ADDENDUM TO
THE MIDWAY PLAZA PROJECT TRAFFIC IMPACT ANALYSIS

To: Julio Tinajero, Milestone Associates Imagineering, Inc.

From: Jonathan Flecker, P.E., T.E., Flecker Associates

Re: Addendum to Midway Plaza Project Traffic Impact Analysis

Date: November 22, 2024

Based on a revised site plan dated November 22, 2004 a third driveway has been added to the Midway Plaza Project to provide additional access. The original site plan had two driveways, a west driveway for automobile and light duty truck access to the gas station and quick service restaurant while the eastern driveway provided truck access to the diesel fueling positions and truck maintenance facility.

The proposed third access is located at the east side of the site, east of the proposed maintenance building (Figure A). The center driveway, formerly the east driveway, will continue to provide access, both inbound and outbound, to trucks utilizing the diesel fueling positions and truck scale. This access will also provide inbound access to the maintenance facility. The proposed eastern driveway access will provide an exit for trucks leaving the maintenance facility without having to back out of the building. Trucks will be able to exit directly to Midway Road and loop around the maintenance facility should they need to refuel prior to departing.

The east driveway should serve outbound traffic only as the east side of the building serves trucks exiting the maintenance building.

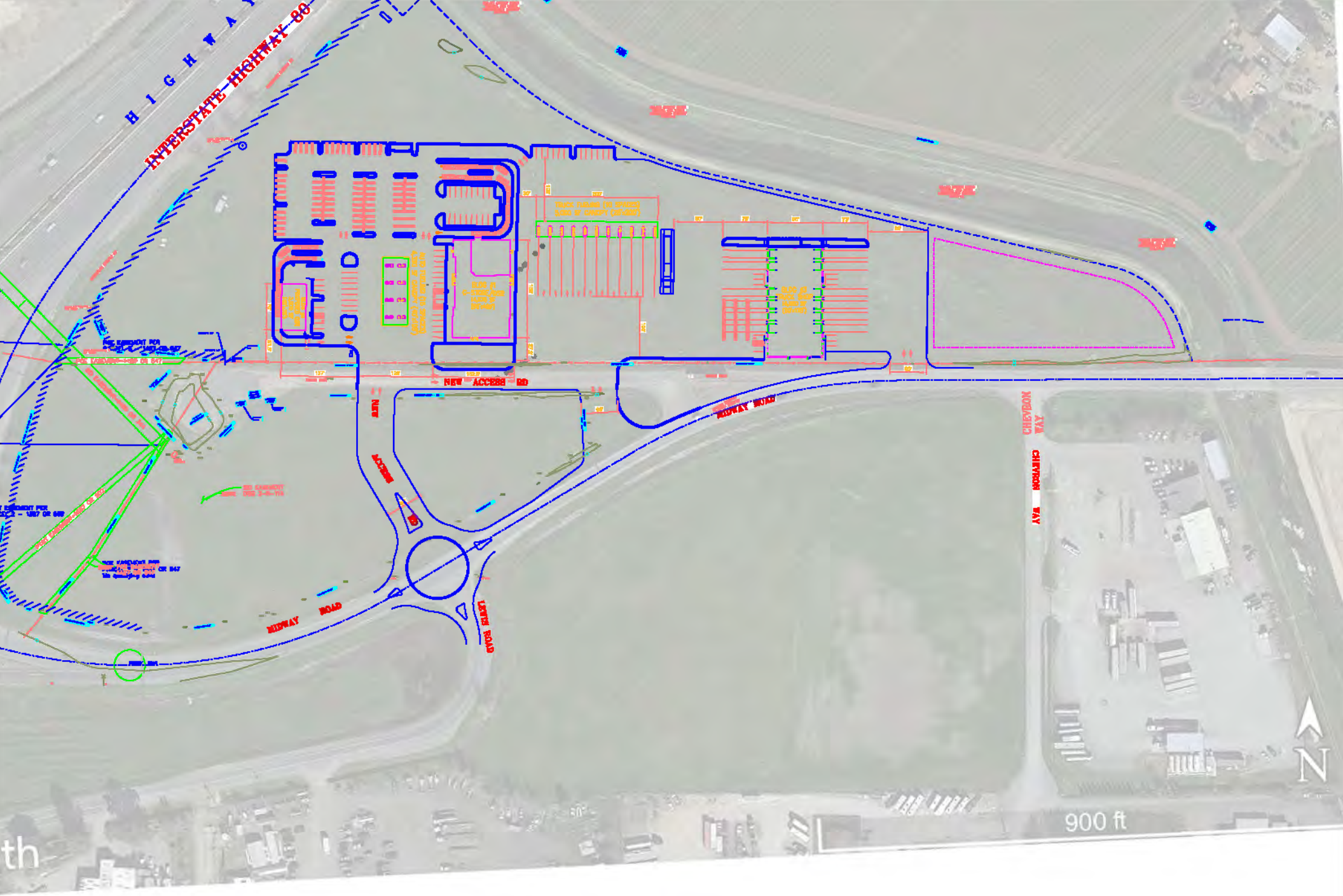
Sight Distance. A sight distance analysis was completed at this driveway for outbound trucks. Available sight distance was evaluated using the standards documented in the Caltrans *Highway Design Manual* (HDM). Based on the HDM the "**Corner Sight Distance**" (CSD) methodology was considered. This criterion is documented in Table 405.1A of the HDM.

The driveway will form a tee intersection along Midway Road. This section of the road is located at the end of a horizontal curve. Figure B illustrates the CSD sight lines looking east and west. As the east driveway will be used by semi-trailers, the CSD distance of 930 feet accounts for slower truck acceleration entering the roadway for trucks making a left turn to head east. Since vehicles will be departing the roundabout at Lewis Road the projected speed is 35 mph. This speed requires a CSD of about 590 feet. Based on the

existing topography and roadway alignment adequate sight distance is available for this driveway.

The project should install turn restriction signs and markings at this driveway to reinforce the one-way movement. A “No Right Turn”, MUTCD R3-1 and “No Left Turn” MUTCD R3-2 signs should be installed just prior to the driveway in each direction. Additionally, a “Do Not Enter” sign MUTCD R5-1 with a supplemental plate “Wrong Way”, MUTCD R5-1 should be installed both sides of the driveway set back from the roadway. Type V arrow markings should also be installed on the driveway pavement to reinforce the one-way outbound direction.

A third driveway along Midway Drive proposed for the Midway Plaza project should not create adverse impacts. The driveway is intended to allow trucks being serviced in the maintenance facility to depart moving forward rather than backing up out of the building. The driveway allows truck drivers exiting the maintenance building without having to drive through the site to enter Midway Drive. Adequate sight distance is available at the driveway in both directions to allow left turn movements onto eastbound Midway Road as well as right turn movements back towards I-80.



REVISED SITE PLAN - MIDWAY PLAZA

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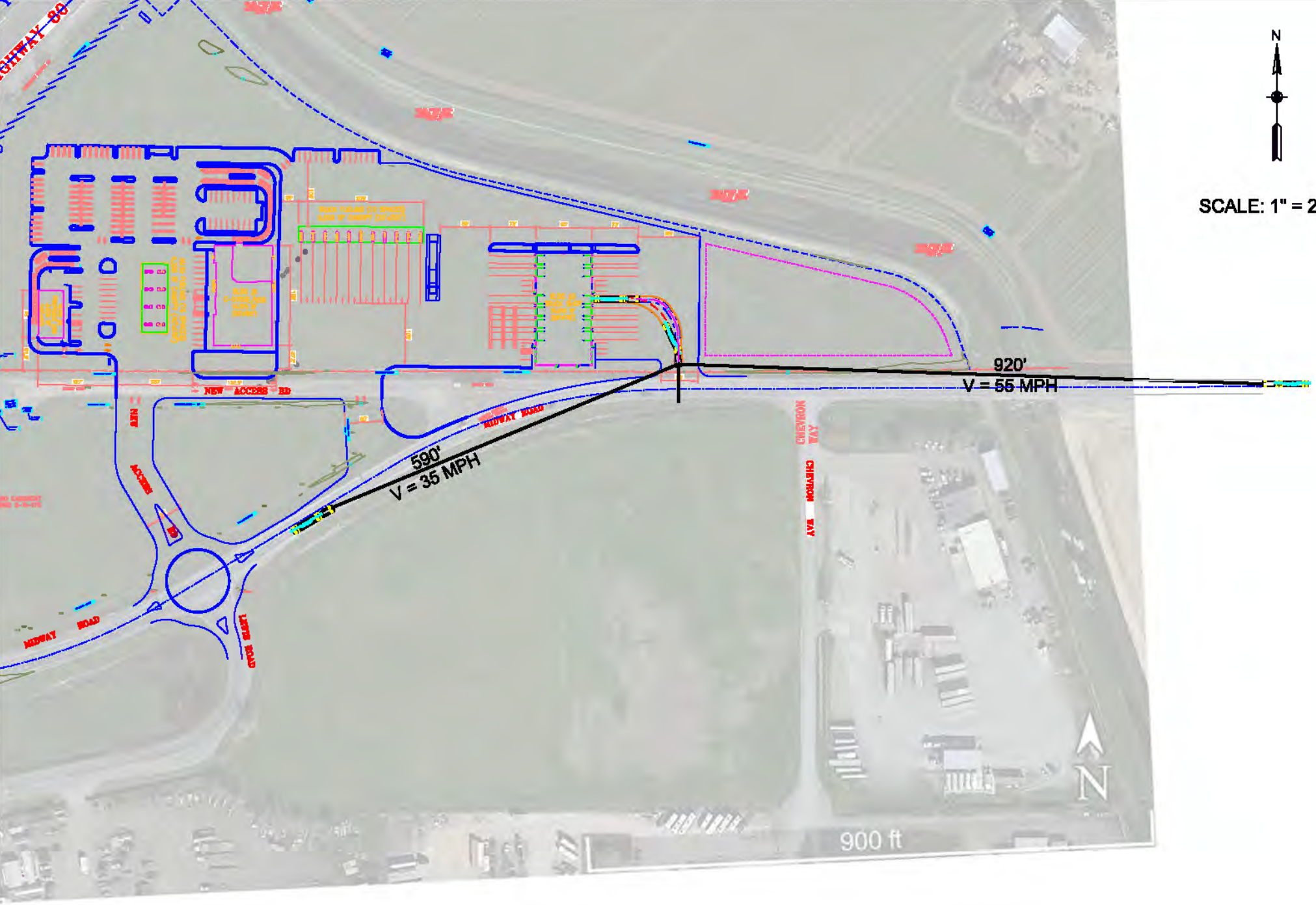
FIGURE A



SIGHT DISTANCE - EAST DRIVEWAY

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FIGURE B

TRAFFIC IMPACT ANALYSIS

FOR

MIDWAY PLAZA PROJECT

Solano County, CA

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September 28, 2023

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Midway Plaza.rpt

MIDWAY PLAZA PROJECT
TRAFFIC IMPACT ANALYSIS

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MIDWAY PLAZA PROJECT
TRAFFIC IMPACT ANALYSIS

EXECUTIVE SUMMARY

Project Description. This study evaluates the traffic impacts associated with the proposed Midway Plaza project in Solano County. The project is located adjacent to the east side of the Interstate 80 (I-80) / Midway Road interchange. The project includes the following development:

- 25 fueling position gas station, including 16 automobile and 9 diesel fueling positions with a 14,575 square foot convenience store
- 3,000 square quick serve restaurant with drive-through

When accounting for passenger car equivalents for truck traffic the project is expected to generate approximately 7,695 daily trips while 723 a.m. trips and 547 p.m. trips are projected. After accounting for internal and pass-by trips the project will generate 2,801 new daily trips, 248 new a.m. peak hour trips and 210 new p.m. peak hour trips.

Existing Conditions. Levels of Service were evaluated for four intersections to provide a baseline analysis to meet local transportation impact criteria. The intersection locations included the three access intersections for the I-80 / Midway Road interchange and the Midway Road / Lewis Road intersection. The analysis included a.m. and p.m. peak hours at each intersection. County Level of Service policy considers LOS C as the acceptable threshold while Caltrans consider LOS D as the acceptable threshold.

All intersections currently operate within agency thresholds, at LOS C or better. None of the intersections meet the peak hour signal warrant.

Significant Transportation Effects for Existing plus Project Conditions. The gas station / C-store / fast food project will attract some customers residing in the greater Vacaville area, but its primary customer base will be travelers already on Interstate 80. The project will provide fuel, convenience items and food service to travelers who simply drive off of and back to nearby I-80 to reach the project. A quantitative analysis comparing existing trips for similar uses was conducted. The closest similar uses are at the Leisure Town Road interchange in Vacaville west of the site and the W. A Street interchange in Dixon east of the site. Overall, the project is projected to generate fewer trips with the project. Completed. The project's impacts on regional VMT, therefore, would not be significant.

Under Existing plus Project conditions, all intersections except the Midway Road / Lewis Road – West Driveway will operate at acceptable levels of service, at LOS C or better. The Midway Road / Lewis Road – West Driveway will operate at LOS F and meet the peak hour traffic signal warrant. The intersection will also meet AASHTO guidelines for a left turn lane along Midway Road. A left turn lane is also justified along eastbound Midway Road at the East Driveway using both 2011 and 2018 criteria.

The following recommendations are made:

- The project should pay their fair share traffic impact fees in Solano County.

- The project shall install the following improvements at the Midway Road / Lewis Road – West Driveway intersection:

  Option A
  - Install a 200-foot eastbound left turn lane on Midway Road
  - Install a 100-foot westbound left turn lane on Midway Road
  - Install a through-left turn lane and a right turn only lane for the driveway approach to the intersection
  - Install a traffic signal with protected left turn phasing along Midway Road, a right turn southbound to westbound overlap phase and split phasing along Lewis Road and the project driveway.

  With the stated improvements the intersection will operate at LOS C or better.

  Option B
  - Install a single lane roundabout to accommodate STAA trucks. The longest queues occur along the west approach and are projected to be 101 feet in the a.m. peak hour and 117 feet in the p.m. peak hour.

  With the stated improvement the roundabout will operate at LOS A.

- The project shall install the following improvements at the Midway Road / East Driveway intersection:

  - Install a 100-foot eastbound left turn lane at the Midway Road / East Driveway intersection.

2040 Conditions. Under 2040 conditions all intersections except the Midway Road / Lewis Road are projected to operate within agency thresholds at LOS C conditions or better. The Midway Road / Lewis Road intersection will decline to LOS D in the p.m. peak hour and meet the peak hour traffic signal warrant.

- The following recommendation is made:

    - A two-way-left-turn lane (TWLTL) should be installed to allow northbound to westbound Lewis Road traffic to queue prior to merging into the westbound travel lane. The TWLTL will improve traffic operations to LOS C conditions.

As identified in the "Significant Transportation Effects for Existing plus Project Conditions" the project will need to install a left turn lane as part of the project improvements. The County should provide a reimbursement for the costs of the TWLTL improvements to the applicant as this widening is required without the project.

Significant Transportation Effects for 2040 Plus Project Conditions. Under Existing plus Project conditions, all intersections except the Midway Road / Lewis Road – West Driveway will operate at acceptable levels of service, at LOS C or better. As noted in "Significant Transportation Effects for Existing plus Project Conditions", a traffic signal with accompanying roadway widening will be needed to reach LOS C or better conditions. A single lane roundabout has also been provided as an option. In 2040 plus Project conditions, the intersection will continue to operate at LOS C or better conditions under the signalized condition while the roundabout will operate at LOS B. No additional mitigations are identified.

MIDWAY PLAZA PROJECT
TRAFFIC IMPACT ANALYSIS

INTRODUCTION

Study Purpose and Objectives

This study evaluates the traffic impacts associated with the proposed Midway Plaza project in Solano County. The project is located adjacent to the east side of the Interstate 80 (I-80) / Midway Road interchange as shown in Figure 1. The project includes the following development:

- 25 fueling position gas station, including 16 automobile and 9 diesel fueling positions with a 14,575 square foot convenience store
- 3,000 square quick serve restaurant with drive-through

The proposed site plan is shown in Figure 2. Access to the site will be via two new driveways along Midway Road. One driveway will be opposite Lewis Road, while the other driveway will be located east of the intersection.

The study parameters are consistent with Solano County guidelines. The study addresses the following traffic scenarios:

1. Existing (2022) Peak Hour Traffic Conditions;
2. Existing plus Project Peak Hour Traffic Conditions;
3. Year 2040 Peak Hour Traffic Conditions;
4. Year 2040 plus Project Peak Hour Traffic Conditions;

The purpose of this analysis is to identify the potential traffic-related impacts of the project within the context of current traffic conditions and to evaluate the cumulative impacts of future traffic conditions in the Solano County area. The extent to which improvements may already be needed to meet minimum standards was determined. The characteristics of the proposed project were determined based on probable peak hour, regional trip distribution and local trip assignment. Forecasts of future year traffic conditions, including other development anticipated under the Solano County General Plan have been analyzed with and without the proposed project using the latest Solano Transportation Authority travel demand model. Mitigation measures needed to ensure satisfactory operation of area intersections under each development scenario are identified.

In addition to analyzing roadway conditions for consistency with the County's General Plan vehicle miles travelled (VMT) was also considered, consistent with the updated 2018 CEQA guidelines.

VICINITY MAP

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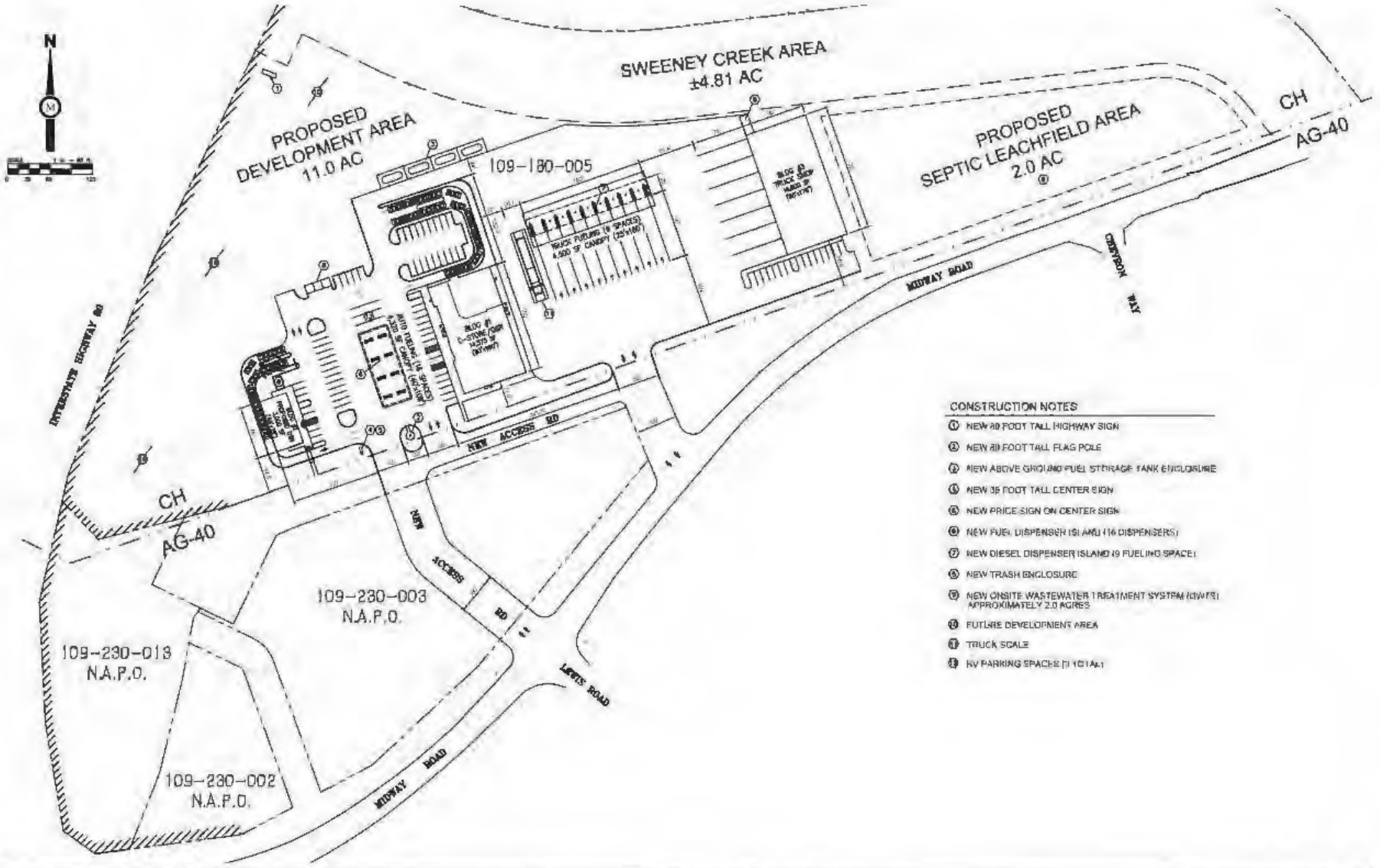
FIGURE 1



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MIDWAY PLAZA
MIDWAY ROAD (COUNTY RD 152), VACAVILLE, CA

SITE PLAN 3

SITE PLAN

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FIGURE 2

ANALYSIS CRITERIA

Vehicles Miles Travelled

With the implementation of SB 743 the focus of a transportation impact analysis under CEQA moves from consideration of operating Level of Service (LOS) to evaluation of a project's effects on regional VMT. Solano County has adopted guidelines for evaluating VMT impacts under SB 743, and this report addresses the project's impacts based on those guidelines.

The materials which follow describe the approved and proposed land uses on the Midway Plaza site and explain the methodology and significance criteria employed to determine regional VMT impacts. The results of the analysis are described in terms of quantitative analysis based on a review of the relationships between the project and its surrounding land uses.

Background. SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers to measuring the environmental impact of driving. The change has been made by replacing LOS with VMT. This change was made to align CEQA transportation impact analysis and mitigation with the State's goals for reducing greenhouse gas (GHG) emissions, to encourage infill development, and to improve public health through more active transportation. Level of Service is still used to assess a project's effects outside of CEQA and a traffic operational analysis under Solano County guidelines has also been prepared for this project.

In January 2019, the Natural Resources Agency finalized updates to the CEQA Guidelines including the incorporation of SB 743 modifications. The Guidelines' changes were approved by the Office of Administrative Law and are now in effect. The provisions apply statewide as of July 1, 2020.

To help aid lead agencies with SB 743 implementation, the Governor's Office of Planning and Research (OPR) produced the *Technical Advisory on Evaluating Transportation Impacts in CEQA*[1] (December 2018). This document provides guidance regarding the variety of implementation questions to be faced with respect to shifting to a VMT metric. Key guidance from this document includes:

- VMT is the most appropriate metric to evaluate a project's transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a "per capita" and "per employee" basis.
- OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable significance threshold. In other words, an office project that generates VMT per employee that is more than 85 percent of the regional

[1] *Technical Advisory on Evaluating Transportation Impacts in CEQA.* Governor's Office of Planning and Research State of California, December 2018.

average VMT per employee could result in a significant impact. OPR notes that this threshold is supported by evidence that connects this level of reduction to the State's emissions goals.

- OPR recommends that where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.
- OPR states that by adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Generally, OPR suggested that retail development including stores smaller than 50,000 square feet might be considered local serving.
- Lead agencies have the discretion to set or apply their own significance thresholds.

Solano County Guidelines. In 2021, the Solano County Department of Resource Management completed the Solano County *Interim Modifications of Standards for the Department of Resource Management Regarding CEQA Considerations for Traffic, Vehicle Miles Traveled and their Thresholds of Significance* (June 15, 2021) to support Solano County with implementation of SB 375 and SB 743, including the selection of VMT analysis methodology, setting thresholds of significance, and potential mitigation.

Outside of the incorporated cities, Solano County is primarily a rural county, and the Solano County VMT Guidelines are focused on rural elements. To determine the extent and potential for a Use Permit or other discretionary development to impact traffic operations and VMT, an applicant may be required to submit information and studies that vary depending on the amount of traffic generation. The County's VMT measures include the following:

1) A Use Permit application that generates 10 truck trips per day or less and 50 total vehicle trips per day or less does not need to provide a traffic study as part of the application.
2) An application which generates more than 10 truck trips per day and / or more than 50 total vehicle trips per day must provide a traffic study as part of the application.

Department staff will consider the findings and measures of the traffic study in order to determine if, and to what extent, mitigations will be required for the trips and VMT generated in the application. The following are recommended guidelines for less than significant impacts and mitigation determinations:

<u>"Less Than Significant Impact"</u>

1) A Use Permit or other discretionary development which generates 110 total vehicle trips per day or less (770 total vehicle trips per week or less) will have less than significant impact on VMT. Employee trips are not considered in the total vehicle trip generation due to the reduction in regional commute trips and VMT due to local job creation.

2) An agricultural development that facilitates farm products primarily to local ag processing centers, cities, and markets in Solano County will have less than significant impact on VMT.

3) A development that is within ½-mile of an active transit stop with reasonable transportation connections qualifies for less than significant impact on VMT.

4) A development that is adjacent to a fully developed and connected system of bike lanes qualify for less than significant impact on VMT for up to 125 total vehicle trips per day or less (875 total vehicle trips per week or less).

5) Permitted special events that include advertisements for and coordinated assistance with carpool and/or transit options for attendees.

Mitigation Options for VMT:

1) Construction of bike racks, a charging station, and/or other various multimodal improvements at the development site will be considered as minor mitigation.

2) Business plans that include carpool/vanpool coordination for employees at the development site will be considered as minor mitigation.

3) Operating a vanpool or providing on-demand transit services for employees at the development site to reduce trips to below 110 vehicles per day will be considered as major mitigation.

4) Construction of a nearby active transit stop in the public right of way by the applicant will be considered as major mitigation.

5) Construction of sidewalks and other pedestrian gap improvements in the public right of way by the applicant to connect to other fully connected public pedestrian facilities will be considered as major mitigation.

6) Construction of frontage Class 2 (or better) bike lanes in the public right of way by the applicant to connect to other fully connected public Class 2 (or better) bike lanes will be considered as major mitigation.

These impact and mitigation guidelines may be supplemented with pertinent information related to the application, site location, Solano Transportation Authority's Active Transportation Plan, as well as local and regional transit services. Staff may also consider technological changes and advances that reduce VMT that are not currently in active use on the date of the June 15, 2021 memorandum.

The Director of Resource Management may also make changes to the staff recommendations for impact findings and mitigation requirements.

The County's policies do not readily account for retail services that could generate over 110 daily trips. As an example, using ITE Trip Generation Land Use 820, "Shopping Center less than 150,000 square feet", would result in a 3,000 square foot retail store; a 3,000 square foot fast food restaurant

will generate about 1,400 daily trips. Most zoning within the County is agricultural or rural residential uses; however, there are a few parcels designated as highway commercial (C-H) uses located along I-80 that have yet to be developed. The County notes that C-H Districts are "intended for commercial uses to serve the highway traveler. C-H Districts are to be established in areas of four acres or larger and shall be located only where need is clearly indicated." Thus, the County expects that most traffic for this project will be existing trips diverted from I-80.

The County VMT policy does not address trips for C-H zoning, considering that a four acre or larger site would contain more than a 3,000 square foot retail store, generating more than 110 daily trips. As the site is creating trips by diverting existing traffic an alternative assessment to analyze VMT was used because of unique circumstances of the particular project not captured in the County's policies.

The OPR *Technical Advisory* provides for a general threshold of 50,000 square-feet as an indicator as to whether a commercial use can be considered local serving or not. This is an important consideration in terms of a VMT-related significant impact determination. While the *Technical Advisory* notes local serving retail it does not discuss highway commercial retail, i.e., those uses along a travel corridor that serve existing traffic. Aside from employees most trips will be either pass-by or diverted link trips, and not new primary trips based on the project location adjacent to I-80 in rural Solano County. Instead of creating new trips this land use is generally rerouting trips from other similar uses.

Page 16 of the *Technical Advisory* specifically addresses some of the key issues surrounding how a local serving retail store should be evaluated in terms of its VMT impact. As described, the threshold for significance is "a net increase." This means that if a proposed store produces one additional VMT, it would result in a finding of significance. However, the document further explains that local retail uses can be determined to result in an overall VMT reduction by the lead agency. This finding is consistent with the desire to develop more sustainable communities that have fewer transportation impacts. While the *Technical Advisory* does not address diverted link trips similar reasoning can be applied as these trips do not create new primary trips.

General Plan Policy Consistency Level of Service Analysis Methodology

To assess the quality of existing traffic conditions and provide a basis for analyzing project impacts, Levels of Service were calculated at study area intersections and project driveways. "Level of Service" is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment.

The analysis techniques presented in the Highway Capacity Manual 6th Edition were used to provide a basis for describing existing traffic conditions and evaluating the significance of project traffic impacts.

Various software programs have been developed to assist in calculating intersection Level of Service, and the level of sophistication of each program responds to factors that affect the overall flow of traffic. *Synchro* software, Version 11 was utilized for the analysis.

Caltrans *Vehicle Miles Traveled-Focused Transportation Impact Study Guide, 2020* notes that Vehicle Miles Traveled (VMT) analysis is now Caltrans primary focus under CEQA. However, safety on state highways remains a CEQA issue.

The prior ***Caltrans*** publication *Guide for* the *Preparation of Traffic Impact Studies (dated December 2002)* states the following: *"Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS".*

The Level of Service (LOS) policies of Solano County and Caltrans govern this analysis. The Solano County Road Standards documents the County's policies for Level of Service in rural and urban areas. The document notes that LOS C is the design standard for the County; however, if an existing LOS is already below LOS C a project shall be designed such that there will be no decrease in the existing LOS.

Table 1 presents general characteristics associated with each Level of Service grade.

TABLE 1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Ave Delay ≤ 10 seconds per vehicle	Little or no delay. Ave Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10 sec/veh and ≤ 20 sec/veh	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay >20 sec/veh and <35 sec/veh	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35 sec/veh and < 55 sec/veh	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay >55 sec and ≤ 80 sec/veh	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80 sec/veh	Intersection often blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: Highway Capacity Manual, 6th Edition			

Traffic Signal Warrants. The extent to which existing or projected traffic volumes may justify signalization at un-signalized intersections has been determined based on consideration of traffic signal warrant presented in the *Manual of Uniform Traffic Control Devices, 2014.* For this analysis, the volume thresholds associated with Warrant 3 (Peak Hour Volume) have been assessed. The "rural" criteria have been employed based on speed limits in excess of 40 mph. The meeting of a traffic signal warrant does not, in itself, require installation of a traffic signal but serves as a method to identify a location where further analysis is required.

EXISTING SETTING

Study Area

This study addresses traffic conditions in the vicinity of the Midway Plaza project site. The proposed project will be served primarily by Interstate 80 (I-80). Local access will be provided by Midway Road and Lewis Road.

Study Area Intersections

The quality of traffic flow is typically governed by the operation of major intersections. Four intersections serving this site were identified for evaluation. These include:

1) I-80 Westbound Ramps / Oday Road
2) Midway Road / Oday Road
3) I-80 Eastbound Ramps / Midway Road
4) Midway Road / Lewis Road

A.m and p.m. mid-week peak hour counts were conducted at each of these intersections in early December 2021. Each study intersection is described below:

I-80 Westbound Ramps / Oday Road is a tee intersection with a hook on/off ramp. The intersection is stop controlled along the I-80 off-ramp approach. The Oday Road approaches consist of single lanes providing shared through and left or right turn movements. The westbound off-ramp includes a left turn lane under stop control and a short right turn lane under yield control.

Midway Road / Oday Road is an unsignalized tee intersection. Stop control is provided along Oday Road. Westbound Midway Road includes a through lane with a free right turn lane onto Oday Road. Eastbound Midway Road includes a shared through-left lane while Oday Road consists of a single lane approach.

The **Midway Road / I-80 Eastbound Ramps intersection** is an unsignalized diamond configuration (L-2). Both directions of Midway Road consist of a single lane with the eastbound approach providing a shared through-left lane and the westbound approach providing a shared through-right lane. Stop control exists along the I-80 off-ramp for through and left turn movements while the right turn movement merges onto eastbound Midway Road.

Midway Road / Lewis Road is an unsignalized tee intersection. Stop control is provided along Lewis Road. Westbound Midway Road includes a shared through-left lane while the eastbound approach includes a shared through-right lane. Lewis Road consists of a single lane approach.

Existing Traffic Conditions

Traffic Volume Counts. Intersection turning movements (ITM) counts were completed during the first week of December 2021. Due to the Covid-19 pandemic, travel patterns have been affected downward due to work and school closures. 2021 ITM's were compared to 2019 *Streetlight Data* to determine whether current traffic volumes remain significantly lower than pre-Covid conditions; *StreetLight Data* uses "Big-Data" derived travel pattern analytics against publicly available traffic movement ratios drawn from traffic counts to compare current roadway counts. This comparison indicated that current volumes continue to be lower than pre-Covid conditions; therefore, ITM's were proportionally adjusted to 2019 pre-Covid 19 conditions.

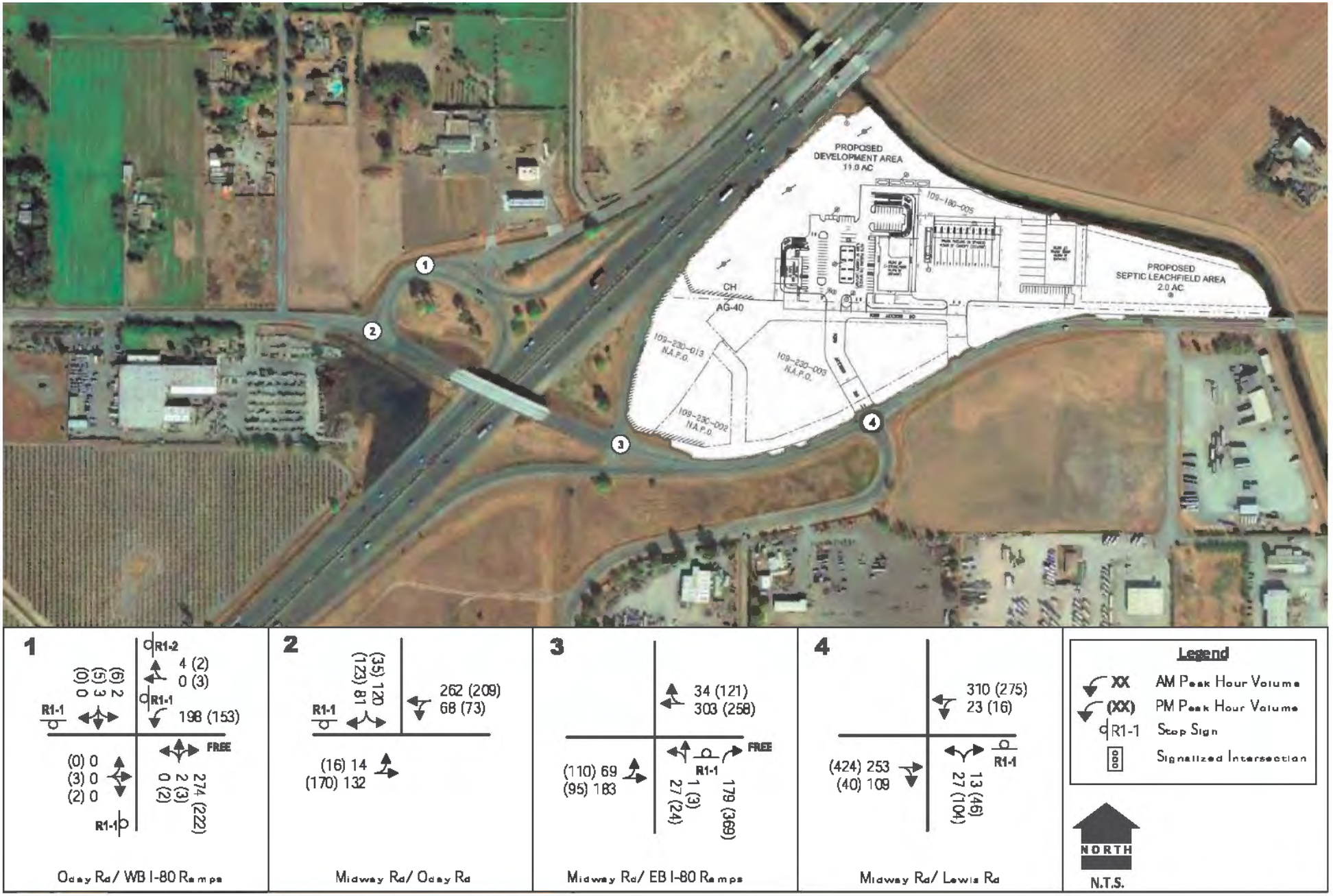
Traffic count data from 2021 is included in the Appendix. Figure 3 presents the study locations and adjusted ITM's.

Intersection Levels of Service. Table 2 summarizes current Levels of Service at the study area intersections during the a.m. and p.m. peak hours. All intersections currently operate within agency LOS thresholds. None of the intersections meet the peak hour signal warrant.

Non-Automobile Transportation

Public Transit. Various bus services are provided within Solano County. These include the Fairfield and Suisun Transit System (FAST), Rio Vista Delta Breeze, Solano Express and Vacaville City Coach. These services provide local and intercity routes along the I-80 corridor; however, there are no routes along Midway Road, nor stops for the Solano Express intercity routes along I-80.

Bicycle and Pedestrian Facilities. Due to the rural nature of the project location there are no bike facilities or pedestrian facilities present.



EXISTING VOLUMES

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FIGURE 3

TABLE 2
EXISTING PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	AM Peak Hour		PM Peak Hour		Peak Hour Warrant Met?
		LOS	Average Delay (secs)	LOS	Average Delay (secs)	
1. I-80 Westbound Ramps / Oday Rd †	EB / WB					
NB Left	Stop	---	---	A	7.2	
SB Left		A	7.2	A	7.2	No
EB		---	---	A	8.9	
WB		A	9.6	A	9.5	
2. Midway Road/ Oday Rd †	SB Stop					
SB		B	12.6	B	11.2	No
EB Left		A	8.0	A	8.0	
3. I-80 Eastbound Ramps / Midway Rd‡	NB Stop					
NB		B	11.3	B	12.3	No
EB Left		A	8.2	A	8.6	
4. Midway Rd / Lewis Rd ‡						
NB	NB Stop	B	14.1	C	20.8	No
WB Left		A	8.2	A	8.4	

† Oday Rd is north-south roadway

‡ Midway Rd is east-west roadway

EXISTING PLUS PROJECT CONDITIONS

The development of this project will attract traffic to the project site. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

- Trip Generation, the number of new trips generated by the project, and
- Trip Distribution and Assignment, the specific routes that the new traffic takes.

Project Description

Land Use. The proposed project consists of a gasoline / diesel sales center with 26 fueling positions (VFP), 16 auto and 9 diesel, a 14,575 convenience store (C-store) and a 3,000 square foot quick serve restaurant (QSR) with drive-thru lane.

Access. Access to the site is proposed at two driveways along Midway Road. The western driveway will be opposite Lewis Road, becoming the fourth leg of the intersection. This driveway will provide access to the QSR, the C-store and the auto VFP's. The second driveway will be located about 300 feet east of the Lewis Road intersection. This driveway will provide access to the truck fueling positions.

Trip generation is determined by identifying the type and size of land use being developed. Recognized sources of trip generation data may then be used to calculate the total number of trip ends. Specific trip generation rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition.* were reviewed.

The number of vehicle trips that are expected to be generated by development of the project has been estimated. Trip generation rates that are applicable to gasoline stations / C stores, Land Use (LU) 945, *Gas Station with Convenience Store* were reviewed considering both vehicle fueling positions (VFP) and thousand square feet (KSF) as a subcategory. The trip generation rates for this land use uses a multi-variable equation, thus the independent variable was the one not identified as the subcategory. LU 934, Fast Food Restaurant with Drive Through, was used for the QSR considering the square footage of the building as the independent variable.

Diesel fuel sales will be provided at a separate facility on the east side of the site. The diesel sales will provide nine vehicle fueling positions (VFP) for semitrailers. Peak hour counts at a Maverik gas station were conducted to develop semitrailer trip rates. A passenger car equivalent rate of 3.0 was applied to the truck rates to calculate an adjusted passenger car volume. The observed truck rates were appreciably lower than the rate in LU 945.

Review of the calculated "per fueling position" rates helps provide an explanation for the difference. The number of observed truck trips was relatively small, and the "per position" rates for that portion of the site were also very much smaller than the comparable overall ITE rate. The typical service rate through the diesel fueling area provides additional explanation. Large trucks occupy two fueling positions in order to fill each saddle tank concurrently. These pumps fill at a rate of about 10 gallons per minute, and the fuel tanks of large trucks have a 150 to 200 gallon capacity. Assuming trucks fill when 90% empty, it would take 7 to 9 minutes to fill up the tanks, and the total length of the transaction can be much longer. Thus, in each hour, three or four trucks are accommodated by each pair of diesel fueling positions.

Table 3 presents the trip generation for the site considering both ITE rates and observed truck rates. Traffic observations at Maverik were not made on a daily basis. It was assumed that the ITE daily rate would be factored in proportion to the ratio of the sum of observed and ITE rates. A gross total of 7,695 daily trips are expected while 723 a.m. trips and 547 p.m. trips are projected.

Internal / External Trips. The interaction between on-site uses would result in "internal" trips that would not reach the local street system and would reduce the gross trip generation estimate. This analysis assumes that 15% of the trips associated with the quick serve restaurant and gas station / convenience store would be made by motorists visiting both uses. After discount of these internal trips, the project could generate a total of 615 external a.m. peak hour trips and 465 external p.m. peak hour trips.

Pass-by Trips / Diverted Linked Trips. A share of the trips associated with retail uses are typically drawn from the stream of traffic already near the site by customers who stop on their way as part of another trip. The ITE Trip Generation handbook contains the results of pass-by trip studies prepared for various uses. The rates identified for LU 934 Fast Food Restaurant with Drive Through and LU 945 Gasoline Station with Convenience Store were used. After reduction for pass-by trips, the overall project is expected to generate 2,801 primary daily trips, 248 primary trips in the a.m. peak hour and 210 primary trips in the p.m. peak hour.

Vehicle Trip Distribution. The distribution of project vehicular traffic was determined based on the haul routes for semi-trailer and packer vehicles and a review of existing traffic counts at the surrounding intersections. Table 4 displays the trip distribution assumptions used for the proposed project.

Vehicle Trip Assignment. Traffic generated by the project was assigned to the study roadway system based on the projected distribution percentages. Figure 4 displays the project generated traffic. Figure 5 displays the resulting sum of existing a.m. and p.m. peak hour volumes and project trips at the study intersections for the Existing plus Project condition.

TABLE 3
PROJECT TRIP GENERATION

Land Use	Unit Quantity	Size	Trips Per Unit						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Gas Station with Convenience Store (LU 945)	VFP†	16	345.75	50%	50%	31.60	50%	50%	26.90
Gas Station with Convenience Store (LU 945)	KSF‡	14.58	1283.38	50%	50%	91.35	50%	50%	78.95
Diesel Fuel Sales – Semitrailer trucks	VFP	9	28.18⁂	50%	50%	3.10Δ	50%	50%	0.64Δ
Fast Food Restaurant with Drive-thru (LU 934)	KSF	3.0	467.48	51%	49%	44.61	52%	48%	33.03
Gas Station with Convenience Store (LU 945) – Subcategory KSF			**5,532**	253	253	**506**	215	215	**430**
Gas Station with Convenience Store (LU 945) – Subcategory VFP			**18,699**	665	666	**1,331**	575	575	**1,150**
Diesel Fuel Sales – Semitrailer trucks			**85**			**9**			**2**
PCE truck adjustment (3.0)			**761**	42	42	**84**	9	9	**17**
Fast Food Restaurant with Drive-thru (LU 934)			**1,402**	68	66	**134**	52	48	**99**
Sub-Total Trips			**7,695**	**363**	**360**	**723**	**275**	**271**	**547**
Internal Trips									
Gas Station with Convenience Store (15%)			(830)	(38)	(38)	(76)	(32)	(32)	(65)
Diesel Fuel Sales – Semitrailer trucks (15%)			(114)	(6)	(6)	(13)	(1)	(1)	(3)
Fast Food Restaurant with Drive-thru (15%)			(210)	(10)	(10)	(20)	(8)	(7)	(15)
Total Internal Trips			**(1,154)**	(54)	(54)	**(108)**	(41)	(41)	**(82)**
Pass-By Trips									
Gas Station			(2,774)	(133)	(133)	(266)	(102)	(102)	(205)

(59% Daily, 62% AM, 56% PM)◊							
Diesel Trucks *(59% Daily, 62% AM, 56% PM)◊*	(382)	(22)	(22)	(44)	(4)	(4)	(8)
Fast Food Restaurant with Drive-thru *(49% Daily, 49% AM, 50% PM)◊*	(584)	(28)	(27)	(56)	(22)	(20)	(42)
Total Pass-By Trips	**(3,740)**	(184)	(183)	**(366)**	(128)	(127)	**(255)**
Net New Trips	**2,801**	**125**	**124**	**248**	**106**	**104**	**210**

KSF – thousand square feet VFP – vehicle fueling positions Shaded rows indicate rates and volumes used

† multi-variable equation with VFP as independent variable and 5.5-10 KSF subcategory

‡ multi-variable equation with KSF as independent variable and 16-24 VFP subcategory

⁑ calculated daily rate based on proportion [(avg am+ pm truck rates) / (avg am + pm ITE rates)] * ITE daily rate

Δ observed rates ◊ ITE Trip Generation Handbook, 3rd Ed Numbers may not match due to rounding

TABLE 4
TRIP DISTRIBUTION

Route	% of Total Trips	
	AM	PM
To / From I-80 west of Midway Rd	31%	30%
To / From I-80 west of Midway Rd	31%	30%
To / From Lewis Road	10%	9%
To / From Midway Road west	10%	10%
To / From Midway Road east	18%	21%
Total	100%	100%

PROJECT VOLUMES

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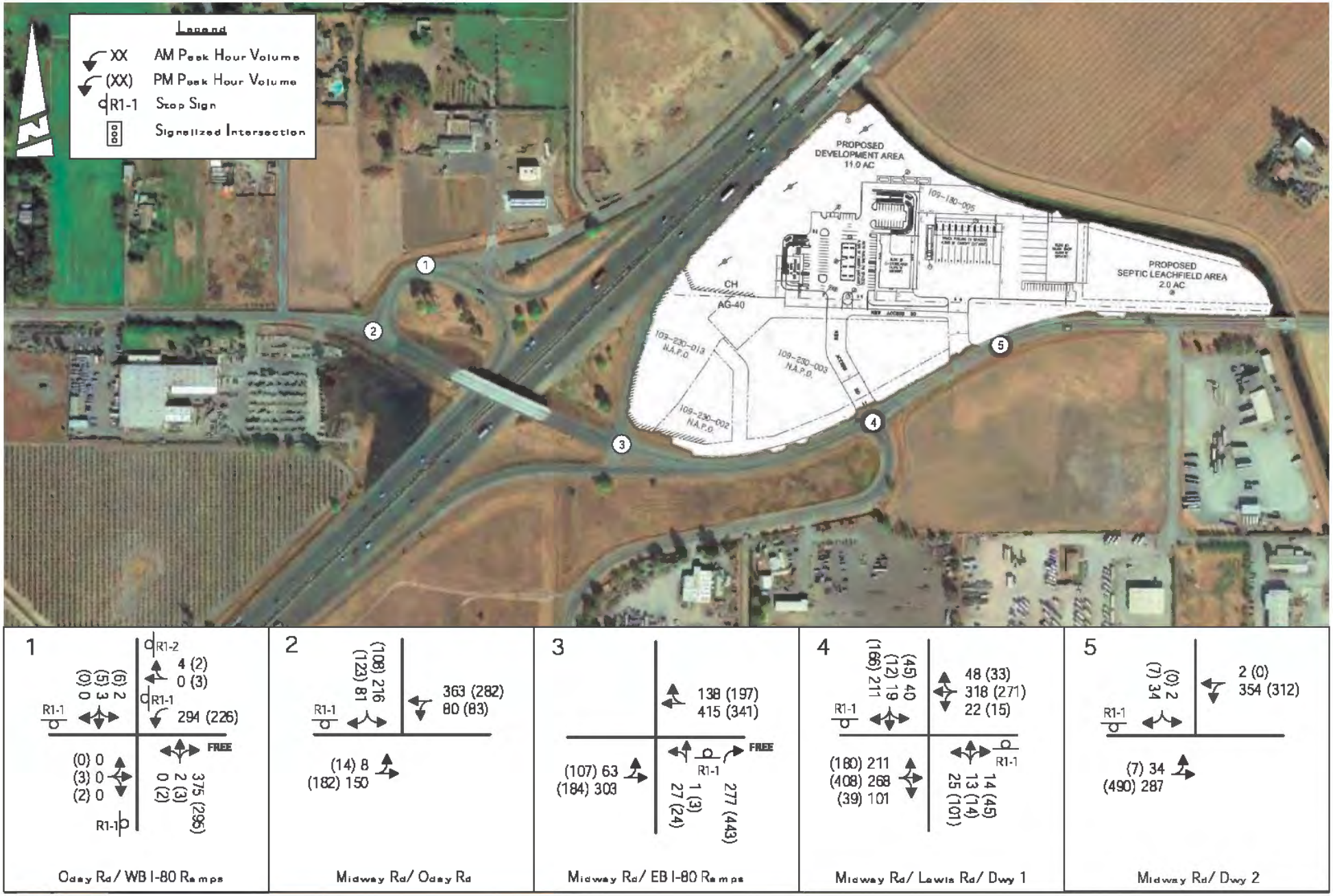
FIGURE 4



EXISTING PLUS PROJECT VOLUMES PLUS LANE CONFIGURATIONS

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FIGURE 5

Existing Plus Project VMT / Level of Service Impacts

Vehicle Miles Traveled

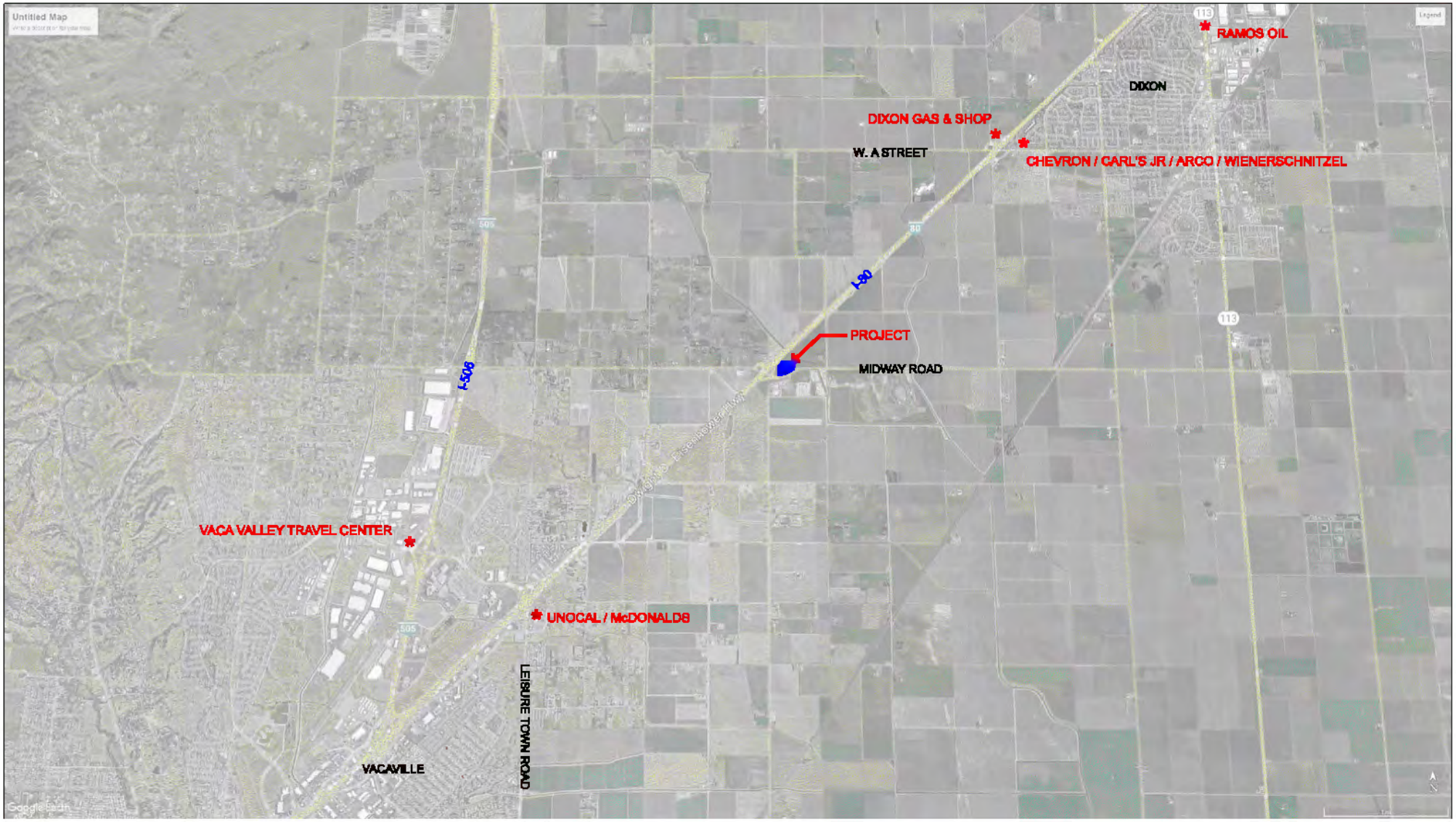
Commercial uses, such as those proposed, primarily serve pre-existing needs (i.e. they do not generate new trips because they meet existing demand). Because of this, these types of commercial uses can be presumed to reduce trip lengths when a new retailer is proposed. Essentially, the assumption is that someone will travel to a newly constructed gas station, truck stop or fast-food restaurant because of its proximity to the roadway facility, rather than the proposed retailer fulfilling an unmet need. This results in an existing trip on the roadway network likely becoming shorter, rather than a new trip being generated along the roadway network.

The *Technical Advisory* also provides that a less than significant finding can be further substantiated by showing the proximity of other similar uses.

Quantitative Analysis. In order to estimate the Project's effect on area VMT, the Project's gas station, truck stop and fast-food restaurant trips were evaluated before and after development of the Project. As noted above, these uses are generally serving diverted trips from I-80, i.e., traffic along I-80 exits the freeway to utilize these services and then reenters the freeway. The proposed uses generate few new trips, with most trips rerouted from other locations. The introduction of a new fast-food restaurant or gas station / truck stop at this location is expected to reroute trips from other locations along the I-80 corridor.

Figure 6 shows the closest gas stations, truck stops and fast-food restaurants relative to the Midway Plaza project. To the west, the closest gas station or fast-food restaurant in Vacaville is at the I-80 / Leisure Town Road intersection, about three miles west of the project while the closest gas station or fast-food restaurant to the east in Dixon is at the W. A Street / I-80 interchange, also about three miles away. Four diesel fueling locations were identified, three in Dixon and one in Vacaville. The Dixon Gas & Shop is located at the W. A Street / I-80 interchange and provides gasoline and diesel sales with a convenience market. The Ramos Oil Company Mini-Mart is located along N. First Street in Dixon and provides gasoline and diesel sales and includes a convenience store and car wash. A Chevron gas station at the Sievers Road / I-80 interchange at the east side of Dixon also provides both gasoline and diesel fuel and includes a convenience store. In Vacaville, the Vaca Valley Travel Center located near the I-505 / Vaca Valley Parkway interchange provides gas and diesel sales and includes several fast-food restaurants and a car wash.

Tables 5-7 summarize the projected change in customer trip length for the proposed site. To estimate the potential net change in VMT, and based on the project location relative to adjacent similar uses that may have traffic rerouted to the proposed project, the following assumptions were made:



LOCATIONS OF SIMILAR USES

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FIGURE 6

- Nearest fast-food restaurant or gas station to the west (Vacaville) – 2.79 miles
- Nearest fast-food restaurant or gas station to east (Dixon) – 2.90 miles
- Diesel fuel locations
    - Dixon Gas & Shop, W. A Street – 2.90 miles (east)
    - Ramos Oil, N. 1st Street – 6.28 miles (east)
    - Sievers Road Chevron – 7.45 miles (east)
    - Vaca Valley Travel Center – 5.89 miles (west)
- Nearest gas station from Midway Road / SR 113 intersection – 2.25 miles
- Nearest gas station from Lewis Road / Hawkins Road intersection – 3.84 miles
- Nearest gas station from Midway Road / Leisure Town Road intersection – 2.45 miles

TABLE 5
Change in Daily VMT due to Project Primary / Diverted and Pass-By Trips– Gas Station & Fast-food

Origin/Destination	Trips	Change in Distance (mi)	Change in VMT
I-80 East			
Leisure Town	393	+0.14	+55.0
A Street	314	+0.60	+188.6
Vaca Valley	79	-0.01	-0.80
I-80 West			
Leisure Town	314	+0.24	+75.5
A Street	393	-0.30	-117.9
Vaca Valley	79	-0.03	-2.4
Midway Road East	253	+2.12	+537.0
Midway Road West	456	-0.21	-95.8
Lewis Road	253	0	0
Pass-By			
A Street (EB)	1680	-0.17	-285.6
Leisure Town (WB)	672	-0.63	-423.4
Leisure Town (EB)	672	-0.04	-77.3
Vaca Valley (NB)	168	-0.78	-131.0
Vaca Valley (SB)	168	-0.31	-52.1
Total	**5984**	**-**	**-330.2**
Note – numbers may not equal due to rounding			

TABLE 6 Change in Daily VMT due to Project Primary / Diverted and Pass-By Trips – Truck Stop			
Origin/Destination	**Trips**	**Change in Distance (mi)**	**Change in VMT**
I-80 East			
Vaca Valley	5	-2.55	-12.2
A Street	5	+0.54	+2.7
1st Street	5	-0.86	-4.1
I-80 West			
Vaca Valley	5	-3.72	-18.3
A Street	5	-0.77	-3.7
1st Street	5	-1.01	-4.8
Pass-By			
A Street (EB)	8	-1.05	-8.8
A Street (WB)	8	-0.23	-1.9
Vaca Valley (WB)	4	-3.32	-13.9
Vaca Valley (NB)	6	-0.78	-4.9
Vaca Valley (SB)	6	-0.31	-1.9
1st Street (WB)	4	-1.63	-6.8
1st Street (EB)	4	-1.29	-5.4
Total	72	-	**-84.0**
Note – numbers may not equal due to rounding			

Overall, the project will result in shorter trips. This is consistent with the OPR Technical Advisory discussion on local serving retail projects. Table 7 presents the total projected net change in daily VMT due to the project. The project is expected to produce a net decrease of 414.2 VMT. Since the project is not projected to increase VMT within Solano County this would result in a less than significant impact.

TABLE 7 Net Change in Daily VMT due to Project	
Trip Type	Change In VMT
Primary / Diverted and Pass-By – Gas Station / Fast-food	-330.2
Primary / Diverted and Pass-By – Truck Stop	-84.0
Net Change	**-414.2**

CAPCOA Reductions. Guidance provided by California Air Pollution Control Officers Association (CAPCOA)[2] was reviewed to determine whether the Project can implement features that would result in further VMT reductions. Due to the location of the project, adjacent to I-80 in rural Solano County, few CAPCOA reductions are available.

A total of four electric vehicle charging stations, two beyond what is required by CALGreen standards will be installed. This falls under CAPCOA Reduction Measure T-14, *Provide Electric Vehicle Charging Infrastructure*. The projected reductions in GHG emissions (1.29%) are illustrated in Table 8. Calculations for this reduction measure can be found in the appendix.

Additional measures that could be implemented include T-5, Implement Commute Trip Reduction Program (Voluntary), T-10, Provide End-of-Trip Bicycle Facilities, although their use would likely be limited.

T-5 - This measure implements a voluntary commute trip reduction (CTR) program with employers. CTR programs discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions. This measure may not be a practical measure based on the number of employees, the hours worked and the alternatives. For example, an employee may choose to ride their bike if working during the day but not at night. It was assumed that half of all employees may choose to participate in either carpooling or another reduction program such as bicycling. This could result in up to a 1% reduction in employee VMT.

T-10 – This measure would install and maintain end-of-trip facilities for employee use. End-of-trip facilities could include bike parking, bike lockers, showers, and personal lockers although it is likely that only bike parking would be provided were this measure to be implemented. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle, thereby reducing VMT and GHG emissions. Employee bicycling to and from the project could reduce VMT by about 0.66%.

TABLE 8
CAPCOA REDUCTIONS

	Reductions
T-14 - Electric Charging Infrastructure	-1.29%
Total Reductions	**-1.29%**
Possible Additional Reductions	
T-10 Bicycle Amenities	-0.66
T-5 - End-of-Trip Facilities	-1.00
Total Possible Additional Reductions	**-1.66%**
Net Potential Total VMT Reductions	**-2.95%**

[2] *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*. California Air Pollution Control Officers Association (CAPCOA). December 2021.

Findings

Based on the results of this analysis, the following finding is made:

- The analysis summarizes that the addition of the proposed Project can shorten trip lengths and result in a decrease in VMT. This is considered to be a less than significant impact.
- The introduction of CAPCOA VMT reduction measures will also result in a reduction of VMT between 1.29% up to 2.95%.

Intersection Levels of Service

The Midway Road / Lewis Road intersection will be expanded with the addition of the fourth leg providing access to the C-store / gas station and the QSR. Table 9 displays the levels of service for the a.m. and p.m. peak hours. All intersections except the Midway Road / Lewis Road – West Project Driveway intersection operate within the LOS C threshold. The Midway Road / Lewis Road – West Project Driveway will decline to LOS F conditions along the north and south approaches. Additionally, the intersection will meet the peak hour traffic signal warrant.

TABLE 9
EXISTING PLUS PROJECT PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	AM Peak Hour		PM Peak Hour		Peak Hour Warrant Met?
		LOS	Average Delay (secs)	LOS	Average Delay (secs)	
1. I-80 Westbound Ramps / Oday Rd †	EB / WB Stop					
NB Left		---	---	A	7.2	
SB Left		A	7.2	A	7.2	No
EB		---	---	A	8.9	
WB		B	10.3	B	10.0	
2. Midway Road/ Oday Rd †	SB Stop					
SB		C	17.3	B	14.7	No
EB Left		A	8.3	A	8.2	
3. I-80 Eastbound Ramps / Midway Rd‡	NB Stop					
NB		B	14.4	C	21.3	No
EB Left		A	8.9	A	9.3	
4. Midway Rd / Lewis Rd – West Project DW‡	NB / SB Stop					
NB		**F**	**100.3**	**F**	**369.4**	
SB		**F**	**74.3**	**F**	**51.3**	Yes*
EB Left		A	8.9	A	8.5	
WB Left		A	8.2	A	8.4	
5. Midway Rd / East Project DW ‡	SB Stop					
SB		B	13.2	B	11.7	No
EB Left		A	9.6	A	9.2	

† Oday Rd is north-south roadway

‡ Midway Rd is east-west roadway

XX – indicates LOS threshold exceeded

***** meets a.m. and p.m. peak hour signal warrant

CUMULATIVE IMPACTS

The analysis of the long range 2040 cumulative condition is intended to consider the impact of this project within the context of buildout of the General Plan circulation element occurring in 2040.

Year 2040 Forecasts / Conditions

2040 Traffic Forecasts

Year 2040 traffic forecasts were based on the most recent Countywide traffic model provided by the Solano Transportation Authority (STA). The method used to develop forecasts of future year peak hour intersection turning movement traffic volumes was based on the increase or decrease of traffic model generated growth factors. Peak hour traffic volumes from the travel model were used to generate growth factors. These growth factors were applied to existing peak hour intersection turning movement traffic volumes. The development of future year intersection turning movement traffic volumes requires that the turning movements at each intersection "balance". To achieve the balance, inbound traffic volumes must equal the outbound traffic volumes, and the volumes must be distributed among the various left-turn, through, and right-turn movements at each intersection. The "balancing" of future year intersection turning movement traffic volumes was conducted using methods described in the Transportation Research Board's (TRB's) National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*. The NCHRP 255 method applies the desired peak hour directional volumes to the intersection turning movement volumes, using an iterative process to balance and adjust the resulting forecasts to match the desired peak hour directional volumes. Year 2040 forecasted intersection turning movements are presented in Figure 7.

Roadway Conditions

Roadways conditions in the 2040 model are generally projected to remain with their current lane configurations. No changes were noted. A review of Caltrans and STA planning documents indicate that there are no funded improvement projects identified in the project vicinity. The STA has identified a project along Midway Road, from the South Putah Canal east to I-80 that would widen the road to a four-lane undivided arterial. Additionally, they have identified intersection and roadway improvements along Midway Road to connect the City of Dixon. A cost estimate has been prepared for the Dixon connection, but no funding plans have been prepared for either project.

2040 VOLUMES & LANE CONFIGURATIONS

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FIGURE 7

2040 Conditions

Intersection Levels of Service. Table 10 summarizes current Levels of Service at the study area intersections during the a.m. and p.m. peak hours. All intersections except Midway Road at Lewis Road operate within the LOS C threshold. This intersection will also meet the peak hour signal warrant in the p.m. peak hour.

2040 Plus Project Level of Service Impacts

Intersection Levels of Service. Figure 8 presents the projected turning movements at the study intersections under 2040 plus Project conditions. Table 10 displays the Levels of Service at each study intersection in the 2040 plus Project condition for the a.m. and p.m. peak hour conditions. All intersections except Midway Road at Lewis Road – West Project Driveway operate within the LOS C threshold. This intersection will operate at LOS F conditions along the north and south approaches and also meet the peak hour traffic signal warrant in both peak periods.

PROJECT ACCESS

Two access locations will be provided for the project. One access will be opposite the existing Lewis Road intersection along Midway Road. The second driveway will be about 400 feet east of Lewis Road, near the existing Midway Road cul-de-sac intersection. The west driveway will provide passenger car access to the gas station, C-store and fast-food restaurant while the east driveway will provide truck access to the gas station. A road along the south side of the site will provide a roadway connection between the two driveways.

Sight Distance. A sight distance analysis was completed at both project access locations along Midway Road. Available sight distance was evaluated using the standards documented in the Caltrans *Highway Design Manual* (HDM). Based on the location of the driveways "**Minimum Stopping Sight** Distance" (MSSD) and "**Corner Sight Distance**" (CSD) were considered. These criteria are documented in Tables 201.1 and 405.1A of the HDM. The Minimum Stopping Sight Distance (MSSD) is the distance required for an approaching motorist to identify a hazard and come to a stop while the Corner Sight Distance (CSD) is the distance needed for a motorist to see approaching vehicles and complete a turning maneuver before that vehicle arrives.

West Driveway. The posted speed limit along Midway Road is 55 mph at the project access intersection. The Caltrans Highway Design Manual (HDM) Table 201.1 notes that the MSSD requirement for the posted speed limit of 55 mph is 500 feet. This intersection is located about midway within an S-curve with radii of about 850 feet. The line of sight from the "driver's eye" along on Midway Road cuts across the fallow land south of the project site; the County has indicated that these parcels remain in an agricultural designation.

TABLE 10
2040 PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	2040 AM Peak Hour		2040 PM Peak Hour		2040 plus Project AM Peak Hour		2040 PM plus Project Peak Hour		Peak Hour Warrant Met?
		LOS	Average Delay (secs)	LOS	Average Delay (secs)					
1. I-80 Westbound Ramps / Oday Rd †	EB / WB Stop									
NB Left		---	---	A	7.2	---	---	A	7.2	
SB Left		A	7.2	A	7.2	A	7.2	A	7.2	No
EB		---	---	A	8.9	---	---	A	8.9	
WB		A	9.8	A	9.8	B	10.6	B	10.6	
2. Midway Road/ Oday Rd †	SB Stop									
SB		B	14.5	B	11.9	C	22.0	C	16.2	No
EB Left		A	8.4	A	8.0	A	8.7	A	8.3	
3. I-80 Eastbound Ramps / Midway Rd‡	NB Stop									
NB		B	11.7	B	14.0	C	15.1	C	20.9	No
EB Left		A	8.6	A	8.7	A	9.4	A	9.4	
4. Midway Rd / Lewis Rd – West Project DW‡										
NB	NB / SB Stop	C	16.9	**D**	**25.7**	**F**	**274.9**	**F**	**551.6**	
SB		---	---	---	---	**F**	**180.3**	**F**	**92.1**	Yes*
EB Left		---	---	---	---	A	9.5	A	8.6	
WB Left		A	8.3	A	8.8	A	8.3	A	8.7	
5. Midway Rd / East Project DW ‡										
SB	SB Stop					C	15.3	B	12.0	No
EB Left						B	10.3	A	9.3	

† Oday Rd is north-south roadway

‡ Midway Rd is east-west roadway

XX – indicates LOS threshold exceeded

* Meets p.m. peak hour signal warrant in 2040 and a.m. and p.m. peak hour signal warrant in 2040 plus project

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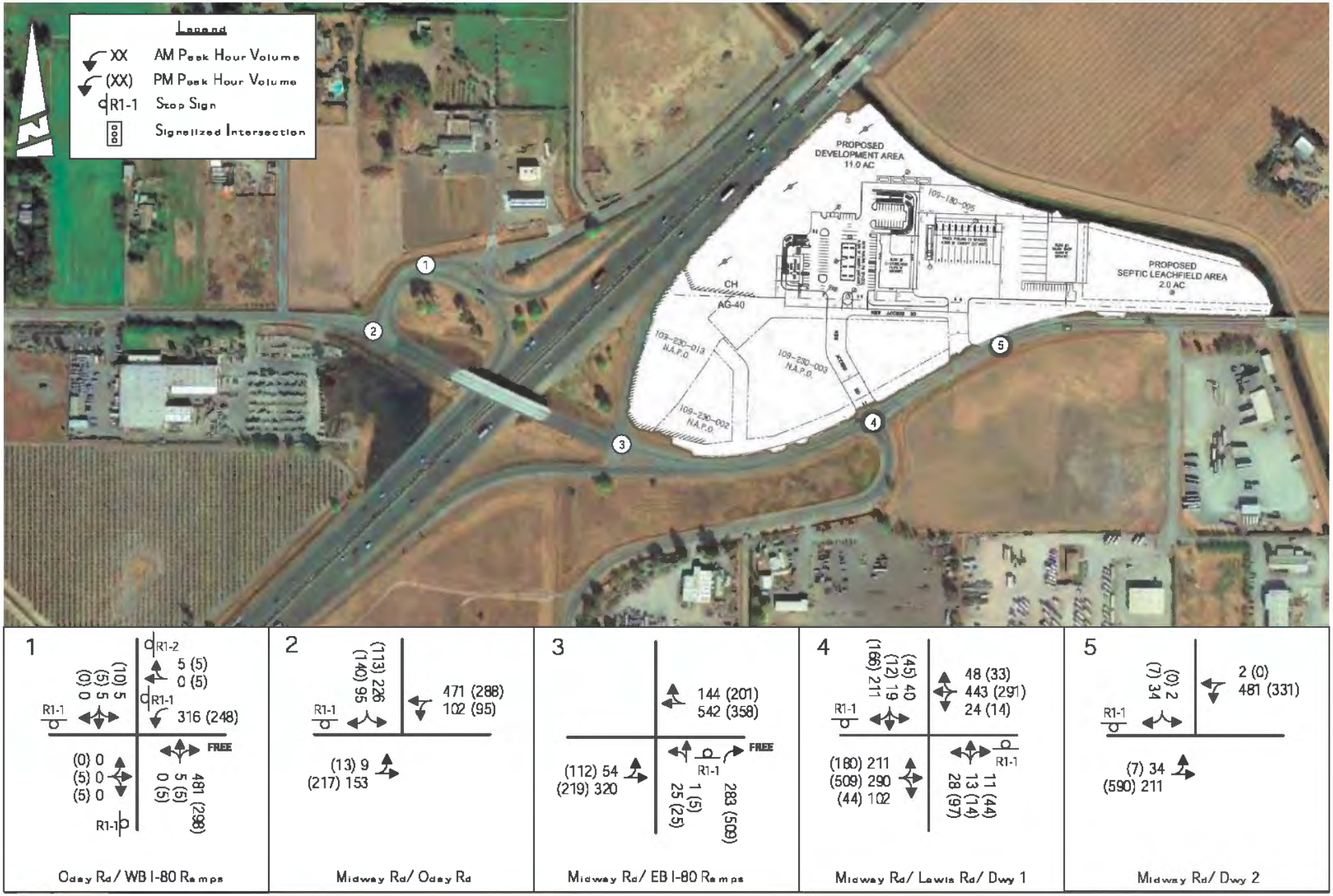

2040 PLUS PROJECT & LANE CONFIGURATIONS

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FIGURE 8

Table 405.1A notes that CSD is determined based on the design speed of the major road and the time gap needed to complete the maneuver. For a passenger car departing the site and turning east, the required time gap is 7½ seconds. With a 55-mph posted speed limit a CSD of about 605 feet is required ($1.47V_mT_{g)}$ to provide adequate time for the vehicle to enter eastbound Midway Road before an opposing vehicle arrives. The sight distance appears adequate provided the sight triangles in Figure 9A have clear lines of sight.

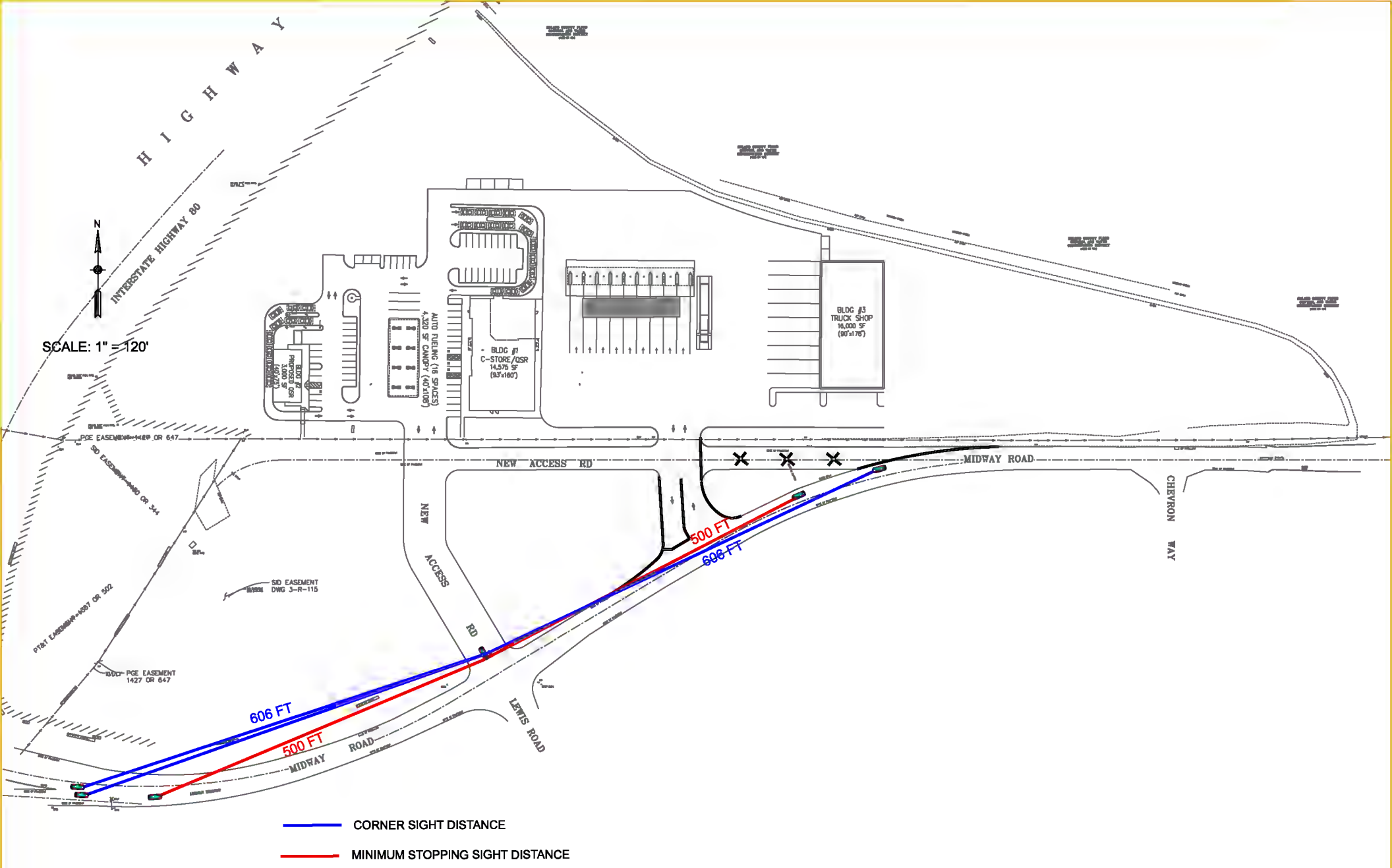
East Driveway. This driveway will form a tee intersection along Midway Road. This section of the road is located within a horizontal curve. Figure 9B illustrates the MSSD and CSD sight lines. As the east driveway will be used by semi-trailers, the CSD distance of 930 feet accounts for slower truck acceleration entering the roadway. Based on the approximate driveway location the MSSD appears to be met. However, the CSD looking west crosses beyond the west driveway access. Under side street stop-controlled conditions this could present an issue were the west driveway queue to back up through the sight triangle. The CSD looking east crosses fallow land and the Chevron Way intersection. Chevron Way provides access to storage facilities, and it is possible that a vehicle queued at the intersection would block the sight line.

Need for Left Turn Lanes

The extent to which project trips create the need for a separate left turn lane at study intersections has been investigated based application of published criteria to long term cumulative volumes

Methodology. The American Association of State Transportation and Highway Officials (AASHTO) has identified guidelines for evaluating the benefits of installing left turn lanes in their publication *A Policy on Geometric Design of Highways and Streets*. AASHTO guidelines take two forms. These guidelines are presented in the 11th Edition (2011) in their Exhibit 9-29 and Table 11 and base the need for a left turn lane on the volume of approaching and opposing traffic on the mainline road and the relative percentage of that traffic that turns. These criteria are applicable to intersections where the major street traffic proceeds freely and side street traffic is controlled by stop signs. This methodology considers high speed roadways of 40 mph or greater.

The AASHTO publication was updated in December 2018 and different guidelines are now available. The newer guidelines suggest that a left turn lane could be beneficial based on the volume of traffic turning and the total volume per lane on the road. The new guidance considered rural and urban conditions. This guidance is presented in their Figures 9-35 and 9-36 (Table 12) which follows. These guidelines also suggest volume thresholds for creation of a "bypass" lane that, absent a full turn lane, would allow through traffic to proceed around a vehicle stopped to turn left at a tee intersection. The information supporting the 2018 guidelines notes, however, that "*The volume-based guidelines or warrants presented below indicate situations where a left turn lane may be desirable, not necessarily situations where a left-turn lane is definitely needed".*



SIGHT DISTANCE - WEST DRIVEWAY

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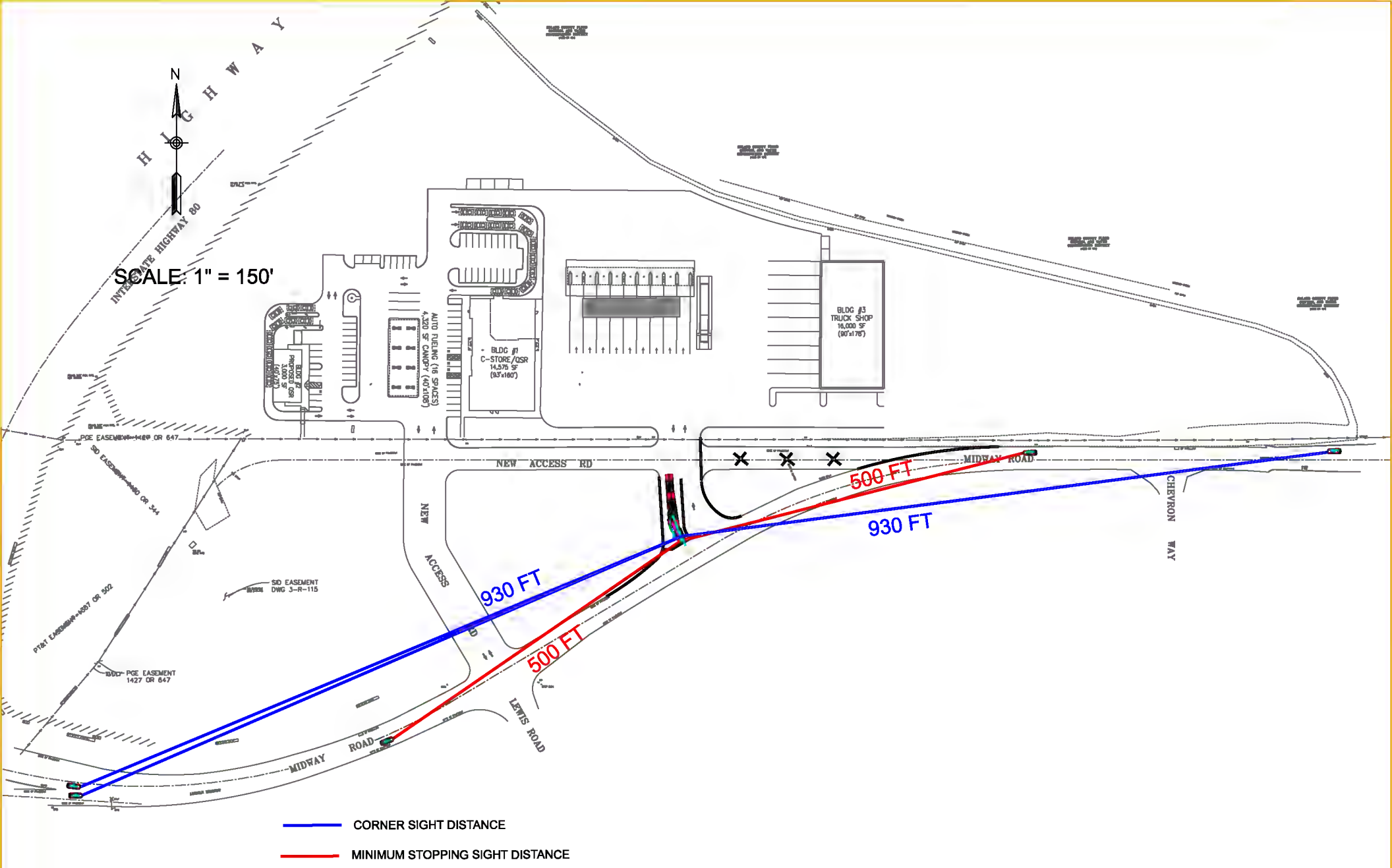
FIGURE 9A



SIGHT DISTANCE - EAST DRIVEWAY

FLECKER ASSOCIATES

1500-01

FIGURE 9B

Assessment. The justification for a left turn lane was considered at two locations, as noted in Table 13. The need for left turn lanes was considered based on factors such as the frequency of volumes reaching warrants levels, the availability of adequate sight distance and the nature of motorists attracted to the site. A review of crash data from the California Highway Patrol SWITRS database between 2017 and 2019 showed few crashes in the vicinity of Midway Road at Lewis Road. Of the three crashes noted they were generally due to speeding or improper turning.

Midway Road / West Driveway. Based on the 2011 and 2018 either AASHTO criteria a left turn lane is justified in both a.m. and p.m. peak hours. In addition, the intersection will operate at LOS F conditions and meet the peak hour signal warrant.

Midway Road / East Driveway. The east driveway is expected to see higher truck traffic volumes in the a.m. peak hour. It was previously noted that the sight distance requires visibility past the west driveway and Chevron Way. The projected volumes at this location will not satisfy the 2011 AASHTO criteria but will satisfy the 2018 methodology.

TABLE 11
TRAFFIC VOLUMES JUSTIFYING LEFT TURN LANES
UNDER 2011 AASHTO

Opposing Volume (veh/hr)	Advancing Volume (veh/hr)			
	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
40-mph operating speed				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
50-mph operating speed				
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60-mph operating speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

Source: *A Policy on Geometric Design of Highway and Streets, AASHTO, 2011.*

TABLE 12 ASSESSMENT OF JUSTIFICATION FOR LEFT TURN LANES UNDER 2018 AASHTO		
Left Turn Lane Volume (VPH)	**Major Road Two-Lane Highway Peak-Hour Volume (VPH/Lane)**	
	Three-Leg Intersection*	**Four-Leg Intersection***
	Warrants a Left Turn Lane	**Warrants a Left Turn Lane**
5	450 / 200	200 / 150
10	300 / 100	100 / 50
15	250 / 100	100 / 50
20	200 / 50	50 / <50
25	200 / 50	50 / <50
30	150 / 50	50 / <50
35	150 / 50	50 / <50
40	150 / 50	50 / <50
45	150 / 50	50 / <50
50 or more	100 / 50	50 / <50
Source: *A Policy on Geometric Design of Highway and Streets, AASHTO, 2018.* * Approach volume Urban areas / Rural area		

TABLE 13
SUMMARY OF LEFT TURN LANE ASSESSMENT
PLUS PROJECT CONDITIONS

Location	AASHTO 2011 Methodology						AASHTO 2018 Methodology	
		Major Street Traffic Volume		Percent Left Turns	Design Speed	Left Turn Lane Justified?	Major Street Volume Per lane	Left Turn Lane Justified?
		Advancing	Opposing					
AM Peak Hr Left Turn Volume								
Existing plus Project								
Midway Road / West Driveway	211	580	388	36.4%	55 mph	Yes	580	Yes
Midway Road / East Driveway	34	321	356	10.6%	55 mph	Yes	321	Yes
Cumulative 2040 plus Project								
Midway Road / West Driveway	211	603	515	35.0%	55 mph	Yes	603	Yes
Midway Road / East Driveway	34	245	483	13.9%	55 mph	No	245	Yes
PM Peak Hr Left Turn Volume								
Existing plus Project								
Midway Road / West Driveway	180	627	319	28.7%	55 mph	Yes	627	Yes
Midway Road / East Driveway	7	497	312	14.1%	55 mph	Yes	497	Yes
Cumulative 2040 plus Project								
Midway Road / West Driveway	180	733	338	24.6%	55 mph	Yes	733	Yes
Midway Road / East Driveway	7	597	331	1.2%	55 mph	Yes	597	Yes

FINDINGS / RECOMMENDATIONS/ IMPROVEMENTS

The preceding analysis has identified project impacts that may occur without identifying any recommendations or improvements. The text that follows identifies a strategy for recommendations to the 'No Project' conditions or improvements to the 'Plus Project' conditions.

Existing Conditions

Recommendations. All intersections currently operate within agency thresholds, at LOS C or better. None of the intersections meet the peak hour signal warrant.

Significant Transportation Effects for Existing plus Project Conditions

The gas station / C-store / fast food project will attract some customers residing in the greater Vacaville area, but its primary customer base will be travelers already on Interstate 80. The project will provide fuel, convenience items and food service to travelers who simply drive off of and back to nearby I-80 to reach the project.

A quantitative analysis comparing existing trips for similar uses was conducted. The closest similar uses are at the Leisure Town Road interchange in Vacaville west of the site and the W. A Street interchange in Dixon east of the site. Overall, the project is projected to generate fewer trips with the project. Completed. The project's impacts on regional VMT, therefore, would not be significant.

Under Existing plus Project conditions, all intersections except the Midway Road / Lewis Road – West Driveway will operate at acceptable levels of service, at LOS C or better. The Midway Road / Lewis Road – West Driveway will operate at LOS F and meet the peak hour traffic signal warrant. The intersection will also meet AASHTO guidelines for a left turn lane along Midway Road. A left turn lane is also justified along eastbound Midway Road at the East Driveway using both 2011 and 2018 criteria.

The following recommendations are made:

- The project should pay their fair share traffic impact fees in Solano County.

- The project shall install the following improvements at the Midway Road / Lewis Road – West Driveway intersection:

  Option A
  - Install a 200-foot eastbound left turn lane on Midway Road
  - Install a 100-foot westbound left turn lane on Midway Road

- Install a through-left turn lane and a right turn only lane for the driveway approach to the intersection
- Install a traffic signal with protected left turn phasing along Midway Road, a right turn southbound to westbound overlap phase and split phasing along Lewis Road and the project driveway.

With the stated improvements the intersection will operate at LOS C or better.

Option B

- Install a single lane roundabout to accommodate STAA trucks. The longest queues occur along the west approach and are projected to be 101 feet in the a.m. peak hour and 117 feet in the p.m. peak hour.

With the stated improvement the roundabout will operate at LOS A.

- The project shall install the following improvements at the Midway Road / East Driveway intersection:

  - Install a 100-foot eastbound left turn lane at the Midway Road / East Driveway intersection.

2040 Conditions

Under 2040 conditions all intersections except the Midway Road / Lewis Road are projected to operate within agency thresholds at LOS C conditions or better. The Midway Road / Lewis Road intersection will decline to LOS D in the p.m. peak hour and meet the peak hour traffic signal warrant.

- The following recommendation is made:

  - A two-way-left-turn lane (TWLTL) should be installed to allow northbound to westbound Lewis Road traffic to queue prior to merging into the westbound travel lane. The TWLTL will improve traffic operations to LOS C conditions.

As identified in the "Significant Transportation Effects for Existing plus Project Conditions" the project will need to install a left turn lane as part of the project improvements. The County should provide a reimbursement for the costs of the TWLTL improvements to the applicant as this widening is required without the project.

Significant Transportation Effects for 2040 Plus Project Conditions

Under Existing plus Project conditions, all intersections except the Midway Road / Lewis Road – West Driveway will operate at acceptable levels of service, at LOS C or better. As noted in "Significant Transportation Effects for Existing plus Project Conditions", a traffic signal with accompanying roadway widening will be needed to reach LOS C or better conditions. A single lane roundabout has also been provided as an option. In 2040 plus Project conditions, the intersection will continue to operate at LOS C or better conditions under the signalized condition while the roundabout will operate at LOS B. No additional improvements are identified.

REFERENCES

1. Solano County. November 2008. *Solano County General Plan.*
2. Solano County. February 2006. *Road Improvement Standards and Land Development Requirements.*
3. California Department of Transportation. *California Manual on Uniform Traffic Control Devices for Streets and Highways* – 2014 Edition, 2021 Addendum. Sacramento, CA
4. Caltrans *Highway Design Manual*, 2022
5. California Highway Patrol, *Statewide Integrated Traffic Records System (SWITRS)*. https://iswitrs.chp.ca.gov/reports/jsp/index.jsp
6. Transportation Research Board. *Highway Capacity Manual 6th Edition*. Washington, D.C.
7. Transportation Research Board. 1982. National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design.* Washington, D.C.
8. Solano Transportation Authority, *Arterials, Highways and Freeway Element, Solano County Comprehensive Transportation Plan*, June 2018.
9. California Department of Transportation. *I-80 East Comprehensive Multimodal Corridor Plan*, District 4 June 2020
10. AASHTO. 2011. *A Policy on Geometric Design of Highways and Streets, 2011*, Washington DC.
11. AASHTO. 2018. *A Policy on Geometric Design of Highways and Streets, 2018*, Washington DC.

APPENDIX

(under separate cover)

Prepared by National Data & Surveying Services

Oday Rd & I-80 WB Ramps

Peak Hour Turning Movement Count

ID: 21-070207-001
City: Vacaville

Day: Thursday
Date: 12/2/2021

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

CONTROL: 2-Way Stop(EB/WB)

	AM	NOON	PM
TEV	407	0	357
PHF	0.94		0.88

SOUTHBOUND (Oday Rd)

AM	0	3	2	0	6	AM
NOON	0	0	0	0	0	NOON
PM	0	5	6	1	6	PM

EASTBOUND (I-80 WB Ramps)

AM	NOON	PM	
0	0	0	⇦
0	0	0	↰ 0
0	0	0	↱ 0
0	0	0	→ 0
0	0	0	↳ 0

WESTBOUND (I-80 WB Ramps)

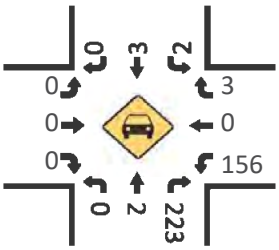
PM	NOON	AM	
2	0	4	0 ↰
0	0	0	0 ←
139	0	163	0 ↰
0	0	0	0 ↰
207	0	235	⇨

NORTHBOUND (Oday Rd)

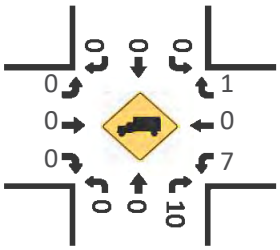
PM	144	0	0	3	201	PM
NOON	0	0	0	0	0	NOON
AM	166	0	0	2	233	AM

0 0 0 0 (EB) | 0 0 0 0 (WB) | 0 0 0 0 (NB)

Cars (AM)



HT (AM)



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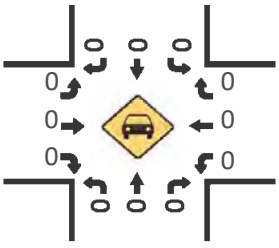
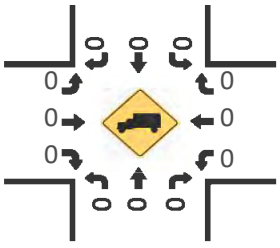
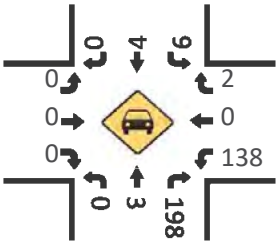


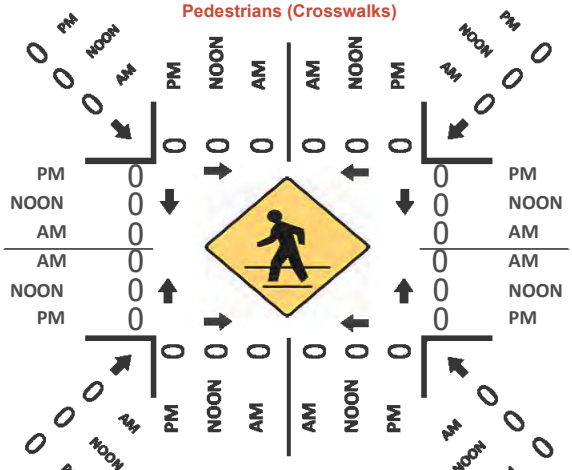
HT (NOON)



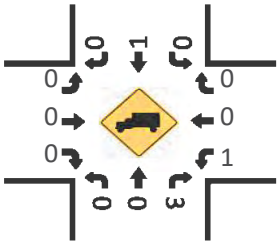
Cars (PM)



Pedestrians (Crosswalks)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & I-80 WB Ramps
City: Vacaville
Control: 2-Way Stop(EB/WB)

Project ID: 21-070207-001
Date: 12/2/2021

Data - Total

NS/EW Streets:	Oday Rd				Oday Rd				I-80 WB Ramps				I-80 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	54	0	0	0	0	0	0	0	0	0	42	0	0	0	97
7:15 AM	0	0	50	0	1	0	0	0	0	0	0	0	39	0	3	0	93
7:30 AM	0	0	60	0	0	1	0	0	0	0	0	0	40	0	0	0	101
7:45 AM	0	1	67	0	0	0	0	0	0	0	0	0	40	0	0	0	108
8:00 AM	0	1	56	0	1	2	0	0	0	0	0	0	44	0	1	0	105
8:15 AM	0	0	56	0	2	1	0	0	0	0	0	0	28	0	1	0	88
8:30 AM	0	3	56	0	0	2	0	0	0	0	0	0	36	0	1	0	98
8:45 AM	0	1	43	0	2	0	0	0	0	0	0	0	31	0	1	0	78
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	7	442	0	6	6	0	0	0	0	0	0	300	0	7	0	768
APPROACH %'s :	0.00%	1.56%	98.44%	0.00%	50.00%	50.00%	0.00%	0.00%					97.72%	0.00%	2.28%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	2	233	0	2	3	0	0	0	0	0	0	163	0	4	0	407
PEAK HR FACTOR :	0.000	0.500	0.869	0.000	0.500	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.926	0.000	0.333	0.000	0.942
			0.864				0.417								0.928		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	45	0	2	2	0	0	0	0	0	0	37	0	1	0	88
4:15 PM	0	2	42	0	1	1	0	0	0	0	0	0	21	0	0	0	67
4:30 PM	0	0	60	0	0	1	0	0	0	0	0	0	39	0	0	0	100
4:45 PM	0	1	62	0	0	0	0	0	0	0	0	0	39	0	0	0	102
5:00 PM	0	1	37	0	2	0	0	1	0	0	0	0	31	0	1	0	73
5:15 PM	0	1	42	0	4	4	0	0	0	0	0	0	30	0	1	0	82
5:30 PM	0	0	29	0	1	1	0	0	0	0	0	0	32	0	2	1	66
5:45 PM	0	0	36	0	1	0	0	0	0	0	0	0	24	0	0	0	61
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	6	353	0	11	9	0	1	0	0	0	0	253	0	5	1	639
APPROACH %'s :	0.00%	1.67%	98.33%	0.00%	52.38%	42.86%	0.00%	4.76%					97.68%	0.00%	1.93%	0.39%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	3	201	0	6	5	0	1	0	0	0	0	139	0	2	0	357
PEAK HR FACTOR :	0.000	0.750	0.810	0.000	0.375	0.313	0.000	0.250	0.000	0.000	0.000	0.000	0.891	0.000	0.500	0.000	0.875
			0.810				0.375								0.904		

National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & I-80 WB Ramps
City: Vacaville
Control: 2-Way Stop(EB/WB)

Project ID: 21-070207-001
Date: 12/2/2021

Data - Cars

NS/EW Streets:	Oday Rd				Oday Rd				I-80 WB Ramps				I-80 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	52	0	0	0	0	0	0	0	0	0	40	0	0	0	93
7:15 AM	0	0	48	0	1	0	0	0	0	0	0	0	39	0	2	0	90
7:30 AM	0	0	58	0	0	1	0	0	0	0	0	0	39	0	0	0	98
7:45 AM	0	1	64	0	0	0	0	0	0	0	0	0	39	0	0	0	104
8:00 AM	0	1	53	0	1	2	0	0	0	0	0	0	39	0	1	0	97
8:15 AM	0	0	55	0	2	1	0	0	0	0	0	0	27	0	1	0	86
8:30 AM	0	3	54	0	0	2	0	0	0	0	0	0	35	0	1	0	95
8:45 AM	0	1	38	0	2	0	0	0	0	0	0	0	30	0	1	0	72
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	7	422	0	6	6	0	0	0	0	0	0	288	0	6	0	735
APPROACH %'s :	0.00%	1.63%	98.37%	0.00%	50.00%	50.00%	0.00%	0.00%					97.96%	0.00%	2.04%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	2	223	0	2	3	0	0	0	0	0	0	156	0	3	0	389
PEAK HR FACTOR :	0.000	0.500	0.871	0.000	0.500	0.375	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.375	0.000	0.935
			0.865				0.417								0.970		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	45	0	2	2	0	0	0	0	0	0	34	0	1	0	85
4:15 PM	0	2	42	0	1	1	0	0	0	0	0	0	19	0	0	0	65
4:30 PM	0	0	58	0	0	0	0	0	0	0	0	0	39	0	0	0	97
4:45 PM	0	1	62	0	0	0	0	0	0	0	0	0	39	0	0	0	102
5:00 PM	0	1	36	0	2	0	0	1	0	0	0	0	30	0	1	0	71
5:15 PM	0	1	42	0	4	4	0	0	0	0	0	0	30	0	1	0	82
5:30 PM	0	0	28	0	1	1	0	0	0	0	0	0	31	0	2	0	63
5:45 PM	0	0	35	0	1	0	0	0	0	0	0	0	23	0	0	0	59
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	6	348	0	11	8	0	1	0	0	0	0	245	0	5	0	624
APPROACH %'s :	0.00%	1.69%	98.31%	0.00%	55.00%	40.00%	0.00%	5.00%					98.00%	0.00%	2.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	3	198	0	6	4	0	1	0	0	0	0	138	0	2	0	352
PEAK HR FACTOR :	0.000	0.750	0.798	0.000	0.375	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.885	0.000	0.500	0.000	0.863
			0.798				0.344								0.897		

National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & I-80 WB Ramps
City: Vacaville
Control: 2-Way Stop(EB/WB)

Project ID: 21-070207-001
Date: 12/2/2021

Data - HT

NS/EW Streets:	Oday Rd				Oday Rd				I-80 WB Ramps				I-80 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	4
7:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	3
7:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	3
7:45 AM	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	4
8:00 AM	0	0	3	0	0	0	0	0	0	0	0	0	5	0	0	0	8
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
8:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	3
8:45 AM	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	20	0	0	0	0	0	0	0	0	0	12	0	1	0	33
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%									92.31%	0.00%	7.69%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	10	0	0	0	0	0	0	0	0	0	7	0	1	0	18
PEAK HR FACTOR :	0.000	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.350	0.000	0.250	0.000	0.563
	0.833												0.400				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
4:30 PM	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	3
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	5	0	0	1	0	0	0	0	0	0	8	0	0	1	15
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%					88.89%	0.00%	0.00%	11.11%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	3	0	0	1	0	0	0	0	0	0	1	0	0	0	5
PEAK HR FACTOR :	0.000	0.000	0.375	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.417
	0.375				0.250								0.250				

National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & I-80 WB Ramps
City: Vacaville
Control: 2-Way Stop(EB/WB)

Project ID: 21-070207-001
Date: 12/2/2021

Data - Bikes

NS/EW Streets:	Oday Rd				Oday Rd				I-80 WB Ramps				I-80 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & I-80 WB Ramps
City: Vacaville
Project ID: 21-070207-001
Date: 12/2/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Oday Rd		Oday Rd		I-80 WB Ramps		I-80 WB Ramps		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Oday Rd & Midway Rd

Peak Hour Turning Movement Count

ID: 21-070207-002
City: Vacaville

Day: Thursday
Date: 12/2/2021

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (Oday Rd)

AM	70	0	96	0	238	AM
NOON	0	0	0	0	0	NOON
PM	111	0	34	0	206	PM

EASTBOUND (Midway Rd)

AM	NOON	PM	
130	0	177	
1	0	0	0
11	0	16	0
106	0	166	0
0	0	0	0

WESTBOUND (Midway Rd)

PM	NOON	AM	
190	0	227	0
66	0	59	0
0	0	0	0
0	0	0	0
200	0	202	

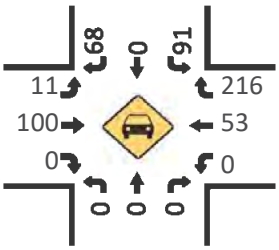
NORTHBOUND (Oday Rd)

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

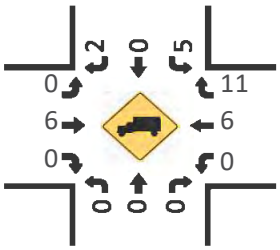
CONTROL: 1-Way Stop(SB)

TEV	570 AM	0 NOON	583 PM
PHF	0.95		0.87

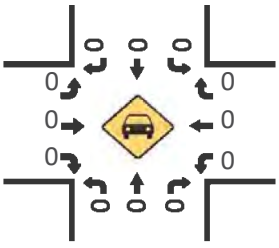
Cars (AM)



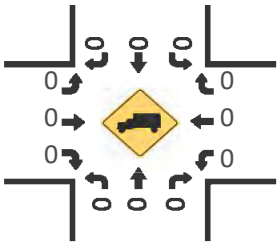
HT (AM)



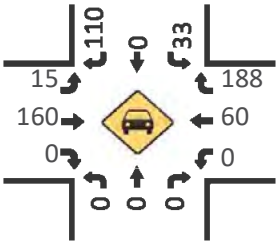
Cars (NOON)



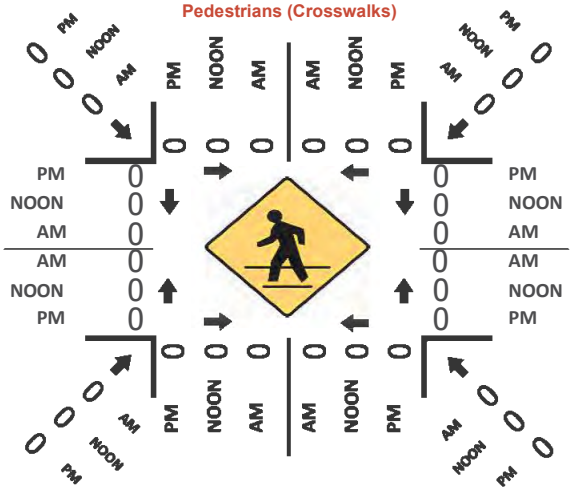
HT (NOON)



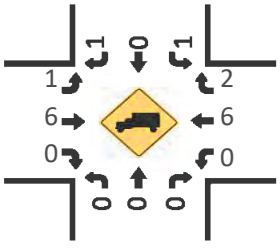
Cars (PM)



Pedestrians (Crosswalks)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & Midway Rd
City: Vacaville
Control: 1-Way Stop(SB)

Project ID: 21-070207-002
Date: 12/2/2021

Data - Total

NS/EW Streets:	Oday Rd				Oday Rd				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	31	0	11	0	0	23	0	0	0	7	56	0	128
7:15 AM	0	0	0	0	18	0	21	0	1	29	0	0	0	13	48	0	130
7:30 AM	0	0	0	0	27	0	14	0	2	20	0	1	0	12	64	0	140
7:45 AM	0	0	0	0	21	0	17	0	2	33	0	0	0	17	60	0	150
8:00 AM	0	0	0	0	30	0	18	0	6	24	0	0	0	17	55	0	150
8:15 AM	0	0	0	0	16	0	12	0	0	22	0	0	0	13	52	0	115
8:30 AM	0	0	0	0	20	0	19	0	4	12	0	0	0	10	56	0	121
8:45 AM	0	0	0	0	11	0	20	0	3	15	0	0	0	10	39	0	98
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	174	0	132	0	18	178	0	1	0	99	430	0	1032
APPROACH %'s :					56.86%	0.00%	43.14%	0.00%	9.14%	90.36%	0.00%	0.51%	0.00%	18.71%	81.29%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	96	0	70	0	11	106	0	1	0	59	227	0	570
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.800	0.000	0.833	0.000	0.458	0.803	0.000	0.250	0.000	0.868	0.887	0.000	0.950
					0.865				0.843				0.929				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	7	0	31	0	2	44	0	0	0	15	46	0	145
4:15 PM	0	0	0	0	5	0	19	0	4	36	0	0	0	22	39	0	125
4:30 PM	0	0	0	0	7	0	30	0	3	47	0	0	0	19	61	0	167
4:45 PM	0	0	0	0	7	0	29	0	5	31	0	0	0	19	55	0	146
5:00 PM	0	0	0	0	10	0	27	0	5	42	0	0	0	14	36	0	134
5:15 PM	0	0	0	0	10	0	25	0	3	46	0	0	0	14	38	0	136
5:30 PM	0	0	0	0	4	0	27	0	1	41	0	0	0	13	29	0	115
5:45 PM	0	0	0	0	7	0	19	0	2	30	0	0	0	20	31	0	109
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	57	0	207	0	25	317	0	0	0	136	335	0	1077
APPROACH %'s :					21.59%	0.00%	78.41%	0.00%	7.31%	92.69%	0.00%	0.00%	0.00%	28.87%	71.13%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	34	0	111	0	16	166	0	0	0	66	190	0	583
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.850	0.000	0.925	0.000	0.800	0.883	0.000	0.000	0.000	0.868	0.779	0.000	0.873
					0.980				0.910				0.800				

National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & Midway Rd
City: Vacaville
Control: 1-Way Stop(SB)

Project ID: 21-070207-002
Date: 12/2/2021

Data - Cars

NS/EW Streets:	Oday Rd				Oday Rd				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	30	0	10	0	0	22	0	0	0	7	54	0	123
7:15 AM	0	0	0	0	18	0	21	0	1	26	0	0	0	11	46	0	123
7:30 AM	0	0	0	0	26	0	14	0	2	18	0	0	0	10	62	0	132
7:45 AM	0	0	0	0	20	0	17	0	2	32	0	0	0	17	57	0	145
8:00 AM	0	0	0	0	27	0	16	0	6	24	0	0	0	15	51	0	139
8:15 AM	0	0	0	0	16	0	11	0	0	22	0	0	0	11	52	0	112
8:30 AM	0	0	0	0	19	0	19	0	4	12	0	0	0	7	53	0	114
8:45 AM	0	0	0	0	10	0	20	0	3	13	0	0	0	10	35	0	91
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	166	0	128	0	18	169	0	0	0	88	410	0	979
APPROACH %'s :					56.46%	0.00%	43.54%	0.00%	9.63%	90.37%	0.00%	0.00%	0.00%	17.67%	82.33%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	91	0	68	0	11	100	0	0	0	53	216	0	539
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.843	0.000	0.810	0.000	0.458	0.781	0.000	0.000	0.000	0.779	0.871	0.000	0.929
					0.924				0.816				0.909				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	6	0	28	0	2	42	0	0	0	14	46	0	138
4:15 PM	0	0	0	0	5	0	17	0	4	32	0	0	0	21	39	0	118
4:30 PM	0	0	0	0	7	0	30	0	3	46	0	0	0	17	59	0	162
4:45 PM	0	0	0	0	6	0	29	0	5	28	0	0	0	15	55	0	138
5:00 PM	0	0	0	0	10	0	26	0	4	41	0	0	0	14	36	0	131
5:15 PM	0	0	0	0	10	0	25	0	3	45	0	0	0	14	38	0	135
5:30 PM	0	0	0	0	4	0	26	0	1	39	0	0	0	12	28	0	110
5:45 PM	0	0	0	0	6	0	19	0	2	30	0	0	0	20	30	0	107
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	54	0	200	0	24	303	0	0	0	127	331	0	1039
APPROACH %'s :					21.26%	0.00%	78.74%	0.00%	7.34%	92.66%	0.00%	0.00%	0.00%	27.73%	72.27%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	33	0	110	0	15	160	0	0	0	60	188	0	566
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.825	0.000	0.917	0.000	0.750	0.870	0.000	0.000	0.000	0.882	0.797	0.000	0.873
					0.966				0.893				0.816				

National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & Midway Rd
City: Vacaville
Control: 1-Way Stop(SB)

Project ID: 21-070207-002
Date: 12/2/2021

Data - HT

NS/EW Streets:	Oday Rd				Oday Rd				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	1	0	1	0	0	1	0	0	0	0	2	0	5
7:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	2	0	7
7:30 AM	0	0	0	0	1	0	0	0	0	2	0	1	0	2	2	0	8
7:45 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	3	0	5
8:00 AM	0	0	0	0	3	0	2	0	0	0	0	0	0	2	4	0	11
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	3
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	3	3	0	7
8:45 AM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	4	0	7
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	8	0	4	0	0	9	0	1	0	11	20	0	53
APPROACH %'s :					66.67%	0.00%	33.33%	0.00%	0.00%	90.00%	0.00%	10.00%	0.00%	35.48%	64.52%	0.00%	
PEAK HR :		07:15 AM - 08:15 AM															TOTAL
PEAK HR VOL :	0	0	0	0	5	0	2	0	0	6	0	1	0	6	11	0	31
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.417	0.000	0.250	0.000	0.000	0.500	0.000	0.250	0.000	0.750	0.688	0.000	0.705
					0.350				0.583				0.708				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	1	0	3	0	0	2	0	0	0	1	0	0	7
4:15 PM	0	0	0	0	0	0	2	0	0	4	0	0	0	1	0	0	7
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2	0	5
4:45 PM	0	0	0	0	1	0	0	0	0	3	0	0	0	4	0	0	8
5:00 PM	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	1	0	0	2	0	0	0	1	1	0	5
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	3	0	7	0	1	14	0	0	0	9	4	0	38
APPROACH %'s :					30.00%	0.00%	70.00%	0.00%	6.67%	93.33%	0.00%	0.00%	0.00%	69.23%	30.77%	0.00%	
PEAK HR :		04:30 PM - 05:30 PM															TOTAL
PEAK HR VOL :	0	0	0	0	1	0	1	0	1	6	0	0	0	6	2	0	17
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.500	0.000	0.000	0.000	0.375	0.250	0.000	0.531
					0.500				0.583				0.500				

National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & Midway Rd
City: Vacaville
Control: 1-Way Stop(SB)

Project ID: 21-070207-002
Date: 12/2/2021

Data - Bikes

NS/EW Streets:	Oday Rd				Oday Rd				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :		07:15 AM - 08:15 AM															TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :		04:30 PM - 05:30 PM															TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: Oday Rd & Midway Rd
City: Vacaville
Project ID: 21-070207-002
Date: 12/2/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Oday Rd		Oday Rd		Midway Rd		Midway Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

I-80 EB Ramps & Midway Rd

Peak Hour Turning Movement Count

ID: 21-070207-003
City: Vacaville

Day: Thursday
Date: 12/2/2021

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	4:00 PM - 06:00 PM

CONTROL: 1-Way Stop(NB)

	AM	NOON	PM
TEV	636	0	852
PHF	0.94		0.89

SOUTHBOUND (I-80 EB Ramps)

	L	T	R	U	Total	
AM	0	0	0	0	76	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	202	PM

EASTBOUND (Midway Rd)

AM	NOON	PM	
293	0	277	⇦
0	0	0	↶ 0
58	0	99	↰ 0
136	0	85	→ 0
0	0	0	↱ 0
AM	NOON	PM	

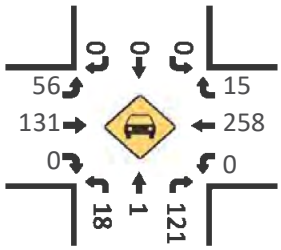
WESTBOUND (Midway Rd)

PM	NOON	AM	
100	0	17	0 ↱
258	0	273	0 ←
0	0	0	0 ↰
0	0	0	0 ↶
373	0	267	⇨
PM	NOON	AM	

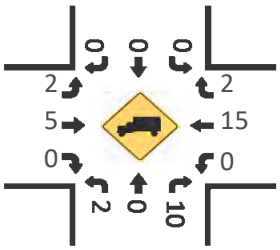
NORTHBOUND (I-80 EB Ramps)

	L	T	R	U	Total	
PM	0	0	19	3	288	PM
NOON	0	0	0	0	0	NOON
AM	0	0	20	1	131	AM

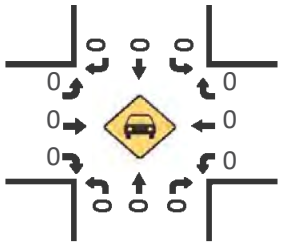
Cars (AM)



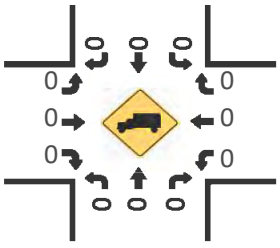
HT (AM)



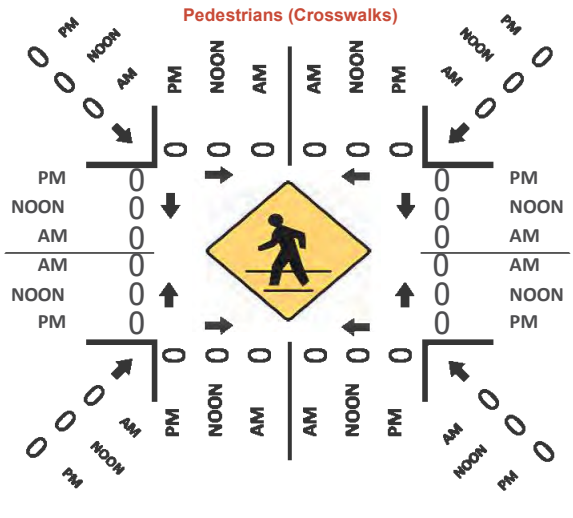
Cars (NOON)



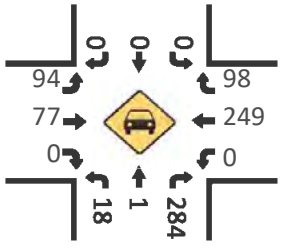
HT (NOON)



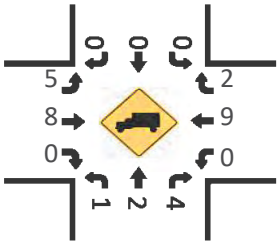
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: I-80 EB Ramps & Midway Rd
City: Vacaville
Control: 1-Way Stop(NB)

Project ID: 21-070207-003
Date: 12/2/2021

Data - Total

NS/EW Streets:	I-80 EB Ramps				I-80 EB Ramps				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	2	26	0	0	0	0	0	13	39	0	0	0	61	5	0	150
7:15 AM	1	0	22	0	0	0	0	0	17	29	0	0	0	57	6	0	132
7:30 AM	4	0	31	0	0	0	0	0	10	40	0	0	0	75	8	0	168
7:45 AM	4	0	39	0	0	0	0	0	18	36	0	0	0	70	2	0	169
8:00 AM	8	1	32	0	0	0	0	0	17	36	0	0	0	67	4	0	165
8:15 AM	4	0	29	0	0	0	0	0	13	24	0	0	0	61	3	0	134
8:30 AM	6	0	33	0	0	0	0	0	8	25	0	0	0	60	8	0	140
8:45 AM	2	0	39	0	0	0	0	0	10	16	0	0	0	46	5	0	118
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	33	3	251	0	0	0	0	0	106	245	0	0	0	497	41	0	1176
APPROACH %'s :	11.50%	1.05%	87.46%	0.00%					30.20%	69.80%	0.00%	0.00%	0.00%	92.38%	7.62%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	20	1	131	0	0	0	0	0	58	136	0	0	0	273	17	0	636
PEAK HR FACTOR :	0.625	0.250	0.840	0.000	0.000	0.000	0.000	0.000	0.806	0.850	0.000	0.000	0.000	0.910	0.531	0.000	0.941
	0.884								0.898				0.873				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	0	66	0	0	0	0	0	29	21	0	0	0	59	24	0	201
4:15 PM	5	0	75	0	0	0	0	0	20	20	0	0	0	58	27	0	205
4:30 PM	6	3	71	0	0	0	0	0	29	28	0	0	0	72	29	0	238
4:45 PM	6	0	76	0	0	0	0	0	21	16	0	0	0	69	20	0	208
5:00 PM	2	0	56	0	0	0	0	0	28	25	0	0	0	47	23	0	181
5:15 PM	4	0	71	0	0	0	0	0	31	24	0	0	0	49	19	0	198
5:30 PM	2	1	65	0	0	0	0	0	23	20	0	0	0	42	16	0	169
5:45 PM	5	3	44	0	0	0	0	0	14	26	0	0	0	43	11	0	146
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	32	7	524	0	0	0	0	0	195	180	0	0	0	439	169	0	1546
APPROACH %'s :	5.68%	1.24%	93.07%	0.00%					52.00%	48.00%	0.00%	0.00%	0.00%	72.20%	27.80%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	19	3	288	0	0	0	0	0	99	85	0	0	0	258	100	0	852
PEAK HR FACTOR :	0.792	0.250	0.947	0.000	0.000	0.000	0.000	0.000	0.853	0.759	0.000	0.000	0.000	0.896	0.862	0.000	0.895
	0.945								0.807				0.886				

National Data & Surveying Services Intersection Turning Movement Count

Location: I-80 EB Ramps & Midway Rd
City: Vacaville
Control: 1-Way Stop(NB)

Project ID: 21-070207-003
Date: 12/2/2021

Data - Cars

NS/EW Streets:	I-80 EB Ramps				I-80 EB Ramps				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	2	22	0	0	0	0	0	13	37	0	0	0	59	3	0	140
7:15 AM	1	0	19	0	0	0	0	0	17	26	0	0	0	53	6	0	122
7:30 AM	4	0	30	0	0	0	0	0	9	38	0	0	0	70	7	0	158
7:45 AM	4	0	36	0	0	0	0	0	17	35	0	0	0	68	1	0	161
8:00 AM	7	1	29	0	0	0	0	0	17	34	0	0	0	62	4	0	154
8:15 AM	3	0	26	0	0	0	0	0	13	24	0	0	0	58	3	0	127
8:30 AM	4	0	30	0	0	0	0	0	8	24	0	0	0	58	8	0	132
8:45 AM	2	0	35	0	0	0	0	0	9	13	0	0	0	41	4	0	104
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	29	3	227	0	0	0	0	0	103	231	0	0	0	469	36	0	1098
APPROACH %'s :	11.20%	1.16%	87.64%	0.00%					30.84%	69.16%	0.00%	0.00%	0.00%	92.87%	7.13%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	18	1	121	0	0	0	0	0	56	131	0	0	0	258	15	0	600
PEAK HR FACTOR :	0.643	0.250	0.840	0.000	0.000	0.000	0.000	0.000	0.824	0.862	0.000	0.000	0.000	0.921	0.536	0.000	0.932
	0.875								0.899				0.886				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	0	65	0	0	0	0	0	28	18	0	0	0	58	23	0	194
4:15 PM	5	0	74	0	0	0	0	0	19	18	0	0	0	56	26	0	198
4:30 PM	6	1	70	0	0	0	0	0	28	27	0	0	0	69	29	0	230
4:45 PM	5	0	75	0	0	0	0	0	19	14	0	0	0	66	20	0	199
5:00 PM	2	0	55	0	0	0	0	0	27	25	0	0	0	47	22	0	178
5:15 PM	4	0	69	0	0	0	0	0	31	23	0	0	0	49	19	0	195
5:30 PM	2	1	65	0	0	0	0	0	23	18	0	0	0	39	16	0	164
5:45 PM	5	3	42	0	0	0	0	0	13	26	0	0	0	43	11	0	143
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	31	5	515	0	0	0	0	0	188	169	0	0	0	427	166	0	1501
APPROACH %'s :	5.63%	0.91%	93.47%	0.00%					52.66%	47.34%	0.00%	0.00%	0.00%	72.01%	27.99%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	18	1	284	0	0	0	0	0	94	77	0	0	0	249	98	0	821
PEAK HR FACTOR :	0.750	0.250	0.947	0.000	0.000	0.000	0.000	0.000	0.839	0.713	0.000	0.000	0.000	0.902	0.845	0.000	0.892
	0.947								0.777				0.885				

National Data & Surveying Services Intersection Turning Movement Count

Location: I-80 EB Ramps & Midway Rd
City: Vacaville
Control: 1-Way Stop(NB)

Project ID: 21-070207-003
Date: 12/2/2021

Data - HT

NS/EW Streets:	I-80 EB Ramps				I-80 EB Ramps				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	4	0	0	0	0	0	0	2	0	0	0	2	2	0	10
7:15 AM	0	0	3	0	0	0	0	0	0	3	0	0	0	4	0	0	10
7:30 AM	0	0	1	0	0	0	0	0	1	2	0	0	0	5	1	0	10
7:45 AM	0	0	3	0	0	0	0	0	1	1	0	0	0	2	1	0	8
8:00 AM	1	0	3	0	0	0	0	0	0	2	0	0	0	5	0	0	11
8:15 AM	1	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	7
8:30 AM	2	0	3	0	0	0	0	0	0	1	0	0	0	2	0	0	8
8:45 AM	0	0	4	0	0	0	0	0	1	3	0	0	0	5	1	0	14
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	0	24	0	0	0	0	0	3	14	0	0	0	28	5	0	78
APPROACH %'s :	14.29%	0.00%	85.71%	0.00%					17.65%	82.35%	0.00%	0.00%	0.00%	84.85%	15.15%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	2	0	10	0	0	0	0	0	2	5	0	0	0	15	2	0	36
PEAK HR FACTOR :	0.500	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.500	0.625	0.000	0.000	0.000	0.750	0.500	0.000	0.818
	0.750								0.583				0.708				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	1	0	0	0	0	0	1	3	0	0	0	1	1	0	7
4:15 PM	0	0	1	0	0	0	0	0	1	2	0	0	0	2	1	0	7
4:30 PM	0	2	1	0	0	0	0	0	1	1	0	0	0	3	0	0	8
4:45 PM	1	0	1	0	0	0	0	0	2	2	0	0	0	3	0	0	9
5:00 PM	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	3
5:15 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5
5:45 PM	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	2	9	0	0	0	0	0	7	11	0	0	0	12	3	0	45
APPROACH %'s :	8.33%	16.67%	75.00%	0.00%					38.89%	61.11%	0.00%	0.00%	0.00%	80.00%	20.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	1	2	4	0	0	0	0	0	5	8	0	0	0	9	2	0	31
PEAK HR FACTOR :	0.250	0.250	1.000	0.000	0.000	0.000	0.000	0.000	0.625	0.667	0.000	0.000	0.000	0.750	0.500	0.000	0.861
	0.583								0.813				0.917				

National Data & Surveying Services Intersection Turning Movement Count

Location: I-80 EB Ramps & Midway Rd
City: Vacaville
Control: 1-Way Stop(NB)

Project ID: 21-070207-003
Date: 12/2/2021

Data - Bikes

NS/EW Streets:	I-80 EB Ramps				I-80 EB Ramps				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: I-80 EB Ramps & Midway Rd
City: Vacaville
Project ID: 21-070207-003
Date: 12/2/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	I-80 EB Ramps		I-80 EB Ramps		Midway Rd		Midway Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	04:00 PM - 05:00 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Lewis Rd & Midway Rd

Peak Hour Turning Movement Count

ID: 21-070207-004
City: Vacaville

Day: Thursday
Date: 12/2/2021

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	7:00 AM - 09:00 AM
NOON	NONE
PM	4:00 PM - 06:00 PM

SOUTHBOUND (Lewis Rd)

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (Midway Rd)

AM	NOON	PM	
290	0	355	⇦
0	0	0	↰ 0
0	0	0	↰ 0
186	0	343	→ 0
80	0	31	↱ 0
AM	NOON	PM	

WESTBOUND (Midway Rd)

PM	NOON	AM	
0	0	0	↰ 0
258	0	267	← 0
15	0	20	↱ 0
0	0	0	↰ 0
386	0	197	⇨
PM	NOON	AM	

NORTHBOUND (Lewis Rd)

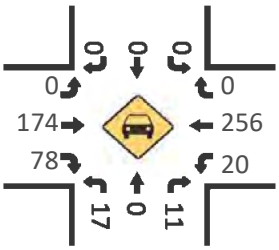
PM	46	0	97	0	43	PM
NOON	0	0	0	0	0	NOON
AM	100	0	23	0	11	AM

CONTROL

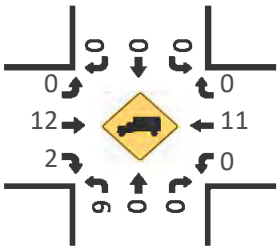
1-Way Stop(NB)

TEV	587 AM	0 NOON	787 PM
PHF	0.90		0.92

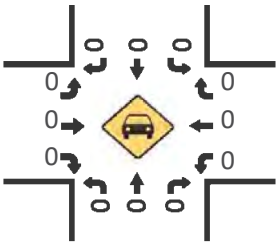
Cars (AM)



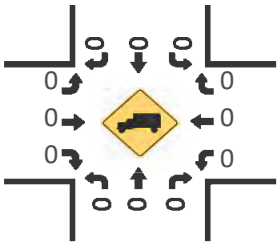
HT (AM)



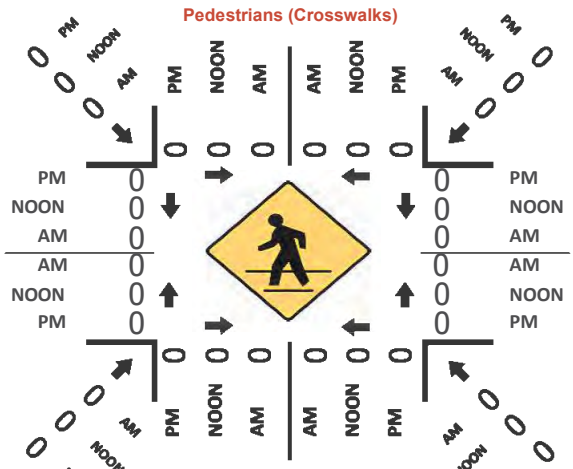
Cars (NOON)



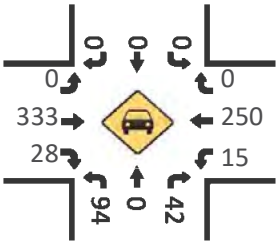
HT (NOON)



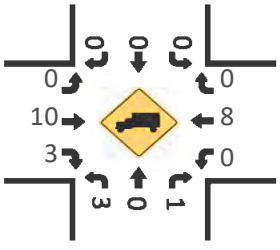
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Lewis Rd & Midway Rd
City: Vacaville
Control: 1-Way Stop(NB)

Project ID: 21-070207-004
Date: 12/2/2021

Data - Total

NS/EW Streets:	Lewis Rd				Lewis Rd				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	0	4	0	0	0	0	0	0	33	32	0	6	59	0	0	137
7:15 AM	9	0	3	0	0	0	0	0	0	33	19	0	1	56	0	0	121
7:30 AM	7	0	3	0	0	0	0	0	0	45	25	0	9	74	0	0	163
7:45 AM	4	0	5	0	0	0	0	0	0	55	21	0	5	73	0	0	163
8:00 AM	5	0	1	0	0	0	0	0	0	46	18	0	3	61	0	0	134
8:15 AM	7	0	2	0	0	0	0	0	0	40	16	0	3	59	0	0	127
8:30 AM	6	0	2	0	0	0	0	0	0	38	19	0	1	60	0	0	126
8:45 AM	4	0	1	0	0	0	0	0	0	44	12	0	5	48	0	0	114
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	45	0	21	0	0	0	0	0	0	334	162	0	33	490	0	0	1085
APPROACH %'s :	68.18%	0.00%	31.82%	0.00%					0.00%	67.34%	32.66%	0.00%	6.31%	93.69%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	23	0	11	0	0	0	0	0	0	186	80	0	20	267	0	0	587
PEAK HR FACTOR :	0.821	0.000	0.550	0.000	0.000	0.000	0.000	0.000	0.000	0.845	0.800	0.000	0.556	0.902	0.000	0.000	0.900
	0.850								0.875				0.864				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	22	0	7	0	0	0	0	0	0	81	4	0	2	59	0	0	175
4:15 PM	25	0	18	0	0	0	0	0	0	87	11	0	6	60	0	0	207
4:30 PM	33	0	7	0	0	0	0	0	0	87	10	0	1	75	0	0	213
4:45 PM	17	0	11	0	0	0	0	0	0	88	6	0	6	64	0	0	192
5:00 PM	20	0	6	0	0	0	0	0	0	69	11	1	3	50	0	0	160
5:15 PM	20	0	5	0	0	0	0	0	0	89	5	1	6	47	0	0	173
5:30 PM	21	0	4	0	0	0	0	0	0	82	3	0	4	36	0	0	150
5:45 PM	10	0	7	0	0	0	0	0	0	58	7	0	4	48	0	0	134
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	168	0	65	0	0	0	0	0	0	641	57	2	32	439	0	0	1404
APPROACH %'s :	72.10%	0.00%	27.90%	0.00%					0.00%	91.57%	8.14%	0.29%	6.79%	93.21%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	97	0	43	0	0	0	0	0	0	343	31	0	15	258	0	0	787
PEAK HR FACTOR :	0.735	0.000	0.597	0.000	0.000	0.000	0.000	0.000	0.000	0.974	0.705	0.000	0.625	0.860	0.000	0.000	0.924
	0.814								0.954				0.898				

National Data & Surveying Services Intersection Turning Movement Count

Location: Lewis Rd & Midway Rd
City: Vacaville
Control: 1-Way Stop(NB)

Project ID: 21-070207-004
Date: 12/2/2021

Data - Cars

NS/EW Streets:	Lewis Rd				Lewis Rd				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	0	4	0	0	0	0	0	0	29	29	0	4	56	0	0	124
7:15 AM	8	0	3	0	0	0	0	0	0	28	18	0	1	53	0	0	111
7:30 AM	5	0	3	0	0	0	0	0	0	43	24	0	9	70	0	0	154
7:45 AM	3	0	5	0	0	0	0	0	0	51	21	0	5	70	0	0	155
8:00 AM	5	0	1	0	0	0	0	0	0	41	17	0	3	57	0	0	124
8:15 AM	4	0	2	0	0	0	0	0	0	39	16	0	3	59	0	0	123
8:30 AM	6	0	2	0	0	0	0	0	0	34	18	0	1	58	0	0	119
8:45 AM	2	0	1	0	0	0	0	0	0	39	11	0	5	43	0	0	101
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	35	0	21	0	0	0	0	0	0	304	154	0	31	466	0	0	1011
APPROACH %'s :	62.50%	0.00%	37.50%	0.00%					0.00%	66.38%	33.62%	0.00%	6.24%	93.76%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	17	0	11	0	0	0	0	0	0	174	78	0	20	256	0	0	556
PEAK HR FACTOR :	0.850	0.000	0.550	0.000	0.000	0.000	0.000	0.000	0.000	0.853	0.813	0.000	0.556	0.914	0.000	0.000	0.897
	0.875								0.875				0.873				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	21	0	7	0	0	0	0	0	0	76	4	0	2	58	0	0	168
4:15 PM	24	0	18	0	0	0	0	0	0	85	10	0	6	58	0	0	201
4:30 PM	33	0	7	0	0	0	0	0	0	86	9	0	1	72	0	0	208
4:45 PM	16	0	10	0	0	0	0	0	0	86	5	0	6	62	0	0	185
5:00 PM	20	0	6	0	0	0	0	0	0	68	11	1	3	49	0	0	158
5:15 PM	20	0	5	0	0	0	0	0	0	86	5	1	6	46	0	0	169
5:30 PM	21	0	4	0	0	0	0	0	0	80	3	0	3	34	0	0	145
5:45 PM	10	0	7	0	0	0	0	0	0	57	7	0	4	47	0	0	132
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	165	0	64	0	0	0	0	0	0	624	54	2	31	426	0	0	1366
APPROACH %'s :	72.05%	0.00%	27.95%	0.00%					0.00%	91.76%	7.94%	0.29%	6.78%	93.22%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	94	0	42	0	0	0	0	0	0	333	28	0	15	250	0	0	762
PEAK HR FACTOR :	0.712	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.968	0.700	0.000	0.625	0.868	0.000	0.000	0.916
	0.810								0.950				0.908				

National Data & Surveying Services Intersection Turning Movement Count

Location: Lewis Rd & Midway Rd
City: Vacaville
Control: 1-Way Stop(NB)

Project ID: 21-070207-004
Date: 12/2/2021

Data - HT

NS/EW Streets:	Lewis Rd				Lewis Rd				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	0	0	0	0	0	0	0	0	4	3	0	2	3	0	0	13
7:15 AM	1	0	0	0	0	0	0	0	0	5	1	0	0	3	0	0	10
7:30 AM	2	0	0	0	0	0	0	0	0	2	1	0	0	4	0	0	9
7:45 AM	1	0	0	0	0	0	0	0	0	4	0	0	0	3	0	0	8
8:00 AM	0	0	0	0	0	0	0	0	0	5	1	0	0	4	0	0	10
8:15 AM	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	4	1	0	0	2	0	0	7
8:45 AM	2	0	0	0	0	0	0	0	0	5	1	0	0	5	0	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	10	0	0	0	0	0	0	0	0	30	8	0	2	24	0	0	74
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%					0.00%	78.95%	21.05%	0.00%	7.69%	92.31%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	6	0	0	0	0	0	0	0	0	12	2	0	0	11	0	0	31
PEAK HR FACTOR :	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.600	0.500	0.000	0.000	0.688	0.000	0.000	0.775
	0.500								0.583				0.688				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	7
4:15 PM	1	0	0	0	0	0	0	0	0	2	1	0	0	2	0	0	6
4:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	3	0	0	5
4:45 PM	1	0	1	0	0	0	0	0	0	2	1	0	0	2	0	0	7
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	1	2	0	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	0	1	0	0	0	0	0	0	17	3	0	1	13	0	0	38
APPROACH %'s :	75.00%	0.00%	25.00%	0.00%					0.00%	85.00%	15.00%	0.00%	7.14%	92.86%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	3	0	1	0	0	0	0	0	0	10	3	0	0	8	0	0	25
PEAK HR FACTOR :	0.750	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.750	0.000	0.000	0.667	0.000	0.000	0.893
	0.500								0.650				0.667				

National Data & Surveying Services Intersection Turning Movement Count

Location: Lewis Rd & Midway Rd
City: Vacaville
Control: 1-Way Stop(NB)

Project ID: 21-070207-004
Date: 12/2/2021

Data - Bikes

NS/EW Streets:	Lewis Rd				Lewis Rd				Midway Rd				Midway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: Lewis Rd & Midway Rd
City: Vacaville
Project ID: 21-070207-004
Date: 12/2/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Lewis Rd		Lewis Rd		Midway Rd		Midway Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	04:00 PM - 05:00 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↰	↱			↔			↔	
Traffic Vol, veh/h	0	0	0	198	0	4	0	2	274	2	3	0
Future Vol, veh/h	0	0	0	198	0	4	0	2	274	2	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	0	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	7	2	2	2	2	10	2	2	2
Mvmt Flow	0	0	0	211	0	4	0	2	291	2	3	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	11	9	3	9	9	2	3	0	-	2	0	0
Stage 1	7	7	-	2	2	-	-	-	-	-	-	-
Stage 2	4	2	-	7	7	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1007	886	1081	997	886	1082	1619	-	0	1620	-	-
Stage 1	1015	890	-	1006	894	-	-	-	0	-	-	-
Stage 2	1018	894	-	1002	890	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	1002	885	1081	996	885	1082	1619	-	-	1620	-	-
Mov Cap-2 Maneuver	1002	885	-	996	885	-	-	-	-	-	-	-
Stage 1	1015	889	-	1006	894	-	-	-	-	-	-	-
Stage 2	1014	894	-	1001	889	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.6	0	2.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1619	-	-	996	1082	1620	-	-
HCM Lane V/C Ratio	-	-	-	0.211	0.004	0.001	-	-
HCM Control Delay (s)	0	-	0	9.6	8.3	7.2	0	-
HCM Lane LOS	A	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	14	132	68	262	120	81
Future Vol, veh/h	14	132	68	262	120	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	6	6	11	5	2
Mvmt Flow	15	139	72	276	126	85

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	348	0	-	0	379	210
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	4.12	-	-	-	6.45	6.22
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.218	-	-	-	3.545	3.318
Pot Cap-1 Maneuver	1211	-	-	-	617	830
Stage 1	-	-	-	-	818	-
Stage 2	-	-	-	-	854	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1211	-	-	-	609	830
Mov Cap-2 Maneuver	-	-	-	-	609	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	854	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1211	-	-	-	682
HCM Lane V/C Ratio	0.012	-	-	-	0.31
HCM Control Delay (s)	8	0	-	-	12.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.3

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰	↱			
Traffic Vol, veh/h	69	183	0	0	303	34	27	1	179	0	0	0
Future Vol, veh/h	69	183	0	0	303	34	27	1	179	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	275	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	5	2	2	15	2	2	2	10	2	2	2
Mvmt Flow	73	195	0	0	322	36	29	1	190	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	358	0	-	-	-	0	681	699	195
Stage 1	-	-	-	-	-	-	341	341	-
Stage 2	-	-	-	-	-	-	340	358	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.39
Pot Cap-1 Maneuver	1201	-	0	0	-	-	416	364	826
Stage 1	-	-	0	0	-	-	720	639	-
Stage 2	-	-	0	0	-	-	721	626	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1201	-	-	-	-	-	388	0	826
Mov Cap-2 Maneuver	-	-	-	-	-	-	388	0	-
Stage 1	-	-	-	-	-	-	671	0	-
Stage 2	-	-	-	-	-	-	721	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.2	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	388	826	1201	-	-	-
HCM Lane V/C Ratio	0.077	0.231	0.061	-	-	-
HCM Control Delay (s)	15	10.7	8.2	0	-	-
HCM Lane LOS	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0.9	0.2	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	109	23	310	27	13
Future Vol, veh/h	253	109	23	310	27	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	12	2	2	11	2	2
Mvmt Flow	281	121	26	344	30	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	402	0	738	342
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1157	-	385	701
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	680	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1157	-	374	701
Mov Cap-2 Maneuver	-	-	-	-	374	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	661	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	441	-	-	1157	-
HCM Lane V/C Ratio	0.101	-	-	0.022	-
HCM Control Delay (s)	14.1	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↰	↱			↔			↔	
Traffic Vol, veh/h	0	3	2	163	3	2	2	3	222	6	5	0
Future Vol, veh/h	0	3	2	163	3	2	2	3	222	6	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	0	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	3	2	2	2
Mvmt Flow	0	3	2	174	3	2	2	3	252	7	6	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	30	27	6	30	27	3	6	0	-	3	0	0
Stage 1	20	20	-	7	7	-	-	-	-	-	-	-
Stage 2	10	7	-	23	20	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	979	866	1077	979	866	1081	1615	-	0	1619	-	-
Stage 1	999	879	-	1015	890	-	-	-	0	-	-	-
Stage 2	1011	890	-	995	878	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	970	862	1077	970	862	1081	1615	-	-	1619	-	-
Mov Cap-2 Maneuver	970	862	-	970	862	-	-	-	-	-	-	-
Stage 1	999	875	-	1014	889	-	-	-	-	-	-	-
Stage 2	1004	889	-	995	875	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	9.5	2.9	3.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1615	-	937	970	936	1619	-	-
HCM Lane V/C Ratio	0.001	-	0.006	0.179	0.006	0.004	-	-
HCM Control Delay (s)	7.2	0	8.9	9.5	8.9	7.2	0	-
HCM Lane LOS	A	A	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0	0.7	0	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	16	170	73	209	35	123
Future Vol, veh/h	16	170	73	209	35	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	6	2	6	2	2
Mvmt Flow	18	195	84	240	40	141

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	324	0	-	0	435	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	231	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1235	-	-	-	578	837
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	807	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1236	-	-	-	569	837
Mov Cap-2 Maneuver	-	-	-	-	569	-
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	807	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1236	-	-	-	756
HCM Lane V/C Ratio	0.015	-	-	-	0.24
HCM Control Delay (s)	8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↱			
Traffic Vol, veh/h	110	95	0	0	258	121	24	3	369	0	0	0
Future Vol, veh/h	110	95	0	0	258	121	24	3	369	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	275	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	5	2	2	15	2	2	2	10	2	2	2
Mvmt Flow	124	107	0	0	290	136	27	3	415	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	426	0	-	-	-	0	713	781	107
Stage 1	-	-	-	-	-	-	355	355	-
Stage 2	-	-	-	-	-	-	358	426	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.39
Pot Cap-1 Maneuver	1133	-	0	0	-	-	396	326	926
Stage 1	-	-	0	0	-	-	710	630	-
Stage 2	-	-	0	0	-	-	707	586	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1133	-	-	-	-	-	352	0	926
Mov Cap-2 Maneuver	-	-	-	-	-	-	352	0	-
Stage 1	-	-	-	-	-	-	628	0	-
Stage 2	-	-	-	-	-	-	707	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.6	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	352	926	1133	-	-	-
HCM Lane V/C Ratio	0.086	0.448	0.109	-	-	-
HCM Control Delay (s)	16.2	12	8.6	0	-	-
HCM Lane LOS	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	2.3	0.4	-	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	424	40	16	276	104	46
Future Vol, veh/h	424	40	16	276	104	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	3	2	8	3	2
Mvmt Flow	461	43	17	299	113	50

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	504	0	816	483
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	333	-
Critical Hdwy	-	-	4.12	-	6.43	6.22
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.218	-	3.527	3.318
Pot Cap-1 Maneuver	-	-	1061	-	345	584
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	724	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1061	-	339	584
Mov Cap-2 Maneuver	-	-	-	-	339	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	710	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	368	-	-	1061	-
HCM Lane V/C Ratio	0.42	-	-	0.016	-
HCM Control Delay (s)	20.8	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.1	-

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↰	↑			↔			↔	
Traffic Vol, veh/h	0	0	0	294	0	4	0	2	375	2	3	0
Future Vol, veh/h	0	0	0	294	0	4	0	2	375	2	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	0	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	7	2	2	2	2	10	2	2	2
Mvmt Flow	0	0	0	313	0	4	0	2	399	2	3	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	11	9	3	9	9	2	3	0	-	2	0	0
Stage 1	7	7	-	2	2	-	-	-	-	-	-	-
Stage 2	4	2	-	7	7	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1007	886	1081	997	886	1082	1619	-	0	1620	-	-
Stage 1	1015	890	-	1006	894	-	-	-	0	-	-	-
Stage 2	1018	894	-	1002	890	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	1002	885	1081	996	885	1082	1619	-	-	1620	-	-
Mov Cap-2 Maneuver	1002	885	-	996	885	-	-	-	-	-	-	-
Stage 1	1015	889	-	1006	894	-	-	-	-	-	-	-
Stage 2	1014	894	-	1001	889	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.3	0	2.9
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1619	-	-	996	1082	1620	-	-
HCM Lane V/C Ratio	-	-	-	0.314	0.004	0.001	-	-
HCM Control Delay (s)	0	-	0	10.3	8.3	7.2	0	-
HCM Lane LOS	A	-	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.4	0	0	-	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑↑	
Traffic Vol, veh/h	8	150	80	363	216	81
Future Vol, veh/h	8	150	80	363	216	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	6	6	11	5	2
Mvmt Flow	8	158	84	382	227	85

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	466	0	-	0	449	275
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	174	-
Critical Hdwy	4.12	-	-	-	6.45	6.22
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.218	-	-	-	3.545	3.318
Pot Cap-1 Maneuver	1095	-	-	-	562	764
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	849	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1095	-	-	-	558	764
Mov Cap-2 Maneuver	-	-	-	-	558	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	849	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1095	-	-	-	602
HCM Lane V/C Ratio	0.008	-	-	-	0.519
HCM Control Delay (s)	8.3	0	-	-	17.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	3

Intersection												
Int Delay, s/veh	4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰	↱			
Traffic Vol, veh/h	63	303	0	0	415	138	27	1	277	0	0	0
Future Vol, veh/h	63	303	0	0	415	138	27	1	277	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	275	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	5	2	2	15	2	2	2	10	2	2	2
Mvmt Flow	67	322	0	0	441	147	29	1	295	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	588	0	-	-	-	0	971	1044	322
Stage 1	-	-	-	-	-	-	456	456	-
Stage 2	-	-	-	-	-	-	515	588	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.39
Pot Cap-1 Maneuver	987	-	0	0	-	-	260	229	701
Stage 1	-	-	0	0	-	-	638	585	-
Stage 2	-	-	0	0	-	-	600	496	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	987	-	-	-	-	-	257	0	701
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	0	-
Stage 1	-	-	-	-	-	-	585	0	-
Stage 2	-	-	-	-	-	-	600	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.5	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	257	701	987	-	-	-
HCM Lane V/C Ratio	0.116	0.42	0.068	-	-	-
HCM Control Delay (s)	20.8	13.8	8.9	0	-	-
HCM Lane LOS	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	2.1	0.2	-	-	-

Intersection	
Int Delay, s/veh	21

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	211	268	101	22	318	48	25	13	14	40	19	211
Future Vol, veh/h	211	268	101	22	318	48	25	13	14	40	19	211
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	90	90	90	90	92	90	92	90	92	92	92
Heavy Vehicles, %	2	12	2	2	11	2	6	2	2	2	2	2
Mvmt Flow	229	298	112	24	353	52	28	14	16	43	21	229

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	405	0	0	410	0	0	1364	1265	354	1254	1295	379
Stage 1	-	-	-	-	-	-	812	812	-	427	427	-
Stage 2	-	-	-	-	-	-	552	453	-	827	868	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.16	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.554	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1154	-	-	1149	-	-	122	169	690	149	162	668
Stage 1	-	-	-	-	-	-	367	392	-	606	585	-
Stage 2	-	-	-	-	-	-	511	570	-	366	370	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1154	-	-	1149	-	-	55	122	690	104	116	668
Mov Cap-2 Maneuver	-	-	-	-	-	-	55	122	-	104	116	-
Stage 1	-	-	-	-	-	-	271	290	-	448	569	-
Stage 2	-	-	-	-	-	-	315	555	-	251	273	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0.5	100.3	74.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	89	1154	-	-	1149	-	-	312
HCM Lane V/C Ratio	0.646	0.199	-	-	0.021	-	-	0.941
HCM Control Delay (s)	100.3	8.9	0	-	8.2	0	-	74.3
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	3.1	0.7	-	-	0.1	-	-	9.4

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↾	
Traffic Vol, veh/h	34	267	364	2	2	34
Future Vol, veh/h	34	267	364	2	2	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	90	12	11	90	90	90
Mvmt Flow	37	312	395	2	2	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	397	0	-	0	772	396
Stage 1	-	-	-	-	396	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	5	-	-	-	7.3	7.1
Critical Hdwy Stg 1	-	-	-	-	6.3	-
Critical Hdwy Stg 2	-	-	-	-	6.3	-
Follow-up Hdwy	3.01	-	-	-	4.31	4.11
Pot Cap-1 Maneuver	818	-	-	-	267	506
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	531	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	818	-	-	-	252	506
Mov Cap-2 Maneuver	-	-	-	-	252	-
Stage 1	-	-	-	-	502	-
Stage 2	-	-	-	-	531	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	818	-	-	-	479
HCM Lane V/C Ratio	0.045	-	-	-	0.082
HCM Control Delay (s)	9.6	0	-	-	13.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↰	↑			↔			↔	
Traffic Vol, veh/h	0	3	2	226	3	2	2	3	295	6	5	0
Future Vol, veh/h	0	3	2	226	3	2	2	3	295	6	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	0	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	3	2	2	2
Mvmt Flow	0	3	2	257	3	2	2	3	335	7	6	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	30	27	6	30	27	3	6	0	-	3	0	0
Stage 1	20	20	-	7	7	-	-	-	-	-	-	-
Stage 2	10	7	-	23	20	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	979	866	1077	979	866	1081	1615	-	0	1619	-	-
Stage 1	999	879	-	1015	890	-	-	-	0	-	-	-
Stage 2	1011	890	-	995	878	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	970	862	1077	970	862	1081	1615	-	-	1619	-	-
Mov Cap-2 Maneuver	970	862	-	970	862	-	-	-	-	-	-	-
Stage 1	999	875	-	1014	889	-	-	-	-	-	-	-
Stage 2	1004	889	-	995	875	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	10	2.9	3.9
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1615	-	937	970	936	1619	-	-
HCM Lane V/C Ratio	0.001	-	0.006	0.265	0.006	0.004	-	-
HCM Control Delay (s)	7.2	0	8.9	10	8.9	7.2	0	-
HCM Lane LOS	A	A	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0	1.1	0	0	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↾	
Traffic Vol, veh/h	14	182	93	282	108	123
Future Vol, veh/h	14	182	93	282	108	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	6	6	2	2	2
Mvmt Flow	16	209	95	324	124	141

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	419	0	-	0	498	257
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1140	-	-	-	532	782
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1140	-	-	-	523	782
Mov Cap-2 Maneuver	-	-	-	-	523	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1140	-	-	-	635
HCM Lane V/C Ratio	0.014	-	-	-	0.418
HCM Control Delay (s)	8.2	0	-	-	14.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	2.1

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰	↱			
Traffic Vol, veh/h	107	184	0	0	341	197	24	3	443	0	0	0
Future Vol, veh/h	107	184	0	0	341	197	24	3	443	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	275	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	8	2	2	9	2	2	2	4	2	2	2
Mvmt Flow	120	207	0	0	383	221	27	3	498	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	604	0	-	-	-	0	941	1051	207
Stage 1	-	-	-	-	-	-	447	447	-
Stage 2	-	-	-	-	-	-	494	604	-
Critical Hdwy	4.15	-	-	-	-	-	6.42	6.52	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.245	-	-	-	-	-	3.518	4.018	3.336
Pot Cap-1 Maneuver	959	-	0	0	-	-	292	227	828
Stage 1	-	-	0	0	-	-	644	573	-
Stage 2	-	-	0	0	-	-	613	486	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	959	-	-	-	-	-	251	0	828
Mov Cap-2 Maneuver	-	-	-	-	-	-	251	0	-
Stage 1	-	-	-	-	-	-	553	0	-
Stage 2	-	-	-	-	-	-	813	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.4	0	16
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	251	828	959	-	-	-
HCM Lane V/C Ratio	0.121	0.601	0.125	-	-	-
HCM Control Delay (s)	21.3	15.7	9.3	0	-	-
HCM Lane LOS	C	C	A	A	-	-
HCM 95th %tile Q(veh)	0.4	4.1	0.4	-	-	-

Intersection	
Int Delay, s/veh	54.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	180	408	39	15	271	33	101	14	45	46	12	166
Future Vol, veh/h	180	408	39	15	271	33	101	14	45	46	12	166
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	10	3	2	8	2	3	2	2	2	2	2
Mvmt Flow	196	443	42	16	295	36	110	15	49	49	13	180

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	331	0	0	485	0	0	1298	1219	464	1233	1222	313
Stage 1	-	-	-	-	-	-	856	856	-	345	345	-
Stage 2	-	-	-	-	-	-	442	363	-	888	877	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.13	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.527	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1228	-	-	1078	-	-	138	180	588	154	180	727
Stage 1	-	-	-	-	-	-	351	374	-	671	636	-
Stage 2	-	-	-	-	-	-	592	625	-	338	366	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1228	-	-	1078	-	-	~ 76	136	588	107	136	727
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 79	136	-	107	136	-
Stage 1	-	-	-	-	-	-	274	282	-	523	625	-
Stage 2	-	-	-	-	-	-	428	614	-	229	285	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0.4	$ 369.4	51.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	110	1228	-	-	1078	-	-	303
HCM Lane V/C Ratio	1.581	0.159	-	-	0.015	-	-	0.6
HCM Control Delay (s)	$ 369.4	8.5	0	-	8.4	0	-	51.3
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	13	0.6	-	-	0	-	-	6.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	0.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	7	490	312	0	0	7
Future Vol, veh/h	7	490	312	0	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	90	10	8	90	90	90
Mvmt Flow	8	533	339	0	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	339	0	-	0	886	339
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	549	-
Critical Hdwy	5	-	-	-	7.3	7.1
Critical Hdwy Stg 1	-	-	-	-	6.3	-
Critical Hdwy Stg 2	-	-	-	-	6.3	-
Follow-up Hdwy	3.01	-	-	-	4.31	4.11
Pot Cap-1 Maneuver	858	-	-	-	224	541
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	498	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	858	-	-	-	221	541
Mov Cap-2 Maneuver	-	-	-	-	221	-
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	858	-	-	-	541
HCM Lane V/C Ratio	0.009	-	-	-	0.014
HCM Control Delay (s)	9.2	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑			↕			↕	
Traffic Vol, veh/h	0	0	0	220	0	5	0	5	380	5	5	0
Future Vol, veh/h	0	0	0	220	0	5	0	5	380	5	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	0	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	7	2	2	2	2	10	2	2	2
Mvmt Flow	0	0	0	234	0	5	0	5	404	5	5	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	23	20	5	20	20	5	5	0	-	5	0	0
Stage 1	15	15	-	5	5	-	-	-	-	-	-	-
Stage 2	8	5	-	15	15	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	969	874	1078	961	874	1078	1616	-	0	1616	-	-
Stage 1	1005	883	-	1004	882	-	-	-	0	-	-	-
Stage 2	1013	882	-	982	883	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	962	871	1078	979	871	1078	1616	-	-	1616	-	-
Mov Cap-2 Maneuver	962	871	-	979	871	-	-	-	-	-	-	-
Stage 1	1005	880	-	1004	882	-	-	-	-	-	-	-
Stage 2	1006	882	-	969	880	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.6	0	3.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1616	-	-	979	1078	1616	-	-
HCM Lane V/C Ratio	-	-	-	0.239	0.005	0.003	-	-
HCM Control Delay (s)	0	-	0	9.6	8.4	7.2	0	-
HCM Lane LOS	A	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0	0	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↱	
Traffic Vol, veh/h	15	135	90	370	130	95
Future Vol, veh/h	15	135	90	370	130	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	6	6	11	5	2
Mvmt Flow	16	142	95	389	137	100

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	484	0	-	0	464	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	174	-
Critical Hdwy	4.12	-	-	-	6.45	6.22
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.218	-	-	-	3.545	3.318
Pot Cap-1 Maneuver	1079	-	-	-	551	749
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	849	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1079	-	-	-	542	749
Mov Cap-2 Maneuver	-	-	-	-	542	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	849	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1079	-	-	-	614
HCM Lane V/C Ratio	0.015	-	-	-	0.386
HCM Control Delay (s)	8.4	0	-	-	14.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.8

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↑			↕	↱			
Traffic Vol, veh/h	60	200	0	0	430	40	25	1	185	0	0	0
Future Vol, veh/h	60	200	0	0	430	40	25	1	185	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	275	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	5	2	2	15	2	2	2	10	2	2	2
Mvmt Flow	64	213	0	0	457	43	27	1	197	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	500	0	-	-	-	0	820	841	213
Stage 1	-	-	-	-	-	-	341	341	-
Stage 2	-	-	-	-	-	-	479	500	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.39
Pot Cap-1 Maneuver	1064	-	0	0	-	-	345	301	807
Stage 1	-	-	0	0	-	-	720	639	-
Stage 2	-	-	0	0	-	-	623	543	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1064	-	-	-	-	-	322	0	807
Mov Cap-2 Maneuver	-	-	-	-	-	-	322	0	-
Stage 1	-	-	-	-	-	-	671	0	-
Stage 2	-	-	-	-	-	-	623	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	322	807	1064	-	-	-
HCM Lane V/C Ratio	0.086	0.244	0.06	-	-	-
HCM Control Delay (s)	17.2	10.9	8.6	0	-	-
HCM Lane LOS	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	1	0.2	-	-	-

Intersection						
Int Delay, s/veh	1					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	275	110	25	435	30	10
Future Vol, veh/h	275	110	25	435	30	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	10	3	2	8	2	2
Mvmt Flow	306	122	28	483	33	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	428	0	906	367
Stage 1	-	-	-	-	367	-
Stage 2	-	-	-	-	539	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1131	-	307	678
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	585	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1131	-	297	678
Mov Cap-2 Maneuver	-	-	-	-	297	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	585	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	346	-	-	1131	-
HCM Lane V/C Ratio	0.128	-	-	0.025	-
HCM Control Delay (s)	16.8	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↑			↔			↔	
Traffic Vol, veh/h	0	5	5	175	5	5	5	5	225	10	5	0
Future Vol, veh/h	0	5	5	175	5	5	5	5	225	10	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	0	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	3	2	2	2
Mvmt Flow	0	6	6	199	6	6	6	6	256	11	6	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	52	46	6	52	46	6	6	0	-	6	0	0
Stage 1	28	28	-	18	18	-	-	-	-	-	-	-
Stage 2	24	18	-	34	28	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	947	846	1077	947	846	1077	1615	-	0	1615	-	-
Stage 1	969	872	-	1001	880	-	-	-	0	-	-	-
Stage 2	994	880	-	982	872	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	929	837	1077	929	837	1077	1615	-	-	1615	-	-
Mov Cap-2 Maneuver	929	837	-	929	837	-	-	-	-	-	-	-
Stage 1	965	868	-	997	876	-	-	-	-	-	-	-
Stage 2	976	876	-	964	866	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	9.6	3.6	4.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1615	-	942	929	942	1615	-	-
HCM Lane V/C Ratio	0.004	-	0.012	0.214	0.012	0.007	-	-
HCM Control Delay (s)	7.2	0	8.9	9.9	8.9	7.2	0	-
HCM Lane LOS	A	A	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0	0.8	0	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	15	205	85	215	40	140
Future Vol, veh/h	15	205	85	215	40	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	6	6	2	2	2
Mvmt Flow	17	236	98	247	46	161

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	345	0	-	0	492	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	270	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1214	-	-	-	536	818
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1214	-	-	-	527	818
Mov Cap-2 Maneuver	-	-	-	-	527	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	775	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1214	-	-	-	729
HCM Lane V/C Ratio	0.014	-	-	-	0.284
HCM Control Delay (s)	8	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.2

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↱			
Traffic Vol, veh/h	115	130	0	0	275	125	25	5	435	0	0	0
Future Vol, veh/h	115	130	0	0	275	125	25	5	435	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	275	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	8	2	2	9	2	2	2	4	2	2	2
Mvmt Flow	129	146	0	0	309	140	28	6	489	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	449	0	-	-	-	0	783	853	146
Stage 1	-	-	-	-	-	-	404	404	-
Stage 2	-	-	-	-	-	-	379	449	-
Critical Hdwy	4.15	-	-	-	-	-	6.42	6.52	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.245	-	-	-	-	-	3.518	4.018	3.336
Pot Cap-1 Maneuver	1095	-	0	0	-	-	362	296	896
Stage 1	-	-	0	0	-	-	674	599	-
Stage 2	-	-	0	0	-	-	692	572	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1095	-	-	-	-	-	316	0	896
Mov Cap-2 Maneuver	-	-	-	-	-	-	316	0	-
Stage 1	-	-	-	-	-	-	586	0	-
Stage 2	-	-	-	-	-	-	692	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.1	0	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	316	896	1095	-	-	-
HCM Lane V/C Ratio	0.107	0.545	0.118	-	-	-
HCM Control Delay (s)	17.7	13.7	8.7	0	-	-
HCM Lane LOS	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	3.4	0.4	-	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	525	45	16	295	100	46
Future Vol, veh/h	525	45	16	295	100	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	3	2	8	2	2
Mvmt Flow	571	49	16	321	109	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	620	0	949	596
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	353	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	960	-	289	504
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	711	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	960	-	283	504
Mov Cap-2 Maneuver	-	-	-	-	283	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	697	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	25.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	328	-	-	960	-
HCM Lane V/C Ratio	0.481	-	-	0.017	-
HCM Control Delay (s)	25.7	-	-	8.8	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	2.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑			↕			↕	
Traffic Vol, veh/h	0	0	0	316	0	5	0	5	481	5	5	0
Future Vol, veh/h	0	0	0	316	0	5	0	5	481	5	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	0	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	7	2	2	2	2	10	2	2	2
Mvmt Flow	0	0	0	336	0	5	0	5	512	5	5	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	23	20	5	20	20	5	5	0	-	5	0	0
Stage 1	15	15	-	5	5	-	-	-	-	-	-	-
Stage 2	8	5	-	15	15	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	969	874	1078	961	874	1078	1616	-	0	1616	-	-
Stage 1	1005	883	-	1004	882	-	-	-	0	-	-	-
Stage 2	1013	882	-	982	883	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	962	871	1078	979	871	1078	1616	-	-	1616	-	-
Mov Cap-2 Maneuver	962	871	-	979	871	-	-	-	-	-	-	-
Stage 1	1005	880	-	1004	882	-	-	-	-	-	-	-
Stage 2	1006	882	-	989	880	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.6	0	3.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1616	-	-	979	1078	1616	-	-
HCM Lane V/C Ratio	-	-	-	0.343	0.005	0.003	-	-
HCM Control Delay (s)	0	-	0	10.6	8.4	7.2	0	-
HCM Lane LOS	A	-	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.5	0	0	-	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	9	153	102	471	226	95
Future Vol, veh/h	9	153	102	471	226	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	6	6	11	5	2
Mvmt Flow	9	161	107	496	238	100

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	603	0	-	0	534	355
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	179	-
Critical Hdwy	4.12	-	-	-	6.45	6.22
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.218	-	-	-	3.545	3.318
Pot Cap-1 Maneuver	975	-	-	-	502	689
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	845	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	975	-	-	-	497	689
Mov Cap-2 Maneuver	-	-	-	-	497	-
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	845	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	22
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	975	-	-	-	542
HCM Lane V/C Ratio	0.01	-	-	-	0.623
HCM Control Delay (s)	8.7	0	-	-	22
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	4.3

Intersection												
Int Delay, s/veh	3.6											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑	↱			
Traffic Vol, veh/h	54	320	0	0	542	144	26	1	283	0	0	0
Future Vol, veh/h	54	320	0	0	542	144	26	1	283	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	275	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	5	2	2	15	2	2	2	10	2	2	2
Mvmt Flow	57	340	0	0	577	153	27	1	301	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	730	0	-	-	-	0	1108	1184	340
Stage 1	-	-	-	-	-	-	454	454	-
Stage 2	-	-	-	-	-	-	654	730	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.39
Pot Cap-1 Maneuver	874	-	0	0	-	-	232	189	684
Stage 1	-	-	0	0	-	-	640	569	-
Stage 2	-	-	0	0	-	-	517	428	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	874	-	-	-	-	-	213	0	684
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	0	-
Stage 1	-	-	-	-	-	-	589	0	-
Stage 2	-	-	-	-	-	-	517	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.4	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	213	684	874	-	-	-
HCM Lane V/C Ratio	0.13	0.44	0.066	-	-	-
HCM Control Delay (s)	24.4	14.3	9.4	0	-	-
HCM Lane LOS	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	2.3	0.2	-	-	-

Intersection	
Int Delay, s/veh	44.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	211	290	102	24	443	48	28	13	11	40	19	211
Future Vol, veh/h	211	290	102	24	443	48	28	13	11	40	19	211
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	90	90	90	90	92	90	92	90	92	92	92
Heavy Vehicles, %	2	12	2	2	11	2	6	2	2	2	2	2
Mvmt Flow	229	322	113	27	492	52	31	14	12	43	21	229

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	544	0	0	435	0	0	1534	1435	379	1422	1465	518
Stage 1	-	-	-	-	-	-	837	837	-	572	572	-
Stage 2	-	-	-	-	-	-	697	598	-	850	893	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.16	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.554	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1025	-	-	1125	-	-	93	134	668	114	129	558
Stage 1	-	-	-	-	-	-	355	382	-	505	504	-
Stage 2	-	-	-	-	-	-	425	491	-	395	380	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1025	-	-	1125	-	-	34	91	668	74	87	558
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	91	-	74	87	-
Stage 1	-	-	-	-	-	-	248	267	-	354	469	-
Stage 2	-	-	-	-	-	-	231	474	-	231	252	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0.4	274.9	180.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	53	1025	-	-	1125	-	-	237
HCM Lane V/C Ratio	1.084	0.224	-	-	0.024	-	-	1.238
HCM Control Delay (s)	274.9	9.5	0	-	8.3	0	-	180.3
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	4.9	0.9	-	-	0.1	-	-	14.6

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↾	
Traffic Vol, veh/h	34	311	481	2	2	34
Future Vol, veh/h	34	311	481	2	2	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	90	12	11	90	90	90
Mvmt Flow	37	338	523	2	2	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	525	0	-	0	936	524
Stage 1	-	-	-	-	524	-
Stage 2	-	-	-	-	412	-
Critical Hdwy	5	-	-	-	7.3	7.1
Critical Hdwy Stg 1	-	-	-	-	6.3	-
Critical Hdwy Stg 2	-	-	-	-	6.3	-
Follow-up Hdwy	3.01	-	-	-	4.31	4.11
Pot Cap-1 Maneuver	713	-	-	-	208	414
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	713	-	-	-	185	414
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	515	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	713	-	-	-	390
HCM Lane V/C Ratio	0.052	-	-	-	0.1
HCM Control Delay (s)	10.3	0	-	-	15.3
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Intersection	
Int Delay, s/veh	10

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↑			↔			↔	
Traffic Vol, veh/h	0	5	5	248	5	5	5	5	295	10	5	0
Future Vol, veh/h	0	5	5	248	5	5	5	5	295	10	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	-	0	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	7	2	2	2	2	10	2	2	2
Mvmt Flow	0	6	6	282	6	6	6	6	339	11	6	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	52	46	6	52	46	6	6	0	-	6	0	0
Stage 1	28	28	-	18	18	-	-	-	-	-	-	-
Stage 2	24	18	-	34	28	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	947	846	1077	935	846	1077	1615	-	0	1615	-	-
Stage 1	969	872	-	986	880	-	-	-	0	-	-	-
Stage 2	984	880	-	969	872	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	929	837	1077	917	837	1077	1615	-	-	1615	-	-
Mov Cap-2 Maneuver	929	837	-	917	837	-	-	-	-	-	-	-
Stage 1	965	868	-	984	876	-	-	-	-	-	-	-
Stage 2	976	876	-	951	866	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	10.6	3.6	4.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1615	-	942	917	942	1615	-	-
HCM Lane V/C Ratio	0.004	-	0.012	0.307	0.012	0.007	-	-
HCM Control Delay (s)	7.2	0	8.9	10.7	8.9	7.2	0	-
HCM Lane LOS	A	A	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0	1.3	0	0	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑↑	
Traffic Vol, veh/h	13	217	96	288	113	140
Future Vol, veh/h	13	217	96	288	113	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	6	6	2	2	2
Mvmt Flow	15	249	109	331	130	161

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	440	0	-	0	554	275
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	279	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1120	-	-	-	493	764
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	768	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1120	-	-	-	485	764
Mov Cap-2 Maneuver	-	-	-	-	485	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	768	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1120	-	-	-	606
HCM Lane V/C Ratio	0.013	-	-	-	0.478
HCM Control Delay (s)	8.3	0	-	-	16.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	2.6

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↱			
Traffic Vol, veh/h	112	219	0	0	358	201	25	6	509	0	0	0
Future Vol, veh/h	112	219	0	0	358	201	25	6	509	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	275	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	8	2	2	9	2	2	2	4	2	2	2
Mvmt Flow	126	246	0	0	402	226	28	6	572	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	628	0	-	-	-	0	1013	1126	246
Stage 1	-	-	-	-	-	-	498	498	-
Stage 2	-	-	-	-	-	-	515	628	-
Critical Hdwy	4.15	-	-	-	-	-	6.42	6.52	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.245	-	-	-	-	-	3.518	4.018	3.336
Pot Cap-1 Maneuver	940	-	0	0	-	-	265	205	788
Stage 1	-	-	0	0	-	-	611	544	-
Stage 2	-	-	0	0	-	-	600	476	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	940	-	-	-	-	-	224	0	788
Mov Cap-2 Maneuver	-	-	-	-	-	-	224	0	-
Stage 1	-	-	-	-	-	-	518	0	-
Stage 2	-	-	-	-	-	-	600	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.2	0	20.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	224	788	940	-	-	-
HCM Lane V/C Ratio	0.15	0.726	0.134	-	-	-
HCM Control Delay (s)	23.9	20.7	9.4	0	-	-
HCM Lane LOS	C	C	A	A	-	-
HCM 95th %tile Q(veh)	0.5	6.4	0.5	-	-	-

Intersection	
Int Delay, s/veh	74.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	180	609	44	14	291	33	97	14	44	46	12	166
Future Vol, veh/h	180	609	44	14	291	33	97	14	44	46	12	166
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	10	3	2	8	2	3	2	2	2	2	2
Mvmt Flow	196	662	48	15	316	36	105	15	48	49	13	180

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	352	0	0	601	0	0	1430	1351	577	1365	1357	334
Stage 1	-	-	-	-	-	-	969	969	-	364	364	-
Stage 2	-	-	-	-	-	-	461	382	-	1001	993	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.13	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.527	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1207	-	-	976	-	-	112	150	516	125	149	709
Stage 1	-	-	-	-	-	-	304	332	-	655	624	-
Stage 2	-	-	-	-	-	-	579	613	-	293	323	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1207	-	-	976	-	-	~ 61	111	516	82	110	709
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 61	111	-	82	110	-
Stage 1	-	-	-	-	-	-	229	250	-	494	612	-
Stage 2	-	-	-	-	-	-	414	601	-	168	244	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	0.4	$ 551.6	92.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	86	1207	-	-	976	-	-	250
HCM Lane V/C Ratio	1.959	0.162	-	-	0.016	-	-	0.97
HCM Control Delay (s)	$ 551.6	8.6	0	-	8.7	0	-	92.1
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	14.6	0.6	-	-	0	-	-	9.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑↑	
Traffic Vol, veh/h	7	690	331	0	0	7
Future Vol, veh/h	7	690	331	0	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	90	10	8	90	90	90
Mvmt Flow	8	641	360	0	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	360	0	-	0	1017	360
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	657	-
Critical Hdwy	5	-	-	-	7.3	7.1
Critical Hdwy Stg 1	-	-	-	-	6.3	-
Critical Hdwy Stg 2	-	-	-	-	6.3	-
Follow-up Hdwy	3.01	-	-	-	4.31	4.11
Pot Cap-1 Maneuver	840	-	-	-	184	525
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	382	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	840	-	-	-	181	525
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	540	-
Stage 2	-	-	-	-	382	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	840	-	-	-	525
HCM Lane V/C Ratio	0.009	-	-	-	0.014
HCM Control Delay (s)	9.3	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	229	410	24	405	58	64	229
v/c Ratio	0.55	0.34	0.12	0.65	0.23	0.28	0.35
Control Delay	30.5	9.8	35.1	24.4	27.0	38.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	9.8	35.1	24.4	27.0	38.3	4.5
Queue Length 50th (ft)	93	77	10	150	17	27	0
Queue Length 95th (ft)	175	195	35	270	54	70	44
Internal Link Dist (ft)		778		382	952	590	
Turn Bay Length (ft)	200		100				
Base Capacity (vph)	626	1205	195	846	348	235	829
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.34	0.12	0.43	0.17	0.27	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	268	101	22	318	46	25	13	14	40	19	211
Future Volume (veh/h)	211	268	101	22	318	46	25	13	14	40	19	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1722	1870	1870	1737	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	288	112	24	353	52	28	14	16	43	21	229
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	12	2	2	11	2	2	2	2	2	2	2
Cap, veh/h	289	595	201	50	465	69	45	22	26	141	89	441
Arrive On Green	0.16	0.45	0.45	0.03	0.31	0.31	0.05	0.05	0.05	0.12	0.12	0.12
Sat Flow, veh/h	1781	1193	448	1781	1480	219	841	420	481	1216	594	1585
Grp Volume(v), veh/h	229	0	410	24	0	405	56	0	0	64	0	229
Grp Sat Flow(s),veh/h/ln	1781	0	1641	1781	0	1699	1742	0	0	1810	0	1585
Q Serve(g_s), s	6.8	0.0	10.2	0.7	0.0	11.9	1.8	0.0	0.0	1.8	0.0	6.4
Cycle Q Clear(g_c), s	6.8	0.0	10.2	0.7	0.0	11.9	1.8	0.0	0.0	1.8	0.0	6.4
Prop In Lane	1.00		0.27	1.00		0.13	0.48		0.26	0.67		1.00
Lane Grp Cap(c), veh/h	289	0	736	50	0	533	93	0	0	210	0	441
V/C Ratio(X)	0.79	0.00	0.56	0.48	0.00	0.76	0.62	0.00	0.00	0.31	0.00	0.52
Avail Cap(c_a), veh/h	581	0	1164	174	0	835	299	0	0	210	0	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	11.2	26.5	0.0	17.1	25.6	0.0	0.0	22.4	0.0	16.8
Incr Delay (d2), s/veh	4.9	0.0	1.3	7.1	0.0	4.3	6.7	0.0	0.0	0.8	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	3.3	0.4	0.0	4.7	0.8	0.0	0.0	0.7	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	0.0	12.5	33.5	0.0	21.4	32.3	0.0	0.0	23.2	0.0	17.9
LnGrp LOS	C	A	B	C	A	C	C	A	A	C	A	B
Approach Vol, veh/h		639			429			56			293	
Approach Delay, s/veh		17.7			22.1			32.3			19.1	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	7.5	6.1	30.8	11.0	13.6	23.2
Change Period (Y+Rc), s	4.8	4.8	5.8	4.8	4.8	5.8
Max Green Setting (Gmax), s	8.4	5.4	39.2	8.4	17.4	27.2
Max Q Clear Time (g_c+I1), s	3.8	2.7	12.2	8.4	8.8	13.9
Green Ext Time (p_c), s	0.1	0.0	5.0	0.0	0.4	3.5

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

MOVEMENT SUMMARY

Site: 4 [Midway Rd / Lewis Rd / Project Access (Site Folder: General)]

Existing + Project AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Lewis Rd														
3	L2	25	6.0	27	6.0	0.079	6.0	LOS A	0.3	7.6	0.56	0.50	0.56	33.3
8	T1	13	3.0	14	3.0	0.079	5.8	LOS A	0.3	7.8	0.56	0.50	0.56	33.4
18	R2	14	3.0	15	3.0	0.079	5.8	LOS A	0.3	7.8	0.56	0.50	0.56	32.4
Approach		52	4.4	57	4.4	0.079	5.9	LOS A	0.3	7.8	0.56	0.50	0.56	33.1
East: Midway Rd														
1	L2	22	3.0	24	3.0	0.445	8.8	LOS A	2.4	63.4	0.55	0.44	0.55	33.0
6	T1	318	11.0	346	11.0	0.445	9.1	LOS A	2.4	63.4	0.55	0.44	0.55	32.9
18	R2	48	3.0	52	3.0	0.445	8.8	LOS A	2.4	63.4	0.55	0.44	0.55	32.1
Approach		388	9.6	422	9.6	0.445	9.0	LOS A	2.4	63.4	0.55	0.44	0.55	32.8
North: Project Access														
7	L2	40	3.0	43	3.0	0.342	8.1	LOS A	1.7	42.4	0.60	0.55	0.60	33.2
4	T1	19	3.0	21	3.0	0.342	8.1	LOS A	1.7	42.4	0.60	0.55	0.60	33.1
14	R2	211	3.0	229	3.0	0.342	8.1	LOS A	1.7	42.4	0.60	0.55	0.60	32.2
Approach		270	3.0	293	3.0	0.342	8.1	LOS A	1.7	42.4	0.60	0.55	0.60	32.4
West: Midway Rd														
5	L2	211	3.0	229	3.0	0.537	9.1	LOS A	3.8	101.0	0.38	0.21	0.38	32.1
2	T1	268	12.0	291	12.0	0.537	9.4	LOS A	3.8	101.0	0.38	0.21	0.38	31.9
12	R2	101	3.0	110	3.0	0.537	9.1	LOS A	3.8	101.0	0.38	0.21	0.38	31.2
Approach		580	7.2	630	7.2	0.537	9.2	LOS A	3.8	101.0	0.38	0.21	0.38	31.9
All Vehicles		1290	6.9	1402	6.9	0.537	8.8	LOS A	3.8	101.0	0.48	0.36	0.48	32.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irraspective of movement delay value (does not apply for approaches and intarsection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	196	495	16	331	174	62	180
v/c Ratio	0.55	0.46	0.10	0.51	0.51	0.27	0.30
Control Delay	34.1	14.7	35.3	27.7	30.0	34.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	14.7	35.3	27.7	30.0	34.8	4.8
Queue Length 50th (ft)	82	133	7	129	64	28	0
Queue Length 95th (ft)	159	309	27	233	129	66	40
Internal Link Dist (ft)		778		382	952	590	
Turn Bay Length (ft)	200		100				
Base Capacity (vph)	477	1051	185	729	514	282	698
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.46	0.10	0.45	0.34	0.22	0.26

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	408	39	15	271	33	101	14	45	45	12	166
Future Volume (veh/h)	180	408	39	15	271	33	101	14	45	45	12	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1752	1856	1870	1781	1870	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	196	443	42	16	295	36	110	15	49	49	13	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	10	3	2	8	2	3	2	2	2	2	2
Cap, veh/h	249	586	56	35	392	49	144	20	84	162	48	425
Arrive On Green	0.14	0.37	0.37	0.02	0.25	0.25	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1781	1576	149	1781	1557	190	1092	149	487	1422	377	1585
Grp Volume(v), veh/h	196	0	485	16	0	331	174	0	0	62	0	180
Grp Sat Flow(s),veh/h/ln	1781	0	1725	1781	0	1747	1726	0	0	1799	0	1585
Q Serve(g_s), s	6.0	0.0	13.8	0.5	0.0	9.8	5.5	0.0	0.0	1.7	0.0	5.3
Cycle Q Clear(g_c), s	6.0	0.0	13.8	0.5	0.0	9.8	5.5	0.0	0.0	1.7	0.0	5.3
Prop In Lane	1.00		0.09	1.00		0.11	0.63		0.26	0.79		1.00
Lane Grp Cap(c), veh/h	249	0	642	35	0	440	226	0	0	231	0	425
V/C Ratio(X)	0.79	0.00	0.76	0.46	0.00	0.75	0.76	0.00	0.00	0.27	0.00	0.42
Avail Cap(c_a), veh/h	456	0	969	158	0	690	473	0	0	289	0	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	0.0	15.4	27.3	0.0	19.4	23.6	0.0	0.0	22.1	0.0	17.0
Incr Delay (d2), s/veh	5.4	0.0	3.6	9.0	0.0	5.0	5.3	0.0	0.0	0.6	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	5.3	0.3	0.0	4.2	2.3	0.0	0.0	0.7	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	19.0	36.3	0.0	24.5	28.8	0.0	0.0	22.8	0.0	17.7
LnGrp LOS	C	A	B	D	A	C	C	A	A	C	A	B
Approach Vol, veh/h		681			347			174			242	
Approach Delay, s/veh		21.8			25.0			26.8			19.0	
Approach LOS		C			C			C			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.0	5.7	26.7		11.8	12.5	20.0				
Change Period (Y+Rc), s		4.8	4.8	5.8		4.8	4.8	5.8				
Max Green Setting (Gmax), s		15.4	5.0	31.6		8.4	14.4	22.2				
Max Q Clear Time (g_c+I1), s		7.5	2.5	15.8		7.3	8.0	11.8				
Green Ext Time (p_c), s		0.5	0.0	4.7		0.1	0.3	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			22.9									
HCM 6th LOS			C									

MOVEMENT SUMMARY

Site: 4 [Midway Rd / Lewis Rd / Project Access (Site Folder: General)]

Existing + Project PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Lewis Rd														
3	L2	101	3.0	110	3.0	0.276	9.3	LOS A	1.1	29.3	0.67	0.67	0.67	31.5
8	T1	14	3.0	15	3.0	0.276	9.3	LOS A	1.1	29.3	0.67	0.67	0.67	31.4
18	R2	45	3.0	49	3.0	0.276	9.3	LOS A	1.1	29.3	0.67	0.67	0.67	30.6
Approach		160	3.0	174	3.0	0.276	9.3	LOS A	1.1	29.3	0.67	0.67	0.67	31.2
East: Midway Rd														
1	L2	15	3.0	16	3.0	0.377	8.0	LOS A	1.9	49.6	0.55	0.46	0.55	33.5
6	T1	271	8.0	295	8.0	0.377	8.2	LOS A	1.9	49.6	0.55	0.46	0.55	33.4
18	R2	33	3.0	36	3.0	0.377	8.0	LOS A	1.9	49.6	0.55	0.46	0.55	32.5
Approach		319	7.2	347	7.2	0.377	8.2	LOS A	1.9	49.6	0.55	0.46	0.55	33.3
North: Project Access														
7	L2	45	3.0	49	3.0	0.286	7.4	LOS A	1.3	33.7	0.58	0.53	0.58	33.4
4	T1	12	3.0	13	3.0	0.286	7.4	LOS A	1.3	33.7	0.58	0.53	0.58	33.3
14	R2	166	3.0	180	3.0	0.286	7.4	LOS A	1.3	33.7	0.58	0.53	0.58	32.4
Approach		223	3.0	242	3.0	0.286	7.4	LOS A	1.3	33.7	0.58	0.53	0.58	32.6
West: Midway Rd														
5	L2	180	3.0	196	3.0	0.577	9.9	LOS A	4.4	116.5	0.38	0.20	0.38	32.0
2	T1	408	10.0	443	10.0	0.577	10.1	LOS B	4.4	116.5	0.38	0.20	0.38	31.8
12	R2	39	3.0	42	3.0	0.577	9.9	LOS A	4.4	116.5	0.38	0.20	0.38	31.1
Approach		627	7.6	682	7.6	0.577	10.0	LOS A	4.4	116.5	0.38	0.20	0.38	31.8
All Vehicles		1329	6.2	1445	6.2	0.577	9.0	LOS A	4.4	116.5	0.49	0.37	0.49	32.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irraspective of movement delay value (does not apply for approaches and intarsection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	525	45	15	295	100	45
Future Vol, veh/h	525	45	15	295	100	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	3	2	8	2	2
Mvmt Flow	571	49	16	321	109	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	620	0	949	596
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	353	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	960	-	289	504
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	711	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	960	-	284	504
Mov Cap-2 Maneuver	-	-	-	-	407	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	699	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	16
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	433	-	-	960	-
HCM Lane V/C Ratio	0.364	-	-	0.017	-
HCM Control Delay (s)	16	-	-	8.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.6	-	-	0.1	-

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	229	435	27	544	57	64	229
v/c Ratio	0.60	0.36	0.16	0.76	0.25	0.34	0.36
Control Delay	33.5	10.1	37.0	29.8	29.8	38.5	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	10.1	37.0	29.8	29.8	38.5	4.7
Queue Length 50th (ft)	100	85	12	231	20	28	0
Queue Length 95th (ft)	175	212	36	#455	55	70	44
Internal Link Dist (ft)		778		382	952	590	
Turn Bay Length (ft)	200		100				
Base Capacity (vph)	595	1211	185	807	292	200	752
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.36	0.16	0.67	0.20	0.32	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	280	102	24	443	46	26	13	11	40	19	211
Future Volume (veh/h)	211	280	102	24	443	46	26	13	11	40	19	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1722	1870	1870	1737	1870	1811	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	322	113	27	492	52	31	14	12	43	21	229
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	12	2	2	11	2	6	2	2	2	2	2
Cap, veh/h	284	812	215	53	577	61	48	22	19	125	61	415
Arrive On Green	0.16	0.50	0.50	0.03	0.37	0.37	0.05	0.05	0.05	0.10	0.10	0.10
Sat Flow, veh/h	1781	1218	427	1781	1544	163	955	431	370	1216	594	1585
Grp Volume(v), veh/h	229	0	435	27	0	544	57	0	0	64	0	229
Grp Sat Flow(s),veh/h/ln	1781	0	1645	1781	0	1708	1766	0	0	1810	0	1585
Q Serve(g_s), s	7.7	0.0	11.1	0.8	0.0	16.3	2.0	0.0	0.0	2.1	0.0	6.4
Cycle Q Clear(g_c), s	7.7	0.0	11.1	0.8	0.0	16.3	2.0	0.0	0.0	2.1	0.0	6.4
Prop In Lane	1.00		0.26	1.00		0.10	0.54		0.21	0.67		1.00
Lane Grp Cap(c), veh/h	284	0	827	53	0	638	88	0	0	186	0	415
V/C Ratio(X)	0.81	0.00	0.53	0.51	0.00	0.85	0.65	0.00	0.00	0.34	0.00	0.55
Avail Cap(c_a), veh/h	497	0	1034	154	0	745	285	0	0	186	0	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.3	0.0	10.5	29.8	0.0	16.0	29.1	0.0	0.0	26.0	0.0	19.9
Incr Delay (d2), s/veh	5.4	0.0	1.0	7.2	0.0	9.8	7.6	0.0	0.0	1.1	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	3.6	0.5	0.0	8.1	0.9	0.0	0.0	0.9	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	0.0	11.5	37.0	0.0	27.8	36.7	0.0	0.0	27.1	0.0	21.4
LnGrp LOS	C	A	B	D	A	C	D	A	A	C	A	C
Approach Vol, veh/h		664			571			57			293	
Approach Delay, s/veh		18.1			28.2			36.7			22.7	
Approach LOS		B			C			D			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.7	6.5	37.2		11.0	14.5	29.1				
Change Period (Y+Rc), s		4.8	4.8	5.8		4.8	4.8	5.8				
Max Green Setting (Gmax), s		8.4	5.4	39.2		8.4	17.4	27.2				
Max Q Clear Time (g_c+I1), s		4.0	2.8	13.1		8.4	8.7	20.3				
Green Ext Time (p_c), s		0.1	0.0	5.3		0.0	0.4	3.0				

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

MOVEMENT SUMMARY

Site: 4 [Midway Rd / Lewis Rd / Project Access (Site Folder: General)]

Cumulative 2040 + Project AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Lewis Rd														
3	L2	28	6.0	30	6.0	0.082	6.2	LOS A	0.3	8.0	0.57	0.52	0.57	33.1
8	T1	13	3.0	14	3.0	0.082	6.0	LOS A	0.3	8.0	0.57	0.52	0.57	33.1
18	R2	11	3.0	12	3.0	0.082	6.0	LOS A	0.3	8.0	0.57	0.52	0.57	32.2
Approach		52	4.6	57	4.6	0.082	6.1	LOS A	0.3	8.0	0.57	0.52	0.57	32.9
East: Midway Rd														
1	L2	24	3.0	26	3.0	0.595	12.0	LOS B	5.5	147.2	0.64	0.65	0.88	31.6
6	T1	443	11.0	482	11.0	0.595	12.3	LOS B	5.5	147.2	0.64	0.65	0.88	31.4
16	R2	48	3.0	52	3.0	0.595	12.0	LOS B	5.5	147.2	0.64	0.65	0.88	30.7
Approach		515	9.9	560	9.9	0.595	12.3	LOS B	5.5	147.2	0.64	0.65	0.88	31.4
North: Project Access														
7	L2	40	3.0	43	3.0	0.401	10.2	LOS B	2.1	54.9	0.68	0.73	0.81	32.2
4	T1	19	3.0	21	3.0	0.401	10.2	LOS B	2.1	54.9	0.68	0.73	0.81	32.1
14	R2	211	3.0	229	3.0	0.401	10.2	LOS B	2.1	54.9	0.68	0.73	0.81	31.2
Approach		270	3.0	293	3.0	0.401	10.2	LOS B	2.1	54.9	0.68	0.73	0.81	31.4
West: Midway Rd														
5	L2	211	3.0	229	3.0	0.560	9.6	LOS A	4.1	109.0	0.40	0.22	0.40	31.9
2	T1	290	12.0	315	12.0	0.560	9.9	LOS A	4.1	109.0	0.40	0.22	0.40	31.8
12	R2	102	3.0	111	3.0	0.560	9.6	LOS A	4.1	109.0	0.40	0.22	0.40	31.0
Approach		603	7.3	655	7.3	0.560	9.7	LOS A	4.1	109.0	0.40	0.22	0.40	31.7
All Vehicles		1440	7.3	1565	7.3	0.595	10.6	LOS B	5.5	147.2	0.55	0.48	0.66	31.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irraspective of movement delay value (does not apply for approaches and intarsection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	196	601	15	352	168	62	180
v/c Ratio	0.56	0.57	0.09	0.64	0.50	0.27	0.30
Control Delay	34.4	17.5	36.3	28.5	30.2	34.9	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	17.5	36.3	28.5	30.2	34.9	4.8
Queue Length 50th (ft)	84	182	7	140	83	27	0
Queue Length 95th (ft)	159	#470	26	#271	124	66	40
Internal Link Dist (ft)		778		382	952	590	
Turn Bay Length (ft)	200		100				
Base Capacity (vph)	470	1057	183	718	508	277	692
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.57	0.09	0.49	0.33	0.22	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	509	44	14	291	33	97	14	44	45	12	166
Future Volume (veh/h)	180	509	44	14	291	33	97	14	44	45	12	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1752	1856	1870	1781	1870	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	196	553	48	15	316	36	105	15	48	49	13	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	10	3	2	8	2	3	2	2	2	2	2
Cap, veh/h	248	657	57	33	462	53	137	20	83	178	47	417
Arrive On Green	0.14	0.41	0.41	0.02	0.29	0.29	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1781	1589	139	1781	1570	179	1080	154	494	1422	377	1585
Grp Volume(v), veh/h	196	0	601	15	0	352	166	0	0	62	0	180
Grp Sat Flow(s),veh/h/ln	1781	0	1727	1781	0	1749	1726	0	0	1799	0	1585
Q Serve(g_s), s	6.6	0.0	19.4	0.5	0.0	11.0	5.8	0.0	0.0	1.9	0.0	5.9
Cycle Q Clear(g_c), s	6.6	0.0	19.4	0.5	0.0	11.0	5.8	0.0	0.0	1.9	0.0	5.9
Prop In Lane	1.00		0.08	1.00		0.10	0.62		0.29	0.79		1.00
Lane Grp Cap(c), veh/h	248	0	714	33	0	514	219	0	0	226	0	417
V/C Ratio(X)	0.80	0.00	0.84	0.46	0.00	0.68	0.77	0.00	0.00	0.27	0.00	0.43
Avail Cap(c_a), veh/h	413	0	879	144	0	626	429	0	0	244	0	439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	16.4	30.2	0.0	19.4	28.2	0.0	0.0	24.6	0.0	19.0
Incr Delay (d2), s/veh	5.9	0.0	7.7	9.7	0.0	3.7	5.6	0.0	0.0	0.7	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	7.5	0.3	0.0	4.3	2.6	0.0	0.0	0.8	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	0.0	24.0	39.8	0.0	23.0	31.8	0.0	0.0	25.2	0.0	19.7
LnGrp LOS	C	A	C	D	A	C	C	A	A	C	A	B
Approach Vol, veh/h		797			367			166			242	
Approach Delay, s/veh		25.9			23.7			31.8			21.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.5	5.7	31.5		12.4	13.2	24.0				
Change Period (Y+Rc), s		4.6	4.6	5.8		4.6	4.6	5.8				
Max Green Setting (Gmax), s		15.4	5.0	31.6		8.4	14.4	22.2				
Max Q Clear Time (g_c+I1), s		7.8	2.5	21.4		7.9	8.6	13.0				
Green Ext Time (p_c), s		0.5	0.0	4.2		0.1	0.2	2.1				
Intersection Summary												
HCM 6th Ctrl Delay			25.3									
HCM 6th LOS			C									

MOVEMENT SUMMARY

Site: 4 [Midway Rd / Lewis Rd / Project Access (Site Folder: General)]

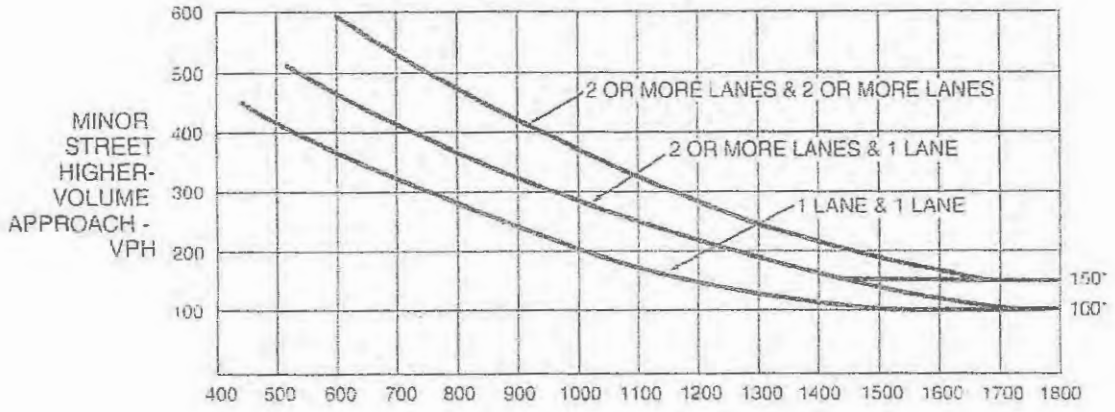
Cumulative 2040 + Project PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Lewis Rd														
3	L2	97	3.0	105	3.0	0.302	10.8	LOS B	1.3	32.3	0.70	0.71	0.75	30.9
8	T1	14	3.0	15	3.0	0.302	10.8	LOS B	1.3	32.3	0.70	0.71	0.75	30.8
18	R2	44	3.0	48	3.0	0.302	10.8	LOS B	1.3	32.3	0.70	0.71	0.75	30.0
Approach		155	3.0	168	3.0	0.302	10.8	LOS B	1.3	32.3	0.70	0.71	0.75	30.6
East: Midway Rd														
1	L2	14	3.0	15	3.0	0.398	8.3	LOS A	2.0	53.5	0.56	0.47	0.56	33.4
6	T1	291	8.0	316	8.0	0.398	8.5	LOS A	2.0	53.5	0.56	0.47	0.56	33.2
18	R2	33	3.0	36	3.0	0.398	8.3	LOS A	2.0	53.5	0.56	0.47	0.56	32.4
Approach		338	7.3	367	7.3	0.398	8.5	LOS A	2.0	53.5	0.56	0.47	0.56	33.2
North: Project Access														
7	L2	45	3.0	49	3.0	0.291	7.5	LOS A	1.3	34.3	0.59	0.54	0.59	33.3
4	T1	12	3.0	13	3.0	0.291	7.5	LOS A	1.3	34.3	0.59	0.54	0.59	33.2
14	R2	166	3.0	180	3.0	0.291	7.5	LOS A	1.3	34.3	0.59	0.54	0.59	32.3
Approach		223	3.0	242	3.0	0.291	7.5	LOS A	1.3	34.3	0.59	0.54	0.59	32.5
West: Midway Rd														
5	L2	180	3.0	196	3.0	0.675	12.4	LOS B	6.1	163.3	0.46	0.24	0.46	31.0
2	T1	509	10.0	553	10.0	0.675	12.6	LOS B	6.1	163.3	0.46	0.24	0.46	30.9
12	R2	44	3.0	46	3.0	0.675	12.4	LOS B	6.1	163.3	0.46	0.24	0.46	30.2
Approach		733	7.9	797	7.9	0.675	12.5	LOS B	6.1	163.3	0.46	0.24	0.46	30.8
All Vehicles		1449	6.5	1575	6.5	0.675	10.6	LOS B	6.1	163.3	0.53	0.39	0.53	31.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irraspective of movement delay value (does not apply for approaches and intarsection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

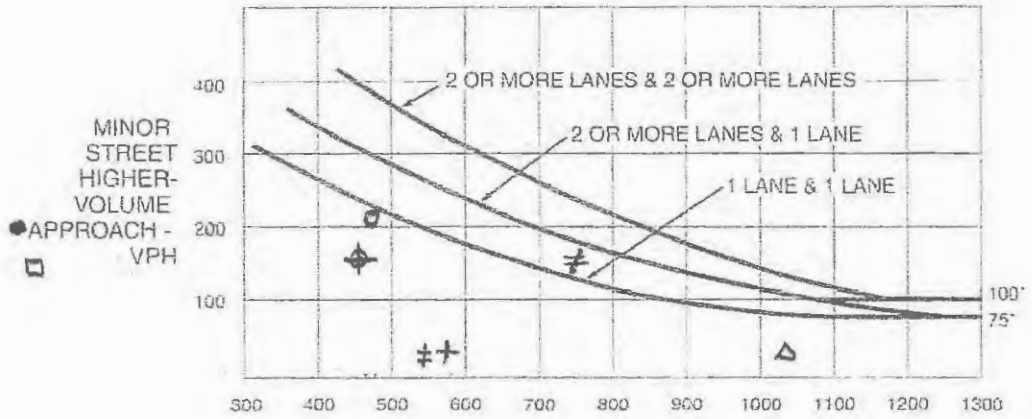
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

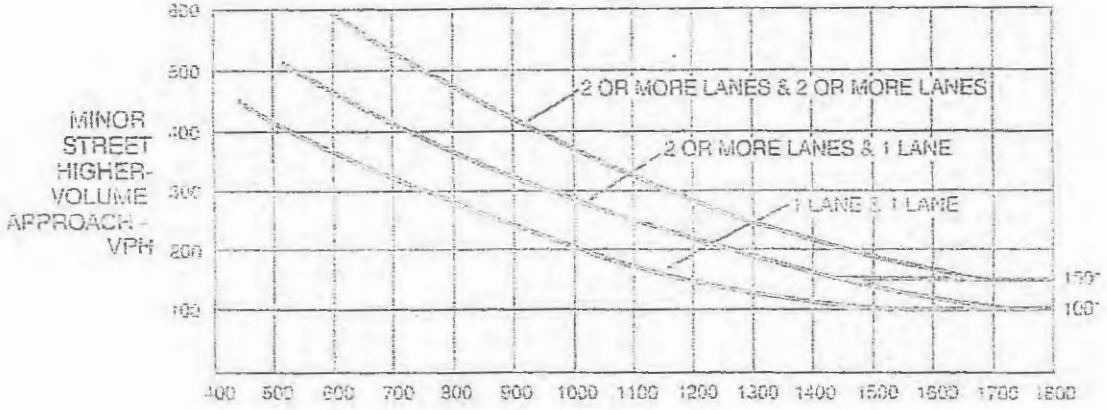


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

	EXIST AM	EXIST PM	
ODAM/WB RAMPS	●	□	(EXCLUDES FREE RIGHT WB MOVEMENT)
MIDWAY/ODAM	○	⌖	
MIDWAY/EB RAMPS	+	‡	
MIDWAY/LEWIS	△	≠	

EXISTING

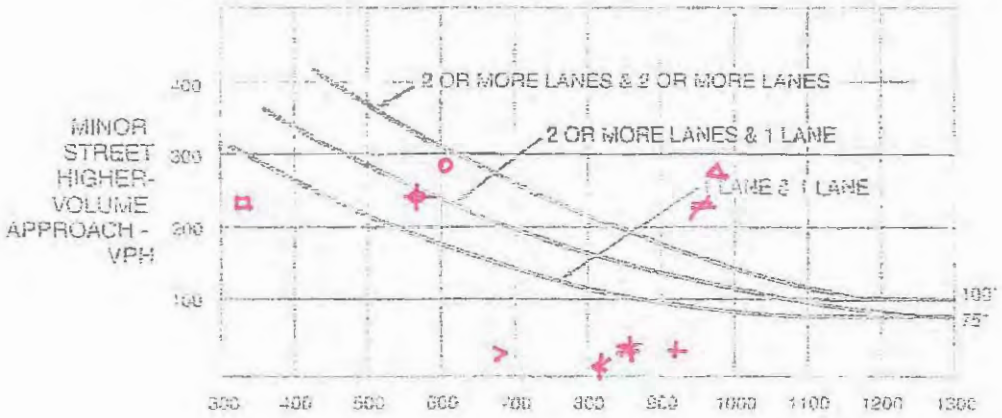
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



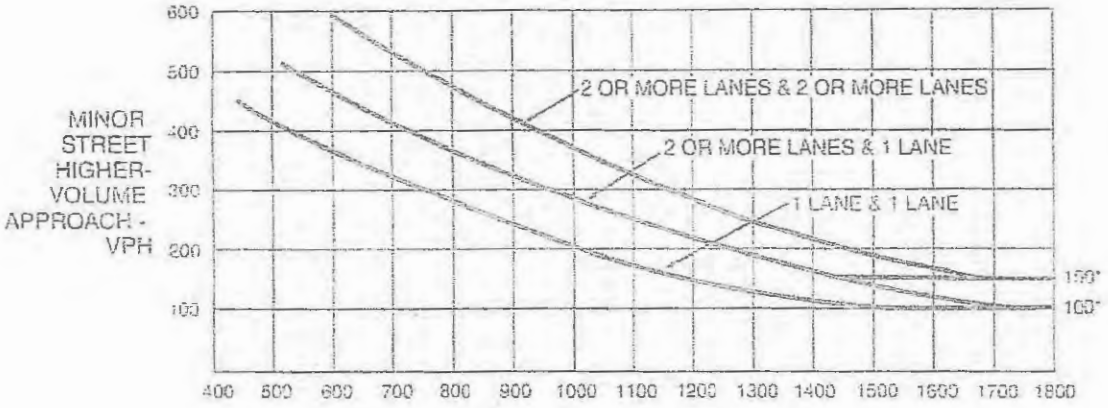
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

	E+P AM	E+P PM
ODAY/WB RAMPS	•	□
MIDWAY/ODAY	o	◆
MIDWAY/EB RAMPS	+	‡
MIDWAY/LEWIS/DW#1	△	≠
MIDWAY/DW#2	>	⊀

(EXCLUDES FREE RIGHT WB MOVEMENT)

EXIST + PROJECT

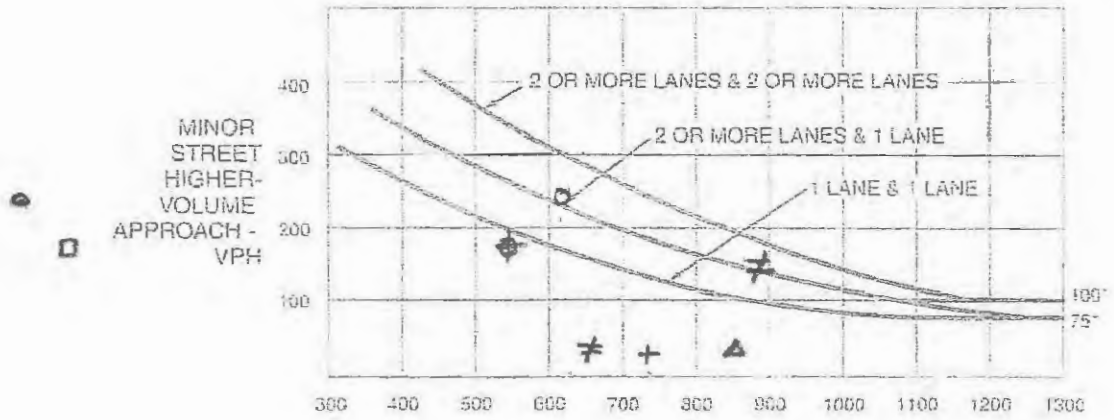
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



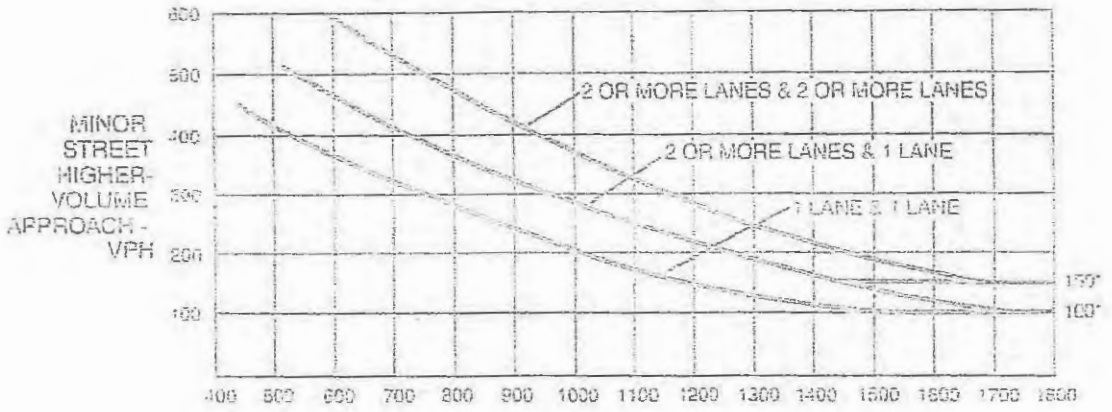
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

	2040 AM	2040 PM
ODAY/NB RAMPS	▭	▭
MIDWAY/ODAY	○	⊕
MIDWAY/EB RAMPS	+	≠
MIDWAY/LEWIS	△	≠

(EXCLUDES FREE RIGHT NB MVMNT)

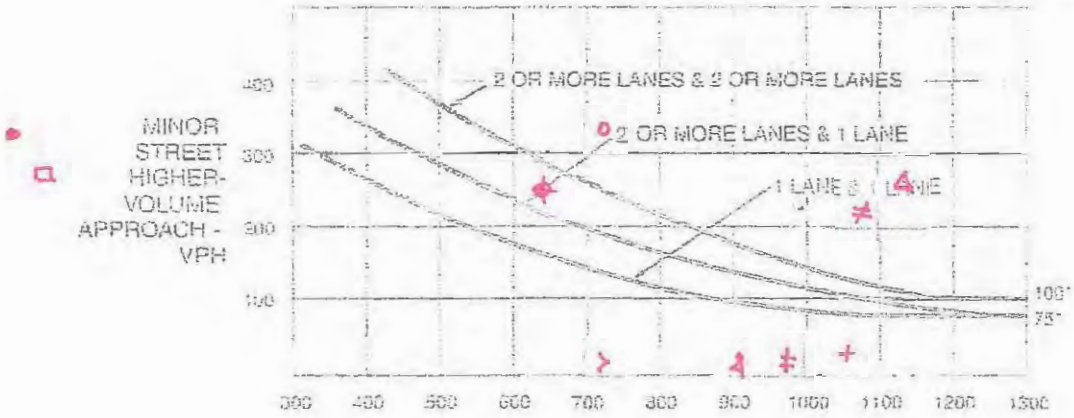
CUMULATIVE 2040

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

2040 + PROJ AM

2040+PROJ PM

ODAY/WB RAMPS
MIDWAY/ODAY
MIDWAY/EB RAMPS
MIDWAY/LEWIS/DW #1
MIDWAY/DW #2

2040 + PROJECT