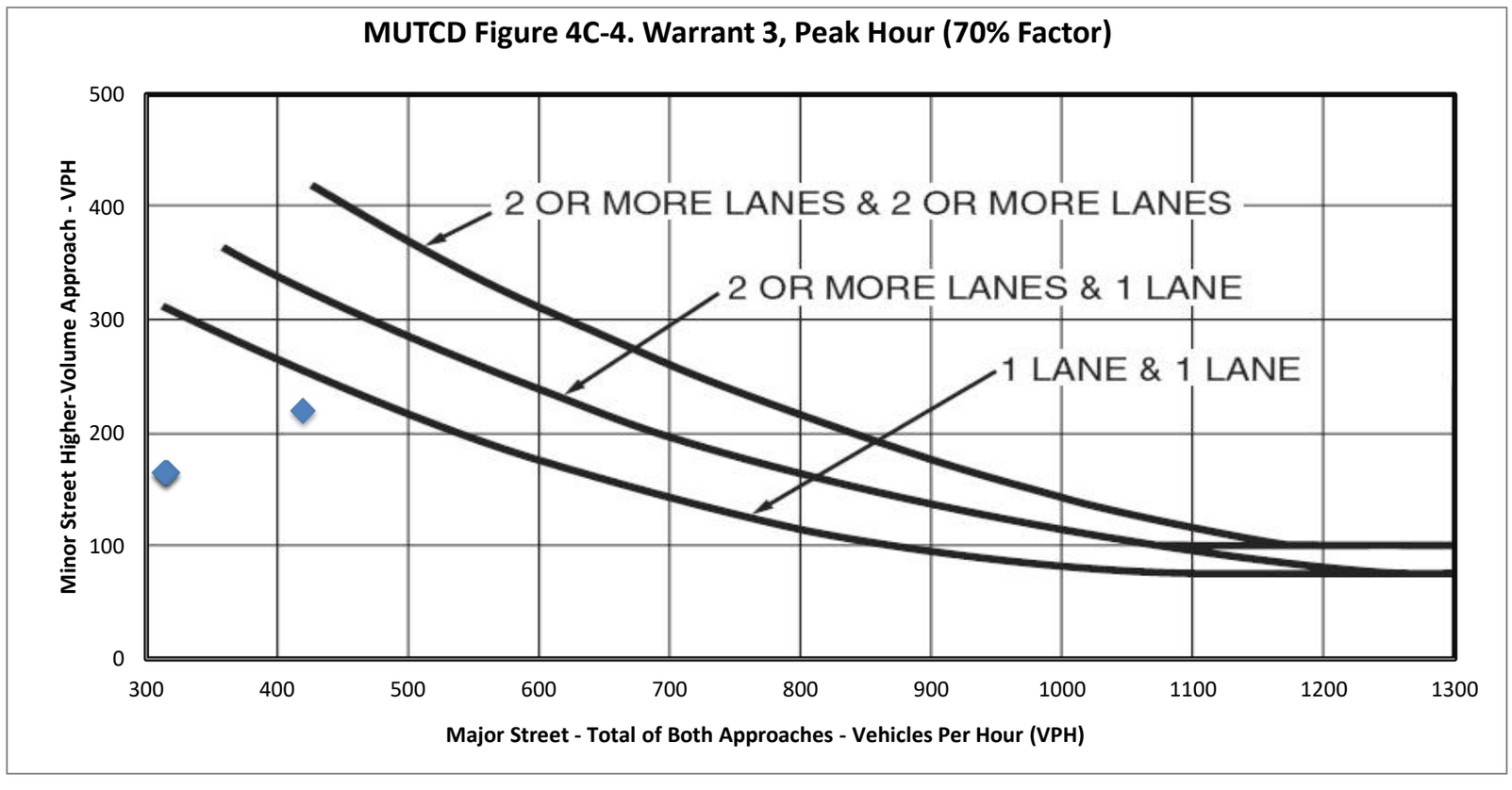
Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No
Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	Yes

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	Yes
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	Yes
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	Yes
**If applicable, attach all supporting calculations and documentation.*	

Total Number of Unique Hours Met On Figure 4C-3
0

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
6:45 AM	0	0	
7:00 AM	0	0	
7:15 AM	79	42	
7:30 AM	158	83	
7:45 AM	237	124	
8:00 AM	315	165	
8:15 AM	236	123	
8:30 AM	157	82	
8:45 AM	78	41	
9:00 AM	0	0	
9:15 AM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	0	0	
3:30 PM	0	0	
3:45 PM	106	55	
4:00 PM	211	110	
4:15 PM	316	165	
4:30 PM	420	220	
4:45 PM	314	165	
5:00 PM	209	110	
5:15 PM	104	55	
5:30 PM	0	0	
5:45 PM	0	0	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	


MUTCD Figure 4C-3. Warrant 3, Peak Hour
Minor Street Higher-Volume Approach - VPH
600
500
400
300
200
100
0
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)


MUTCD Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
Minor Street Higher-Volume Approach - VPH
500
400
300
200
100
0
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE
300
400
500
600
700
800
900
1000
1100
1200
1300
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)

APPENDIX E: MITIGATION SCENARIOS SIMTRAFFIC ANALYSIS WORKSHEETS

Summary of All Intervals

Run Number	2	3	4	5	7	Avg
Start Time	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1617	1637	1613	1582	1633	1618
Vehs Exited	1614	1626	1614	1600	1627	1615
Starting Vehs	41	29	37	47	44	38
Ending Vehs	44	40	36	29	50	37
Denied Entry Before	1	0	0	0	0	0
Denied Entry After	1	0	0	0	0	0
Travel Distance (mi)	734	733	729	714	735	729
Travel Time (hr)	38.5	38.5	38.5	38.1	39.1	38.6
Total Delay (hr)	9.5	9.3	9.3	9.7	9.6	9.5
Total Stops	3575	3630	3601	3565	3701	3617
Fuel Used (gal)	30.7	30.6	30.6	30.3	30.7	30.6

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	5	7	Avg
Vehs Entered	405	409	393	394	379	396
Vehs Exited	420	396	391	402	392	400
Starting Vehs	41	29	37	47	44	38
Ending Vehs	26	42	39	39	31	36
Denied Entry Before	1	0	0	0	0	0
Denied Entry After	1	0	1	1	0	1
Travel Distance (mi)	186	180	180	177	173	179
Travel Time (hr)	9.6	9.5	9.5	9.3	9.2	9.4
Total Delay (hr)	2.2	2.3	2.3	2.1	2.3	2.2
Total Stops	900	892	903	864	861	884
Fuel Used (gal)	7.7	7.6	7.6	7.4	7.3	7.5

Interval #2 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	4	5	7	Avg
Vehs Entered	430	404	416	434	461	430
Vehs Exited	418	406	408	425	447	420
Starting Vehs	26	42	39	39	31	36
Ending Vehs	38	40	47	48	45	42
Denied Entry Before	1	0	1	1	0	1
Denied Entry After	0	0	2	0	0	0
Travel Distance (mi)	191	183	189	199	205	193
Travel Time (hr)	10.0	9.7	10.0	11.2	11.1	10.4
Total Delay (hr)	2.4	2.4	2.4	3.3	2.9	2.7
Total Stops	910	911	926	1002	1019	951
Fuel Used (gal)	8.0	7.7	7.8	8.5	8.5	8.1

Interval #3 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	5	7	Avg
Vehs Entered	368	410	389	372	396	385
Vehs Exited	371	413	403	386	401	394
Starting Vehs	38	40	47	48	45	42
Ending Vehs	35	37	33	34	40	34
Denied Entry Before	0	0	2	0	0	0
Denied Entry After	0	0	0	0	1	0
Travel Distance (mi)	170	189	178	165	179	176
Travel Time (hr)	8.9	9.9	9.4	8.6	9.4	9.2
Total Delay (hr)	2.2	2.4	2.3	2.1	2.1	2.2
Total Stops	835	924	858	831	899	869
Fuel Used (gal)	7.2	7.9	7.6	7.1	7.4	7.4

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	5	7	Avg
Vehs Entered	414	414	415	382	397	406
Vehs Exited	405	411	412	387	387	402
Starting Vehs	35	37	33	34	40	34
Ending Vehs	44	40	36	29	50	37
Denied Entry Before	0	0	0	0	1	0
Denied Entry After	1	0	0	0	0	0
Travel Distance (mi)	188	180	182	173	178	180
Travel Time (hr)	10.1	9.5	9.7	9.1	9.5	9.6
Total Delay (hr)	2.7	2.2	2.4	2.2	2.3	2.4
Total Stops	930	903	914	868	922	909
Fuel Used (gal)	7.9	7.4	7.6	7.3	7.5	7.5

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	1.1	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.7
Total Del/Veh (s)	6.5	3.5	8.3	4.9	4.4	5.2	0.5	2.9	5.0	7.3	2.0	5.5
Vehicles Entered	26	12	494	46	7	13	32	455	4	4	6	1099
Vehicles Exited	25	12	495	46	7	13	32	454	4	4	6	1098
Hourly Exit Rate	25	12	495	46	7	13	32	454	4	4	6	1098
Input Volume	25	10	490	46	5	15	32	470	5	5	5	1108
% of Volume	101	117	101	100	140	85	101	97	80	80	120	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.6	3.0	0.6
Total Delay (hr)	0.6	0.6	0.3	1.0	0.2	0.3	3.0
Total Del/Veh (s)	9.5	7.0	9.9	10.8	7.2	4.2	8.2
Vehicles Entered	219	284	123	328	113	216	1283
Vehicles Exited	219	285	124	328	113	217	1286
Hourly Exit Rate	219	285	124	328	113	217	1286
Input Volume	230	290	125	332	115	210	1302
% of Volume	95	98	99	99	98	103	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.5	3.1	0.5
Total Delay (hr)	0.5	0.6	0.4	0.1	0.7	0.1	2.4
Total Del/Veh (s)	11.4	12.2	8.6	3.2	9.4	4.8	9.0
Vehicles Entered	153	178	151	99	281	100	962
Vehicles Exited	154	178	151	98	279	100	960
Hourly Exit Rate	154	178	151	98	279	100	960
Input Volume	155	186	150	95	285	100	972
% of Volume	99	95	101	103	98	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.2	0.2	0.2	0.1	0.0	1.0
Total Del/Veh (s)	6.6	4.4	7.3	5.5	6.3	3.6	5.8
Vehicles Entered	157	142	77	148	83	10	617
Vehicles Exited	156	143	77	147	83	10	616
Hourly Exit Rate	156	143	77	147	83	10	616
Input Volume	165	150	75	150	81	10	630
% of Volume	95	95	103	98	103	98	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.1	0.1	0.0	0.5
Total Del/Veh (s)	4.3	1.4	4.0	1.5	1.0	1.9
Vehicles Entered	92	375	98	274	162	1001
Vehicles Exited	92	374	97	273	163	999
Hourly Exit Rate	92	374	97	273	163	999
Input Volume	95	390	100	268	165	1018
% of Volume	97	96	97	102	99	98
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.9
Total Delay (hr)	9.1
Total Del/Veh (s)	19.8
Vehicles Entered	1618
Vehicles Exited	1615
Hourly Exit Rate	1615
Input Volume	6520
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Bird Creek Rd & Rd 8

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (ft)	58	162	48	42	134	25
Average Queue (ft)	23	75	20	11	13	7
95th Queue (ft)	51	122	46	37	80	24
Link Distance (ft)	586	310	310	268	268	538
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	EB	WB	SB	SB
Directions Served	T	R	LT	LT	R
Maximum Queue (ft)	94	114	151	90	104
Average Queue (ft)	45	36	77	42	45
95th Queue (ft)	76	78	121	74	77
Link Distance (ft)	310	310	1083	1080	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	WB	NB	NB
Directions Served	LT	T	R	LT	R
Maximum Queue (ft)	187	80	75	169	96
Average Queue (ft)	70	40	26	78	43
95th Queue (ft)	137	72	57	137	74
Link Distance (ft)	1083	597	597	1014	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	96	105	74	100	90
Average Queue (ft)	51	49	39	50	41
95th Queue (ft)	85	85	67	83	72
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	SB
Directions Served	R	TR	LT
Maximum Queue (ft)	80	5	106
Average Queue (ft)	39	0	26
95th Queue (ft)	67	2	65
Link Distance (ft)	170	173	268
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	2	3	4	5	7	Avg
Start Time	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1872	1872	1835	1828	1898	1858
Vehs Exited	1905	1869	1846	1829	1890	1866
Starting Vehs	72	50	55	39	50	51
Ending Vehs	39	53	44	38	58	44
Denied Entry Before	1	0	0	0	1	0
Denied Entry After	0	0	1	0	0	0
Travel Distance (mi)	854	841	838	833	852	844
Travel Time (hr)	48.0	46.5	46.4	46.1	47.2	46.8
Total Delay (hr)	13.8	12.8	12.8	12.9	13.0	13.1
Total Stops	4407	4334	4361	4287	4407	4358
Fuel Used (gal)	36.8	35.9	35.6	35.6	36.3	36.1

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	5	7	Avg
Vehs Entered	484	482	434	457	472	465
Vehs Exited	514	483	438	442	462	468
Starting Vehs	72	50	55	39	50	51
Ending Vehs	42	49	51	54	60	50
Denied Entry Before	1	0	0	0	1	0
Denied Entry After	0	0	0	1	0	0
Travel Distance (mi)	221	216	206	198	207	210
Travel Time (hr)	12.8	12.0	11.2	10.7	11.2	11.6
Total Delay (hr)	3.9	3.4	2.9	2.8	2.9	3.2
Total Stops	1120	1103	1055	1018	1068	1071
Fuel Used (gal)	9.6	9.3	8.9	8.3	8.8	9.0

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	4	5	7	Avg
Vehs Entered	490	478	464	478	497	479
Vehs Exited	495	471	460	488	504	484
Starting Vehs	42	49	51	54	60	50
Ending Vehs	37	56	55	44	53	48
Denied Entry Before	0	0	0	1	0	0
Denied Entry After	1	0	0	2	0	0
Travel Distance (mi)	226	215	214	223	226	221
Travel Time (hr)	13.2	12.0	12.2	12.6	12.6	12.5
Total Delay (hr)	4.1	3.4	3.8	3.7	3.5	3.7
Total Stops	1200	1105	1121	1145	1135	1141
Fuel Used (gal)	9.9	9.3	9.0	9.6	9.5	9.5

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	5	7	Avg
Vehs Entered	440	454	449	456	450	448
Vehs Exited	434	461	461	442	454	452
Starting Vehs	37	56	55	44	53	48
Ending Vehs	43	49	43	58	49	44
Denied Entry Before	1	0	0	2	0	0
Denied Entry After	1	2	0	0	0	0
Travel Distance (mi)	193	197	202	209	203	201
Travel Time (hr)	10.1	10.8	11.0	11.5	11.3	11.0
Total Delay (hr)	2.5	2.9	2.9	3.2	3.1	2.9
Total Stops	988	1014	1056	1089	1055	1041
Fuel Used (gal)	8.2	8.7	8.6	8.9	8.6	8.6

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	5	7	Avg
Vehs Entered	458	458	488	437	479	463
Vehs Exited	462	454	487	457	470	467
Starting Vehs	43	49	43	58	49	44
Ending Vehs	39	53	44	38	58	44
Denied Entry Before	1	2	0	0	0	0
Denied Entry After	0	0	1	0	0	0
Travel Distance (mi)	214	213	217	204	217	213
Travel Time (hr)	11.9	11.7	12.0	11.3	12.2	11.8
Total Delay (hr)	3.3	3.1	3.2	3.1	3.5	3.3
Total Stops	1099	1112	1129	1035	1149	1105
Fuel Used (gal)	9.1	8.8	9.1	8.8	9.3	9.0

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.1	0.0	1.6	0.1	0.0	0.0	0.0	0.7	0.0	2.5
Total Del/Veh (s)	6.8	3.1	9.6	5.0	4.7	5.5	1.1	4.5	5.0	6.8
Vehicles Entered	48	17	593	48	6	22	36	551	4	1325
Vehicles Exited	48	16	593	48	6	22	36	551	4	1324
Hourly Exit Rate	48	16	593	48	6	22	36	551	4	1324
Input Volume	45	15	595	50	5	20	38	550	5	1323
% of Volume	107	105	100	96	120	111	95	100	80	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.7	3.0	0.5
Total Delay (hr)	0.9	0.8	0.2	1.2	0.1	0.3	3.5
Total Del/Veh (s)	10.7	8.4	9.9	10.2	6.8	4.5	8.8
Vehicles Entered	296	326	90	419	76	228	1435
Vehicles Exited	296	325	89	420	77	229	1436
Hourly Exit Rate	296	325	89	420	77	229	1436
Input Volume	294	330	90	419	75	230	1438
% of Volume	101	98	99	100	103	100	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.7	3.1	0.7
Total Delay (hr)	0.9	0.6	0.4	0.1	1.3	0.3	3.6
Total Del/Veh (s)	14.5	15.1	10.1	4.0	13.8	5.7	11.5
Vehicles Entered	223	144	145	108	339	162	1121
Vehicles Exited	226	144	145	108	340	163	1126
Hourly Exit Rate	226	144	145	108	340	163	1126
Input Volume	220	141	150	115	335	165	1126
% of Volume	103	102	97	94	101	99	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.2	0.0	0.0	0.0	0.1
Total Delay (hr)	0.4	0.3	0.2	0.4	0.2	0.0	1.5
Total Del/Veh (s)	7.5	5.6	8.2	6.6	6.7	3.3	6.6
Vehicles Entered	173	217	80	241	93	16	820
Vehicles Exited	173	218	80	242	93	16	822
Hourly Exit Rate	173	218	80	242	93	16	822
Input Volume	175	220	75	235	96	15	816
% of Volume	99	99	107	103	97	105	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.0	0.0	0.0
Total Delay (hr)	0.2	0.2	0.1	0.2	0.0	0.8
Total Del/Veh (s)	5.6	1.5	5.2	1.9	0.9	2.2
Vehicles Entered	100	472	103	380	165	1220
Vehicles Exited	100	473	103	379	164	1219
Hourly Exit Rate	100	473	103	379	164	1219
Input Volume	100	470	100	380	165	1215
% of Volume	100	101	103	100	99	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.5
Denied Del/Veh (s)	1.0
Total Delay (hr)	12.6
Total Del/Veh (s)	23.7
Vehicles Entered	1858
Vehicles Exited	1866
Hourly Exit Rate	1866
Input Volume	7623
% of Volume	24
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Bird Creek Rd & Rd 8

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (ft)	54	188	53	43	242	21
Average Queue (ft)	29	90	21	17	48	3
95th Queue (ft)	49	146	48	45	181	15
Link Distance (ft)	586	310	310	268	268	538
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					1	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	EB	WB	SB	SB
Directions Served	T	R	LT	LT	R
Maximum Queue (ft)	120	88	120	70	91
Average Queue (ft)	54	43	74	35	47
95th Queue (ft)	95	76	109	63	81
Link Distance (ft)	310	310	1083	1080	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	WB	NB	NB
Directions Served	LT	T	R	LT	R
Maximum Queue (ft)	228	110	93	228	175
Average Queue (ft)	84	46	31	100	55
95th Queue (ft)	165	88	66	180	111
Link Distance (ft)	1083	597	597	1014	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)				0	0
Queuing Penalty (veh)				1	0

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	114	126	89	124	83
Average Queue (ft)	59	62	41	64	44
95th Queue (ft)	94	105	74	103	71
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	LT	TR
Maximum Queue (ft)	93	18	44	147	9
Average Queue (ft)	44	1	3	44	0
95th Queue (ft)	78	9	26	104	6
Link Distance (ft)	170	173	173	268	268
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 1

Summary of All Intervals

Run Number	1	2	4	6	7	Avg
Start Time	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1663	1611	1620	1654	1639	1637
Vehs Exited	1649	1611	1623	1653	1630	1633
Starting Vehs	33	43	39	35	40	35
Ending Vehs	47	43	36	36	49	40
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	808	785	787	786	792	792
Travel Time (hr)	39.2	38.1	38.5	38.2	38.7	38.5
Total Delay (hr)	6.0	6.0	6.2	6.0	5.9	6.0
Total Stops	1368	1363	1386	1341	1364	1364
Fuel Used (gal)	32.6	31.6	31.5	32.0	31.7	31.9

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	4	6	7	Avg
Vehs Entered	370	399	389	364	377	379
Vehs Exited	375	414	390	365	388	386
Starting Vehs	33	43	39	35	40	35
Ending Vehs	28	28	38	34	29	33
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	1	0	0	0	0
Travel Distance (mi)	178	195	191	172	185	184
Travel Time (hr)	8.6	9.3	9.2	8.2	9.0	8.9
Total Delay (hr)	1.2	1.4	1.4	1.2	1.3	1.3
Total Stops	291	325	323	282	308	304
Fuel Used (gal)	7.3	7.8	7.7	6.9	7.4	7.4

Interval #2 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	4	6	7	Avg
Vehs Entered	473	429	419	458	459	450
Vehs Exited	454	423	410	452	445	439
Starting Vehs	28	28	38	34	29	33
Ending Vehs	47	34	47	40	43	39
Denied Entry Before	0	1	0	0	0	0
Denied Entry After	1	0	1	0	0	0
Travel Distance (mi)	228	207	205	213	218	214
Travel Time (hr)	11.3	10.1	10.3	10.5	10.8	10.6
Total Delay (hr)	1.9	1.6	1.9	1.7	1.8	1.8
Total Stops	416	366	390	403	391	394
Fuel Used (gal)	9.2	8.4	8.2	8.6	8.7	8.6

Interval #3 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	4	6	7	Avg
Vehs Entered	406	367	400	401	407	397
Vehs Exited	415	366	415	401	408	400
Starting Vehs	47	34	47	40	43	39
Ending Vehs	38	35	32	40	42	41
Denied Entry Before	1	0	1	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	200	180	198	197	197	194
Travel Time (hr)	9.6	8.6	9.8	9.6	9.7	9.4
Total Delay (hr)	1.4	1.2	1.6	1.5	1.5	1.5
Total Stops	341	278	365	328	345	330
Fuel Used (gal)	8.0	7.3	8.1	8.0	7.9	7.9

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	4	6	7	Avg
Vehs Entered	414	416	412	431	396	412
Vehs Exited	405	408	408	435	389	410
Starting Vehs	38	35	32	40	42	41
Ending Vehs	47	43	36	36	49	40
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	202	203	192	204	192	199
Travel Time (hr)	9.8	10.1	9.2	9.9	9.3	9.6
Total Delay (hr)	1.5	1.7	1.3	1.5	1.3	1.5
Total Stops	320	394	308	328	320	335
Fuel Used (gal)	8.2	8.1	7.6	8.4	7.7	8.0

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.8
Total Del/Veh (s)	4.9	4.2	2.6	2.2	2.1	2.1	0.4	2.6	4.0	5.0	3.4	2.6
Vehicles Entered	24	13	496	44	6	15	28	459	4	4	5	1098
Vehicles Exited	24	13	496	43	6	15	28	459	4	4	5	1097
Hourly Exit Rate	24	13	496	43	6	15	28	459	4	4	5	1097
Input Volume	25	10	490	46	5	15	32	470	5	5	5	1108
% of Volume	97	127	101	93	120	98	88	98	80	80	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.3	0.1
Total Delay (hr)	0.2	0.2	0.1	0.4	0.2	0.4	1.6
Total Del/Veh (s)	3.4	2.0	4.3	4.9	6.3	6.0	4.3
Vehicles Entered	226	284	121	324	125	217	1297
Vehicles Exited	225	284	121	324	125	218	1297
Hourly Exit Rate	225	284	121	324	125	218	1297
Input Volume	230	290	125	332	115	210	1302
% of Volume	98	98	97	98	108	104	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Denied Del/Veh (s)	0.0	0.0	0.3	0.2	0.5	3.2	0.6
Total Delay (hr)	0.2	0.2	0.3	0.2	0.6	0.2	1.6
Total Del/Veh (s)	3.6	4.1	6.7	5.9	7.8	5.2	5.7
Vehicles Entered	168	180	152	99	274	105	978
Vehicles Exited	169	181	153	98	272	104	977
Hourly Exit Rate	169	181	153	98	272	104	977
Input Volume	155	186	150	95	285	100	972
% of Volume	109	97	102	103	95	104	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.2	0.2	0.3	0.1	0.0	1.0
Total Del/Veh (s)	6.6	4.5	7.2	5.9	6.5	3.2	5.9
Vehicles Entered	161	143	76	154	78	12	624
Vehicles Exited	161	143	76	155	79	12	626
Hourly Exit Rate	161	143	76	155	79	12	626
Input Volume	165	150	75	150	81	10	630
% of Volume	98	95	101	104	98	117	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.1	0.1	0.0	0.5
Total Del/Veh (s)	4.8	1.4	4.4	1.3	0.5	1.8
Vehicles Entered	88	380	99	273	168	1008
Vehicles Exited	88	379	98	270	168	1003
Hourly Exit Rate	88	379	98	270	168	1003
Input Volume	95	390	100	268	165	1018
% of Volume	92	97	98	101	102	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.5
Total Delay (hr)	5.8
Total Del/Veh (s)	12.5
Vehicles Entered	1637
Vehicles Exited	1633
Hourly Exit Rate	1633
Input Volume	6520
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Bird Creek Rd & Rd 8

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LT	LTR
Maximum Queue (ft)	61	83	43	5	31
Average Queue (ft)	12	10	2	0	5
95th Queue (ft)	42	44	26	4	24
Link Distance (ft)	526	170	170	210	493
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	EB	WB	SB
Directions Served	T	R	LT	LTR
Maximum Queue (ft)	93	79	105	148
Average Queue (ft)	28	14	11	59
95th Queue (ft)	69	53	55	115
Link Distance (ft)	170	170	986	1033
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	R
Maximum Queue (ft)	54	143	177	89
Average Queue (ft)	8	58	67	28
95th Queue (ft)	32	107	132	71
Link Distance (ft)	986	544	948	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				250
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	120	98	77	96	80
Average Queue (ft)	52	49	40	52	42
95th Queue (ft)	90	81	68	86	69
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	NB	SB
Directions Served	R	T	TR	LT
Maximum Queue (ft)	83	3	15	141
Average Queue (ft)	39	0	0	36
95th Queue (ft)	69	0	6	85
Link Distance (ft)	170	173	173	210
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	2	3	4	6	7	Avg
Start Time	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1600	1923	1817	1931	1877	1828
Vehs Exited	1602	1926	1818	1934	1864	1830
Starting Vehs	71	49	48	43	33	45
Ending Vehs	69	46	47	40	46	47
Denied Entry Before	0	0	0	0	1	0
Denied Entry After	320	1	0	1	0	64
Travel Distance (mi)	773	922	883	924	895	880
Travel Time (hr)	40.3	47.1	44.1	47.3	45.4	44.8
Total Delay (hr)	8.5	9.2	7.7	9.3	8.4	8.6
Total Stops	1670	1942	1685	1949	1786	1805
Fuel Used (gal)	32.3	38.1	35.9	38.2	36.5	36.2

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	6	7	Avg
Vehs Entered	497	491	437	454	464	468
Vehs Exited	527	494	441	450	444	474
Starting Vehs	71	49	48	43	33	45
Ending Vehs	41	46	44	47	53	44
Denied Entry Before	0	0	0	0	1	0
Denied Entry After	1	0	0	0	0	0
Travel Distance (mi)	243	239	225	214	212	227
Travel Time (hr)	13.4	12.4	11.2	10.6	10.3	11.6
Total Delay (hr)	3.4	2.6	1.9	1.9	1.6	2.3
Total Stops	602	516	442	416	359	467
Fuel Used (gal)	10.3	9.9	9.4	8.8	8.6	9.4

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	4	6	7	Avg
Vehs Entered	505	490	477	516	506	499
Vehs Exited	506	478	463	513	501	491
Starting Vehs	41	46	44	47	53	44
Ending Vehs	40	58	58	50	58	50
Denied Entry Before	1	0	0	0	0	0
Denied Entry After	1	0	0	0	0	0
Travel Distance (mi)	247	233	228	245	243	239
Travel Time (hr)	12.9	11.8	11.4	13.2	12.4	12.4
Total Delay (hr)	2.8	2.3	2.1	3.1	2.5	2.5
Total Stops	550	503	435	606	507	519
Fuel Used (gal)	10.4	9.5	9.1	10.4	9.9	9.9

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	6	7	Avg
Vehs Entered	439	470	430	433	461	447
Vehs Exited	438	477	446	440	466	454
Starting Vehs	40	58	58	50	58	50
Ending Vehs	41	51	42	43	53	44
Denied Entry Before	1	0	0	0	0	0
Denied Entry After	1	0	0	1	0	0
Travel Distance (mi)	208	219	210	209	222	214
Travel Time (hr)	10.2	11.1	10.6	10.1	11.3	10.7
Total Delay (hr)	1.7	2.1	1.9	1.6	2.1	1.9
Total Stops	391	433	395	369	469	411
Fuel Used (gal)	8.6	9.2	8.5	8.4	9.1	8.8

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	2	3	4	6	7	Avg
Vehs Entered	159	472	473	528	446	418
Vehs Exited	131	477	468	531	453	410
Starting Vehs	41	51	42	43	53	44
Ending Vehs	69	46	47	40	46	47
Denied Entry Before	1	0	0	1	0	0
Denied Entry After	320	1	0	1	0	64
Travel Distance (mi)	75	231	220	256	219	200
Travel Time (hr)	3.7	11.7	10.9	13.3	11.2	10.2
Total Delay (hr)	0.6	2.2	1.8	2.7	2.2	1.9
Total Stops	127	490	413	558	451	408
Fuel Used (gal)	3.1	9.5	8.9	10.6	8.8	8.2

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.4	0.0	1.1
Total Del/Veh (s)	5.3	4.5	3.2	2.4	2.7	2.2	0.6	2.7	3.7	3.0
Vehicles Entered	46	17	577	47	5	22	35	541	4	1294
Vehicles Exited	46	17	577	47	5	21	35	541	4	1293
Hourly Exit Rate	48	18	597	49	5	22	36	560	4	1338
Input Volume	45	15	599	50	5	20	38	553	5	1331
% of Volume	105	115	100	97	103	109	95	101	83	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	2	1	1	0	0	0	0	1	0	5

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.3	0.1
Total Delay (hr)	0.3	0.2	0.1	0.6	0.1	0.4	1.7
Total Del/Veh (s)	3.4	2.0	4.9	5.4	7.4	6.3	4.4
Vehicles Entered	290	322	83	404	71	224	1394
Vehicles Exited	290	322	83	406	71	224	1396
Hourly Exit Rate	300	333	86	420	73	232	1445
Input Volume	297	332	91	422	75	231	1447
% of Volume	101	100	95	100	98	100	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	3	9	12

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Denied Del/Veh (s)	0.0	0.0	0.3	0.2	0.7	3.0	0.7
Total Delay (hr)	0.2	0.2	0.3	0.2	1.4	0.5	2.8
Total Del/Veh (s)	3.7	4.2	8.4	6.7	14.7	10.3	8.9
Vehicles Entered	221	138	139	118	328	161	1105
Vehicles Exited	220	138	138	118	328	161	1103
Hourly Exit Rate	228	143	143	122	339	167	1142
Input Volume	222	142	151	116	338	167	1135
% of Volume	103	101	94	105	100	100	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	5	4	10	7	26

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.2	0.0	0.0	0.0	0.1
Total Delay (hr)	0.4	0.3	0.2	0.4	0.2	0.0	1.5
Total Del/Veh (s)	7.6	5.8	8.1	6.9	6.8	3.6	6.8
Vehicles Entered	173	216	68	227	93	19	796
Vehicles Exited	173	216	69	227	93	18	796
Hourly Exit Rate	179	224	71	235	96	19	824
Input Volume	176	221	76	237	96	15	821
% of Volume	102	101	95	99	100	122	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	7	8	2	0	0	0	17

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.0	0.0
Total Delay (hr)	0.2	0.2	0.2	0.2	0.0	0.8
Total Del/Veh (s)	6.1	1.4	6.5	2.0	0.6	2.3
Vehicles Entered	101	459	100	371	157	1188
Vehicles Exited	101	460	100	372	157	1190
Hourly Exit Rate	105	476	103	385	162	1232
Input Volume	101	473	101	383	166	1224
% of Volume	104	101	103	101	98	101
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	3	0	1	0	0	4

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.6
Total Delay (hr)	8.3
Total Del/Veh (s)	15.9
Vehicles Entered	1828
Vehicles Exited	1830
Hourly Exit Rate	1894
Input Volume	7675
% of Volume	25
Denied Entry Before	0
Denied Entry After	64

Intersection: 1: Bird Creek Rd & Rd 8

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LT	LTR
Maximum Queue (ft)	69	134	52	16	31
Average Queue (ft)	22	23	2	0	2
95th Queue (ft)	54	88	27	6	14
Link Distance (ft)	526	170	170	210	493
Upstream Blk Time (%)		1	0		
Queuing Penalty (veh)		2	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	EB	WB	SB
Directions Served	T	R	LT	LTR
Maximum Queue (ft)	91	66	87	161
Average Queue (ft)	28	13	10	60
95th Queue (ft)	74	49	48	119
Link Distance (ft)	170	170	986	1033
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	R
Maximum Queue (ft)	81	148	297	245
Average Queue (ft)	15	63	101	58
95th Queue (ft)	55	116	225	152
Link Distance (ft)	986	544	948	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				250
Storage Blk Time (%)			1	0
Queuing Penalty (veh)			3	0

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	116	144	83	130	83
Average Queue (ft)	58	61	39	65	45
95th Queue (ft)	96	106	68	106	74
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	LT	TR
Maximum Queue (ft)	98	10	17	168	42
Average Queue (ft)	43	0	1	55	2
95th Queue (ft)	77	8	9	125	31
Link Distance (ft)	170	173	173	210	210
Upstream Blk Time (%)				0	0
Queuing Penalty (veh)				0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 5

Summary of All Intervals

Run Number	2	3	5	6	7	Avg
Start Time	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1601	1643	1627	1649	1658	1637
Vehs Exited	1597	1634	1645	1654	1659	1638
Starting Vehs	47	35	55	44	52	48
Ending Vehs	51	44	37	39	51	46
Denied Entry Before	1	1	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	735	733	736	738	751	739
Travel Time (hr)	43.4	42.1	43.5	42.4	44.4	43.2
Total Delay (hr)	14.3	12.9	14.2	13.1	14.2	13.8
Total Stops	2718	2704	2821	2718	2851	2765
Fuel Used (gal)	31.7	31.0	31.9	31.9	32.2	31.8

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	6	7	Avg
Vehs Entered	399	414	392	363	381	390
Vehs Exited	417	403	408	372	391	397
Starting Vehs	47	35	55	44	52	48
Ending Vehs	29	46	39	35	42	36
Denied Entry Before	1	1	0	0	0	0
Denied Entry After	1	0	1	1	0	0
Travel Distance (mi)	187	181	178	161	175	176
Travel Time (hr)	10.8	10.4	10.6	9.0	10.3	10.2
Total Delay (hr)	3.4	3.2	3.5	2.6	3.3	3.2
Total Stops	675	666	689	609	660	661
Fuel Used (gal)	7.9	7.7	7.7	7.0	7.5	7.6

Interval #2 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	5	6	7	Avg
Vehs Entered	431	409	467	455	458	446
Vehs Exited	417	414	458	447	451	438
Starting Vehs	29	46	39	35	42	36
Ending Vehs	43	41	48	43	49	41
Denied Entry Before	1	0	1	1	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	195	183	214	199	204	199
Travel Time (hr)	11.6	10.3	13.2	11.9	12.3	11.9
Total Delay (hr)	3.8	3.0	4.7	3.9	4.1	3.9
Total Stops	717	674	816	752	779	748
Fuel Used (gal)	8.5	7.8	9.2	8.6	8.7	8.6

Interval #3 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	6	7	Avg
Vehs Entered	360	412	386	399	417	397
Vehs Exited	367	410	391	400	421	399
Starting Vehs	43	41	48	43	49	41
Ending Vehs	36	43	43	42	45	38
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	1	2	0
Travel Distance (mi)	166	189	169	186	189	180
Travel Time (hr)	9.4	10.9	9.5	10.6	11.2	10.3
Total Delay (hr)	2.9	3.5	2.8	3.2	3.5	3.2
Total Stops	614	683	622	666	721	660
Fuel Used (gal)	7.2	8.0	7.4	8.0	8.1	7.7

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	6	7	Avg
Vehs Entered	411	408	382	432	402	407
Vehs Exited	396	407	388	435	396	405
Starting Vehs	36	43	43	42	45	38
Ending Vehs	51	44	37	39	51	46
Denied Entry Before	0	0	0	1	2	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	188	180	175	192	183	183
Travel Time (hr)	11.6	10.5	10.2	11.0	10.6	10.8
Total Delay (hr)	4.2	3.3	3.3	3.3	3.3	3.5
Total Stops	712	681	694	691	691	695
Fuel Used (gal)	8.1	7.6	7.6	8.4	7.8	7.9

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.1	0.0	1.1	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0	1.6
Total Del/Veh (s)	10.1	4.9	7.6	1.7	1.3	16.8	0.6	2.6	23.8	18.8	5.1	5.3
Vehicles Entered	24	11	498	46	8	16	33	458	4	5	5	1108
Vehicles Exited	24	11	500	46	8	17	33	458	4	5	5	1111
Hourly Exit Rate	24	11	500	46	8	17	33	458	4	5	5	1111
Input Volume	25	10	490	46	5	15	32	470	5	5	5	1108
% of Volume	97	107	102	100	160	111	104	97	80	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.6	3.3	0.6
Total Delay (hr)	1.2	0.5	0.6	1.7	0.7	0.4	5.1
Total Del/Veh (s)	19.2	5.9	18.4	18.1	19.7	7.1	14.0
Vehicles Entered	220	285	123	331	118	216	1293
Vehicles Exited	220	286	125	330	117	216	1294
Hourly Exit Rate	220	286	125	330	117	216	1294
Input Volume	230	290	125	332	115	210	1302
% of Volume	96	99	100	99	102	103	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.1	0.3
Denied Del/Veh (s)	0.0	0.0	0.5	3.7	0.5	3.2	1.0
Total Delay (hr)	0.8	1.0	0.9	0.0	1.4	0.2	4.3
Total Del/Veh (s)	19.0	19.4	21.0	1.5	17.6	5.3	15.8
Vehicles Entered	157	180	153	95	280	110	975
Vehicles Exited	158	179	155	95	280	110	977
Hourly Exit Rate	158	179	155	95	280	110	977
Input Volume	155	186	150	95	285	100	972
% of Volume	102	96	103	100	98	110	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.2	0.2	0.2	0.1	0.0	1.1
Total Del/Veh (s)	6.6	4.6	7.4	6.1	6.6	3.5	6.1
Vehicles Entered	158	147	80	147	82	11	625
Vehicles Exited	158	147	80	146	82	11	624
Hourly Exit Rate	158	147	80	146	82	11	624
Input Volume	165	150	75	150	81	10	630
% of Volume	96	98	107	97	102	107	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.1	0.2	0.1	0.6
Total Del/Veh (s)	4.5	1.5	4.5	2.2	1.3	2.2
Vehicles Entered	88	384	101	273	166	1012
Vehicles Exited	88	384	100	272	166	1010
Hourly Exit Rate	88	384	100	272	166	1010
Input Volume	95	390	100	268	165	1018
% of Volume	92	99	100	101	101	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.5
Denied Del/Veh (s)	1.2
Total Delay (hr)	13.2
Total Del/Veh (s)	28.3
Vehicles Entered	1637
Vehicles Exited	1638
Hourly Exit Rate	1638
Input Volume	6520
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Bird Creek Rd & Rd 8

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LT	LTR
Maximum Queue (ft)	66	213	32	45	34
Average Queue (ft)	17	100	2	12	8
95th Queue (ft)	46	175	16	36	26
Link Distance (ft)	586	309	309	272	538
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	EB	WB	SB	SB
Directions Served	T	R	LT	LT	R
Maximum Queue (ft)	188	102	316	121	115
Average Queue (ft)	85	35	163	59	53
95th Queue (ft)	152	75	276	101	96
Link Distance (ft)	309	309	1083	1080	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	WB	NB	NB
Directions Served	LT	T	R	LT	R
Maximum Queue (ft)	267	180	14	249	91
Average Queue (ft)	124	64	1	121	41
95th Queue (ft)	219	129	10	208	75
Link Distance (ft)	1083	596		1014	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150		250
Storage Blk Time (%)		0		0	
Queuing Penalty (veh)		0		0	

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	94	114	79	113	81
Average Queue (ft)	52	50	41	55	42
95th Queue (ft)	83	86	71	91	69
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	SB	SB
Directions Served	R	TR	LT	TR
Maximum Queue (ft)	82	5	154	58
Average Queue (ft)	39	0	35	4
95th Queue (ft)	68	2	102	59
Link Distance (ft)	170	173	272	272
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 1

Summary of All Intervals

Run Number	2	3	4	5	7	Avg
Start Time	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1850	1917	1835	1796	1917	1862
Vehs Exited	1869	1919	1833	1806	1915	1868
Starting Vehs	62	51	50	50	60	52
Ending Vehs	43	49	52	40	62	48
Denied Entry Before	1	0	0	0	1	0
Denied Entry After	1	0	0	0	0	0
Travel Distance (mi)	828	868	831	821	865	843
Travel Time (hr)	50.2	53.1	50.9	49.5	52.1	51.2
Total Delay (hr)	17.0	18.4	17.6	16.7	17.4	17.4
Total Stops	3305	3382	3376	3188	3360	3323
Fuel Used (gal)	36.4	37.9	36.4	35.6	37.4	36.7

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	5	7	Avg
Vehs Entered	478	484	433	451	471	463
Vehs Exited	497	486	431	441	471	465
Starting Vehs	62	51	50	50	60	52
Ending Vehs	43	49	52	60	60	51
Denied Entry Before	1	0	0	0	1	0
Denied Entry After	0	0	1	2	0	0
Travel Distance (mi)	214	219	204	200	209	209
Travel Time (hr)	13.2	13.0	12.5	12.0	12.8	12.7
Total Delay (hr)	4.6	4.3	4.3	4.0	4.4	4.3
Total Stops	837	815	834	790	850	826
Fuel Used (gal)	9.5	9.5	9.0	8.6	9.1	9.1

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	4	5	7	Avg
Vehs Entered	495	487	470	474	488	482
Vehs Exited	487	476	458	487	493	479
Starting Vehs	43	49	52	60	60	51
Ending Vehs	51	60	64	47	55	53
Denied Entry Before	0	0	1	2	0	0
Denied Entry After	1	1	2	2	0	1
Travel Distance (mi)	226	219	209	221	223	219
Travel Time (hr)	13.9	13.9	12.8	13.7	13.2	13.5
Total Delay (hr)	4.9	5.2	4.5	4.9	4.3	4.8
Total Stops	916	891	823	874	820	864
Fuel Used (gal)	10.0	9.7	9.0	9.6	9.5	9.6

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	5	7	Avg
Vehs Entered	428	479	445	436	473	452
Vehs Exited	437	484	466	423	467	457
Starting Vehs	51	60	64	47	55	53
Ending Vehs	42	55	43	60	61	54
Denied Entry Before	1	1	2	2	0	1
Denied Entry After	2	0	0	0	2	0
Travel Distance (mi)	189	211	204	198	212	203
Travel Time (hr)	10.9	12.5	12.4	11.9	12.7	12.1
Total Delay (hr)	3.3	4.1	4.2	4.0	4.1	4.0
Total Stops	734	797	828	768	840	795
Fuel Used (gal)	8.3	9.3	9.0	8.6	9.2	8.9

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	4	5	7	Avg
Vehs Entered	449	467	487	435	485	464
Vehs Exited	448	473	478	455	484	466
Starting Vehs	42	55	43	60	61	54
Ending Vehs	43	49	52	40	62	48
Denied Entry Before	2	0	0	0	2	0
Denied Entry After	1	0	0	0	0	0
Travel Distance (mi)	199	219	215	202	222	212
Travel Time (hr)	12.2	13.7	13.3	11.9	13.3	12.9
Total Delay (hr)	4.2	4.8	4.6	3.8	4.5	4.4
Total Stops	818	879	891	756	850	839
Fuel Used (gal)	8.7	9.3	9.4	8.8	9.6	9.2

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.2	0.0	1.4	0.0	0.0	0.1	0.0	0.4	0.0	2.2
Total Del/Veh (s)	13.4	6.5	8.4	1.8	2.0	20.6	0.7	2.9	25.8	6.1
Vehicles Entered	47	17	596	50	6	23	36	541	5	1321
Vehicles Exited	46	17	594	50	6	23	36	542	5	1319
Hourly Exit Rate	46	17	594	50	6	23	36	542	5	1319
Input Volume	45	15	595	50	5	20	38	550	5	1323
% of Volume	102	111	100	100	120	116	95	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.7	3.4	0.6
Total Delay (hr)	1.6	0.5	0.5	2.5	0.5	0.6	6.2
Total Del/Veh (s)	19.7	5.7	21.6	21.3	20.8	8.8	15.4
Vehicles Entered	290	325	88	416	77	234	1430
Vehicles Exited	288	325	90	419	77	234	1433
Hourly Exit Rate	288	325	90	419	77	234	1433
Input Volume	294	330	90	419	75	230	1438
% of Volume	98	98	100	100	103	102	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.1	0.1	0.4
Denied Del/Veh (s)	0.1	0.1	0.6	3.7	0.8	3.1	1.2
Total Delay (hr)	1.4	0.9	0.9	0.0	1.9	0.3	5.3
Total Del/Veh (s)	22.3	22.0	21.1	1.5	20.2	5.8	16.9
Vehicles Entered	221	142	144	113	336	164	1120
Vehicles Exited	222	142	143	113	337	165	1122
Hourly Exit Rate	222	142	143	113	337	165	1122
Input Volume	220	141	150	115	335	165	1126
% of Volume	101	101	95	98	101	100	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.4	0.3	0.2	0.5	0.2	0.0	1.6
Total Del/Veh (s)	7.4	5.7	8.6	7.6	7.1	4.1	7.0
Vehicles Entered	171	219	75	234	95	18	812
Vehicles Exited	172	219	76	235	96	18	816
Hourly Exit Rate	172	219	76	235	96	18	816
Input Volume	175	220	75	235	96	15	816
% of Volume	98	100	101	100	101	118	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.1	0.0	0.0
Total Delay (hr)	0.1	0.2	0.2	0.3	0.0	0.8
Total Del/Veh (s)	5.3	1.4	5.9	2.5	0.9	2.4
Vehicles Entered	96	467	104	380	162	1209
Vehicles Exited	96	468	104	380	161	1209
Hourly Exit Rate	96	468	104	380	161	1209
Input Volume	100	470	100	380	165	1215
% of Volume	96	100	104	100	98	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.7
Denied Del/Veh (s)	1.3
Total Delay (hr)	16.8
Total Del/Veh (s)	31.5
Vehicles Entered	1862
Vehicles Exited	1868
Hourly Exit Rate	1868
Input Volume	7623
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Bird Creek Rd & Rd 8

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LT	LTR
Maximum Queue (ft)	72	267	33	49	25
Average Queue (ft)	31	117	3	16	3
95th Queue (ft)	62	197	17	41	16
Link Distance (ft)	586	309	309	272	538
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	EB	WB	SB	SB
Directions Served	T	R	LT	LT	R
Maximum Queue (ft)	222	78	366	122	169
Average Queue (ft)	107	37	186	44	64
95th Queue (ft)	189	66	313	89	127
Link Distance (ft)	309	309	1083	1080	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	WB	NB	NB
Directions Served	LT	T	R	LT	R
Maximum Queue (ft)	315	163	102	300	233
Average Queue (ft)	145	64	2	148	60
95th Queue (ft)	244	127	30	247	147
Link Distance (ft)	1083	596		1014	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150		250
Storage Blk Time (%)		0		1	0
Queuing Penalty (veh)		0		1	0

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	113	150	79	144	90
Average Queue (ft)	58	64	42	74	47
95th Queue (ft)	97	110	71	120	79
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	NB	SB
Directions Served	R	T	TR	LT
Maximum Queue (ft)	95	7	23	156
Average Queue (ft)	42	0	1	55
95th Queue (ft)	77	6	14	130
Link Distance (ft)	170	173	173	272
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 2

Summary of All Intervals

Run Number	2	4	5	6	7	Avg
Start Time	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1604	1610	1551	1646	1571	1595
Vehs Exited	1605	1624	1565	1644	1575	1604
Starting Vehs	40	44	49	36	46	44
Ending Vehs	39	30	35	38	42	36
Denied Entry Before	1	1	0	0	1	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	732	741	709	741	715	727
Travel Time (hr)	37.6	38.3	36.7	38.5	37.0	37.6
Total Delay (hr)	8.6	8.8	8.5	9.1	8.4	8.7
Total Stops	3265	3337	3219	3390	3297	3299
Fuel Used (gal)	30.2	30.2	29.4	30.8	29.6	30.0

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	4	5	6	7	Avg
Vehs Entered	409	368	365	387	363	380
Vehs Exited	424	385	376	384	380	389
Starting Vehs	40	44	49	36	46	44
Ending Vehs	25	27	38	39	29	29
Denied Entry Before	1	1	0	0	1	0
Denied Entry After	1	0	1	0	0	0
Travel Distance (mi)	187	171	169	169	166	172
Travel Time (hr)	9.5	8.7	8.7	8.7	8.5	8.8
Total Delay (hr)	2.1	1.9	1.9	2.0	1.9	1.9
Total Stops	850	769	734	778	782	782
Fuel Used (gal)	7.7	7.1	6.9	7.0	6.9	7.1

Interval #2 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	4	5	6	7	Avg
Vehs Entered	416	406	437	434	432	427
Vehs Exited	401	389	430	443	418	416
Starting Vehs	25	27	38	39	29	29
Ending Vehs	40	44	45	30	43	40
Denied Entry Before	1	0	1	0	0	0
Denied Entry After	1	2	0	0	0	0
Travel Distance (mi)	186	183	202	194	197	192
Travel Time (hr)	9.6	9.5	10.8	10.4	10.3	10.1
Total Delay (hr)	2.1	2.2	2.9	2.6	2.4	2.4
Total Stops	826	834	890	891	880	865
Fuel Used (gal)	7.7	7.3	8.4	8.0	8.1	7.9

Interval #3 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	4	5	6	7	Avg
Vehs Entered	372	421	370	403	395	389
Vehs Exited	377	431	377	391	395	392
Starting Vehs	40	44	45	30	43	40
Ending Vehs	35	34	38	42	43	36
Denied Entry Before	1	2	0	0	0	0
Denied Entry After	0	0	0	0	1	0
Travel Distance (mi)	173	193	166	187	181	180
Travel Time (hr)	8.8	9.9	8.5	9.6	9.4	9.2
Total Delay (hr)	1.9	2.2	1.9	2.2	2.1	2.1
Total Stops	753	862	792	849	835	821
Fuel Used (gal)	7.2	7.8	7.0	7.7	7.5	7.5

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	4	5	6	7	Avg
Vehs Entered	407	415	379	422	381	400
Vehs Exited	403	419	382	426	382	402
Starting Vehs	35	34	38	42	43	36
Ending Vehs	39	30	35	38	42	36
Denied Entry Before	0	0	0	0	1	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	185	194	171	192	171	183
Travel Time (hr)	9.7	10.2	8.7	9.9	8.8	9.5
Total Delay (hr)	2.4	2.6	1.8	2.4	2.0	2.2
Total Stops	836	872	803	872	800	837
Fuel Used (gal)	7.6	7.9	7.1	8.1	7.2	7.6

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0
Total Delay (hr)	0.1	0.0	0.9	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.5
Total Del/Veh (s)	6.8	3.2	7.0	3.3	3.0	5.3	0.6	3.0	5.8	6.3	2.2	4.8
Vehicles Entered	27	14	476	46	7	12	30	462	3	5	4	1086
Vehicles Exited	27	13	477	45	7	12	30	461	3	5	4	1084
Hourly Exit Rate	27	13	477	45	7	12	30	461	3	5	4	1084
Input Volume	25	10	490	46	5	15	32	470	5	5	5	1108
% of Volume	109	127	97	98	140	79	94	98	60	100	80	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.6	3.0	0.6
Total Delay (hr)	0.7	0.5	0.1	0.2	0.4	0.3	2.2
Total Del/Veh (s)	11.4	5.8	2.5	2.8	11.3	4.6	6.0
Vehicles Entered	227	284	125	318	119	209	1282
Vehicles Exited	226	285	126	319	119	210	1285
Hourly Exit Rate	226	285	126	319	119	210	1285
Input Volume	230	290	125	332	115	210	1302
% of Volume	98	98	101	96	103	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.5	3.2	0.5
Total Delay (hr)	0.1	0.1	0.5	0.1	1.1	0.1	2.1
Total Del/Veh (s)	2.6	2.8	11.5	4.4	14.3	5.0	7.8
Vehicles Entered	159	185	149	97	273	99	962
Vehicles Exited	158	185	150	97	273	100	963
Hourly Exit Rate	158	185	150	97	273	100	963
Input Volume	155	186	150	95	285	100	972
% of Volume	102	99	100	102	96	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.3	0.2	0.2	0.3	0.2	0.0	1.1
Total Del/Veh (s)	6.7	4.5	7.4	7.0	7.8	5.0	6.5
Vehicles Entered	160	141	75	150	75	9	610
Vehicles Exited	160	140	75	150	76	9	610
Hourly Exit Rate	160	140	75	150	76	9	610
Input Volume	165	150	75	150	81	10	630
% of Volume	97	93	100	100	94	88	97
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.2	0.5	0.2	1.1
Total Del/Veh (s)	4.8	1.4	7.6	6.6	3.9	4.1
Vehicles Entered	94	375	94	250	164	977
Vehicles Exited	94	375	93	249	165	976
Hourly Exit Rate	94	375	93	249	165	976
Input Volume	95	390	100	255	165	1005
% of Volume	99	96	93	98	100	97
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.9
Total Delay (hr)	8.3
Total Del/Veh (s)	18.2
Vehicles Entered	1595
Vehicles Exited	1604
Hourly Exit Rate	1604
Input Volume	6507
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Bird Creek Rd & Rd 8

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (ft)	66	133	55	39	163	21
Average Queue (ft)	24	73	21	11	15	6
95th Queue (ft)	54	114	47	35	83	22
Link Distance (ft)	586	310	310	268	268	538
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	EB	WB	SB	SB
Directions Served	T	R	LT	LT	R
Maximum Queue (ft)	126	89	36	104	110
Average Queue (ft)	53	27	2	48	45
95th Queue (ft)	97	61	16	87	83
Link Distance (ft)	310	310	1081	1080	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	WB	NB	NB
Directions Served	LT	T	R	LT	R
Maximum Queue (ft)	16	129	85	201	126
Average Queue (ft)	1	49	29	96	44
95th Queue (ft)	8	101	62	174	89
Link Distance (ft)	1081	597	597	1020	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)				0	0
Queuing Penalty (veh)				0	0

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	115	110	83	81	71
Average Queue (ft)	54	47	39	47	38
95th Queue (ft)	90	80	69	74	65
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	SB	SB
Directions Served	R	LT	TR
Maximum Queue (ft)	96	132	92
Average Queue (ft)	40	53	46
95th Queue (ft)	73	95	76
Link Distance (ft)	170	268	268
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	4	5	6	7	Avg
Start Time	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	1882	1849	1856	1869	1877	1866
Vehs Exited	1881	1853	1857	1866	1869	1863
Starting Vehs	50	51	45	45	52	46
Ending Vehs	51	47	44	48	60	48
Denied Entry Before	0	0	0	0	1	0
Denied Entry After	0	0	0	0	1	0
Travel Distance (mi)	863	842	855	848	864	854
Travel Time (hr)	49.1	46.5	47.0	46.5	48.4	47.5
Total Delay (hr)	14.5	12.7	12.9	12.7	13.8	13.3
Total Stops	4199	4078	4082	4136	4181	4133
Fuel Used (gal)	36.7	35.2	36.0	35.7	36.5	36.0

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	4	5	6	7	Avg
Vehs Entered	420	436	456	443	475	446
Vehs Exited	430	434	448	437	470	444
Starting Vehs	50	51	45	45	52	46
Ending Vehs	40	53	53	51	57	49
Denied Entry Before	0	0	0	0	1	0
Denied Entry After	0	0	1	0	1	0
Travel Distance (mi)	196	206	205	200	217	205
Travel Time (hr)	10.4	11.3	11.1	10.6	11.9	11.0
Total Delay (hr)	2.6	3.1	2.9	2.7	3.2	2.9
Total Stops	913	1003	978	945	1028	975
Fuel Used (gal)	8.2	8.7	8.5	8.2	9.1	8.5

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	4	5	6	7	Avg
Vehs Entered	559	465	495	511	475	500
Vehs Exited	534	466	496	511	466	493
Starting Vehs	40	53	53	51	57	49
Ending Vehs	65	52	52	51	66	56
Denied Entry Before	0	0	1	0	1	0
Denied Entry After	0	0	3	0	0	0
Travel Distance (mi)	246	208	227	235	216	226
Travel Time (hr)	15.6	11.3	12.7	13.5	11.9	13.0
Total Delay (hr)	5.7	3.0	3.7	4.2	3.3	3.9
Total Stops	1241	1013	1067	1143	1047	1101
Fuel Used (gal)	10.7	8.7	9.6	10.0	9.1	9.6

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	4	5	6	7	Avg
Vehs Entered	449	444	448	442	442	445
Vehs Exited	464	452	438	447	455	452
Starting Vehs	65	52	52	51	66	56
Ending Vehs	50	44	62	46	53	49
Denied Entry Before	0	0	3	0	0	0
Denied Entry After	1	0	0	1	1	0
Travel Distance (mi)	213	202	207	203	208	207
Travel Time (hr)	11.8	10.7	11.4	11.0	12.2	11.4
Total Delay (hr)	3.2	2.6	3.2	2.9	3.8	3.1
Total Stops	1014	921	1029	1006	1027	1000
Fuel Used (gal)	9.0	8.4	8.8	8.6	9.0	8.7

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	4	5	6	7	Avg
Vehs Entered	454	504	457	473	485	472
Vehs Exited	453	501	475	471	478	475
Starting Vehs	50	44	62	46	53	49
Ending Vehs	51	47	44	48	60	48
Denied Entry Before	1	0	0	1	1	0
Denied Entry After	0	0	0	0	1	0
Travel Distance (mi)	208	225	216	210	223	216
Travel Time (hr)	11.4	13.2	11.8	11.4	12.5	12.0
Total Delay (hr)	3.1	4.1	3.2	3.0	3.6	3.4
Total Stops	1031	1141	1008	1042	1079	1060
Fuel Used (gal)	8.8	9.5	9.2	8.8	9.3	9.1

1: Bird Creek Rd & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.1	0.0	1.6	0.0	0.0	0.0	0.0	0.7	0.0	2.5
Total Del/Veh (s)	6.9	3.2	9.6	3.5	2.7	5.7	0.7	4.3	5.4	6.7
Vehicles Entered	45	16	608	46	6	23	31	561	5	1341
Vehicles Exited	45	16	607	46	6	23	31	560	5	1339
Hourly Exit Rate	45	16	607	46	6	23	31	560	5	1339
Input Volume	45	15	595	50	5	20	38	550	5	1323
% of Volume	100	105	102	92	120	116	82	102	100	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.6	3.0	0.5
Total Delay (hr)	1.0	0.6	0.1	0.3	0.3	0.4	2.7
Total Del/Veh (s)	12.2	6.9	2.5	2.7	11.8	5.9	6.6
Vehicles Entered	295	336	86	431	76	231	1455
Vehicles Exited	294	333	86	431	76	230	1450
Hourly Exit Rate	294	333	86	431	76	230	1450
Input Volume	294	330	90	419	75	230	1438
% of Volume	100	101	96	103	102	100	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.7	3.2	0.7
Total Delay (hr)	0.2	0.1	0.6	0.2	2.4	0.3	3.9
Total Del/Veh (s)	2.9	3.4	14.7	5.6	25.7	7.0	12.2
Vehicles Entered	230	135	151	115	338	162	1131
Vehicles Exited	232	135	151	116	338	163	1135
Hourly Exit Rate	232	135	151	116	338	163	1135
Input Volume	220	141	150	115	335	165	1126
% of Volume	105	96	101	101	101	99	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Bird Creek Rd & Camino Rd Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.2	0.0	0.0	0.0	0.1
Total Delay (hr)	0.4	0.4	0.2	0.5	0.2	0.0	1.7
Total Del/Veh (s)	7.8	5.7	8.1	7.7	8.3	5.0	7.3
Vehicles Entered	176	224	76	240	101	18	835
Vehicles Exited	177	223	77	239	101	18	835
Hourly Exit Rate	177	223	77	239	101	18	835
Input Volume	175	220	75	235	96	15	816
% of Volume	101	101	103	102	106	118	102
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

15: Bird Creek Rd Performance by movement

Movement	WBR	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.3	0.8	0.2	1.6
Total Del/Veh (s)	5.3	1.4	10.4	7.7	4.1	4.8
Vehicles Entered	97	477	102	378	166	1220
Vehicles Exited	96	478	102	378	166	1220
Hourly Exit Rate	96	478	102	378	166	1220
Input Volume	100	470	100	367	165	1202
% of Volume	96	102	102	103	101	102
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.5
Denied Del/Veh (s)	1.0
Total Delay (hr)	12.8
Total Del/Veh (s)	24.2
Vehicles Entered	1866
Vehicles Exited	1863
Hourly Exit Rate	1863
Input Volume	7610
% of Volume	24
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Bird Creek Rd & Rd 8

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (ft)	67	225	47	58	211	21
Average Queue (ft)	31	104	21	19	45	3
95th Queue (ft)	55	181	47	47	161	16
Link Distance (ft)	586	310	310	268	268	538
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: I5 SB On Ramp/I5 SB Off Ramp & Rd 8

Movement	EB	EB	WB	SB	SB
Directions Served	T	R	LT	LT	R
Maximum Queue (ft)	149	87	16	87	117
Average Queue (ft)	61	31	1	38	51
95th Queue (ft)	109	62	8	72	90
Link Distance (ft)	310	310	1081	1080	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: I5 NB Off Ramp/I5 NB On Ramp & Rd 8

Movement	EB	WB	WB	NB	NB
Directions Served	LT	T	R	LT	R
Maximum Queue (ft)	9	164	79	367	236
Average Queue (ft)	1	57	32	143	67
95th Queue (ft)	6	114	69	291	162
Link Distance (ft)	1081	597	597	1020	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)				4	0
Queuing Penalty (veh)				6	0

Intersection: 4: Bird Creek Rd & Camino Rd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	116	146	87	102	75
Average Queue (ft)	59	61	40	56	43
95th Queue (ft)	97	102	74	89	67
Link Distance (ft)	356	325	574	173	173
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Bird Creek Rd

Movement	WB	NB	SB	SB
Directions Served	R	TR	LT	TR
Maximum Queue (ft)	90	10	171	121
Average Queue (ft)	40	0	73	52
95th Queue (ft)	70	7	128	89
Link Distance (ft)	170	173	268	268
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 6

COUNTY RECORDER
Filing Requested by:

Yolo Planning & Public Works Department
Lance E. Lowe, AICP, Associate Planner
292 West Beamer Street
Address
Woodland, CA 95695
City, State, Zip

FILED
YOLO COUNTY CLERK/RECORDER
JAN - 8 2004
FREDDIE OAKLEY, CLERK
BY _____ DEPUTY

Notice of Determination

To: Yolo County Clerk
625 Court Street
Woodland, CA 95695

To: Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

Subject: Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Project Title: Zone File # 2002-001 State Clearinghouse Number:2003062057
Dunnigan Truck & Travel Center (805) 340-7458
P.O. Box 61
Paso Robles, CA. 93447

Project Description: A Planned Development Establishment, Tentative Parcel Map (TPM#4565) and Conditional Use Permit for the Dunnigan Truck and Travel Center, Planned Development.

This is to advise that the Yolo County Board of Supervisors has approved the above-described project on January 6, 2004, and has made the following determinations regarding the above-described project:

1. The project will not have a significant effect on the environment.
2. An Environmental Impact Report was previously prepared for this project pursuant to the provisions of CEQA.
3. A Tiered Mitigated Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
4. Mitigation Measures were made a condition of the approval of the project.
5. A Mitigation Monitoring and Reporting Plan was adopted pursuant to the provisions of CEQA.
6. A Statement of Overriding Considerations was not adopted for this project.
7. Findings were made pursuant to the provisions of CEQA.

This is to certify that the Tiered Mitigated Negative Declaration with comments and responses and record of project approval is available to the General Public at the Yolo County Planning & Public Works Department located at 292 West Beamer Street, Woodland, California.

Signature (Public Agency) _____ Date 1-06-04
Date received for filing at OPR:

POSTED JAN - 8 2004 TO FEB - 9 2004

FILE #2002-001 FILE NAME Dunnigan Truck & Travel Center
AUTHORIZED SIGNATURE C.E. Lee
RECEIPT# 38106
FEE STATUS 25.00

H:\CEQA\NOTICE.DET.DOC

N04-02

MITIGATION MONITORING & REPORTING PLAN

FOR DUNNIGAN TRUCK AND TRAVEL CENTER, PLANNED DEVELOPMENT

YOLO COUNTY PLANNING AND PUBLIC WORKS DEPARTMENT

STATE CLEARINGHOUSE No. 93053066

AUGUST 14, 2003

PREPARED BY:
YOLO COUNTY PLANNING AND PUBLIC WORKS DEPARTMENT

						VERIFICATION AND IMPLEMENTATION	
	Impact	Mitigation Measure	Phase	Responsible Person/ Agency	Frequency of Monitoring/ Reporting	Date Report Recieved	Notes
3a-c	Geologic Hazards - The project may be subject to fault rupture, seismic ground shaking and seismic ground failure, including liquefaction.	1) All buildings shall comply with the seismic safety standards of the Uniform Building Code. This would include designing and constructing all new buildings to resist the effects of the maximum predicted shaking intensities (MM VI-VII) in compliance with the 1997 Uniform building code. 2) Subsurface utilities and pipelines shall be designed to accommodate minor differential displacements in areas underlain by unconsolidated alluvial materials. 3) The developer shall have a licensed geotechnical engineer conduct a detailed evaluation of the soil conditions for the project site. If expansive soils are determined to be present on the project site, the primary contractor shall employ standard engineering practices that would mitigate the effects associated with expansive materials. Any recommendations regarding soil preparation, structural setback requirements, foundation types, and site drainage made by the licensed geotechincal engineer shall be required as "conditions of approval" for the development of the project site.	2	PPW	OT		

Mitigation Phase Key: 1. Prior to approval of Dunnigan Truck and Travel Center Master Plan 2. Prior to approval of individual projects 3. Prior to construction and site grading 4. During construction 5. Prior to occupation/occupancy 6. Prior to approval of Dunnigan Facilities Plan or individual facilities plans 7. After construction
Responsible Person/Agency Key: PPW -- Yolo County Planning and Public Works Department APP -- Applicant of individual project
Phase /Frequency of Monitoring and Reporting Key: OG -- Ongoing OT -- One-time (at each development proposal) MO -- Monthly QU -- Quarterly AN -- Annually

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3f	Geologic Hazards- The project may be subject to Erosion, changes in topography or unstable soil conditions from excavation, grading, or fill.	As a component of the required engineered grading plans, the applicant shall submit a detailed erosion control plan for the specific development to minimize sedimentation in the Bird Creek channel. The plan should contain detailed measures to control erosion of stockpiled earth and exposed soil, provide for revegetation of graded slopes before the first rainy season and following construction, and specify procedures for monitoring of the plan's effectiveness. The plan shall include, but not be limited to the following: 1. Limit the amount of grading as much as possible during the design phase of the project. 2. Follow local grading ordinances and recommendations of the developers' geotechicical engineer during grading operations. 3. All construction and grading should be restricted to the dry season, April 15 to October 15. All stabilization measures required to provide at least temporary protection against erosion during the rainy season would be installed by October 15. If grading operations cannot be completed before the commencement of the rainy season, temporary erosion control measures shall be designed to intercept sediments and debris that may be eroded from the development site. a. Provide for erosion control on all bare areas during the potential rainy season (October 16 through April 14). b. Revegetate exposed soils as soon as possible after completion of grading and construction activities. c. Leave existing vegetation undisturbed until construction is actually ready to begin. d. Immediately revegetate (using drought tolerant, native, fire/frozen tolerant plants) all disturbed areas or otherwise protect them from both wind and water erosion upon the completion of grading actives. e. Direct runoff away from all areas disturbed by construction.	2	PPW	OT		

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3f	Geologic Impacts-cont.	f. Restrict the operation of vehicles or the riding of horses off of designated roads and trails. g. Construct temporary sediment basins, sediment ponds, and silt traps and basins where needed for use during project construction. h. Limit the wet weather of unpaved overflow parking areas to the extent necessary to avoid soil erosion and turf damage, and include inspection of the areas after each use to monitor their condition and ensure their readiness for the next time the areas are needed. i. Minimize the use of heavy equipment near drainageways to prevent destruction of the local ecosystem and to prevent addition of sediment to the drainageways.	3	PPW	OG		
3g		The applicant shall have a licensed geotechincal engineer conduct a detailed evaluation of the soil conditions (soils report) for the project site. If expansive soils are determined to be present on the project site, the primary contractor shall employ standard engineering practices that would mitigate the effects of expansive materials. Any recommendations regarding soil preparation, structural setback requirements, foundation types, and site drainage made by the licensed geotechinical engineer shall be reflected in the Building Plans for the development of the project site. Excavation and re-compaction of weak soils and fills in areas of proposed structures. Construction of buildings on pier and grade-beam foundations that are supported at depth on well consolidated sedimentary materials. All earthwork shall be in accordance to the adopted soils report.	2	PPW	OT		

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5a	Air Quality - The project may violate air quality standards or contribute to an existing air quality violation.	To ensure that construction mitigation is utilized, final approval should not be given to the DTTC-PD project until the developer or contractor submits a satisfactory construction mitigation plan. This plan should specify the methods of control that will be utilized, demonstrate the availability of needed equipment and personnel, and identify a responsible individual who, if needed, can authorize the implementation of additional measures. The construction dust mitigation plan should, at a minimum, include the following: 1. Provision of equipment and staffing for watering of all exposed or disturbed soil subsurfaces at least twice daily, including weekends, and holidays. An appropriate dust palliative or suppressant, added to water before application, should be utilized. 2. Watering or covering of stockpiles of debris, soil, sand, or other materials that can be blown by the wind. 3. Regular sweeping of construction area and adjacent street of all mud and debris, since this material can be pulverized and later re-suspended by vehicle traffic. 4. Enforcement of a speed limit of 15 miles per hour for all construction vehicles when off pavement. 5. All materials transported by truck will be covered or wetted down. 6. All inactive portions of the site will be watered with an appropriate dust suppressant, covered or seeded. 7. Suspension of earthmoving or other dust-producing actives during periods of high winds when dust control measures are unable to avoid visible dust plumes.	3	PPW	OG		

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6a	Circulation - The project will add increased trips or traffic congestion	A single-lane roundabout shall be installed on County Road 8 at the project access point. The developer shall widen CR8, between the I-5 southbound ramps and the project access, to provide a four-lane section. The four-lane section of CR8 shall include two interior lanes that feed the roundabout at the western terminus and the CR 8 overpass of I-5 at the eastern terminus of the section; the outer lane on eastbound CR8 shall terminate at a right turn onto the southbound on-ramp to I-5, while the outer lane on westbound CR8 will terminate at a right turn onto CR89B. The existing portion of this segment of CR8 shall be resurfaced. 1.2(a) The intersection of CR8/CR99W shall have a traffic signal installed and be widened to provide an exclusive northbound left turn lane and an exclusive eastbound left turn lane. 1.2(b) The intersection of CR8/I-5 Northbound Ramps shall have a traffic signal installed and be widened to provide an exclusive northbound left turn lane, an exclusive eastbound left turn lane, and an exclusive westbound right turn lane. 1.2(c) The intersection of CR8/I-5 Southbound Ramps shall have a traffic signal installed and be widened to provide an exclusive southbound left turn lane, an exclusive westbound left turn lane, and an exclusive eastbound right turn lane.	2	PPW	OT		

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6a	Circulation - The project will add increased trips or traffic congestion	The intersection of CR8/CR 99W shall have a traffic signal installed and be widened to provide an exclusive northbound left turn lane and an exclusive eastbound left turn lane. The project shall pay a fair share of the improvements required under the General Plan no project scenario. 1.3(b) The intersection of CR8/I-5 Northbound Ramps shall have a traffic signal installed and be widened to provide an exclusive northbound left turn lane, an exclusive eastbound left turn lane , and an exclusive westbound right turn lane. The project shall also pay a fair share of the improvements required under the General Plan No Project scenario. 1.3(c) The intersection of CR8/I-5 Southbound Ramps shall have a traffic signal installed and be widened to provide an exclusive southbound left turn lane, an exclusive westbound left turn lane, and an exclusive eastbound right turn lane. The project shall pay a fair share of the improvements required under the General Plan No Project scenario and fund the installation of the exclusive eastbound right turn lane. 1.3(d) A single-lane roundabout shall be installed on CR8 at the project access point. The project should widen CR8, between the I-5 southbound ramps and the project access, to provide a four-lane section as described previously. The existing portion of the	2	PPW	OT		

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7a-e	Biological Resouces - The project may endanger, threaten, rare species or their habitat including, but not limited to plants, fish, insects, animals, and birds.	All native trees with trunk diameters exceeding 12 inches and existing riparian habitat should be mapped as part of the landscape submittal for the DTTC-PD. Said landscape plans should be reviewed to determine whether sensitive vegetation resources would be adversely affected by the proposed development plan, including construction-related impacts and long-term affects due to changes in drainage or irrigation. Treatment of trees to be preserved shall be addressed as a tree preservation component of the Landscape Plan for development. Standards contained in the tree preservation component of the Plan should include the following: a) Trees to be retained should be identified in the field through flagging or other obvious marking methods prior to any grading. b) tree or group of trees to be retained in the vicinity of grading to avoid compaction of the root zone and mechanical damage to trunks and limbs. c) Paving within tree driplines should be prohibited or stringently minimized, using porous materials such as gravel, loose boulders, cobbles, wood chips or bark mulch where hardscape improvements are necessary for access in the vicinity of trees. d) Trenching should be prohibited within tree driplines. Any required utility line poles within the dripline should be installed by boring or drilling through the soil. e) Landscape irrigation within tree driplines should be minimized. Turf or any landscaping with high water requirements should be prohibited. Permanent irrigation improvements should be limited to bubbler, drip, or subterranean systems.	2	PPW	OT		

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7a-e	Biological Resouces - The project may endanger, threaten, rare species or their habitat including, but not limited to plants, fish, insects, animals, and birds.	2. Bird Creek and detention basin shall be preserved and enhanced as open space features and wildlife corridors. A minimum of 100 feet shall be provided from the top of both sides of the creek bank. Where well-developed riparian cover is absent, a mosaic of native riparian and upland species trees and shrubs shall be established along the creek corridors to provide protective cover for wildlife and enhance the habitat of the setback area. The creek preservation and enhancement effort should be a required component of the Landscape Plan, prepared by a Landscape Architect familiar with native plants and restoration of riparian habitat. 3. Any proposed modifications to the Bird Creek channels shall be coordinated with representatives of the CDFG and U.S. Army Corps to ensure that the concerns and possible requirements of both agencies can be easily incorporated n the proposed plans. Jurisdictional determinations and appropriate mitigation may be required subject to the provisions of Section 404 of the Clean Water Act and Sections 1601-1606 of the CDFG Code. 4. Future landscaping along riparian and wildlife sensitive areas and private developments within the DTTC-PD shall emphasize the use of native tree species to the extent possible. Suitable native species for use in landscaping improvements include: valley oak (Quercus lobata), blue oak (Quercus douglasii), live oak (Quercus agrifolia), Fremont cottonwood (Populus Fremonti),, California buckeye (Aesculus californica), and Black Walnut (Juglans hindsii).	2	PPW	OT		

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7a-e	Biological Resouces - The project may endanger, threaten, rare species or their habitat including, but not limited to plants, fish, insects, animals, and birds.	5. The applicant shall be required to consult with the California Department of Fish and Game to mitigate for the loss of Swainson Hawk foraging habitat in accordance with CDFG and Yolo County Habitat Mitigation requirements. A copy of the fully executed habitat management agreement with the CDFG shall be submitted to the Yolo County Planning and Public Works Department prior to the issuance of grading permits or initiation of site improvements, which ever occurs first. 6. A pre-construction survey shall be conducted by a qualified biologist and submitted to the Planning and Public Works Department. If raptor nests are encoountered, an appropriate buffer zone shall be established based on topography, vegetation screening, and adjacent habitat, and construction activities shall be prohibited within the zone during the nesting season (nesting season is typically from May through August). 7. If identified, representatives from CDFG and USFWS shall be consulted to determine whether the nest tree or burrow shall be protected and a permanent buffer established to ensure future use or whether the nest site may be destroyed one the young have fledged.	2	PPW	OT		
11a	Public Services - the project would impact the Dunnigan Fire District.	The project applicant shall consult with the Dunnigan Fire Protection District and reach a mutual agreement that provides reasonable offsets for the project's impacts to fire protection services. Said agreement shall be based on the fee schedule proposed by the DTTC-PD or Fire District Impact Fee Study, when adopted.	2	PPW/ Dunnigan Fire Depart.	OG		

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11d	Public Services - The project would have an effect upon maintenance of public facilities.	The developer shall establish a Landowner Association for all parcel owners for maintenance of common private facilities including, but not limited to: detention basin, drainage improvements, landscaping, etc. within the DTTC-PD project area. All private facilities, improvements, infrastructure, systems, equipment, common areas, etc., shall be operated and maintained by the property owner and/or the Landowners Association utilizing Best Management Practices, and in such a manner, and with such frequency, to ensure public health safety and general welfare. All costs of ownership, operation and maintenance of private facilities, improvements, infrastructure, systems, equipment, common areas. etc., shall be the responsibility of the property owner and/or the Landowners Association. The Landowners Association shall be adequately funded for the purpose of ongoing and long term maintenance of all facilities, improvements, infrastructure systems, equipment, common areas, etc., including the accumulation of a sufficient reserve fund for long-term major repair and/or replacement of the water well and service lines, sanitary sewer system, storm drainage system including detention basin, any private roads, common truck and automobile parking area and all other common facilities as necessary.	2	PPW	OT		

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12c	Aesthetics - the project would create light and glare	1. Prior to issuance of building permits, the applicant shall submit construction plans which comply with the following minimum requirements for light and glare: Outdoor night lighting shall be focused downward and/or shielded. Roadway and pavement surfaces should be selected to minimize upward reflected light. 2. All outdoor lighting should be turned off after 11:00 PM if not in use unless needed for safety and security. Safety and security lighting (except street lighting) can usually be at lower levels when the area is not at use. 3. A lighting design should attempt to conceal lights to avoid glare. When concealing lights, avoid placing lights too close to an object to avoid reflected glare. 4. Lighting fixtures should be selected that can be ielded, if a potential problem exists, after installation. 5. Non-glare glass shall be used in all buildings to nimize a and reduce impacts from daytime glare. 6. Structure exterior materials shall be composed of a minimum of 50 percent low reflectance, non-polished finishes. 7. Bare metallic surfaces on new structures shall be inted to minimize reflectance. 8. High-pressure sodium lamps shall be prohibited. hting plans shall be provided as part of facility provement plans to the County with certification that jacent areas will not be adversely affected and that off e illumination will not exceed 2-foot candles.	2	PPW	OT		

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12c	Aesthetics - the project would create light and glare	9. Outdoor light fixtures shall be low-intensity, shielded and/or directed away from adjacent areas and the night sky. Lighting fixtures for parking lots shall use low-pressure sodium lamps or other similar lighting fixtures. 10. All light fixtures shall be installed and shielded in such a manner that not light rays are emitted from the fixture at angles above the horizontal plane. High-intensity discharge lamps, such as mercury, metal halide and high-pressure sodium lamps shall be prohibited. Lighting plans shall be provided as part of facility improvement plans to the County with certification that adjacent areas will not be adversely affected and that off site illumination will not exceed 2-foot candles.	2	PPW	OT		

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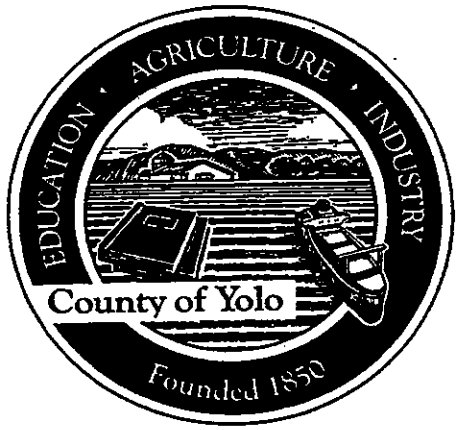
Attachment "E" Initial Study/Neg. Dec



YOLO COUNTY PLANNING & PUBLIC WORKS DEPARTMENT

Initial Study & Tiered Mitigated Negative Declaration
for the Dunnigan Truck and Travel Center, Planned Development (ZF 2002-001)

June 6, 2003

COUNTY OF YOLO
TIERED MITIGATED NEGATIVE DECLARATION

Project Title	Zone File 2002-001
Lead Agency Name and Address	Yolo County Planning and Public Works Department 292 W. Beamer Street Woodland, CA 95695
Lead Agency Contact Person	Lance E. Lowe, Associate Planner (530) 666-8018
Project Location and Environmental Setting	The 100-acre Dunnigan Truck and Travel Center, Planned Development is located at the southwest corner of Interstate-5 and County Road 8 in Dunnigan (**Exhibits "1" - "5"**).
Project Sponsor's Name and Address	Grant Park Development, Inc. P.O. Box 61 Paso Robles, CA. 93447

Description (Brief): The Dunnigan Truck and Travel Center, Planned Development (DTTC/PD) is a Phased Development consisting of Truck related Highway Service Commercial uses in the unincorporated town of Dunnigan (**Exhibits "6" - "8"**).

Environmental Factors Potentially Affected (Check Box)

Land Use and Planning		Biological Resources	✓	Aesthetics	✓
Population and Housing		Energy and Mineral Resources		Cultural Resources	
Geological Problems	✓	Hazards	✓	Recreation	
Water	✓	Noise		Mandatory Findings of Significance	
Air Quality	✓	Public Services	✓		
Transportation and Circulation	✓	Utilities and Services			

DETERMINATION: (To be completed by the Lead Agency) On the basis of this initial evaluation:	
I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION has been prepared.	
I find that although the proposed project could have a significant effect on the environment, there will not be a significant impact on the environment in this case because mitigation measures described on an attached sheet or by insert have been added to this project. A NEGATIVE DECLARATION will be prepared.	
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.	
I find that the proposed project MAY have a significant effect on the environment, but at least one effect: Has been adequately analyzed in an earlier document pursuant to applicable legal standards and, Has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated". An ENVIRONMENTAL IMPACT REPORT (EIR) is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant impact on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects: 1) Have been analyzed adequately in an earlier EIR pursuant to applicable standards, and 2) Have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.	✓

SIGNATURE:	DATE: 6-4-03
PRINTED NAME: Lance E. Lowe	
TITLE: Associate Planner	FOR: COUNTY OF YOLO

MITIGATION MEASURE COMPLIANCE REVIEW AGREEMENT

I, being the applicant(s) for the described project agree to the full implementation of the Mitigation Measure(s) outlined in this environmental document as Conditions of Approval for the project.

I understand that by agreeing to the Mitigation Measure(s) outlined in this document, all foreseeable "Significant Effects on the Environment" should be reduced to a less than significant level as required by the California Environmental Quality Act and Guidelines (CEQA), thereby permitting the Yolo County Planning and Public Works Department to publicly notice and circulate the environmental document for my project.

Mel Smith 6-4-03

Mel Smith, Representative, Grant Park Development — Date

Project Description:

Currently vacant, the Dunnigan Truck and Travel Center, Planned Development (DTTC-PD) is designated Truck and Related Highway Services Commercial in the Town of Dunnigan General Plan and occurs in the Highway Services Commercial (C-H) Zone. The DTTC-PD will be subdivided into four parcels and a remainder. The parcels will be developed in phases. Parcel 1 will be developed first, followed by Parcel 3, Parcel 2, Parcel 4 and eventually the remainder. The DTTC-PD includes the following characteristics in its development proposal:

- **Parcel 1 (13 acres) Phase I** - A travel center providing truck, RV, and auto fueling, a fast food restaurant, a convenience store, truck supplies, a truck driver's lounge, and overnight truck parking.

- **Parcel 3 (12 acres) - Phase II** - A tire shop, a truck wash, travel oriented retail shops, a truck driver's lounge and restaurant, and overnight truck parking.

- **Parcel 2 (10 acres) - Phase III** - A restaurant, a 60 room motel, and parking.

- **Parcel 4 (10 acres) - Phase IV** - A new and used truck dealership providing tractor-trailer sales, parts and repair services.

- **Remainder (55 acres) - Phase V** - Truck related Highway Services Commercial to be determined.

Project Location and Surrounding Land Uses:

The approximate 100-acre DTTC-PD (Aulman Property Project)(APN: 052-060-06) is located southwest of the I-5/County Road 8 interchange. The project site is bounded on the north and east by County Road 90. The site is bounded on the south by Bird Creek. A portion of Bird Creek runs through the southeast corner of the property. The northern 45 ± acres of the project site are proposed for highway service commercial uses. Existing uses in the vicinity include the Beacon Truck Stop immediately north; Bird Creek immediately south; County Road 90 and Interstate 5 immediately east, followed by Highway Service Commercial and Agricultural Industrial uses; and agricultural lands immediately west.

Project Objective:

The objective of the DTTC-PD is to enhance the local economies of the town of Dunnigan and Yolo County by developing approximately 45 ± acres for the highway services industry. The Dunnigan Truck and Travel Center will create jobs by providing convenient highway service to the trucking industry and traveling public.

County Approvals:

Approval of the project is required by the Yolo County Board of Supervisors for the following:

- Certification/Adoption of an environmental document;
- Adoption of project Findings and project Conditions;

- Adoption of the Dunnigan Truck and Travel Center, Planned Development (DTTC-PD).

Other Public Agencies Whose Approval is Required:

- Regional Water Quality Control Board – Water and Wastewater Permits and permits related to the control of nonpoint source runoff pursuant to the National Pollution Discharge Elimination System requirements;
- Yolo County Local Agency Formation Commission (LAFCO) – annexation of the property into the Dunnigan Community Services Area No. 11 for lighting;
- Yolo County Planning and Public Works Department - Planning entitlements, building permit issuance, sign permits, and other discretionary and ministerial actions;
- Dunnigan Fire District - Fire Occupancy Permits/Fire Access and Fire Suppression Facilities;
- Yolo County Environmental Health Department – Health Permits.
- Yolo/Solano Air Quality Management District – Air Quality Permits for stationary and mobile sources;
- California Department of Transportation – Encroachment permits within the state right-of-way;
- California Department of Fish and Game – Swainson Hawk Mitigation.

ENVIRONMENTAL REVIEW

Introduction:

This environmental analysis is a Tiered Initial Study and Mitigated Negative Declaration for the proposed Dunnigan Truck and Travel Center, Planned Development (DTTC-PD) (TPM# 4442)(ZF#2002-001). The environmental analysis for the proposed project is Tiered from the Dunnigan General Plan Environmental Impact Report (SCH# 93053066) in accordance with Section 15152 and 15168(c) of the California Environmental Quality Act (CEQA) Guidelines and Public Resources Code Section 21094. The Dunnigan General Plan EIR is a Program and Project level Environmental Impact Report prepared pursuant to Section 15161 and 15168 of the CEQA Guidelines. The Dunnigan General Plan Program EIR analyzed development of the Town of Dunnigan consistent with the land use designations, goals, policies, and programs of the adopted Dunnigan General Plan. In addition, the Dunnigan General Plan Project level EIR evaluated three specific development proposals within the Dunnigan Area General Plan planning area.

The project previously evaluated within the Expansion Area 2 of the adopted Dunnigan General Plan was otherwise known as the Aulman Property Project. The proposed DTTC-PD is very similar to the previously evaluated Aulman Property Project. Project specific measures to mitigate the significant adverse project and cumulative impacts associated with the Aulman Property Project and General Plan have been identified in the Dunnigan EIR and will be required of the DTTC-PD project.

In addition, this Tiered environmental analysis focuses specifically on the differences between the two projects; changes in the project environment; and, and new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the Dunnigan EIR was certified. This Tiered Environmental analysis therefore provides analysis to address any potentially significant impacts resulting from any changes in the project.

The CEQA concept of "Tiering" refers to the coverage of general environmental matters in broad program-level EIRs, with subsequent focused environmental documents for individual projects that implement the program.

This project environmental document incorporates by reference the discussions in the Dunnigan General Plan Aulman Project EIR and concentrates on project specific environmental issues. CEQA and the CEQA Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analysis of issues that were adequately addressed in previous EIRs and by incorporating that analysis by reference.

The Tiering of the environmental analysis for the proposed project allows this Tiered Initial Study to rely on the Certified Dunnigan EIR for the following:

1. A discussion of general background and setting information for environmental topic areas;
2. Growth related issues beyond the scope of the project;
3. Issues that were evaluated in sufficient detail in the Dunnigan EIR for which there is no significant new information or changes in circumstances that would require further analysis;
4. Long-term cumulative analysis.

As a result of the aforementioned, this Tired Initial Study and Tiered Mitigated Negative Declaration should be viewed in conjunction with the Dunnigan EIR (SCH#93053066). The purpose of this Tiered Initial Study and Mitigated Negative Declaration is to evaluate the potential environmental impacts of the DTTC in comparison to the Dunnigan EIR to determine what level of additional environmental review is appropriate.

Mitigation Measures identified in the Dunnigan EIR that apply to the DTTC will be required to be implemented as part of the project. The appropriate Mitigation Measures in the Dunnigan EIR to be implemented as part of the DTTC-PD project are identified, where applicable. New Mitigation Measures required to mitigate the impacts of the DTTC are also proposed.

The State CEQA Guidelines §15152(f)(3) provides that "significant environmental effects have been "adequately addressed" in a previous EIR if the lead agency determines that:

(a) They have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental report;
(b) They have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the

imposition of conditions, or by other means in connection with the approval of the later project; or,

(c) They cannot be mitigated to avoid or substantially lessen the significant impact despite the project proponent's willingness to accept all feasible mitigation measures, and the only purpose of including analysis of such effects in another environmental impact report would be to put the agency in a position to adopt a Statement of Overriding Considerations with respect to the effects.

Scope of Dunnigan General Plan EIR:

On the basis of the issues raised in the Initial Study for the Dunnigan EIR and comments received from Responsible, Trustee, and other interested agencies and the public, the following topic areas were analyzed in the Dunnigan EIR:

- Land Use
- Population, Housing, and Employment
- Transportation and Circulation
- Air Quality
- Noise
- Geology and Soils
- Vegetation and Wildlife
- Hydrology and Drainage
- Public Services and Utilities
- Visual and Aesthetic Quality
- Fiscal Impact Analysis

Dunnigan EIR Conclusions:

Based on the environmental analysis of the Dunnigan EIR, the following conclusions have been determined:

- There are environmental issues that cannot be mitigated to a less-than-significant level;
- The loss of Agricultural land due to buildout under the Dunnigan General Plan is the most pressing land use concern, and could lead to further pressures to develop adjacent agricultural land;
- Buildout would require substantial improvements in the Dunnigan road system to meet sufficient levels of service required by the Yolo County Planning and Public Works Department;
- Further hydrogeological studies need to be done to establish the effect of the proposed development on the groundwater supply. Firm water supply studies should be obtained before a project is approved;
- Because the future availability of funds for needed facility improvements is uncertain, a sufficient level of service or emergency service providers may not be achieved.

Public and Agency Review:

This Tiered Initial Study and Mitigated Negative Declaration will be circulated for a 30-day public and agency review commencing May 30, 2003. Copies of this Initial Study and cited References may be obtained at the Yolo County Planning and Public Works Department at the address noted below. Written comments on this Initial Study and Tiered Mitigated Negative Declaration may be addressed to:

Lance E. Lowe, Associate Planner
Planning and Public Works Department
292. W. Beamer Street
Woodland, CA. 95695

ENVIRONMENTAL CHECKLIST

The checklist is used to identify the impacts of the Proposed Project. A discussion follows each environmental issue identified in the checklist. Included in each discussion are Mitigation Measures, where appropriate, recommended for implementation as part of the Proposed Project.

For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, but was not previously identified in the Dunnigan EIR, or for which the Dunnigan EIR Mitigation Measures are not sufficient to mitigate the project's potential impacts to a level of insignificance. If any potentially significant impacts are identified, a supplemental or subsequent EIR may be required.

Potentially Significant Unless Mitigation Incorporated: Impacts that would be reduced to a less-than-significant level by mitigation measures contained in the Dunnigan EIR; Impacts identified as significant and unavoidable in the Dunnigan EIR, for which the project would not exacerbate the impact beyond the level identified in the Dunnigan EIR; and, Impacts which would be reduced to a less than significant impact with the incorporation of mitigation measures.

New Less-Than-Significant Impact: Any impact that is expected to occur with implementation of the project, but at a less-than-significant level under the California Environmental Quality Act (CEQA) relative to existing standards.

No Impact: The project would have no impact.

EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant.

   "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

   a) The significance criteria or threshold, if any, used to evaluate each question; and,
   b) The mitigation measure identified, if any, to reduce the impact to a less than significance.

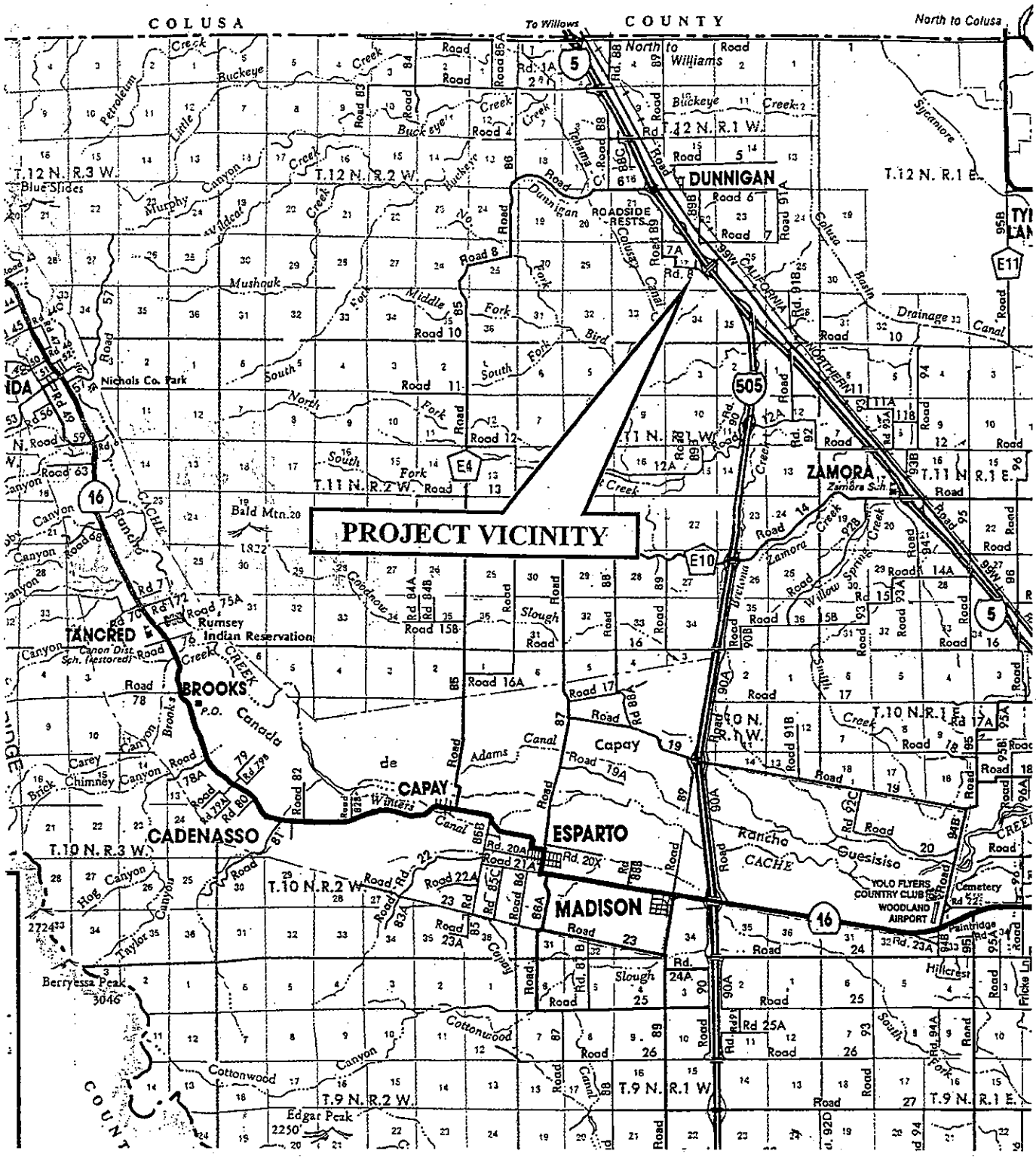
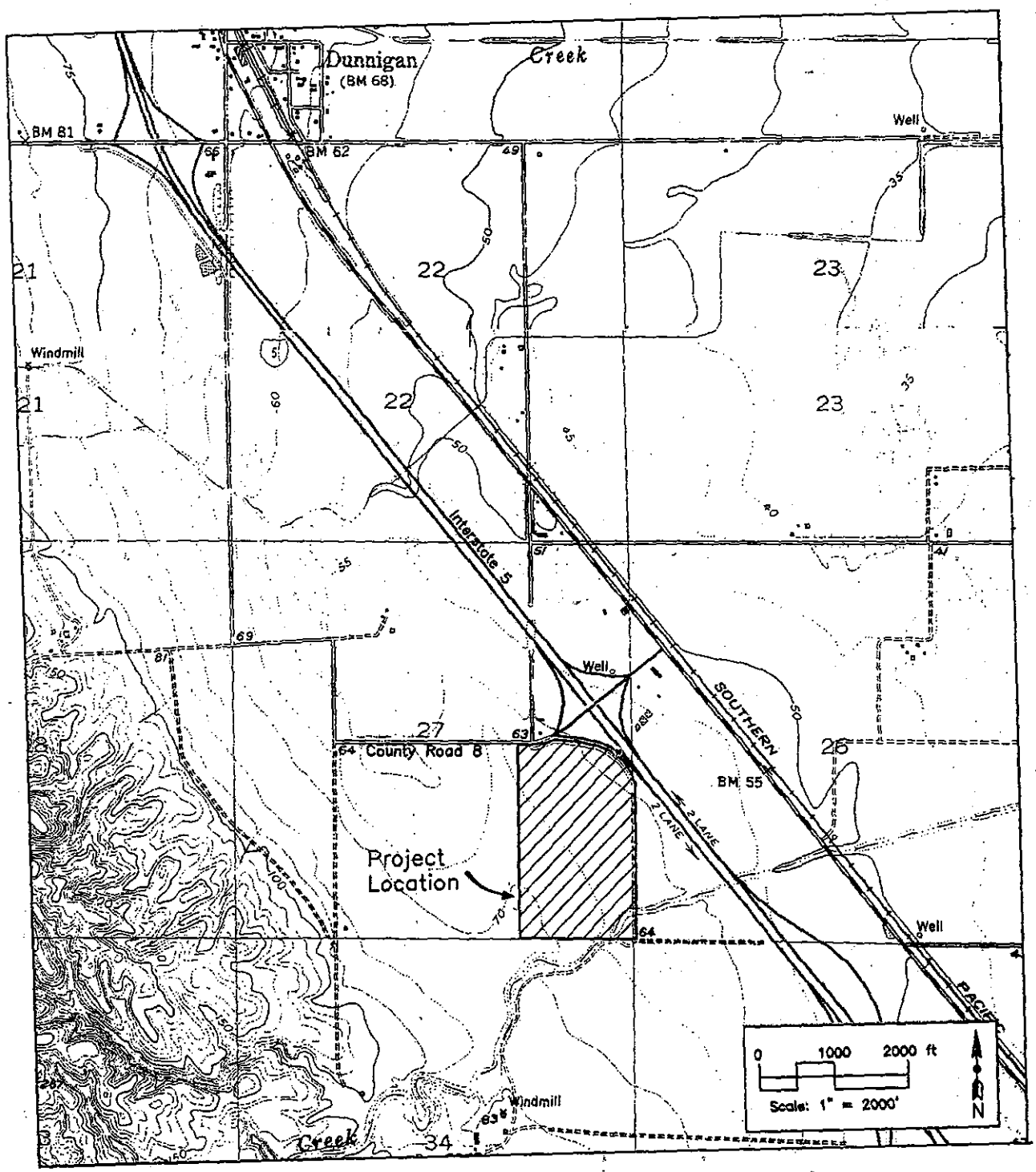


Exhibit "1"
Vicinity Map



County of Yolo

Exhibit "2"
Location Map

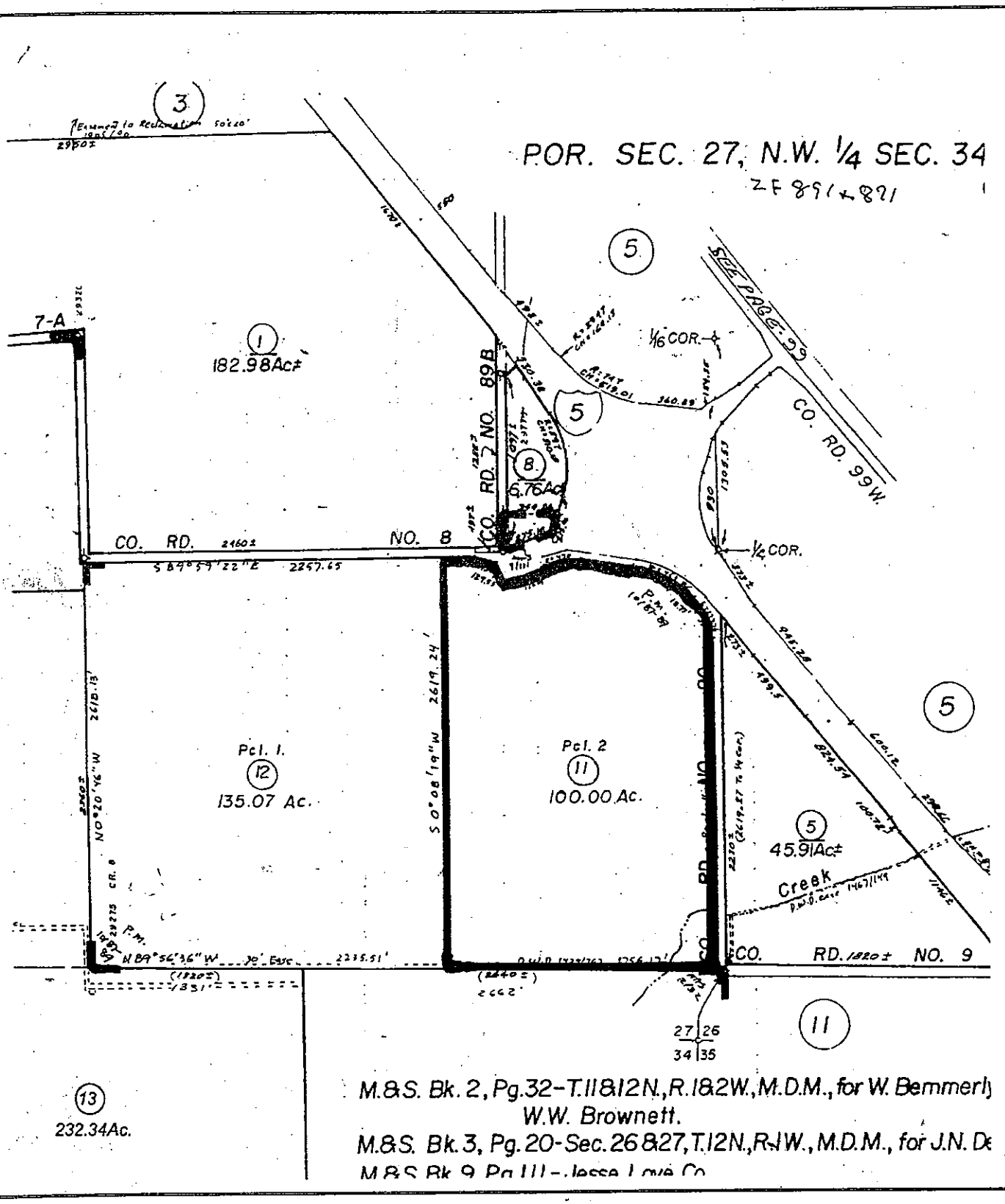


Exhibit "3"
Assessor's Parcel Map

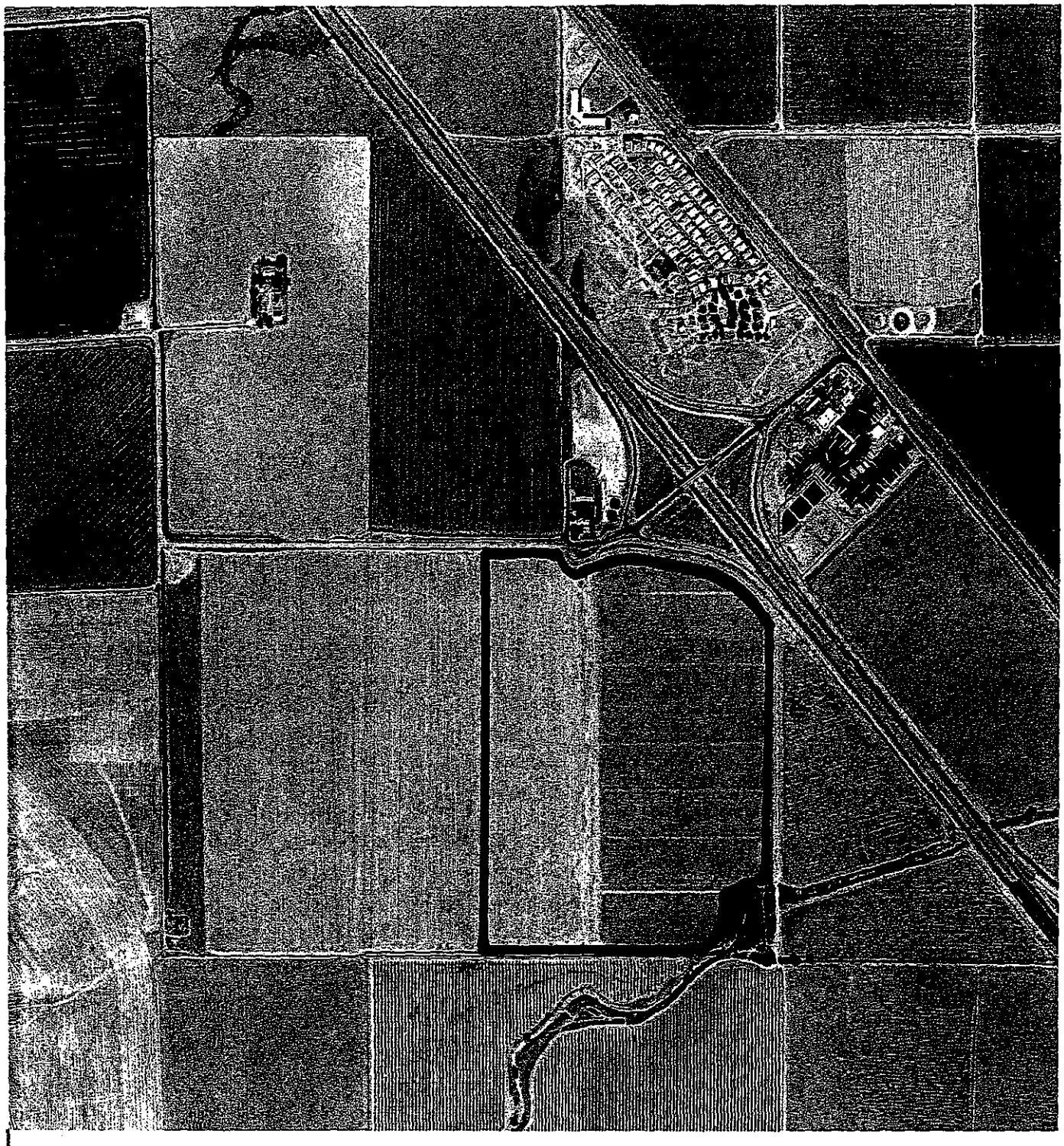
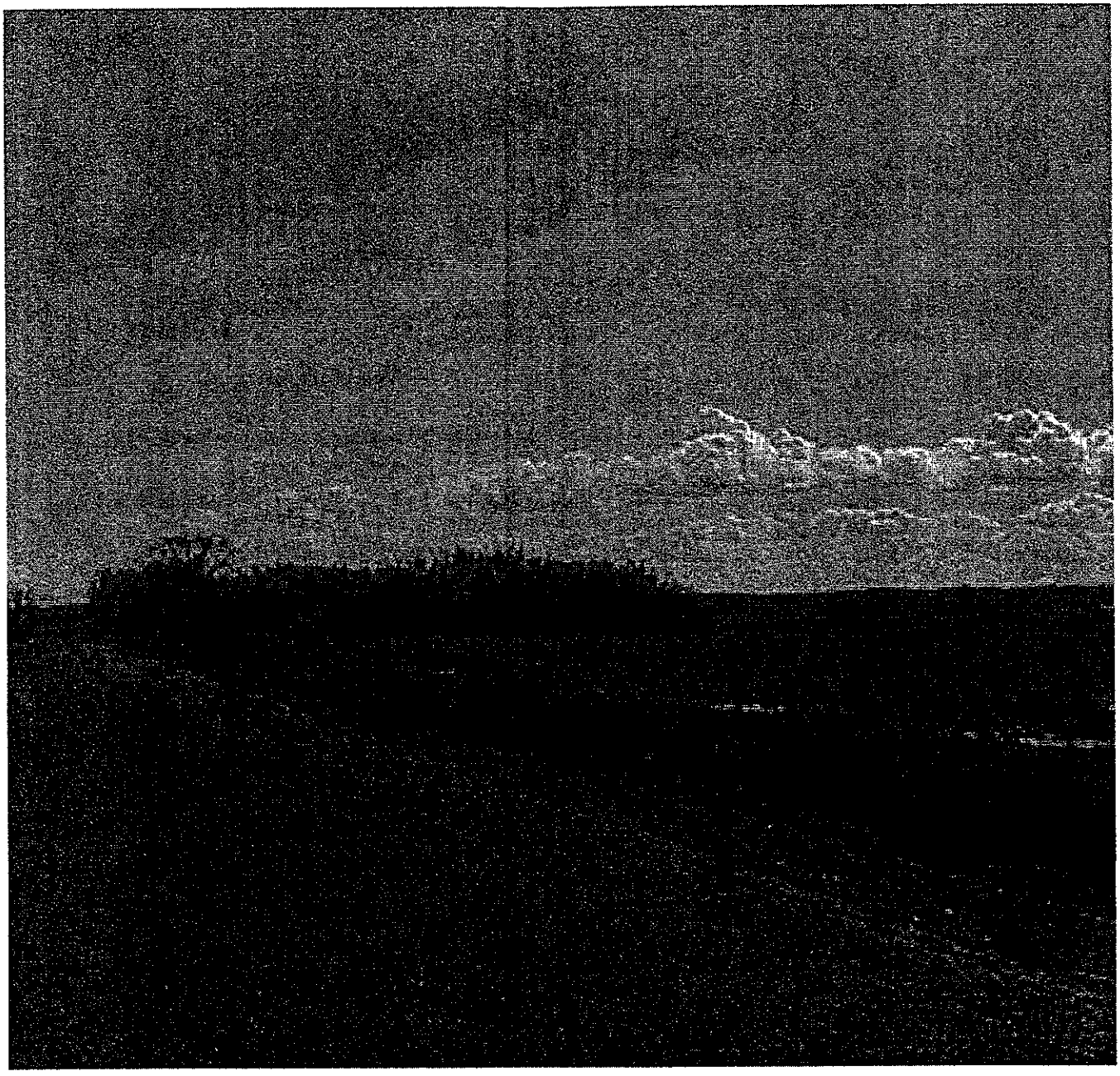
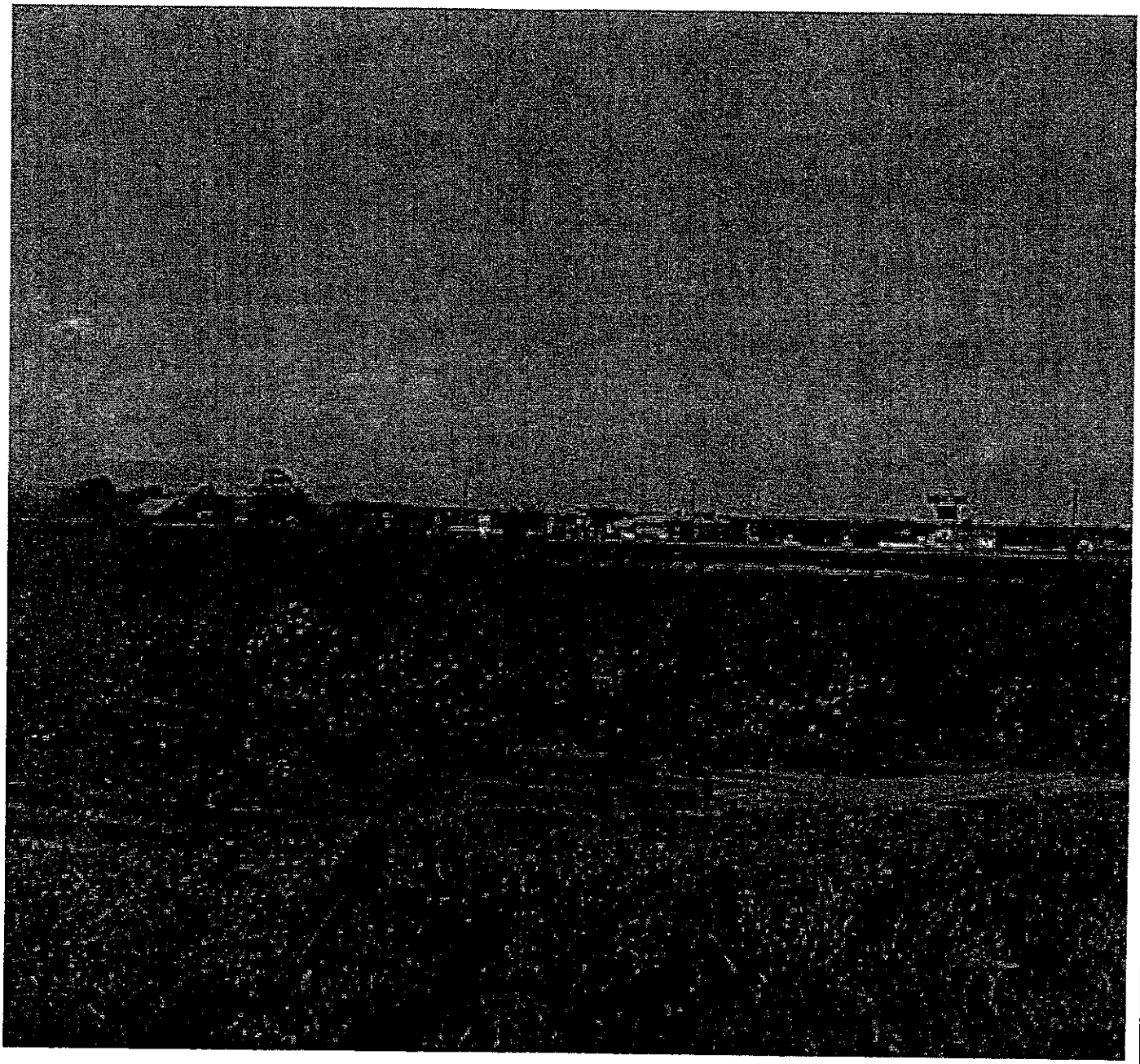


Exhibit "4"
Aerial Photograph



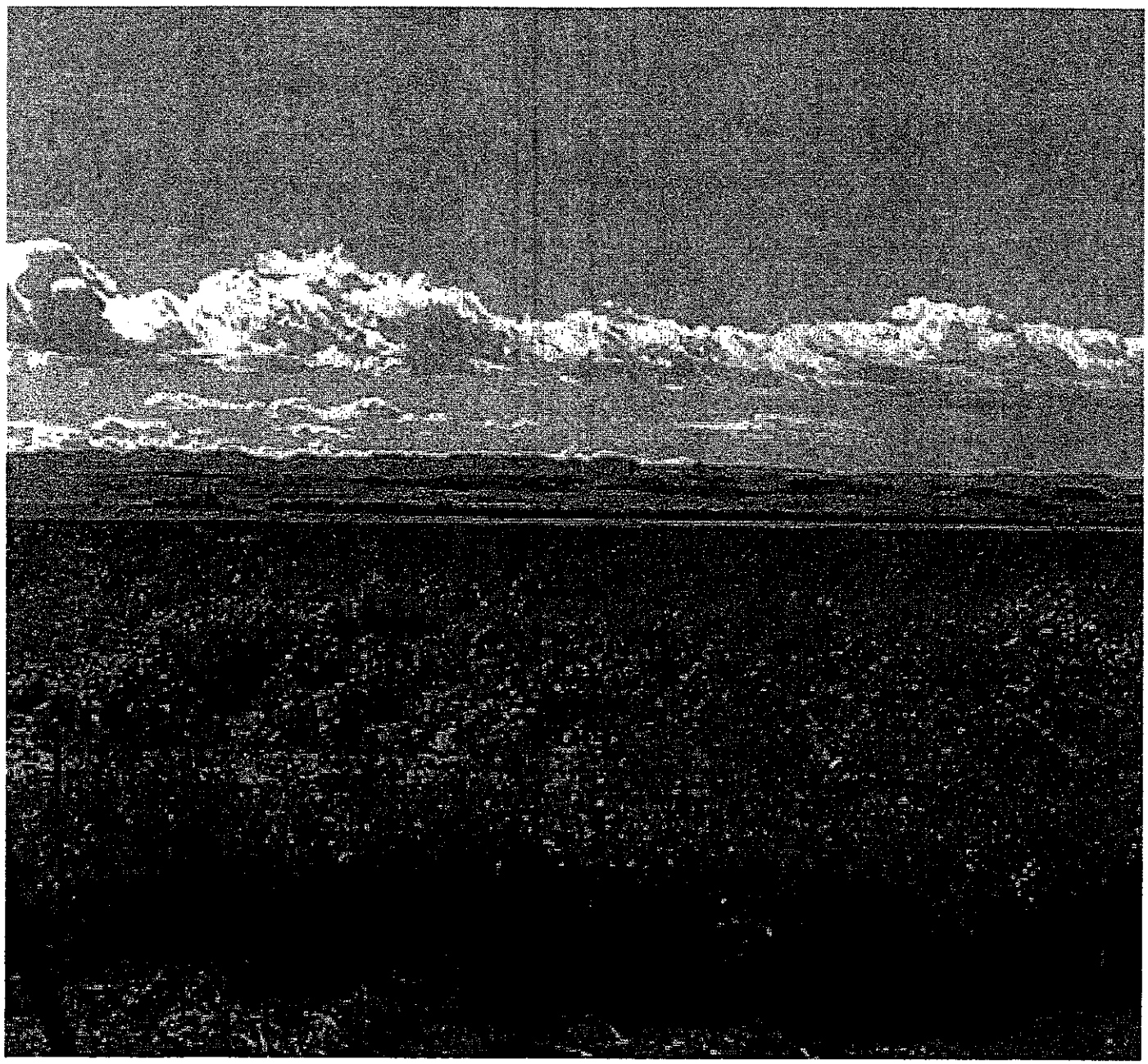
County Road 90 looking southwest

Exhibit "5"
Site Photograph



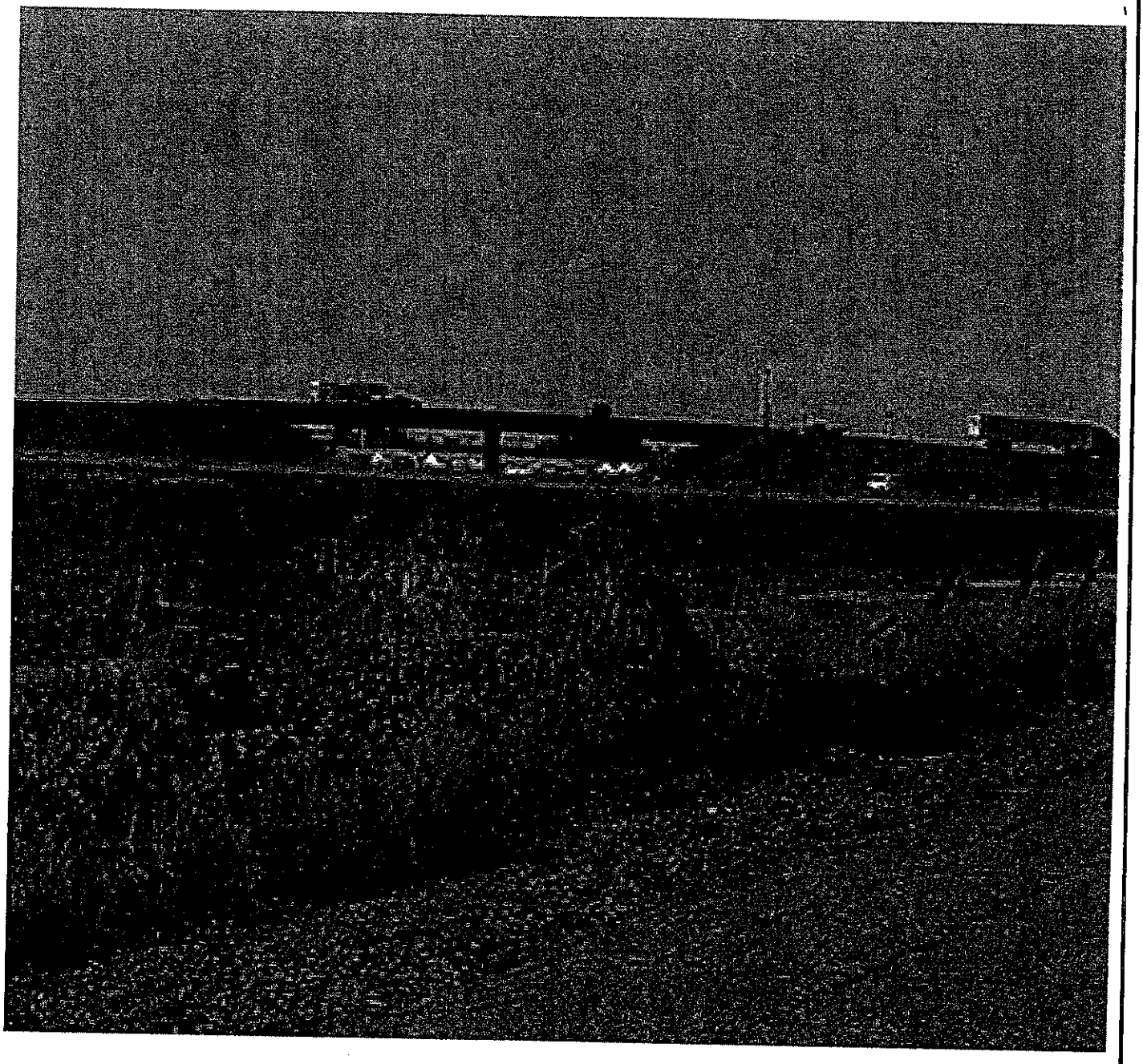
County Road 90 looking northwest

Exhibit "5"
Site Photograph



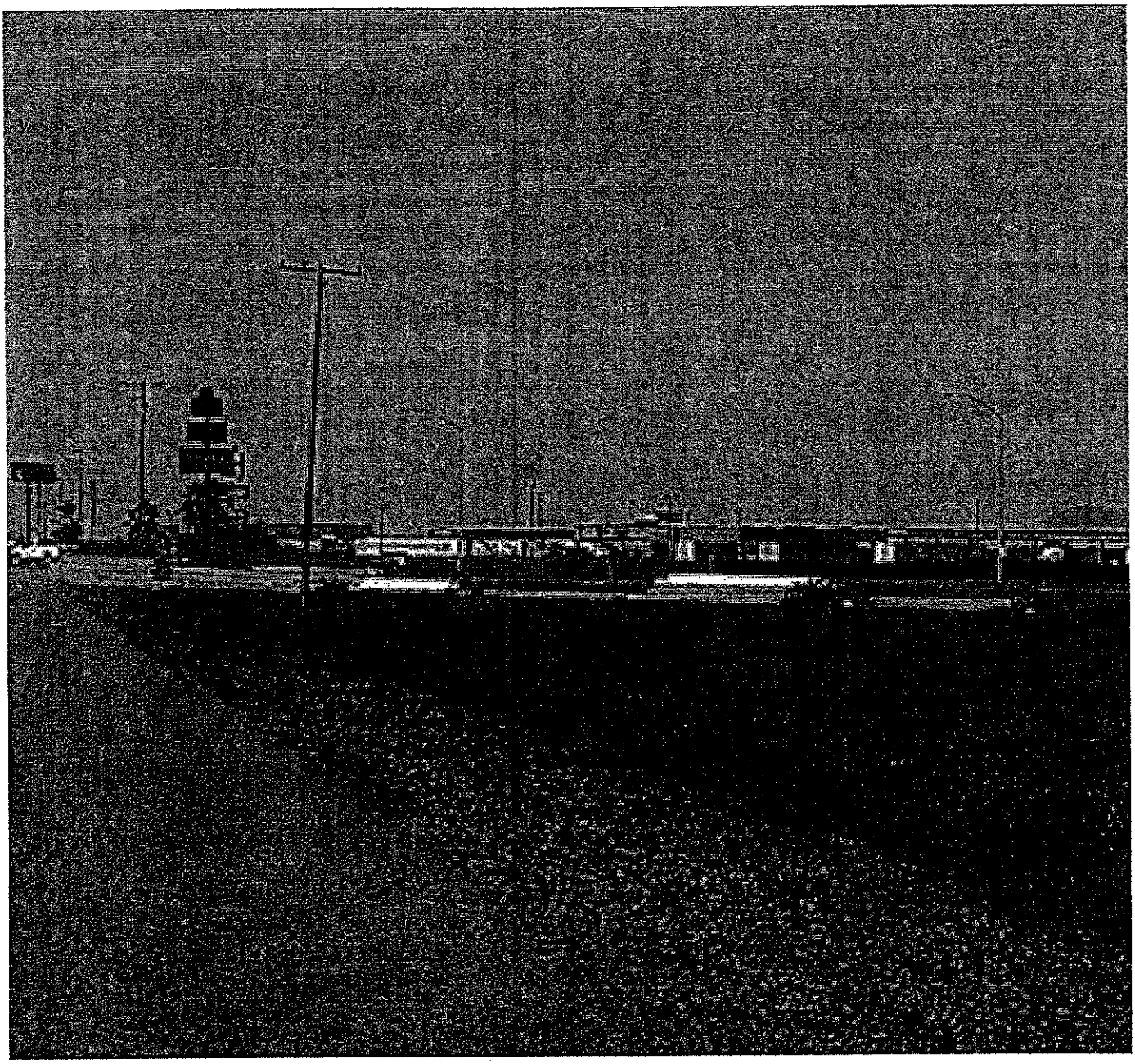
County Road 90 looking west

Exhibit "5"
Site Photograph



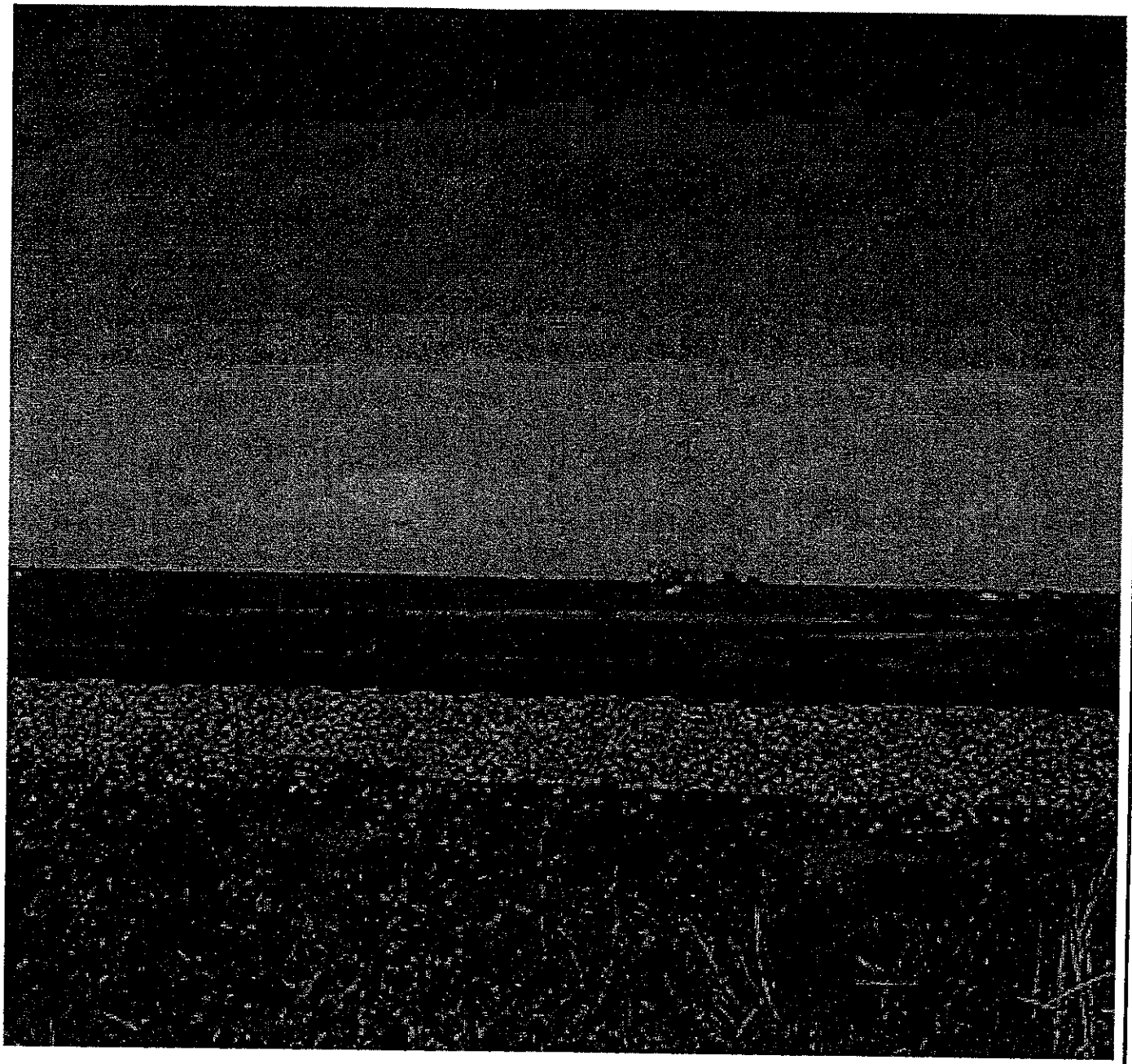
County Road 90 looking northeast

Exhibit "5"
Site Photograph



County Road 90 looking east

Exhibit "5"
Site Photograph



Wastewater pond

Exhibit "5"
Site Photograph

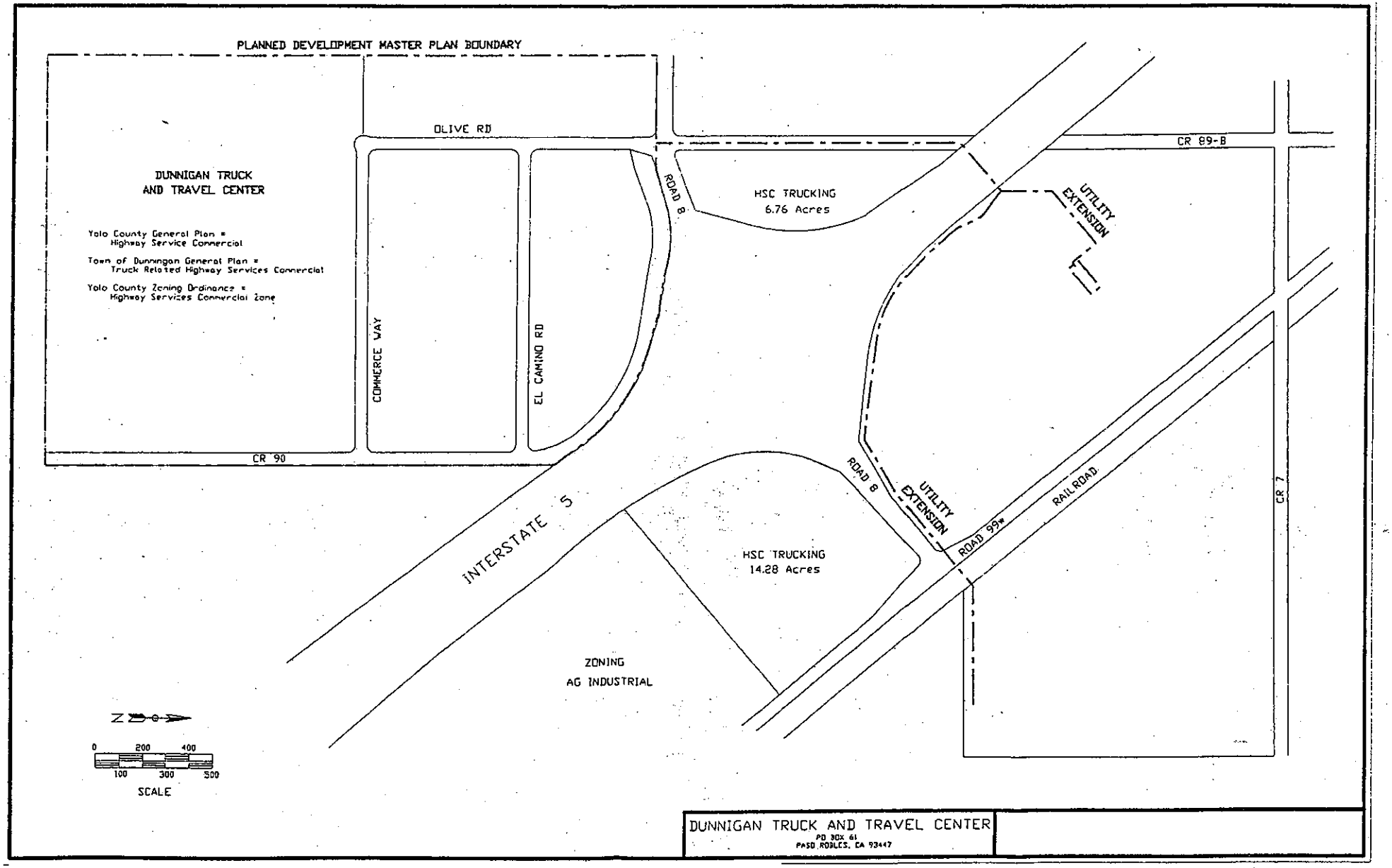
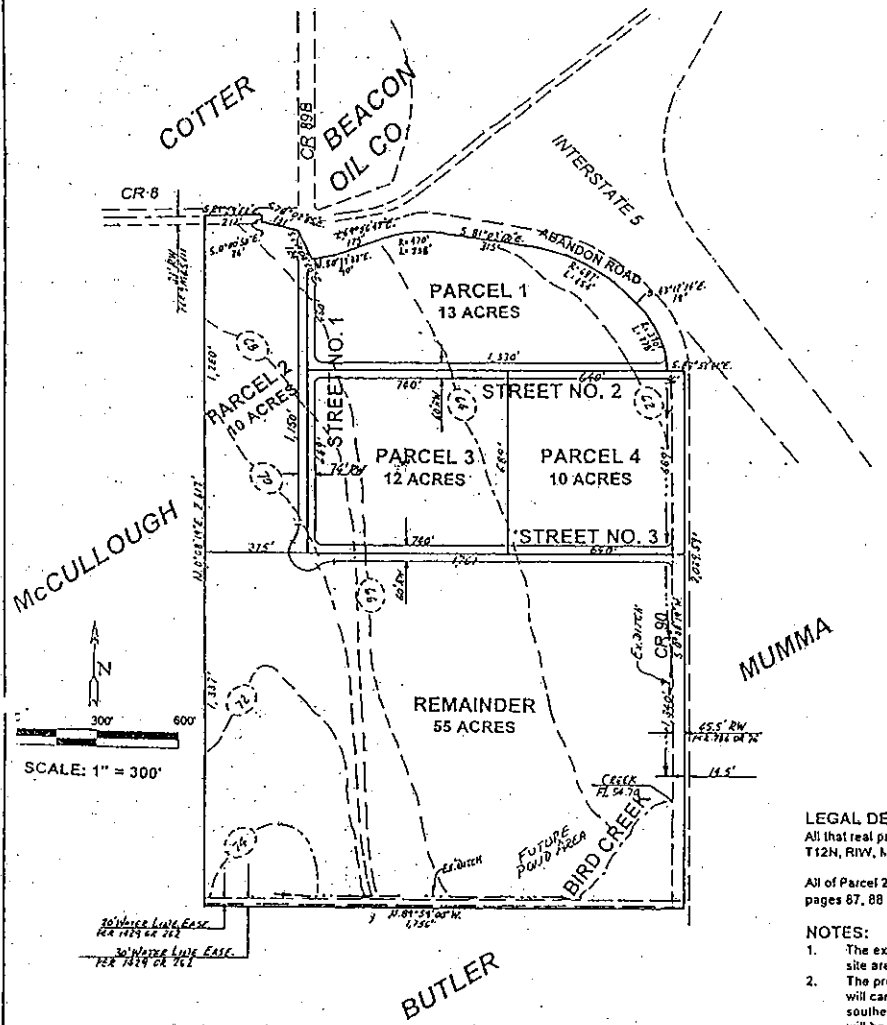
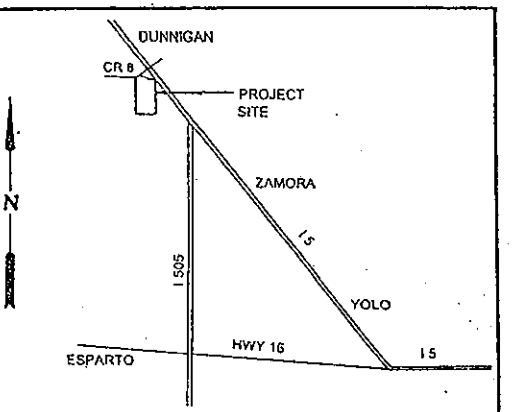
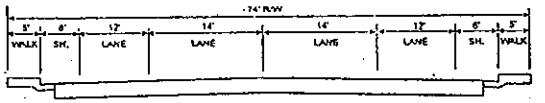


Exhibit "6" - Land Use Map

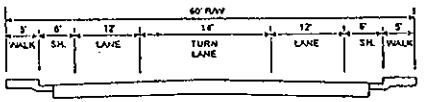




VICINITY MAP
NO SCALE



74 - FOOT R/W STREET
NO SCALE



60 - FOOT R/W STREET
NO SCALE

OWNER AND SUBDIVIDER:	Grant Park Development c/o Mel Smith P.O. Box 61. Paso Robles, CA. 93447
ENGINEER:	Richard Chambers, RCE 24608 NK Engineering & Surveying Co, Inc. 724 "G" Street Davis, CA. 95616
NO OF LOTS:	4 lots and a remainder
AREA:	100 AC
LAND USE:	Existing is one lot and Proposed are 4 lots and a remainder
ZONING:	Existing and Proposed is HSC/PD
SERVICES:	Gas & Electricity by PG&E, Drainage is private, Water & Sewer is by Dunnigan Water Works, telephone is Pacific Bell
FLOOD ZONE:	All in zone C except Bird Creek is zone A
AP. NO:	52-060-11

LEGAL DESCRIPTION

All that real property in the County of Yolo, State of California, being in Section 27, T12N, R1W, MDM described as follows:

All of Parcel 2 of Parcel Map No. 3957 as recorded in Book 10 of Parcel Maps on pages 87, 88 and 89 of Yolo County Records.

NOTES:

1. The existing trees and contours along Bird Creek in the southeast corner of the site are not shown.
2. The project site drains to the east. The drainage ditch on the west side of CR 90 will carry runoff to Bird Creek. There is an existing drainage ditch along the southern property line that carries storm water to Bird Creek. A drainage pond will be constructed in the south east corner of the remainder Parcel to retain runoff and release it at the existing runoff rate into Bird Creek.
3. See the PD standards for additional details on public facilities and services, design standards, and phasing.

NK ENGINEERING AND SURVEYING CO., INC.
724 "G" STREET
DAVIS, CA. 95616

TENTATIVE PARCEL MAP NO. 4565
GRANT PARK DEVELOPMENT

DESIGNED BY: RWC DRAWN BY: GNID	SCALE: 1" = 300'
DATE: 12/11/11 SHEET: 1	APPROVED: RWChambers, RCE 24608 DRAWING NO: 20112.11

Exhibit "7" - Tentative Parcel Map

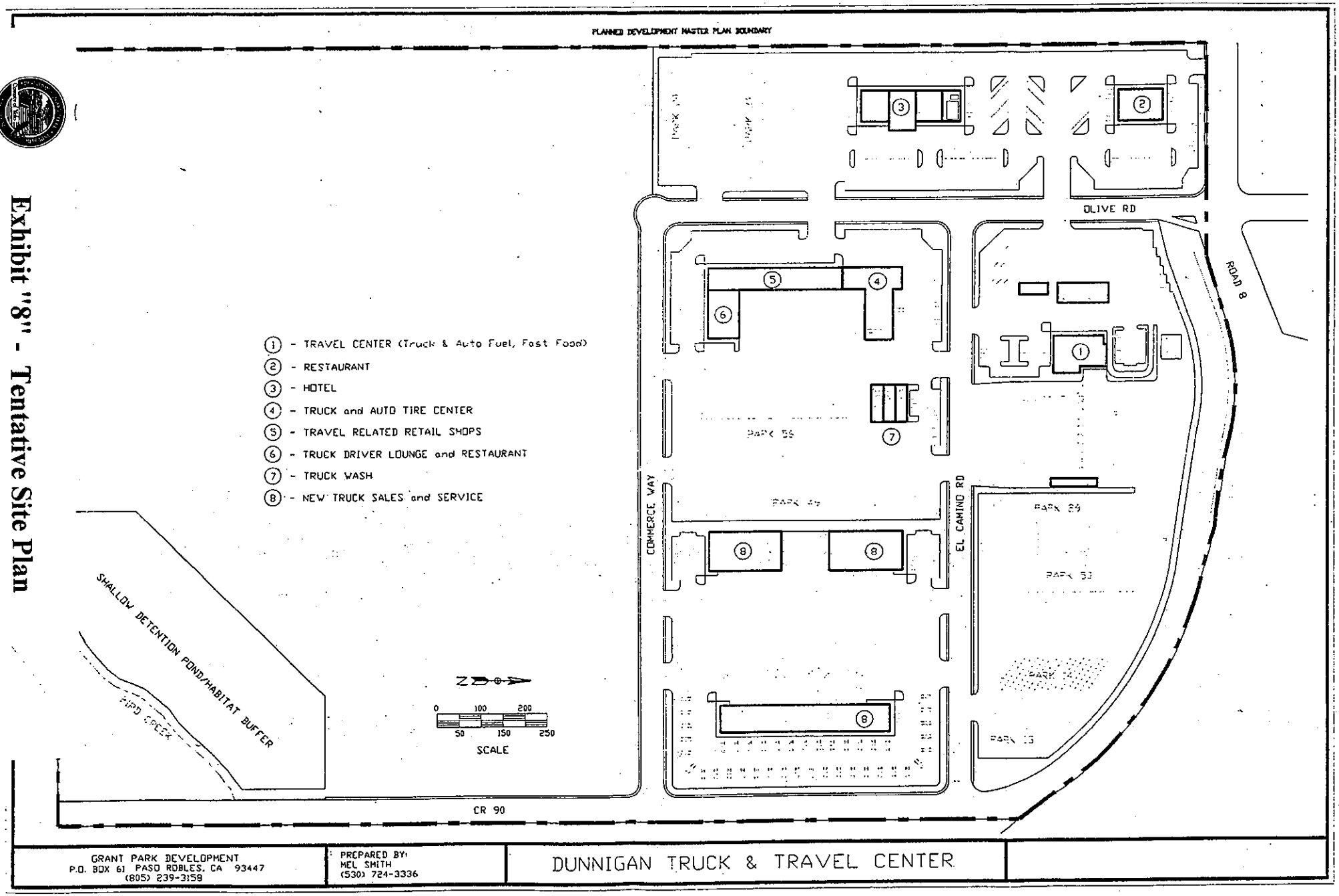


Exhibit "8" - Tentative Site Plan

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
1. LAND USE AND PLANNING. *Would the proposal:*				
a. Conflict with general plan designation or zoning?	☐	☐	☐	■
b. Conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project?	☐	☐	■	☐
c. Be incompatible with existing land use in the vicinity?	☐	☐	■	☐
d. Affect agricultural resources or operations (e.g., impacts to soils or farmlands, or impacts from incompatible land uses)?	☐	☐	■	☐
e. Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?	☐	☐	☐	■

Discussion

Land Use is discussed in Section 4.1 of the Dunnigan EIR.

1a) The DTTC-PD is located within Expansion Area 2 of the Dunnigan General Plan adopted on May 8, 2001. According to the Dunnigan General Plan, Expansion Area 2 envisions an area that would have a restaurant, motel, diesel gas stations, an overhaul repair station, and other uses that would provide a full range of services for the transportation industry subject to approval of a Master Plan that addresses public facilities and services, design standards, phasing, and environmental quality.

The subject property is zoned Highway Service Commercial, Planned Development (C-H/PD). Permitted uses within the Highway Service Commercial, Planned Development Zone include: Automobile repair garages for minor repairs, Automobile Service Stations, Cocktail lounges, Motels and hotels, Restaurants and refreshment stands, and other commercial uses and services, which are consistent with the purpose and intent of the Expansion Area 2, Highway Service Commercial (CH/PD) Zone.

Page 6 of the proposed DTTC-PD sets forth a list uses compatible with the Expansion Area 2, Highway Service Commercial Zone designation. The DTTC-PD Master Plan shall also be subject to the policies and goals of the Dunnigan General Plan, where applicable. Therefore, No Impact will occur.

1b) The 1996, Dunnigan Program and Project level Environmental Impact Report (SCH# 93053066) was Certified concurrently with the adoption of the Dunnigan General Plan in 2001. A similar project (Aulman Property Project) to the proposed DTTC-PD was previously evaluated within the Expansion Area 2. The Certified Dunnigan EIR will therefore be used as the environmental base analysis for the DTTC-PD. Incorporation of Mitigation Measures contained in the Certified Dunnigan EIR and project specific Mitigation Measures contained herein will assure compliance with adopted Environmental Plans and Policies. The proposed DTTC-PD is very similar to the previously evaluated Aulman Property Project. This potential impact is considered less-than-significant. No further mitigation or environmental analysis is proposed.

1c) Existing land uses in the vicinity consist of highway service commercial uses to the north (Beacon Gas Station); Bird Creek to the south; and agricultural lands adjacent east and west. Lands adjoining the DTTC-PD property east consist of row crop agricultural land also designated Community Commercial, Planned Development. Properties to the west are in agricultural production. The Pilot Truck and Travel Center is located across I-5 immediately east. An agricultural/heavy equipment auction yard (Richie Bros.) has recently been approved south of the Pilot Truck and Travel Center.

The Certified Dunnigan EIR identifies conflicts between different land uses, including agricultural vs. non-agricultural conflicts at the urban-rural interface. According to the Dunnigan EIR this conflict was considered a significant impact. Discussion of potential impacts and proposed Mitigation Measure 4.1.2 of the Dunnigan EIR provides a measure to mitigate this impact to a less than significant level. However, discussion and mitigation in the EIR does not identify the proposed project site as potentially impacting agricultural lands.

Based upon comments received from the Yolo County Department of Agriculture, a recommendation of a 500 foot buffer should be established on the north and continue along the west portion of the subject property to Bird Creek. Imposition of a 500-foot buffer would render development of this Expansion Area infeasible.

Further review of existing sensitive land uses in the area consisting of the Beacon Gas Station to the north and the Pilot Travel Center and Richie Brothers Auction Yard to the east reveals that existing uses in the vicinity of the DTTC-PD presently restrict certain pesticide applications. As a result of existing land uses, the proposed DTTC-PD will have no impact on agricultural operations north and east. Adjacent agricultural lands west however, could potentially be impacted by the proposed DTTC-PD project.

To reduce the level of impact of the DTTC-PD on adjoining agricultural lands west, the applicant has contacted the adjacent landowner to ascertain the level of impact on adjoining agricultural operations. The applicant has obtained correspondence from the property owner west indicating that the proposed DTTC-PD will not significantly impact agricultural operations.

The proposed DTTC-PD is consistent with the adopted Yolo County Agricultural Element, Policy A-P-22. Policy A-P-22 of the Yolo County Agricultural Element is based on the Agricultural Commissioner's Permit Conditions for restricted materials for the preservation of agricultural operations.

Policy A-P-22 states: "With the exception of individual residence appurtenant to active farming operations, where new urban (non-agricultural) development is approved adjacent to agricultural lands, it shall be set back a minimum of 150 feet. A setback of 300 feet shall be required for urban uses that adjoin agricultural preserves or active orchards, except where the adjacent property owner agrees in writing that a 300-foot buffer is not needed. In no case shall the buffer be reduced to less than 100 feet."

This potential impact is considered less than significant. No mitigation or further analysis is proposed.

1d) The proposed DTTC-PD project could eventually develop the approximately 100 acre agricultural site for truck related commercial development. According to the Dunnigan EIR, the loss of 100 acres of agricultural land is an un-mitigatable significant impact. Accordingly, the Dunnigan EIR identifies this potential impact as Significant and Unavoidable and a Statement of Overriding Considerations was adopted concurrently with the adoption of the Dunnigan General Plan. The EIR, however, further indicates that development within the Dunnigan General Plan shall mitigate for the loss of agricultural land according to Mitigation Measures 4.1-1 of the EIR and Agricultural Land Conversion Ordinance, Section 8-2.2416 of the County Code. Section III-4.H of the DTTC-PD requires the Master Developer to obtain agricultural mitigation in accordance with Section 8-2.2416 of the Yolo County Code prior to filing of the Final Map. Securing Agricultural Mitigation is consistent with the Dunnigan EIR and County Code. The Dunnigan EIR is sufficient. No further mitigation or analysis is proposed.

e) The DTTC-PD is located at the southernmost portion of the establishing Highway Service Commercial and Agricultural Industrial area of the Dunnigan community. The project site is bordered by agricultural uses, truck related uses and Interstate 5. The proposed project would not physically divide the Dunnigan community, including a low-income or minority community. No impact will occur.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
2. POPULATION AND HOUSING. *Would the proposal:*				
a. Cumulatively exceed official regional or local population projections?	☐	☐	■	☐
b. Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	☐	☐	■	☐
c. Displace existing housing, especially affordable housing?	☐	☐	☐	■

Discussion

Population and Housing are discussed in Section 4.2 of the Dunnigan EIR.

2a) Based on the analysis of the Dunnigan EIR, the proposed DTTC-PD project would generate approximately 218 jobs, which would result in an indirect increase in population by attracting workers who would want and/or need to live in close proximity to their employment. This impact was, however, identified as a less than significant impact with regard to exceeding regional or local population projections. Therefore, the Dunnigan EIR is sufficient. No mitigation or further analysis is proposed.

2b) Growth Management policies of the adopted Dunnigan General Plan stipulate that areas excluding the Expansion Areas identified within the Plan shall be restricted from urban development. Growth inducing impacts have therefore been considered to be less than significant. The Dunnigan EIR is sufficient. No mitigation or further analysis is proposed.

2c) The proposed project would not displace housing, including affordable housing. No impact will occur.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
3. GEOLOGIC PROBLEMS. *Would the proposal result in or expose people to potential impacts involving:*				
a. Fault rupture?	☐	■	☐	☐
b. Seismic ground shaking?	☐	■	☐	☐
c. Seismic ground failure including liquefaction?	☐	■	☐	☐
d. Seiche, tsunami, or volcanic hazard?	☐	☐	☐	■
e. Landslides or mudflows?	☐	☐	☐	■
f. Erosion, changes in topography or unstable soil conditions from excavation, grading, or fill?	☐	■	☐	☐
g. Subsidence of the land?	☐	■	☐	☐
h. Expansive soils?	☐	■	☐	☐
i. Unique geologic or physical features?	☐	☐	☐	■

Discussion

Geologic/Seismic Safety, Drainage and Hydrology are discussed in Sections 4.7 and 4.9 of the Dunnigan EIR.

3a-c) According to the Dunnigan EIR, there is a high potential that the DTTC-PD will be subject to repeated episodes of moderate to strong ground shaking during future earthquakes with epicenters on the major active faults of Northern California or the smaller active faults located within the Sacramento Valley.

The historic record indicates that liquefaction, lurch cracking, lateral spreads and streambank failures have occurred during large earthquakes in Northern California in areas underlain by unconsolidated alluvial materials. Since all of Dunnigan is underlain by unconsolidated Pleistocene and Holocene alluvial fan and basin deposits, there is a moderate potential for significant adverse impacts associated with seismically-induced ground failures to occur in the Dunnigan Area. However, this potential impact will be reduced to a less than significant impact with the following Dunnigan EIR and Project specific Mitigation Measures:

MITIGATION MEASURES:

1) *All buildings shall comply with the seismic safety standards of the Uniform Building Code. This would include designing and constructing all new buildings to resist the effects of the maximum predicted shaking intensities (MM VI-VII) in compliance with the 1997 Uniform building code.*
2) *Subsurface utilities and pipelines shall be designed to accommodate minor differential displacements in areas underlain by unconsolidated alluvial materials.*
3) *The developer shall have a licensed geotechnical engineer conduct a detailed evaluation of the soil conditions for the project site. If expansive soils are determined to be present on the project site, the primary contractor shall employ standard engineering practices that would mitigate the effects associated with expansive materials. Any recommendations regarding soil preparation, structural setback requirements, foundation types, and site drainage made by the licensed geotechincal engineer shall be required as "conditions of approval" for the development of the project site.*

Timing/Implementation: Prior to building permit issuance

Enforcement/Monitoring: Yolo County Building Division

Implementation of the above mitigation measures would reduce potential exposure of people or structures to seismic-related ground failure to a less than significant level.

3d) The DTTC-PD is not in close proximity to any body of water or volcanoes. No impact will occur.

3e) The DTTC-PD project site is relatively level (0%-2% gradient) and would not expose people or structures to potential landslides. No impact will occur.

3f) The DTTC-PD property is underlain by Arbuckle gravelly loam (AaA), Rincon silty clay loam (Rg), and Tehama loam (TaA). All are Class II soils. The engineering properties for the Arbuckle gravelly loam include low shrink-swell potential, slow permeability, and medium strength. The erosion hazard is none to slight. The engineering properties for the Rincon

silty clay loam include high shrink-swell potential, slow permeability, and medium strength. The erosion hazard is none to slight.

The engineering properties of the Tehama loam include moderate shrink-swell potential, slow permeability, and high to medium strength. The erosion is none to slight. According to the Dunnigan EIR, any potential impact would be reduced with the following Dunnigan EIR Mitigation 4.7-4:

MITIGATION MEASURES:

As a component of the required engineered grading plans, the applicant shall submit a detailed erosion control plan for the specific development to minimize sedimentation in the Bird Creek channel. The plan should contain detailed measures to control erosion of stockpiled earth and exposed soil, provide for revegetation of graded slopes before the first rainy season and following construction, and specify procedures for monitoring of the plan's effectiveness. The plan shall include, but not be limited to the following:

1) *Limit the amount of grading as much as possible during the design phase of the project.*
2) *Follow local grading ordinances and recommendations of the developers' geotechicical engineer during grading operations.*
3) *All construction and grading should be restricted to the dry season, April 15 to October 15. All stabilization measures required to provide at least temporary protection against erosion during the rainy season would be installed by October 15. If grading operations cannot be completed before the commencement of the rainy season, temporary erosion control measures shall be designed to intercept sediments and debris that may be eroded from the development site.*
    1) *Provide for erosion control on all bare areas during the potential rainy season (October 16 through April 14).*
    2) *Revegetate exposed soils as soon as possible after completion of grading and construction activities.*
    3) *Leave existing vegetation undisturbed until construction is actually ready to begin.*
    4) *Immediately revegetate (using drought tolerant, native, fire/frozen tolerant plants) all disturbed areas or otherwise protect them from both wind and water erosion upon the completion of grading actives.*
    5) *Direct runoff away from all areas disturbed by construction.*
    6) *Restrict the operation of vehicles or the riding of horses off of designated roads and trails.*
    7) *Construct temporary sediment basins, sediment ponds, and silt traps and basins where needed for use during project construction.*
    8) *Limit the wet weather of unpaved overflow parking areas to the extent necessary to avoid soil erosion and turf damage, and include inspection of the areas after each use to monitor their condition and ensure their readiness for the next time the areas are needed.*
    9) *Minimize the use of heavy equipment near drainageways to prevent destruction of the local ecosystem and to prevent addition of sediment to the drainageways.*

Timing/Implementation: During project grading and construction

Enforcement/Monitoring: Yolo County Planning and Public Works Department

Implementation of Mitigation 4.7-4 would reduce erosion impacts to a less-than-significant level. The Dunnigan EIR is sufficient. No further mitigation or analysis is proposed.

3g) Differential settlement of unconsolidated natural soils and/or fill materials could cause potentially significant impacts. Long-term settlement could result in cracking of building foundations, interior and exterior walls, window frames, and possibly damage utility connections resulting in potentially significant impacts. However, this potential impact would reduced with the following Mitigation Measure:

MITIGATION MEASURE:

The applicant shall have a licensed geotechincal engineer conduct a detailed evaluation of the soil conditions (soils report) for the project site. If expansive soils are determined to be present on the project site, the primary contractor shall employ standard engineering practices that would mitigate the effects of expansive materials. Any recommendations regarding soil preparation, structural setback requirements, foundation types, and site drainage made by the licensed geotechinical engineer shall be reflected in the Building Plans for the development of the project site.

Timing/Implementation: Prior to Final Map

Enforcement/Monitoring: Yolo County Planning and Public Works Department

Implementation of Dunnigan and project specific Mitigation Measures would reduce this potential impact to a less than significant level. No further Mitigation or analysis is proposed.

3h) Soils of the Rincon silty clay loam and the Tehama loam, which underlie the site are characterized by high shrink-swell potential. This is a potentially significant impact. However, this impact would be reduced to a less than significant impact with the following Dunnigan EIR Mitigation 4.7-3:

MITIGATION MEASURES:

1) *Excavation and re-compaction of weak soils and fills in areas of proposed structures.*
2) *Construction of buildings on pier and grade-beam foundations that are supported at depth on well consolidated sedimentary materials.*
3) *All earthwork shall be in accordance to the adopted soils report*

Timing/Implementation: Prior to Building Permit issuance

Enforcement/Monitoring: Yolo County Building Division

Implementation of Mitigation 4.7-7 of the Dunnigan EIR would reduce differential settlement impacts to a less-than-significant level. The Dunnigan EIR is sufficient.

3i) The Certified Dunnigan EIR does not identify the DTTC-PD site as containing unique geologic or physical features. The Dunnigan EIR is sufficient. No impact will occur.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
4. WATER. *Would the proposal result in:*				
a. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	☐	☐	■	☐
b. Exposure of people or property to water-related hazards such as flooding?	☐	☐	☐	■
c. Discharge into surface waters or other alteration of surface water quality (e.g., temperature, dissolved oxygen or turbidity)?	☐	☐	■	☐
d. Changes in the amount of surface water in any water body?	☐	☐	■	☐
e. Changes in currents, or the course or direction of water movements?	☐	☐	☐	■
f. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or through substantial loss of groundwater recharge capability?	☐	☐	■	☐
g. Altered direction or rate of flow of groundwater?	☐	☐	■	☐
h. Impacts to groundwater quality?	☐	☐	■	☐
i. Substantial reduction in the amount of groundwater otherwise available for public water supplies?	☐	☐	■	☐

Discussion

Hydrology and Drainage are discussed in Section 4.9 of the Dunnigan EIR.

4a) The DTTC/PD is located within the Bird Creek Water shed (Watershed 7) of the Dunnigan Facilities Plan. The Bird Creek Shed is approximately 11,000 acres of open space and agricultural land. The Dunnigan General Plan allows for approximately 220 acres of land to be developed in this watershed, all located adjacent to I-5. According to the Dunnigan General Plan EIR, this area will have little impact on the overall flows (peak flows increased 5%). Although peak reduction due to development may not be an issue, ponds may be required for water quality reasons.

According to the Dunnigan EIR, the DTTC-PD (Aulman Property) site is subject to flooding from Bird Creek and is partially in the 100-year floodplain. Runoff ponds upstream around

the Interstate 5 box culvert and upstream of the County Road 90 bridge have been identifed as historical flood prone areas. Development of the proposed DTTC-PD property would require flood protection from Bird Creek and an on-site collection system for runoff.

The Dunnigan Facilities Plan study for Watershed 7 also concluded the Interstate 5 box culvert 100-year design capacity could be achieved with three (3) feet of head over culverts. This in fact, could occur with the Bird Creek channel flowing at top of bank presuming that no restriction in flow would result from debris accumulation on the upstream face of the culvert.

A drainage study has been prepared for the DTTC-PD by Laugenour & Meikle, consulting engineers. According to the drainage study, the DTTC-PD proposes to accommodate increases in runoff from the proposed development with the construction of a detention basin to restrict flow from the project area to not more than 90% of the peak runoff from a 10-year storm event. The detention basin for the development is intended to detain accumulated run-off from the developed site in a 100 year storm event, while allowing releases through a controlled outlet structure to Bird Creek.

Analyzing elevations at the County Road 90 bridge crossing Bird Creek with the FEMA Flood Insurance Rate Map yields an approximate Base Flood Elevation (BFE) of 63.0 for the adjacent area. With a BFE of 63.0 approximately one foot of flooding could occur in the proposed detention basin area. Since no levees would be constructed around the basin perimeter, any overland flow could also enter the basin where additional capacity would be available within the freeboard area.

The DTTC-PD proposes stormwater drainage facilities to ensure that design of the stormwater drainage system reduces impacts identified in the Dunnigan EIR.

The proposed DTTC-PD has designed an underground storm water drainage system to be constructed for Parcels I-IV, Olive Road, Commerce Way, and El Camino Road. When a project is proposed for the remainder parcel, a drainage system for that parcel will be designed to integrate with the drainage system developed for the first fours phases of the DTTC-PD. As proposed, the impacts of added stormwater from the developed project would be less than significant if:

1) The pond is sized appropriately considering that drainage in Bird Creek may not be possible.
2) The pond volume created lies below existing grades so that existing storage that may be provided on the site is not lost.
3) The pond outflow structure is designed to prevent backflow from the creek.
4) An overflow is provided for controlled releases to and from the pond during flood events.

Implementation of the Storm Water Drainage Facilities Plan by the Master Developer would ensure that the DTTC-PD would have a less than significant impacts on flooding in the Bird Creek Watershed.

4b) The DTTC-PD is in an area of 100 year and minimal flooding according to the FEMA Flood Zone Map (Panel # 060423-0275 B, effective date December 12, 1980). Land designated within 100 year flooding is not proposed for development.

Excess drainage as a result of developing the DTTC-PD site is proposed to be retained by an on-site detention basin located at the southeaster portion of the property. As proposed and verified by the preliminary drainage study, the DTTC-PD will not expose people or property to water-related hazards such as flooding. No impact will occur.

4c) Surface water runoff contacts a number of pollution sources, including construction site pollutants, prior to reaching a stream or detention basin. Control of these pollution sources is required under the NPDES permit by development of a Stormwater Pollution Prevention Program (SWPPP) and compliance with the approved SWPPP.

Urban commercial uses of the DTTC-PD will result in pollution of stormwater runoff. This pollution is controlled by the application of the NPDES, Best Management Practices (BMP) for municipal and commercial organizations. County compliance with municipal BMP's is important to the success of any pollution control plan since many of the pollutants are generated from automobile travel and reach the creeks in the runoff from public roads. Prior to the issuance of grading permits, the applicant shall be required to obtain a NPDES permit and implement BMP's. Examples of BMP's include:

1. Reduction of the area and length of time that the site is cleared and graded;
2. Re-vegetation/stabilization of cleared areas as soon as possible;
3. Implementation of comprehensive erosion, dust and sediment controls;

4. Implementation of a program to control potential construction activity pollutants such as cement mortar, paints, and solvents, fuel and lubricating oils, pesticides and herbicides;
5. The use of paints, petroleum fuels, and other building materials shall cease when conditions including, but not limited to: wind (in excess of 15 mph, wind gusts of 20 mph), rain, or other inclement whether conditions exist.

Compliance with the terms and conditions of the required SWPPP and the NPDES would reduce the impact to a less-than-significant impact. No mitigation or further analysis is proposed.

4d) According to the drainage analysis prepared by Laugenor and Meikle, the DTTC-PD will not change the rate of stormwater discharge into Bird Creek. Excess stormwater generated from the project will be detained in the detention holding pond to alleviate potential flooding.

Discussion with the prior property owner whose family owned the property for 30 years, indicated that flooding along Bird Creek has historically occurred during high intensity rainfall periods at the westerly end of the County Road 99W culverts and at the westerly end of Interstate 5 culverts. The volume of flooding could not be confirmed, however, topographic data showing the relative elevations along Bird Creek from Interstate 5 to County Road 90 show that a significant volume of storage is available upstream on Interstate 5 exceeding the quantity modeled in the Dunnigan Facilities Plan.

The proposed detention facility of the DTTC-PD is located in the southeast corner of the parcel adjoining Bird Creek. Upon site visit, it is evident that excavation of this corner of the parcel has been done at some time in the past making this a logical location for stormwater collection with discharge to the adjacent creek channel. An existing ditch channel paralleling the south property line of the parcel collects and conducts upstream surface run-off to its

terminus with Bird Creek. Other upstream surface drainage is conducted northerly along the westerly property boundary to County Road 8.

Inflow to the detention basin was based on run-off from a 100-year, 24 hour storm event from the entire 98± acre site proposed for development. The additional run-off over and above the existing outflow from a 10-year storm event is the volume to be detained in the basin. The balance of the property (approximately 2± acres) lies south of Bird Creek and will not be developed.

The storage volume required for the basin is 27.76 acre-feet. The basin is located adjacent to Bird Creek in the southeast corner of the property on the west side of County Road 90. The basin area is approximately 8.3 acres. The basin will be designed with a low flow channel to a control structure designed to restrict outflow to the pre-project condition. This potential impact is less than significant.

4e) Based upon the hydrological information provided by Youngdahl Consulting Group, Inc., changes in currents, or the course or direction of water movements is not anticipated. No impact will occur.

4f) According to the hydrogeologic analysis provided by Youngdahl Consulting Group, Inc., an adequate water supply exists in the local portion of the Colusa Subbasin in the Arbuckle and Dunnigan Plains. The estimated perennial yield according to the Bulletin 118 Update (DWR, 2002), estimates a specific yield of 7.1 percent of the Colusa Subbasin. Assuming an aerial extent of 67,200 acres, and an average thickness of 200 feet, this results in at least 954,200 acre-feet of water in storage within the assumed aquifer boundaries. The perennial yield is the amount of water that can be extracted from an aquifer without causing a long term decline in aquifer levels. The DTTC-PD is estimated to require about 263 acre-feet per year. Based upon this analysis, there will be an adequate perennial yield in the local groundwater basin to meet the anticipated demand. This impact is considered less-than-significant. No mitigation or further analysis is proposed.

4g) Bulletin118 Update (DWR, 2002) indicates that about 64,000 acre-feet per year of water undergoes deep percolation from applied water for agriculture in the Colusa Subbasin. If the estimated area is scaled for the Arbuckle and Dunnigan plains, this equates to about 4,600 acre-feet of water per year entering the aquifer from irrigation. Without accounting for lateral inflow from the rest of the Colusa Subbasin, at least 4,600 acre-feet of water could be extracted per year from all uses in the area of the Arbuckle and Dunnigan Plains. This represents the perennial yield for the Arbuckle and Dunnigan Plains based on the information and analysis provided by Youngdhal Consulting Group.

If the entire inflow into the Colusa Subbasin is considered, including deeply infiltrating imported irrigation water, than more than 95,000 acre-feet of water per year could be extracted throughout the Colusa Subbasin. This represents the perennial yield for the Colusa Subbasin. If surface water deliveries stop or are severely reduced, such as in a time extended drought, then the short-term perennial yield would be much smaller.

As noted, the DTTC-PD is estimated to require about 263 acre-feet per year. According to Youngdahl Consulting Group, Inc., there will be an adequate perennial yield in the local groundwater basin to meet this demand. Based upon the analysis provided, this potential impact is less than significant. No mitigation or further analysis is proposed.

4h) According to the Hydrogeologic Study prepared by Youngdahl Consulting Group, Inc., water quality information is available from testing in the Town of Dunnigan via testing of a nearby community well and from Bulletin 118-6 (DWR, 1978). Bulletin 118-6 indicates that high magnesium water occurs east of the Dunnigan Hills. The source may be from magnesium rich water from faulting beneath the east site of the Dunnigan Hills.

A Groundwater pollution study has also been prepared which (Wallace-Kuhl & Associates, Inc., 1993) identified elevated nitrates in domestic wells in the Town of Dunnigan. An inverse relation between nitrate levels as well screen depth was observed.

In 1999, a community well was drilled for the Country Fair Estates mobile home park northeast and adjacent to County Road 8 and Interstate 5. This well was sampled and the water analyzed according to California Code of Regulations Title 22 (CCR Title 22) requirements. In general, the water meets drinking water standards according to the testing and as approved by the Yolo County Environmental Health Department. This most likely represents the water quality that may be present for a well drilled on the project site. No mitigation or further analysis is proposed.

4i) Based upon the analysis presented above, the DTTC-PD is not anticipated to substantially reduce the amount of groundwater otherwise available for public water supplies. This impact is considered less-than-significant. No mitigation or further analysis is proposed

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
5. AIR QUALITY. *Would the proposal:*				
a. Violate any air quality standard or contribute to and existing or projected air quality violation?	☐	■	☐	☐
b. Exposure of sensitive receptors to pollutants?	☐	☐	☐	■
c. Alter air movement, moisture, or temperature, or cause any change in climate?	☐	☐	☐	■
d. Create objectionable odors?	☐	☐	☐	■

Discussion

Air Quality is discussed in Section 4.5 of the Dunnigan EIR.

5a) Dunnigan is within the Yolo/Solano Air Quality Management District (AQMD), which is part of the Sacramento Valley Air Basin. The Yolo/Solano Region is a non-attainment area for state particulate matter (PM10) and ozone standards, and the Federal ozone standard. The project would contribute to air quality impacts including particulate matter (PM10) during construction and reactive organic gases (ROG) and nitrogen oxides (Nox) from additional vehicular traffic to the site. The air quality impacts of the DTTC-PD can be categorized as stationary and mobile sources. Stationary sources can include, but not be limited to: venting of water heaters, commercial kitchens, stationary combustible engines and the like, while mobile sources consist of construction-related actives and additional truck and automobile traffic. Stationary sources are deemed to be a less than significant impact.

Construction equipment would be a source of exhaust emissions during the excavation of a development site within the proposed town limit line. More importantly, during construction the potential for fugitive dust impacts would exist. Fugitive dust can be emitted by the action of equipment and vehicles and as a result of wind erosion over exposed earth surfaces. Clearing, grading, and earthmoving activities comprise the major source of construction dust emissions, but traffic and general disturbance of the soil generate significant dust emissions. Because of this variability construction dust impacts are considered to be potentially significant. However, the following Mitigation Measures 4.5-1 of the Dunnigan EIR and Air Quality Conservation Plan of the DTTC-PD would reduce construction period air quality impacts to a less than significant impact.

MITIGATION MEASURE:

To ensure that construction mitigation is utilized, final approval should not be given to the DTTC-PD project until the developer or contractor submits a satisfactory construction mitigation plan. This plan should specify the methods of control that will be utilized, demonstrate the availability of needed equipment and personnel, and identify a responsible individual who, if needed, can authorize the implementation of additional measures. The construction dust mitigation plan should, at a minimum, include the following:

1) *Provision of equipment and staffing for watering of all exposed or disturbed soil subsurfaces at least twice daily, including weekends, and holidays. An appropriate dust palliative or suppressant, added to water before application, should be utilized.*
2) *Watering or covering of stockpiles of debris, soil, sand, or other materials that can be blown by the wind.*
3) *Regular sweeping of construction area and adjacent street of all mud and debris, since this material can be pulverized and later re-suspended by vehicle traffic.*
4) *Enforcement of a speed limit of 15 miles per hour for all construction vehicles when off pavement.*
5) *All materials transported by truck will be covered or wetted down.*
6) *All inactive portions of the site will be watered with an appropriate dust suppressant, covered or seeded.*
7) *Suspension of earthmoving or other dust-producing actives during periods of high winds when dust control measures are unable to avoid visible dust plumes.*

Timing/Implementation: During Grading and site construction

Enforcement/Monitoring: Planning and Public Works Department

For long-term mobile sources, the Air Resources Board (ARB) has identified diesel particulate emissions as a toxic air contaminant, but modeling tools needed to quantify the potential risk for a project specific site are not yet available. ARB has proposed risk reduction measures to reduce the toxic emissions from diesel engines. These measures will be phased in over the next 4 to 20 years, and will significantly (i.e. up to 85 percent) lower the emissions and associated health risks from diesel engines. The measures proposed include low sulfur fuels and use of diesel particulate filters.

The potential health risks from diesel emissions resulting from the DTTC-PD proposal is less than the potential risks from the surrounding land uses, particularly the traffic on Interstate 5. Diesel emission risks decrease significantly considering such factors as obstructions, sound walls, and buffers (distance to nearest sensitive receptor). As proposed, the DTTC-PD is approximately 500 meters away from the County West Mobile Home Park. According to representatives of the Yolo/Solano Air Quality Management District, it is estimated that the impact at a 1,000 meters would be one (1) case of cancer in a million (1,000,000). The Thresholds of Significance for diesel particulate emissions is ten (10) cases in a million (1,000,000) based upon adopted Environmental Health Standards. Using these adopted standards and given the DTTC-PD is separated from the County Fair Estates Mobile Home Park by 500 meters, an over-pass and proposed landscaping buffer, the Air Quality Management District has determined that the DTTC-PD is below adopted Thresholds of Significance in accordance with Environmental Health Standards.

The Yolo/Solano AQMD and the California Air Resources Board (CARB) maintain several air quality monitoring sites in Yolo County., Currently the CARB monitors ozone levels in Davis, while the Yolo/Solano AQMD monitors ozone in Woodland and PM-10 levels in West Sacramento and Woodland. The Air Quality Management District has provided Air Quality Analysis using the URBEMIS 2002, air quality program.

The following table estimates Unmitigated Operational Emissions as a result of the DTTC-PD:

	ROG	NOx	CO	SO2	PM10
Total Emissions	7.75	46.57	70.00	0.64	6.24

Key: ROG- Regional Organic Gases, Nox - Nitrogen Oxides, CO- Carbon Monoxide, SO2- Sulfur Dioxide, PM10- Particulate Matter, 10 Micron
Does not include correction for pass-by trips
Does not include double counting adjustment for internal trips

OPERATIONAL (vehicle) EMISSION ESTIMATES
EMFAC2002

Vehicle Assumptions Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.00	2.30	97.10	0.60
Light Truck<3,750 lbs	0.00	4.00	93.40	2.60
Light Truck 3,751-5,750	0.00	1.90	96.80	1.30
Med Truck 5,751-8,500	0.00	1.50	95.60	2.90
Lite-Heavy 8,501-10,000	0.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.00	0.00	66.70	33.30
Med-Heavy 14,001- 33,000	0.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	50.00	0.00	12.50	87.50
Line Haul > 60,000	0.00	0.00	0.00	100.00
Urban Bus	0.00	0.00	0.00	100.00
Motorcycle	0.00	87.50	12.50	0.00
School Bus	0.00	0.00	0.00	100.00
Motor Home	0.00	14.30	78.60	7.10

Travel Conditions	Residential				Commercial	
	Home-Work	Home -Shop	Home-Other	Commute	Non-work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	100.0	0.0	0.0			
% of Trips - Commercial (by land use)						
DTTC-PD				2.0%	1.0%	97.0%

As shown above, impacts of the DTTC-PD are estimated at ROG at 7.75 lbs./day, Nox at 46.57 lbs./day and PM10 at 6.24 lbs./day. The Yolo/Solano Air Quality Management District Thresholds of Significance are 82 lbs./day for ROG, and Nox and 150 lbs./day for PM10.

While the project proponent is aware of emissions of diesel PM, the YSAQMD plans to fully explore and engage in dialogue with the individual developer concerning opportunities for using feasible and visible alternative technologies to reduce diesel PM emissions.

Air Quality design strategies proposed by the Dunnigan EIR for the DTTC-PD project include:

- Provide for the future installation of alternative fuels (compressed natural gas, electricity) refueling equipment within the truck stop.
- Develop the employment generating portions of the project under a trip-reduction program requirement; and,
- Promote the use of electrical-powered rather than fossil-fuel powered equipment and vehicles.

Implementation of the above measures could expect to reduce project impacts, However, total buildout of the Dunnigan General Plan is still considered potentially significant and unavoidable. Therefore, a Statement of Overriding Considerations was adopted in conjunction with the Dunnigan General Plan. The Dunnigan EIR is therefore sufficient. No mitigation or further analysis is proposed.

5b) According to the Dunnigan EIR, the DTTC-PD (Aulman Property) site will not expose sensitive receptors to pollutants. No impact will occur.

5c) The proposed DTTC-PD proposes design features to reduce the potential of the DTTC-PD becoming a heat island. Specific methods to reduce the impacts caused by the construction of building and excessive parking lot paving include parking lot trees that will provide 50% shade within a 5 year period, where practicable, reflective coatings of paving, and reflective materials used for rooftops. Implementation of the Air Quality Section of the DTTC-PD would reduce this potential impact to a less than significant level. No mitigation or further analysis is proposed.

5d) Development of the DTTC-PD from its present agricultural state is not anticipated to create objectionable odors. No impact will occur.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
6. TRANSPORTATION/CIRCULATION. *Would the proposal result in:*				
a. Increased vehicle trips or traffic congestion?	☐	■	☐	☐
b. Hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	■	☐
c. Inadequate emergency access or access to nearby uses?	☐	☐	■	☐
d. Insufficient parking capacity on-site or off-site?	☐	☐	☐	■
e. Hazards or barriers for pedestrians or bicyclists?	☐	☐	☐	■
f. Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	■
g. Rail, waterborne or air traffic impacts?	☐	☐	☐	■

Discussion

Transportation/Circulation are discussed in Section 4.3 of the Dunnigan EIR.

6a) The project site is located on the southwest quadrant of County Road 8 and Interstate 5. Northbound and southbound on/off ramps adjoin the subject site. To evaluate potential traffic impacts of the DTTC-PD, a Traffic Study has been prepared by Grandy and Associates to evaluate traffic impacts as a result of implementation of the DTTC-PD as well as other project in the vicinity.

The operating conditions of transportation facilities of the DTTC-PD are described in terms of their relative "level of service" (LOS). The concept of levels of service uses qualitative measures that characterize operational conditions and their perception by motorists. The descriptions of LOS characterize operational conditions in terms of such factors as speed and travel time, traffic interruptions, and comfort and convenience.

Three study intersections (CR8/I-5 SB Ramp, CR8/I-5 NB Ramp, and CR 8/CR 99W) were evaluated by Grandy and Associates. These intersections currently operate at service level A or B conditions meaning uncontested operations, volumes 50 percent of capacity or less.

The traffic study evaluated traffic conditions under a variety of scenarios, including, but not limited to: existing, Phases I and II, General Plan Build Out plus Phases I-IV and warehouse and the Auction Yard. In addition, an analysis of freeway mainline conditions as well as ramp merge and diverge conditions in the vicinity of the I-5 and County Road 8 interchange were conducted.

The conclusion of Grandy and Associates is that reductions in levels of service would present a significant impact to the area. However, the following Mitigation Measures would reduce these potential impact to a less than significant level:

MITIGATION MEASURES:

1.1(a) A single-lane roundabout shall be installed on County Road 8 at the project access point. The developer shall widen CR8, between the I-5 southbound ramps and the project access, to provide a four-lane section. The four-lane section of CR8 shall include two interior lanes that feed the roundabout at the western terminus and the CR 8 overpass of I-5 at the eastern terminus of the section; the outer lane on eastbound CR8 shall terminate at a right turn onto the southbound on-ramp to I-5, while the outer lane on westbound CR8 will terminate at a right turn onto CR89B. The existing portion of this segment of CR8 shall be resurfaced.

1.2(a) The intersection of CR8/CR99W shall have a traffic signal installed and be widened to provide an exclusive northbound left turn lane and an exclusive eastbound left turn lane.

1.2(b) The intersection of CR8/I-5 Northbound Ramps shall have a traffic signal installed and be widened to provide an exclusive northbound left turn lane, an exclusive eastbound left turn lane, and an exclusive westbound right turn lane.

1.2(c) The intersection of CR8/I-5 Southbound Ramps shall have a traffic signal installed and be widened to provide an exclusive southbound left turn lane, an exclusive westbound left turn lane, and an exclusive eastbound right turn lane.

1.3(a) The intersection of CR8/CR 99W shall have a traffic signal installed and be widened to provide an exclusive northbound left turn lane and an exclusive eastbound left turn lane. The project shall pay a fair share of the improvements required under the General Plan no project scenario.

1.3(b) The intersection of CR8/I-5 Northbound Ramps shall have a traffic signal installed and be widened to provide an exclusive northbound left turn lane, an exclusive eastbound left turn lane , and an exclusive westbound right turn lane. The project shall also pay a fair share of the improvements required under the General Plan No Project scenario.

1.3(c) The intersection of CR8/I-5 Southbound Ramps shall have a traffic signal installed and be widened to provide an exclusive southbound left turn lane, an exclusive westbound left turn lane, and an exclusive eastbound right turn lane. The project shall pay a fair share of the improvements required under the General Plan No Project scenario and fund the installation of the exclusive eastbound right turn lane.

1.3(d) A single-lane roundabout shall be installed on CR8 at the project access point. The project should widen CR8, between the I-5 southbound ramps and the project access, to provide a four-lane section as described previously. The existing portion of the segment of CR8 shall be resurfaced.

Timing/Implementation: As indicated in the following Table

Enforcement/Monitoring: Planning and Public Works Department.

The following table provides a preliminary mitigation plan for all of the improvements needed for the study intersections, including the mitigation plan described above for the Truck Stop Project. This overall mitigation plan is based on the DTTC-PD as well as the Auction Yard TIS. The table also shows mitigation previously conditioned on the development project at the northeast quadrant of the interchange.

MITIGATIONS	NE QUADRANT	TRUCK STOP	AUCTION YARD	37-ACRE HC
1.CR 8/1-5 SB Ramps				
Install 3-way Stop Sign		Phases 1&2		
Install Traffic Signal		Phase 3[1]		Reimburse (40%)
Install southbound left turn lane		Phase 5		Reimburse (40%)
Install westbound left turn lane		Phase 5		Reimburse (40%)
Install eastbound right turn lane		Phases 1&2		Reimburse (40%)

[1] Should the 37-acre Truck HC Parcel develop prior to Phase 3 of the Truck Stop Project, the project would be responsible for implementing this mitigation measure, with subsequent reimbursement from the Truck Stop Project.

2. CR 8/I-5 NB Ramps				
Install 3-way Stop Sign		Phase 3		
Install Traffic Signal		Reimburse (53.5%)[2]		Condition
Install northbound left turn lane				Reimburse (40.5%)
Install eastbound left turn lane				Condition
Install westbound right turn lane	Condition			
3. CR 8/CR 99W				
Install Traffic Signal			Condition	
Install northbound left turn lane			Condition	
Install eastbound left turn lane	Condition			
Install southbound right turn lane	Condition			
4. CR 8/Truck Stop Access				
Install Roundabout		Phases 1&2		Reimburse (41%)
5. County Road 8				
Widen from I-5 to CR 89B		Phases 1&2		Reimburse (41%)
Widen from I-5 to CR 99W	Condition			
6. County Road 99W				
Improve north of CR 8	Condition			
Improve south of Pilot Truck Stop			Condition	

Implementation of the traffic improvements in accordance with the table above will reduce potential traffic impacts to a less than significant level.

6b) The DTTC-PD does not incorporate design features that would substantially increase hazards or introduce incompatible uses. Although the project would introduce additional semi-trucks onto County Road 8 and at intersections between the project site and Interstate 5, the area is presently used for Truck related Highway Service Commercial Uses. All proposed improvements shall be constructed in accordance with Yolo County and Caltrans standards. Prior to Filing of the Final Map, the applicant shall submit "as built" improvement plans. An improvement agreement shall be entered into by the developer to assure that improvements of the DTTC-PD will be constructed. Therefore, this potential impact is less than significant. No mitigation or further analysis is proposed.

6c) The DTTC-PD is required to comply with Yolo County, Department of Transportation and Dunnigan Fire District design standards for circulation. The DTTC-PD would not result in inadequate emergency access. This potential impact is less than significant. No mitigation or further analysis is proposed.

[2] Should phases 3-5 of the Truck Stop Project develop prior to the 37-acre Truck HC parcel, that project would be responsible for implementing this mitigation measure, with subsequent reimbursement from the 37-acre Truck HC parcel.

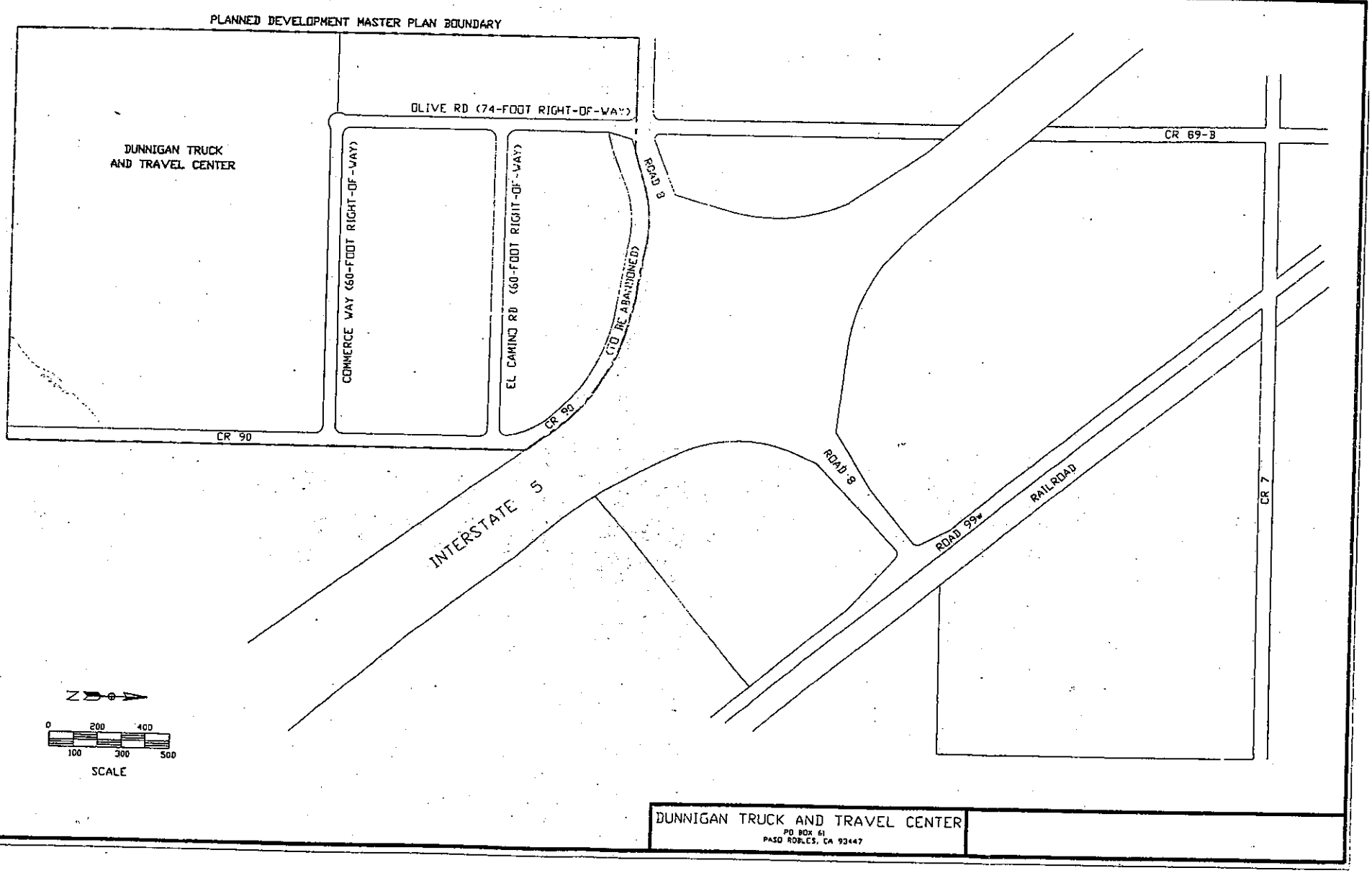
6d) The DTTC-PD is required to meet the parking standards established by the Yolo County Code and DTTC-PD. Approval of the project is contingent on adequate parking supply. Prior to building permit issuance, the applicant shall acquire site plan approval to assure adequate parking. No mitigation or further analysis is proposed.

6e) The DTTC-PD would not present hazards or barriers for pedestrians or bicyclists. On-site improvements include sidewalks and round-a-bout design to include pedestrian crossing. No impact
will occur.

6f) The DTTC-PD would not conflict with adopted policies, plans, or programs supporting alternative transportation. No impact will occur.

6g) The DTTC-PD will not impact rail, waterborne or air traffic impacts. No impact will occur.

Exhibit "9" - Circulation Map



	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
7. BIOLOGICAL RESOURCES. *Would the proposal result in impacts to:*				
a. Endangered, threatened or rare species or their habitats (including, but not limited to plants, fish, insects, animals, and birds)?	☐	■	☐	☐
b. Locally designated species (e.g., heritage trees)?	☐	☐	■	☐
c. Locally designated natural communities (e.g., oak forest, coastal habitat, etc.)?	☐	☐	☐	■
d. Wetland habitat (e.g., marsh, riparian and vernal pool)?	☐	☐	☐	■
e. Wildlife dispersal or migration corridors?	☐	☐	■	☐

Discussion

Biological Resources are discussed in Section 4.8 of the Dunnigan EIR.

7a-e) According to the Dunnigan EIR, the Bird Creek corridor in the vicinity of the site contains the most well-developed riparian habitat in the Dunnigan Planning Area. As previously proposed with the Aulman Property Project, a habitat buffer area of approximately 24 acres was to be established between the commercial use and the north bank of the creek thereby providing adequate protection of the sensitive corridor. The DTTC-PD proposes a detention basin at the southeastern portion of the project site. The DTTC-PD however, does not entail such a habitat buffer as identified in the Dunnigan EIR. The absence of such a buffer could present a potential significant impact on habitat. However, this impact would be reduced with the following Dunnigan EIR mitigation measures 4.8-2 and 4.8-5:

MITIGATION MEASURES:

1. *All native trees with trunk diameters exceeding 12 inches and existing riparian habitat should be mapped as part of the landscape submittal for the DTTC-PD. Said landscape plans should be reviewed to determine whether sensitive vegetation resources would be adversely affected by the proposed development plan, including construction-related impacts and long-term affects due to changes in drainage or irrigation. Treatment of trees to be preserved shall be addressed as a tree preservation component of the Landscape Plan for development. Standards contained in the tree preservation component of the Plan should include the following:*

a) *Trees to be retained should be identified in the field through flagging or other obvious marking methods prior to any grading.*
b) *tree or group of trees to be retained in the vicinity of grading to avoid compaction of the root zone and mechanical damage to trunks and limbs.*
c) *Paving within tree driplines should be prohibited or stringently minimized, using porous materials such as gravel, loose boulders, cobbles, wood chips or bark mulch where hardscape improvements are necessary for access in the vicinity of trees.*
d) *Trenching should be prohibited within tree driplines. Any required utility line poles within the dripline should be installed by boring or drilling through the soil.*
e) *Landscape irrigation within tree driplines should be minimized. Turf or any landscaping with high water requirements should be prohibited. Permanent irrigation improvements should be limited to bubbler, drip, or subterranean systems.*

2. *Bird Creek and detention basin shall be preserved and enhanced as open space features and wildlife corridors. A minimum of 100 feet shall be provided from the top of both sides of the creek bank. Where well-developed riparian cover is absent, a mosaic of native riparian and upland species trees and shrubs shall be established along the creek corridors to provide protective cover for wildlife and enhance the habitat of the setback area. The creek preservation and enhancement effort should be a required component of the Landscape Plan, prepared by a Landscape Architect familiar with native plants and restoration of riparian habitat.*

3. *Any proposed modifications to the Bird Creek channels shall be coordinated with representatives of the CDFG and U.S. Army Corps to ensure that the concerns and possible requirements of both agencies can be easily incorporated n the proposed plans. Jurisdictional determinations and appropriate mitigation may be required subject to the provisions of Section 404 of the Clean Water Act and Sections 1601-1606 of the CDFG Code.*

4. *Future landscaping along riparian and wildlife sensitive areas and private developments within the DTTC-PD shall emphasize the use of native tree species to the extent possible. Suitable native species for use in landscaping improvements include: valley oak (Quercus lobata), blue oak (Quercus douglasii), live oak (Quercus agrifolia), Fremont cottonwood (Populus Fremonti),, California buckeye (Aesculus californica), and Black Walnut (Juglans hindsii).*

5. *The applicant shall be required to consult with the California Department of Fish and Game to mitigate for the loss of Swainson Hawk foraging habitat in accordance with CDFG and Yolo County Habitat Mitigation requirements. A copy of the fully executed habitat management agreement with the CDFG shall be submitted to the Yolo County Planning and Public Works Department prior to the issuance of grading permits or initiation of site improvements, which ever occurs first.*

6. *A pre-construction survey shall be conducted by a qualified biologist and submitted to the Planning and Public Works Department. If raptor nests are encoountered, an appropriate buffer zone shall be established based on topography, vegetation screening, and adjacent habitat, and construction activities shall be prohibited within the zone during the nesting season (nesting season is typically from May through August).*

7. *If identified, representatives from CDFG and USFWS shall be consulted to determine whether the nest tree or burrow shall be protected and a permanent buffer established to ensure future use or whether the nest site may be destroyed one the young have fledged.*

Timing/Implementation: Prior to Grading and Building Permit issuance.

Enforcement/Monitoring: Planning and Public Works Department

Implementation of the above mitigation measures will reduce this potential impact to Biological Resources a less than significant level. The Dunnigan EIR is sufficient.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
8. ENERGY AND MINERAL RESOURCES. *Would the proposal:*				
a. Conflict with adopted energy conservation plans?	☐	☐	■	☐
b. Use non-renewable resources in a wasteful and inefficient manner?	☐	☐	☐	■
c. Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	■

Discussion

Resources are discussed in Section 4.6 and 4.7 of the Dunnigan EIR.

8a) The DTTC-PD proposes a number of energy efficiency design standards including Landscaping within parking areas and reflective materials

The DTTC-PD will also be subject to adopted energy conservation plans adopted by Yolo County. In accordance with adopted conservation plans, all new buildings in Yolo County must meet the energy efficiency standards contained in Title 24, for commercial facilities. Compliance with Title 24 will ensure that all structures are constructed in accordance with accepted local and state energy efficiency standards. In addition, the project will be subject to the Uniform Plumbing Code for water efficiency. Therefore, this potential impact to a less than significant impact. No mitigation or further analysis is proposed.

8b,c) The proposed project will not use non-renewable resources in a wasteful and inefficient manner. The subject site is not designated as an area of significant mineral resources, significant aggregate deposits, or potential clay deposits. No impact will occur.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
9. HAZARDS. *Would the proposal involve:*				
a. A risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation)?	☐	☐	■	☐
b. Possible interference with an emergency response plan or emergency evacuation plan?	☐	☐	☐	■
c. The creation of any health hazard or potential health hazard?	☐	☐	■	☐
d. Exposure of people to existing sources of potential health hazards?	☐	☐	☐	■
e. Increased fire hazard in areas with flammable brush, grass, or trees?	☐	☐	☐	■

Discussion

Hazards are discussed in Section 4.3.3 of the Dunnigan EIR.

9a) The DTTC-PD will involve the routine transport, use, and disposal of hazardous materials normally associated with fueling stations and underground tanks. As a result, there is a risk of accidental explosion. All structures will be constructed in accordance with Federal, State and local regulations including, but not limited to: Uniform Fire Code, Building, Mechanical, Plumbing and Electrical Codes, as amended and adopted by Yolo County. Fuel dispensing shall also be in accordance with the Yolo/Solano Air Quality requirements. Compliance with federal, state and local regulations will reduce the potential impact of accidental explosion, or release of hazardous substances to a less-than-significant impact. No mitigation or further analysis is proposed.

9b) The DTTC-PD would not interfere with any adopted emergency response or evacuation plans. No impact will occur.

9c) During various phases of construction activity of the site, there is an element of risk associated with construction for contractors and the public. However, this potential impact will be reduced to a less than significant impact with the following project conditions:

During all phases of construction, the contractor(s) shall maintain an orderly and safe construction site, including but not limited to:

a) Open trenching and other earthwork shall be completed within 24 hours.
b) All building materials shall be properly stacked, covered and/or inaccessible during non construction hours to prevent displacement.

c) All painting and similar hazardous materials shall be stored in secured premises.
d) Approved perimeter fencing shall be installed during building construction activity.
e) The building site shall be maintained in accordance with California Occupational Safety and Health Administration requirements.

Implementation of the above project conditions will reduce this potential impact to a less-than-significant impact.

9d) The project is not located on a site that is included on a list of hazardous materials sites compiled by the Yolo County Environmental Health Department-Hazardous Waste Sites. The DTTC-PD will not expose people to existing sources of potential health hazards. No impact will occur.

9e) The proposed DTTC-PD will increase the potential fire hazard of the area which is prone to high fire hazard during the summer months. However, based upon the setbacks required of the development will assure that this potential impact is less than significant.

Development of the subject site for urban type development will reduce the existing potential of fire hazard of brush and grass. No impact will occur.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
10. NOISE. *Would the proposal result in:*				
a. Increases in existing noise levels?	☐	☐	■	☐
b. Exposure of people to severe noise levels?	☐	☐	☐	■

Discussion

Noise is discussed in Section 4.4 of the Dunnigan EIR.

10a) During construction and operation, the DTTC-PD noise levels on-site would exceed an Ldn of 60 dB. However, no sensitive land uses are in close proximity to the proposed DTTC-PD. Therefore, this is a less-than-significant-impact. No mitigation or further analysis is proposed.

10b) High noise levels could be generated with the addition of the proposed land uses. However, these noise levels will not expose people to severe noise levels since there are no existing or proposed noise sensitive receptors near the proposed DTTC-PD. No impact will occur.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
11. PUBLIC SERVICES. *Would the proposal have an effect upon, or result in a need for new or altered government services in any of the following areas:*					
a.	Fire protection?	☐	■	☐	☐
b.	Police protection?	☐	☐	■	☐
c.	Schools?	☐	☐	■	☐
d.	Maintenance of public facilities, including roads?	☐	☐	■	☐
e.	Other governmental services?	☐	■	☐	☐

Discussion

Services are discussed in Section 4.6 of the Dunnigan EIR.

11a) The Dunnigan Fire Protection District is made up of volunteer fire fighters. The DFPD has one 4,000 gallon tanker, one fire engine, two all-wheel drive grass fire vehicles, and one emergency medical vehicle. Development of the DTTC-PD will create additional service demand on the Dunnigan Fire District, requiring new equipment, facilities, and personnel to maintain an acceptable level of service. The Dunnigan EIR indicates that before substantial new development can occur within the town, a Fire District Master Plan is to be developed and adopted by the County. Currently, a Fire District Master Plan has not been adopted. However, a Fire District Master Fee Study (nexus study) is underway to ascertain and establish impact fees for various types of development. Development of the DTTC-PD may present a significant impact on fire services. However, the DTTC-PD proposes the following fee schedule, which could reduce this potential impact to a less than significant level:

- Office, service, and retail buildings less than 4,000 square feet, the applicant shall pay $2.00 per square foot (up to $8,000).
- Office, service, and retail buildings 4,001 - 12,000 square feet, the applicant shall pay $1.50 per square foot ($6001.50-$18,000)
- Office, service and retail buildings 12,001 - 23,000 square feet, the applicant shall pay $1.00 per square foot ($12,001 - $23,000).
- Office, service, and retail buildings larger than 23,000 square feet, the applicant shall pay $0.75 per square foot ($17,250.75 and up).
- Warehouse buildings less than 10,000 square feet, the applicant shall pay $1.00 per square foot (up to $10,000).
- Warehouse buildings 10,001 - 25,000 square feet, the applicant shall pay $0.75 per square foot ($7,500-$18,750).
- Warehouse buildings 25,001 - 100,000 square feet, the applicant shall pay $0.40 per square foot ($10,000.40 - $40,000).

- Warehouse buildings 100,001 - 300,000 square feet, the applicant shall pay $0.25 per square foot ($25,000.25 - $75,000).
- Warehouse buildings larger than 300,000 square feet, the applicant shall pay $0.20 per square foot ($60,000.20 and up).

In consultation with the Dunnigan Fire District Chief, the above fee schedule, based on existing available data, would be acceptable in providing fire service and facilities for the proposed DTTC-PD. However, the Dunnigan Fire District Chief notes that until the Fire District Fee study is completed, the proposed fee amounts could be low. This could result in a potential impact. However, the following mitigation would reduce this potential impact to a less than significant level:

MITIGATION MEASURE:

The project applicant shall consult with the Dunnigan Fire Protection District and reach a mutual agreement that provides reasonable offsets for the project's impacts to fire protection services. Said agreement shall be based on the fee schedule proposed by the DTTC-PD or Fire District Impact Fee Study, when adopted.

Timing/Implementation: Prior to building permit issuance

Enforcement/Monitoring: Planning and Public Works Department

Implementation of the above DTTC-PD Fee schedule or impact fees derived from the Fire District Fee Study, which ever are greater, would reduce this potential impact to a less than significant level.

11b) Police protection is the unincorporated areas of Yolo County are provided by the Yolo County Sheriff's Department. The County is divided into four areas, which are designated by color: Red, White, Green and Blue. Dunnigan is located in the "Green" area, along with the communities of Zamora, Yolo, and Knights Landing.

Currently, one resident deputy patrols the Green zone, with a relief officer covering when the resident officer is off. Generally, there is one officer patrolling each zone in the County, with other officers providing backup as required. In an emergency, as many officers as needed and available would be dispatched, usually between three and five officers and one sergeant. Assistance would also be available in an emergency from the California Highway Patrol.

The DTTC-PD would require additional police patrol, however, the DTTC-PD will not generate additional population thus causing a need for additional police personnel. Therefore, this potential impact is considered less than significant.

11c) The DTTC-PD is not considered a student generator and, therefore, would not affect any school facilities. School impact fees in the amount of approximately $.33 per square foot will be collected by the Pierce Unified School District prior to building permit issuance. This potential impact is less than significant.

11d) The DTTC-PD would not create any additional need for parks and no additional demands on the current park facilities. No impact will occur.

11e) The DTTC-PD proposes infrastructure improvements to be constructed by the Master Developer and subsequent improvements by the Phase Developers. The DTTC-PD further indicates that all public facilities, including stormwater drainage systems, the detention and streets shall be maintained by the County. This could present a significant impact on governmental services in maintaining these facilities and is also contrary to Article 10, Section 8-1.1001 and 8-1.1003 of the Yolo County Code. Section 8-1.1001 and 8-1.1003 requires the developer to construction and bond for all required subdivision improvements to assure orderly development of the site. Sections 8-1.1001 and 8-1.1003 of the County Code will be required as conditions of project approval.

In addition, the proposed DTTC-PD specifies that maintenance of common facilities will be done with the expansion of CSA 11. Expansion of CSA 11 for this development to maintain common commercial facilities may place an undue administrative burden on the County. However, this potential impact would be reduced to a less than significant level with the following mitigation:

MITIGATION:

The DTTC-PD shall be amended to reflect the following:

The developer shall establish a Landowner Association for all parcel owners for maintenance of common private facilities including, but not limited to: detention basin, drainage improvements, landscaping, etc. within the DTTC-PD project area. All private facilities, improvements, infrastructure, systems, equipment, common areas, etc., shall be operated and maintained by the property owner and/or the Landowners Association utilizing Best Management Practices, and in such a manner, and with such frequency, to ensure public health safety and general welfare.

All costs of ownership, operation and maintenance of private facilities, improvements, infrastructure, systems, equipment, common areas. etc., shall be the responsibility of the property owner and/or the Landowners Association. The Landowners Association shall be adequately funded for the purpose of ongoing and long term maintenance of all facilities, improvements, infrastructure systems, equipment, common areas, etc., including the accumulation of a sufficient reserve fund for long-term major repair and/or replacement of the water well and service lines, sanitary sewer system, storm drainage system including detention basin, any private roads, common truck and automobile parking area and all other common facilities as necessary.

Timing/Implementation: Submit developers CC&R's for review Prior to Filing Final Map; Record CC&R's against parcels concurrently with Filing of Final Map.

Enforcement/Monitoring: Planning and Public Works Department

All other service providers have been forwarded the project. No significant impacts have been identified. Therefore, this impact is less-than-significant.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
12. UTILITIES AND SERVICE SYSTEMS. *Would the proposal result in a need for new systems or supplies, or substantial alterations to the following utilities:*				
a. Power or natural gas?	☐	☐	■	☐
b. Communications systems?	☐	☐	■	☐
c. Local or regional water treatment or distribution facilities?	☐	☐	■	☐
d. Sewer or septic tanks?	☐	☐	■	☐
e. Storm water drainage?	☐	☐	■	☐
f. Solid waste disposal?	☐	☐	■	☐
g. Local or regional water supplies?	☐	☐	■	☐

Discussion

Services are discussed in Section 4.6 of the Dunnigan EIR.

12a) PG&E supplies electricity and natural gas to the Dunnigan community through its existing distribution and transmission facilities. The town of Dunnigan is within an electricity service area that runs approximately along Intestate 5, halfway to Arbuckle to the north, and Zamora to the south. The Dunnigan Substation has a capacity of about ten megawatts and is served by a 60 Kilovolt line located along Grieve Road. Natural gas lines are also located throughout the area.

Concurrent with the DTTC-PD site, utilities would be installed during the initial phase of project implementation when all infrastructure and other site improvements would be constructed. According the Dunnigan EIR, buildout of the expansion areas could not be handled by PG&E and any new development would need to undergo a thorough review by PG&E. Before new electric distribution or transmission facilities are expanded, an extensive review by PG&E would be required to determine the best placement of lines and substations. Gas facilities would also need to be upgraded and distribution lines expanded. This potential impact is less than significant.

12b) Pacific Bell was also contacted to determine the effect of the proposed project. No conflicts were foreseen from the preliminary plans permitted, although more detailed site plans would be needed for a completion of services. Submission of such plans is required prior to building permit issuance. Therefore, this impact is less-than-significant.

12c) The Water facilitates plan for the DTTC-PD was developed to incorporate the recommendations of the Dunnigan Facilities Plan. Dunnigan Water Works (DWW) will provide water service to the DTTC-PD. A minimum ten inch-inch distribution main would be installed under I-5 at County Road 89 and continue south into the site at Olive Road.

The minimum ten-inch distribution main shall loop around DTTC-PD within the ROWs of Commerce Way, County Road 90, and El Camino Rd.

The DWW intends to obtain easement dedications from the DTTC-PD to locate a second production well at the south end of the remainder parcel, with parallel supply piping back to the water treatment facility on the east side of I-5. The DWW plans to obtain an easement dedication for additional clear water storage and a pumping station on the remainder near the new well. This potential impact is less than significant.

12d) According to the Dunnigan EIR, which evaluated a similar project (Aulman Property) at the DTTC-PD location, project wastewater flow would be about 170,000 gallons per day at buildout. This would require a pond area of about nine acres, with a two-acre aeration ponds and seven acres in evaporation/percolation ponds. Total site area required for wastewater disposal would be estimated at 12 acres.

According to the DTTC-PD Master Plan, the wastewater facilities are to be constructed by Dunnigan Water Works (DWW). Wastewater treatment service will be provided to the DTTC-PD under will-serve agreements with the individual property owners. The DWW intends to meet future demands by increasing the size of its holding capacity on the east side of Interstate 5. The subject property zoning at this location is Agricultural General (A-1), which requires a Conditional Use Permit for expansion. DWW currently operates two wastewater treatment ponds at this location with a capacity flow rate of 27,000 gallons per day (gpd). The RWQCB issued Waste Discharge Requirements Order Number 93-176 to DWW for the operation of four ponds at its current location east of I-5. With four ponds operating, the maximum permitted discharge is 54,000 gpd. This would result in a potential deficit of 116,000 gpd., which would result in a potentially significant impact. However, DWW will prepare and submit necessary technical reports and plans to RWQCB to receive approval and the required permits for constructing and operating expanded sewer services. Capitol outlay for the construction of the system shall be the responsibility of DWW. The DWW shall obtain all necessary permits to construct the sewer system. A ROWD shall be submitted to the Regional Water Quality Control Board prior any new discharge to the existing system or to any new proposed wastewater treatment and disposal system. The ROWD shall be accompanied by a technical report that should include at least the following items:

1. A detailed engineering design of the proposed wastewater treatment and disposal system. It shall be demonstrated that the upgraded or new treatment facility have sufficient treatment, storage and disposal capacity to accommodate allowable wastewater flow, design seasonal precipitation and ancillary inflow and infiltration during

winter months. Design seasonal precipitation should be based on total annual precipitation using a minimum return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

2. A detailed assessment of both the individual and cumulative wastewater characteristics must be completed in order to determine the appropriateness of combining such waste streams, identify the potential threats to water quality, and determine the required level of treatment to eliminate such threats.

3. It must be demonstrated that a minimum of five feet of separation is maintained between the base of the disposal system and the uppermost groundwater aquifer at all times, including during periods of extremely wet weatehr conditions. Based upon on site specific conditions, the Board may require that the ponds be lined to ensure the protection of water quality.

4. Demonstration that the proposed discharge will not threaten to degrade water quality or create a condition of pollution and/or nuisance and that the proposed treatment and disposal system be designed such that water quality is protected.

The construction and operation of the ponds could be carried out with less-than-significant impacts, provided the work meets all permit conditions imposed by the Central Valley Regional Water Quality Control Board.

Additionally, construction associated with the project will disturb more than five acres and therefore, will require a permit under the National Pollution Discharge Elimination System (NPDES) General Permit No. CAS000002 for Discharges of Storm Water Associated with Construction Activity. Before construction begins, the proponent must submit an NOI to comply with the permit to the State Water Resources Control Board and a Storm Water Prevention Pollution Plan must be prepared prior to grading permit issuance.

Implementation of the above statutory requirements will result in a less-than-significant impact.

12e) The DTTC-PD proposes an underground storm water drainage system to be constructed for Parcels I -IV, Olive Road, Commerce Way, and El Camino Road. Drainage from the DTTC-PD will be directed through underground pipes to the open ditch along the west side of County Road 90. Improvements to the drainage ditch along County Road 90 will be constructed as necessary to accommodate drainage/runoff from the entire 100-ac DTTC-PD. This potential impact is less than significant.

12f) Solid waste disposal generated from the DTTC-PD would be transported to the Yolo County Landfill. The existing yearly permitted allotment of the landfill is adequate to meet the extra demand generated by the DTTC-PD. This impact is less-than-significant.

12g) As indicated by the hydrogeological report prepared by Youngdahl Consulting Group, Inc., the Colusa sub-basin of the Sacramento Groundwater Basin has ample reserve to accommodate the proposed DTTC-PD project. Therefore, this impact is considered less-than-significant. No mitigation or further analysis is proposed.

Exhibit "10" - Water System

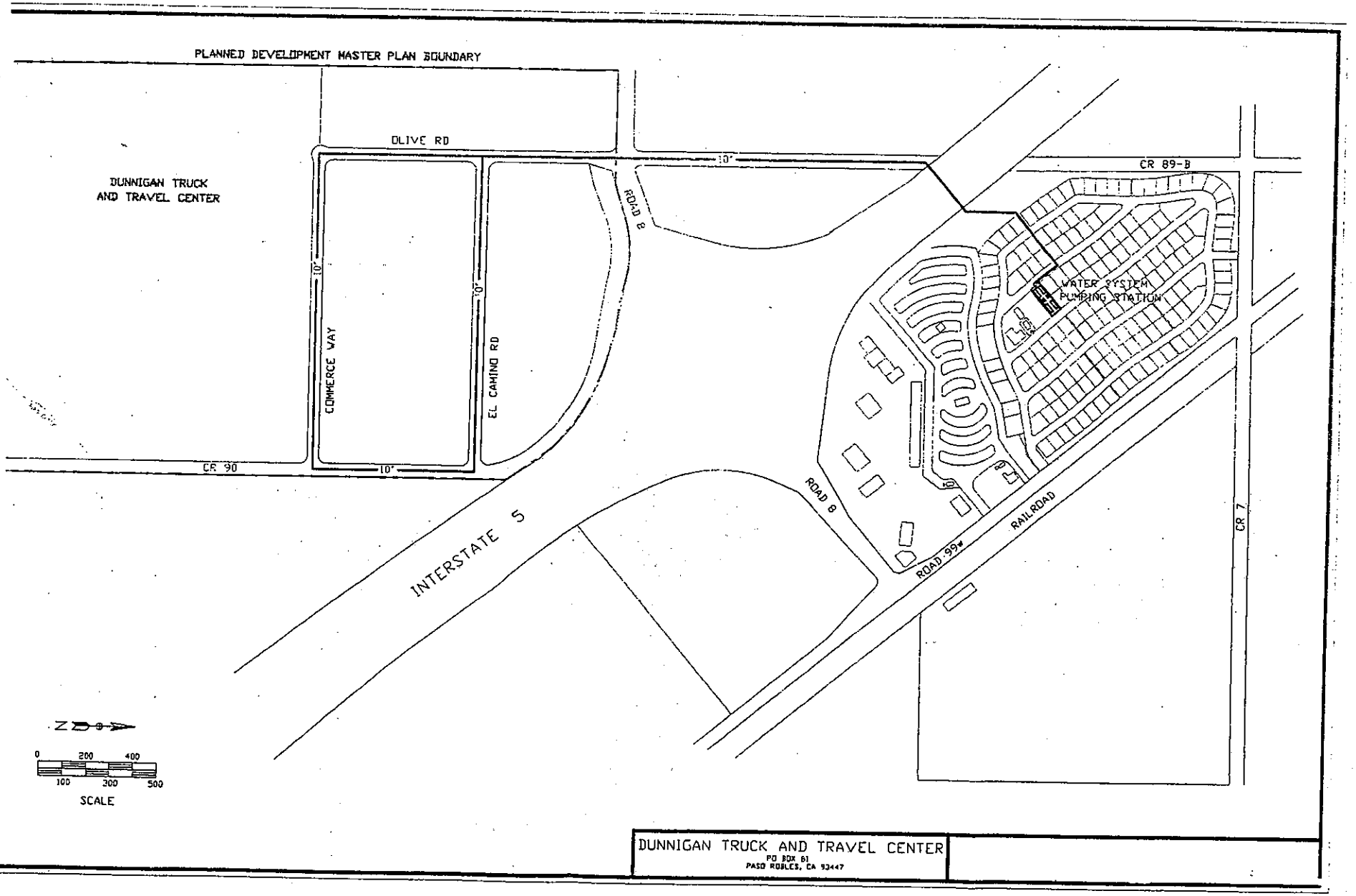
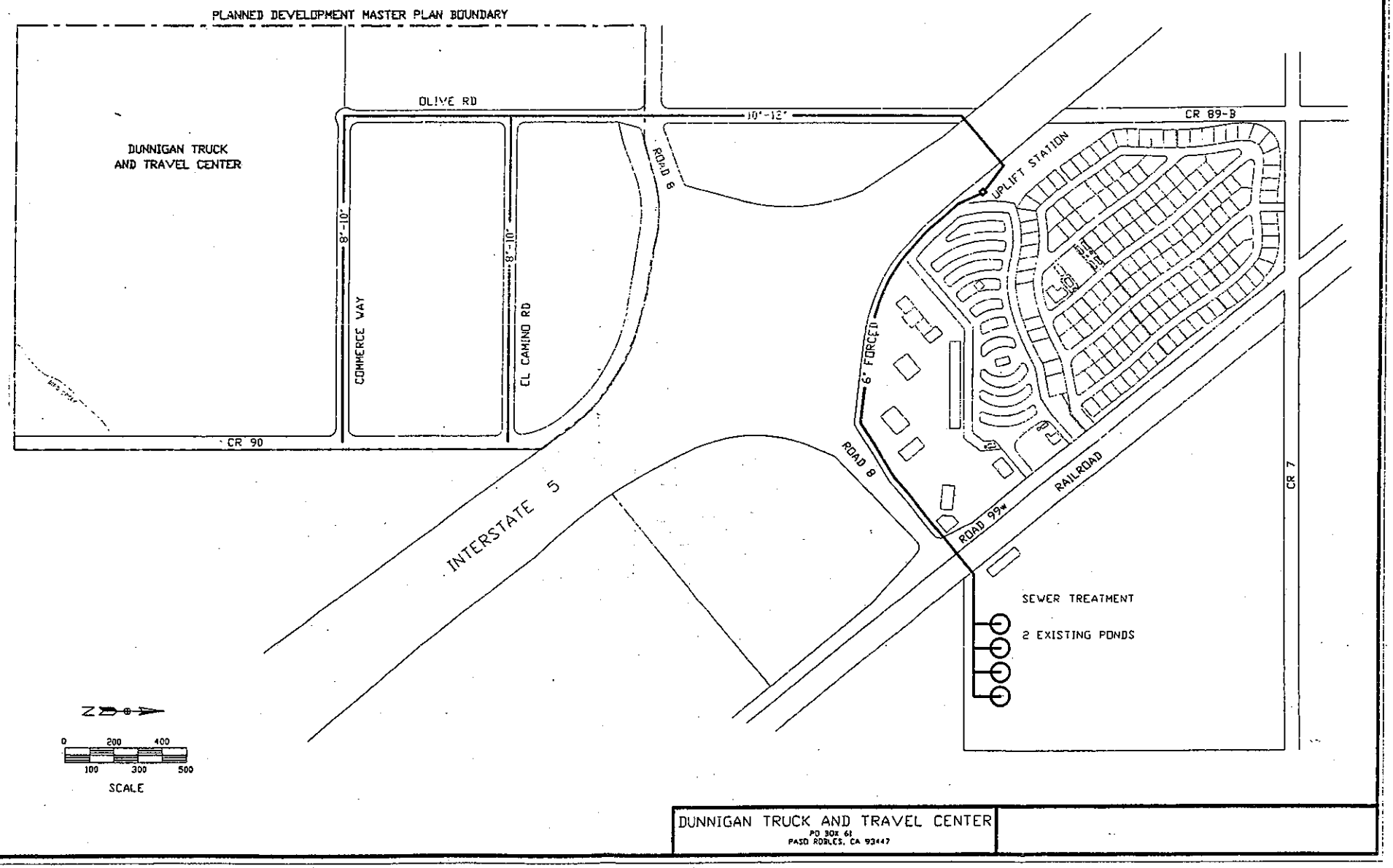


Exhibit "11" - Sewer System



		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
13. AESTHETICS. *Would the proposal:*					
a.	Affect a scenic vista or scenic highway?	☐	■	☐	☐
b.	Have a demonstrable negative aesthetic effect?	☐	■	☐	☐
c.	Create light or glare?	☐	■	☐	☐

Discussion

Aesthetics are discussed in Section 4.10 of the Dunnigan EIR.

13a-b) According to the Dunnigan EIR, existing land uses that enjoy a view of open agricultural land would be impacted with development of the DTTC-PD site. Development of the site would further transform the site from urban type development from open, flat farmland, which would present a significant impact to a scenic vista as well as have a negative aesthetic effect.

According to the DTTC-PD, a Landscape Master Plan shall be prepared by the phased developers. Landscaping shall be required for all projects in the DTTC-PD. Landscaping within parking areas will attempt have shading consistent with the goals and policies of the Dunnigan General Plan. The Landscaping plan shall comply with the Model State Ordinance for Water Efficient Landscape (Division 2, Title 23 of the California Code of Regulations). The landscaped plan shall address landscape treatments, parking areas, landscape strips, and irrigation.

The DTTC-PD also proposes Building and Site Design Review processes, Building continuity, Special Treatment of Rear and Side Elevations, Loading Docks, Service Areas, Mechanical Equipment, Signage.

Implementation of the aforementioned sections of the DTTC-PD will reduce the potential impacts associated with development of the site. Therefore, the Dunnigan EIR analysis is sufficient. No further mitigation or environmental review is proposed.

12c) The DTTC-PD would provide additional light and glare into an area currently unlit. However, the surrounding area contain numerous truck related uses producing significant amounts of light and glare. Lights associated with the project would produce additional lighting sources, but would be utilized mainly for security purposes and would not produce significant amounts of light or glare that may affect adjacent properties. Additionally, the following Dunnigan EIR Mitigation Measures will further reduce impacts:

MITIGATION MEASURES:

Prior to issuance of building permits, the applicant shall submit construction plans which comply with the following minimum requirements for light and glare:

1) *Outdoor night lighting shall be focused downward and/or shielded. Roadway and pavement surfaces should be selected to minimize upward reflected light.*
2) *All outdoor lighting should be turned off after 11:00 PM if not in use unless needed for safety and security. Safety and security lighting (except street lighting) can usually be at lower levels when the area is not at use.*
3) *A lighting design should attempt to conceal lights to avoid glare. When concealing lights, avoid placing lights too close to an object to avoid reflected glare.*
4) *Lighting fixtures should be selected that can be shielded, if a potential problem exists, after installation.*
5) *Non-glare glass shall be used in all buildings to minimize and reduce impacts from daytime glare.*
6) *Structure exterior materials shall be composed of a minimum of 50 percent low reflectance, non-polished finishes.*
7) *Bare metallic surfaces on new structures shall be painted to minimize reflectance.*
8) *Outdoor light fixtures shall be low-intensity, shielded and/or directed away from adjacent areas and the night sky. Lighting fixtures for parking lots shall use low-pressure sodium lamps or other similar lighting fixtures. All light fixtures shall be installed and shielded in such a manner that not light rays are emitted from the fixture at angles above the horizontal plane. High-intensity discharge lamps, such as mercury, metal halide and high-pressure sodium lamps shall be prohibited. Lighting plans shall be provided as part of facility improvement plans to the County with certification that adjacent areas will not be adversely affected and that off site illumination will not exceed 2-foot candles.*

Timing/Implementation: Prior to building permit issuance

Enforcement/Monitoring: Yolo County Building Division

According to the Dunnigan EIR, the DTTC-PD (Aulman Property) would cause significant impacts under Impact 4.10-3, "Disruption of Scenic Vistas"; and 4.10-4 "Construction Impacts". All mitigation measures and significance after mitigation would be the same. All mitigation measures and significance after mitigation would be the same as in these impacts.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
13. CULTURAL RESOURCES. *Would the proposal:*					
a.	Disturb paleontological resources?	☐	☐	☐	■
b.	Disturb archaeological resources?	☐	☐	☐	■
c.	Affect historical resources?	☐	☐	☐	■
d.	Have the potential to cause a physical change which would affect unique ethnic cultural values?	☐	☐	☐	■
e.	Restrict existing religious or sacred uses within the potential impact area?	☐	☐	☐	■

Discussion

Geology is discussed in section 4.7 of the Dunnigan EIR.

13a) According to the Dunnigan EIR, no paleontological resources are known or suspected on the proposed DTTC-PD site. No impact will occur.

13b) The project site does not have any archaeologically significant characteristics as defined by the criteria according to the CEQA Guidelines. No impact will occur.

13c) The project site is not known to have any historical significant or significant characteristics as defined by the criteria according to the CEQA Guidelines. No impact will occur.

13d) The project site does not have the potential to cause physical change which would affect a unique ethnic cultural value according to the CEQA Guidelines. No impact will occur.

13e) The project does not have the potential to restrict existing religious or sacred uses within the potential impact area. No impact will occur.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
14. RECREATION. *Would the proposal:*				
a. Increase the demand for neighborhood or regional parks or other recreational facilities?	☐	☐	☐	■
b. Affect existing recreational opportunities?	☐	☐	☐	■

Discussion

Recreation is discussed in various sections of the Dunnigan EIR.

14a) An increase in the demand for recreational facilities is generally as a result of a population generating land use. The DTTC-PD is a commercial development, thus, not generating additional population. The DTTC-PD would not require the construction of additional recreational facilities nor substantially increase the use of existing recreational facilities. No impact will occur.

14b) As indicated above, the DTTC-PD will not affect recreational opportunities. No impact will occur.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
15. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	■
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	☐	☐	■	☐
c. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	■	☐
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? Disturb paleontological resources?	☐	☐	☐	■

FISH AND GAME ENVIRONMENTAL DOCUMENT FEES

Assessment of Fee:

For purposes of implementing Section 735.5 of Title 14, California Code of Regulations: if based on the record as a whole, the Department of Fish and Game determines that implementation of the project described herein, will result in changes to resources A - G listed below, then a **Fish and Game Document Filing Fee** must be assessed. Based upon analysis using the criteria A - G, and information contained in the record, state conclusions with evidence below.

A) Riparian land, rivers, streams, water courses, and wetlands under state and federal jurisdiction;

B) Native and non-native plant life and the soil required to sustain habitat for fish and wildlife;

C) Rare and unique plant life and ecological communities dependent on plant life, and;

D) Listed threatened and endangered plant and animals and the habitat in which they are believed to reside;

E) All species of plant or animals as listed as protected or identified for special management in the Fish and Game Code, the Public Resources Code, and the Water Code, or regulations adopted thereunder;

F) All marine terrestrial species subject to the jurisdiction of the Department of Fish and Game and the ecological communities in which they reside;

G) All air and water resources the degradation of which will individually or cumulatively result in the loss of biological diversity among plants and animals residing in air or water.

De minimus Fee Exemption: For purposes of implementing Section 735.5 of the California Code of Regulations: A *De minimus Exemption* may be granted to the **Environmental Document Fee** if there is substantial evidence, based on the record as a whole, that there **will not** be changes to the above named resources 25.A - G caused by implementation of the project. Using the above criteria, state conclusions with evidence below, and follow Planning and Building Inspection Department procedures for filing a De minimus Exemption.

Conclusion: The project will be required to pay the fee.

Evidence: Based upon the Department of Fish and Game comments regarding the proposed project, the Department of Fish and Game have determined that significant resources of the project include foraging habitat for the state-listed threatened Swainsons's Hawk (Buteo swainsoni). Recent surveys conducted by the DFG indicate a minimum of four active Swainson's Hawk nest sites within two to five miles of the project site. The DFG also recommends that Conditions of Approval for project impacts be implemented. Because this project will have an impact to fish and/or wildlife habitat, assessment of fees under Public Resources Code Section 21089, and as defined by assessment of fees under Fish and Game Code Section 711.4 is necessary. Fees are payable by the project applicant upon filing of the Notice of Determination by the lead agency

EXHIBITS

Exhibit "1" – Vicinity Map
Exhibit "2" – Location Map
Exhibit "3" – Assessor's Parcel Map
Exhibit "4" – Aerial Photograph
Exhibit "5" – Site Photographs
Exhibit "6" – Land Use Map
Exhibit "7" – Tentative Parcel Map (TPM#4442)
Exhibit "8" – Site Plan
Exhibit "9" – Circulation Map
Exhibit "10" –Water System Planned Expansion
Exhibit "11" –Sewer System Planned Expansion
Exhibit "12" –Dunnigan Truck and Travel Center, Planned Development dated Feb. 21, 03
Exhibit "13"– Certified Dunnigan EIR (On file with the Planning and Public Works Department)
Exhibit "14" – Responsible Agency and Public Comment (On File with the Planning and Public Works Department)

REFERENCES:

Dunnigan Truck and Travel Center, Planned Development, November 12, 2002
Town of Dunnigan General Plan, February 2001
Certified Dunnigan General Plan and Specific Developments EIR (SCH#93053066. March 1996)
Uniform Codes adopted by Yolo County
Yolo/Solano Air Quality Management District