APPENDIX TR-2

LOCAL TRANSPORTATION ANALYSIS

Final

Local Transportation Analysis for

Upper Westside Specific Plan

Prepared for:
Sacramento County

Revised February 2025
~~March 2022~~

RS20-3945

FEHR PEERS

Table of Contents

Executive Summary **1**

1. Introduction **9**
Study Purpose 9
Project Description 10
Study Area 17
Analysis Scenarios 20
Analysis Methods 20
Intersection Operations Analysis 20
Roadway Segment Operations 22
Ramp Meter Analysis 23
LOS Standards 24
Thresholds of Significance 24
Roadway Segments 24
Signalized Intersections 25
Unsignalized Intersections 25
Sacramento County General Plan Policies 26
Project Consistency Review 29

2. Existing Conditions **31**
Roadway Network 31
Roadway Segment Operations 33
Intersection Operations 33
Bicycle/Pedestrian Facilities 40
Transit Facilities and Routes 40

3. Existing Plus Project Conditions **43**
Detailed Project Land Use Assumptions 43
Project Trip Generation 43
Trip Generation Rates 44
Project Trip Generation 46
Trip Generation of Existing Land Uses to be Removed 48
Net Increase in Vehicle Trips Generated by the Proposed Project 50
Travel Demand Forecasts 51
Roadway Segment Operations 63

Intersection Operations 74

4. Cumulative Conditions 82

Travel Demand Forecasts 82

Land Use Assumptions 82

Roadway Network Assumptions 83

Roadway Segment Operations 99

Intersection Operations 105

5. Site Access Considerations 116

Proposed Geometric Modifications 116

Average Delay and Percent Demand Served 121

Accommodation of Bicyclists and Pedestrians 129

6. Operational Deficiencies and Recommended Improvements 133

Operational Deficiencies – Existing Plus Project Conditions 133

Roadway Segments 133

Intersections 134

Operational Deficiencies – Cumulative Plus Project Conditions 141

Intersections 144

Potential Limitations to Travel Demand Forecasts (Emerging Technology) 153

Potential Limitations to Travel Demand Model and Forecasts (COVID-19) 155

List of Figures

Figure ES-1: Cumulative Plus Project Recommendations 8
Figure 1: Regional Setting 11
Figure 2: Project Site Plan 12
Figure 3: Project Roadway Network 13
Figure 4: Project Bicycle Network 15
Figure 5: Project Transit System 16
Figure 6: Existing Study Roadway Segments 18
Figure 7: Existing Study Intersections 19
Figure 8: Existing Roadway Network 34
Figure 9A: Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions 35
Figure 9B: Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions 36
Figure 10: Existing Bicycle and Pedestrian Facilities 41
Figure 11: Existing Transit Facilities 42
Figure 12: TAZ Map 52
Figure 13A: Average Daily Traffic Volumes and Number of Lanes – Existing Plus Project Conditions 54
Figure 13B: Average Daily Traffic Volumes and Number of Lanes – Existing Plus Project Conditions 55
Figure 14A: Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Conditions 56
Figure 14B: Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Conditions 57
Figure 14C: Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Conditions 58
Figure 14D: Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Conditions 59
Figure 14E: Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Conditions 60
Figure 14F: Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Conditions 61
Figure 15: Cumulative Roadway Improvements 84
Figure 16: Average Daily Traffic – Cumulative No Project Conditions 87
Figures 17A: Peak Hour Traffic Volumes and Lane Configurations – Cumulative No Project Conditions 88
Figures 17B: Peak Hour Traffic Volumes and Lane Configurations – Cumulative No Project Conditions 89
Figure 18A: Average Daily Traffic Volumes and Number of Lanes – Cumulative Plus Project Conditions 91
Figure 18B: Average Daily Traffic Volumes and Number of Lanes – Cumulative Plus Project Conditions 92
Figure 19A: Peak Hour Traffic Volumes and Lane Configurations – Cumulative Plus Project Conditions 93
Figure 19B: Peak Hour Traffic Volumes and Lane Configurations – Cumulative Plus Project Conditions 94
Figure 19C: Peak Hour Traffic Volumes and Lane Configurations – Cumulative Plus Project Conditions 95

Figure 19D: Peak Hour Traffic Volumes and Lane Configurations – Cumulative Plus Project Conditions 96
Figure 19E: Peak Hour Traffic Volumes and Lane Configurations – Cumulative Plus Project Conditions 97
Figure 19F: Peak Hour Traffic Volumes and Lane Configurations – Cumulative Plus Project Conditions..... 98
Figure 20: Geometric Improvements at West El Camino Avenue and El Centro Road 118
Figure 21: Proposed Bicycle and Pedestrian Facilities 130
Figure 22: Cumulative Plus Project Recommendations..... 147

List of Tables

Table ES-1: Recommended Improvements to Address Operational Deficiencies – Existing Plus Project Conditions 5
Table ES-2: Recommended Improvements to Address Operational Deficiencies – Cumulative Plus Project Conditions 6
Table 1: Upper Westside Specific Plan Land Use Summary 14
Table 2: Levels of Service Definitions – Intersections 21
Table 3: Sacramento County Daily LOS Roadway Segment Thresholds 23
Table 4: Sacramento County Study Roadway Segment Operations – Existing Conditions..... 37
Table 5: Intersection Level of Service – Existing Conditions..... 38
Table 6: Unadjusted Trip Generation Rates by Land Use Type..... 45
Table 7: Proposed Project Trip Generation..... 46
Table 8: Existing Trip Generating Land Uses to be Removed 49
Table 9: Net Increase in Vehicle Trips Generated by Proposed Project 51
Table 10: Change in Daily Traffic at Project Gateways – Existing Plus Project Conditions..... 62
Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions..... 64
Table 12: Intersection Level of Service – Existing Plus Project Conditions..... 76
Table 13: Unsignalized Intersection Traffic Signal Warrant Analysis – Existing Plus Project Conditions 81
Table 14: Sacramento County Roadway Segment Operations – Cumulative Conditions..... 100
Table 15: Intersection LOS Summary – Cumulative Conditions 105
Table 17: Unsignalized Intersection Traffic Signal Warrant Analysis – Cumulative Plus Project Conditions 115
Table 18: Site Access Intersection Operational Improvements – Existing Plus Project Conditions..... 122
Table 19: Site Access Intersection Operational Improvements – Cumulative Plus Project Conditions 128
Table 20: Recommended Improvements to Address Operational Deficiencies – Existing Plus Project Conditions 137

Table 21: Intersection Level of Service – Existing Plus Project with Operational Improvements.....138

Table 22: Intersection LOS Summary – Existing Plus Project Conditions with Operational Improvements 141

Table 23: Recommended Improvements to Address Operational Deficiencies – Cumulative Plus Project Conditions 146

Table 24: Intersection Level of Service – Cumulative Plus Project with Operational Improvements.....149

Table 25: Intersection LOS Summary – Cumulative Plus Project Conditions with Operational Improvements.....152

EXECUTIVE SUMMARY

STUDY PURPOSE

This study represents Part II of the Sacramento County *Transportation Analysis Guidelines* (TAG) study requirement for proposed land developments. Part II consists of an analysis of a proposed project's effects on traffic operations at potentially affected roadways and intersections. This document, which is known as a Local Transportation Analysis (LTA), is separate and distinct from Part I of the TAG requirement that focuses on the project's impacts to the transportation system based on its Vehicle Miles Traveled (VMT).

Part I also includes detailed analysis of bicycle/pedestrian facilities, transit facilities and services, freeway off-ramp queuing and on–ramp queuing, and non-standard roadway design, all of which are considered areas of potentially significant impacts under the California Environmental Quality Act (CEQA). The Part I report (*CEQA Transportation Impact Analysis for Upper Westside Specific Plan* Fehr & Peers, March 2022) is available at County offices and online.

PROJECT DESCRIPTION

The Upper Westside Specific Plan would be situated on approximately 2,066 acres north of Interstate 80 (I-80) and west of Interstate (I-5) in unincorporated Sacramento County. Figure 1 shows the regional setting and the location of the Upper Westside Specific Plan. Figure 2 shows the project site plan. The proposed project includes 9,356 dwelling units, 3.1 million square feet of business professional/commercial, schools, parks, and various open space elements. The project would be accessed via several different existing roadways including:

- West El Camino Avenue at I-80
- San Juan Road west of I-5
- Arena Boulevard west of I-5 via El Centro Road
- Del Paso Road west of I-5 via El Centro Road
- Garden Highway via four connections (existing San Juan Road, improvements to existing Radio Road, and two new connections in the southwest portion of the site)

Figure 3 shows the project's internal roadway network. As shown, West El Camino Avenue would extend westerly from El Centro Road as the Main Street of the Town Center, which would be a dense, mixed-use environment with a grid-street system.

STUDY OVERVIEW

This study analyzes project effects at 43 existing study roadways and 41 existing study intersections located in Sacramento County, City of Sacramento, and under the jurisdiction of Caltrans. It includes five existing freeway interchanges, though freeway analysis is not performed based on guidance contained in the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide (TISG) (Caltrans, 2020)*.

The following scenarios are analyzed in this report:

- Existing Conditions – represents conditions in 2018-2019, prior to the beginning of the COVID-19 pandemic in March 2020.
- Existing Plus Proposed Project conditions – analyzes the study area assuming buildout of the proposed project under existing conditions.
- Cumulative (2040) No Project Conditions – analyzes the study area in 2040 assuming the project site remains in its current state.
- Cumulative (2040) Plus Proposed Project conditions – analyzes the study area assuming buildout of the proposed project under cumulative conditions.

Roadways in Sacramento County are analyzed for Level of Service (LOS). The City of Sacramento also has applicable LOS policies and goals in its 2035 General Plan, though they are not typically applied on a project-level basis (and therefore not applied here). Caltrans does not have applicable LOS thresholds for roadways. Intersections in all three jurisdictions are analyzed for weekday AM and PM peak hour conditions. Sacramento County has General Plan policies pertaining to LOS goals for locations both within its Urban Service Boundary and beyond it. In contrast, Caltrans and the City of Sacramento are transitioning away from use of LOS thresholds, instead focusing on more holistic transportation reviews that consider all modes of travel, excess queuing, and other transportation policies (e.g., VMT reduction).

As a consequence of Senate Bill 743, which precluded use of LOS as a means of analyzing roadway system impacts under CEQA, "operational deficiencies" are used in this report (versus "significant impacts") to describe substantially degraded conditions caused or exacerbated by the project.

EXISTING CONDITIONS

Due to the effects of the COVID-19 pandemic on travel behavior, recent counts (2017-February 2020) were used to establish a pre-COVID existing condition. All 11 Sacramento County study roadway segments operate acceptably, with 10 segments operating at LOS C or better. One segment, West El Camino Avenue

between El Centro Road and the I-80 WB Ramps, has an average daily traffic (ADT) of 14,200 and operates at LOS E.

A review of intersection LOS results indicates that all but two of the 41 study intersections currently operate at LOS D or better during the AM peak hour. All study intersections operate at LOS D or better during the PM peak hour.

PROJECT TRAVEL CHARACTERISTICS

The density and complementary nature of land uses within the project site, combined with the availability of transit and walking/biking to external destinations, would result in an estimated 25 percent reduction in gross daily vehicle trips when compared to a condition with no internal trip-making and all external trips made by vehicle. During the AM and PM peak hours, this reduction would increase to 37 percent and 28 percent, respectively. The proposed project would result in a net increase (over trips generated by existing land uses that would be removed) of approximately 100,800 new daily vehicle trips, with 7,530 occurring during the AM peak hour and 8,200 occurring during the PM peak hour.

Approximately 69 percent of project trips would use the I-80/West El Camino Avenue interchange. This large percentage makes sense given that 73 percent of the project's total vehicle trips are generated by uses located south of Farm Road. The interchange's close proximity to those uses, combined with its assumed capacity increase in conjunction with the project, explains its heavy utilization. Parallel routes such as Garden Highway or San Juan Road are more circuitous and/or do not provide access to the same level of complementary land uses, though the project would still add trips to them.

EXISTING PLUS PROJECT CONDITIONS

All Sacramento County roadway segments would continue to operate at an acceptable level with the exception of the West El Camino Avenue from El Centro Road to I-80 WB Ramps, which would operate at LOS F despite being widened from two to six lanes.

The project would add considerable volumes of traffic to the following surface streets owned and operated by Caltrans or the City of Sacramento (top six corridors shown in descending order of traffic added):

- West El Camino Avenue directly west of I-80: 14,200 to 83,300 ADT (69,100 ADT increase)
- West El Camino Avenue directly east of I-80: 20,900 to 43,800 (22,900 ADT increase)
- El Centro Road south of Arena Boulevard: 7,900 to 27,000 ADT (19,100 ADT increase)
- Arena Boulevard east of El Centro Road: 7,600 to 17,600 ADT (10,000 ADT increase)
- Del Paso Road east of El Centro Road: 22,800 to 31,100 ADT (8,300 ADT increase)

- San Juan Road east of Orchard Lane: 6,600 to 14,300 ADT (7,700 ADT increase)

During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from two to five. During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from zero to eight. The vast majority of the 65 additional study intersections within the project site would operate acceptably.

CUMULATIVE CONDITIONS

The cumulative version of SACOG's SACSIM travel demand model was used to develop cumulative (Year 2040) travel demand forecasts in the study area. The model was modified to reflect full buildout of a number of large projects or specific plans such as: Metro Air Park, Grandpark Specific Plan, Downtown Specific Plan (City of Sacramento), Northlake (formerly Greenbriar) (City of Sacramento), Panhandle, and others. The model also includes several important infrastructure improvements, which are shown on Figure 15.

Under cumulative no project conditions, two Sacramento County roadway segments would operate unacceptably. Under cumulative plus project conditions, 12 Sacramento County roadway segments would operate unacceptably including segments along San Juan Road, El Centro Road, Powerline Road, Garden Highway, Radio Road, and West El Camino Avenue.

Among 34 (existing) signalized or all-way stop study intersections, the project would cause the number that would operate at LOS F under cumulative conditions to increase from 8 to 18 during the AM peak hour and to increase from 10 to 22 during the PM peak hour. Conversely, all but two signalized or all-way stop study intersections within the project site would operate at LOS E or better.

RECOMMENDED IMPROVEMENTS

The initial improvements assumed on El Centro Road and West El Camino Avenue near I-80 and the Town Center resulted in severe congestion. A set of geometric modifications to this area is recommended to accommodate the heavy vehicular travel demand (see Figure 20 for illustration of improvements). Key elements include various added travel lanes and other geometric treatments. Improvements to the bicycle and pedestrian facilities in the area are also required (see Figure 21) and include the following:

- Class I (off-street) multi-use path allowing two-way travel on the north side of West El Camino Avenue that would extend from El Centro Road to the Orchard Lane intersection east of I-80.
- Class I multi-use path on the west side of El Centro Road north and south of West El Camino Avenue. Class II (on-street) bike lanes on various portions of El Centro Road and West El Camino Avenue.
- Crosswalks on the north, south, and west legs of W. El Camino Avenue/El Centro Road intersection.

The proposed geometric modifications were found to substantially benefit traffic operations along the portions of El Centro Road and West El Camino Avenue near the Town Center. While operations would remain at LOS F at the El Centro Road/West El Camino Avenue and El Centro Road/Farm Road intersections, delays are considered more tolerable, and the overall percent demand served is much better with the proposed geometric improvements alone.

Table ES-1 displays a set of recommended operational enhancements that would address many of the operational deficiencies identified throughout the study area under existing plus project conditions.

Table ES-1: Recommended Improvements to Address Operational Deficiencies – Existing Plus Project Conditions

Facility	Lead Agency	Description of Improvement(s)
Powerline Road/Bayou Way (#1)	Sacramento County	Install traffic signal
El Centro Road and West El Camino Avenue Corridors	Sacramento County	Construct Proposed Geometric Modifications (see Figure 20)
I-80/West El Camino Avenue Interchange [1]	Caltrans	Install two metered lanes and one HOV lane on the I-80 WB diagonal on-ramp
Arena Boulevard/El Centro Road (#15)	City of Sacramento	Construct second WB left-turn lane, second SB through lane, restripe EB right-turn lane to a shared through/right, and lengthen NB right-turn lane to 400 feet with right-turn overlap arrow. Pay fair share cost for constructing Natomas Crossing Drive as a two-lane street from Duckhorn Drive to El Centro Road.
I-5/West El Camino Avenue Interchange [1]	Caltrans	Widen the I-5 SB diagonal on-ramp to consist of two ramp-metered lanes
Radio Road/Street 12 (E) (#45)	Sacramento County	Install traffic signal
Farm Road/Street A (#60)	Sacramento County	Install raised median on Farm Road at Street A to restrict turn movements on Street A to right-turn only.
Farm Road/MDR Access (#62)	Sacramento County	Install raised median on Farm Road at Medium Density Residential Access to restrict turn movements to right-turn only.
Farm Road/Orchard Lane/CMU Driveway (#63)	Sacramento County	Expand northbound approach to consist of two left-turn lanes and a shared left/right lane.

Notes:
1. Identified improvements derived from the ramp metering analysis whose results are contained in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022).

Source: Fehr & Peers, 2021.

During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from two to five. With the proposed improvements listed above, all but two intersections (West El Camino Avenue/El Centro Road and Arena Boulevard/Stemmler Drive) would be restored to LOS E or better. During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from zero to eight. With the proposed improvements listed above, five of the eight LOS F intersections would be restored to LOS E or better. The three intersections that would remain at LOS F would be at Gateway Oaks Drive/West El Camino Avenue (City of Sacramento), I-5 SB Ramps/Garden Highway (Caltrans), and West El Camino Avenue/El Centro Road (Sacramento County).

It should be noted that the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022) includes several improvements that are required to address safety and design standards related impacts.

Table ES-2 displays a set of recommended operational enhancements that would address the operational deficiencies identified within the study area under cumulative plus project conditions. See **Figure ES-1** for illustration of recommended improvements.

Table ES-2: Recommended Improvements to Address Operational Deficiencies – Cumulative Plus Project Conditions

Facility	Lead Agency	Description of Improvement(s)
Powerline Road/Bayou Way (#1)	Sacramento County	Install traffic signal
El Centro Road and West El Camino Avenue Corridors	Sacramento County	Construct Proposed Geometric Modifications (see Figure 20) and reoptimize signal timings
I-80/West El Camino Avenue Interchange [1]	Caltrans	Install two metered lanes and one HOV lane on the I-80 WB diagonal on-ramp
Arena Boulevard/El Centro Road (#15)	City of Sacramento	Construct second WB left-turn lane, second SB through lane, restripe EB right-turn lane to a shared through/right, and lengthen NB right-turn lane to 400 feet with right-turn overlap arrow. Pay fair share cost for constructing Natomas Crossing Drive as a two-lane street from Duckhorn Drive to El Centro Road. Increase the ramp metering rate at the I-5 SB loop on-ramp
Arena Boulevard/East Commerce Way (#28)	City of Sacramento	Install an EB right-turn overlap phase.
I-5/West El Camino Avenue Interchange [1]	Caltrans	Widen the I-5 SB diagonal on-ramp to consist of two ramp-metered lanes
Street 12 (East)/Radio Road (#45)	Sacramento County	Install traffic signal

Table ES-2: Recommended Improvements to Address Operational Deficiencies – Cumulative Plus Project Conditions

Facility	Lead Agency	Description of Improvement(s)
San Juan Road/Orchard Lane (#50)	Sacramento County	Install traffic signal
Street A/Farm Road (#60)	Sacramento County	Install raised median on Farm Road at Street A to restrict turn movements on Street A to right-turn only.
Farm Road/Street A (#62)	Sacramento County	Install raised median on Farm Road at Medium Density Residential Access to restrict turn movements to right-turn only.
Farm Road/Orchard Lane/CMU Driveway (#63)	Sacramento County	Expand northbound approach to consist of two left-turn lanes and a shared left/right lane.

Notes:
1. Identified improvements derived from the ramp metering analysis whose results are contained in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022).

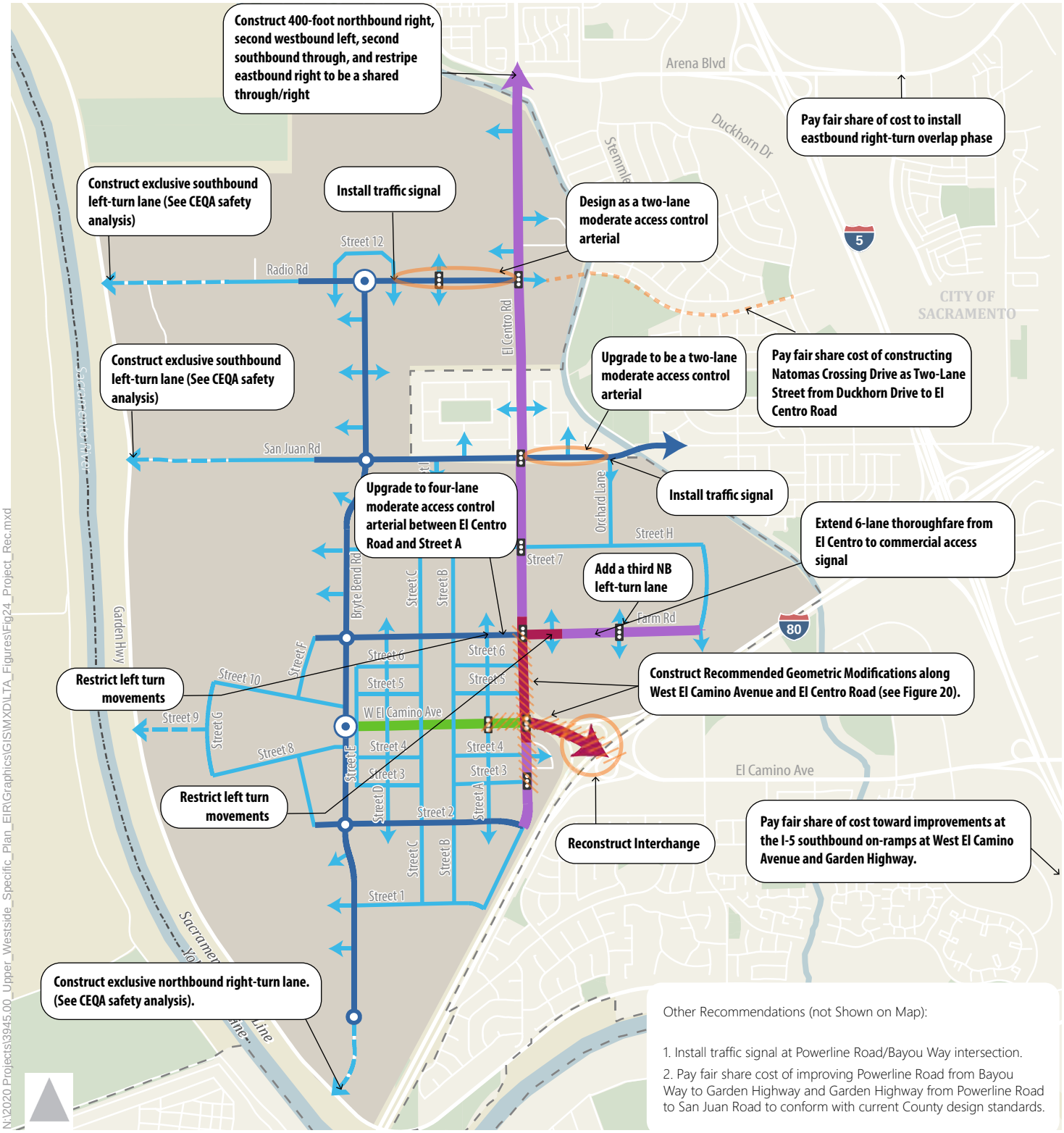
Source: Fehr & Peers, 2021.

During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F under cumulative conditions to increase from eight to 18. The number of intersections operating at LOS F would be reduced to 11 with the proposed improvements in place.

During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F under cumulative conditions to increase from ten to 22. The number of intersections operating at LOS F would be reduced to 14 with the proposed improvements in place.

The following are recommended to improve cumulative plus project operations on various Sacramento County roadway segments to acceptable levels:

- Design Radio Road between Street 12 (East) and El Centro Road as a two-lane moderate access control arterial. Resulting operations would improve from LOS F to E.
- Upgrade San Juan Road between El Centro Road and Orchard Lane to be a two-lane moderate access control arterial. Resulting operations would improve from LOS F to E.
- Upgrade Farm Road between El Centro Road and the CMU Driveway to a six-lane thoroughfare.
- The project applicant shall pay fair share of cost toward improvements at the I-5 southbound on-ramps at West El Camino Avenue, Del Paso Road, and Garden Highway. They shall also pay their fair share cost of improving the following roadways to conform with current County design standards (two 12-foot travel lanes and 6-foot paved shoulders):
    - Powerline Road from Bayou Way to Garden Highway
    - Garden Highway from Powerline Road to San Juan Road



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig24_Project_Rec.mxd

Note:
The on-site improvements would be constructed by the project as development occurs. The timing of construction (or fair share payments) for off-site improvements will vary depending on the location and type of improvement.

Figure ES-1

Cumulative Plus Project Recommendations

1. INTRODUCTION

This chapter describes the study purpose, provides an overview of the proposed project, presents the study area, analysis scenarios, and methods, and lists applicable transportation-related policies that may pertain to the proposed project.

Study Purpose

In September 2020, Sacramento County released updated guidance, known as *Transportation Analysis Guidelines* (TAG), for the preparation of transportation analysis studies. The update was necessary to incorporate changes to the way that transportation impacts are measured under the California Environmental Quality Act (CEQA) that resulted from the passage of Senate Bill 743 (SB 743) in 2013. Per SB 743, automobile delay and level of service (LOS) may no longer be used as the performance measure to determine the transportation impacts of land development and transportation projects under CEQA. This requirement did not modify the discretion lead agencies have to develop their own methodologies or guidelines, or to analyze impacts to other components of the transportation system, such as walking, bicycling, transit, and safety. Although SB 743 did not specify the use of a specific metric for transportation analysis, the use of vehicle miles traveled (VMT) has been recommended by the Governor's Office of Planning and Research (OPR).

The County's TAG specifies that the following two distinct types of studies be prepared for proposed land development projects:

- Part I – CEQA Transportation Impact Analysis
- Part II – Local Transportation Analysis (LTA)

This report, which represents Part II of the TAG requirement, analyzes project effects on traffic operations at nearby roadways and intersections. The LTA assists transportation engineers and planners in both the development community and public agencies when making land use, infrastructure planning, and other development decisions. The LTA quantifies the expected changes in transportation conditions and evaluates the efficacy of potential improvements, if warranted. All technical calculations prepared for this report are contained in a separate technical appendix available at County offices and online.

Part I is a separate report, focusing on the project's impacts to the transportation system based on its VMT. It also evaluates impacts to bicycle/pedestrian facilities, transit facilities and services, and roadway safety-related impacts including freeway off-ramp queuing, storage at freeway on-ramp ramp meters, and nonstandard design features, all of which are evaluated for significant impacts under CEQA.

Project Description

The Upper Westside Specific Plan ("Proposed Project") would be situated on approximately 2,066 acres north of Interstate 80 (I-80) and west of Interstate 5 (I-5) in unincorporated Sacramento County. **Figure 1** shows the regional setting and the location of the Upper Westside Specific Plan.

Figure 2 shows the project site plan (*Upper Westside*, Wood Rodgers, May 2021). **Table 1** presents the proposed project land uses based on this site plan. As shown, the proposed project would include 9,356 dwelling units, 3.1 million square feet of business professional/commercial, schools, parks, and various open space elements. Chapter 2 provides a more detailed breakdown of land use types.

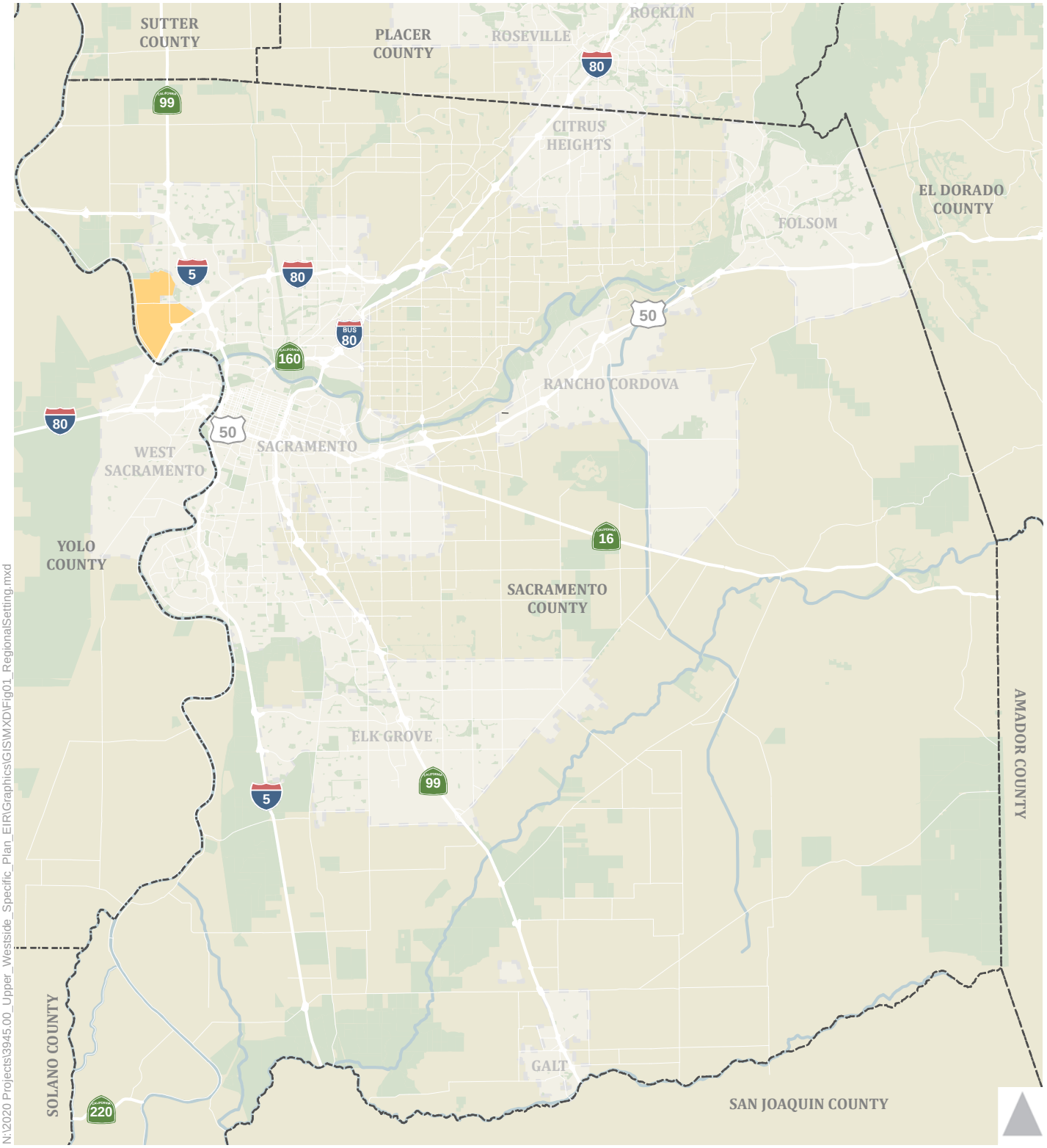
As shown on Figure 2, the project would be accessed via several different existing roadways including:

- West El Camino Avenue at I-80
- San Juan Road west of I-5
- Arena Boulevard west of I-5 via El Centro Road
- Del Paso Road west of I-5 via El Centro Road
- Garden Highway via four connections (existing San Juan Road, improvements to existing Radio Road, and two new connections in the southwest portion of the site)

Figure 3 shows the project's internal roadway network. As shown, West El Camino Avenue would extend westerly from El Centro Road as the Main Street of the Town Center, which would be a dense, mixed-use environment. Other key project roadways include: El Centro Road, Bryte Bend Road, Farm Road, San Juan Road, and Radio Road.

The Town Center would consist of a grid-based street system. North-south streets are labeled Street A through E (from right to left) from West El Camino Avenue to Bryte Bend Road. East-west streets are labeled Street 1 through 7 (from bottom to top) starting south of West El Camino Avenue to San Juan Road.

The project would widen parts of El Centro Road and West El Camino Avenue from a current two lanes to the number of lanes shown in Figure 3. Additionally, it is assumed that project buildout would be supported by a reconstructed I-80/West El Camino Avenue interchange to provide increased roadway capacity and a more bicycle/pedestrian friendly design. Additional right-of-way would be necessary to support the interchange's reconstruction.



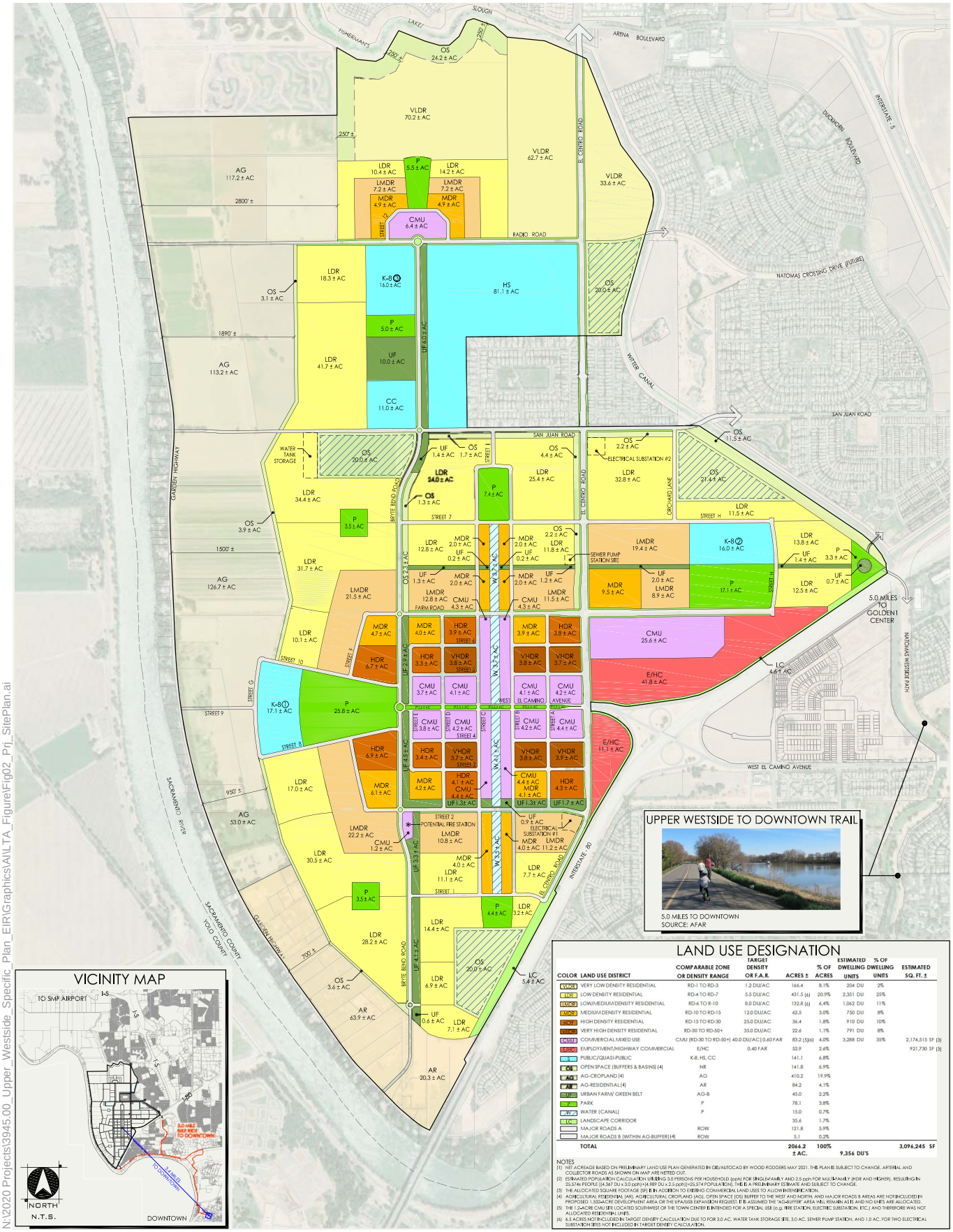
Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Figure 1

Regional Setting



LAND USE DESIGNATION

COLOR	LAND USE DISTRICT	COMPARABLE ZONE OR DENSITY RANGE	TARGET DENSITY OR F.A.R.	ACRES ±	% OF ACRES	ESTIMATED DWELLING UNITS	% OF DWELLING UNITS	ESTIMATED SQ. FT. ±
VLDR	VERY LOW DENSITY RESIDENTIAL	RD-1 TO RD-3	1.2 DU/AC	166.4	8.1%	204 DU	2%	
LDR	LOW DENSITY RESIDENTIAL	RD-4 TO RD-7	5.5 DU/AC	431.5 (6)	20.9%	2,351 DU	25%	
LMDR	LOW/MEDIUM DENSITY RESIDENTIAL	RD-6 TO R-10	8.0 DU/AC	132.8 (6)	6.4%	1,062 DU	11%	
MDR	MEDIUM DENSITY RESIDENTIAL	RD-10 TO RD-15	12.0 DU/AC	62.5	3.0%	750 DU	8%	
HDR	HIGH DENSITY RESIDENTIAL	RD-15 TO RD-30	25.0 DU/AC	36.4	1.8%	910 DU	10%	
VHDR	VERY HIGH DENSITY RESIDENTIAL	RD-30 TO RD-50+	35.0 DU/AC	22.6	1.1%	791 DU	8%	
CMU	COMMERCIAL MIXED USE	CMU (RD-30 TO RD-50+)	40.0 DU/AC | 0.60 FAR	83.2 (5)(6)	4.0%	3,288 DU	35%	2,174,515 SF (3)
E/HC	EMPLOYMENT/HIGHWAY COMMERCIAL	E/HC	0.40 FAR	52.9	2.6%			921,730 SF (3)
P	PUBLIC/QUASI-PUBLIC	K-8, HS, CC		141.1	6.8%			
OS	OPEN SPACE (BUFFERS & BASINS) (4)	NR		141.8	6.9%			
AG	AG-CROPLAND (4)	AG		410.2	19.9%			
AR	AG-RESIDENTIAL (4)	AR		84.2	4.1%			
AG-B	URBAN FARM/ GREEN BELT	AG-B		45.0	2.2%			
PARK	PARK	P		78.1	3.8%			
W / C	WATER (CANAL)	P		15.0	0.7%			
LC	LANDSCAPE CORRIDOR			35.6	1.7%			
	MAJOR ROADS A	ROW		121.8	5.9%			
	MAJOR ROADS B (WITHIN AG-BUFFER) (4)	ROW		5.1	0.2%			
	TOTAL			2066.2 ± AC.	100%	9,356 DU'S		3,096,245 SF

NOTES
(1) NET ACREAGE BASED ON PRELIMINARY LAND USE PLAN GENERATED IN GIS/AUTOCAD BY WOOD RODGERS MAY 2021. THE PLAN IS SUBJECT TO CHANGE. ARTERIAL AND COLLECTOR ROADS AS SHOWN ON MAP ARE NETTED OUT.
(2) ESTIMATED POPULATION CALCULATION UTILIZING 3.0 PERSONS PER HOUSEHOLD (pph) FOR SINGLE-FAMILY AND 2.5 pph FOR MULTI-FAMILY (HDR AND HIGHER), RESULTING IN 25,574± PEOPLE ((4,367 DU x 3.0 pph)+(4,989 DU x 2.5 pph))=25,574 POPULATION). THIS IS A PRELIMINARY ESTIMATE AND SUBJECT TO CHANGE.
(3) THE ALLOCATED SQUARE FOOTAGE (SF) IS IN ADDITION TO EXISTING COMMERCIAL LAND USES TO ALLOW INTENSIFICATION.
(4) AGRICULTURAL RESIDENTIAL (AR), AGRICULTURAL CROPLAND (AG), OPEN SPACE (OS) BUFFER TO THE WEST AND NORTH, AND MAJOR ROADS B AREAS ARE NOT INCLUDED IN PROPOSED 1,552-ACRE DEVELOPMENT AREA OR THE UPA/USE EXPANSION REQUEST. IT IS ASSUMED THE "AG-BUFFER" AREA WILL REMAIN AS IS AND NO UNITS ARE ALLOCATED.
(5) THE 1.2-ACRE CMU SITE LOCATED SOUTHWEST OF THE TOWN CENTER IS INTENDED FOR A SPECIAL USE (e.g. FIRE STATION, ELECTRIC SUBSTATION, ETC.) AND THEREFORE WAS NOT ALLOCATED RESIDENTIAL UNITS.
(6) 6.3 ACRES NOT INCLUDED IN TARGET DENSITY CALCULATION DUE TO FOR 3.0 AC. WATER TANK STORAGE SITE, 3.0 AC. SEWER PUMP STATION, AND 1.0 AC. FOR TWO ELECTRICAL SUBSTATION SITES NOT INCLUDED IN TARGET DENSITY CALCULATION.

VICINITY MAP

N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\AIILTA_FigureFig02_Prj_SitePlan.ai

Source: Wood Rodgers

Figure 2

Project Site Plan

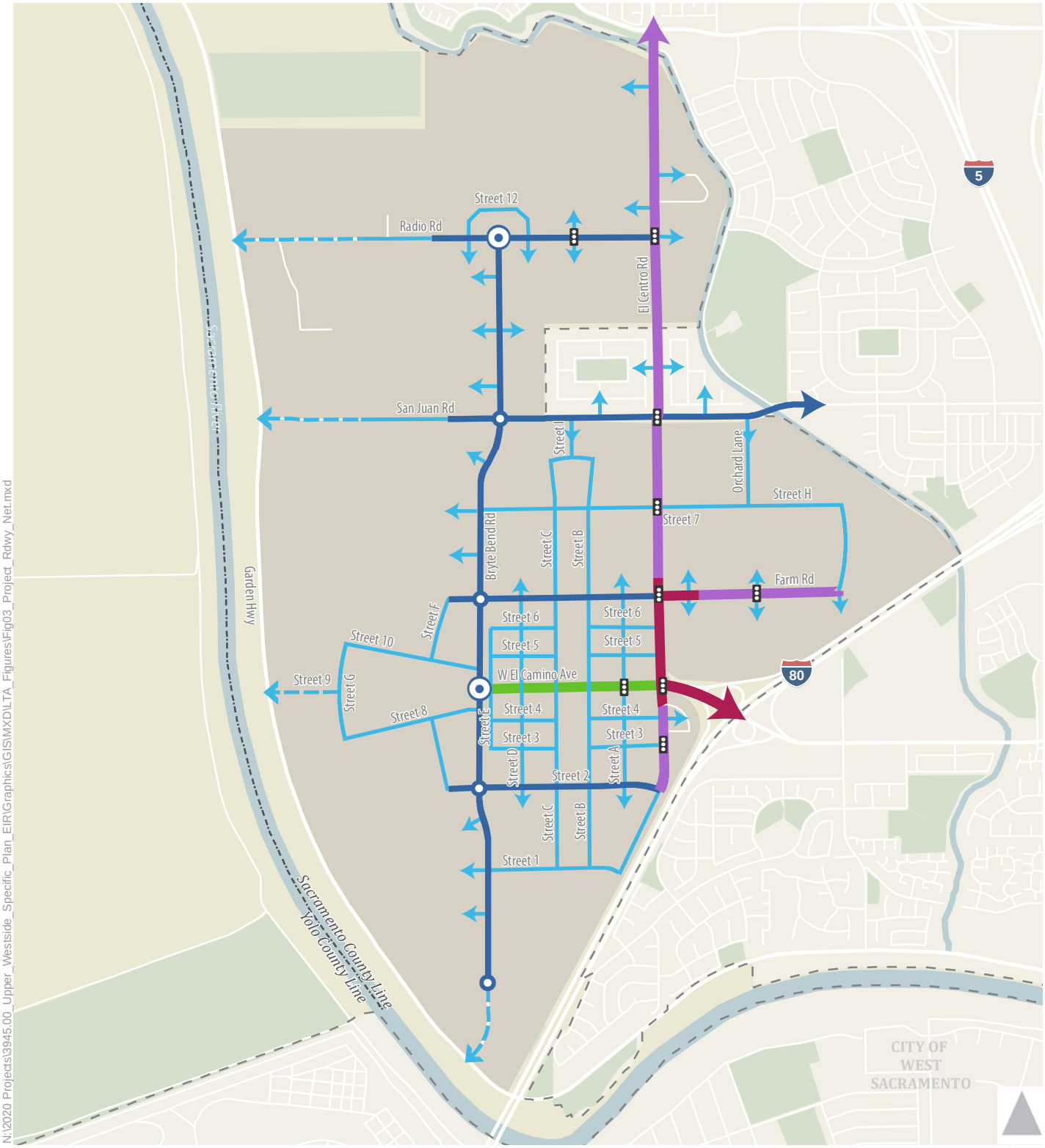


Figure 3

Project Roadway Network

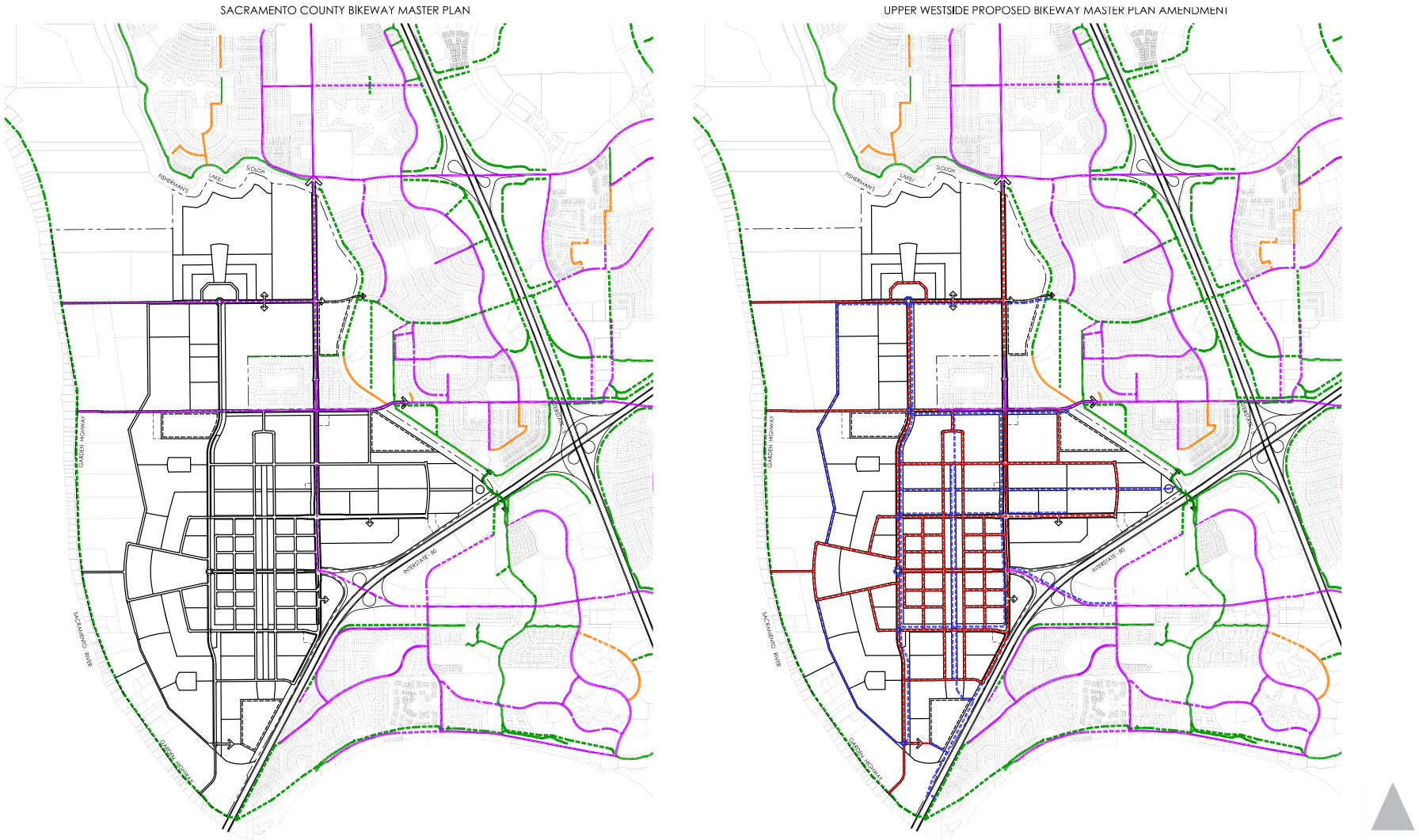
Table 1: Upper Westside Specific Plan Land Use Summary				
Land Use	**Acres**	**Percent of Project**	**Dwelling Units**	**Square Feet**
Very Low Density Residential	166.1	8.1%	204	-
Low Density Residential	431.5	20.9%	2,351	-
Low/Medium Density Residential	132.8	6.4%	1,062	-
Medium Density Residential	62.5	3.0%	750	-
High Density Residential	36.4	1.8%	910	
Very High Density Residential	22.6	1.1%	791	-
Commercial Mixed Use (CMU)	83.2	4.0%	3,288	2,174,515
Employment / Highway Commercial (E/HC)	52.9	2.6%	-	921,730
Community College, High School, K-8 School	141.1	6.8%	-	-
Parks, Urban Farm/Greenbelt, and Canal	136.1	6.5%		
Open Space / Agriculture,	674.1	32.6%		
Proposed Major Circulation	126.9	6.1%		
Total Upper Westside Specific Plan	**2,066.2**	**100%**	**9,356**	**3,096,245**

Source: *Upper Westside Site Plan*, Wood Rodgers, May 2021.

Figure 4 shows the project's planned bicycle network. Key components of the bicycle network include:

- A set of north-south and east-west Class I (off-street) bicycle/pedestrian paths would be constructed. The north-south path would extend southerly from San Juan Road through the Town Center to Garden Highway. The east-west path would extend parallel and north of Farm Road from Bryte Bend Road easterly to the Natomas Westside Class I Path, which includes an overcrossing of I-80.
- Class I and/or Class II bike lanes (on-street with appropriate signs and pavement markings) would be provided throughout the plan area.

Figure 5 shows the conceptual locations of bus stops and bus routes within the proposed UWSP.



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\AllLTA_Figure\Fig04_Project_Bikeway_Net.ai

This side-by-side comparison depcits how the Upper Westside Specific Plan would modify the Sacramento County Bikeway Master Plan.

Figure 4

Project Bicycle Network

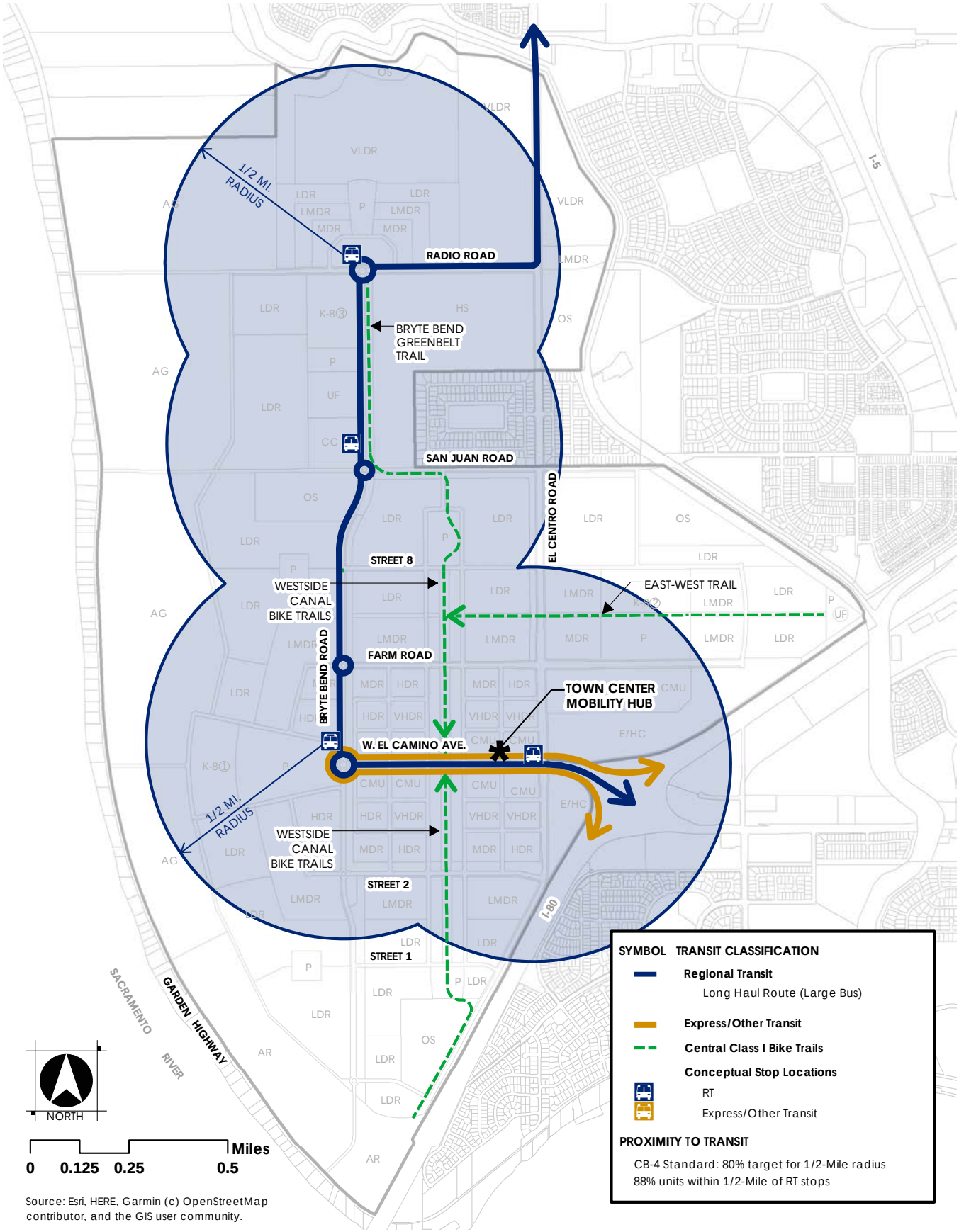


Figure 5

Project Transit System

Study Area

This study analyzes various roadway facilities under the jurisdiction of Sacramento County, City of Sacramento, and Caltrans. The study area was chosen based on the project's size, type of land uses, and susceptibility of specific facilities being adversely affected. This study area also includes bicycle, pedestrian, and transit facilities in the project vicinity.

The suitability of the study area was confirmed early in the study process by adding the proposed project to the Sacramento Area Council of Governments (SACOG) travel demand model and tracking project trips through the network. This process led to the identification for several additional study intersections beyond those originally chosen.

Figure 6 illustrates the 43 study roadways selected for analysis under existing weekday (daily) conditions. **Figure 7** illustrates the 41 study intersections selected for analysis under existing weekday AM and PM peak hour conditions. As shown, most of the study facilities are within the City of Sacramento.

The study area includes five existing freeway interchanges. At each interchange, operations of each ramp terminal intersection are evaluated. Freeway ramp meter queuing is also analyzed with the results included in the Part I report (*CEQA Transportation Impact Analysis for Upper Westside Specific Plan* Fehr & Peers, March 2022). At the City of Sacramento's request, the study area also includes the southbound I-5 off-ramps at Richards Boulevard and J Street.

In May 2020, the California Department of Transportation (Caltrans) published the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide (TISG)*, which replaced its *Guide for the Preparation of Traffic Impact Studies* (2002). The TISG indicates that Caltrans intends to "transition away from requesting LOS or other vehicle operations analyses of land use projects", instead placing the focus on VMT and safety. For this reason, the study area does not include traffic operations analysis of freeway facilities.

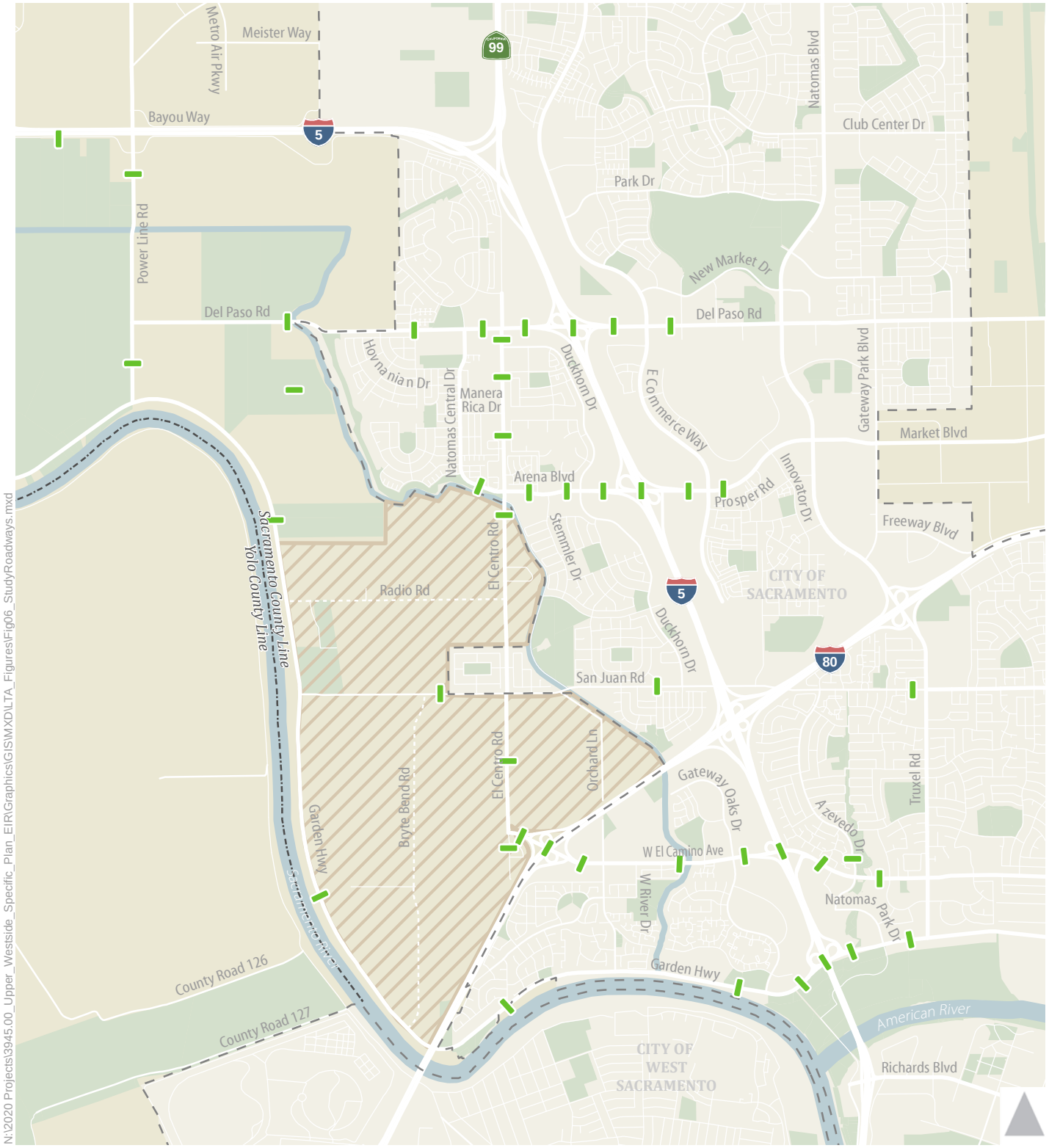
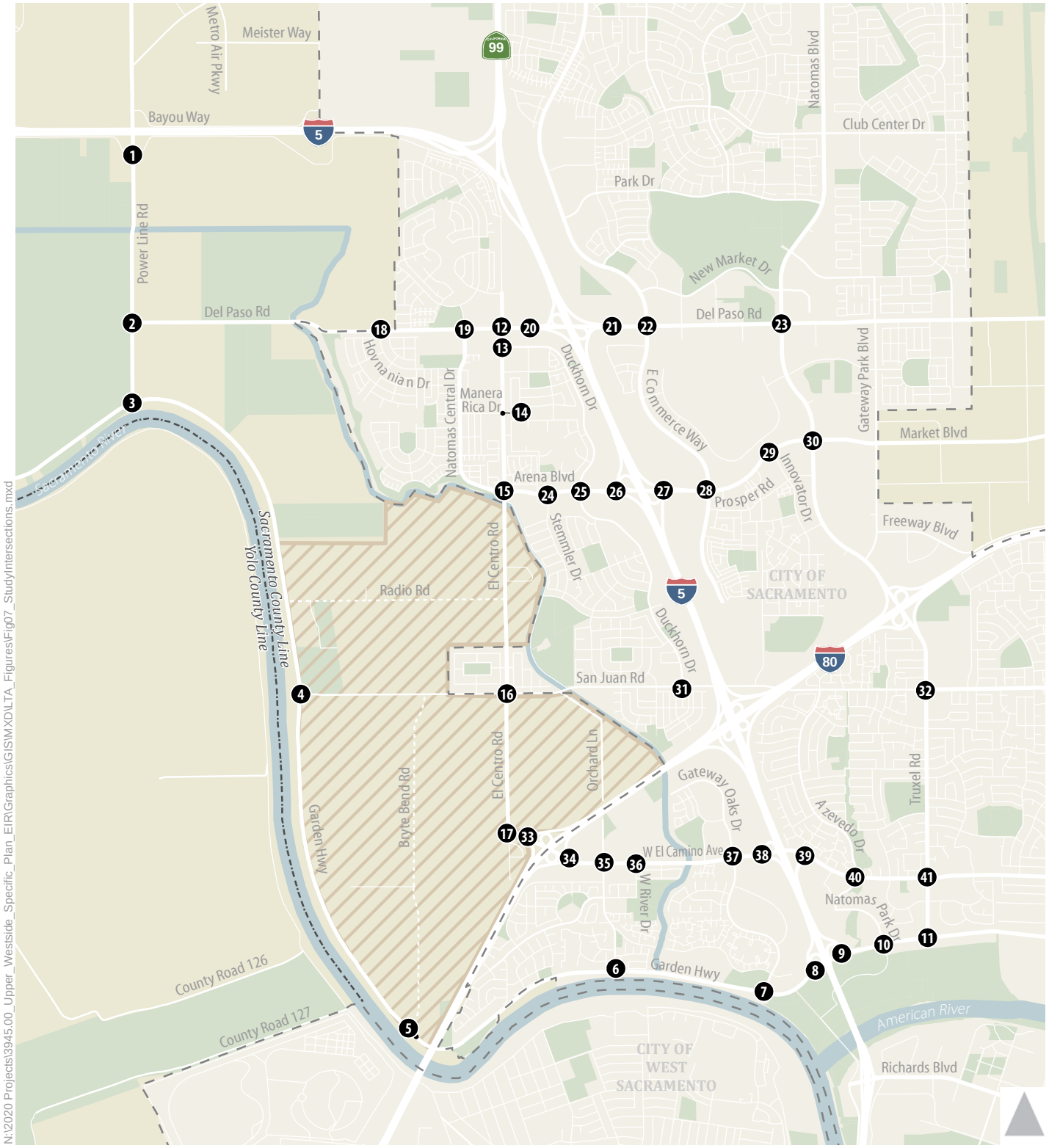


Figure 6

Existing Study Roadway Segments



Study Intersection
Upper Westside Specific Plan Boundary
City Boundary
County Boundary
Private and/or Gated, Partially Paved/Unpaved Rural Road
Public Roadway

Figure 7

Existing Study Intersections

Analysis Scenarios

The LTA consists of the following scenarios:

- Existing Conditions – represents conditions in 2018-2019, prior to the beginning of the COVID-19 pandemic in March 2020.
- Existing Plus Proposed Project conditions – analyzes the study area assuming buildout of the proposed project under existing conditions.
- Cumulative (2040) No Project Conditions – analyzes the study area in 2040 assuming the project site remains in its current state.
- Cumulative (2040) Plus Proposed Project conditions – analyzes the study area assuming buildout of the proposed project under cumulative conditions.

Analysis Methods

This section presents the various analysis methods used to quantify operations at study intersections and roadways, and to develop traffic forecasts for future year scenarios.

Intersection Operations Analysis

This study analyzes traffic operations using delay and LOS as the primary measure of performance. Automobile LOS is a qualitative description of traffic flow from the perspective of motorists. The *Highway Capacity Manual (HCM) 6th Edition* (Transportation Research Board, 2016) defines six levels of service from LOS A representing the least congested traffic conditions to LOS F representing the most congested traffic conditions. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver. The 7th Edition of the *Highway Capacity Manual* (published February 2022) was not available at the time the analysis was conducted

Intersections are analyzed according to methods described in the HCM. This study uses the Synchro and SimTraffic software programs to conduct the HCM 6th Edition analyses. The Sidra software program is used to analyze roundabouts consistent with the TAG.

Intersection LOS at signalized and all-way stop controlled intersections is based on the weighted average control delay measured in seconds per vehicle for all motorists traveling through the intersection. For side-street stop-controlled intersections, this study reports the average control delay for the lane group or movement with the greatest delay, and for the intersection as a whole.

Table 2 presents the control delay range for each LOS for signalized and unsignalized intersections. As shown, the delay ranges for signalized intersections are different from unsignalized intersections. The HCM anticipates that motorists expect signalized intersections to carry higher traffic volume that result in greater delay than an unsignalized intersection and roundabout. Unsignalized intersections are associated with more uncertainty as delays are less predictable, which can reduce users' delay tolerance.

Table 2:
Levels of Service Definitions – Intersections

Level of Service	Description	Average Control Delay[1]	
		Signalized Intersections	Unsignalized Intersections and Roundabouts
A	Volume-to-capacity ratio is low and either progression is exceptionally favorable, or cycle length is very short. Most vehicles arrive during the green phase and travel through the intersection without stopping.	≤ 10	≤ 10
B	Volume-to-capacity ratio is low and either progression is highly favorable, or the cycle length is short. More vehicles stop than with LOS A.	>10 to 20	>10 to 15
C	Progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 to 35	>15 to 25
D	Volume-to-capacity ratio is high and either progression is ineffective, or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35 to 55	>25 to 35
E	Volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.	>55 to 80	>35 to 50
F	Volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	>80	>50

Notes:
1. Average control delay presented in seconds per vehicle. Delay values are rounded to the nearest second and evaluated for LOS based on the above thresholds (i.e., 10 seconds per vehicle = LOS A)

Source: *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

This study analyzes intersections using either the Synchro software program or Synchro's SimTraffic micro-simulation module to apply the methodologies presented in the *HCM*. Synchro considers traffic volumes, lane configurations, signal timings, and other parameters. SimTraffic additionally considers interactions between adjacent intersections, turn lane spillbacks, coordinated signal timing, and upstream/downstream bottlenecks. SimTraffic is preferable to use when operating conditions are near or over capacity, turn lane storage exceedance is common, and/or intersections are spaced closely together. Outside of these conditions, Synchro is generally appropriate for use. In this study, given the above guidance, SimTraffic was used to analyze all freeway interchanges including their adjacent intersections. Additionally, SimTraffic was used to analyze the segments of West El Camino Avenue and El Centro Road near the Town Center (given the level of traffic projected and intersection spacing). Of the 41 study intersections, 26 were analyzed using the SimTraffic microsimulation model, with the remainder analyzed using the Synchro software program. Chapter 2 describes which intersections were analyzed using each program including the rationale for the approach taken.

Field observations and aerial imagery confirm that most study on-ramps are metered. Ramp metering could affect adjacent surface street intersections during peak hours under plus project or cumulative conditions. Therefore, ramp meters were included in the operations analysis to inform the need to potentially widen on-ramps or change ramp meter timings.

This study may recommend the installation of traffic signals at some existing unsignalized study intersections to address deficient traffic operations (i.e., unacceptable LOS conditions). Prior to making any recommendations, this study evaluated the peak hour volume warrant, as described in the *California Manual on Uniform Traffic Control Devices* (*MUTCD*, Caltrans, 2014). In instances where this study recommends a traffic signal, this warrant is satisfied. It should be noted that while the peak hour signal warrant indicates when traffic conditions *may* warrant a signal, the MUTCD states that the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. The MUTCD recommends an engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of a specific intersection to determine if a traffic signal is justified.

Roadway Segment Operations

Roadway segments in Sacramento County were analyzed by comparing the average daily traffic volume to daily volume thresholds to determine the LOS. **Table 3** displays the Sacramento County daily volume thresholds for various roadway facility types (obtained from Table F-2 of the TAG). The City of Sacramento has applicable LOS policies and goals in its 2035 General Plan, though they are not typically applied on a project-level basis (and therefore not applied here). Caltrans does not have daily volume LOS thresholds.

Roadway segment volumes are reported at City of Sacramento roadways and at Caltrans interchange overcrossings for informational purposes.

Table 3:
Sacramento County Daily LOS Roadway Segment Thresholds

Roadway Type		Daily Two-Way Volume Thresholds				
		LOS A	LOS B	LOS C	LOS D	LOS E
Rural, 2 lane road, <24' of pavement, <6' shoulders		1,000	2,100	3,400	6,000	12,800
Rural, 2 lane road, 24' of pavement, 6' shoulders		2,200	4,300	7,100	12,200	20,000
Arterial – Low Access Control [1]	2 lanes	9,000	10,500	12,000	13,500	15,000
	4 lanes	18,000	21,000	24,000	27,000	30,000
	6 lanes	27,000	31,500	36,000	40,500	45,000
Arterial – Moderate Access Control [2]	2 lanes	10,800	12,600	14,400	16,200	18,000
	4 lanes	21,600	25,200	28,800	32,400	36,000
	6 lanes	32,400	37,800	43,200	48,600	54,000
Arterial – High Access Control [3]	2 lanes	12,000	14,000	16,000	18,000	20,000
	4 lanes	24,000	28,000	32,000	36,000	40,000
	6 lanes	36,000	42,000	48,000	54,000	60,000
Residential		600	1,200	2,000	3,000	4,500
Residential Collector with frontage		1,600	3,200	4,800	6,400	8,000
Residential Collector without frontage		6,000	7,000	8,000	9,000	10,000

Notes:
1. Road generally has frequent driveways and speeds of 25 to 35 mph.
2. Road generally has limited driveways and speeds of 35 to 45 mph.
3. Road generally has no driveways and speeds of 45 to 55 mph.

Source: Table F-2 of *Transportation Analysis Guidelines* (County of Sacramento, 2020)

Ramp Meter Analysis

Many of the study interchange on-ramps consist of ramp meters that are operational during peak periods. The ramp meters operate with real-time signal timings that vary depending on conditions on the adjacent freeway facility they feed. This study was initiated after the COVID-19 pandemic had begun. It was therefore not possible to measure existing metering rates or vehicle queues. Historic observations from Fehr & Peers staff were necessarily used instead. Additionally, it is noted that SimTraffic is not able to model traffic responsive ramp meters. Therefore, for metered on-ramps that are known not to have queuing issues, a 900 vehicle per hour flow rate was assumed. Through conversations with Caltrans, it was determined that

an 800 vehicle per hour metering rate should be assumed for the southbound I-5 loop on-ramp and northbound diagonal on-ramp at Garden Highway. Where ramp meters are operational, they are coded into SimTraffic so that their effects on interchange and adjacent street operations is modeled.

LOS Standards

The County of Sacramento defines the minimum acceptable operating level for its roadways and intersections to be LOS D for rural areas and LOS E for urban areas. The rural areas are those areas that are either outside the Urban Service Boundary or are dominated with rural type land uses and transportation infrastructure. All Sacramento County study facilities are currently classified as being in rural areas. However, many of them would be reclassified as urban if the project were constructed and are evaluated accordingly.

Although the City of Sacramento does have a set of LOS policies, those policies are typically not applied in impact analysis reviews. Instead, the City examines expected conditions in a holistic manner, considering whether capacity constraints or excess vehicle queuing could cause bottlenecks that would interfere with a number of different transportation-related policies.[1]

Per the Caltrans' *TISG*, which emphasizes use of VMT over LOS, a specific LOS threshold is not used to evaluate adequacy of operations at state highway intersections.

Thresholds of Significance

The following thresholds of significance have been used to determine whether implementing the proposed project would result in an operational deficiency at a study roadway segment or intersection. These thresholds of significance are derived from the TAG. As a consequence of SB 743, the thresholds below utilize the term "operational deficiencies" versus significant impacts to describe substantially degraded conditions.

Roadway Segments

The project would cause deficient operations or contribute to already deficient operations if it would:

- Result in a roadway segment in Sacramento County operating at an acceptable LOS to deteriorate to an unacceptable LOS; or

[1] Source: email from Pelle Clarke, City of Sacramento, December 10, 2020.

- Increase the volume-to-capacity (v/c) ratio by more than 0.05 at a roadway segment in Sacramento County that is currently operating (or projected to operate) at an unacceptable LOS without the project.

Signalized Intersections

The project would cause deficient operations or contribute to already deficient operations if it would:

- Result in a signalized intersection in Sacramento County operating at an acceptable LOS to deteriorate to an unacceptable LOS; or
- Increase the average delay by more than 5 seconds at a signalized intersection in Sacramento County that is currently operating (or projected to operate) at an unacceptable LOS without the project.

Unsignalized Intersections

The project would cause deficient operations or contribute to already deficient operations if it would:

- Result in an unsignalized intersection movement/approach in Sacramento County operating at an acceptable LOS to deteriorate to an unacceptable LOS, and also cause the intersection to meet a traffic signal warrant; or
- Meet a traffic signal warrant and increase the delay by more than 5 seconds at the highest delay movement/approach at an unsignalized intersection in Sacramento County that is operating at an unacceptable LOS without the project.

Refer to the TAG Part I report (*CEQA Transportation Impact Analysis for Upper Westside Specific Plan* Fehr & Peers, March 2022) for significance thresholds and conclusions related to the following transportation topics:

- Bicycle/pedestrian facilities
- Transit facilities and services
- Freeway off-ramp queuing
- Freeway on-ramp ramp meter queuing
- Non-standard roadway design

Sacramento County General Plan Policies

The following summarizes various policies from the Sacramento County General Plan (Amended 2020) that relate to the transportation analysis of the proposed project:[2]

- CI-7: Plan and construct transportation facilities as delineated on the Transportation Plan of the Sacramento County General Plan.
- CI-8: Maintain and rehabilitate the roadway system to maximize safety, mobility, and cost efficiency.
- CI-9: Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways.
- CI-10: Land development projects shall be responsible to mitigate the project's adverse impacts to local and regional roadways.
- CI-11: To preserve public mobility, freeways and thoroughfares should have limited access and maintain functional characteristics that predominantly accommodate through traffic.
- CI-12: To preserve public safety and local quality of life on collector and local roadways, land development projects shall incorporate appropriate treatments of the Neighborhood Traffic Management Program.
- CI-13: Collaborate with regional transportation planning agencies and neighboring jurisdictions to provide cross jurisdictional mobility.
- CI-19: Collaborate with transit service providers to provide transit services within the County that are responsive to existing and future transit demand.
- CI-32: Develop a comprehensive, safe, convenient and accessible bicycle and pedestrian system that serves and connects the County's employment, commercial, recreational, educational, social services, housing and other transportation modes.
- CI-35: The applicant/developer of land development projects shall be responsible to install bicycle and pedestrian facilities in accordance with Sacramento County Improvement Standards and may be responsible to participate in the fair share funding of regional multi-use trails identified in the Sacramento County Bicycle Master Plan.

[2] General Plan (saccounty.net). Accessed on June 11, 2021.

- CI-39: Plan and implement intelligent transportation system (ITS) strategies within the County's high-demand travel corridors and support efforts to deploy ITS strategies on a regional level.
- CI-40: Whenever possible, the applicant/developer of new and infill development projects shall be conditioned to fund, implement, operate and/or participate in TSM programs to manage travel demand associated with the project.
- CI-43: The County shall promote transit-supportive programs in new development, including employer-based trip-reduction programs (employer incentives to use transit or nonmotorized modes), "guaranteed ride home" for commute trips, and car-share or bikeshare programs.
- LU-120: The County shall only consider approval of a proposed UPA expansion and/or Master Plan outside of the existing UPA if the Board finds that the proposed project is planned and will be built in a manner that:
    - meets all of the requirements per PC-1 through PC-10, and;
    - meets ONE of two alternative performance metrics:
        - Alternative #1- Criteria-Based
        - Alternative #2 - VMT/ Greenhouse Gas Emissions Reduction Metric

Only those Performance Criteria (PC) directly addressed in this report are described below (as the list is extensive and primarily relates to land use).

- PC-1: Vision for connection to other adjacent existing and potential future development areas.
  Required: Include a vision of how the development will connect to other adjacent existing and potential future development areas.

- PC-5: Pedestrian- and transit-oriented design.
  Required: Pedestrian- and transit-oriented design, including:
    - Sidewalks and bike routes along interconnected streets with short block lengths and a high intersection density,
    - Prominent pedestrian and bicycle network,
    - Few if any cul-de-sacs, and
    - Pedestrian and bike connections at the ends of all cul-de-sacs unless infeasible due to topography or similar impediments inherent in the project site.

Alternative #1 – Criteria-Based

To satisfy this alternative, the Board must find that the proposed project is planned and will be built in a manner that:

- meets all of the requirements per the criteria below, and;
- qualifies for a minimum of 18 points (out of a possible 24) per the criteria below

Most criteria-based policies are land use related and thus not listed here. However, the one criterion related to transportation is CB-4, which is described below:

CB-4 Requires at least 65 percent of all residential units to be located within ½ mile of existing or planned transit service, which consists of light rail, streetcars, buses, vanpools and/or shuttles that connects with regional public transit service.

As indicated on page 146 of the Land Use Element, points are assigned for the proportion of the dwelling units situated within ½ mile of existing or planned transit service. Points are also assigned depending on whether transit service headways are 60, 30, or 15 minutes during weekday peak periods.

Alternative #2 – Vehicle Miles Travelled (VMT)/Greenhouse Gas (GHG) Emission Metrics

To satisfy this alternative, the Board must find that the proposed project is planned and will be built in a manner that results in:

- ≤14 vehicle miles travelled (VMT) per resident per day (or the equivalent VMT per household per day); OR
- ≤Equivalent GHG per capita per day from cars, light trucks, and medium trucks (less than 8,500 Gross Vehicle Weight)

Discussion: While consistency with the criteria in Alternative #1 provides a level of certainty that a proposed project will achieve particular outcomes, measuring the County of Sacramento General Plan actual projected outcome(s) of the project is a viable alternative. These projected outcomes can be compared against pre-defined metrics to determine the project's "performance". VMT and greenhouse gas (GHG) emissions are logical metrics because a project's performance in these areas is directly correlated to the project's ability to achieve the same goals and mandates (relative to air quality, transportation, land use, infrastructure, and GHG emissions) as the criteria in Alternative #1. Additionally, VMT and GHG are very closely related; the mix of vehicles that residents use for their daily travel has a relatively narrow range of GHG emissions per mile traveled. Given the direct correlation between improved VMT and associated reductions in GHG emissions, this alternative directly addresses

goals and mandates relative to recent state laws aimed at reducing GHG emissions, including AB 32, SB 375 and SB 97.

VMT is easily measured using standard travel demand analysis methods. Multiple traffic models exist for conducting such analysis. Given the long-range nature of the General Plan and the ever-evolving nature of traffic models, it does not make sense to require use of a specific model to determine compliance with this alternative. However, to ensure that a credible model is employed, the project proponent and County staff (including SACDOT, Planning and Environmental Review, etc.) will discuss the merits of available models and determine which will be used to determine compliance with this alternative prior to starting the analysis.

The 14 VMT per capita can be translated into a 13 pounds of GHG per capita by using the same assumptions that SACOG is required to use for calculating SB 375 GHG targets. These assumptions are that this travel will use cars, light trucks, and medium trucks (less than 8,500 Gross Vehicle Weight), and that vehicle and fuel improvements are not included. If the technology improvements are included (fuel economy increases and a 10 percent reduction in the carbon content of gasoline), then the GHG metric would be 8 pounds of GHG per capita.

At the time this report was being prepared, there were no known plans to annex this project into the City of Sacramento. Therefore, design standards and level of service requirements of the City were not applied to new project roadways. Instead, those roadways are being designed to and reviewed against applicable Sacramento County standards.

Project Consistency Review

The following presents an assessment of the project's consistency with many of the policies described above.

Consistent with Policy CI-9, the project's roadway system has been designed in a manner that meets LOS D on rural roadways and LOS E on urban roadways with just a few exceptions. In those instances, further widening (e.g., eight lanes on El Centro Road) is deemed undesirable or infeasible, particularly since intersection operations will govern overall system performance.

Consistent with Policy CI-10, the project's adverse effects to local and regional roadways were studied, and improvement options were recommended at a number of different locations.

Consistent with Policy CI-13, the project team has collaborated frequently with neighboring jurisdictions and affected agencies including the City of Sacramento, SacRT, and Caltrans.

Consistent with Policy CI-32, the project includes a comprehensive set of on-street and off-street bicycle facilities that accommodates riders of all ages and abilities. This includes special treatments within and along the eastern edge of the Town Center and at the I-80/West El Camino Avenue interchange.

The project design appears generally consistent with Performance Criteria 1 and 2, which relate to connectivity to any existing and potential future development areas and pedestrian/transit-oriented design. However, deciding overall consistency with Policy LU-120 is beyond the scope of this particular study. However, the project does appear substantially consistent with the circulation policies described above.

2. EXISTING CONDITIONS

This chapter describes the existing transportation system and traffic conditions within the study area, including the roadway, bicycle, pedestrian, and transit networks, and traffic operations at study intersections and roadway segments. Refer to separately bound **Appendix A** for technical calculations.

Roadway Network

The following roadways provide access to the project site.

- **Interstate 80 (I-80)** – is a major east-west freeway that connects Sacramento westerly to the Bay Area and easterly to Nevada and beyond. It is a six-lane freeway at the Yolo/Sacramento County Line, widening to add a carpool lane in each direction approaching the West El Camino Avenue interchange. Between this interchange and I-5 (one mile further east), it consists of three general purpose lanes, one carpool lane, and one auxiliary/weaving lane in each direction. The posted speed limit is 65 miles per hour (mph).
- **Interstate 5 (I-5)** – is California's major north-south freeway that connects California to the Pacific Northwest. It also serves interstate and interregional travel for commerce, commute, and recreational purposes. Between Del Paso Road and Arena Boulevard, it consists of three general purpose lanes and one auxiliary/weaving lane in each direction. Between Arena Boulevard and I-5, it consists of four general purpose lanes and one auxiliary/weaving lane in each direction. The posted speed limit is 65 mph.
- **West El Camino Avenue** – is a four-lane east-west, median-divided arterial for its 1.25-mile distance between I-80 and I-5. This segment, which is within the City of Sacramento limits, has a posted speed limit of 40 mph. West of I-80, West El Camino Avenue is within unincorporated Sacramento County and extends for a short distance, terminating at El Centro Road and serving various retail, hotel and industrial uses (including the Sacramento 49er Travel Plaza Truck Stop).
- **El Centro Road** – is a north-south arterial that begins a short distance south of West El Camino Avenue, extending about 3.5 miles to where it connects with Bayou Way near the I-5/SR 99 interchange. Between West El Camino Avenue and Arena Boulevard, it is situated primarily within unincorporated Sacramento County and is a two-lane moderate access arterial with a 50 mph posted speed limit. North of Arena Boulevard, it widens to a four-lane arterial within the City of Sacramento limits.

- **Arena Boulevard** – is an east-west four to eight lane arterial within the City of Sacramento limits. It begins at El Centro Road, and extends easterly to its interchange with I-5 and along the southern boundary of the SleepTrain Arena property. West of I-5, it has four lanes and a posted speed limit of 40 mph.
- **Del Paso Road** – is an east-west street that parallels Arena Boulevard approximately one mile to the north. Between El Centro Road and its interchange with I-5, it is a four-lane arterial within the City of Sacramento limits. It continues east of I-5 as a four to six lane arterial. About 0.85 miles west of El Centro Road, it becomes a rural road within unincorporated Sacramento County, terminating one mile to the west at Powerline Road.
- **San Juan Road** – begins at Garden Highway in unincorporated Sacramento County as a two-lane rural road with a posted speed limit of 55 mph. East of El Centro Road, it becomes a two-lane arterial within the City of Sacramento. Continuing easterly, it features an undercrossing of I-5, followed by an overcrossing of I-80.
- **Garden Highway** – is a two-lane rural road that parallels the Sacramento River within unincorporated Sacramento County west and south of the project site. This segment has a posted speed limit of 45 mph. East of its undercrossing of I-80, the speed limit is reduced to 40 mph west of Orchard Lane where the roadway is within the City of Sacramento limits. It continues easterly with an interchange at I-5.

There are currently no designated Surface Transportation Assistance Act (STAA) truck routes west of I-5 or north of I-80 within the study area. Such routes allow for operation of large trucks, which are longer than California legal trucks. However, there is an STAA Service Access route on West El Camino Avenue at I-80 and on El Centro Road a short distance north of West El Camino Avenue. This route designation is provided where food, fuel, lodging, and/or truck repair is provided (i.e., from the Sacramento 49er Travel Plaza).

Existing Traffic Volumes

Due to the effects of the COVID-19 pandemic on travel behavior, recent counts (2017-February 2020) were used to establish a pre-COVID existing condition. The following sources of data were used to compile the existing counts:

- Historical counts from count vendors such as National Data Services and Quality Counts.
- Counts conducted for other ongoing studies (e.g., Grandpark, I-80 and I-5 Managed Lanes Studies, City of Sacramento General Plan Update, etc.).
- Counts provided by City of Sacramento from their traffic count database.

- Purchase of StreetLight Data volume estimates for conditions at intersections and roadways in Fall 2019.

Through this data collection process, traffic counts were assembled for all 41 study intersections and 41 study roadways for a pre-COVID existing condition.

Figure 8 displays the existing average daily traffic (ADT) at all 41 study roadways along with the number of through lanes at each location. **Figures 9A and 9B** display the existing AM and PM peak hour intersection traffic volumes, traffic controls, and lane configurations at the 41 study intersections. As shown, 31 of the 41 study intersections are controlled by traffic signals.

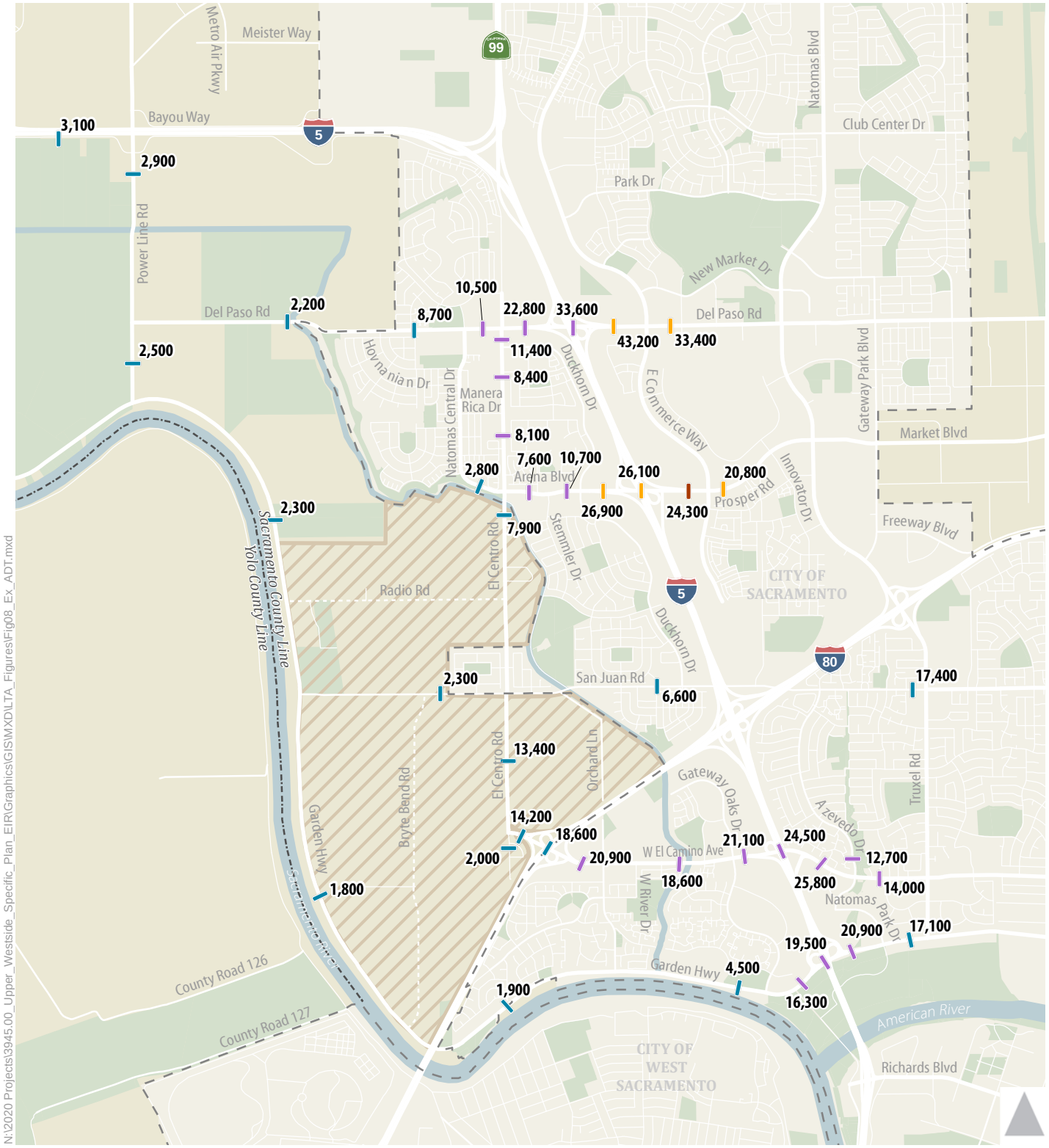
In December 2021, Caltrans provided a set of 2018 on-ramp and off-ramp AM and PM peak hour volumes at the study interchanges. **Appendix A** of this report contains a Technical Memorandum that compares those traffic volumes against volumes used in this study. This comparison identified four specific ramps in which existing volumes in this study were considerably lower than the Caltrans' 2018 volumes. The Technical Memorandum evaluated each of these four ramps. At three locations, logical reasons for differences in volumes were identified, or it was concluded that the volume change would not alter any study findings. But one ramp (I-5/West El Camino NB Slip Off-ramp) did warrant a sensitivity test as described in the memo. That sensitivity test determined if the off-ramp volume were changed, it would not affect study results.

Roadway Segment Operations

Table 4 displays the v/c ratio and LOS for the eleven (11) Sacramento County study roadway segments. This table indicates that 10 of the 11 segments currently operate at LOS C or better, which is considered acceptable. One segment, West El Camino Avenue between El Centro Road and the I-80 WB Ramps, has an average daily traffic (ADT) of 14,200 and operates at LOS E, which is also considered acceptable.

Intersection Operations

Table 5 shows the average delay and LOS at all existing study intersections for AM and PM peak hour conditions. This table also shows the agency to which each intersection belongs. In the few instances in which the facility overlaps with both the City and County, the County was shown as the lead agency given that the proposed project is being processed by the County.



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig08_Ex_ADT.mxd

X,XXX Average Daily Traffic Volume

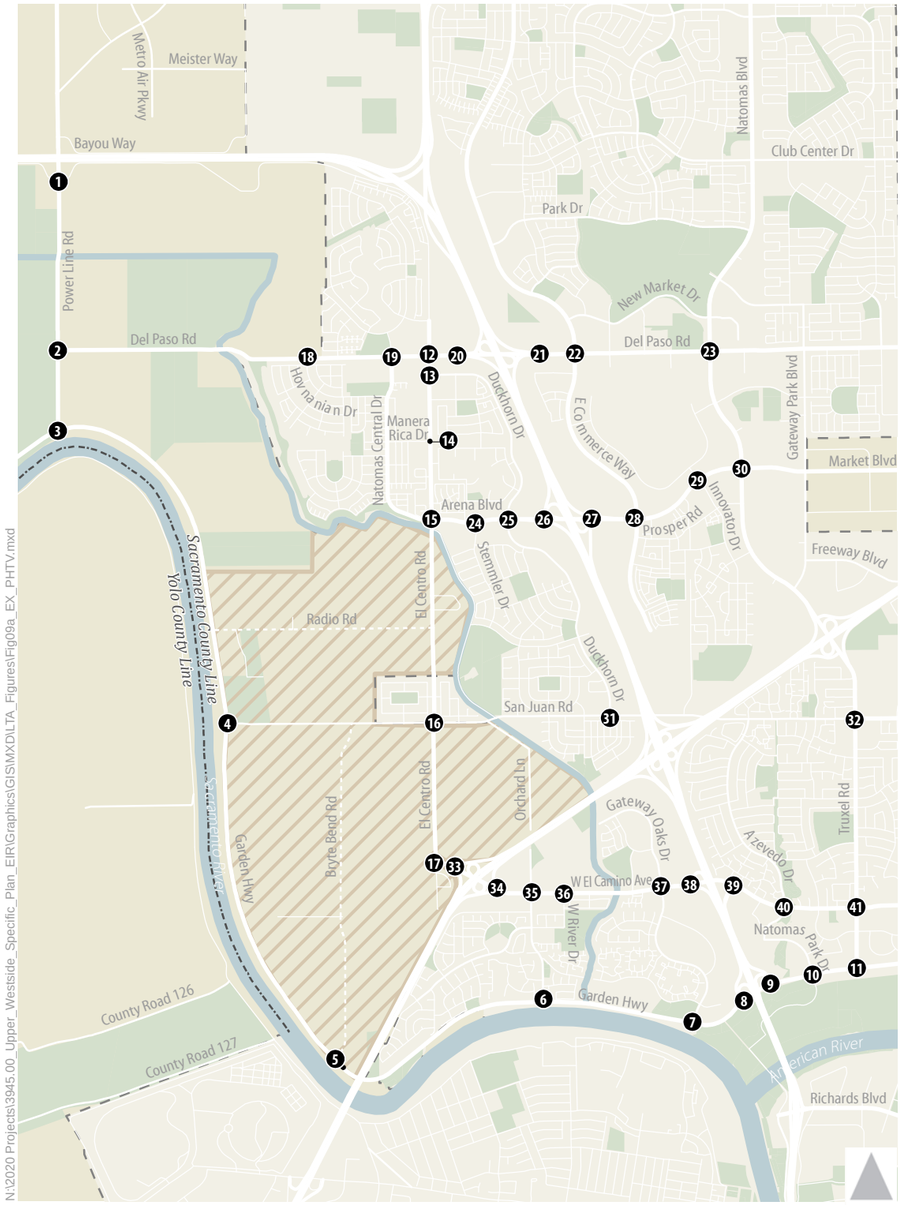
Existing Number of Lanes
- 2
- 4
- 6
- 8

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

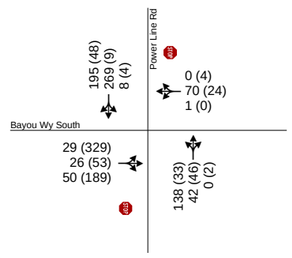
Figure 8

Existing Roadway Network

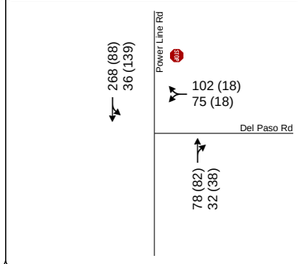


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig09a_EX_PHTV.mxd

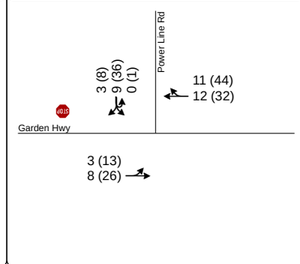
1. Power Line Rd/Bayou Wy



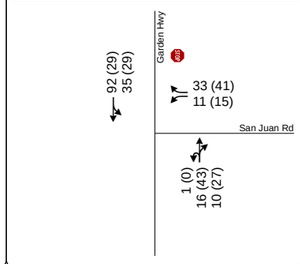
2. Power Line Rd/Del Paso Rd



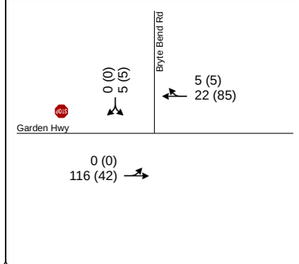
3. Power Line Rd/Garden Hwy



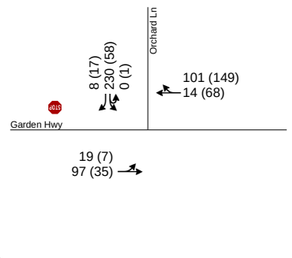
4. Garden Hwy/San Juan Rd



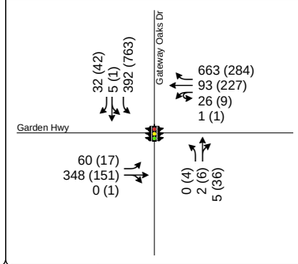
5. Bryte Bend Rd/Garden Hwy



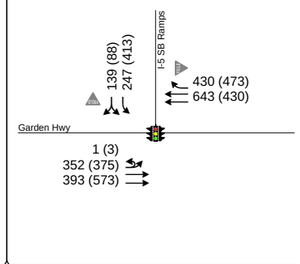
6. Orchard Ln/Garden Hwy



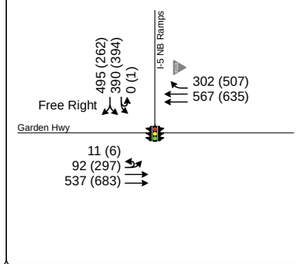
7. Gateway Oaks Dr/Garden Hwy



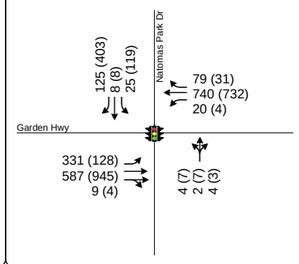
8. I-5 SB Ramps/Garden Hwy



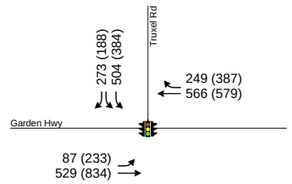
9. I-5 NB Ramps/Garden Hwy



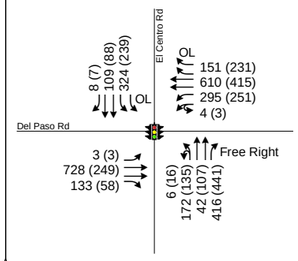
10. Natomas Park Dr/Garden Hwy



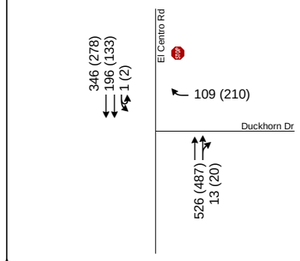
11. Truxel Rd/Garden Hwy



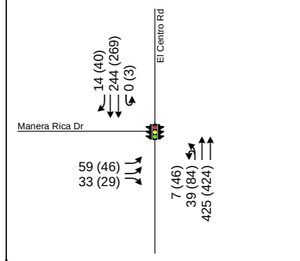
12. El Centro Rd/Del Paso Rd



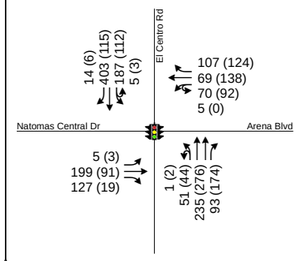
13. El Centro Rd/Duckhorn Dr



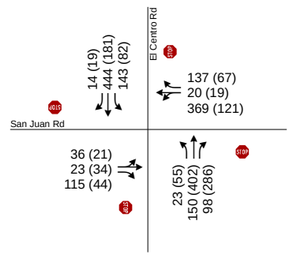
14. El Centro Rd/Manera Rica Dr



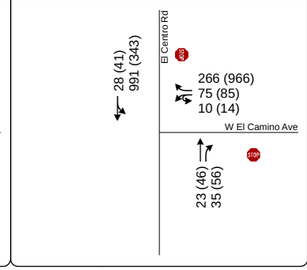
15. El Centro Rd/Natomas Central Dr/Arena Blvd



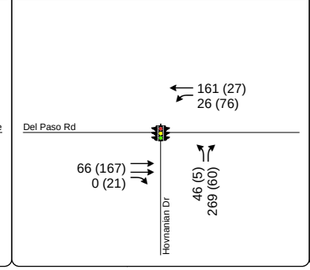
16. El Centro Rd/San Juan Rd



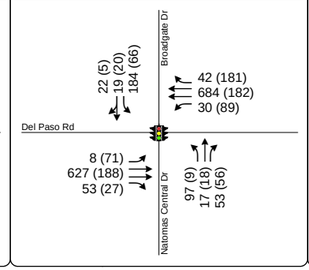
17. El Centro Rd/W El Camino Ave



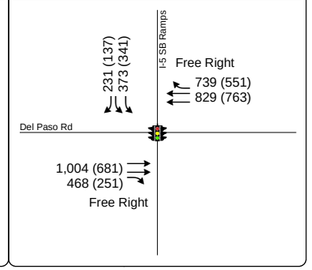
18. Hovnanian Dr/Del Paso Rd



19. Natomas Central Dr/Broadgate Dr/Del Paso Rd



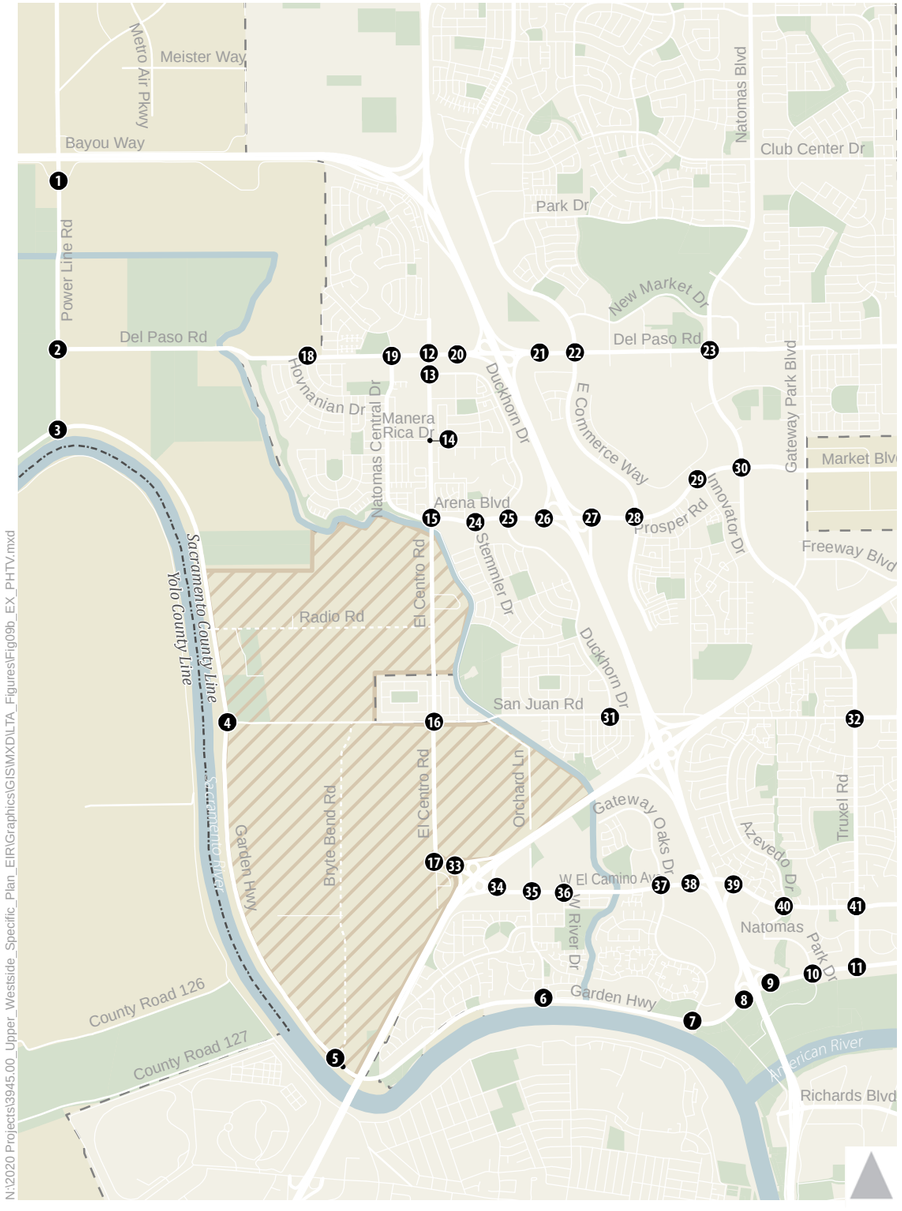
20. I-5 SB Ramps/Del Paso Rd



- Study Intersection
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/Unpaved Rural Road
- Public Roadway
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign
- Free Right Free Right-Turn
- OL Turning Overlap
- Yield Sign

Figure 9a

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_FiguresFig09b_EX_PHTV.mxd

1 Study Intersection

Upper Westside Specific Plan Boundary

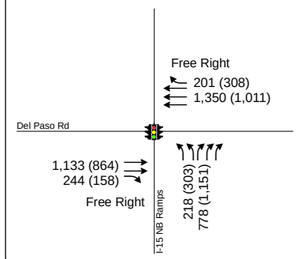
City Boundary

County Boundary

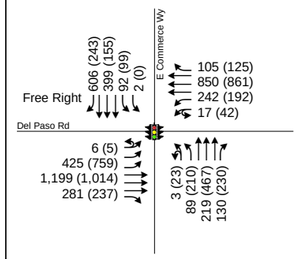
Private and/or Gated, Partially Paved/Unpaved Rural Road

Public Roadway

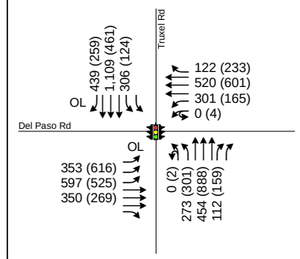
21. I-5 NB Ramps/Del Paso Rd



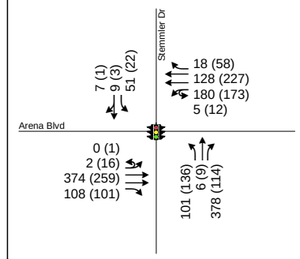
22. E Commerce Wy/Del Paso Rd



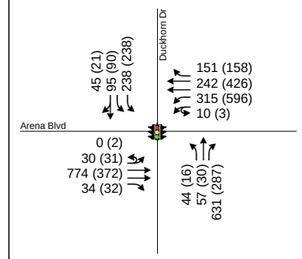
23. Truxel Rd/Del Paso Rd



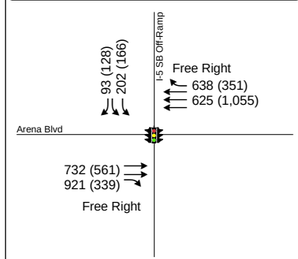
24. Stemmler Dr/Arena Blvd



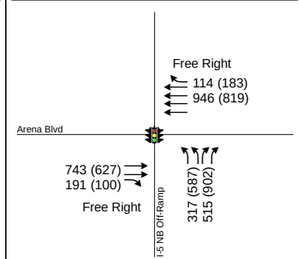
25. Duckhorn Dr/Arena Blvd



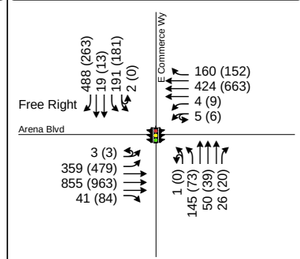
26. I-5 SB Ramps/Arena Blvd



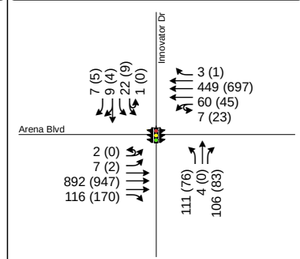
27. I-5 NB Ramps/Arena Blvd



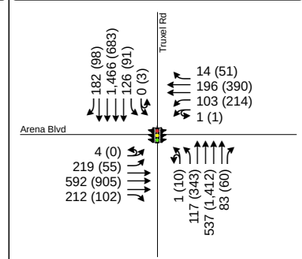
28. E Commerce Wy/Arena Blvd



29. Innovator Dr/Arena Blvd



30. Truxel Rd/Arena Blvd



31. Tolliver St/Duckhorn Dr/San Juan Rd

32. Truxel Rd/San Juan Rd

33. I-80 WB Ramps/W El Camino Ave

34. I-80 EB Ramps/W El Camino Ave

35. Orchard Ln/W El Camino Ave

36. W River Dr/W El Camino Ave

37. Gateway Oaks Dr/W El Camino Ave

38. I-5 SB Ramps/W El Camino Ave

39. I-5 NB Off-Ramp/W El Camino Ave

40. Natomas Park Dr/Azevedo Dr/W El Camino Ave

41. Truxel Rd/W El Camino Ave

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Free Right Free Right-Turn

OL Turning Overlap

Figure 9b

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

Table 4:
Sacramento County Study Roadway Segment Operations – Existing Conditions

Segment [1]	Classification/Configuration	LOS Standard	Existing Conditions		
			ADT[2]	V/C[3]	LOS
Del Paso Road: Powerline Road to Hovnanian Drive	Rural, 2 lane road, <24' of pavement, <6' shoulders	D	2,200	0.17	C
San Juan Road: Garden Highway to El Centro Road	Rural, 2 lane road, <24' of pavement, <6' shoulders	D	2,300	0.18	C
San Juan Road: El Centro Road to Orchard Lane	Arterial, low access control (2 lanes)	E	6,600	0.47	A
Powerline Road: Bayou Way to Del Paso Road	Rural, 2 lane road, <24' of pavement, <6' shoulders	D	2,900	0.23	C
Powerline Road: Del Paso Road to Garden Highway	Rural, 2 lane road, <24' of pavement, <6' shoulders	D	2,500	0.20	C
Garden Highway: Powerline Road to San Juan Road	Rural, 2 lane road, <24' of pavement, <6' shoulders	D	2,300	0.18	C
Garden Highway: San Juan Road to Bryte Bend Road	Rural, 2 lane road, <24' of pavement, <6' shoulders	D	1,800	0.14	B
El Centro Road: Arena Boulevard/ Natomas Central Drive to San Juan Road	Arterial, moderate access control (2 lanes)	D	7,900	0.44	A
El Centro Road: San Juan Road to W El Camino Avenue	Arterial, moderate access control (2 lanes)	D	13,400	0.74	C
El Centro Road: W El Camino Avenue to Southerly Terminus	Arterial, low access control (2 lanes)	D	2,000	0.13	A
Bayou Way: Airport Boulevard to Powerline Road	Rural, 2 lane road, <24' of pavement, <6' shoulders	D	3,200	0.25	C
W El Camino Avenue: El Centro Road to I-80 WB Ramps	Arterial, low access control (2 lanes)	E	14,200	0.95	E

Notes:
1. Volumes not shown for existing segments of Farm Road, Radio Road, or Bryte Bend Road because they are currently one-lane gravel or dirt roads with nominal traffic.
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio

Source: Fehr & Peers, 2021.

Table 5: Intersection Level of Service – Existing Conditions							
Intersection	**Traffic Control[1]**	**Agency**	**Analyzed in Micro-Simulation?**	**AM Peak Hour**		**PM Peak Hour**	
				Delay[2]	**LOS**	**Delay[2]**	**LOS**
1. Powerline Road/Bayou Way	SSSC	Sac Co	-	6 (23)	A (C)	15 (18)	B (C)
2. Powerline Road/Del Paso Road	SSSC	Sac Co	-	4 (11)	A (B)	4 (11)	A (B)
3. Powerline Road/Garden Highway	SSSC	Sac Co	-	3 (9)	A (A)	3 (9)	A (A)
4. Garden Highway/San Juan Road	SSSC	Sac Co	-	3 (10)	A (A)	4 (9)	A (A)
5. Garden Highway/Bryte Bend Road	SSSC	Sac Co	-	0 (9)	A (A)	0 (9)	A (A)
6. Orchard Lane/Garden Highway	SSSC	City of Sac	-	6 (12)	A (B)	2 (10)	A (A)
7. Gateway Oaks Drive/Garden Highway	Signal	City of Sac	Yes	19	B	15	B
8. I-5 SB Ramps/Garden Highway	Signal	Caltrans	Yes	17	B	30	C
9. I-5 NB Ramps/Garden Highway	Signal	Caltrans	Yes	12	B	31	C
10. Natomas Park Drive/Garden Highway	Signal	City of Sac	Yes	22	C	24	C
11. Truxel Road/Garden Highway	Signal	City of Sac	Yes	20	C	26	C
12. El Centro Road/Del Paso Road	Signal	City of Sac	Yes	26	C	18	B
13. El Centro Road/Duckhorn Drive	SSSC	City of Sac	Yes	3 (7)	A (A)	3 (6)	A (A)
14. El Centro Road/Manera Rica Drive	Signal	City of Sac	-	7	A	7	A
15. El Centro Road/Arena Boulevard/Natomas Central Drive	Signal	City of Sac	Yes	22	C	17	B
16. El Centro Road/San Juan Road	AWSC	City of Sac / Sac Co	Yes	84	F	11	B
17. El Centro Road/El Camino Avenue	SSSC	Sac Co	Yes	23 (238)	C (F)	13 (21)	B (C)
18. Hovnanian Drive/Del Paso Road	Signal	City of Sac	-	6	A	7	A
19. Natomas Central Drive/Del Paso Road	Signal	City of Sac	Yes	23	C	14	B
20. I-5 SB Ramps/Del Paso Road	Signal	Caltrans	Yes	8	A	7	A
21. I-5 NB Ramps/Del Paso Road	Signal	Caltrans	Yes	16	B	16	B
22. East Commerce Way/Del Paso Road	Signal	City of Sac	Yes	31	C	49	D
23. Truxel Road/Del Paso Road	Signal	City of Sac	-	42	D	44	D
24. Stemmler Drive/Arena Boulevard	Signal	City of Sac	Yes	15	B	12	B
25. Duckhorn Drive/Arena Boulevard	Signal	City of Sac	Yes	46	D	24	C
26. I-5 SB Ramps/Arena Boulevard	Signal	Caltrans	Yes	6	A	6	A
27. I-5 NB Ramps/Arena Boulevard	Signal	Caltrans	Yes	11	B	17	B
28. East Commerce Way/Arena Boulevard	Signal	City of Sac	Yes	19	B	23	C
29. South Entrance Rd/Innovator Dr/Arena Blvd	Signal	City of Sac	-	19	B	16	B

Table 5: Intersection Level of Service – Existing Conditions							
Intersection	Traffic Control[1]	Agency	Analyzed in Micro-Simulation?	AM Peak Hour		PM Peak Hour	
				Delay[2]	LOS	Delay[2]	LOS
30. Truxel Road/Arena Boulevard	Signal	City of Sac	-	37	D	43	D
31. Duckhorn Drive/San Juan Road	Signal	City of Sac	-	15	B	15	B
32. Truxel Road/San Juan Road	Signal	City of Sac	-	42	D	45	D
33. I-80 WB Ramps/W. El Camino Avenue	Signal	Caltrans	Yes	21	C	13	B
34. I-80 EB Ramps/W. El Camino Avenue	Signal	Caltrans	Yes	13	B	16	B
35. Orchard Lane/W. El Camino Avenue	Signal	City of Sac	Yes	15	B	18	B
36. West River Drive/W. El Camino Avenue	Signal	City of Sac	Yes	15	B	7	A
37. Gateway Oaks Drive/W. El Camino Avenue	Signal	City of Sac	Yes	28	C	44	D
38. I-5 SB Ramps/W. El Camino Avenue	Free	Caltrans	Yes	7	A	2	A
39. I-5 NB Ramps/W. El Camino Avenue	Signal	Caltrans	Yes	29	C	6	A
40. Natomas Park Drive/W. El Camino Avenue	Signal	City of Sac	-	22	C	25	C
41. Truxel Road/W. El Camino Avenue	Signal	City of Sac	-	41	D	44	D

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop controlled intersections, the average control delay/LOS for the movement with the greatest delay is shown in parentheses, while the average delay/LOS for the entire intersection is shown not in parentheses.

Source: Fehr & Peers, 2021.

The SimTraffic model requires a single peak hour to be chosen for the network to ensure proper balancing of traffic volumes between intersections. Four separate SimTraffic networks were developed, which allowed for separate peak hours to be used for each. The AM and PM peak hours for each network, which are shown below, are based on the overall busiest 60 minutes in each corridor:

- I-5/Del Paso Road Corridor: 7:15 – 8:15 AM and 4:45 – 5:45 PM
- I-5/Arena Boulevard Corridor: 7:15 – 8:15 AM and 4:45 – 5:45 PM
- I-5/Garden Highway Corridor: 7:30 – 8:30 AM and 4:30 – 5:30 PM
- I-80/West El Camino Avenue and I-5/West El Camino Avenue Corridor: 7:15 – 8:15 AM and 4:30 – 5:30 PM

At Synchro intersections, the peak hour of that individual intersection was chosen for analysis. For all intersections, current signal timings were used as were any ramp metering plans. Consistent with both Sacramento County and City of Sacramento practices, a peak hour factor (PHF) of 1.0 was applied at all study intersections. Because the SimTraffic networks include both ramp terminal and surface street intersections, a systemwide PHF of 1.0 was applied. It should be noted that due to the random entry of vehicles in SimTraffic, volumes vary over the hour. The effective PHF in SimTraffic is about 0.98.

Heavy truck classification counts and pedestrian and bike volumes were obtained from the data sources described above. For intersections where the existing data was absent, a 2 percent heavy truck was assumed along with an estimation of pedestrian and bike volumes. Higher pedestrian and bike volumes were assumed where justified by an existing or future developments, such as intersections that are adjacent to a school or the proposed town center of the project. The SimTraffic models were validated against known operating conditions in the area. Results were reported based on the average of ten model runs.

A review of the LOS results from this table reveals that all study intersections currently operate at LOS D or better during the AM peak hour with the following two exceptions:

- **El Centro Road/San Juan Road (#16).** This all-way stop controlled intersection operates at LOS F with an average delay of 84 seconds per vehicle. Heavier delays are experienced by motorists traveling southbound or westbound. A portion of this directional AM peak hour demand are trips using El Centro Road to bypass congestion on the parallel segment of southbound I-5.
- **El Centro Road/West El Camino Avenue (#17).** The worst-case LOS F condition is experienced by 85 vehicles turning left from the stop-controlled westbound West El Camino Avenue approach. These vehicles experience considerable delays due to the lack of adequate gaps caused by the more than 1,000 vehicles (who have priority right-of-way) on southbound El Centro Road that either turn left or continue straight.

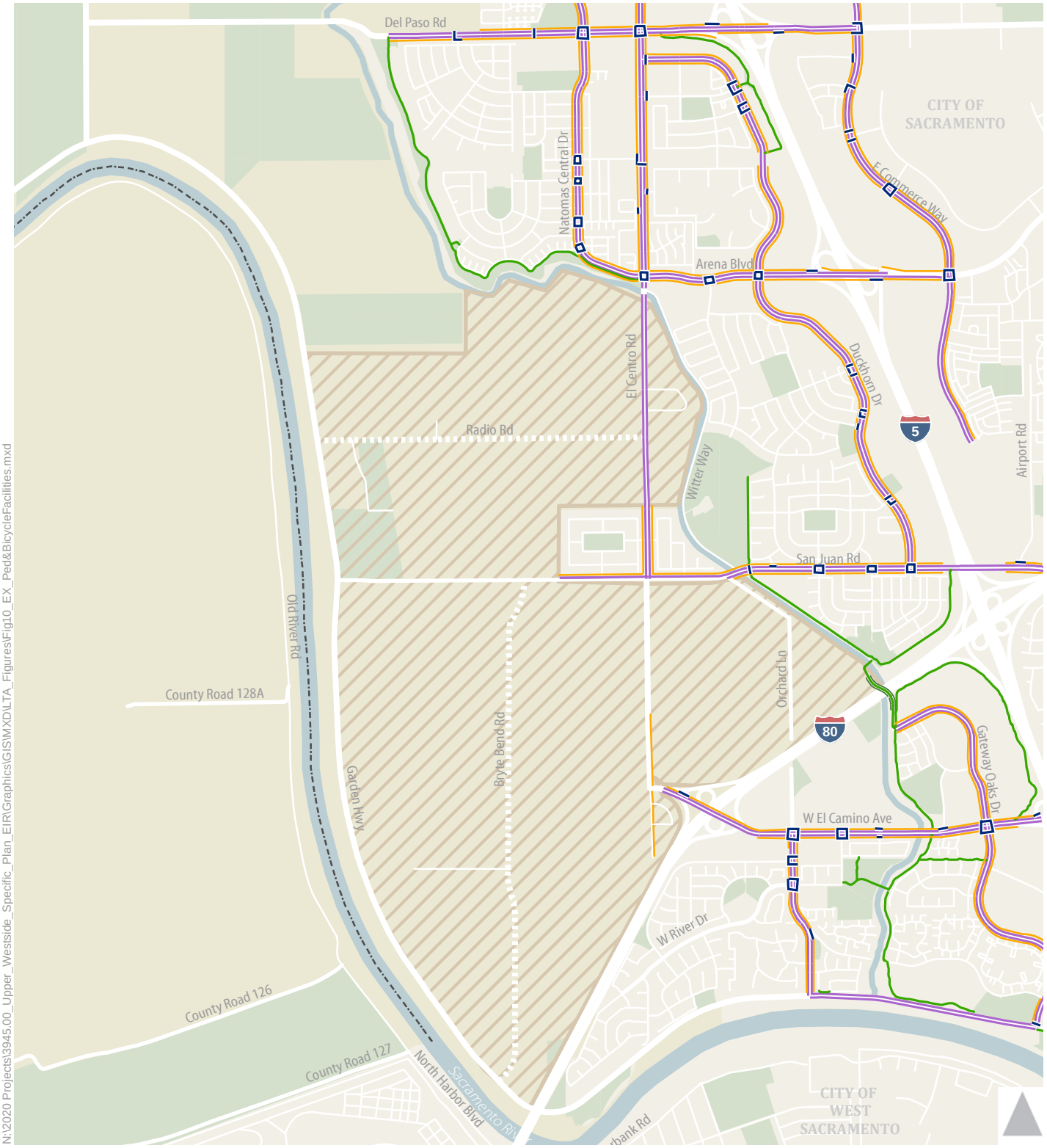
All intersections operate at LOS D or better during the PM peak hour.

Bicycle/Pedestrian Facilities

Figure 10 displays the existing bicycle and pedestrian facilities in the project vicinity. As shown, various facility types such as Class I multi-use bike/pedestrian paths, Class II on-street bicycle lanes, sidewalks, and crosswalks exist. Bicycle and pedestrian facilities are present at all three of primary freeway interchanges that would serve the project (i.e., I-80/West El Camino Avenue, I-5/Del Paso Road, and I-5/Arena Boulevard).

Transit Facilities and Routes

Figure 11 displays the existing transit facilities and routes in the project vicinity. Fixed-route bus service is provided within the study area by Sacramento Regional Transit (SacRT) as well as the Natomas Jibe Express As shown, no routes currently operate within the specific plan area. However, bus routes do operate on a number of study roadways including portions of El Centro Road, Del Paso Road, Arena Boulevard, San Juan Road, West El Camino Avenue, and Garden Highway.



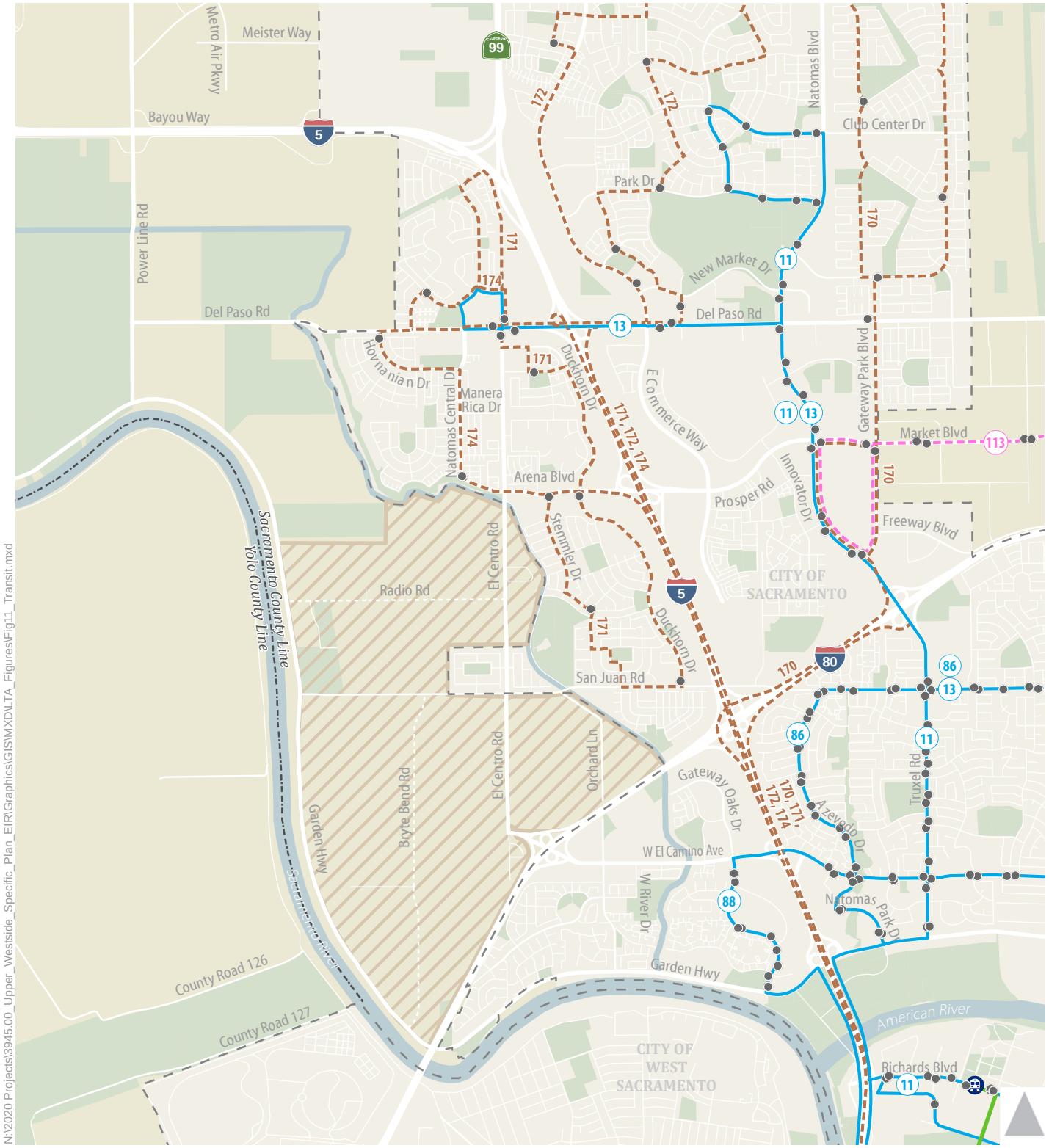
Existing Bicycle and Pedestrian Facilities

- Class I Shared-Use Path
- Pedestrian Bridge
- Class II Bike Lane
- Crosswalk
- Sidewalk
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

Note: Bicycle and pedestrian facilities only shown on arterial and collector streets near project vicinity.

Figure 10

Existing Bicycle & Pedestrian Facilities



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig11_Transit.mxd

Note: Regional transit routes are not shown on I-80, I-5, and highway 99.
Natomas Jibe routes reflect operating conditions as of Fall 2019.

Figure 11

Existing Transit Facilities

3. EXISTING PLUS PROJECT CONDITIONS

This chapter presents the proposed project's anticipated travel characteristics. It then analyzes the effects of the addition of these trips on the surrounding transportation system.

Detailed Project Land Use Assumptions

Table 1 displayed the general amount of proposed non-residential development, expressed in terms of total square feet of office or commercial, and school acreage. This chapter refines those land use totals (based on information provided by the project applicant) to reflect the expected mix and quantity of specific non-residential uses.

The Commercial Mixed-Use (CMU) parcels would be developed with 50 percent business professional (i.e., office) and 50 percent consisting of general retail, entertainment, grocery stores, restaurants, institutional/religious, and specialized uses (e.g., vocational schools, medical-office, etc.). These parcels would be integrated mixed-use properties developed at high densities (i.e., 60 percent floor-to-area ratio and 40 dwelling units per acre).

The two E/HC parcels would be developed with 60 percent business professional (i.e., office) and 40 percent consisting of general retail, entertainment, grocery stores, restaurants, institutional/religious, and specialized uses (e.g., vocational schools, medical-office, etc.). These two parcels would develop at a 40 percent floor-to-area ratio.

The project applicant has indicated that the CMU and E/HC parcels would generally provide sufficient on-site parking to meet projected demands. This implies, given the proposed densities, that structured parking will be required, though surface parking may also be provided in some areas.

Approximately 53 percent of residential uses would be multi-family attached, with the remainder being single-family detached. Specific types and quantities of non-residential land use are described later in this chapter.

Project Trip Generation

The proposed project's trip generation was estimated using the Mixed-Use Trip Generation Model (MXD+), which was originally developed for the US Environmental Protection Agency (EPA) to estimate internal trip-making and external trips made by non-auto travel modes. This model, which was originally developed by consultants and academic researchers based on empirical evidence at 240 mixed-use projects located across

the U.S, has been used in numerous EIRs throughout California. The model considers various built environment variables such as land use density, regional location, proximity to transit, and various design variables when calculating the project's internal trips and external trips made by non-auto modes. In Fall 2019, the model underwent a revalidation that confirmed it is still applicable to current (non-COVID) conditions. Moreover, the model was found to validate well against large mixed-use projects such as the proposed project. Refer to separately bound **Appendix B** for that revalidation report.

Trip Generation Rates

MXD+ begins by estimating gross trips generated by project land uses based on data included in *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017). It then estimates internal trips and external trips made by non-auto modes of travel. **Table 6** presents the unadjusted vehicular trip generation rates for each project land use category. In most instances, the weighted average trip rates were applied due to the lack of fitted curve equations that estimate trips based on land use quantity. At the time the analysis was performed, the 11th Edition of the Trip Generation Manual (September 2021) had not yet been released.

Rates chosen for several specific land uses in **Table 6** warrant further explanation as described below:

- Trip generation for single-family and multi-family residential units was estimated based on weighted average trip rates. Use of fitted curve equation rates would have led to differing (and unreasonable) trip rates for adjacent residential areas based solely on their differing unit counts.
- Trip generation for professional office and shopping center land use categories[3] was estimated based on fitted curve equations based on guidance from the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017). Retail and office land use quantities within the Town Center and Employment/Highway Commercial (E/HC) zone located east of El Centro Road were estimated separately based on the square footages proposed in each parcel.

[3] A variety of retail-type uses were assumed on retail parcels including supermarkets, sit-down restaurants, fast-food restaurants, and health/fitness clubs, in addition to general shopping center uses. This approach, which represents a realistic mix of likely retail uses, results in greater total trips, but also more internalization of traffic and an overall more accurate trip estimate (versus using exclusively the shopping center category).

Table 6:
Unadjusted Trip Generation Rates by Land Use Type

Land Use	ITE Code	Unit Type	Daily Trip Rate [1]	AM Peak Hour [1]		PM Peak Hour [1]	
				Trip Rate	%in/ %out	Trip Rate	%in/ %out
Single-Family Detached Housing [2]	210	du's	9.44	0.74	25%/75%	0.99	63%/37%
Multi-Family Housing Mid-Rise [3,4]	221	du's	5.44	0.36	26%/74%	0.99	61%/39%
Professional Office [3,5]	710	ksf	9.74 – 10.25	0.99 – 1.16	86%/14%	1.05 – 1.15	16%/84%
Medical Office [2]	720	ksf	36.32	2.45	78%/22%	3.44	28%/72%
Hotel [2]	310	rooms	8.36	0.47	59%/41%	0.60	51%/49%
Business Hotel [2]	312	rooms	4.02	0.39	42%/58%	0.32	55%/45%
Government Office [2]	730	ksf	22.59	3.33	75%/25%	1.72	26%/74%
Shopping Center [3]	820	ksf	50.64 – 66.26	1.39 – 2.56	62%/38%	4.73 – 5.88	48%/52%
Health/Fitness Club [2]	492	ksf	26.67	1.33	50%/50%	3.47	58%/42%
Supermarket [3]	850	ksf	95.14 – 106.8	3.80 – 3.82	60%/40%	9.27 – 9.32	51%/49%
High-Turnover (Sit-Down) Restaurant [2]	932	ksf	112.18	9.94	55%/45%	9.77	62%/38%
Fast-Food Restaurant with Drive-Through Window [2]	934	ksf	471.00	40.22	51%/49%	32.67	52%/48%
Recreational Community Center [2,3]	495	ksf	28.80 – 28.83	1.77 – 3.85	66%/34%	2.31 – 3.60	47%/53%
Middle School/Junior High School [2]	522	students	2.13	0.58	54%/46%	0.17	49%/51%
High School [2]	530	students	2.03	0.52	67%/33%	0.14	48%/52%
Vocational School	540	ksf	20.25	2.07	77%/23%	1.86	50%/50%
Junior/Community College	540	students	1.15	0.11	81%/19%	0.11	56%/44%

Note:
1. All rates derived from the *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017).
2. Weighted average trip rate applied.
3. Fitted curve equation applied.
4. Multi-Family Mid-Rise category chosen given densities proposed (i.e., buildings will range between 3 and 10 floors, which meets the definition of this use type).
5. Range of trip rates shown because varying sized facilities are proposed in different areas of the plan and fitted curve equations yield different trip rates by size.

ksf = thousand square feet. du's = dwelling units.

Source: Fehr & Peers, 2021.

Project Trip Generation

Table 7 presents the project's expected trip generation (prior to any consideration of existing land uses whose trips would be eliminated with the project). As shown, the proportion of project trips that would remain internal to the site would vary between 23 and 35 percent depending on the time period. Internalization is greatest during the AM peak hour due to the effect of matched trips between residences and schools. Refer to separately bound **Appendix B** for detailed calculations.

Table 7:
Proposed Project Trip Generation

Land Use	Quantity [1]	Trips		
		Daily	AM Peak Hour	PM Peak Hour
Single-Family Detached Housing	4,367 du's	41,224	3,232	4,323
Multi-Family Housing Mid-Rise	4,989 du's	27,140	1,796	2,195
Professional Office	1,573 ksf	15,669	1,689	1,730
Medical Office	41.6 ksf	1,511	102	143
Hotel	410 rooms	3,428	193	246
Business Hotel	410 rooms	1,648	160	131
Government Office	74 ksf	1,681	248	128
Shopping Center	245 ksf	13,549	426	1,242
Health/Fitness Club	65 ksf	1,730	86	225
Supermarket	65 ksf	6,359	248	605
High-Turnover (Sit-Down) Restaurant	104 ksf	11,644	1,032	1,014
Fast-Food Restaurant with Drive-Through	24 ksf	11,303	965	784
Recreational Community Center	72 ksf	2,075	169	192
Middle School/Junior High School	3,000 students	6,390	1,740	510
High School	1,500 students	3,045	780	210
Vocational School & Junior College	208 ksf & 2,500 students	7,087	706	662
	Gross Project Trips	**155,483**	**13,572**	**14,340**
	Trip Adjustments			
	Internal Trips [2]	-34,890	-4,724	-3,664
	External Transit Trips [3]	-3,576	-271	-315
	Walk/Bike Trips [4]	-622	-81	-72

Table 7:
Proposed Project Trip Generation

Land Use	Quantity [1]	Trips		
		Daily	AM Peak Hour	PM Peak Hour
Net External Vehicular Project Trips		**116,395**	**8,495**	**10,289**
Pass-by Trips [5]		-6,614	-366	-1,048
Diverted Link Trips [6]		-4,372	-221	-726
Net New External Vehicular Trips		**105,409**	**7,908**	**8,515**
Net New External and Diverted Link Vehicular Trips		**109,781**	**8,129**	**9,241**

Note:
1. Does not account for eliminated trips due to removal of existing uses. See following tables.
2. Internal trips estimated to be 22.5 percent on a daily basis, 34.9 percent during the AM peak hour, and 25.6 percent during the PM peak hour.
3. Estimated proportion of total external trips made by transit ranges from 2.0 to 2.3 percent depending on time period.
4. Estimated proportion of total external trips made by walking or biking ranges from 0.4 to 0.6 percent depending on time period.
5. Pass-by trips are made to retail uses from the adjacent street. Pass-by percentages are based on the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).
6. Diverted link trips come from I-80 or I-5. Percentages are from the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).

ksf = thousand square feet. du's = dwelling units.
Source: Fehr & Peers, 2021.

The analysis presumes that at project buildout, the site would be served with fixed-route transit (with overall service levels complying with County Policy LU-120). Based on this level of transit service, **Table 7** shows the use of transit for travel to external destinations at two percent. It should be noted that a modest amount of transit use is already built into the default ITE trip generation rates that form the starting point for the project trip generation estimate. Thus, this transit estimate represents an increased level of transit use beyond the "base" level which is typically associated with suburban settings, free parking, and modest levels of bus service.

A more geographically focused evaluation determined that the Town Center, Employment/Highway Commercial Zone, and adjacent high-density residential would have a combined four percent transit mode split. This is reasonable given that transit use is typically greater for employees versus residents, and in mixed-use urban areas versus suburban settings.

According to this table, use of walking or biking for travel to external destinations is estimated at 0.5 percent for the proposed project. Again, this represents a modest increase above the default ITE estimates. The

project would provide a direct linkage to the multi-use path east of the project site (near Witter Canal) that connects to the bike/pedestrian bridge over I-80. From that bridge, several destinations in South Natomas can be reached within a 10 to 15 minute bike ride. Downtown Sacramento can be reached by bike in about 20 to 30 minutes depending on travel speed. However, walk/bike destinations within a one-mile radius from the edge of the project site are generally limited, which helps explain the low walk/bike mode split.

Overall, the complementary nature of land uses within the project site, combined with the availability of transit and walking/biking to external destinations, would result in a combined 25 percent reduction in gross daily vehicle trips. During the AM and PM peak hours, this reduction would increase to 37 percent and 28 percent, respectively.

When retail trips that are pass-by or diverted-link are also considered, the overall reduction percentages climb to 32 percent on a daily basis, 42 percent during the AM peak hour, and 41 percent during the PM peak hour. After these adjustments are made, the project would generate approximately 105,400 new daily vehicle trips, 7,900 new AM peak hour vehicle trips, and 8,500 new PM peak hour vehicle trips.

The above trip totals do not consider potential changes in travel associated with the current COVID-19 pandemic or the next phase "COVID Endemic" condition. In all likelihood, reductions in travel will occur for certain land uses, such as offices, though specific details and estimates of those changes are not known at this time. This analysis is therefore reasonably conservative because it did not consider those changes.

Trip Generation of Existing Land Uses to be Removed

The trip generation estimates in Table 7 do not consider the removal of existing trip generating land uses on the project site. Those trips are shown in **Table 8.** As shown, elimination of these existing land uses would remove approximately 4,550 new daily vehicle trips, 375 new AM peak hour vehicle trips, and 315 new PM peak hour vehicle trips (after considering reductions for pass-by and diverted-link trips to the retail uses).

Table 8: Existing Trip Generating Land Uses to be Removed

Land Use	Quantity [1]	Trips		
		Daily	AM Peak Hour	PM Peak Hour
Single-Family Detached Housing	20 du's	189	15	20
Professional Office	40 ksf	390	46	46
Self-Storage Facility	70 ksf	98	6	7
Business Hotel (2)	145 rooms	583	57	46
High-Turnover (Sit-Down) Restaurant	9 ksf	965	85	84
Fast-Food Restaurant with Drive-Through	3 ksf	1,507	129	105
Gas station with Convenience Market	12 fueling positions	2,464	150	168
Light Industrial	45 ksf	223	31	29
Golf Driving Range	12 tee positions	164	5	15
Truck Stop [1]	Fueling area, conv. market	3,373	172	213
Net External Vehicular Project Trips		**9,956**	**696**	**733**
Pass-by Trips [2]		1,773	118	156
Diverted Link Trips [3]		3,615	203	261
Net New External Vehicular Trips		**4,568**	**375**	**316**
Net New External and Diverted Link Vehicular Trips		**8,183**	**578**	**577**

Note:

1. Trip rates estimated based on data from *Trip Generation Manual* (Institute of Transportation Engineers, 2017), with exception of 49er Truck Stop located at corner of West El Camino Avenue/El Centro Road whose AM and PM peak hour vehicle trips were measured in early December 2020. Daily trips for that use was estimated by factoring up peak hour trip rates for the Gas Station with Convenience Market land use category from Trip Generation Manual.
2. Pass-by trip percentages are based on the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).
3. Diverted link trips come from I-80 or I-5. Percentages are from the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).

ksf = thousand square feet. du's = dwelling units.

Source: Fehr & Peers, 2021.

Net Increase in Vehicle Trips Generated by the Proposed Project

Table 9 shows the net increase in vehicle trips generated by the proposed project (over the existing uses to be removed) during all three study time periods. The bottom of the table includes several summary trip statistics that warrant further explanation as provided below:

1. Net External Vehicular Project Trips – accounts for internal trips between complementary on-site land uses (e.g., residential and retail), and external trips made by walking, biking and transit to estimate external vehicle trips.

2. Net New External Vehicular Trips – further refines external vehicle trip estimate by removing vehicle trips that are "pass-by"[4] from the adjacent street and "diverted-link"[5] from I-80 or I-5. **This is the number of new project vehicle trips that would be assigned to study intersections/roadways throughout the study area.**

3. Net New External and Diverted Link Vehicular Trips – adds diverted link trips to the above estimate. **This is the number of vehicle trips the project would add to its gateway streets.**

This table indicates that the proposed project would result in a net increase in approximately 100,800 new daily vehicle trips, with 7,530 occurring during the AM peak hour and 8,200 occurring during the PM peak hour. During both peak hours, a fairly equal distribution of inbound versus outbound traffic is expected (i.e., 50 percent inbound/50 percent outbound during the AM peak hour, and 52 percent inbound/48 percent outbound during the PM peak hour).

[4] A "pass-by" trip to a retail use is made by a motorist already on the adjacent street while en route to a different primary destination. Pass-by trips do not add traffic to the adjacent street, but contribute trips to the driveway(s) serving the retail center. Checks were performed to ensure that primary adjacent roadways (i.e., El Centro Road and West El Camino Avenue) would have sufficient volumes of traffic under "plus project" conditions, from which pass-by trips could be taken.

[5] A "diverted-link" trip (in this context) is made by a motorist traveling on a nearby freeway who chooses to exit the freeway to access a retail use. Diverted-link trips are added both to the freeway on/off ramps, surface streets, and driveway(s) serving the retail center.

Table 9:
Net Increase in Vehicle Trips Generated by Proposed Project

Scenario	Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Net New External Vehicular Trips							
Proposed Project	105,409	3,953	3,955	7,908	4,410	4,107	8,515
Existing Uses To be Removed	4,568	-214	-161	-375	-137	-179	-316
Difference	**100,841**	**3,740**	**3,794**	**7,534**	**4,273**	**3,929**	**8,199**
Net New External and Diverted Link Vehicular Trips							
Proposed Project	109,781	4,076	4,053	8,129	4,796	4,448	9,241
Existing Uses To be Removed	-8,183	-318	-260	-578	-272	-305	-577
Difference	**101,598**	**3,758**	**3,793**	**7,551**	**4,524**	**4,143**	**8,664**

Note:
1. Refer to Table 7 for proposed project trips and Table 8 for existing uses trips.
2. Some volumes may not sum perfectly due to rounding.

Source: Fehr & Peers, 2021.

Travel Demand Forecasts

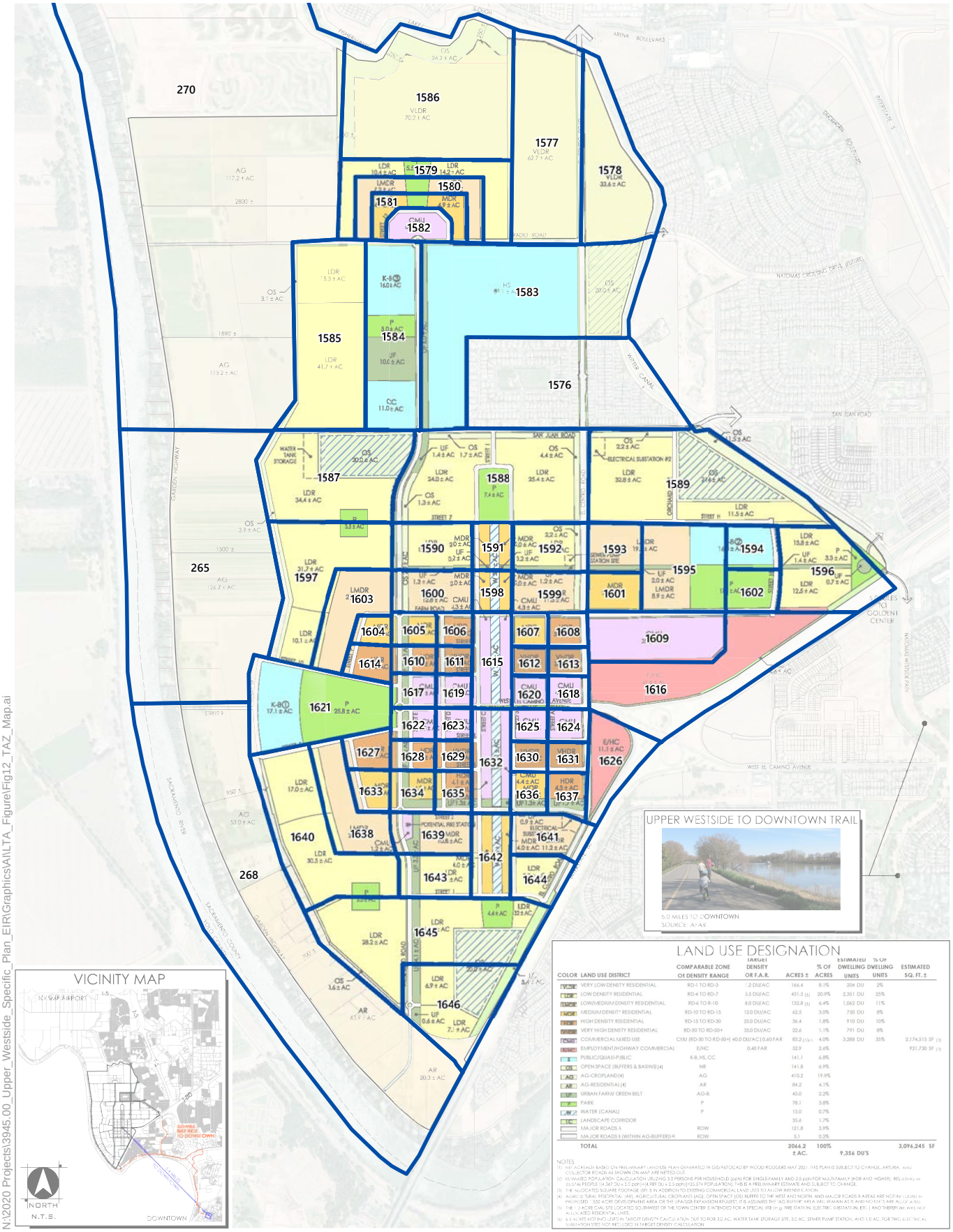
The four steps below were followed to develop traffic forecasts for the four scenarios analyzed in this study.

Step 1 – Development of Traffic Analysis Zone (TAZ) Structure for Proposed Project

The project was disaggregated into 70 distinct TAZs within the base year version of the SACSIM19 activity-based travel demand model. Each TAZ included the number of persons and employees within that particular zone based on the project's site plan. **Figure 12** shows the project's TAZ map.

Step 2 – Addition of Project Roadways

The project's roadway network (including planned street widenings) was added to the model. This included TAZ centroid connectors that load trips onto public streets from TAZs. The TAZ centroid connectors also included turning penalties where certain movements would be prohibited. Notably, through interim analyses, it was determined that the CMU and E/HC parcels located north of West El Camino Avenue and east of El Centro Road would be limited to one or two driveways on El Centro Road that are restricted to right-turns only.



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\AI\LTA_Figure\Fig12_TAZ_Map.ai

Figure 12

TAZ Map

Step 3 – Review of Trip Table Outputs

The trip table outputs from the model for the project's TAZs were reviewed to determine if any adjustments were necessary to better match the expected number of external project vehicle trips shown in Table 9.

Step 4 – Traffic Forecasting

A traffic forecasting adjustment procedure known as the "difference method" was utilized to develop existing plus project traffic forecasts. This method corrects any potential anomalies within the model and assures a more accurate forecast. This forecasting procedure is calculated as follows:

Existing Plus Project Forecast = Existing Traffic Count +
(Base Year Plus Project Model Forecast – Base Year No Project Model Forecast)

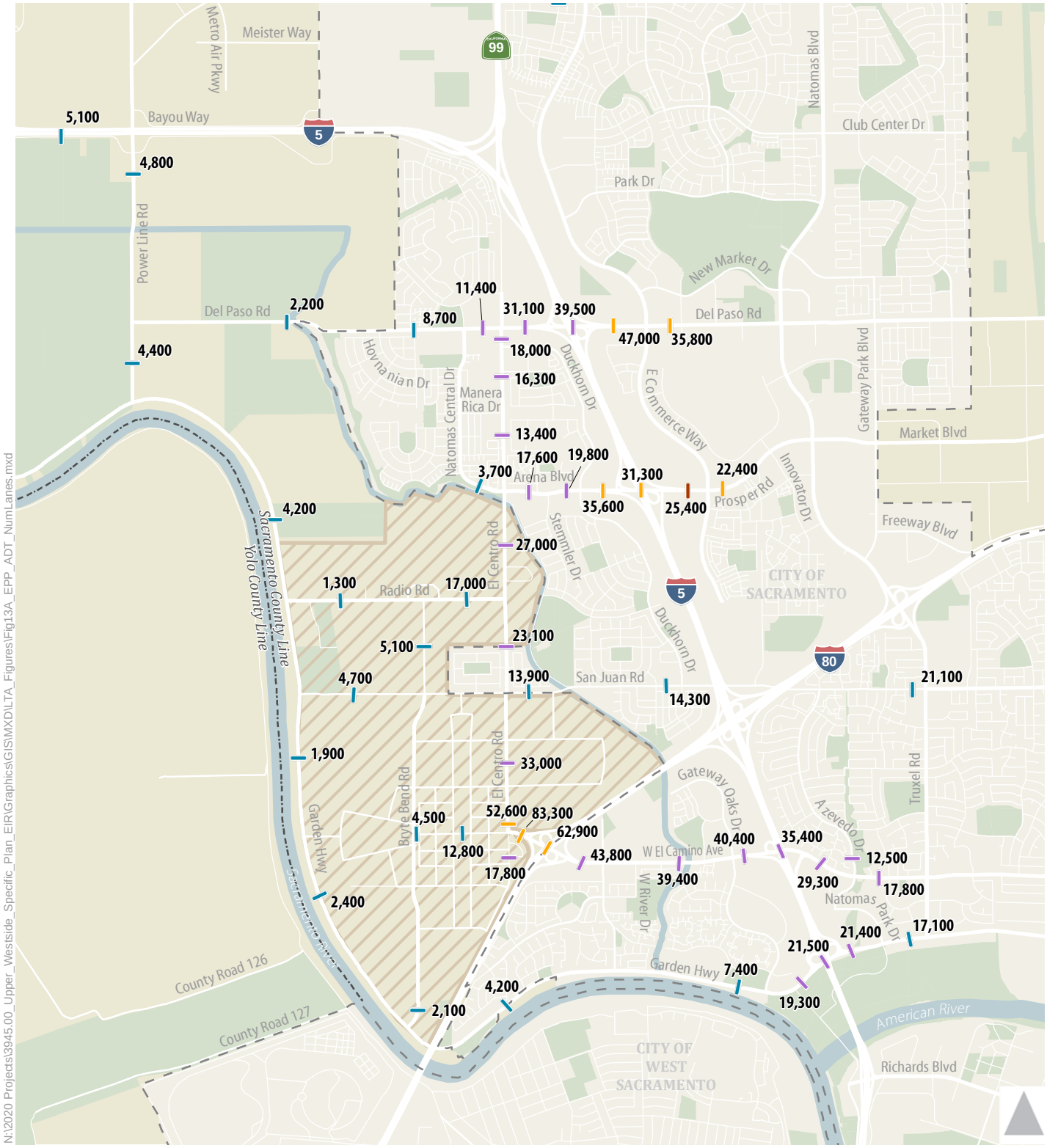
In instances where the roadway currently does not exist, like on-site roadway facilities, the direct model forecast is used.

It should be noted that the project not only includes new trip generating land uses, but also introduces new street connections that would cause a redistribution of background traffic. Additionally, the project would alter trip-making behaviors of existing land uses by virtue of introducing new regional retail, employment, etc. Therefore, when comparing existing and existing plus project forecasts, it is expected that certain turning movements, for instance those not in the direction of the project, could either increase or decrease as a result of changes in background travel behavior (i.e., a non-project resident changing a commute pattern or preference for shopping).

Figure 13A shows the ADT on existing study roadways under existing plus project conditions. **Figure 13B** shows the ADT on the roadways within the Specific Plan area.

Figures 14A – 14F show the existing plus project weekday AM and PM peak hour forecasts at the existing and new project study intersections. These figures indicate that the project would create 65 new internal study intersections[6]. Lane configurations and traffic controls at each of those locations were developed based on proposed typical street-sections, peak hour traffic volumes, professional engineering judgment (including coordination with Sacramento County DOT), and preliminary traffic operations analysis results. Note that lanes shown on West El Camino Avenue approach to I-80 WB Ramps were assumed for analysis purposes and do not represent the recommended geometrics (see Figure 20 for those).

[6] Project roadway modification removed extension of El Centro Road southwesterly from Street 1 to Bryte Bend Road. Hence, two project intersections were removed from the analysis, leaving 65 new project study intersections.



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig13A_EPP_ADT_NumLanes.mxd

X,XXX Average Daily Traffic Volume (Refer to Figure 1B for complete set of daily traffic volumes on internal roadways)

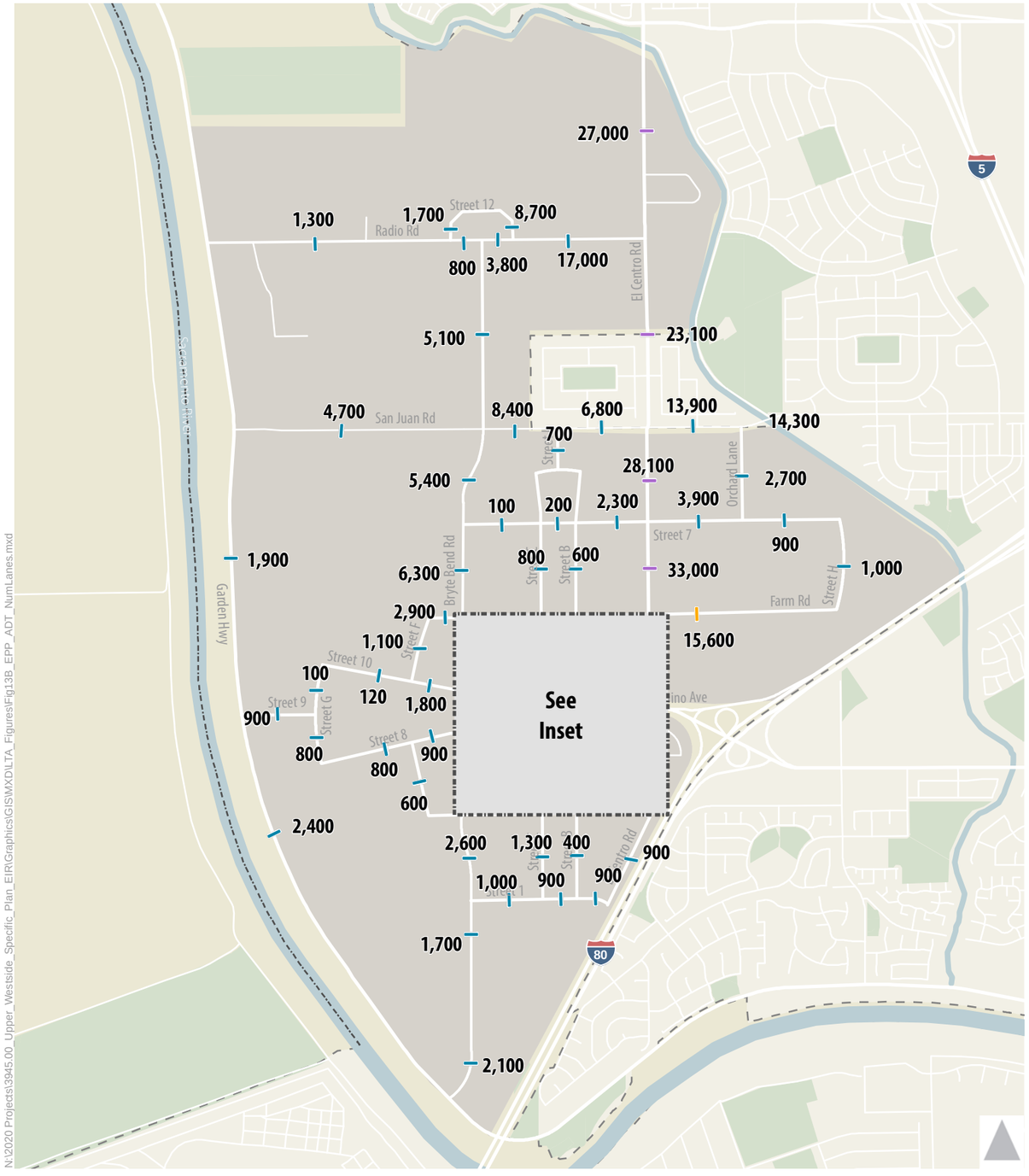
*Existing Plus Project Number of Lanes
- 2
- 4
- 6
- 8

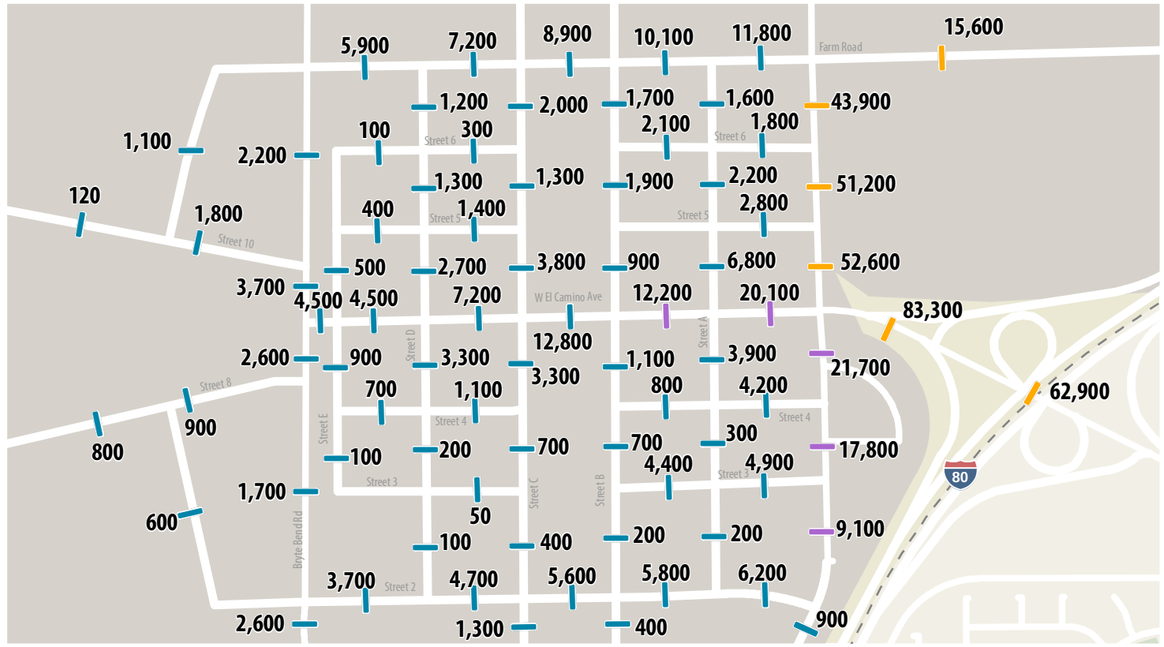
**Includes through lanes only.*

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

Figure 13a

Average Daily Traffic Volumes and Number of Lanes - Existing Plus Project Conditions





x,xxx Average Daily Traffic Volume

*Existing Plus Project Number of Lanes
- 2
- 4
- 6
- 8

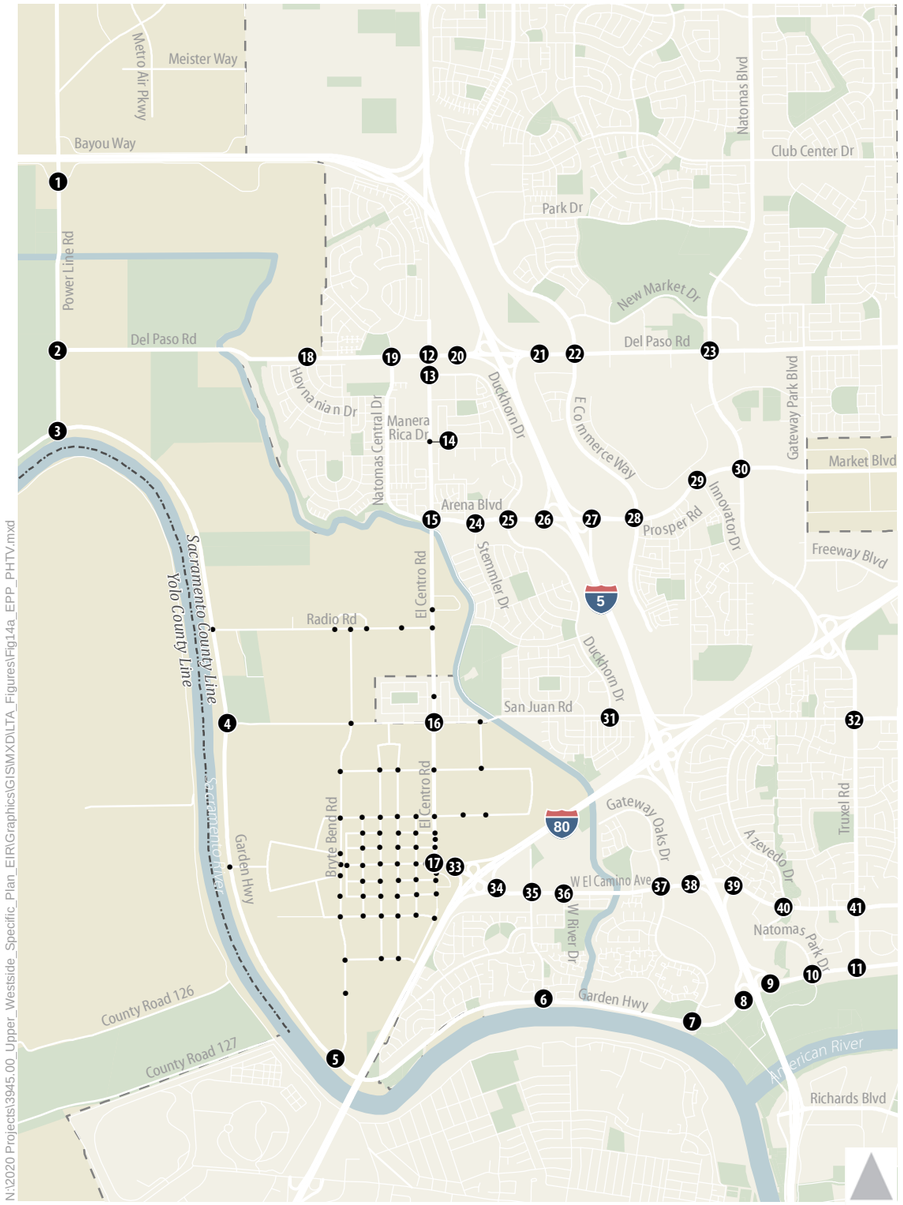
Includes through lanes only.

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig13B_EPP_ADT_NumLanes.mxd

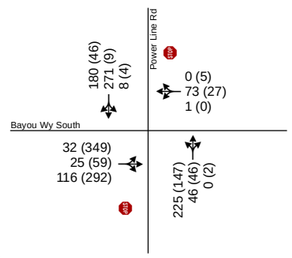
Figure 13b

Average Daily Traffic Volumes and Number of Lanes - Existing Plus Project Conditions

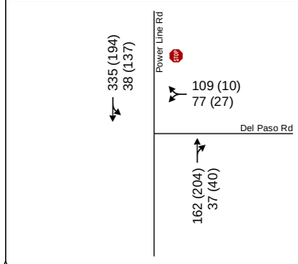


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig14a_EPP_PHTV.mxd

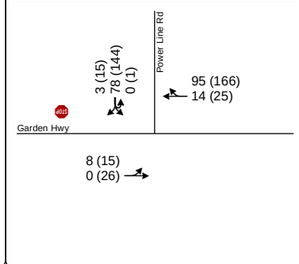
1. Power Line Rd/Bayou Wy South



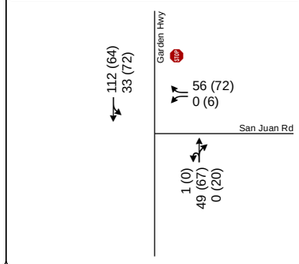
2. Power Line Rd/Del Paso Rd



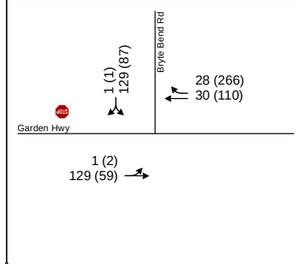
3. Power Line Rd/Garden Hwy



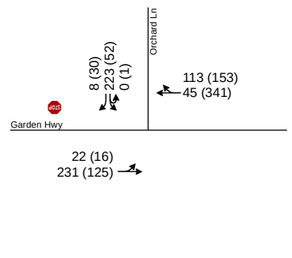
4. Garden Hwy/San Juan Rd



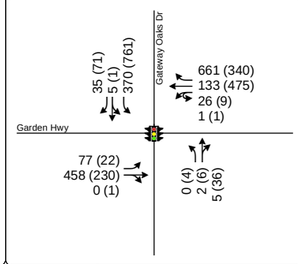
5. Bryte Bend Rd/Garden Hwy



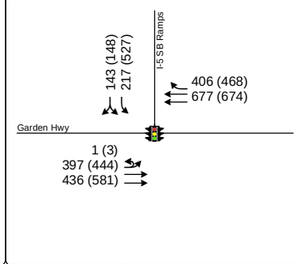
6. Orchard Ln/Garden Hwy



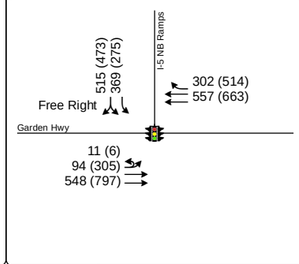
7. Gateway Oaks Dr/Garden Hwy



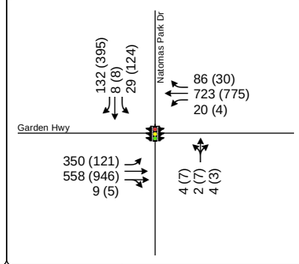
8. I-5 SB Ramps/Garden Hwy



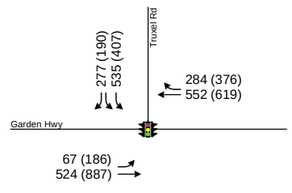
9. I-5 NB Ramps/Garden Hwy



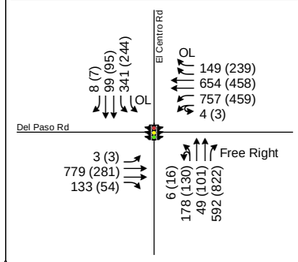
10. Natomas Park Dr/Garden Hwy



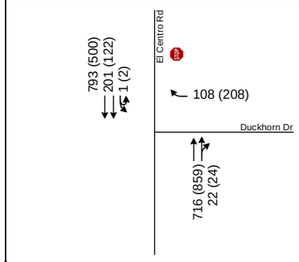
11. Truxel Rd/Garden Hwy



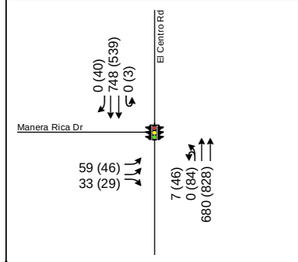
12. El Centro Rd/Del Paso Rd



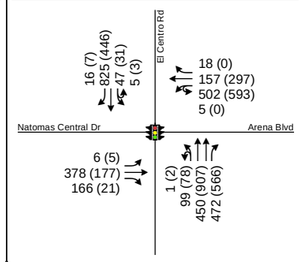
13. El Centro Rd/Duckhorn Dr



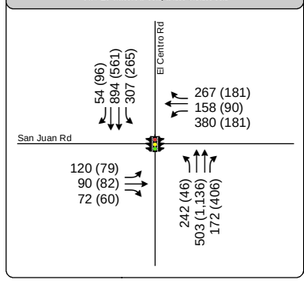
14. El Centro Rd/Manera Rica Dr



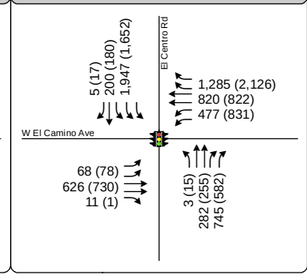
15. El Centro Rd/Natomas Central Dr/Arena Blvd



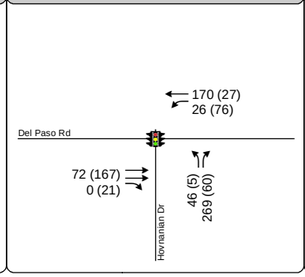
16. El Centro Rd/San Juan Rd



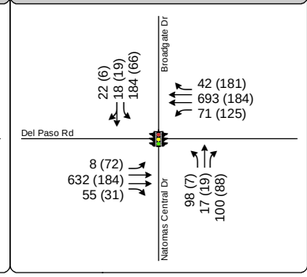
17. El Centro Rd/W El Camino Ave



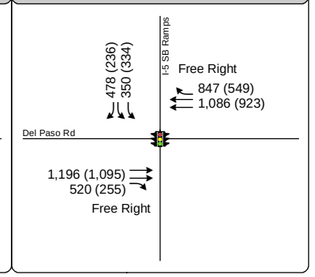
18. Hovnanian Dr/Del Paso Rd



19. Natomas Central Dr/Broadgate Dr/Del Paso Rd



20. I-5 SB Ramps/Del Paso Rd



1 Study Intersection

• Project Study Intersection (See Figures 14c - 14f)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

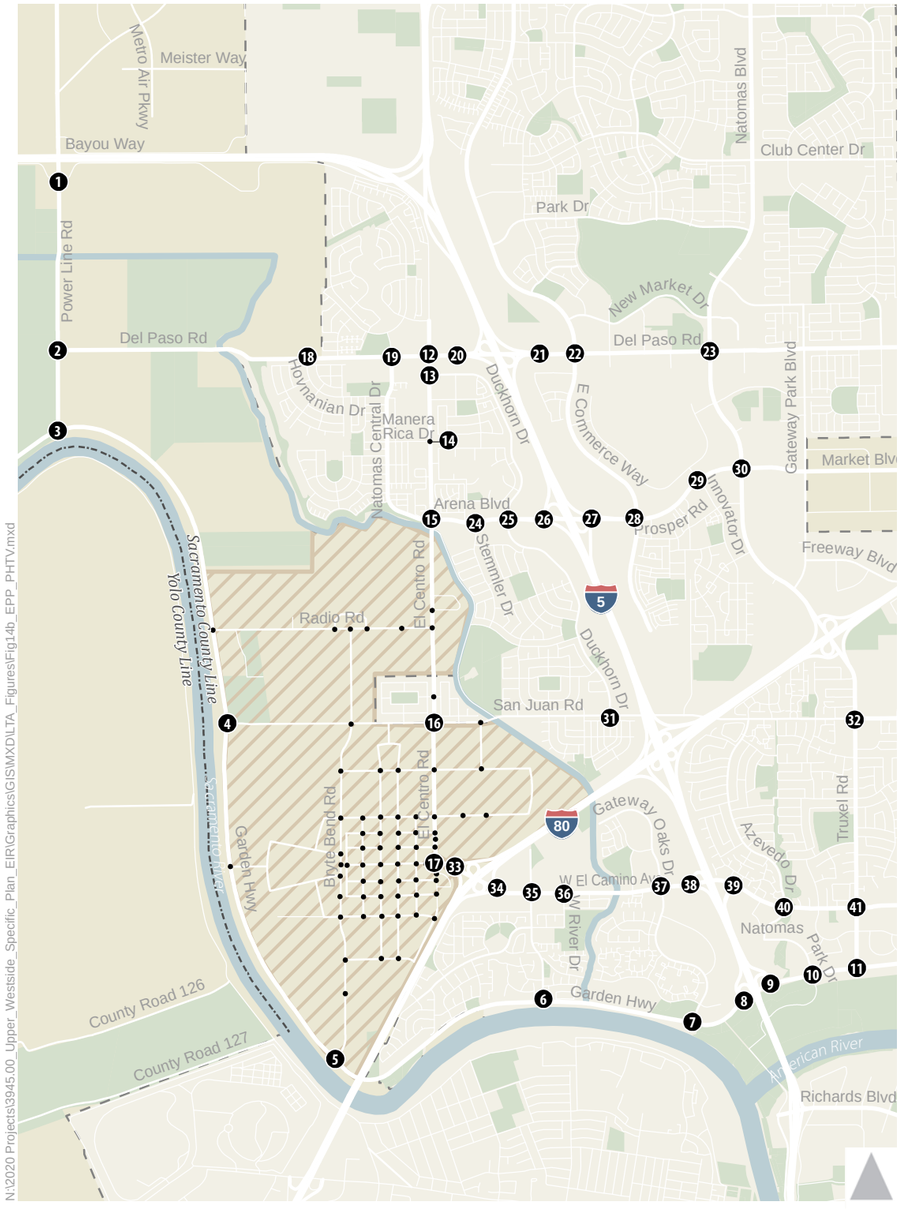
Free Right Free Right-Turn

OL Turning Overlap

Yield Sign

Figure 14a

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_FiguresFig14b_EPP_PHTV.mxd

1 Study Intersection

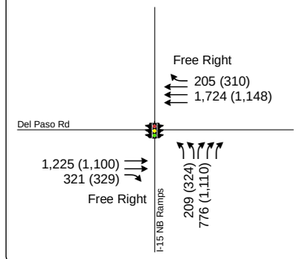
• Project Study Intersection (See Figures 14c - 14f)

Upper Westside Specific Plan Boundary

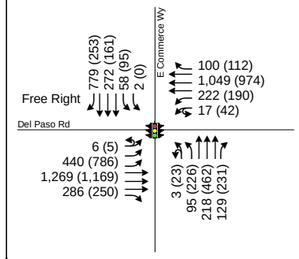
City Boundary

County Boundary

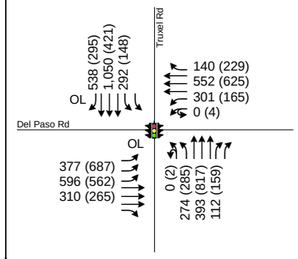
21. I-15 NB Ramps/Del Paso Rd



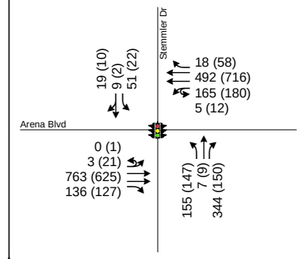
22. E Commerce Wy/Del Paso Rd



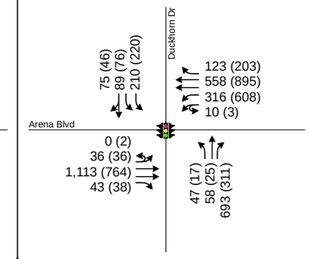
23. Truxel Rd/Del Paso Rd



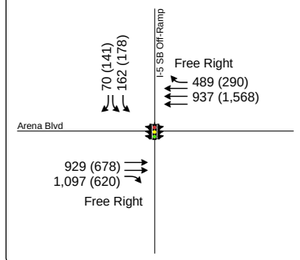
24. Stemmler Dr/Arena Blvd



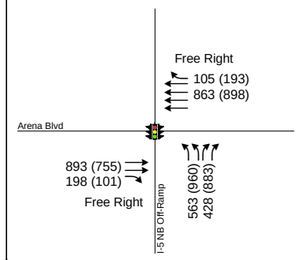
25. Duckhorn Dr/Arena Blvd



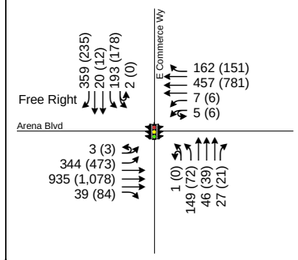
26. I-5 SB Off-Ramp/Arena Blvd



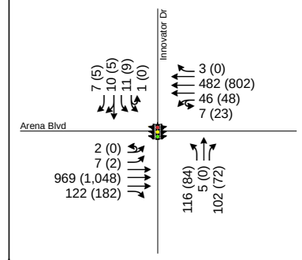
27. I-5 NB Off-Ramp/I-5 NB On-Ramp/Arena Blvd



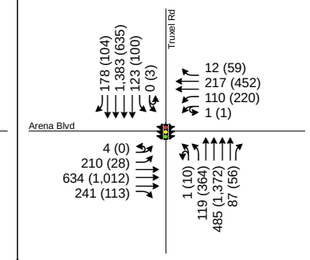
28. E Commerce Wy/Arena Blvd



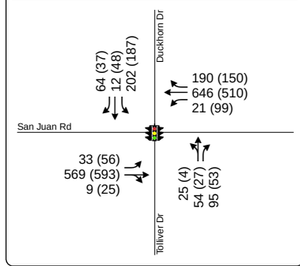
29. Innovator Dr/Arena Blvd



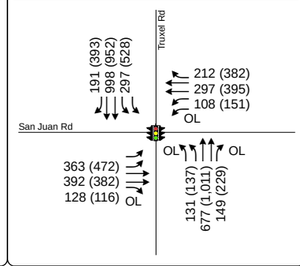
30. Truxel Rd/Arena Blvd



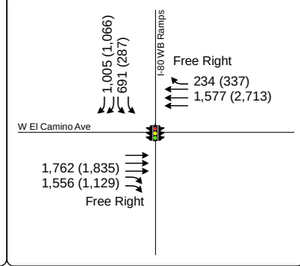
31. Tolliver Dr/Duckhorn Dr/San Juan Rd



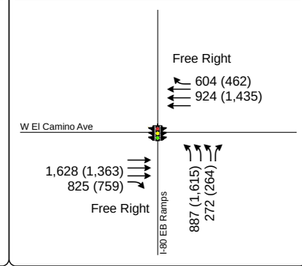
32. Truxel Rd/San Juan Rd



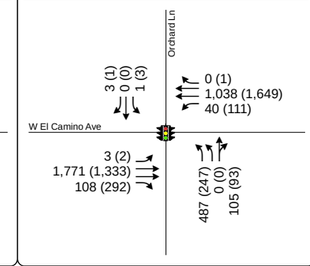
33. I-80 WB Ramps/W El Camino Ave



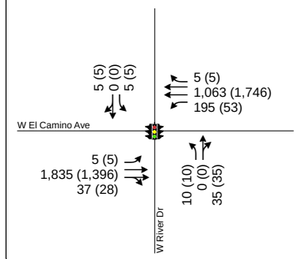
34. I-80 EB Ramps/W El Camino Ave



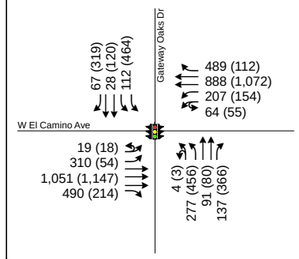
35. Orchard Ln/W El Camino Ave



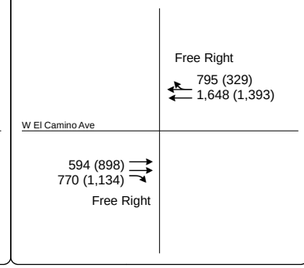
36. W River Dr/W El Camino Ave



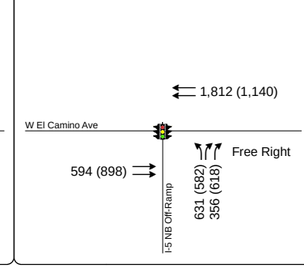
37. Gateway Oaks Dr/W El Camino Ave



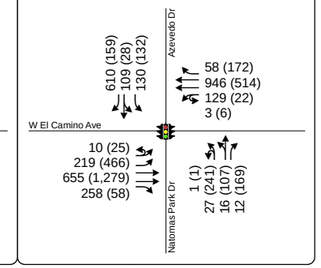
38. I-5 SB Ramps/W El Camino Ave



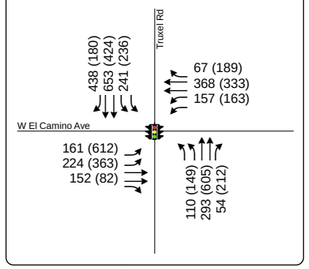
39. I-5 NB Off-Ramp/W El Camino Ave



40. Natomas Park Dr/Azevedo Dr/W El Camino Ave



41. Truxel Rd/W El Camino Ave



Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

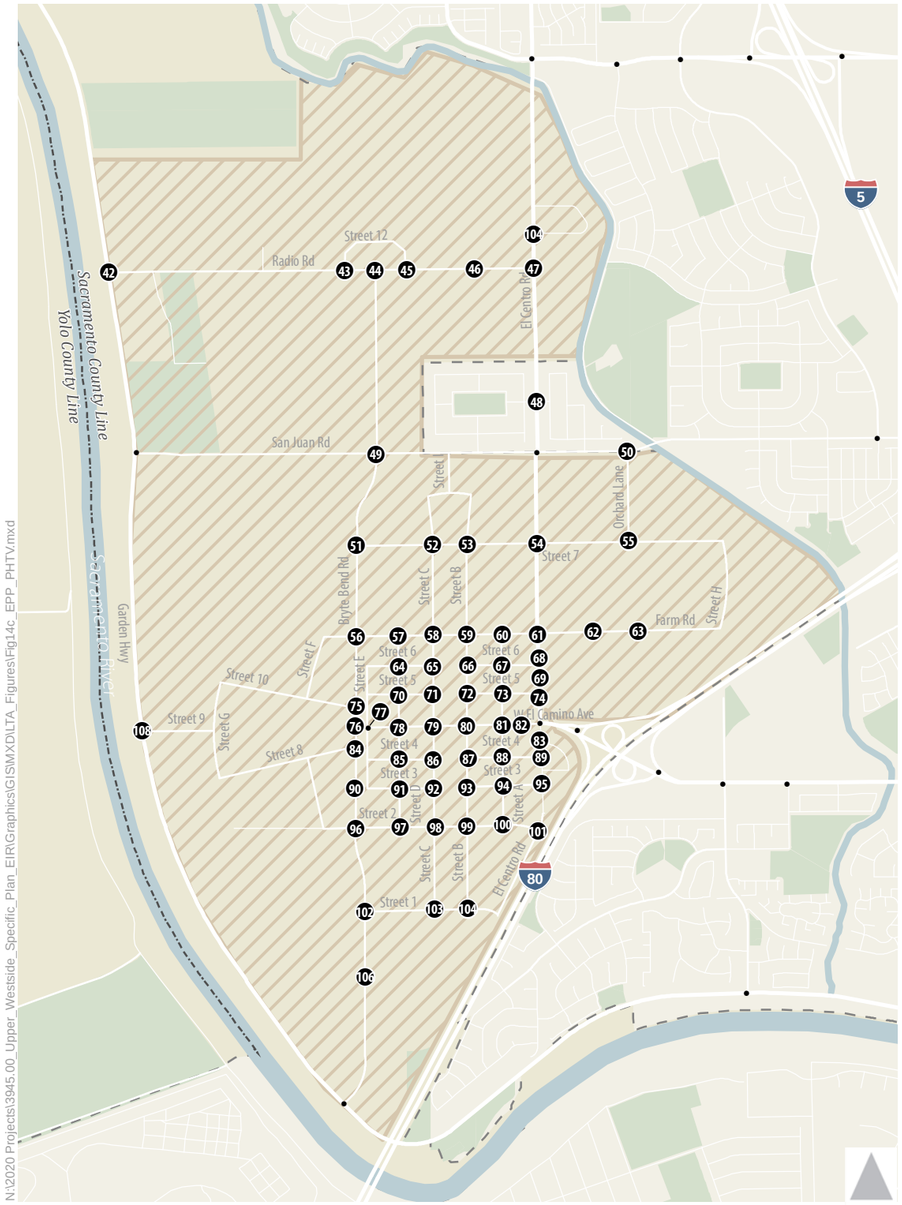
Stop Sign

Free Right Free Right-Turn

OL Turning Overlap

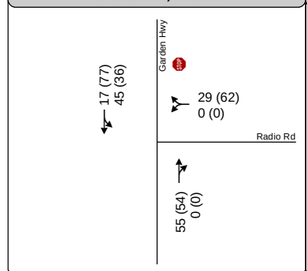
Figure 14b

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

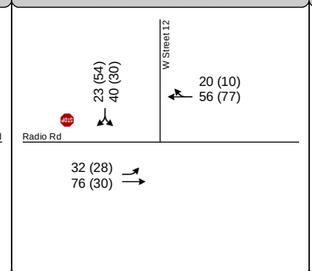


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig14c_EPP_PHTV.mxd

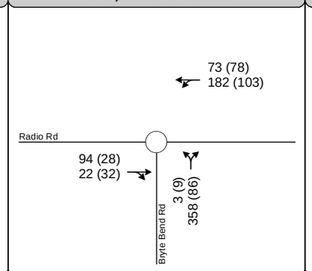
42. Garden Hwy/Radio Rd



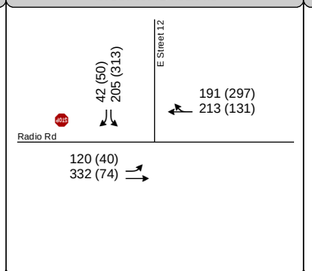
43. W Street 12/Radio Rd



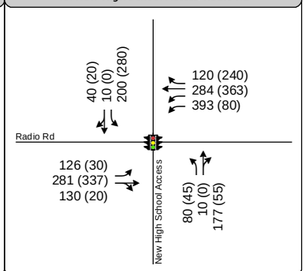
44. Bryte Bend Rd/Radio Rd



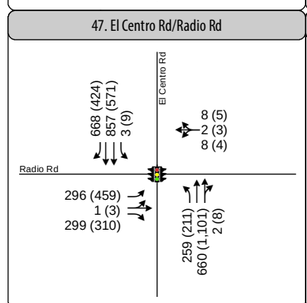
45. E Street 12/Radio Rd



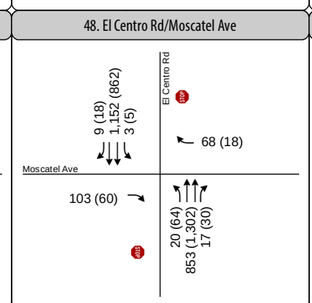
46. New High School Access/Radio Rd



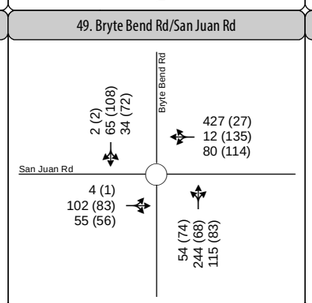
47. El Centro Rd/Radio Rd



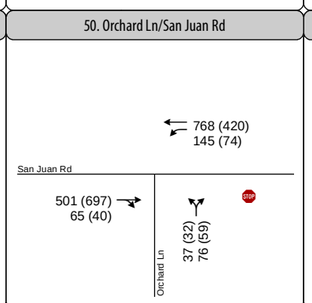
48. El Centro Rd/Moscatel Ave



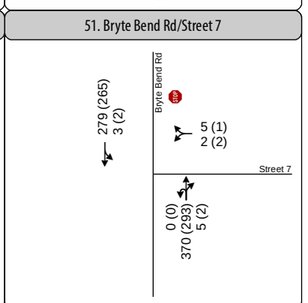
49. Bryte Bend Rd/San Juan Rd



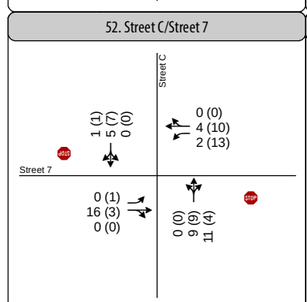
50. Orchard Ln/San Juan Rd



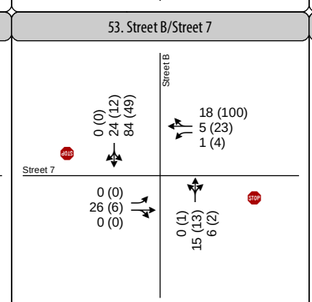
51. Bryte Bend Rd/Street 7



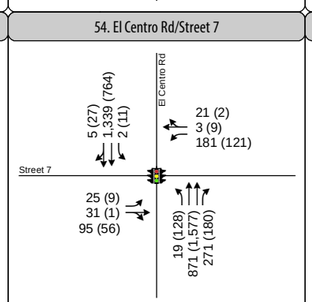
52. Street C/Street 7



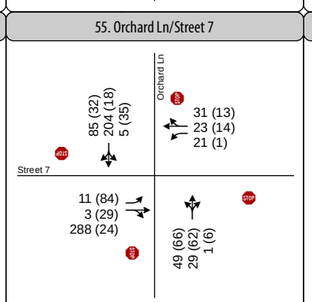
53. Street B/Street 7



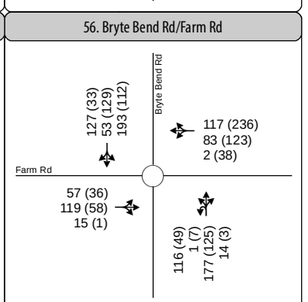
54. El Centro Rd/Street 7



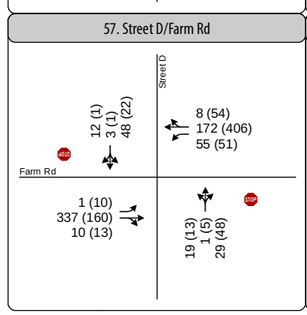
55. Orchard Ln/Street 7



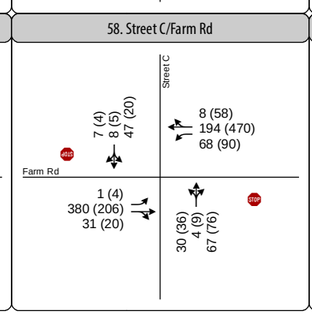
56. Bryte Bend Rd/Farm Rd



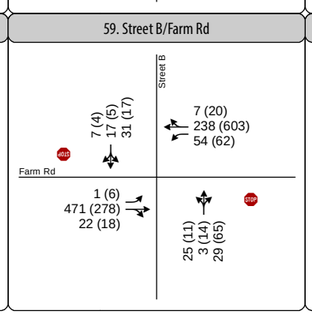
57. Street D/Farm Rd



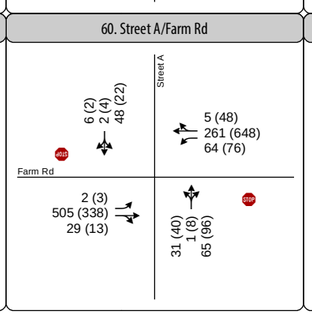
58. Street C/Farm Rd



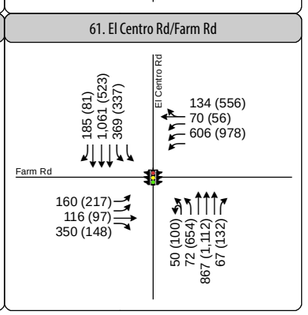
59. Street B/Farm Rd



60. Street A/Farm Rd



61. El Centro Rd/Farm Rd

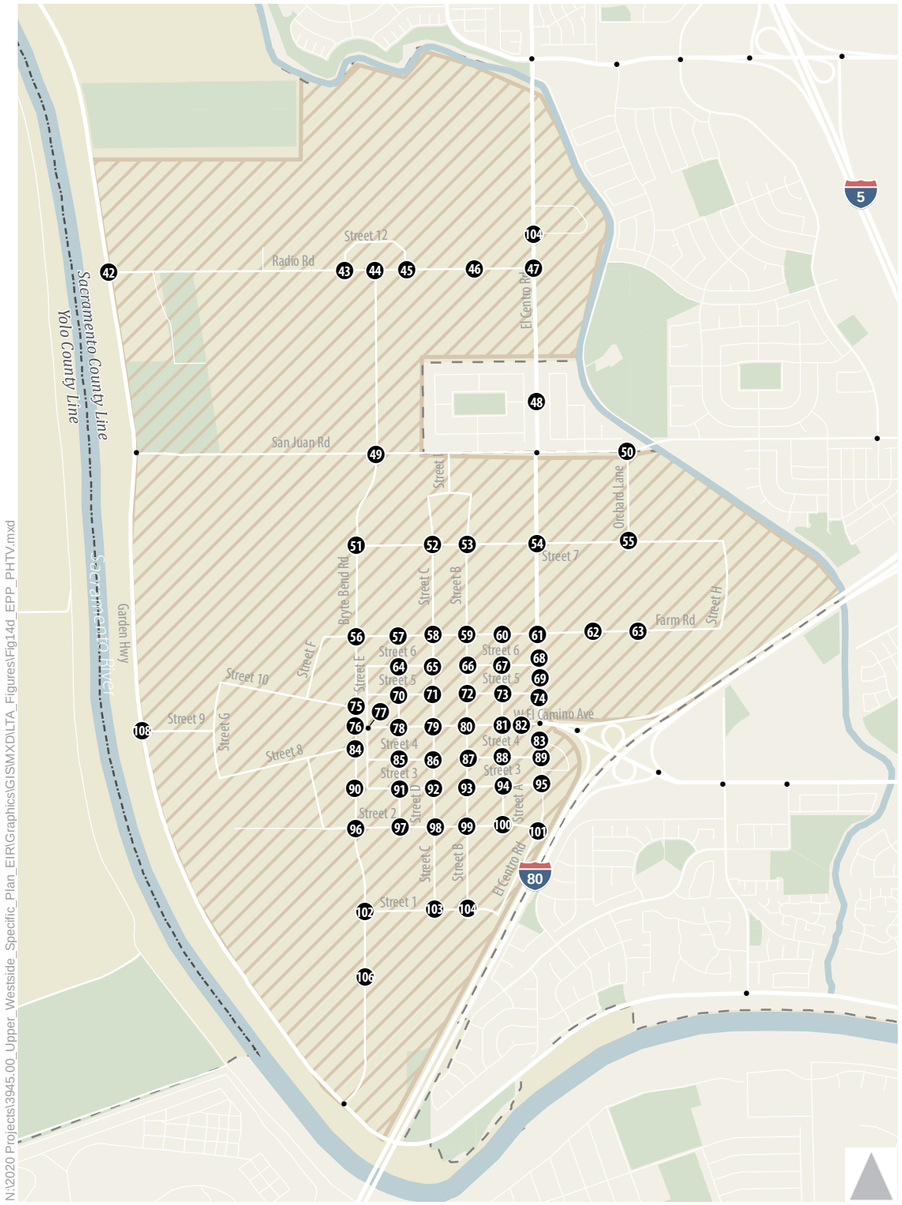


- Project Study Intersection
- Study Intersection (See Figures 14a - 14b)
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign
- Roundabout

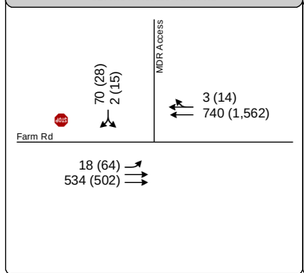
Figure 14c

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

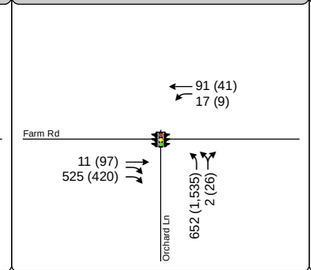


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig14d_EPP_PHTV.mxd

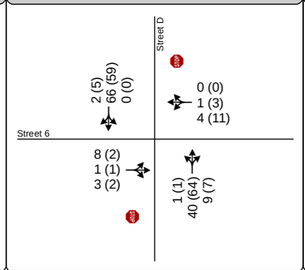
62. MDR Access/Farm Rd



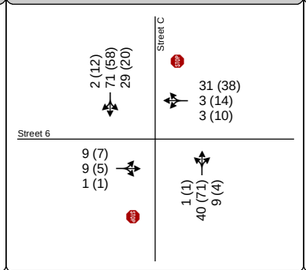
63. Orchard Ln/Farm Rd



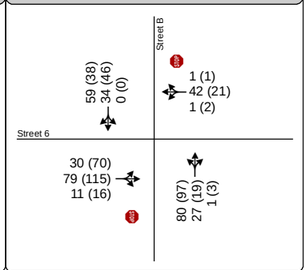
64. Street D/Street 6



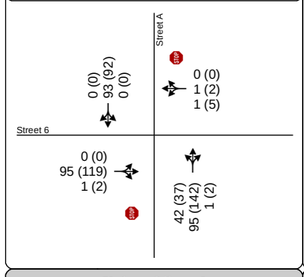
65. Street C/Street 6



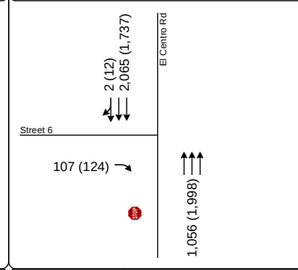
66. Street B/Street 6



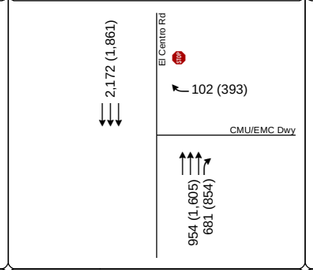
67. Street A/Street 6



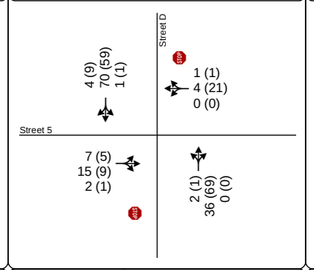
68. El Centro Rd/Street 6



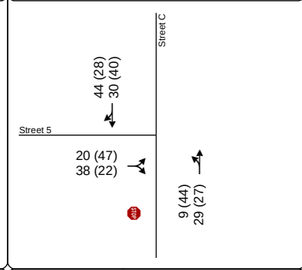
69. El Centro Rd/CMU/EMC Dwy



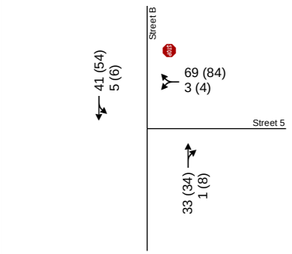
70. Street D/Street 5



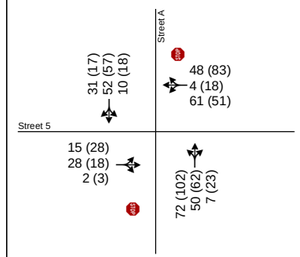
71. Street C/Street 5



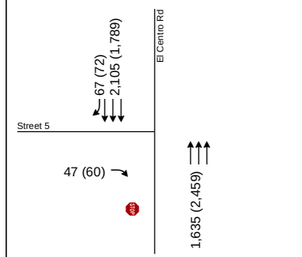
72. Street B/Street 5



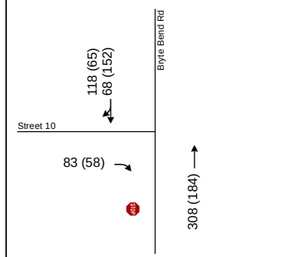
73. Street A/Street 5



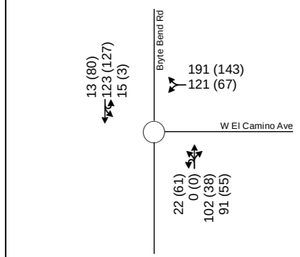
74. El Centro Rd/Street 5



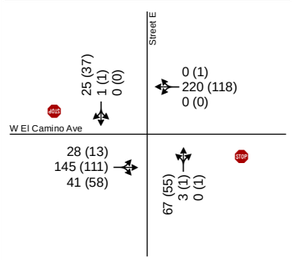
75. Bryte Bend Rd/Street 10



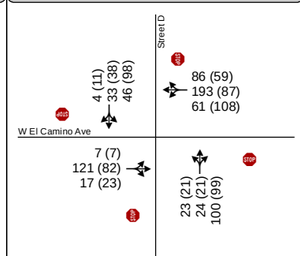
76. Bryte Bend Rd/W El Camino Ave



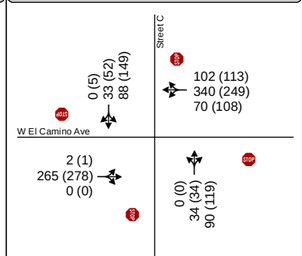
77. Street E/W El Camino Ave



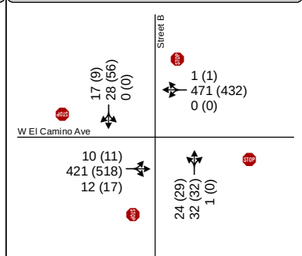
78. Street D/W El Camino Ave



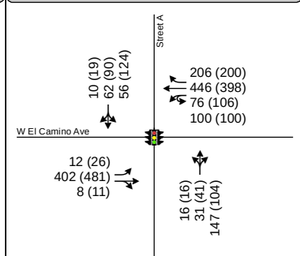
79. Street C/W El Camino Ave



80. Street B/W El Camino Ave



81. Street A/W El Camino Ave



1 Project Study Intersection

• Study Intersection (See Figures 14a - 14b)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

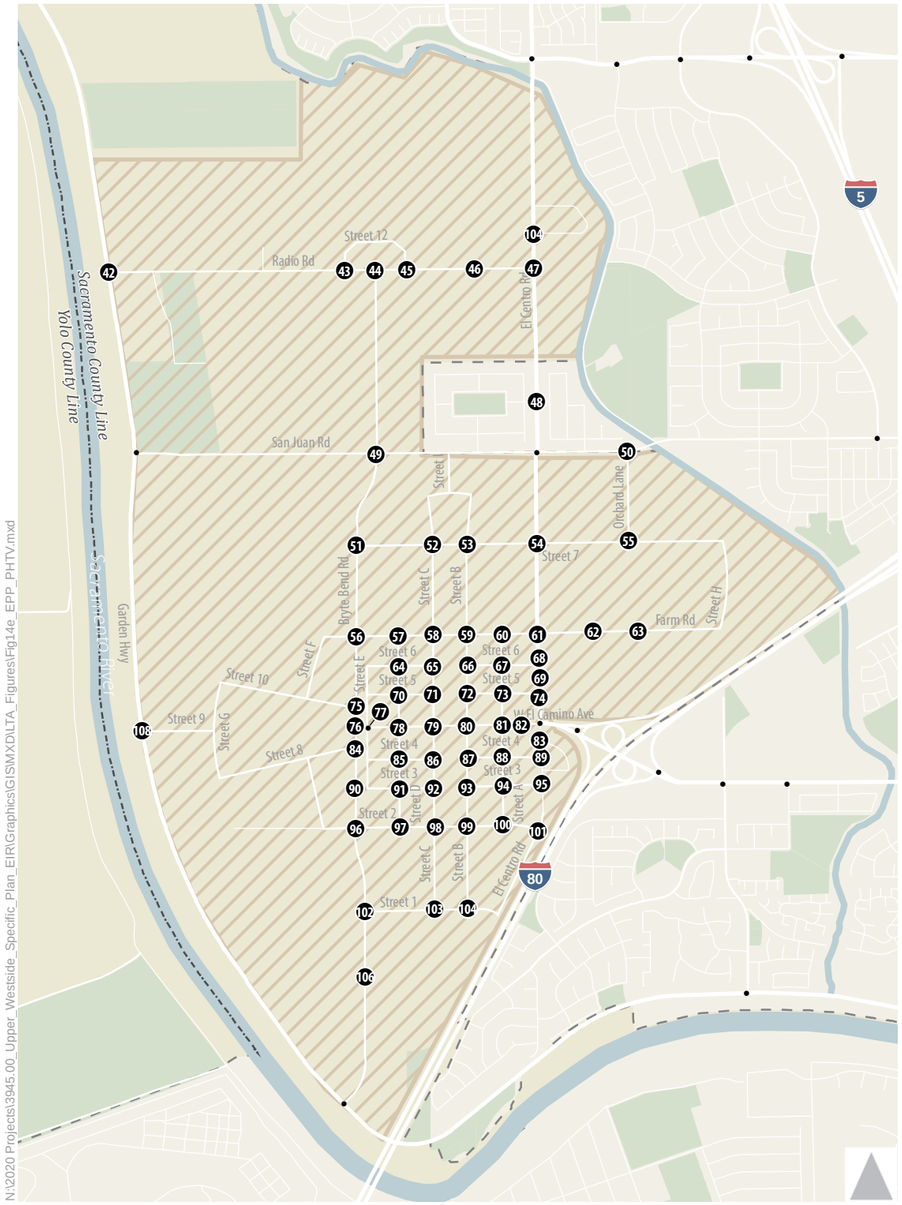
Traffic Signal

Stop Sign

Roundabout

Figure 14d

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig14e_EPP_PHTV.mxd

1 Project Study Intersection

• Study Intersection (See Figures 14a - 14b)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

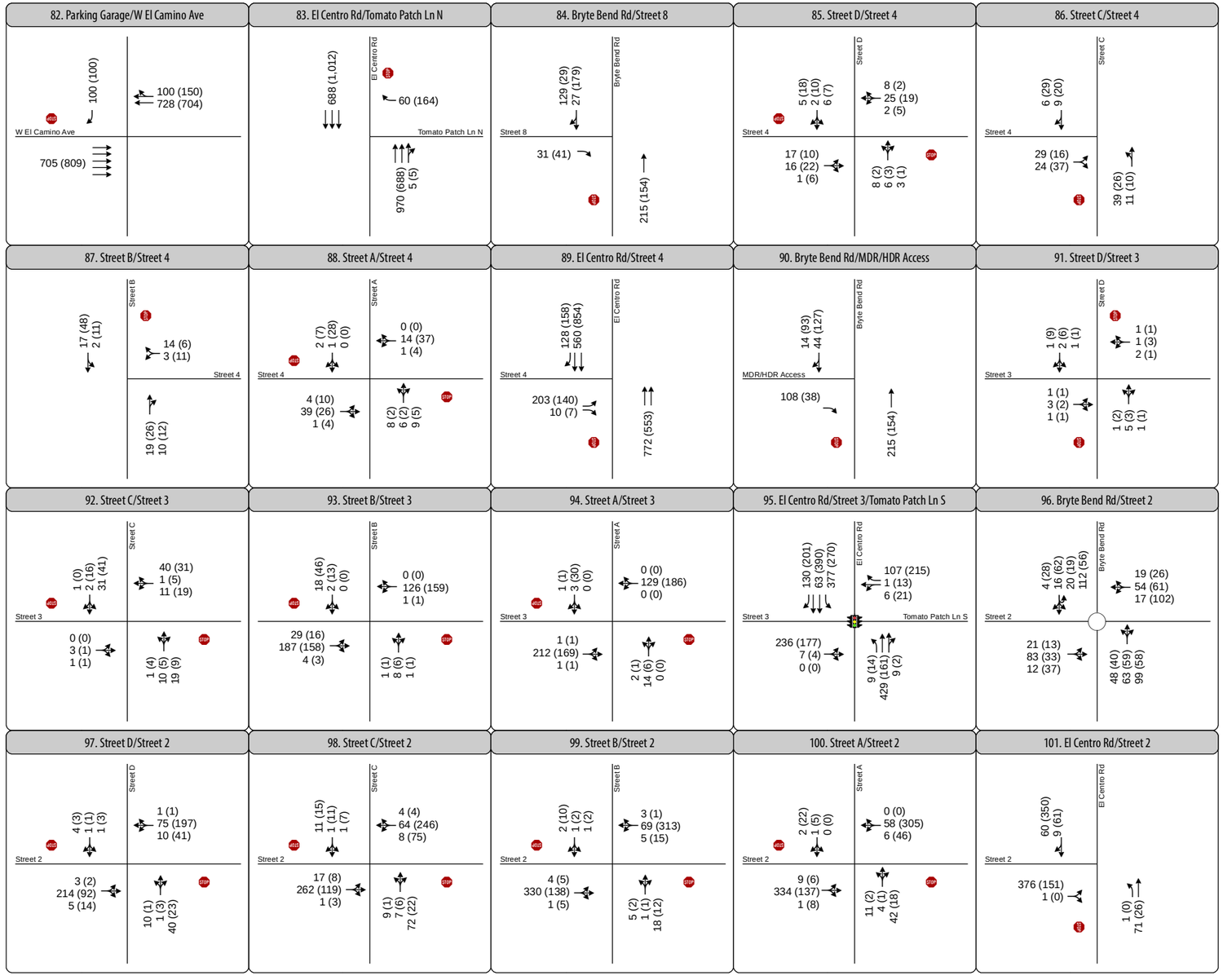
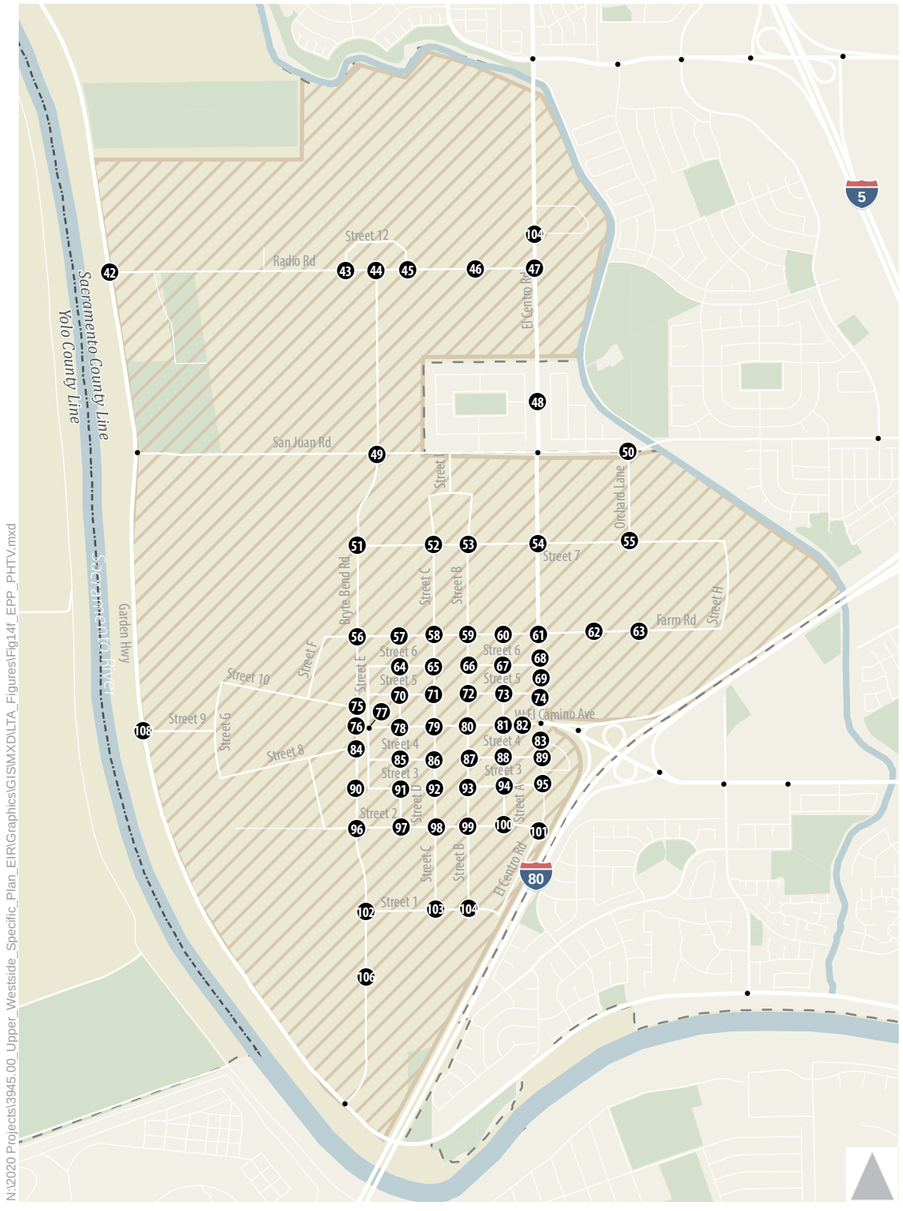
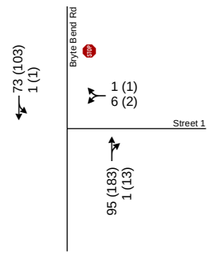


Figure 14e

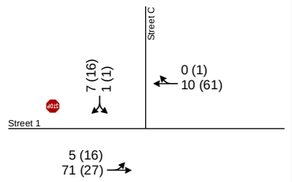
Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions



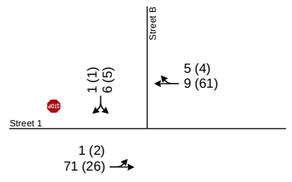
102. Bryte Bend Rd/Street 1



103. Street C/Street 1



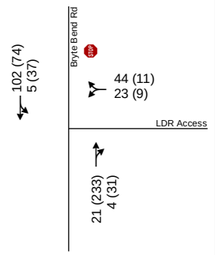
104. Street B/Street 1



105. El Centro Rd/Street 1

Intersection Does Not Exist

106. Bryte Bend Rd/LDR Access



107. Bryte Bend Rd/El Centro Rd

Intersection Does Not Exist

108. Bryte Bend Rd/El Centro Rd

- Project Study Intersection
- Study Intersection (See Figures 14a - 14b)
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign

Figure 14f

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig14f_EPP_PHTV.mxd

The values shown in **Table 10** represent the project's effect on travel on each of the external project gateways. The totals are comprised of both new trips generated by the project that use a given roadway and also trips currently being made through the project area that reroute as a consequence of the project construction. Each existing rerouted trip subtracts two trip ends (i.e., the trip entering the project site area and the trip exiting the project site area) from the gateway total.

Table 10: Change in Daily Traffic at Project Gateways – Existing Plus Project Conditions

Segment	Existing ADT [1]	Existing Plus Project ADT [1]	Increase (% of Total)
West El Camino Avenue west of I-80	14,200	83,300	69,100 (69%)
San Juan Road west of Duckhorn Drive	6,600	14,300	7,700 (8%)
El Centro Road south of Arena Boulevard	7,900	27,000	19,100 (19%)
Garden Highway north of Radio Road	2,300	4,200	1,900 (2%)
Garden Highway under I-80	1,900	4,200	2,300 (2%)
Total	32,900	133,000	100,100 (100%)

Notes:
1. Based on Figures 8 and 13A.
ADT = Average Daily Traffic volume; ADT values are rounded to the nearest 100 vehicles.
Source: Fehr & Peers, 2021

The model's estimate of a net increase in 100,100 daily trips is only slightly lower than the predicted 100,840 net increase in daily trips generated by the project (see Table 9). This implies that the analysis was somewhat conservative because there would almost certainly be more than just 370 daily vehicle trips (i.e., half of 100,840 minus 100,100 daily trips) that would reroute the area due to increased travel time (e.g., along El Centro Road) caused by the project.

Table 10 indicates that 69 percent of the net increase in daily trips would use the I-80/West El Camino Avenue interchange. This large percentage makes sense given that 73 percent of the project's total vehicle trips are generated by uses located south of Farm Road. Hence, the interchange's close proximity to those uses, combined with its assumed capacity increase, results in the large predicted percentage increase. Parallel routes such as Garden Highway or San Juan Road are more circuitous and/or do not provide access to the same level of complementary land uses, though the project would still add trips to them.

A trip distribution figure (with fixed percentages for each segment) was not provided because the project would add new roadways and alter background travel behavior. These effects are not well represented by a fixed set of trip distribution percentages. The data in Table 10 provides a better sense of how the project would affect travel on various corridors serving the site.

Roadway Segment Operations

Table 11 displays the v/c ratio and LOS for the Sacramento County study roadway segments under existing plus project conditions. This table includes both existing study roadways and numerous new County roadways that would be constructed with the project. Because project construction would transform the project site area into an urbanized environment, the County's urban service boundary standard of LOS E was applied for all new roadways constructed by the project or existing roadways improved by the project. Functional classifications of new/widened roadways were based on the proposed project street cross-sections and discussions with DOT staff.

This table indicates that all Sacramento County roadway segments would operate at an acceptable level with the exception of West El Camino Avenue from El Centro Road to I-80 WB Ramps, which would operate at LOS F despite being widened from two to six lanes.

The vast majority of new streets constructed by the project would operate at LOS A. However, operations would be at LOS D on West El Camino Avenue within the Town Center (i.e., west of El Centro Road). El Centro Road north of West El Camino Avenue, despite being widened to six lanes, would operate at LOS E with a v/c ratio of 0.97 (i.e., close to LOS F).

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions

Segment	LOS [1] Standard	Existing Conditions				Existing Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Del Paso Road: Powerline Road to Hovnanian Drive	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	2,200	0.17	C	Rural, 2 lane road, <24' of pavement, <6' shoulders	2,200	0.17	C
San Juan Road: Garden Highway to Bryte Bend Road	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	2,300	0.18	C	Residential collector without frontage (2 lanes)	4,700	0.47	A
San Juan Road: Bryte Bend Road to Street I	D / E [1]					Arterial, low access control (2 lanes)	8,400	0.56	A
San Juan Road: Street I to El Centro Road	D / E [1]					Arterial, low access control (2 lanes)	6,800	0.45	A
San Juan Road: El Centro Road to Orchard Lane	E	Arterial, low access control (2 lanes)	6,600	0.47	A	Arterial, low access control (2 lanes)	13,900	0.93	E
Powerline Road: Bayou Way to Del Paso Road	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	2,900	0.23	C	Rural, 2 lane road, <24' of pavement, <6' shoulders	4,800	0.38	D
Powerline Road: Del Paso Road to Garden Highway	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	2,500	0.20	C	Rural, 2 lane road, <24' of pavement, <6' shoulders	4,400	0.34	D
Garden Highway: Powerline Road to Radio Road	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	2,300	0.18	C	Rural, 2 lane road, <24' of pavement, <6' shoulders	3,800	0.30	D
Garden Highway: Radio Road to San Juan Road	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	2,300	0.18	C	Rural, 2 lane road, <24' of pavement, <6' shoulders	1,900	0.15	B
Garden Highway: San Juan Road to Street 9	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	1,800	0.14	B	Rural, 2 lane road, <24' of pavement, <6' shoulders	1,900	0.15	B
Garden Highway: Street 9 to Bryte Bend Road						Rural, 2 lane road, <24' of pavement, <6' shoulders	2,400	0.19	C

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions

Segment	LOS [1] Standard	Existing Conditions				Existing Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
El Centro Road: Arena Boulevard/Natomas Central Drive to Radio Road	D / E [1]	Arterial, moderate access control (2 lanes)	7,900	0.44	A	Arterial, moderate access control (4 lanes)	27,000	0.75	C
El Centro Road: Radio Road to San Juan Road						Arterial, moderate access control (4 lanes)	23,100	0.64	B
El Centro Road: San Juan Road to Street 7	D / E [1]	Arterial, moderate access control (2 lanes)	13,400	0.74	C	Arterial, moderate access control (4 lanes)	28,100	0.78	C
El Centro Road: Street 7 to Farm Road						Arterial, moderate access control (4 lanes)	33,000	0.92	E
El Centro Road: Farm Road to Street 6						Arterial, moderate access control (6 lanes)	43,900	0.81	D
El Centro Road: Street 6 to Street 5						Arterial, moderate access control (6 lanes)	51,200	0.95	E
El Centro Road: Street 5 to El Camino Avenue						Arterial, moderate access control (6 lanes)	52,600	0.97	E
El Centro Road: El Camino Avenue to Street 4	D / E [1]	Arterial, low access control (2 lanes)	2,000	0.13	A	Arterial, moderate access control (6 lanes)	21,700	0.40	A
El Centro Road: Street 4 to Street 3						Arterial, low access control (4 lanes)	17,800	0.59	A
El Centro Road: Street 3 to Street 2						Arterial, low access control (4 lanes)	9,100	0.30	A
El Centro Road: Street 2 to Street 1		Does Not Exist				Residential collector without frontage (2 lanes)	900	0.09	A
Bayou Way: Airport Boulevard to Powerline Road	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	3,200	0.25	C	Rural, 2 lane road, <24' of pavement, <6' shoulders	5,100	0.40	D
Bryte Bend Road: Radio Road to San Juan Road	E	Does Not Exist				Arterial, low access control (2 lanes)	5,100	0.34	A
Bryte Bend Road: San Juan Road to Street 7	E					Arterial, low access control (2 lanes)	5,400	0.36	A
Bryte Bend Road: Street 7 to Farm Road	E					Arterial, low access control (2 lanes)	6,300	0.42	A
Bryte Bend Road: Farm Road to Street 10	E					Arterial, low access control (2 lanes)	2,200	0.15	A
Bryte Bend Road: Street 10 to El Camino Ave	E					Arterial, low access control (2 lanes)	3,700	0.25	A

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions									
Segment	**LOS [1] Standard**	**Existing Conditions**				**Existing Plus Conditions**			
		Classification	**ADT [2]**	**V/C [3]**	**LOS**	**Classification**	**ADT [2]**	**V/C [3]**	**LOS**
Bryte Bend Road: El Camino Avenue to Street 8	E					Arterial, low access control (2 lanes)	2,600	0.17	A
Bryte Bend Road: Street 8 to Street 2	E					Arterial, low access control (2 lanes)	1,700	0.11	A
Bryte Bend Road: Street 2 to Street 1	E					Arterial, low access control (2 lanes)	2,600	0.17	A
Bryte Bend Road: Street 1 to Bryte Bend LDR Access	E					Arterial, low access control (2 lanes)	1,700	0.11	A
Bryte Bend Road: El Centro Road to Garden Highway	E					Residential collector without frontage (2 lanes	2,100	0.21	A
Street A: Farm Road to Street 6	E					Residential collector without frontage (2 lanes)	1,600	0.16	A
Street A: Street 6 to Street 5	E					Residential collector without frontage (2 lanes)	2,200	0.22	A
Street A: Street 5 to El Camino Avenue	E					Residential collector without frontage (2 lanes)	6,800	0.68	B
Street A: El Camino Avenue to Street 4	E					Residential collector without frontage (2 lanes)	3,900	0.39	A
Street A: Street 4 to Street 3	E					Residential collector without frontage (2 lanes)	300	0.03	A
Street A: Street 3 to Street 2	E	Does Not Exist				Residential collector without frontage (2 lanes)	200	0.02	A
Street B: Street I to Street 7	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street B: Street 7 to Farm Road	E					Residential collector without frontage (2 lanes)	600	0.06	A

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions									
Segment	LOS [1] Standard	Existing Conditions				Existing Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Street B: Farm Road to Street 6	E					Residential collector without frontage (2 lanes)	1,700	0.17	A
Street B: Street 6 to Street 5	E					Residential collector without frontage (2 lanes)	1,900	0.19	A
Street B: Street 5 to El Camino Avenue	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street B: El Camino Avenue to Street 4	E					Residential collector without frontage (2 lanes)	1,100	0.11	A
Street B: Street 4 to Street 3	E					Residential collector without frontage (2 lanes)	700	0.07	A
Street B: Street 3 to Street 2	E					Residential collector without frontage (2 lanes)	200	0.02	A
Street B: Street 2 to Street 1	E					Residential collector without frontage (2 lanes)	400	0.04	A
Street C: Street I to Street 7	E					Residential collector without frontage (2 lanes)	1,700	0.17	A
Street C: Street 7 to Farm Road	E					Residential collector without frontage (2 lanes)	800	0.08	A
Street C: Farm Road to Street 6	E					Residential collector without frontage (2 lanes)	2,000	0.20	A
Street C: Street 6 to Street 5	E					Residential collector without frontage (2 lanes)	1,300	0.13	A
Street C: Street 5 to El Camino Avenue	E					Residential collector without frontage (2 lanes)	3,800	0.38	A

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions

Segment	LOS [1] Standard	Existing Conditions				Existing Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Street C: El Camino Avenue to Street 4	E	Does Not Exist				Residential collector without frontage (2 lanes)	3,300	0.33	A
Street C: Street 4 to Street 3	E					Residential collector without frontage (2 lanes)	700	0.07	A
Street C: Street 3 to Street 2	E					Residential collector without frontage (2 lanes)	400	0.04	A
Street C: Street 2 to Street 1	E					Residential collector without frontage (2 lanes)	1,300	0.13	A
Street D: Farm Road to Street 6	E					Residential collector without frontage (2 lanes)	1,200	0.12	A
Street D: Street 6 to Street 5	E					Residential collector without frontage (2 lanes)	1,300	0.13	A
Street D: Street 5 to El Camino Avenue	E	Does Not Exist				Residential collector without frontage (2 lanes)	2,700	0.27	A
Street D: El Camino Avenue to Street 4	E					Residential collector without frontage (2 lanes)	3,300	0.33	A
Street D: Street 4 to Street 3	E					Residential collector without frontage (2 lanes)	200	0.02	A
Street D: Street 3 to Street 2	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street E: Street 6 to Street 5	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street E: Street 5 to El Camino Avenue	E					Residential collector without frontage (2 lanes)	500	0.05	A

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions

Segment	LOS [1] Standard	Existing Conditions				Existing Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Street E: El Camino Avenue to Street 4	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street E: Street 4 to Street 3	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street F: Street 10 to Farm Road	E					Residential collector without frontage (2 lanes)	1,100	0.11	A
Street F: Street 8 to Street 2	E					Residential collector without frontage (2 lanes)	600	0.06	A
Street G: Street 10 to Street 9	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street G: Street 9 to Street 8	E					Residential collector without frontage (2 lanes)	800	0.08	A
Street H: Street 7 to Farm Road	E					Residential collector without frontage (2 lanes)	1,000	0.10	A
Street I: San Juan Road to Street C/Street B	E					Residential collector without frontage (2 lanes)	700	0.07	A
Radio Road: Garden Highway to Street 12	D / E [1]					Residential collector without frontage (2 lanes)	1,300	0.13	A
Radio Road: Street 12 (W) to Bryte Bend Road	E					Arterial, low access control (2 lanes)	800	0.05	A
Radio Road: Bryte Bend Road to Street 12	E					Arterial, low access control (2 lanes)	3,800	0.25	A
Radio Road: Street 12 (E) to El Centro Road	E					Arterial, low access control (2 lanes)	14,700	0.98	E
El Camino Avenue: El Centro Road to I-80 WB Ramps	E	Arterial, low access control (2 lanes)	14,200	0.95	E	Arterial, moderate access control (6 lanes)	**83,300**	**1.54**	**F**
El Camino Avenue: El Centro Road to Street A	E					Arterial, low access control (4 lanes)	20,100	0.67	B

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions

Segment	LOS [1] Standard	Existing Conditions				Existing Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
El Camino Avenue: Street A to Street B	E					Arterial, low access control (2 lanes)	12,200	0.81	D
El Camino Avenue: Street B to Street C	E					Arterial, low access control (2 lanes)	12,800	0.85	D
El Camino Avenue: Street C to Street D	E					Arterial, low access control (2 lanes)	7,200	0.48	A
El Camino Avenue: Street D to Street E	E					Arterial, low access control (2 lanes)	4,500	0.30	A
El Camino Avenue: Street E to Bryte Bend Road	E					Arterial, low access control (2 lanes)	4,500	0.30	A
Street 1: El Centro Road to Street B	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street 1: Street B to Street C	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street 1: Street C to Bryte Bend Road	E					Residential collector without frontage (2 lanes)	1,000	0.10	A
Street 2: El Centro Road to Street A	E					Arterial, low access control (2 lanes)	6,200	0.41	A
Street 2: Street A to Street B	E					Arterial, low access control (2 lanes)	5,800	0.39	A
Street 2: Street B to Street C	E					Arterial, low access control (2 lanes)	5,600	0.37	A
Street 2: Street C to Street D	E					Arterial, low access control (2 lanes)	4,700	0.31	A
Street 2: Street D to Bryte Bend Road	E					Arterial, low access control (2 lanes)	3,700	0.25	A
Street 2: Bryte Bend Road to Street F	E					Arterial, low access control (2 lanes)	2,000	0.13	A
Street 3: El Centro Road to Street A	E					Residential collector without frontage (2 lanes)	4,900	0.49	A
Street 3: Street A to Street B	E	Does Not Exist				Residential collector without frontage (2 lanes)	4,400	0.44	A

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions

Segment	LOS [1] Standard	Existing Conditions				Existing Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Street 3: Street C to Street D	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street 4: El Centro Road to Street A	E					Residential collector without frontage (2 lanes)	4,200	0.42	A
Street 4: Street A to Street B	E					Residential collector without frontage (2 lanes)	800	0.08	A
Street 4: Street C to Street D	E					Residential collector without frontage (2 lanes)	1,100	0.11	A
Street 4: Street D to Street E	E					Residential collector without frontage (2 lanes)	700	0.07	A
Street 5: El Centro Road to Street A	E					Residential collector without frontage (2 lanes)	2,800	0.28	A
Street 5: Street A to Street B	E					Residential collector without frontage (2 lanes)	2,000	0.20	A
Street 5: Street C to Street D	E					Residential collector without frontage (2 lanes)	1,400	0.14	A
Street 5: Street D to Street E	E					Residential collector without frontage (2 lanes)	400	0.04	A
Street 6: El Centro Road to Street A	E					Residential collector without frontage (2 lanes)	1,800	0.18	A
Street 6: Street A to Street B	E					Residential collector without frontage (2 lanes)	2,100	0.21	A
Street 6: Street C to Street D	E					Residential collector without frontage (2 lanes)	300	0.03	A

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions

Segment	LOS [1] Standard	Existing Conditions				Existing Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Street 6: Street D to Street E	E					Residential collector without frontage (2 lanes)	100	0.01	A
Farm Road: Street H to El Centro Road	E					Arterial, moderate access control (4 lanes)	15,600	0.43	A
Farm Road: El Centro Road to Street A	E					Arterial, low access control (2 lanes)	11,800	0.79	C
Farm Road: Street A to Street B	E	Does Not Exist				Arterial, low access control (2 lanes)	10,100	0.67	B
Farm Road: Street B to Street C	E					Arterial, low access control (2 lanes)	8,900	0.59	A
Farm Road: Street C to Street D	E					Arterial, low access control (2 lanes)	7,200	0.48	A
Farm Road: Street D to Bryte Bend Road	E					Arterial, low access control (2 lanes)	5,900	0.39	A
Farm Road: Bryte Bend Road to Street F	E					Arterial, low access control (2 lanes)	2,900	0.19	A
Street 7: Street H to Orchard Lane	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street 7: Orchard Lane to El Centro Road	E					Residential collector without frontage (2 lanes)	3,900	0.39	A
Street 7: El Centro Road to Street B	E					Residential collector without frontage (2 lanes)	2,300	0.23	A
Street 7: Street B to Street C	E					Residential collector without frontage (2 lanes)	200	0.02	A
Street 7: Street C to Bryte Bend Road	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street 8: Street 2 to Bryte Bend Rd	E	Does Not Exist				Residential collector without frontage (2 lanes)	900	0.09	A
Street 8: Street G to Street F	E					Residential collector without frontage (2 lanes)	800	0.08	A

Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions

Segment	LOS [1] Standard	Existing Conditions				Existing Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Street 10: Street F to Bryte Bend Rd	E					Residential collector without frontage (2 lanes)	1,800	0.18	A
Street 10: Street G to Garden Highway	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street 12 (East): North of Radio Road	E					Residential collector without frontage (2 lanes)	8,700	0.87	D
Bryte Bend LDR Access: Bryte Bend Road to El Centro Road	E					Residential collector without frontage (2 lanes)	100	0.01	A
Orchard Lane: San Juan Road to Street 7	E					Residential collector without frontage (2 lanes)	2,700	0.27	A

Notes:
1. LOS D / E = Existing LOS Standard / Existing Plus Project LOS Standard (due to study area becoming urbanized).
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio

Bolded cells represent unacceptable operations.

Source: Fehr & Peers, 2021.

Intersection Operations

Table 12 shows the average delay and LOS at all existing and new project study intersections under existing plus project conditions. At off-site intersections, no changes in signal timings were assumed. Thus, the only change in operating conditions at these locations would be the addition of project trips. Refer to separately bound **Appendix C** for technical calculations.

Table 12 indicates that a number of intersections would experience degradations of one or more service levels. This includes multiple intersections along the West El Camino Avenue, El Centro Road, Garden Highway, and Arena Boulevard corridors. The majority of new project intersections operate acceptably. Refer to Chapter 6 for a complete list of intersections to which the project would cause deficient operations or contribute to already deficient operations.

The following page contains a screenshot image from the SimTraffic model of the West El Camino Avenue and El Centro Road corridors during AM peak hour conditions.

A traffic signal warrant analysis was performed at unsignalized study intersections located in Sacramento County. The list of study locations was further refined (per the Thresholds of Significance) to only include locations whose side-street worst movement would operate at LOS F (if within Urban Service Boundary) or LOS E or F (if outside the Urban Service Boundary). The results are shown in **Table 13** for the seven study intersections that satisfy the above criteria. See separately bound **Appendix C** for technical calculations.

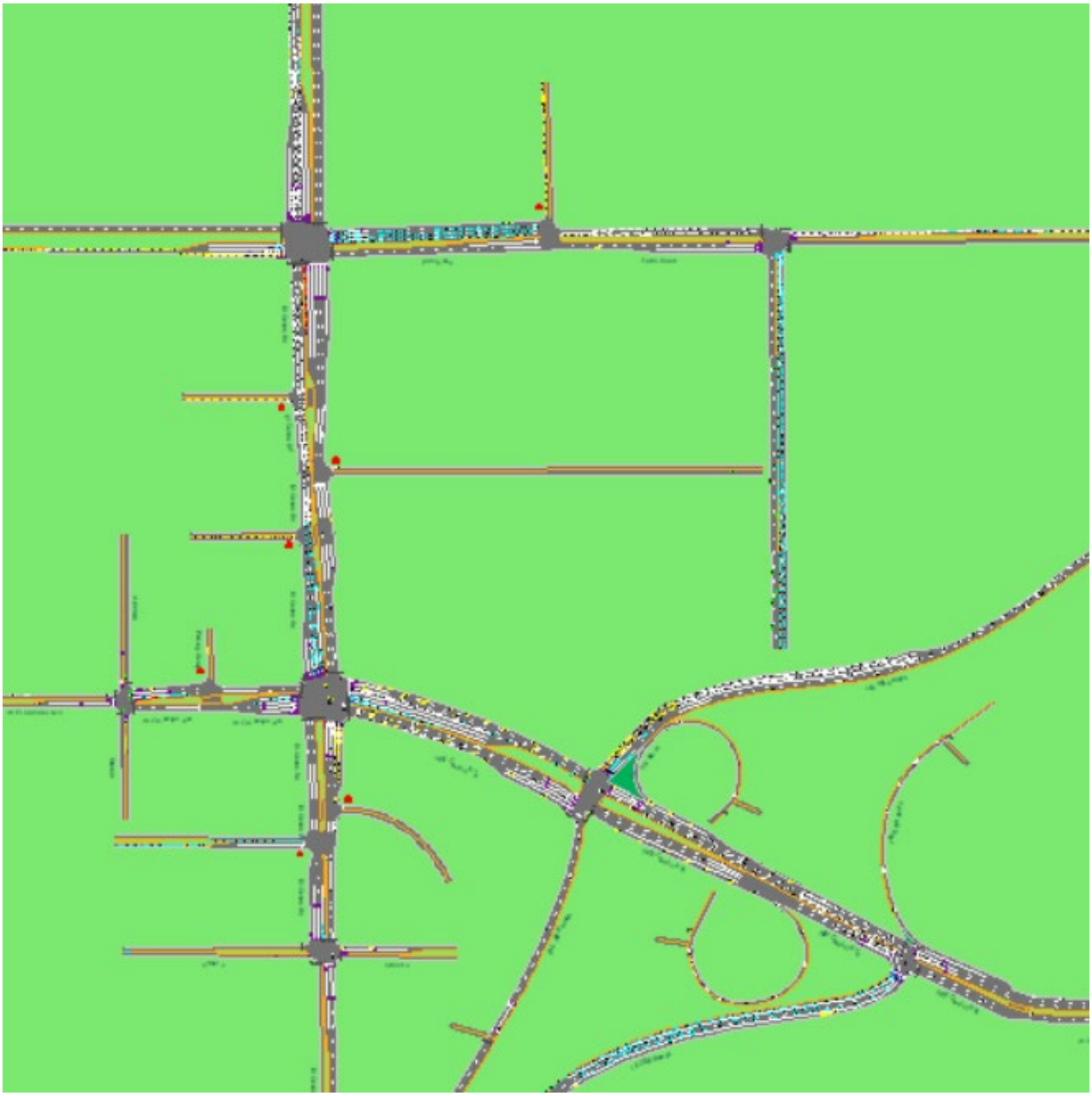


Image of congested conditions during the AM peak hour based on SimTraffic modeling. Key observations include:

- **Southbound queue on El Centro Road extends back from West El Camino Avenue to beyond Farm Road.**
- **Westbound queue on West El Camino Avenue spills back from El Centro Road to I-80, causing queue off-ramp spillbacks onto the freeway.**

Table 12:
Intersection Level of Service – Existing Plus Project Conditions

			Existing Conditions				Existing Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	Traffic Control[1]	Agency	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1. Powerline Road/Bayou Way	SSSC	Sac Co	6 (23)	A (C)	15 (18)	B (C)	9 (33)	A (D)	**67 (92)**	**F (F)**
2. Powerline Road/Del Paso Road	SSSC	Sac Co	4 (11)	A (B)	4 (11)	A (B)	4 (13)	A (B)	3 (14)	A (B)
3. Powerline Road/Garden Highway	SSSC	Sac Co	3 (9)	A (A)	3 (9)	A (A)	4 (9)	A (A)	5 (10)	A (B)
4. Garden Highway/San Juan Road	SSSC	Sac Co	3 (10)	A (A)	4 (9)	A (A)	3 (9)	A (A)	4 (9)	A (A)
5. Garden Highway/Bryte Bend Road	SSSC	Sac Co	0 (9)	A (A)	0 (9)	A (A)	4 (10)	A (B)	2 (10)	A (A)
6. Orchard Lane/Garden Highway	SSSC	City of Sac	6 (12)	A (B)	2 (10)	A (A)	5 (14)	A (B)	2 (13)	A (B)
7. Gateway Oaks Drive/Garden Highway	Signal	City of Sac	19	B	15	B	19	B	42	D
8. I-5 SB Ramps/Garden Highway	Signal	Caltrans	17	B	30	C	21	C	93	F
9. I-5 NB Ramps/Garden Highway	Signal	Caltrans	12	B	31	C	12	B	49	D
10. Natomas Park Drive/Garden Highway	Signal	City of Sac	22	C	24	C	41	D	48	D
11. Truxel Road/Garden Highway	Signal	City of Sac	20	C	26	C	23	C	48	D
12. El Centro Road/Del Paso Road	Signal	City of Sac	26	C	18	B	53	D	18	B
13. El Centro Road/Duckhorn Drive	SSSC	City of Sac	3 (7)	A (A)	3 (6)	A (A)	4 (11)	A (B)	5 (17)	A (C)
14. El Centro Road/Manera Rica Drive	Signal	City of Sac	7	A	7	A	6	A	8	A
15. El Centro Road/Arena Boulevard/Natomas Central Dr	Signal	City of Sac	22	C	17	B	137	F	85	F
16. El Centro Road/San Juan Road	AWSC / Signal	City of Sac / Sac Co	84	F	11	B	37	D	29	C
17. El Centro Road/W. El Camino Avenue	SSSC / Signal	Sac Co	23 (238)	C (F)	13 (21)	B (C)	**113**	**F**	**126**	**F**
18. Hovnanian Drive/Del Paso Road	Signal	City of Sac	6	A	7	A	6	A	7	A
19. Natomas Central Drive/Del Paso Road	Signal	City of Sac	23	C	14	B	25	C	15	B
20. I-5 SB Ramps/Del Paso Road	Signal	Caltrans	8	A	7	A	45	D	8	A
21. I-5 NB Ramps/Del Paso Road	Signal	Caltrans	16	B	16	B	17	B	19	B

Table 12:
Intersection Level of Service – Existing Plus Project Conditions

			Existing Conditions				Existing Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	Traffic Control[1]	Agency	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
22. East Commerce Way/Del Paso Road	Signal	City of Sac	31	C	49	D	34	C	52	D
23. Truxel Road/Del Paso Road	Signal	City of Sac	42	D	44	D	42	D	45	D
24. Stemmler Drive/Arena Boulevard	Signal	City of Sac	15	B	12	B	139	F	96	F
25. Duckhorn Drive/Arena Boulevard	Signal	City of Sac	46	D	24	C	123	F	79	E
26. I-5 SB Ramps/Arena Boulevard	Signal	Caltrans	6	A	6	A	48	D	47	D
27. I-5 NB Ramps/Arena Boulevard	Signal	Caltrans	11	B	17	B	43	D	147	F
28. East Commerce Way/Arena Boulevard	Signal	City of Sac	19	B	23	C	20	C	37	D
29. South Entrance Rd/Innovator Dr/Arena Blvd	Signal	City of Sac	19	B	16	B	17	B	15	B
30. Truxel Road/Arena Boulevard	Signal	City of Sac	37	D	43	D	37	D	46	D
31. Duckhorn Drive/San Juan Road	Signal	City of Sac	15	B	15	B	17	B	19	B
32. Truxel Road/San Juan Road	Signal	City of Sac	42	D	45	D	43	D	50	D
33. I-80 WB Ramps/W. El Camino Avenue	Signal	Caltrans	21	C	13	B	140	F	140	F
34. I-80 EB Ramps/W. El Camino Avenue	Signal	Caltrans	13	B	16	B	36	D	223	F
35. Orchard Lane/W. El Camino Avenue	Signal	City of Sac	15	B	18	B	42	D	15	B
36. West River Drive/W. El Camino Avenue	Signal	City of Sac	15	B	7	A	16	B	11	B
37. Gateway Oaks Drive/W. El Camino Avenue	Signal	City of Sac	28	C	44	D	31	C	103	F
38. I-5 SB Ramps/W. El Camino Avenue	Free	Caltrans	7	A	2	A	7	A	5	A
39. I-5 NB Ramps/W. El Camino Avenue	Signal	Caltrans	29	C	6	A	45	D	15	B
40. Natomas Park Drive/W. El Camino Avenue	Signal	City of Sac	22	C	25	C	22	C	25	C
41. Truxel Road/W. El Camino Avenue	Signal	City of Sac	41	D	44	D	40	D	48	D
42. Garden Highway/Radio Road	SSSC	Sac Co	Does Not Exist				4 (9)	A (A)	4 (9)	A (A)

Table 12:
Intersection Level of Service – Existing Plus Project Conditions

			Existing Conditions				Existing Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	**Traffic Control[1]**	**Agency**	**Delay[2]**	**LOS**	**Delay[2]**	**LOS**	**Delay[2]**	**LOS**	**Delay[2]**	**LOS**
43. Street 12 (W)/Radio Road	SSSC	Sac Co					4 (10)	A (A)	4 (10)	A (A)
44. Bryte Bend Road/Radio Road	RAB	Sac Co					5	A	4	A
45. Street 12 (E)/Radio Road	SSSC	Sac Co					**13 (54)**	**B (F)**	10 (23)	A (C)
46. High School Access/Radio Road	Signal	Sac Co					42	D	26	C
47. El Centro Road/Radio Road	Signal	Sac Co					31	C	33	C
48. Moscatel Avenue/El Centro Road	SSSC	Sac Co					1 (16)	A (C)	1 (15)	A (B)
49. San Juan Road/Bryte Bend Road	RAB	Sac Co					8	A	5	A
50. San Juan Road/Orchard Lane	SSSC	Sac Co					4 (38)	A (E)	2 (25)	A (D)
51. Street 7/Bryte Bend Road	SSSC	Sac Co					0 (12)	A (B)	0 (12)	A (B)
52. Street 7/Street C	SSSC	Sac Co					5 (9)	A (A)	6 (9)	A (A)
53. Street 7/Street B	SSSC	Sac Co					7 (10)	A (A)	4 (10)	A (A)
54. Street 7/El Cerrito Road	Signal	Sac Co					24	C	23	C
55. Street 7/Orchard Lane	AWSC	Sac Co					10	B	8	A
56. Farm Road/Bryte Bend Road	RAB	Sac Co					7	A	6	A
57. Farm Road/Street D	SSSC	Sac Co					3 (16)	A (C)	2 (19)	A (C)
58. Farm Road/Street C	SSSC	Sac Co	Does Not Exist				4 (21)	A (C)	4 (24)	A (C)
59. Farm Road/Street B	SSSC	Sac Co					3 (21)	A (C)	3 (28)	A (D)
60. Farm Road/Street A	SSSC	Sac Co					4 (29)	A (D)	4 (41)	A (E)
61. El Centro Road/Farm Road	Signal	Sac Co					**388**	**F**	**310**	**F**
62. MDR Access/Farm Road	SSSC	Sac Co					200 (461)	F (F)	150 (382)	F (F)
63. Orchard Lane/Farm Road/CMU Driveway	Signal	Sac Co					**266**	**F**	**218**	**F**
64. Street 6/Street D	SSSC	Sac Co					1 (10)	A (A)	1 (10)	A (A)
65. Street 6/Street C	SSSC	Sac Co					4 (10)	A (B)	4 (10)	A (B)
66. Street 6/Street B	SSSC	Sac Co					7 (12)	A (B)	9 (14)	A (B)
67. Street 6/Street A	SSSC	Sac Co	Does Not Exist				5 (12)	A (B)	5 (13)	A (B)

Table 12:
Intersection Level of Service – Existing Plus Project Conditions

			Existing Conditions				Existing Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	Traffic Control[1]	Agency	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
68. El Centro Road/Street 6	SSSC	Sac Co					69 (346)	F (F)	81 (315)	F (F)
69. El Centro Road/CMU/EHC Driveway	SSSC	Sac Co					26 (77)	D (F)	68 (405)	F (F)
70. Street 5/Street D	SSSC	Sac Co					2 (10)	A (B)	2 (10)	A (B)
71. Street 5/Street C	SSSC	Sac Co					4 (9)	A (A)	5 (10)	A (B)
72. Street 5/Street B	SSSC	Sac Co					5 (9)	A (A)	5 (9)	A (A)
73. Street 5/Street A	SSSC	Sac Co					7 (12)	A (B)	7 (14)	A (B)
74. El Centro Road/Street 5	SSSC	Sac Co					21 (900)	C (F)	35 (900)	E (F)
75. Street 10/Bryte Bend Road	SSSC	Sac Co					1 (10)	A (A)	1 (10)	A (B)
76. W. El Camino Avenue/Bryte Bend Road	RAB	Sac Co					5	A	4	A
77. Street E/W. El Camino Avenue	SSSC	Sac Co					3 (7)	A (A)	2 (6)	A (A)
78. Street D/W. El Camino Avenue	AWSC	Sac Co					8	A	7	A
79. Street C/W. El Camino Avenue	AWSC	Sac Co					11	B	11	B
80. Street B/W. El Camino Avenue	AWSC	Sac Co					11	B	15	B
81. Street A/W. El Camino Avenue	Signal	Sac Co					19	B	28	C
82. Parking Garage/W. El Camino Avenue	SSSC	Sac Co					6 (9)	A (A)	8 (11)	A (B)
83. El Centro Road/Tomato Patch Lane N	SSSC	Sac Co	Does Not Exist				4 (43)	A (E)	5 (27)	A (D)
84. Street 8/Bryte Bend Road	SSSC	Sac Co					1 (9)	A (A)	1 (10)	A (A)
85. Street 4/Street D	SSSC	Sac Co					4 (10)	A (A)	5 (10)	A (A)
86. Street 4/Street C	SSSC	Sac Co					7 (9)	A (A)	5 (9)	A (A)
87. Street 4/Street B	SSSC	Sac Co					3 (9)	A (A)	2 (9)	A (A)
88. Street 4/Street A	SSSC	Sac Co					3 (9)	A (A)	4 (10)	A (B)
89. El Centro Road/Street 4	SSSC	Sac Co					18 (124)	C (F)	5 (35)	A (D)
90. MDR/HDR Access/Bryte Bend Road	SSSC	Sac Co					3 (9)	A (A)	1 (10)	A (A)
91. Street 3/Street D	SSSC	Sac Co					5 (9)	A (A)	3 (9)	A (A)

Table 12:
Intersection Level of Service – Existing Plus Project Conditions

			Existing Conditions				Existing Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	Traffic Control[1]	Agency	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
92. Street 3/Street C	SSSC	Sac Co					6 (9)	A (A)	6 (10)	A (A)
93. Street 3/Street B	SSSC	Sac Co					1 (12)	A (B)	2 (12)	A (B)
94. Street 3/Street A	SSSC	Sac Co					1 (12)	A (B)	1 (12)	A (B)
95. El Centro Road/Street 3/Tomato Patch Lane S	Signal	Sac Co					19	B	12	B
96. Street 2/Bryte Bend Road	RAB	Sac Co					5	A	4	A
97. Street 2/Street D	SSSC	Sac Co					2 (10)	A (B)	2 (11)	A (B)
98. Street 2/Street C	SSSC	Sac Co					3 (11)	A (B)	3 (13)	A (B)
99. Street 2/Street B	SSSC	Sac Co					1 (11)	A (B)	1 (11)	A (B)
100. Street2/Street A	SSSC	Sac Co					2 (11)	A (B)	2 (11)	A (B)
101. El Centro Road/Street 2	SSSC	Sac Co					6 (7)	A (A)	5 (8)	A (A)
102. Street 1/Bryte Bend Road	SSSC	Sac Co					0 (10)	A (A)	0 (10)	A (B)
103. Street 1/Street C	SSSC	Sac Co					1 (9)	A (A)	2 (9)	A (A)
104. Street 1/Street B	SSSC	Sac Co	Does Not Exist				1 (9)	A (A)	1 (9)	A (A)
105. Street 1/El Centro Road	SSSC	Sac Co					Does Not Exist [3]			
106. LDR Access/Bryte Bend Road	SSSC	Sac Co					3 (9)	A (A)	1 (11)	A (B)
107. El Centro Road/Bryte Bend Road	RAB	Sac Co					Does Not Exist [3]			
108. Street 9/Bryte Bend Road	SSSC	Sac Co					6 (9)	A (A)	4 (9)	A (A)

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection. RAB = Roundabout.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections and roundabouts. For side-street stop controlled intersections, the average control delay/LOS for the movement with the greatest delay is shown in parentheses, while the average delay/LOS for the entire intersection is shown not in parentheses.
3. Project roadway modification removed extension of El Centro Road southwesterly from Street 1 to Bryte Bend Road. Hence, these intersections no longer exist.

Bolded cells represent unacceptable operations, based on the County's Level of Service policy. Side-street stop controlled intersections exceeding the Level of Service policy are considered acceptable if signal warrants are not met or signals are not considered feasible. See Table 13.

Source: Fehr & Peers, 2021.

Table 13:
Unsignalized Intersection Traffic Signal Warrant Analysis – Existing Plus Project Conditions

Intersection [1]	Traffic Control[2]	Agency	AM Peak Hour				PM Peak Hour				Signal Recommended ?
			Delay[3]	LOS	Warrant 3A [4]	Warrant 3B [4]	Delay[3]	LOS	Warrant 3A [4]	Warrant 3B [4]	
1. Powerline Road/Bayou Way South	SSSC	Sac Co	9 (33)	A (D)	Not Met	Not Met	67 (92)	F (F)	Met	Met	Yes
45. Street 12 (E)/Radio Road	SSSC	Sac Co	13 (54)	B (F)	Not Met	Not Met	10 (23)	A (C)	Not Met	Not Met	No [5]
62. MDR Access/Farm Road	SSSC	Sac Co	200 (461)	F(F)	Not Met	Not Met	150 (382)	F(F)	Not Met	Not Met	No
68. El Centro Road/Street 6	SSSC	Sac Co	69 (346)	F (F)	Met	Met	81 (315)	F (F)	Met	Met	No
69. El Centro Road/ CMU/EHC Dwy	SSSC	Sac Co	26 (77)	D (F)	Not Met	Met	68 (405)	F (F)	Met	Met	No
74. El Centro Road/Street 5	SSSC	Sac Co	21 (900)	C (F)	Not Met	Not Met	35 (900)	E (F)	Not Met	Not Met	No
89. El Centro Road/Street 4	SSSC	Sac Co	18 (124)	C(F)	Met	Met	5 (35)	A (D)	Not Met	Not Met	No

Notes:
1. Only a subset of unsignalized study intersections selected for analysis. Refer to prior page for selection criteria, which relates to Sacramento County thresholds of significance for unsignalized intersections.
2. SSSC = side-street stop controlled intersection.
3. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is shown in parentheses in seconds per vehicle.
4. Warrant 3A is the "Peak Hour Delay" warrant and Warrant 3B is the "Peak Hour Volume" warrant as described in the California MUTCD (2014).
5. Recommendation changes under cumulative plus project conditions (see Table 17).

Source: Fehr & Peers, 2021.

Four of the seven intersections would satisfy either Warrant 3A or 3B during the AM and/or PM peak hours. The El Centro Road/Street 6 (#68), El Centro Road/CMU/EHC Driveway (#69), and El Centro Road/Street 4 (#89) intersections each satisfy the warrant and are situated along the segment of El Centro Road near the Town Center in which a detailed access plan has already been developed. Traffic signals are not considered viable solutions at these three intersections due to their proximity to other signalized intersections. The other remaining intersection that meets the warrant is Powerline Road/Bayou Way South (#1), in which both warrants 3A and 3B are met during the PM peak hour. A traffic signal is recommended at this location.

4. CUMULATIVE CONDITIONS

This chapter describes anticipated transportation conditions under cumulative conditions, which corresponds to the Year 2040.

Travel Demand Forecasts

Cumulative traffic forecasts were developed for the following two scenarios:

- Cumulative No Project Conditions – assumes the project site remains in its current state.
- Cumulative Plus Project Conditions – assumes the full buildout of the proposed project.

The following describes the land use and roadway network assumptions under cumulative conditions.

Land Use Assumptions

The cumulative version of SACSIM travel demand model already includes partial or full buildout of a number of planned and pending projects within the study area. At the direction of Sacramento County DOT and PER staff, full buildout of each of the projects listed below was assumed:

- Metro Air Park (Sacramento County)
- Grandpark Specific Plan (Sacramento County)
- Downtown Specific Plan (City of Sacramento)
- Northlake (formerly Greenbriar) (City of Sacramento)
- Panhandle (City of Sacramento)
- West Broadway Specific Plan (City of Sacramento)
- Railyards Specific Plan (City of Sacramento)
- River District Specific Plan (City of Sacramento)

In addition to these large specific plans / projects, buildout of the following individual projects located within the City of Sacramento was assumed:

- Natomas Crossing Quad B Office Buildings (Centene Campus), Quad C office/retail, and Quad D Medical along East Commerce Way
- West El Camino Avenue Residential (directly east of I-80)
- Department of General Services (DGS) Office Complex on Richards Boulevard

The model's land use inputs were also reviewed (and modified as necessary) to ensure that it assumes development of the following currently vacant parcels within the City of Sacramento located west of I-5 in the study area:

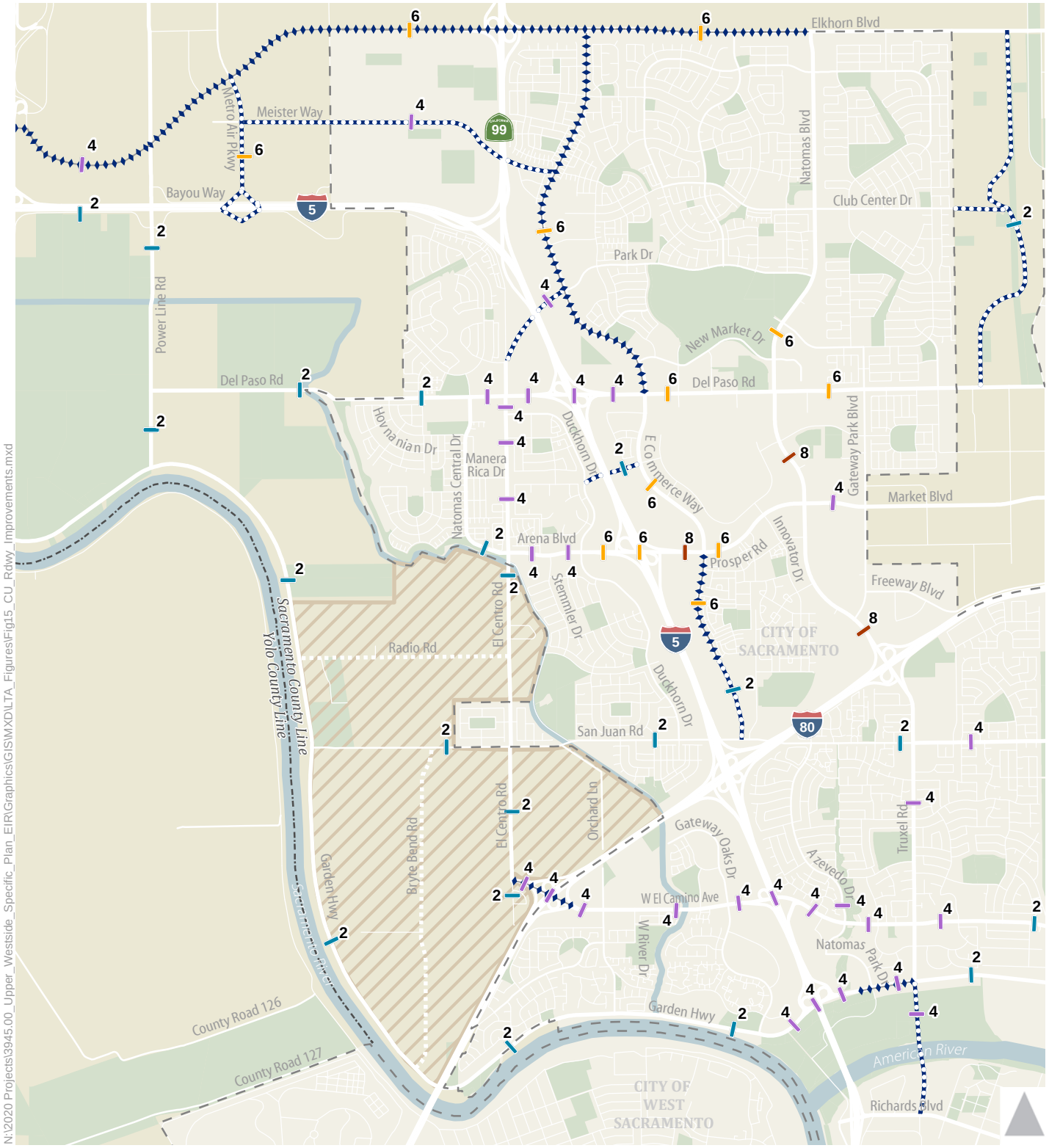
- Southeast quadrant of Arena Boulevard/El Centro Road – multi-family assumed per existing zoning
- Northeast quadrant of Arena Boulevard/Duckhorn Drive – employment center assumed per existing zoning
- East of Duckhorn Drive between Arena Boulevard and San Juan Road – employment center assumed per existing zoning
- West of El Centro Road between Del Paso Road and Manera Rica Drive – multi-family assumed per existing zoning
- Paso Verde School located north of Del Paso Road opposite Hovnanian Drive

Land use information for these projects was derived from a variety of sources including the City of Sacramento and Sacramento County websites, City of Sacramento General Plan Update land use database, and other land use data identified through internet searches.

At the time that the cumulative traffic forecasts were being developed in Spring 2021, City of Sacramento staff indicated that there was no reasonable land use assumption to make for the reuse of the Sleep Train Arena. However, it is now recognized that planning for that project has continued with the proposed Innovation Park being approved by the City Council in February 2022. However, the EIR process for this project has been underway for a considerable period, with the Notice of Preparation (NOP) of an EIR released in October 2020. The NOP establishes the baseline setting and timeframe for making assumptions for subsequent project analysis. At that time, no land use assumptions were available for Sleep Train Arena.

Roadway Network Assumptions

Figure 15 displays the planned cumulative roadway network improvements on surface streets within the study area. This figure shows several extended roadways, widened roadways, and new roadways that are planned for construction by 2040. The cumulative version of the SACSIM model was reviewed and modified as necessary to reflect these improvements.



Number of Lanes
- 2
- 4
- 6
- 8

- Roadway Extension
- Widening to 4 or 6 Lanes
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

Figure 15

Cumulative Roadway Improvements

The following noteworthy roadway connections within the study area were assumed under cumulative conditions:

1. Northpark Drive overcrossing of I-5 between East Commerce Way and El Centro Road
2. Snowy Egret Drive overcrossing of I-5 between East Commerce Way and Duckhorn Drive
3. I-5/Metro Air Parkway interchange (north access only)
4. Improvements to the I-80/West El Camino Avenue interchange including widening of the interchange and modifications to the ramps.
5. New Truxel Road American River bridge from Garden Highway to Richards Boulevard
6. Extension of East Commerce Way southerly to San Juan Road
7. Meister Way overcrossing of SR 99
8. Extension of Elkhorn Boulevard westerly to Crossfield Drive

The enhanced connectivity associated Improvements 1 and 2, in combination with increased background land development, result in increased travel on El Centro Road. Improvement 3, in combination with assumed development in Metro Air Park, results in increased travel on roadways such as El Centro Road, San Juan Road, Garden Highway, and Powerline Road. Improvement 4 adds one lane in each direction of the West El Camino Avenue overcrossing at I-80, better accommodating expected traffic increases. Improvements 4 through 7 result in substantial changes in traffic volumes in the areas where the improvements are being made.

Per communications with the City of Sacramento, it was agreed that Natomas Crossing Drive would not be assumed (as a background assumed roadway network improvement) to extend westerly from East Commerce Way across I-5 to Duckhorn Drive, and would also not extend from Duckhorn Drive to El Centro Road. The 2020 MTP/SCS also lists a variety of transit improvements throughout the region. This includes the extension of SacRT's Green Line light rail service from Township 9 northerly to North Natomas Town Center. Five bus rapid transit (BRT) line and 20 enhanced bus routes are also planned. However, cumulative levels of transit service in the project vicinity are anticipated to be similar to current levels.

Various improvements were also assumed in the model on portions of I-5 and I-80 within the study area including auxiliary (weaving) lanes on I-5 at Del Paso Road and Arena Boulevard and improvements at the I-5/I-80 interchange including direct connector ramps and ramp metering. These projects are listed in the financially-constrained list of projects included in the 2020 MTP/SCS. It should be noted that the Managed Lanes projects for I-5 and I-80 were not assumed in place under cumulative conditions. This is because studies of the type of managed lane facilities (i.e., express toll lanes, carpool lanes, etc.) are ongoing. It would have been speculative to have assumed a particular configuration.

For cumulative no project conditions, the following forecasting adjustment procedure known as the "difference method" was utilized:

Cumulative No Project Forecast = Existing Traffic Count +
(Cumulative Model Forecast – Base Year Model Forecast)

In instances where the roadway currently does not exist the direct model forecast is used.

Figure 16 shows the ADT on study roadways under cumulative no project conditions. **Figures 17A – 17B** show the cumulative no project weekday AM and PM peak hour traffic forecasts at the study intersections. Under cumulative conditions, additional through lanes were added to intersections planned to be widened as shown on Figure 15.

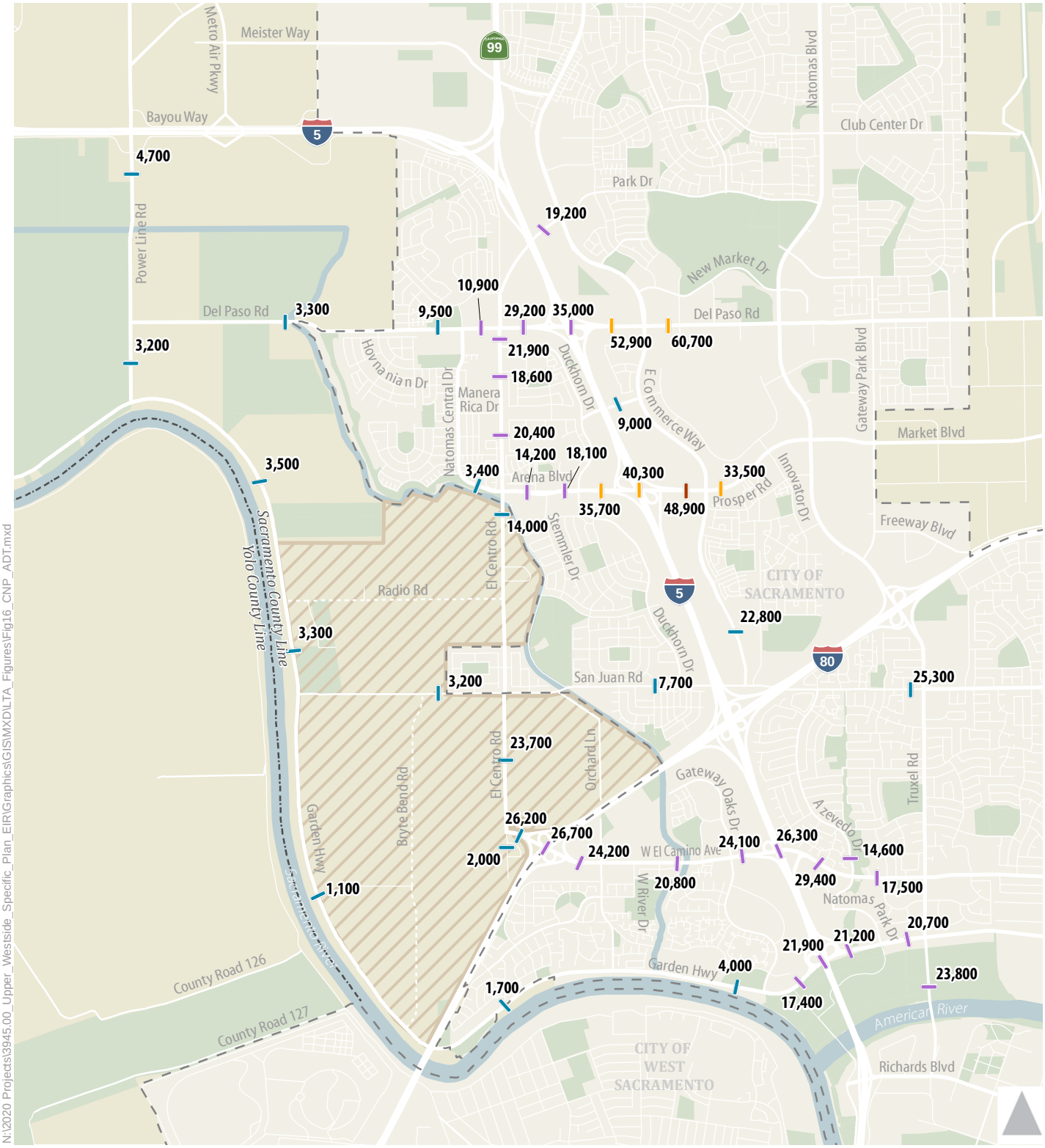
The following key findings are derived from these figures:

- Traffic volumes on the two-lane segment of El Centro Road north of West El Camino Avenue are expected to increase from 13,400 ADT today to 24,600 ADT under cumulative no project conditions. This nearly doubling of traffic is caused by several factors including additional land development west of I-5 and the aforementioned new street connections to El Centro Road (i.e., North Park Drive and Snowy Egret Drive). Traffic increases are also caused by additional through travel demand, likely caused by new land development in Metro Air Park.

- Traffic volumes on the eight-lane segment of Arena Boulevard east of I-5 are expected to increase from 24,300 ADT today to 48,900 ADT under Cumulative No Project conditions. This doubling of traffic growth is caused by substantial levels of new development along East Commerce Way (both north and south of Arena Boulevard) as well as the East Commerce Way connection to San Juan Road.

- Traffic volumes on the six-lane segment of Del Paso Road east of East Commerce Way are expected to increase from 33,400 ADT today to 60,700 ADT under Cumulative No Project conditions. This 82 percent increase is caused by both new development as well as new street connections in the area.

- Traffic growth is moderate (ranging from a 33 to 67 percent increase) on segments such as San Juan Road east of El Centro Road, Powerline Road south of Bayou Way, and Garden Highway south of Powerline Road. The growth on the rural roads is partially attributable to increased development in Metro Air Park and the new I-5/Metro Air Parkway interchange.



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig16_CNP_ADT.mxd

X,XXX Average Daily Traffic Volume

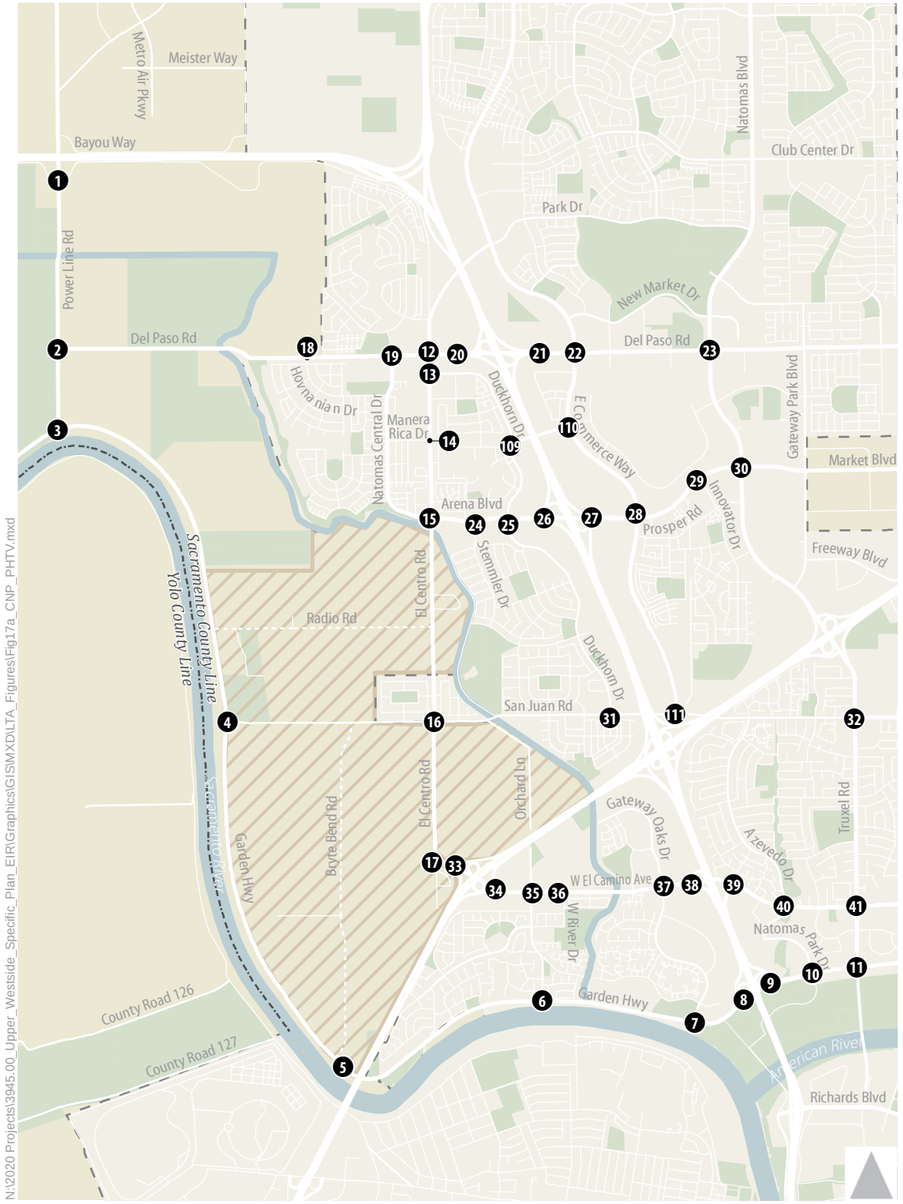
Number of Lanes
- 2
- 4
- 6
- 8

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

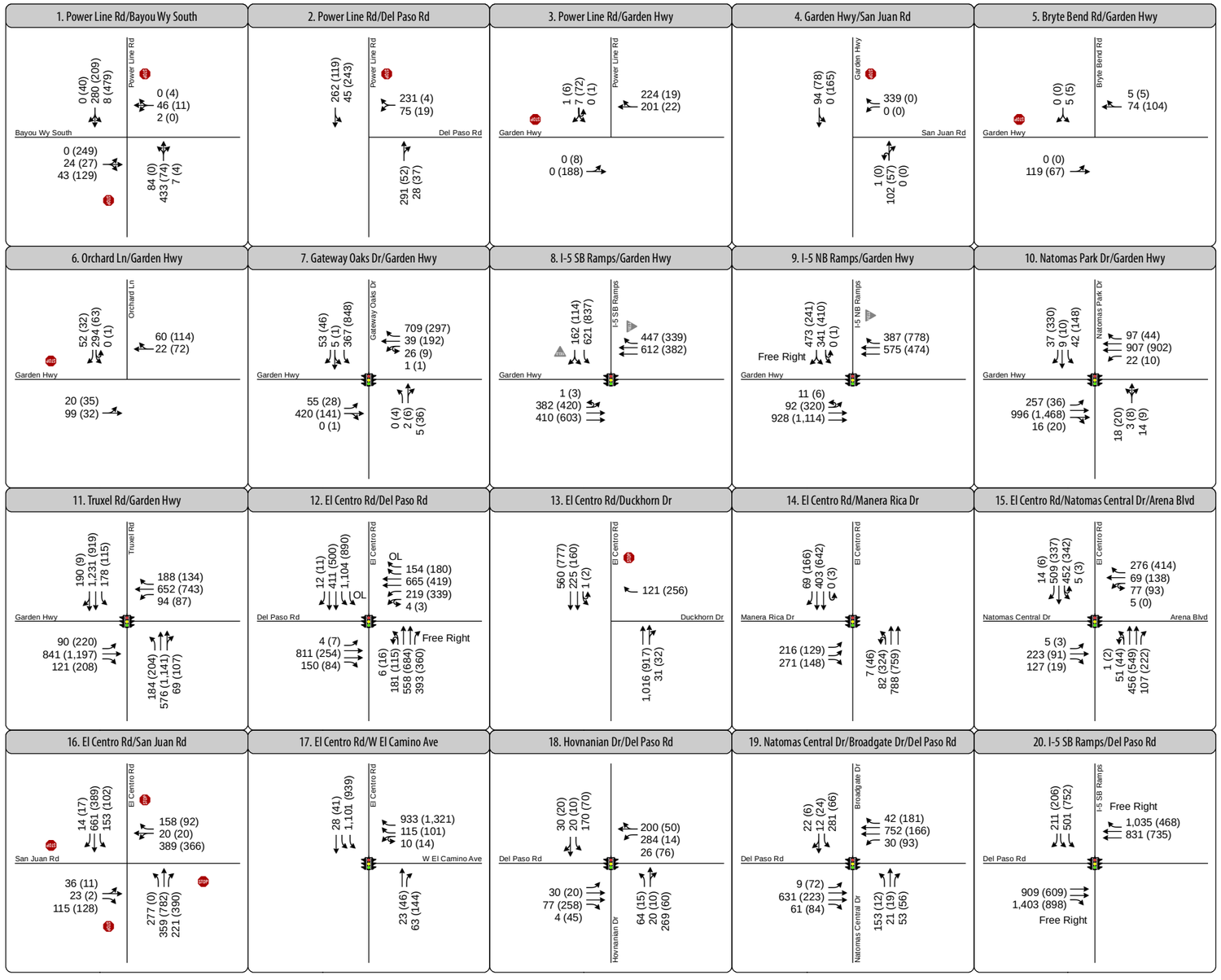
- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

Figure 16

Average Daily Traffic - Cumulative No Project



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig17a_CNP_PHTV.mxd



1 Study Intersection

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Private and/or Gated, Partially Paved/Unpaved Rural Road

Public Roadway

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

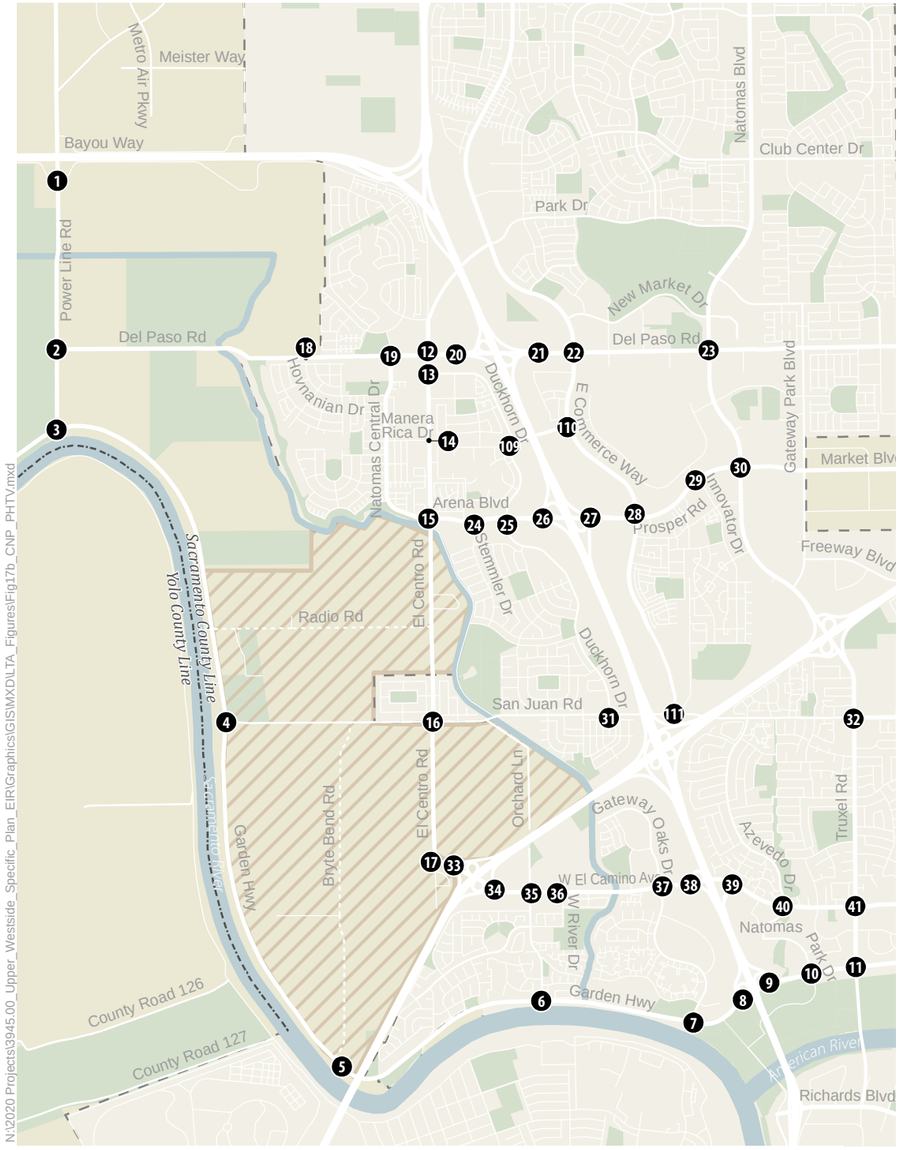
Free Right Free Right-Turn

OL Turning Overlap

Yield Sign

Figure 17a

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

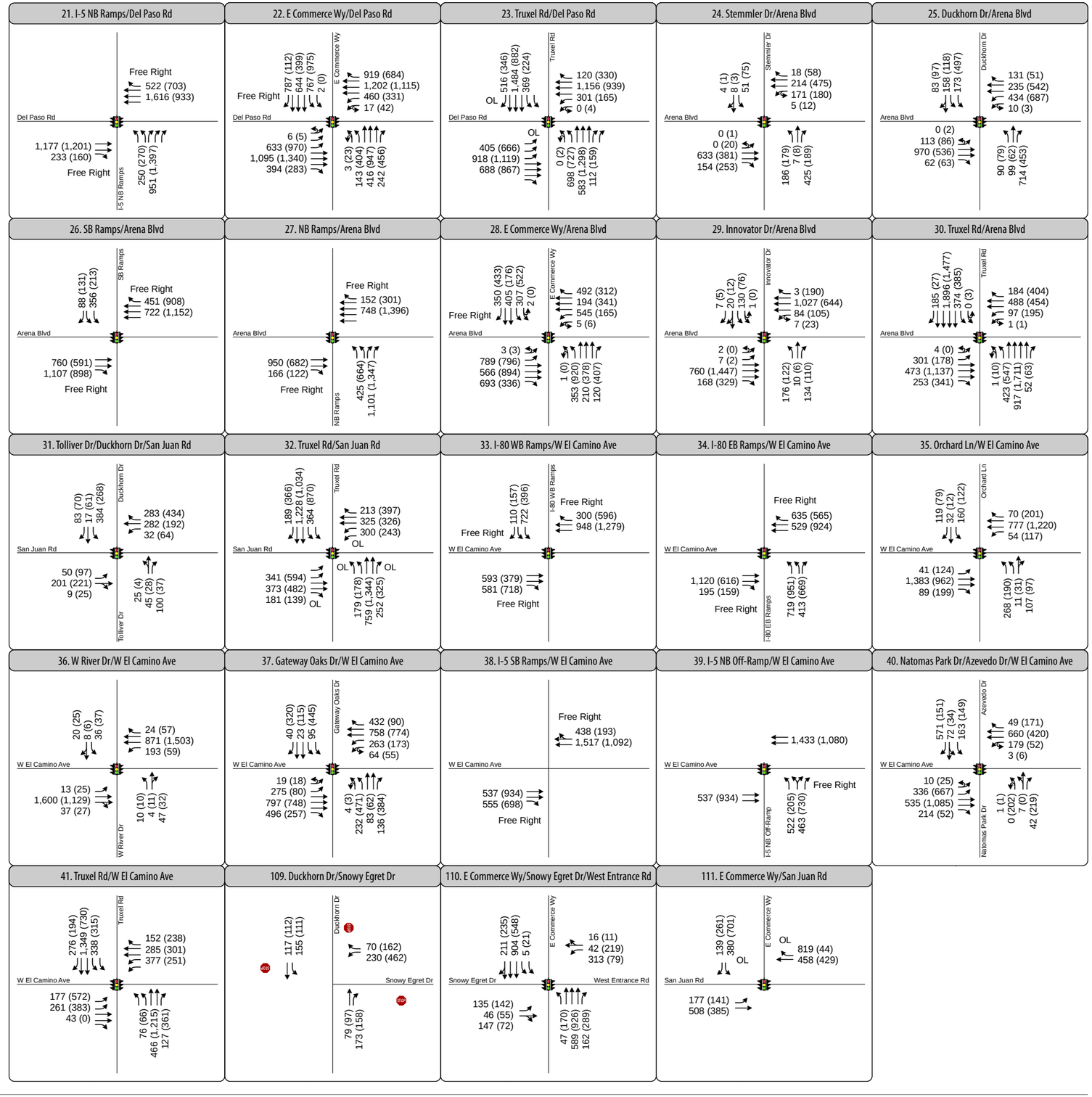


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig17b_CNP_PHTV.mxd

- 1 Study Intersection
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/Unpaved Rural Road
- Public Roadway
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign
- Free Right Free Right-Turn
- OL Turning Overlap

Figure 17b

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions



- Traffic growth is modest (less than 33 percent increase) on segments such as West El Camino Avenue east of I-80, Garden Highway east and west of I-5, and Azevedo Drive south of San Juan Road. This is to be expected as that area is mostly built out.

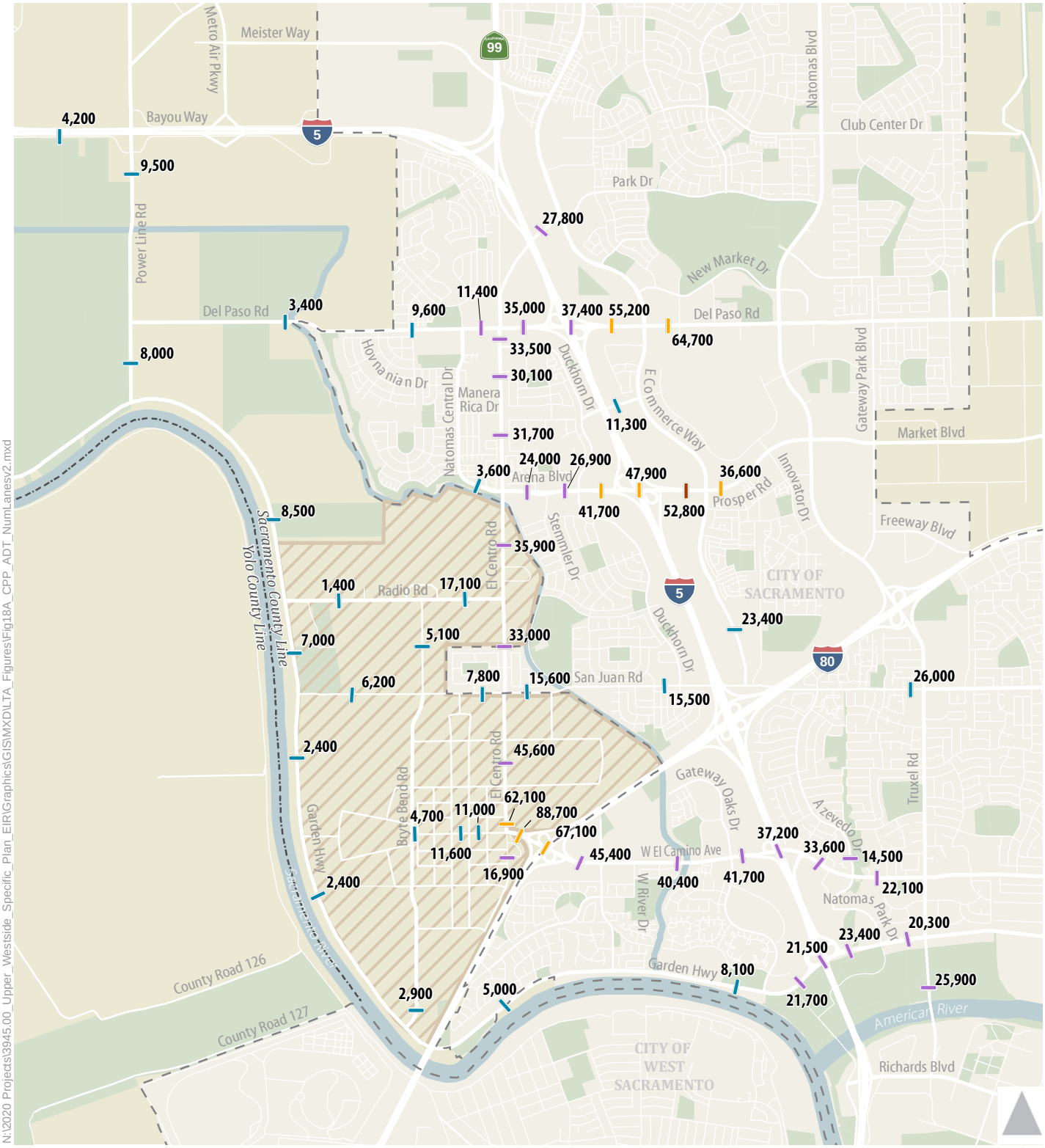
Figure 18A shows the ADT on study roadways under cumulative plus project conditions. **Figure 18B** shows the cumulative ADT on the roadways within the Specific Plan area.

Figures 19A – 19F show the cumulative plus project weekday AM and PM peak hour traffic forecasts at the existing and new project study intersections.

The southbound left-turn and westbound right-turn movements at the El Centro Road/West El Camino Avenue intersection have a major effect on overall traffic operations along the two corridors. The following compares the AM and PM peak hour forecasts for each movement under existing plus project and cumulative plus project conditions:

El Centro Road/West El	*Existing Plus Project*		*Cumulative Plus Project*	
Camino Avenue	*AM Peak Hour*	*PM Peak Hour*	*AM Peak Hour*	*PM Peak Hour*
Southbound Left-Turn	1,947	1,652	2,002 (+3%)	2,090 (+27%)
Westbound Right-Turn	1,285	2,126	1,877 (+46%)	2,241 (+5%)

Under existing plus project conditions, the peak-travel, peak-directional movements are southbound left-turn during the AM peak hour and westbound right-turn during the PM peak hour. The cumulative plus project forecasts show a very modest five percent or less growth in these movements, which is reasonable since they are nearly at capacity. In contrast, growth of 27 percent and 46 percent is expected in the non-peak directions, reflecting the introduction of new employment uses, which attract trips (i.e., hence the 600 added AM peak hour trips turning right onto northbound El Centro Road). From this analysis, it is concluded that the travel demand model is sensitive to peak-hour, peak-direction roadway capacity limitations and reflects those conditions in its trip assignment.



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig18A_CPP_ADT_NumLanesv2.mxd

X,XXX Average Daily Traffic Volume (Refer to Figure 18b for complete set of daily traffic volumes on internal roadways)

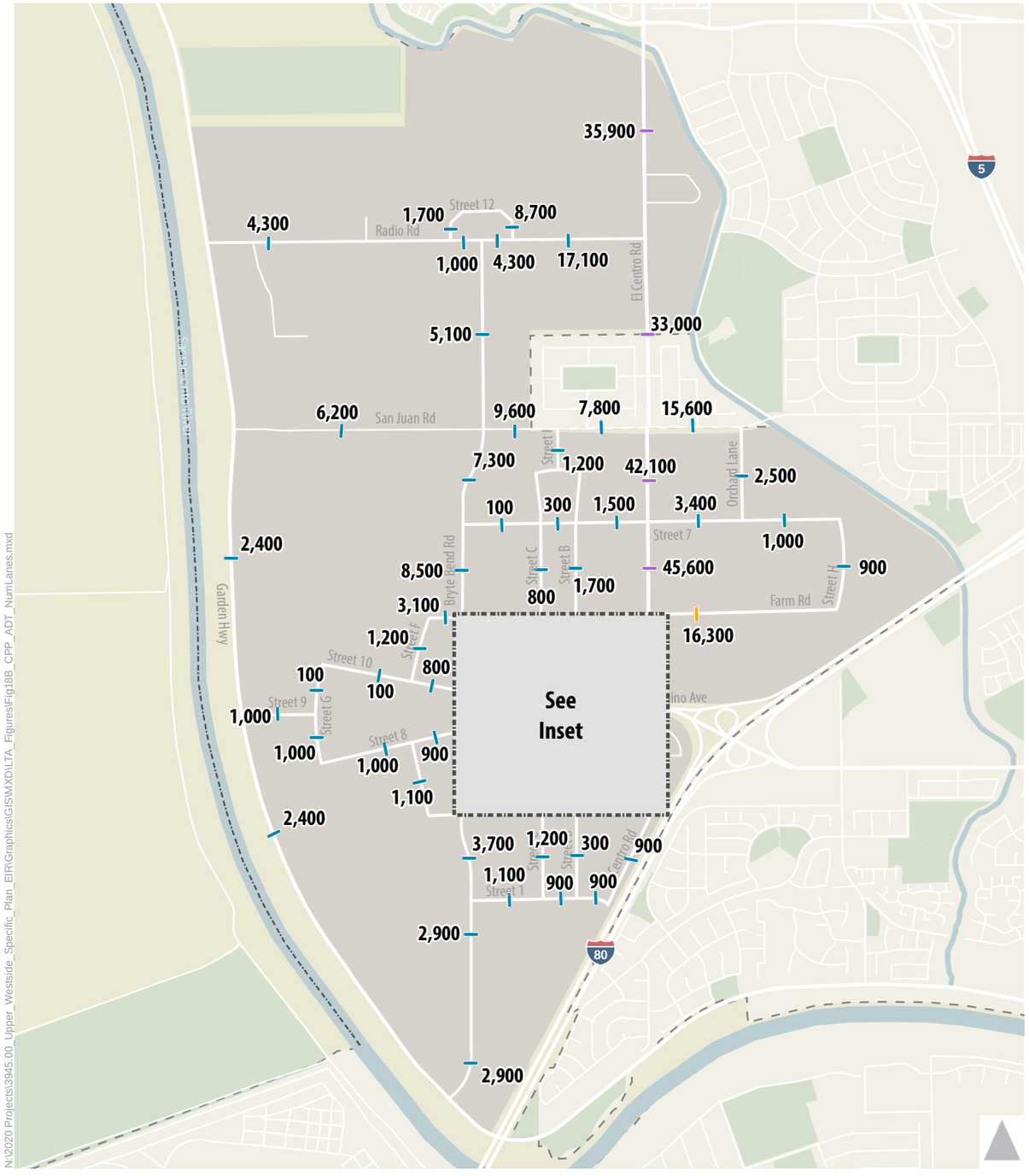
*Cumulative Plus Project Number of Lanes
- 2
- 4
- 6
- 8

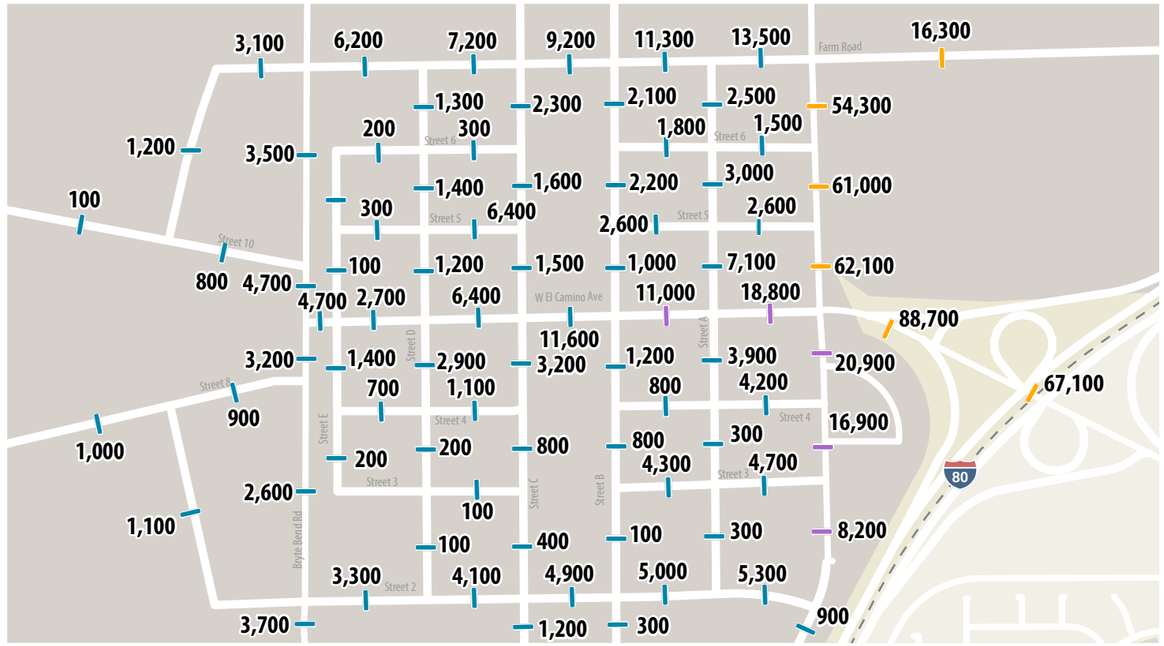
**Includes through lanes only.*

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

Figure 18a

Average Daily Traffic Volumes and Number of Lanes - Cumulative Plus Project Conditions





x,xxx Average Daily Traffic Volume

*Cumulative Plus Project Number of Lanes
- 2
- 4
- 6
- 8

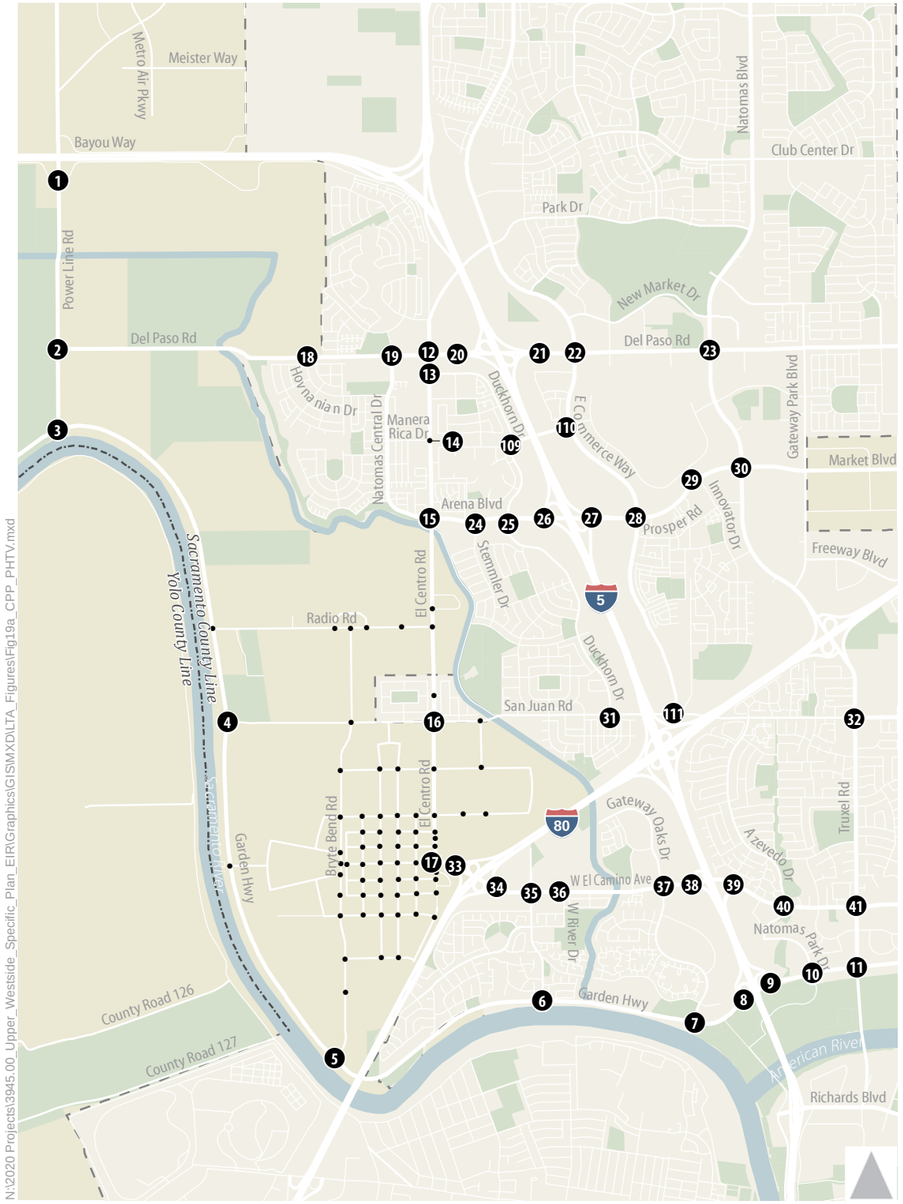
*Includes through lanes only.

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig18B_CPP_ADT_NumLanes.mxd

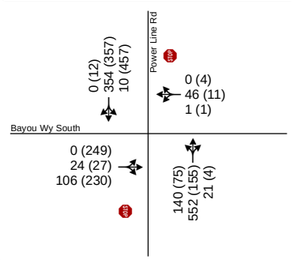
Figure 18b

Average Daily Traffic Volumes and Number of Lanes - Cumulative Plus Project Conditions

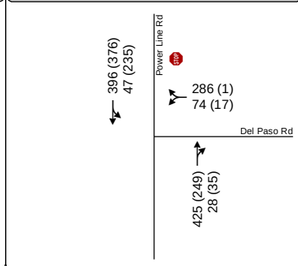


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig19a_CPP_PHTV.mxd

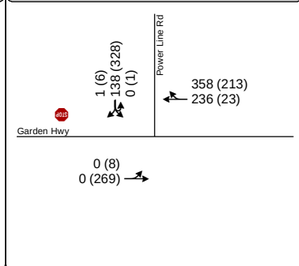
1. Power Line Rd/Bayou Wy South



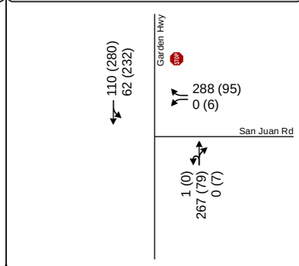
2. Power Line Rd/Del Paso Rd



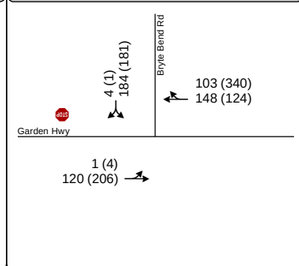
3. Power Line Rd/Garden Hwy



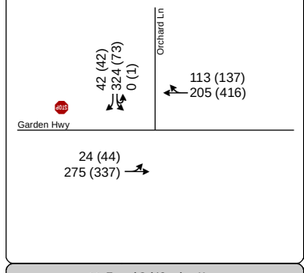
4. Garden Hwy/San Juan Rd



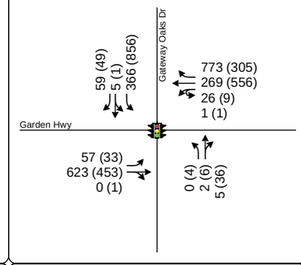
5. Bryte Bend Rd/Garden Hwy



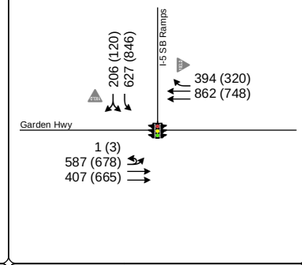
6. Orchard Ln/Garden Hwy



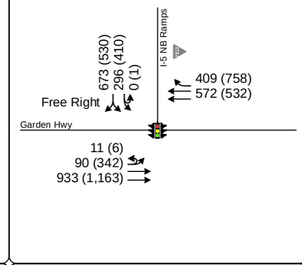
7. Gateway Oaks Dr/Garden Hwy



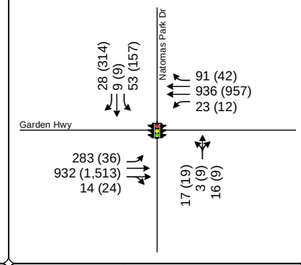
8. I-5 SB Ramps/Garden Hwy



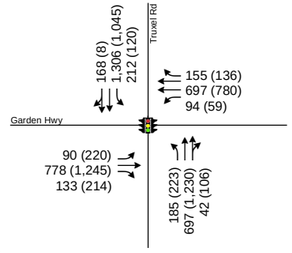
9. I-5 NB Ramps/Garden Hwy



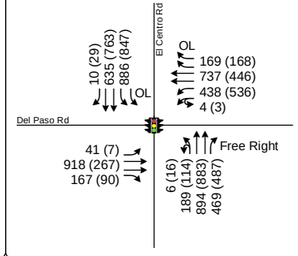
10. Natomas Park Dr/Garden Hwy



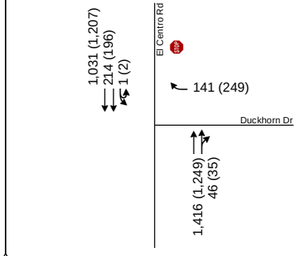
11. Truxel Rd/Garden Hwy



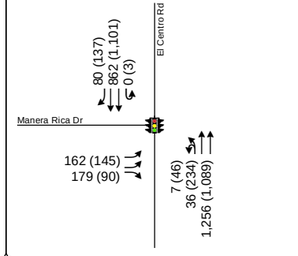
12. El Centro Rd/Del Paso Rd



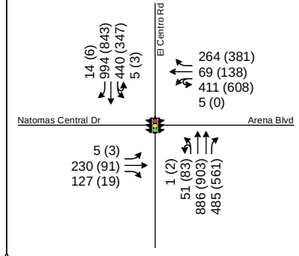
13. El Centro Rd/Duckhorn Dr



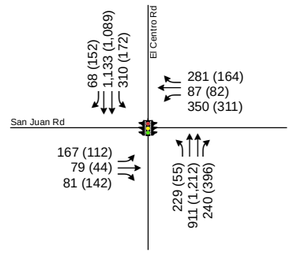
14. El Centro Rd/Manera Rica Dr



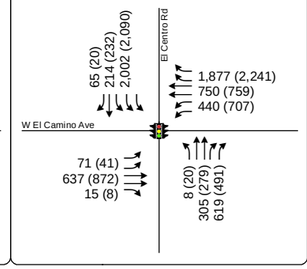
15. El Centro Rd/Natomas Central Dr/Arena Blvd



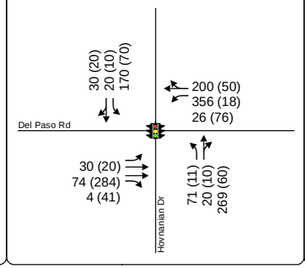
16. El Centro Rd/San Juan Rd



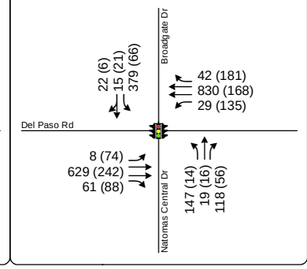
17. El Centro Rd/W El Camino Ave



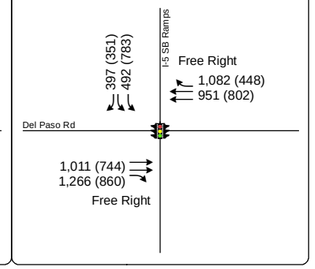
18. Hovnanian Dr/Del Paso Rd



19. Natomas Central Dr/Broadgate Dr/Del Paso Rd



20. I-5 SB Ramps/Del Paso Rd



1 Study Intersection

• Project Study Intersection (See Figures 19c - 19f)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

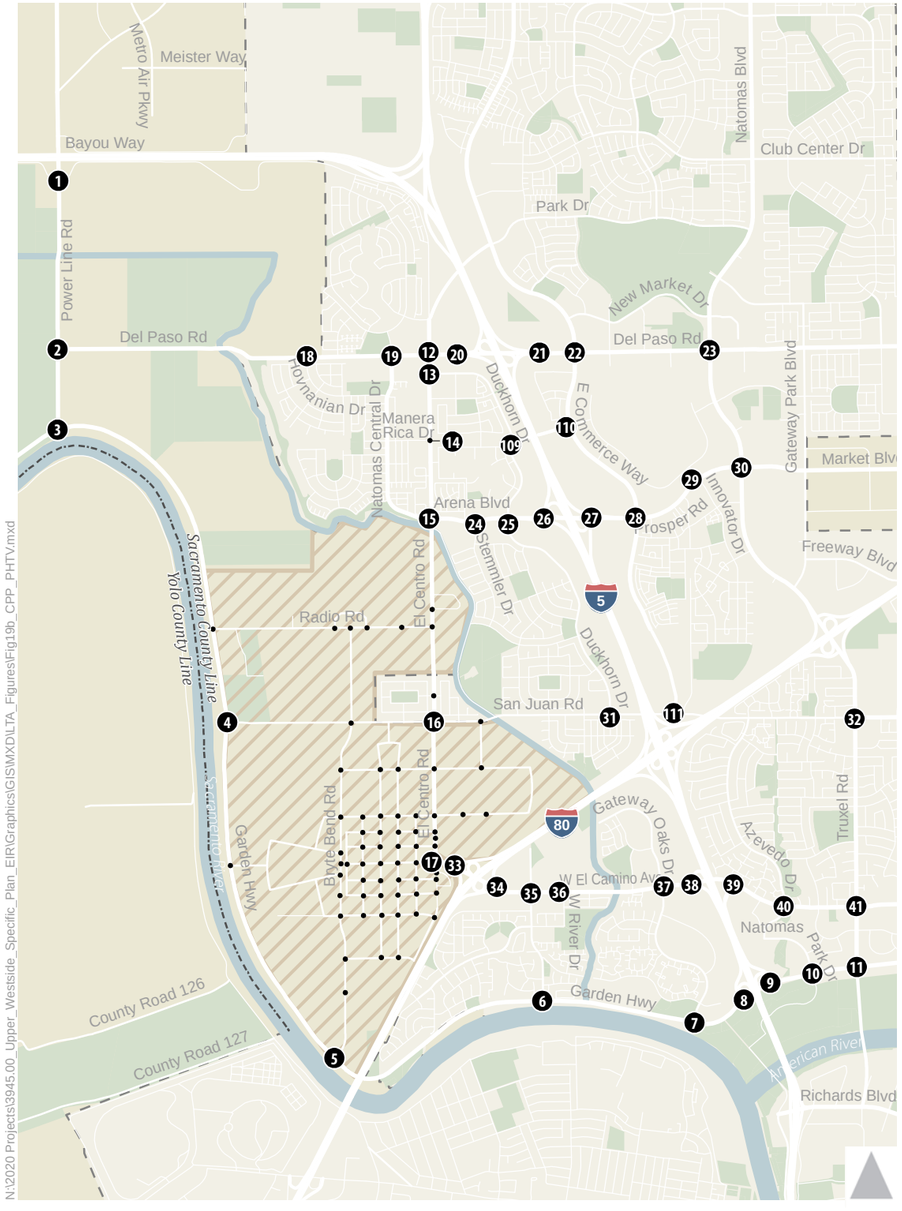
Free Right Free Right-Turn

OL Turning Overlap

Yield Sign

Figure 19a

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\DLTA_Figures\Fig19b_CPP_PHTV.mxd

1 Study Intersection

• Project Study Intersection (See Figures 19c - 19f)

Upper Westside Specific Plan Boundary

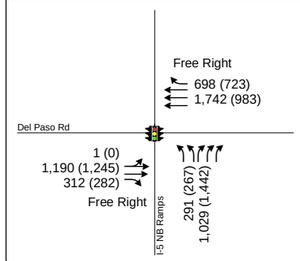
City Boundary

County Boundary

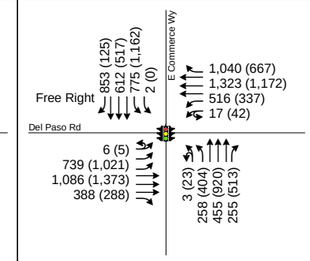
Figure 19b

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

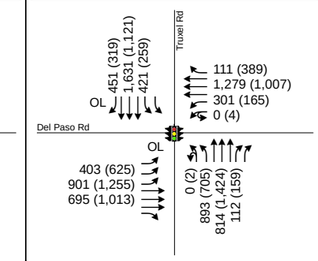
21. I-15 NB Ramps/Del Paso Rd



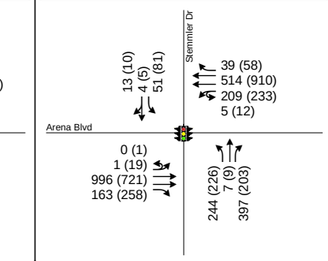
22. E Commerce Wy/Del Paso Rd



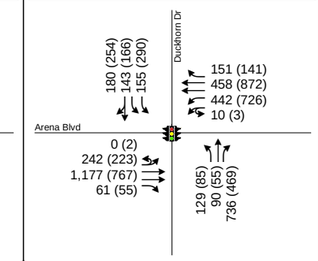
23. Truxel Rd/Del Paso Rd



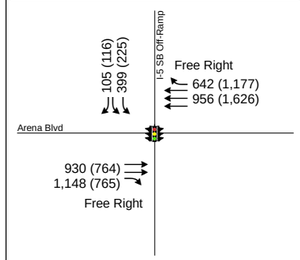
24. Stemmler Dr/Arena Blvd



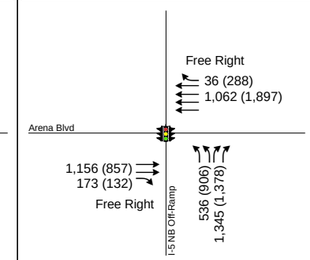
25. Duckhorn Dr/Arena Blvd



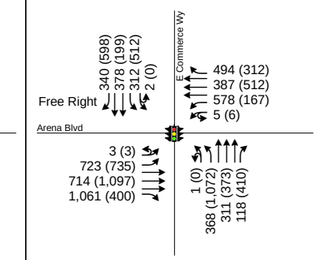
26. I-5 SB Off-Ramp/Arena Blvd



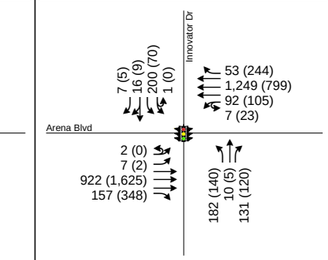
27. I-5 NB Off-Ramp/I-5 NB On-Ramp/Arena Blvd



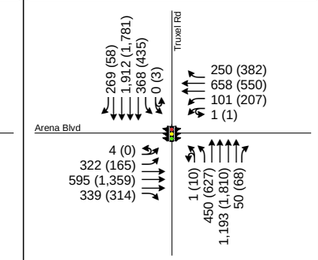
28. E Commerce Wy/Arena Blvd



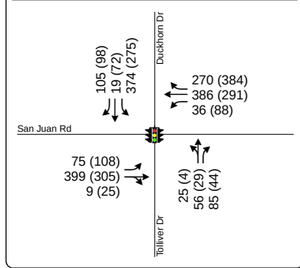
29. Innovator Dr/Arena Blvd



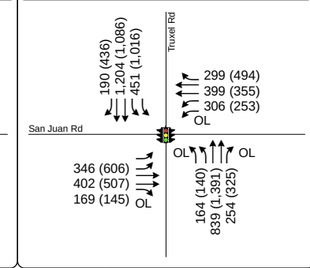
30. Truxel Rd/Arena Blvd



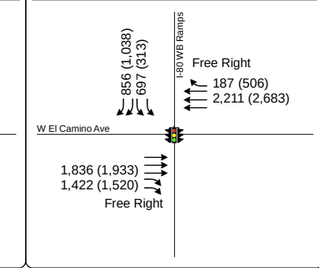
31. Tolliver Dr/Duckhorn Dr/San Juan Rd



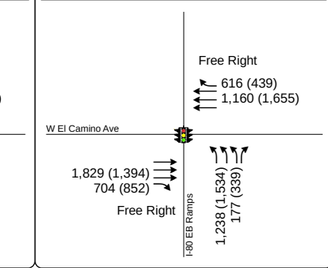
32. Truxel Rd/San Juan Rd



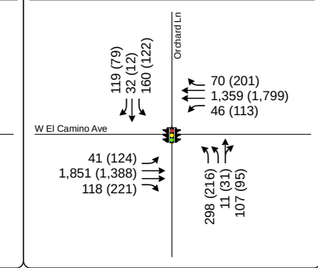
33. I-80 WB Ramps/W El Camino Ave



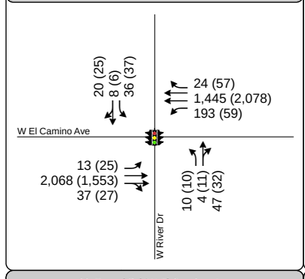
34. I-80 EB Ramps/W El Camino Ave



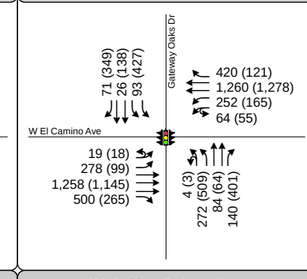
35. Orchard Ln/W El Camino Ave



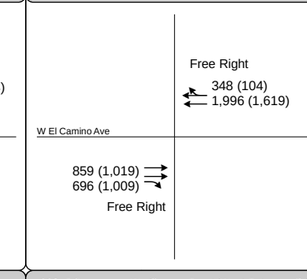
36. W River Dr/W El Camino Ave



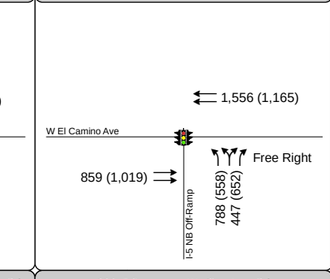
37. Gateway Oaks Dr/W El Camino Ave



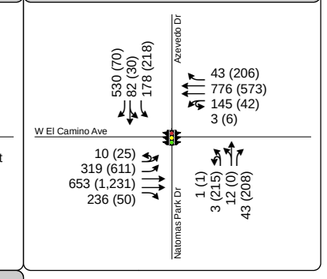
38. I-5 SB Ramps/W El Camino Ave



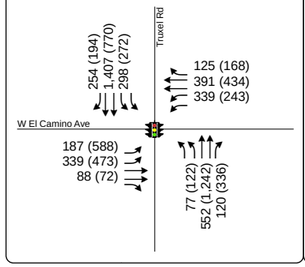
39. I-5 NB Off-Ramp/W El Camino Ave



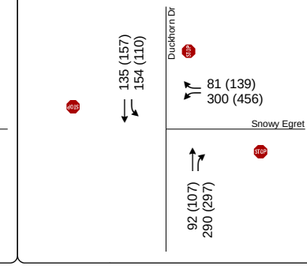
40. Natomas Park Dr/Azevedo Dr/W El Camino Ave



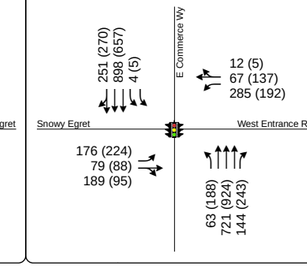
41. Truxel Rd/W El Camino Ave



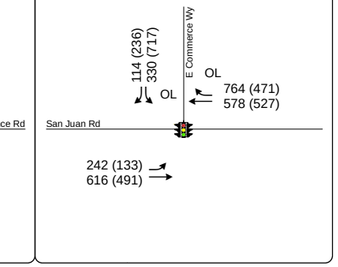
109. Duckhorn Dr/Snowy Egret



110. E Commerce Wy/Snowy Egret/West Entrance Rd



111. E Commerce Wy/San Juan Rd



Turn Lane

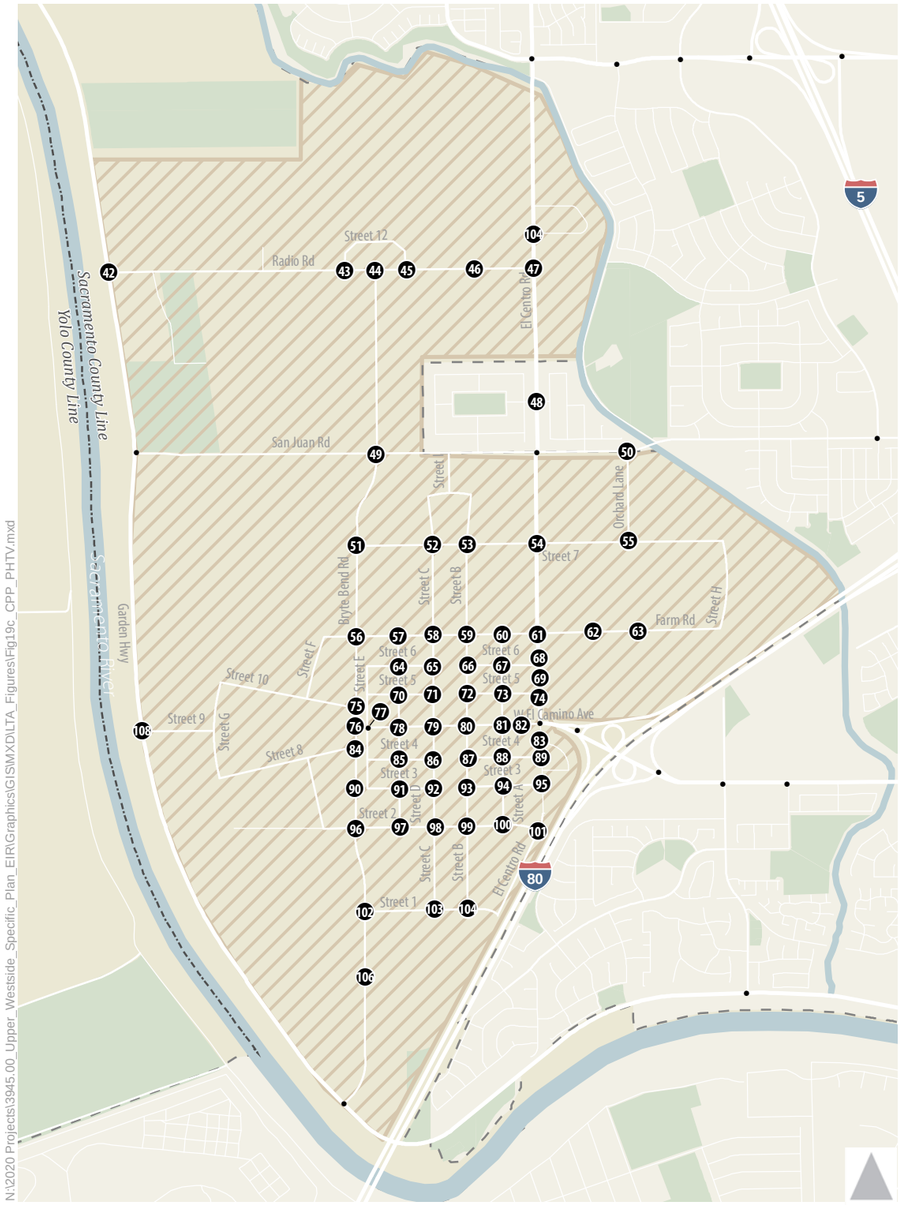
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

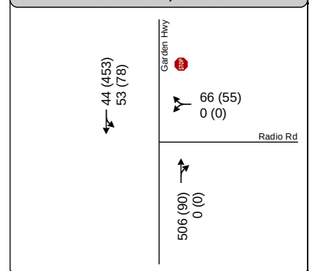
Free Right Free Right-Turn

OL Turning Overlap

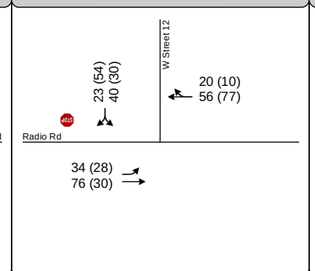


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig19c_CPP_PHTV.mxd

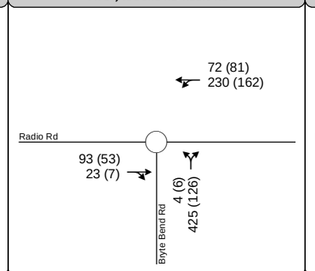
42. Garden Hwy/Radio Rd



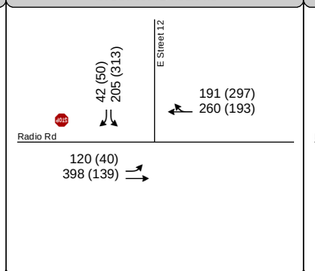
43. W Street 12/Radio Rd



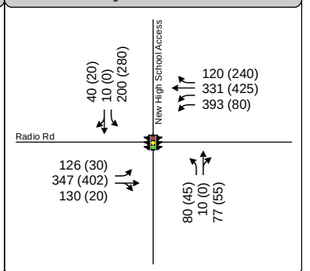
44. Bryte Bend Rd/Radio Rd



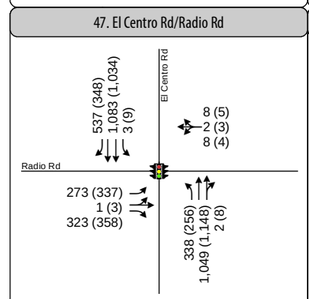
45. E Street 12/Radio Rd



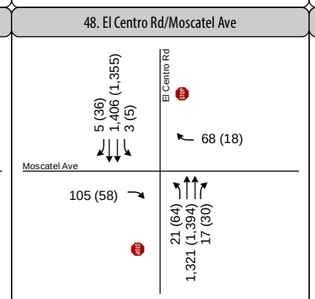
46. New High School Access/Radio Rd



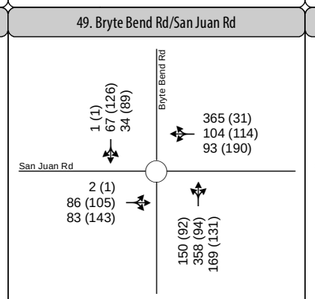
47. El Centro Rd/Radio Rd



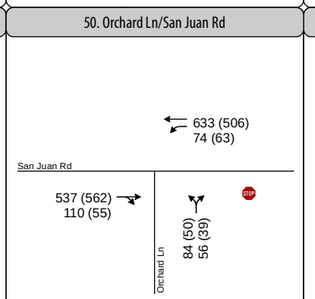
48. El Centro Rd/Moscatel Ave



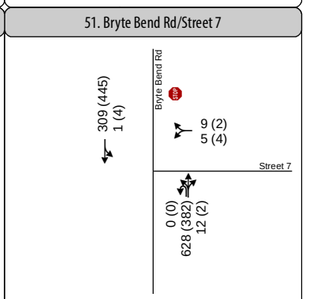
49. Bryte Bend Rd/San Juan Rd



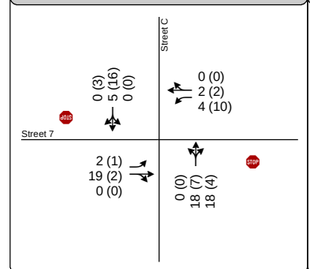
50. Orchard Ln/San Juan Rd



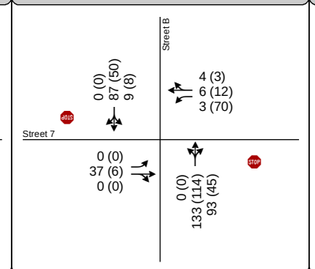
51. Bryte Bend Rd/Street 7



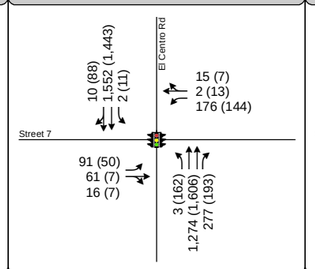
52. Street C/Street 7



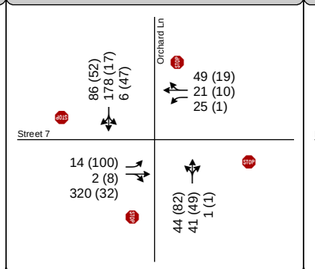
53. Street B/Street 7



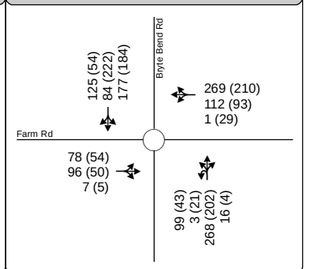
54. El Centro Rd/Street 7



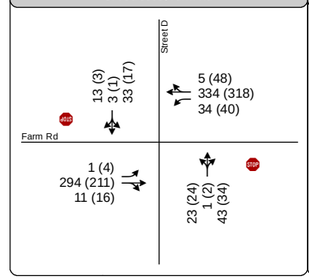
55. Orchard Ln/Street 7



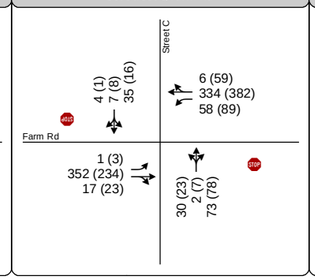
56. Bryte Bend Rd/Farm Rd



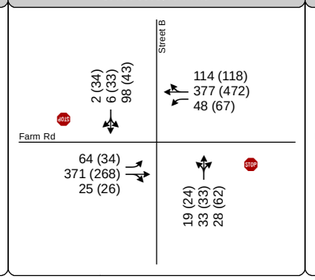
57. Street D/Farm Rd



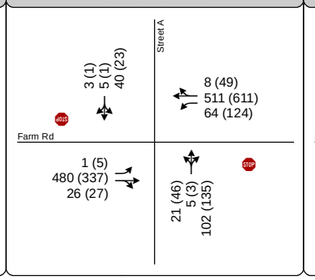
58. Street C/Farm Rd



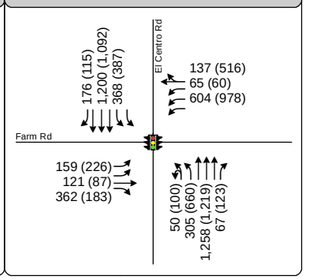
59. Street B/Farm Rd



60. Street A/Farm Rd



61. El Centro Rd/Farm Rd

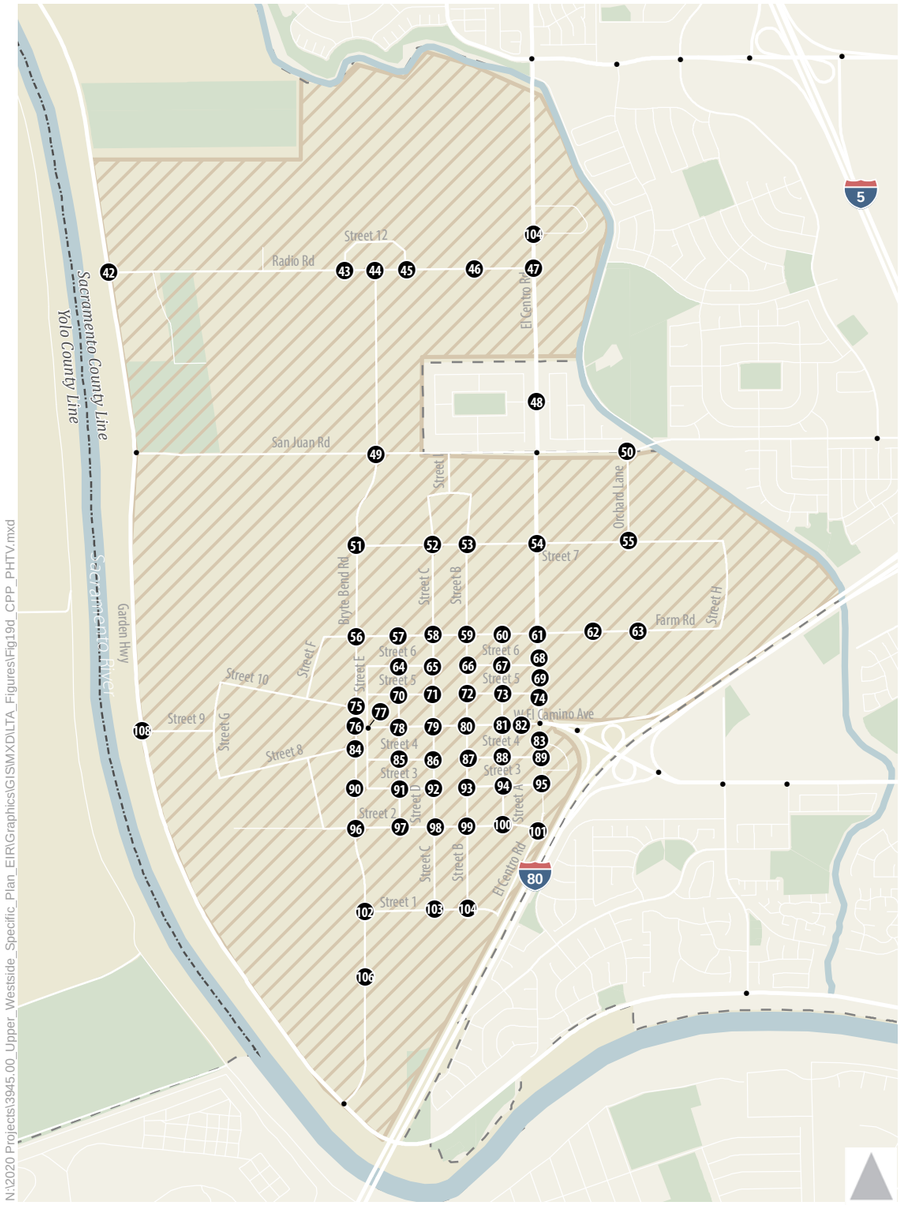


- Project Study Intersection
- Study Intersection (See Figures 19a - 19b)
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign
- Roundabout

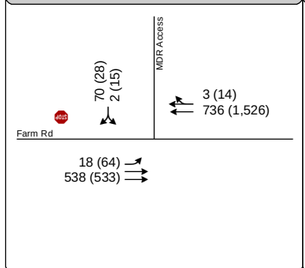
Figure 19c

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

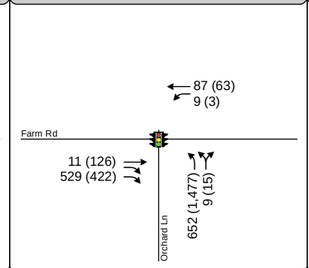


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig19d_CPP_PHTV.mxd

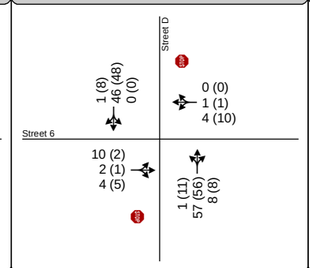
62. MDR Access/Farm Rd



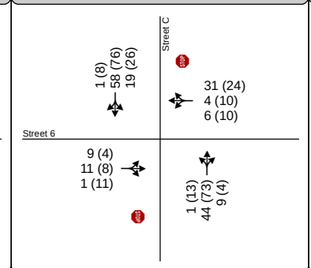
63. Orchard Ln/Farm Rd



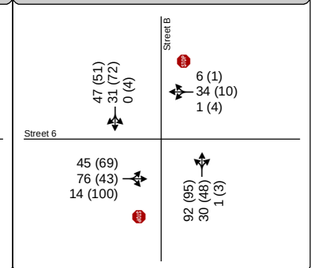
64. Street D/Street 6



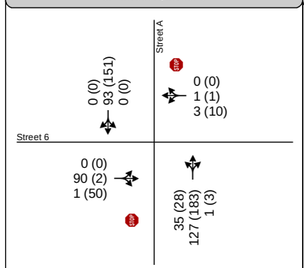
65. Street C/Street 6



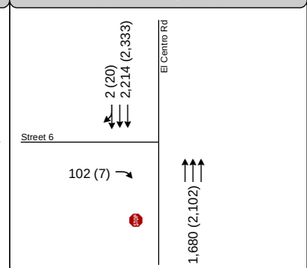
66. Street B/Street 6



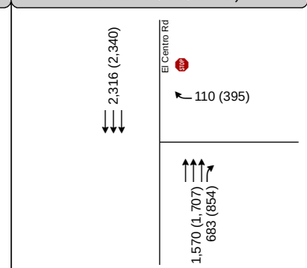
67. Street A/Street 6



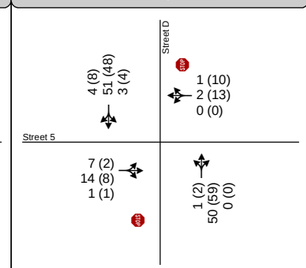
68. El Centro Rd/Street 6



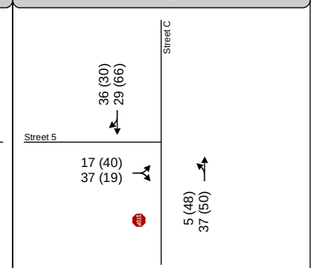
69. El Centro Rd/CMU/EMC Dwy



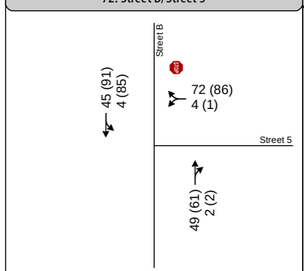
70. Street D/Street 5



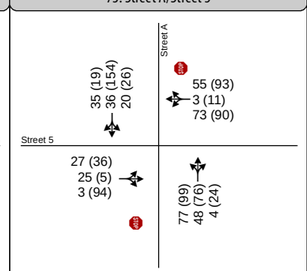
71. Street C/Street 5



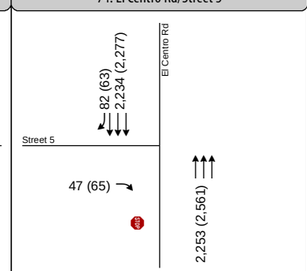
72. Street B/Street 5



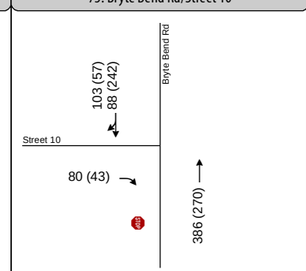
73. Street A/Street 5



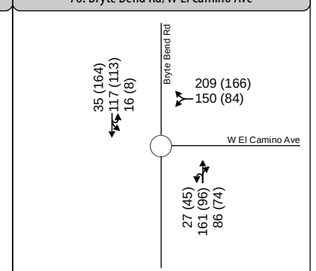
74. El Centro Rd/Street 5



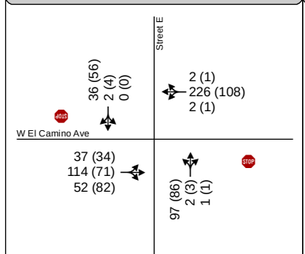
75. Bryte Bend Rd/Street 10



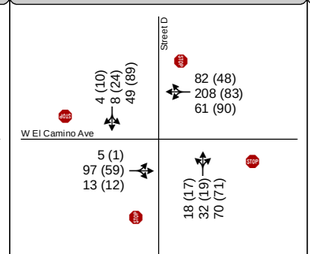
76. Bryte Bend Rd/W El Camino Ave



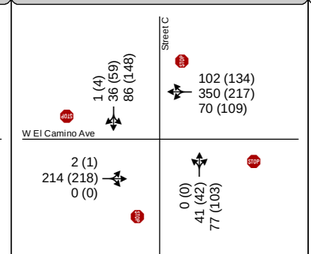
77. Street E/W El Camino Ave



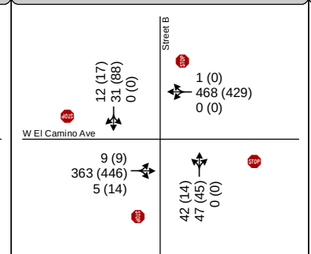
78. Street D/W El Camino Ave



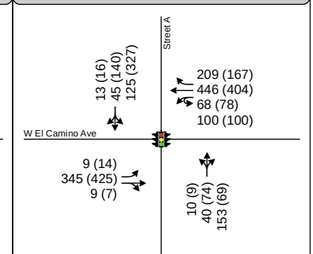
79. Street C/W El Camino Ave



80. Street B/W El Camino Ave



81. Street A/W El Camino Ave



1 Project Study Intersection

• Study Intersection (See Figures 19a - 19b)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

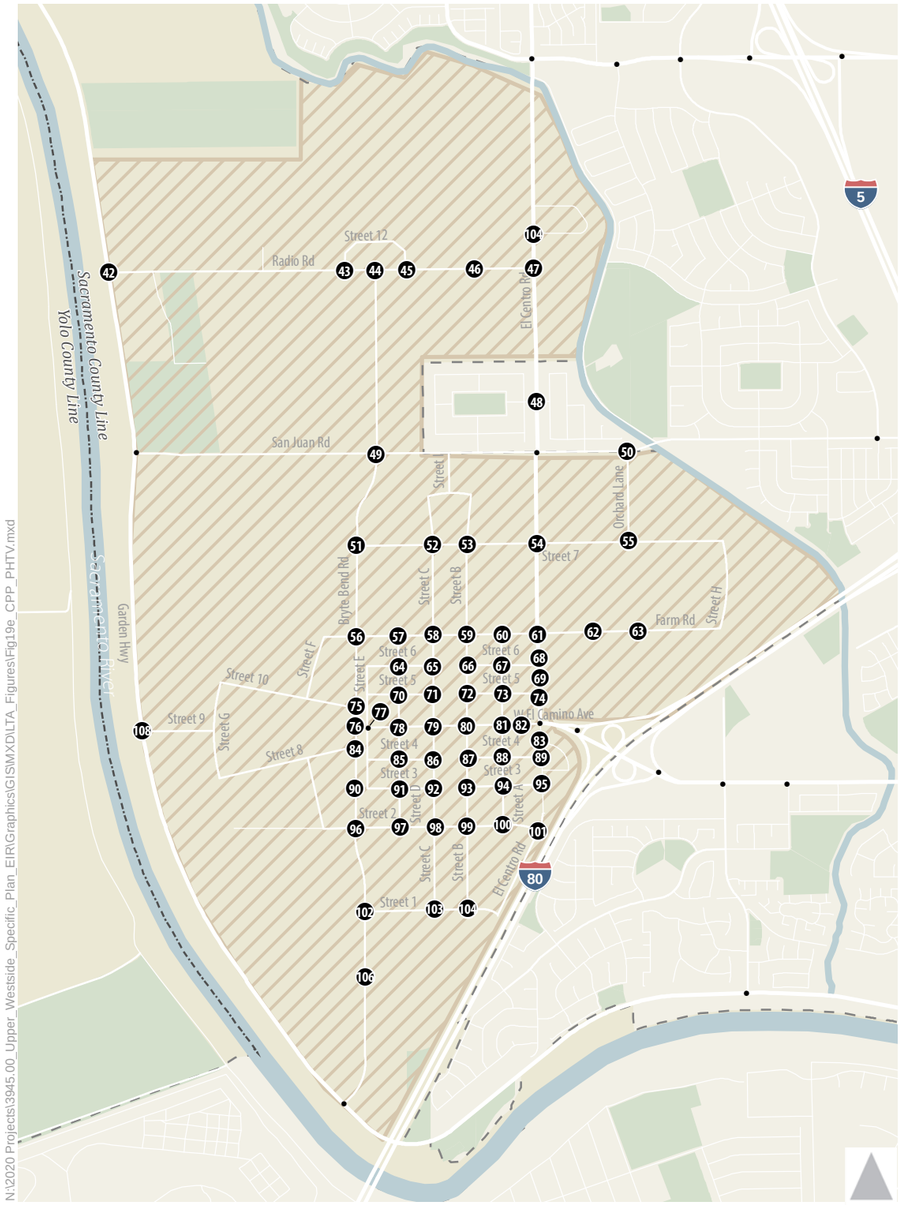
Traffic Signal

Stop Sign

Roundabout

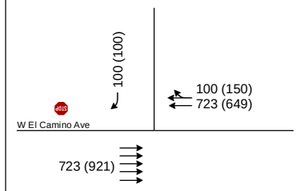
Figure 19d

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

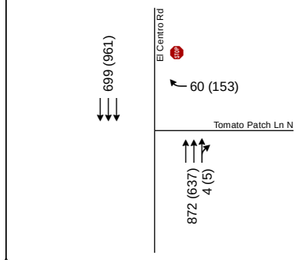


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig19e_CPP_PHTV.mxd

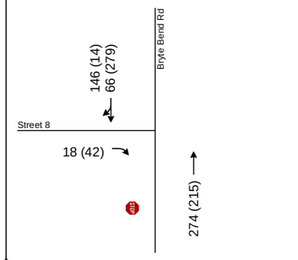
82. Parking Garage/W El Camino Ave



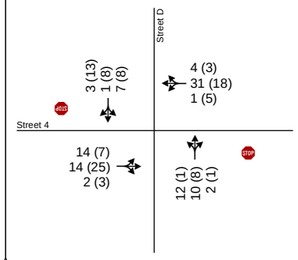
83. El Centro Rd/Tomato Patch Ln N



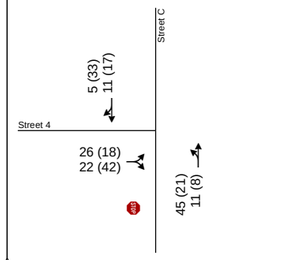
84. Bryte Bend Rd/Street 8



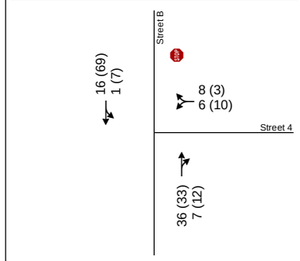
85. Street D/Street 4



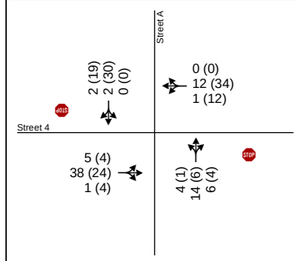
86. Street C/Street 4



87. Street B/Street 4



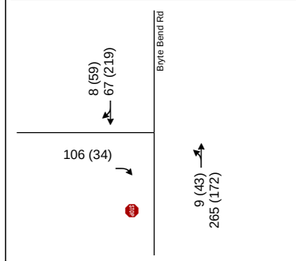
88. Street A/Street 4



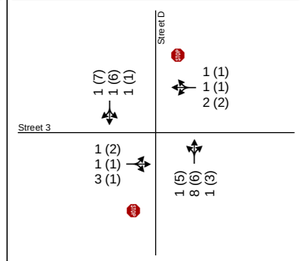
89. El Centro Rd/Street 4



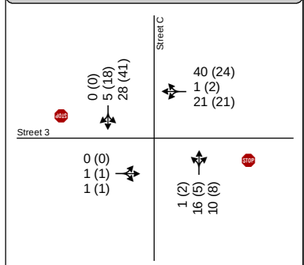
90. Bryte Bend Rd/MDR/HDR Access



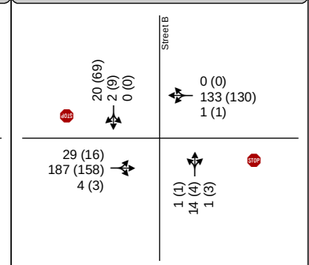
91. Street D/Street 3



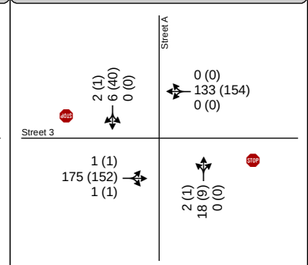
92. Street C/Street 3



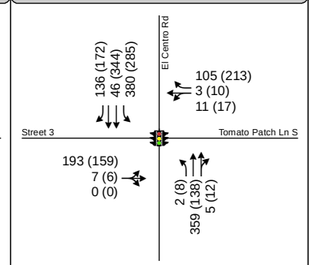
93. Street B/Street 3



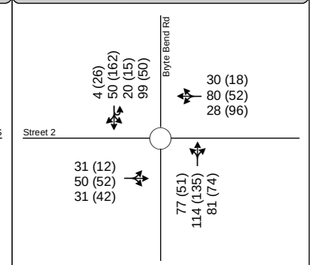
94. Street A/Street 3



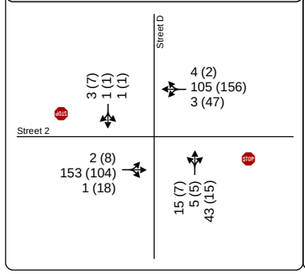
95. El Centro Rd/Street 3/Tomato Patch Ln S



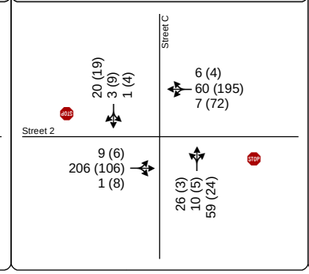
96. Bryte Bend Rd/Street 2



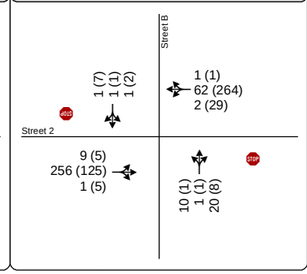
97. Street D/Street 2



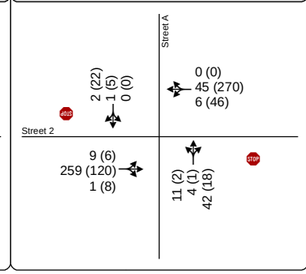
98. Street C/Street 2



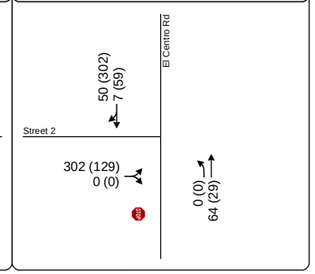
99. Street B/Street 2



100. Street A/Street 2



101. El Centro Rd/Street 2



1 Project Study Intersection

Study Intersection (See Figures 19a - 19b)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

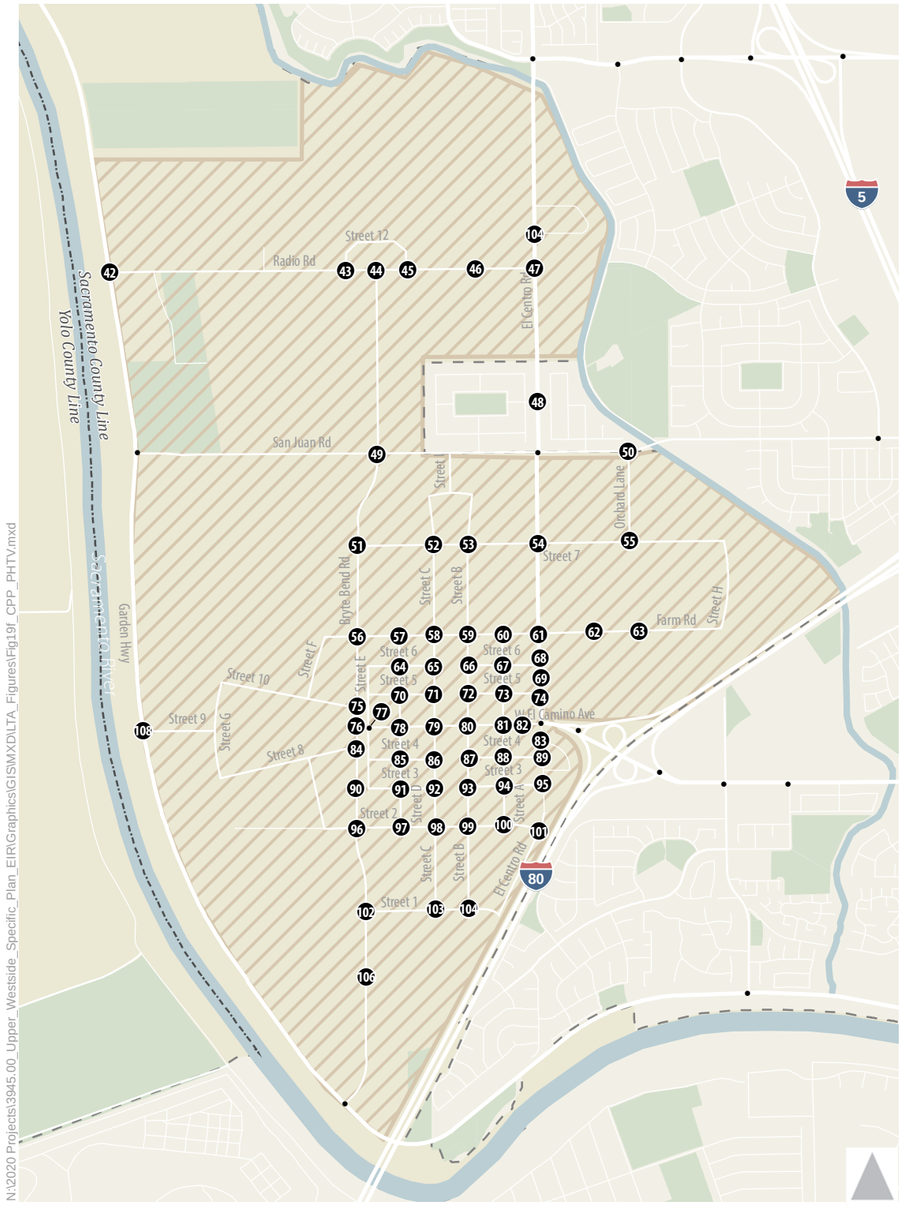
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

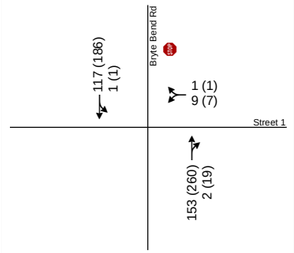
Figure 19e

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

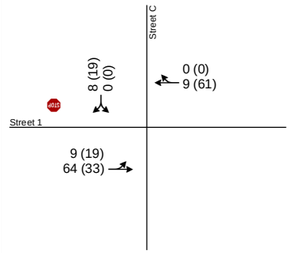


N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig19f_CPP_PHTV.mxd

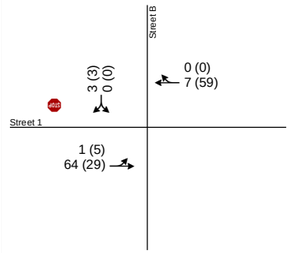
102. Bryte Bend Rd/Street 1



103. Street C/Street 1



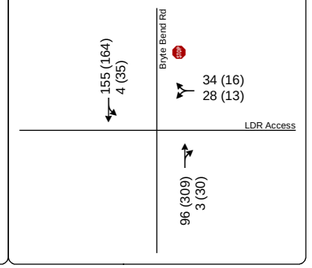
104. Street B/Street 1



105. El Centro Rd/Street 1

Intersection Does Not Exist

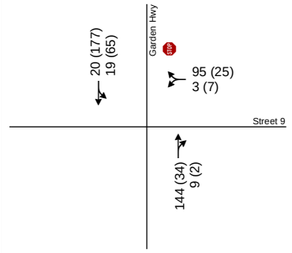
106. Bryte Bend Rd/LDR Access



107. Bryte Bend Rd/El Centro Rd

Intersection Does Not Exist

108. Bryte Bend Rd/El Centro Rd



- Project Study Intersection
- Study Intersection (See Figures 19a - 19b)
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign

Figure 19f

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

Roadway Segment Operations

Table 14 displays the v/c ratio and LOS for the Sacramento County study roadway segments under cumulative conditions, without and with the project. Under cumulative no project conditions, two Sacramento County roadway segments would operate unacceptably. Under cumulative plus project conditions, 12 Sacramento County roadway segments would operate unacceptably (i.e., LOS E or F depending on segment location) including segments along San Juan Road, El Centro Road, Powerline Road, Garden Highway, Radio Road, and West El Camino Avenue.

Table 14:
Sacramento County Roadway Segment Operations – Cumulative Conditions

Segment	LOS [1] Standard	Cumulative No Project Conditions				Cumulative Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Del Paso Road: Powerline Road to Hovnanian Drive	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	3,300	0.26	C	Rural, 2 lane road, <24' of pavement, <6' shoulders	3,400	0.27	C
San Juan Road: Garden Highway to Bryte Bend Road	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	3,200	0.25	C	Residential collector without frontage (2 lanes)	6,200	0.62	B
San Juan Road: Bryte Bend Road to Street I	D / E [1]					Arterial, low access control (2 lanes	9,600	0.64	B
San Juan Road: Street I to El Centro Road	D / E [1]					Arterial, low access control (2 lanes)	7,800	0.52	A
San Juan Road: El Centro Road to Orchard Lane	E	Arterial, low access control (2 lanes)	11,000	0.73	C	Arterial, low access control (2 lanes)	**15,600**	**1.04**	**F**
Powerline Road: Bayou Way to Del Paso Road	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	4,700	0.37	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	**9,500**	**0.74**	**E**
Powerline Road: Del Paso Road to Garden Highway	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	3,200	0.25	C	Rural, 2 lane road, <24' of pavement, <6' shoulders	**8,000**	**0.63**	**E**
Garden Highway: Powerline Road to Radio Road	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	3,500	0.27	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	**8,500**	**0.66**	**E**
Garden Highway: Radio Road to San Juan Road	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	3,300	0.26	C	Rural, 2 lane road, <24' of pavement, <6' shoulders	**7,000**	**0.55**	**E**
Garden Highway: San Juan Road to Street 9	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	1,100	0.09	B	Rural, 2 lane road, <24' of pavement, <6' shoulders	2,400	0.12	B
Garden Highway: Street 9 to Bryte Bend Road						Rural, 2 lane road, <24' of pavement, <6' shoulders	2,400	0.19	C
El Centro Road: Arena Boulevard/Natomas Central Drive to Radio Road	D / E [1]	Arterial, moderate access control (2 lanes)	14,400	0.80	C	Arterial, moderate access control (4 lanes)	35,900	1.00	E
El Centro Road: Radio Road to San Juan Road						Arterial, moderate access control (4 lanes)	33,000	0.92	E
El Centro Road: San Juan Road to Street 7	D / E [1]	Arterial, moderate access control (2 lanes)	**23,800**	**1.32**	**F**	Arterial, moderate access control (4 lanes)	**42,100**	**1.17**	**F**
El Centro Road: Street 7 to Farm Road						Arterial, moderate access control (4 lanes)	**45,600**	**1.27**	**F**
El Centro Road: Farm Road to Street 6						Arterial, moderate access control (6 lanes)	**54,300**	**1.01**	**F**
El Centro Road: Street 6 to Street 5						Arterial, moderate access control (6 lanes)	**61,000**	**1.03**	**F**
El Centro Road: Street 5 to El Camino Avenue						Arterial, moderate access control (6 lanes)	**62,100**	**1.15**	**F**
El Centro Road: El Camino Avenue to Street 4	D / E [1]	Arterial, low access control (2 lanes)	2,000	0.13	A	Arterial, moderate access control (6 lanes)	20,900	0.70	B
El Centro Road: Street 4 to Street 3						Arterial, low access control (4 lanes)	16,900	0.56	A
El Centro Road: Street 3 to Street 2						Arterial, low access control (4 lanes)	8,200	0.27	A
El Centro Road: Street 2 to Street 1		Does Not Exist				Residential collector without frontage (2 lanes)	900	0.09	A
Bayou Way: Airport Boulevard to Powerline Rd	D	Rural, 2 lane road, <24' of pavement, <6' shoulders	2,100	0.16	B	Rural, 2 lane road, <24' of pavement, <6' shoulders	4,200	0.33	D
Bryte Bend Road: Radio Road to San Juan Road	E	Does Not Exist				Arterial, low access control (2 lanes)	5,100	0.34	A
Bryte Bend Road: San Juan Road to Street 7	E					Arterial, low access control (2 lanes)	7,300	0.49	A
Bryte Bend Road: Street 7 to Farm Road	E					Arterial, low access control (2 lanes)	8,500	0.57	A
Bryte Bend Road: Farm Road to Street 10	E					Arterial, low access control (2 lanes)	3,500	0.23	A
Bryte Bend Road: Street 10 to El Camino Ave	E					Arterial, low access control (2 lanes)	4,700	0.31	A
Bryte Bend Road: El Camino Avenue to Street 8	E					Arterial, low access control (2 lanes)	3,200	0.21	A

Table 14:
Sacramento County Roadway Segment Operations – Cumulative Conditions

Segment	LOS [1] Standard	Cumulative No Project Conditions				Cumulative Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Bryte Bend Road: Street 8 to Street 2	E					Arterial, low access control (2 lanes)	2,600	0.17	A
Bryte Bend Road: Street 2 to Street 1	E					Arterial, low access control (2 lanes)	3,700	0.25	A
Bryte Bend Road: Street 1 Road to Garden Hwy	E					Residential collector without frontage (2 lanes	2,900	0.29	A
Street A: Farm Road to Street 6	E					Residential collector without frontage (2 lanes)	2,500	0.25	A
Street A: Street 6 to Street 5	E	Does Not Exist				Residential collector without frontage (2 lanes)	3,000	0.30	A
Street A: Street 5 to El Camino Avenue	E					Residential collector without frontage (2 lanes)	7,100	0.28	A
Street A: El Camino Avenue to Street 4	E					Residential collector without frontage (2 lanes)	3,900	0.39	A
Street A: Street 4 to Street 3	E					Residential collector without frontage (2 lanes)	300	0.03	A
Street A: Street 3 to Street 2	E					Residential collector without frontage (2 lanes)	300	0.03	A
Street B: Street I to Street 7	E					Residential collector without frontage (2 lanes)	1,800	0.18	A
Street B: Street 7 to Farm Road	E					Residential collector without frontage (2 lanes)	1,700	0.17	A
Street B: Farm Road to Street 6	E					Residential collector without frontage (2 lanes)	2,100	0.21	A
Street B: Street 6 to Street 5	E					Residential collector without frontage (2 lanes)	2,200	0.22	A
Street B: Street 5 to El Camino Avenue	E					Residential collector without frontage (2 lanes)	1,000	0.10	A
Street B: El Camino Avenue to Street 4	E					Residential collector without frontage (2 lanes)	1,200	0.12	A
Street B: Street 4 to Street 3	E					Residential collector without frontage (2 lanes)	800	0.08	A
Street B: Street 3 to Street 2	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street B: Street 2 to Street 1	E					Residential collector without frontage (2 lanes)	300	0.03	A
Street C: Street I to Street 7	E					Residential collector without frontage (2 lanes)	200	0.02	A
Street C: Street 7 to Farm Road	E					Residential collector without frontage (2 lanes)	800	0.08	A
Street C: Farm Road to Street 6	E					Residential collector without frontage (2 lanes)	2,300	0.23	A
Street C: Street 6 to Street 5	E					Residential collector without frontage (2 lanes)	1,600	0.16	A
Street C: Street 5 to El Camino Avenue	E					Residential collector without frontage (2 lanes)	1,500	0.15	A
Street C: El Camino Avenue to Street 4	E					Residential collector without frontage (2 lanes)	3,200	0.32	A
Street C: Street 4 to Street 3	E	Does Not Exist				Residential collector without frontage (2 lanes)	800	0.08	A
Street C: Street 3 to Street 2	E					Residential collector without frontage (2 lanes)	400	0.04	A
Street C: Street 2 to Street 1	E					Residential collector without frontage (2 lanes)	1,200	0.12	A
Street D: Farm Road to Street 6	E					Residential collector without frontage (2 lanes)	1,300	0.13	A
Street D: Street 6 to Street 5	E					Residential collector without frontage (2 lanes)	1,400	0.14	A

Table 14:
Sacramento County Roadway Segment Operations – Cumulative Conditions

Segment	LOS [1] Standard	Cumulative No Project Conditions				Cumulative Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Street D: Street 5 to El Camino Avenue	E					Residential collector without frontage (2 lanes)	1,200	0.12	A
Street D: El Camino Avenue to Street 4	E					Residential collector without frontage (2 lanes)	2,900	0.29	A
Street D: Street 4 to Street 3	E					Residential collector without frontage (2 lanes)	200	0.02	A
Street D: Street 3 to Street 2	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street E: Street 6 to Street 5	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street E: Street 5 to El Camino Avenue	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street E: El Camino Avenue to Street 4	E					Residential collector without frontage (2 lanes)	1,400	0.14	A
Street E: Street 4 to Street 3	E					Residential collector without frontage (2 lanes)	200	0.02	A
Street F: Street 10 to Farm Road	E					Residential collector without frontage (2 lanes)	1,200	0.12	A
Street F: Street 8 to Street 2	E					Residential collector without frontage (2 lanes)	1,100	0.11	A
Street G: Street 10 to Street 9	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street G: Street 9 to Street 8	E					Residential collector without frontage (2 lanes)	1,000	0.10	A
Street H: Street 7 to Farm Road	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street I: San Juan Road to Street C/Street B	E					Residential collector without frontage (2 lanes)	1,200	0.12	A
Radio Road: Garden Highway to Street 12	D / E	Does Not Exist				Residential collector without frontage (2 lanes)	1,400	0.14	A
Radio Road: Street 12 (W) to Bryte Bend Road	E					Arterial, low access control (2 lanes)	1,000	0.07	A
Radio Road: Bryte Bend Road to Street 12	E					Arterial, low access control (2 lanes)	4,300	0.29	A
Radio Road: Street 12 (E) to El Centro Road	E					Arterial, low access control (2 lanes)	**17,100**	**1.14**	**F**
El Camino Avenue: El Centro Road to I-80 WB Ramps	E	Arterial, low access control (2 lanes)	**26,200**	**1.75**	**F**	Arterial, moderate access control (6 lanes)	**88,700**	**1.48**	**F**
El Camino Avenue: El Centro Road to Street A	E					Arterial, low access control (4 lanes)	18,800	0.63	B
El Camino Avenue: Street A to Street B	E					Arterial, low access control (2 lanes)	11,000	0.73	C
El Camino Avenue: Street B to Street C	E					Arterial, low access control (2 lanes)	11,600	0.77	C
El Camino Avenue: Street C to Street D	E					Arterial, low access control (2 lanes)	6,400	0.43	A
El Camino Avenue: Street D to Street E	E					Arterial, low access control (2 lanes)	2,700	0.18	A
El Camino Avenue: Street E to Bryte Bend Road	E					Arterial, low access control (2 lanes)	4,700	0.31	A
Street 1: El Centro Road to Street B	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street 1: Street B to Street C	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street 1: Street C to Bryte Bend Road	E					Residential collector without frontage (2 lanes)	1,100	0.11	A
Street 2: El Centro Road to Street A	E					Arterial, low access control (2 lanes)	5,300	0.35	A

Table 14:
Sacramento County Roadway Segment Operations – Cumulative Conditions

Segment	LOS [1] Standard	Cumulative No Project Conditions				Cumulative Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Street 2: Street A to Street B	E					Arterial, low access control (2 lanes)	5,000	0.33	A
Street 2: Street B to Street C	E					Arterial, low access control (2 lanes)	4,900	0.33	A
Street 2: Street C to Street D	E					Arterial, low access control (2 lanes)	4,100	0.27	A
Street 2: Street D to Bryte Bend Road	E					Arterial, low access control (2 lanes)	3,300	0.22	A
Street 2: Bryte Bend Road to Street F	E					Arterial, low access control (2 lanes)	2,400	0.16	A
Street 3: El Centro Road to Street A	E					Residential collector without frontage (2 lanes)	4,700	0.47	A
Street 3: Street A to Street B	E					Residential collector without frontage (2 lanes)	4,300	0.43	A
Street 3: Street C to Street D	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street 4: El Centro Road to Street A	E					Residential collector without frontage (2 lanes)	4,200	0.42	A
Street 4: Street A to Street B	E					Residential collector without frontage (2 lanes)	800	0.08	A
Street 4: Street C to Street D	E					Residential collector without frontage (2 lanes)	1,100	0.11	A
Street 4: Street D to Street E	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street 5: El Centro Road to Street A	E					Residential collector without frontage (2 lanes)	2,600	0.26	A
Street 5: Street A to Street B	E					Residential collector without frontage (2 lanes)	2,300	0.23	A
Street 5: Street C to Street D	E	Does Not Exist				Residential collector without frontage (2 lanes)	1,400	0.14	A
Street 5: Street D to Street E	E					Residential collector without frontage (2 lanes)	300	0.03	A
Street 6: El Centro Road to Street A	E					Residential collector without frontage (2 lanes)	1,500	0.15	A
Street 6: Street A to Street B	E					Residential collector without frontage (2 lanes)	1,800	0.18	A
Street 6: Street C to Street D	E					Residential collector without frontage (2 lanes)	300	0.03	A
Street 6: Street D to Street E	E					Residential collector without frontage (2 lanes)	200	0.02	A
Farm Road: Street H to El Centro Road	E					Arterial, low access control (6 lanes)	16,300	0.36	A
Farm Road: El Centro Road to Street A	E					Arterial, low access control (2 lanes)	13,500	0.90	D
Farm Road: Street A to Street B	E					Arterial, low access control (2 lanes)	11,300	0.75	C
Farm Road: Street B to Street C	E					Arterial, low access control (2 lanes)	9,200	0.61	B
Farm Road: Street C to Street D	E					Arterial, low access control (2 lanes)	7,200	0.48	A
Farm Road: Street D to Bryte Bend Road	E	Does Not Exist				Arterial, low access control (2 lanes)	6,200	0.41	A
Farm Road: Bryte Bend Road to Street F	E					Arterial, low access control (2 lanes)	3,100	0.21	A
Street 7: Street H to Orchard Lane	E					Residential collector without frontage (2 lanes)	1,000	0.10	A
Street 7: Orchard Lane to El Centro Road	E					Residential collector without frontage (2 lanes)	3,400	0.34	A

Table 14:
Sacramento County Roadway Segment Operations – Cumulative Conditions

Segment	LOS [1] Standard	Cumulative No Project Conditions				Cumulative Plus Conditions			
		Classification	ADT [2]	V/C [3]	LOS	Classification	ADT [2]	V/C [3]	LOS
Street 7: El Centro Road to Street B	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street 7: Street B to Street C	E					Residential collector without frontage (2 lanes)	300	0.03	A
Street 7: Street C to Bryte Bend Road	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street 8: Street 2 to Bryte Bend Rd	E					Residential collector without frontage (2 lanes)	800	0.08	A
Street 8: Street G to Street F	E					Residential collector without frontage (2 lanes)	1,000	0.10	A
Street 9: Street G to Garden Highway	E					Residential collector without frontage (2 lanes)	1,000	0.10	A
Street 10: Street F to Bryte Bend Rd	E					Residential collector without frontage (2 lanes)	100	0.01	A
Street 10: Street G to Garden Highway	E					Residential collector without frontage (2 lanes)	900	0.09	A
Street 12 (East): north of Radio Road	E					Residential collector without frontage (2 lanes)	8,700	0.87	D
Bryte Bend LDR Access: Bryte Bend Road to El Centro Road	E					Residential collector without frontage (2 lanes)	100	0.01	A
Orchard Lane: San Juan Road to Street 7	E					Residential collector without frontage (2 lanes)	2,500	0.25	A

Notes:
1. D / E = Cumulative No Project Standard / Cumulative Plus Project Standard (due to study area becoming urbanized).
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio.

Bolded cells represent unacceptable operations.

Source: Fehr & Peers, 2021.

Intersection Operations

The substantial growth in background traffic in the study area contributes to degraded operations at a number of currently existing study intersections under cumulative conditions. Implementation of the proposed project would substantially worsen conditions at many of those locations and also worsen conditions to unacceptable levels at other locations. **Table 15** summarizes the number of existing study intersections (operating either as signals, roundabout or all-way stop) that would operate at LOS F during each peak hour under both cumulative scenarios.

Table 15:
Intersection LOS Summary – Cumulative Conditions

Metric	Cumulative No Project		Cumulative Plus Project	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Currently Existing Study Intersections (Operated with a Traffic Signal or All-Way Stop) [1]				
Intersections Operating at LOS D or better	21	18	15	7
Intersections Operating at LOS E	5	6	1	4
Intersections Operating at LOS F	8	10	18	23
Total Intersections	34	34	34	34
Percent Operating at LOS F	24%	29%	53%	68%
Project Site Study Intersections (Operated with a Traffic Signal, All-Way Stop, or Roundabout) [1]				
Intersections Operating at LOS E or better	Do Not Exist		14	14
Intersections Operating at LOS F			2	2
Total Intersections			16	16
Percent Operating at LOS F			13%	13%

Notes:
1. Side-street stop intersections excluded because LOS F on a side-street is not as meaningful (i.e., volume could be low, downstream queuing effects, etc.).

Source: Fehr & Peers, 2021

This table indicates that among existing 34 signalized or all-way stop study intersections, the project would cause the number that would operate at LOS F under cumulative conditions to more than double, resulting in slightly more than half of all intersections operating at LOS F during the AM peak hour and nearly 70 percent operating at LOS F during the PM peak hour. Conversely, all but two study intersections within the site would operate at LOS E or better.

Table 16 shows the average delay and LOS at all study intersections under cumulative conditions, without and with the project. Under cumulative no project conditions, traffic signal timings were reoptimized to

accommodate changes in travel demands. Under cumulative plus project conditions at off-site intersections, signal timings were assumed to remain the same as cumulative no project conditions. Thus, the only change in operating conditions at these locations would be the addition of project trips. Refer to separately bound **Appendix D** for technical calculations.

Table 16:
Intersection Level of Service – Cumulative Conditions

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1. Powerline Road/Bayou Way	SSSC	Sac Co	3 (23)	A (C)	328 (981)	F (F)	**4 (41)**	**A (E)**	**737 (2294)**	**F (F)**
2. Powerline Road/Del Paso Road	SSSC	Sac Co	6 (17)	A (C)	5 (15)	A (B)	9 (29)	A (D)	3 (27)	A (D)
3. Powerline Road/Garden Highway	SSSC	Sac Co	0 (10)	A (B)	3 (10)	A (B)	2 (13)	A (B)	7 (19)	A (C)
4. Garden Highway/San Juan Road	SSSC	Sac Co	7 (11)	A (B)	4 (5)	A (A)	6 (12)	A (B)	4 (10)	A (A)
5. Garden Highway/Bryte Bend Road	SSSC	Sac Co	0 (10)	A (A)	0 (9)	A (A)	4 (12)	A (B)	3 (13)	A (B)
6. Orchard Lane/Garden Highway	SSSC	City of Sac	8 (12)	A (B)	4 (10)	A (A)	10 (27)	B (D)	2 (18)	A (C)
7. Gateway Oaks Drive/Garden Highway	Signal	City of Sac	32	C	97	F	69	E	175	F
8. I-5 SB Ramps/Garden Highway	Signal	Caltrans	85	F	157	F	123	F	132	F
9. I-5 NB Ramps/Garden Highway	Signal	Caltrans	91	F	145	F	114	F	111	F
10. Natomas Park Drive/Garden Highway	Signal	City of Sac	117	F	129	F	140	F	116	F
11. Truxel Road/Garden Highway	Signal	City of Sac	144	F	149	F	158	F	172	F
12. El Centro Road/Del Paso Road	Signal	City of Sac	70	E	56	E	119	F	81	F
13. El Centro Road/Duckhorn Drive	SSSC	City of Sac	3 (13)	A (B)	4 (14)	A (B)	55 (501)	F (F)	27 (266)	D (F)
14. El Centro Road/Manera Rica Drive	Signal	City of Sac	10	A	13	B	10	A	13	B
15. El Centro Road/Arena Boulevard/Natomas Central Dr	Signal	City of Sac	39	D	26	C	132	F	126	F
16. El Centro Road/San Juan Road	AWSC / Signal	City of Sac / Sac Co	230	F	222	F	46	D	30	C
17. El Centro Road/El Camino Avenue	Signal	Sac Co	54	D	54	D	**115**	**F**	**131**	**F**

Table 16:
Intersection Level of Service – Cumulative Conditions

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
18. Hovnanian Drive/Del Paso Road	Signal	City of Sac	31	C	16	B	46	D	17	B
19. Natomas Central Drive/Del Paso Road	Signal	City of Sac	202	F	15	B	194	F	16	B
20. I-5 SB Ramps/Del Paso Road	Signal	Caltrans	10	A	58	E	23	C	69	E
21. I-5 NB Ramps/Del Paso Road	Signal	Caltrans	12	B	108	F	14	B	110	F
22. East Commerce Way/Del Paso Road	Signal	City of Sac	69	E	105	F	81	F	110	F
23. Truxel Road/Del Paso Road	Signal	City of Sac	88	F	98	F	124	F	109	F
24. Stemmler Drive/Arena Boulevard	Signal	City of Sac	72	E	13	B	127	F	111	F
25. Duckhorn Drive/Arena Boulevard	Signal	City of Sac	56	E	47	D	152	F	133	F
26. I-5 SB Ramps/Arena Boulevard	Signal	Caltrans	10	B	6	A	165	F	109	F
27. I-5 NB Ramps/Arena Boulevard	Signal	Caltrans	24	C	73	E	237	F	226	F
28. East Commerce Way/Arena Boulevard	Signal	City of Sac	69	E	67	E	102	F	91	F
29. South Entrance Rd/Innovator Dr/Arena Blvd	Signal	City of Sac	23	C	22	C	24	C	22	C
30. Truxel Road/Arena Boulevard	Signal	City of Sac	47	D	58	E	51	D	81	F
31. Duckhorn Drive/San Juan Road	Signal	City of Sac	17	B	15	B	20	B	16	B
32. Truxel Road/San Juan Road	Signal	City of Sac	47	D	97	F	48	D	124	F
33. I-80 WB Ramps/W. El Camino Avenue	Signal	Caltrans	12	B	9	A	165	F	148	F
34. I-80 EB Ramps/W. El Camino Avenue	Signal	Caltrans	11	B	12	B	154	F	278	F
35. Orchard Lane/W. El Camino Avenue	Signal	City of Sac	38	D	27	C	32	C	79	E

Table 16:
Intersection Level of Service – Cumulative Conditions

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
36. West River Drive/W. El Camino Avenue	Signal	City of Sac	21	C	14	B	25	C	56	E
37. Gateway Oaks Drive/W. El Camino Avenue	Signal	City of Sac	28	C	52	D	42	D	126	F
38. I-5 SB Ramps/W. El Camino Avenue	Free	Caltrans	3	A	1	A	11	B	83	F
39. I-5 NB Ramps/W. El Camino Avenue	Signal	Caltrans	14	B	7	A	23	C	148	F
40. Natomas Park Drive/W. El Camino Avenue	Signal	City of Sac	28	C	43	D	24	C	34	C
41. Truxel Road/W. El Camino Avenue	Signal	City of Sac	83	F	66	E	87	F	68	E
42. Garden Highway/Radio Road	SSSC	Sac Co	Does Not Exist				2 (12)	A (B)	2 (9)	A (A)
43. Street 12 (W)/Radio Road	SSSC	Sac Co					4 (10)	A (A)	4 (10)	A (A)
44. Bryte Bend Road/Radio Road	RAB	Sac Co					5	A	4	A
45. Street 12 (E)/Radio Road	SSSC	Sac Co					**15 (68)**	**B (F)**	10 (27)	A (D)
46. High School Access/Radio Road	Signal	Sac Co					41	D	24	C
47. El Centro Road/Radio Road	Signal	Sac Co					40	D	35	C
48. Moscatel Avenue/El Centro Road	SSSC	Sac Co					1 (19)	A (C)	1 (16)	A (C)
49. San Juan Road/Bryte Bend Road	RAB	Sac Co					12	B	6	A
50. San Juan Road/Orchard Lane	SSSC	Sac Co	Does Not Exist				**6 (56)**	**A (F)**	2 (27)	A (D)
51. Street 7/Bryte Bend Road	SSSC	Sac Co					0 (15)	A (C)	0 (15)	A (B)
52. Street 7/Street C	SSSC	Sac Co					6 (9)	A (A)	8 (9)	A (A)

Table 16:
Intersection Level of Service – Cumulative Conditions

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
53. Street 7/Street B	SSSC	Sac Co	Does Not Exist				9 (11)	A (B)	10 (11)	A (B)
54. Street 7/El Cerrito Road	Signal	Sac Co					27	C	32	C
55. Street 7/Orchard Lane	AWSC	Sac Co					11	B	9	A
56. Farm Road/Bryte Bend Road	RAB	Sac Co					8	A	7	A
57. Farm Road/Street D	SSSC	Sac Co					3 (17)	A (C)	2 (16)	A (C)
58. Farm Road/Street C	SSSC	Sac Co					3 (23)	A (C)	3 (23)	A (C)
59. Farm Road/Street B	SSSC	Sac Co					9 (75)	A (F)	7 (40)	A (E)
60. Farm Road/Street A	SSSC	Sac Co					4 (49)	A (E)	6 (55)	A (F)
61. El Centro Road/Farm Road	Signal	Sac Co					**346**	**F**	**375**	**F**
62. MDR Access/Farm Road	SSSC	Sac Co					192 (470)	F (F)	148 (446)	F (F)
63. Orchard Lane/Farm Road/CMU Driveway	Signal	Sac Co					**247**	**F**	**242**	**F**
64. Street 6/Street D	SSSC	Sac Co					2 (10)	A (A)	2 (10)	A (A)
65. Street 6/Street C	SSSC	Sac Co					4 (10)	A (B)	4 (10)	A (B)
66. Street 6/Street B	SSSC	Sac Co					8 (13)	A (B)	7 (13)	A (B)
67. Street 6/Street A	SSSC	Sac Co	Does Not Exist				4 (12)	A (B)	2 (13)	A (B)
68. El Centro Road/Street 6	SSSC	Sac Co					51 (276)	F (F)	62 (110)	F (F)
69. El Centro Road/CMU/EHC Driveway	SSSC	Sac Co					22 (61)	C (F)	64 (406)	F (F)

Table 16:
Intersection Level of Service – Cumulative Conditions

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
70. Street 5/Street D	SSSC	Sac Co	Does Not Exist				2 (10)	A (B)	2 (10)	A (B)
71. Street 5/Street C	SSSC	Sac Co					3 (9)	A (A)	4 (10)	A (B)
72. Street 5/Street B	SSSC	Sac Co					4 (9)	A (A)	5 (9)	A (A)
73. Street 5/Street A	SSSC	Sac Co					7 (13)	A (B)	9 (18)	A (C)
74. El Centro Road/Street 5	SSSC	Sac Co					17 (900)	C (F)	33 (900)	D (F)
75. Street 10/Bryte Bend Road	SSSC	Sac Co					1 (10)	A (A)	1 (11)	A (B)
76. W. El Camino Avenue/Bryte Bend Road	RAB	Sac Co					6	A	5	A
77. Street E/W. El Camino Avenue	SSSC	Sac Co					4 (7)	A (A)	3 (6)	A (A)
78. Street D/W. El Camino Avenue	AWSC	Sac Co					8 (12)	A (B)	7 (11)	A (B)
79. Street C/W. El Camino Avenue	AWSC	Sac Co					11	B	10	A
80. Street B/W. El Camino Avenue	AWSC	Sac Co					10	B	12	B
81. Street A/W. El Camino Avenue	Signal	Sac Co					19	B	58	E
82. Parking Garage/W. El Camino Avenue	SSSC	Sac Co					6 (7)	A (A)	15 (29)	B (D)
83. El Centro Road/Tomato Patch Lane N	SSSC	Sac Co	Does Not Exist				2 (20)	A (C)	6 (37)	A (E)
84. Street 8/Bryte Bend Road	SSSC	Sac Co					0 (9)	A (A)	1 (10)	A (B)
85. Street 4/Street D	SSSC	Sac Co					4 (10)	A (A)	5 (10)	A (A)
86. Street 4/Street C	SSSC	Sac Co					7 (9)	A (A)	5 (9)	A (A)

Table 16:
Intersection Level of Service – Cumulative Conditions

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
87. Street 4/Street B	SSSC	Sac Co	Does Not Exist				2 (9)	A (A)	1 (9)	A (A)
88. Street 4/Street A	SSSC	Sac Co					4 (10)	A (A)	5 (10)	A (A)
89. El Centro Road/Street 4	SSSC	Sac Co					10 (53)	A (F)	7 (52)	A (F)
90. MDR/HDR Access/Bryte Bend Road	SSSC	Sac Co					2 (9)	A (A)	1 (10)	A (B)
91. Street 3/Street D	SSSC	Sac Co					4 (9)	A (A)	3 (9)	A (A)
92. Street 3/Street C	SSSC	Sac Co					6 (10)	A (A)	7 (10)	A (A)
93. Street 3/Street B	SSSC	Sac Co					2 (12)	A (B)	3 (11)	A (B)
94. Street 3/Street A	SSSC	Sac Co					1 (12)	A (B)	2 (12)	A (B)
95. El Centro Road/Street 3/Tomato Patch Lane S	Signal	Sac Co					15	B	13	B
96. Street 2/Bryte Bend Road	RAB	Sac Co					5	A	5	A
97. Street 2/Street D	SSSC	Sac Co					2 (10)	A (B)	2 (11)	A (B)
98. Street 2/Street C	SSSC	Sac Co					3 (11)	A (B)	3 (11)	A (B)
99. Street 2/Street B	SSSC	Sac Co					1 (11)	A (B)	1 (11)	A (B)
100. Street2/Street A	SSSC	Sac Co	Does Not Exist				2 (11)	A (B)	2 (11)	A (B)
101. El Centro Road/Street 2	SSSC	Sac Co					5 (6)	A (A)	4 (5)	A (A)
102. Street 1/Bryte Bend Road	SSSC	Sac Co					0 (10)	A (B)	0 (12)	A (B)
103. Street 1/Street C	SSSC	Sac Co					2 (9)	A (A)	2 (9)	A (A)

Table 16:
Intersection Level of Service – Cumulative Conditions

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
104. Street 1/Street B	SSSC	Sac Co	Does Not Exist				0 (9)	A (A)	1 (9)	A (A)
105. Street 1/El Centro Road	SSSC	Sac Co					Does Not Exist [3]			
106. LDR Access/Bryte Bend Road	SSSC	Sac Co					2 (10)	A (A)	1 (12)	A (B)
107. El Centro Road/Bryte Bend Road	RAB	Sac Co					Does Not Exist [3]			
108. Street 9/Bryte Bend Road	SSSC	Sac Co					4 (10)	A (A)	3 (9)	A (A)
109. Snowy Egret Drive/Duckhorn Drive	AWSC	City of Sac	11	14	B	24	14	B	24	C
110. Snowy Egret Drive/E Commerce Way	Signal	City of Sac	32	35	C	31	35	C	31	C
111. San Juan Rd/E Commerce Way	Signal	City of Sac	22	33	C	39	33	C	39	D

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection. RAB = Roundabout.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3. Project roadway modification removed extension of El Centro Road southwesterly from Street 1 to Bryte Bend Road. Hence, these intersections no longer exist.

Bolded cells represent unacceptable operations, based on the County's Level of Service policy. Side-street stop controlled intersections exceeding the Level of Service policy are considered acceptable if signal warrants are not met or signals are not considered feasible. See Table 17.

Source: Fehr & Peers, 2021.

A traffic signal warrant analysis was performed at unsignalized study intersections located in Sacramento County. The list of study locations was further refined (per the Thresholds of Significance) to only include locations whose side-street worst movement would operate at F (if within Urban Service Boundary) or E or F (if outside the urban Service Boundary). Warrants 3A (Peak Hour Delay) and 3B (Peak Hour Volume) were evaluated using the criteria described in the *California Manual of Uniform Traffic Control Devices* (MUTCD) (2014). The results are shown in **Table 17** for the ten study intersections that satisfy the above criteria.

Six of the ten intersections would satisfy either Warrant 3A or 3B during the AM and/or PM peak hours. Of those that satisfy the warrant, Farm Road/Street A (#60), El Centro Road/Street 6 (#68), and El Centro Road/CMU/EHC Driveway (#69) are situated along and adjacent to the segment of El Centro Road near the Town Center in which a detailed access plan has already been developed. Traffic signals are not considered viable solutions at these intersections due to their proximity to other signalized intersections. The Street 12E/Radio Road intersection was further analyzed using micro-simulation under cumulative plus project conditions to determine if eastbound queues from it would spill back into the Bryte Bend Road/Radio Road roundabout, which is spaced 435 feet to the west (measured from centerline to centerline). The analysis concluded that the 95th percentile eastbound approach queue lengths (assuming a signal with an eastbound left-turn lane and through lane) would not spill back to the roundabout. Therefore, a traffic signal is recommended at the Street 12E/Radio Road (#45) intersection.

The other remaining intersections that satisfy the peak hour signal warrants are Powerline Road/Bayou Way South (#1) and San Juan Road/Orchard Lane (#50). Traffic signals are recommended at each location.

At the El Centro Road/MDR Access intersection (#62), the heavy side street delay is being caused by westbound Farm Road queue spillback from the El Centro Road/Farm Road signalized intersection. Side-street movements are therefore recommended to be restricted to right-turns only at the El Centro Road/MDR Access intersection (#62),

Additionally, given the heavy westbound queues on Farm Road described above, the segment of Farm Road east of El Centro Road is recommended to be extended as a six-lane thoroughfare from El Centro Road to the CMU signalized driveway.

Table 17:
Unsignalized Intersection Traffic Signal Warrant Analysis – Cumulative Plus Project Conditions

Intersection [1]	Traffic Control[2]	Agency	AM Peak Hour				PM Peak Hour				Signal Recommended?
			Delay[3]	LOS	Warrant 3A [4]	Warrant 3B [4]	Delay[3]	LOS	Warrant 3A [4]	Warrant 3B [4]	
1. Powerline Road/Bayou Way South	SSSC	Sac Co	4 (41)	A (E)	Not Met	Not Met	737 (2294)	F (F)	Met	Met	Yes
45. Street 12 (E)/Radio Road	SSSC	Sac Co	15 (68)	B (F)	Met	Met	10 (27)	A (D)	Not Met	Met	Yes
50. San Juan Road/Orchard Lane	SSSC	Sac Co / City of Sac	6 (56)	A (F)	Not Met	Met	2 (27)	A (D)	Not Met	Not Met	Yes
59. Farm Road/Street B	SSSC	Sac Co	9 (75)	A (F)	Not Met	Not Met	7 (40)	A (E)	Not Met	Not Met	No
60. Farm Road/Street A	SSSC	Sac Co	4 (49)	A (E)	Met	Not Met	6 (55)	A (F)	Not Met	Met	No
62. MDR Access/Farm Road	SSSC	Sac Co	192 (470)	F (F)	Not Met	Not Met	148 (446)	F (F)	Not Met	Not Met	No
68. El Centro Road/Street 6	SSSC	Sac Co	51 (276)	F (F)	Met	Met	62 (110)	F (F)	Not Met	Not Met	No
69. El Centro Road/CMU/EHC Dwy	SSSC	Sac Co	22 (61)	C (F)	Met	Met	64 (406)	F (F)	Met	Met	No
74. El Centro Road/Street 5	SSSC	Sac Co	17 (900)	C (F)	Not Met	Not Met	33 (900)	D (F)	Not Met	Not Met	No
89. El Centro Road/Street 4	SSSC	Sac Co	10 (53)	A (F)	Not Met	Not Met	7 (52)	A (F)	Not Met	Not Met	No

Notes:
1. Only a subset of unsignalized study intersections selected for analysis. Refer to prior page for selection criteria, which relates to Sacramento County thresholds of significance for unsignalized intersections.
2. SSSC = side-street stop controlled intersection.
3. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is shown in parentheses in seconds per vehicle.
4. Warrant 3A is the "Peak Hour Delay" warrant and Warrant 3B is the "Peak Hour Volume" warrant as described in the California MUTCD (2014).

Source: Fehr & Peers, 2021.

5. SITE ACCESS CONSIDERATIONS

The prior chapters concluded that highly congested traffic conditions would be expected along portions of El Centro Road and West El Camino Avenue near I-80 and the Town Center. This chapter evaluates the effectiveness of a set of geometric modifications to this area that would better accommodate the heavy vehicular travel demand. Additionally, a concept for improving the bicycle and pedestrian networks is proposed.

Proposed Geometric Modifications

The proposed modifications to El Centro Road and West El Camino Avenue would maintain the same overall roadway alignments but modify lane configurations and add other important elements. **Figure 20** illustrates the proposed geometric modifications including I-80/West El Camino Avenue interchange improvements. The following specific modifications would be made (relative to the assumed geometrics under existing plus project conditions):

El Centro Road/West El Camino Avenue Intersection

- *Construct two channelized westbound" right-turn lanes (i.e., two approach lanes, triangular corner raised median, and two receiving lanes).*

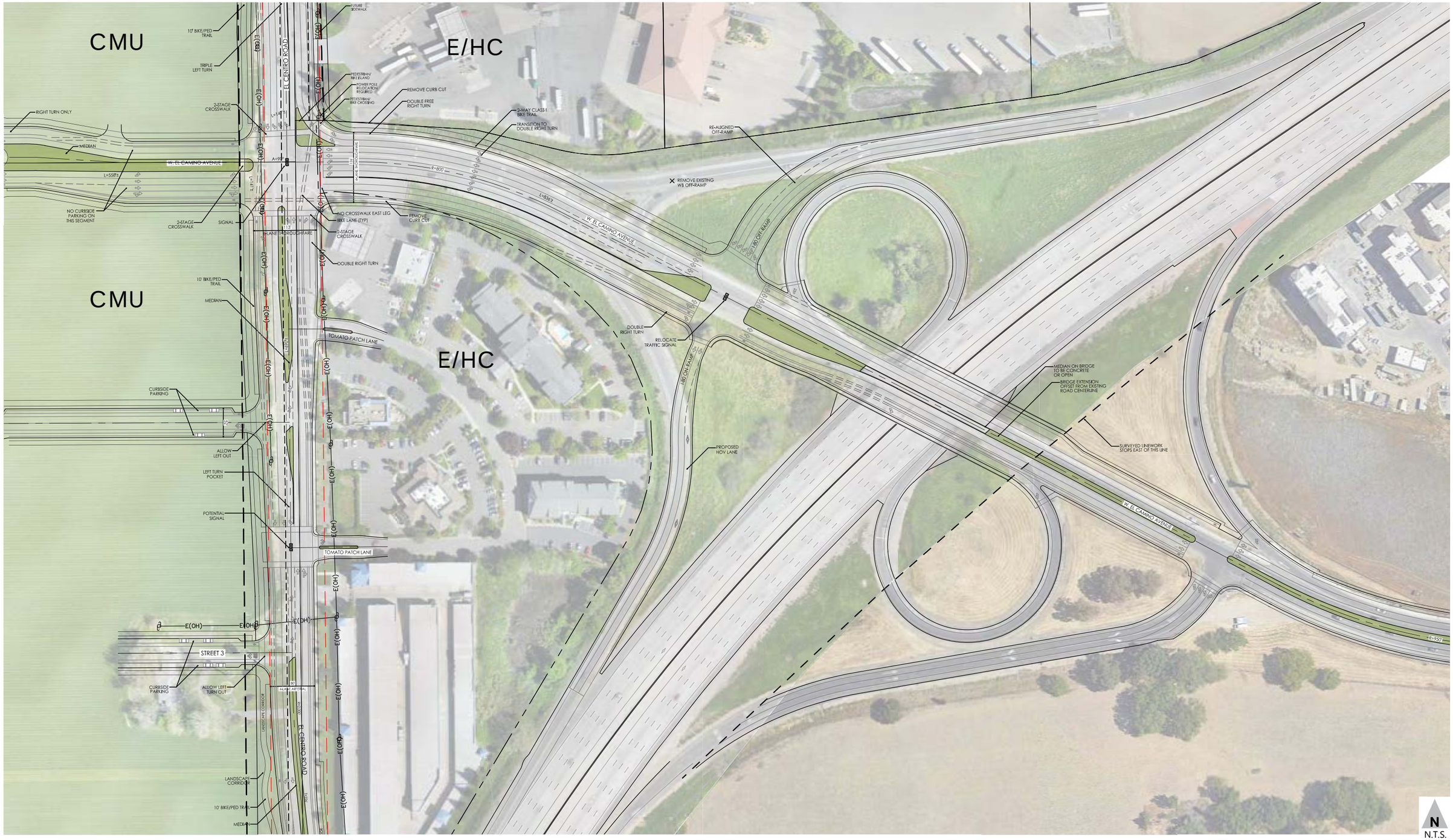
  Rationale: The need for this configuration is driven by the projected 2,125 vehicles performing this movement under existing plus project conditions during the PM peak hour. These turn lanes would generally flow freely with a green signal indication, as there are no conflicts with motorized traffic However, as described in the next bullet, a signalized crosswalk is required to enable pedestrians and bicyclists to cross between the triangular raised median island and the adjacent Class I multi-use path.

- *Construct at-grade crosswalks on the north, south, and west legs (including a signalized crosswalk in the westbound right-turn lanes). Prohibit pedestrian travel on the east leg.*

  Rationale: Preliminary analysis investigated the benefits and drawbacks of at-grade crosswalks versus pedestrian overcrossings. Through operations analysis and a variety of other considerations, the at-grade crosswalks were ultimately chosen as the preferred means for accommodating non-motorized travel at the intersection. The following considerations informed this decision:

- The pedestrian WALK interval for the lengthy west leg crosswalk would operate concurrently with the lengthy southbound left-turn vehicle phase, meaning the crosswalk phase would not unnecessarily lengthen the overall intersection cycle length during peak periods.
- Similar to the west leg, the pedestrian WALK interval for the north leg crosswalk would operate concurrently with the heavy westbound left-turn vehicle phase followed by the east-west through movement phase. Through operations analysis, it was determined this crosswalk would not adversely affect overall intersection operations.
- The south leg crosswalk would operate concurrently with the moderate levels of east-west through traffic. The crosswalk would cross seven traffic lanes. If accommodated in a single pedestrian WALK interval, this would considerably lengthen overall intersection cycle length and contribute to worsened queuing and delays. Accordingly, this crosswalk is recommended to be a "two-stage crossing", whereby pedestrians cross half the lanes, wait in a median refuge area, and then cross the remaining half of the lanes during the next signal phase. Through operations analysis, it was determined this crosswalk configuration would not adversely affect overall intersection operations.

Refer to next section "Accommodation of Bicyclists and Pedestrians" for how these modes of travel would be accommodated at the intersection.



Source: Wood Rodgers, Feb 2025

Figure 20

Geometric Improvements at West El Camino Avenue and El Centro Road

CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

- *Modify the eastbound approach to consist of a single left-turn lane and the northbound approach to consist of a single through lane.*

  Rationale: These movements (maximum of 80 eastbound left-turns per hour and 280 northbound through vehicles per hour) can each be accommodated by single lanes. Moreover, they would only require one northbound receiving lane, which would be adjacent to the two westbound-to-northbound right-turn receiving lanes.

- *Construct a third westbound left-turn lane.*

  Rationale: This movement would serve 830 vehicles under existing plus project conditions during the PM peak hour, which is substantial for a dual left-turn lane. By adding a third lane, queue spillback on westbound West El Camino Avenue is reduced.

- *Modify the eastbound right-turn lane to become a shared through/right lane.*

  Rationale: This modification would increase the capacity for the eastbound through movement of 730 vehicles, which would otherwise be accommodated in two through lanes. Although this is typically not considered an excessive "per lane" volume, the extremely heavy southbound left-turn would benefit by reducing the amount of green time required for other critical intersection movements, for which this is one. This modification would not adversely affect the modest right-turn movement of 10 vehicles per hour or less.

I-80 WB Ramps/West El Camino Avenue Intersection

- *Construct a third westbound right-turn lane on the off-ramp.*

  Rationale: The reconstructed signal-controlled off-ramp was assumed to have two left-turn lanes and two right-turn lanes. The left-turn demand of 690 AM peak hour vehicles requires two exclusive lanes. The right-turn demand of 1,000 AM peak hour vehicles and 1.070 PM peak hour vehicles under existing plus project conditions would function better with three right-turns.

- When warranted, operate the signal with a phasing plan that would include a signal phase in which the eastbound West El Camino Avenue through movement operates concurrently with the I-80 westbound off-ramp right-turn. Through operations analysis, it was determined that this phasing plan (which is in operation at several intersections along the US 50 corridor) would reduce vehicle queue spillbacks onto westbound I-80.

West El Camino Avenue Between I-80 WB Ramps and El Centro Road

- *In the westbound direction, construct four travel lanes departing the WB Ramps intersection.*

  Rationale: This configuration would allocate two-thirds of the right-turn capacity into the two outside travel lanes, which would become "trap" lanes onto northbound El Centro Road. This configuration is optimal during the critical PM peak hour, as 56 percent of the westbound demand approaching the intersection turns right onto northbound El Centro Road.

- *In the eastbound direction, construct three receiving lanes departing El Centro Road that laterally transition and then widen to four lanes approaching the WB Ramps intersection (see Figure 20).*

  Rationale: This configuration is necessary such that both the outside and middle lanes of the southbound triple left-turn movement can be used to access the I-80 WB diagonal on-ramp without requiring a lane change. This is accomplished via the lateral transition shown on Figure 20 and lane assignments at the WB Ramps intersection. A dedicated right-turn lane and an optional through/right lane would provide needed capacity to accommodate the 1,560 right-turning vehicles during the AM peak hour.

El Centro Road/Farm Road

- *Construct a northbound u-turn only lane.*

  Rationale: During the PM peak hour, approximately 100 vehicles are projected to perform a u-turn at this location. Much of this demand will be exiting traffic from the CMU and E/HC parcels on the east side of El Centro Road. The dual left-turns currently proposed at this location are not sufficient to handle the left-turn demand (650 PM peak hour vehicles) plus the 100-vehicle u-turn demand.

CMU and E/HC Driveways

- *Construct two right-turn only driveways with deceleration lanes on El Centro Road (north of West El Camino Avenue) to serve the CMU and E/HC parcels.*

Rationale: Two driveways are recommended given the expected volume of entering and exiting traffic. The signalized El Centro Road/West El Camino Avenue and El Centro Road/Farm Road intersections are situated about one-quarter mile (1,320 feet) apart. The following driveway placements are recommended:

  - Southerly driveway is situated at least 600 feet north of West El Camino Avenue (to provide adequate distance to accommodate weaving movements from the eastbound left-turn and northbound through movements at the West El Camino Avenue signal.

- Northerly driveway is situated at least 250 feet from the southerly driveway and 400 feet from the Farm Road signal. This spacing will reduce conflicts between turning movements at each driveway, while also providing adequate distance from the northerly driveway to access the u-turn lane.

CMU Driveway/Farm Road Signalized Intersection

- *Construct a third northbound left-turn lane.*

Rationale: During the PM peak hour, 1,535 vehicles are projected to perform this movement. Although east-west travel demand is modest (meaning considerable green time can be provided to this outbound movement), three lanes are nonetheless required for vehicle storage and overall egress considerations.

All Signalized Intersections Serving Transit Vehicles

- *Provide transit signal priority (TSP) equipment.*

Rationale: Low-priority TSP can extend the green phase or provide an early return to green, in order to speed up transit vehicles. This increases person throughput and provides for a higher degree of travel time reliability for transit trips.

It should be noted that grade-separated pedestrian overcrossings at the north and west legs of the West El Camino Avenue/El Centro Road intersection were also considered as potential design solutions. Their effectiveness (in place of the above recommended at-grade crosswalks) was tested using micro-simulation analysis and found to perform similarly to results shown above. However, the at-grade crossing solution is recommended because it reduces pedestrian inconvenience (due to less out of the way travel), is more intuitive, provides improved aesthetics, and reduces costs.

Average Delay and Percent Demand Served

The effectiveness of the above strategies was tested using the SimTraffic model for existing plus project AM and PM peak hour conditions. The results are shown in **Table 18** (see separately bound **Appendix E** for calculations).

Table 18:
Site Access Intersection Operational Improvements – Existing Plus Project Conditions

Intersection	Traffic Control[1]	Agency	Existing Plus Project Conditions							
			With Assumed Lane Configurations [3]				With Geometric Modifications [4]			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
17. El Centro Road/El Camino Avenue	Signal	Sac Co	113	F	126	F	89	F	86	F
33. I-80 WB Ramps/W. El Camino Avenue	Signal	Caltrans	140	F	140	F	27	C	31	C
34. I-80 EB Ramps/W. El Camino Avenue	Signal	Caltrans	36	D	223	F	21	C	40	D
61. El Centro Road/Farm Road	Signal	Sac Co	388	F	310	F	249	F	131	F
81. Street A/W. El Camino Avenue	Signal	Sac Co	19	B	28	C	19	B	33	C
83. El Centro Road/Tomato Patch Lane N	SSSC	Sac Co	4 (43)	A (E)	5 (27)	A (D)	17 (532)	C (F)	20 (469)	C (F)
89. El Centro Road/Street 4	SSSC	Sac Co	18 (124)	C (F)	5 (35)	A (D)	33 (454)	D (F)	14 (160)	B (F)
95. El Centro Road/Street 3/Tomato Patch Lane S	Signal	Sac Co	19	B	12	B	21	C	15	B

Notes:
1. SSSC = side-street stop controlled intersection.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3. Refer to Figure 14 for assumed lane configurations.
4. Refer to Figure 20 for assumed lane configurations.

Source: Fehr & Peers, 2021.

The proposed geometric modifications would reduce the average delay across the El Centro Road/West El Camino Avenue, El Centro Road/Farm Road, and two I-80 ramp intersections from 169 to 97 seconds per vehicle during the AM peak hour. During the PM peak hour, a decrease in average delay for the four intersections from 200 to 72 seconds per vehicle would occur.

A metric known as "percent demand served" is valuable when comparing the capacity provided by alternative geometric treatments for an over-saturated condition. Percent demand served, which is an output from the SimTraffic microsimulation model, represents the percentage of the hourly vehicle demand able to pass through a given intersection in that time period. When percent demand served drops below 80 to 90 percent, it is an indication that the demand for travel exceeds the system's capacity. For large, heavily traveled networks such as the SimTraffic model built for the West El Camino Avenue (i.e., from west of I-80 to I-5) and El Centro Road (i.e., south of the Town Center to north of Farm Road) corridors, 100 percent demand served is rare because of the travel distance required to traverse the entire length of the network (i.e., some vehicles enter but do not pass entirely through within the hour).

Charts 1 and 2 show how the proposed geometric modifications would increase the percent demand served at the El Centro Road/West El Camino Avenue, El Centro Road/Farm Road, and two I-80 ramp intersections. At the El Centro Road/West El Camino Avenue bottleneck location, the percent demand served would increase substantially (from 73 to 87 percent during the AM peak hour and from 66 to 92 percent during the PM peak hour). Much of the increase is due to more capacity being provided for the heavy southbound left-turn and westbound right-turn movements whose percent demand served rises dramatically with the geometric modifications.

Table 19 and the SimTraffic screen captures on the following two pages display the effectiveness of the proposed geometric modifications under cumulative plus project AM and PM peak hour conditions. Refer to Appendix E for technical calculations. This table indicates that the proposed geometric modifications provide similar operational benefits under cumulative conditions, as under existing plus project conditions. Notably, the El Centro Road/West El Camino Avenue intersection remains at LOS F during both peak hours, but has substantially less delay and greater percent demand served with the geometric modifications in place.

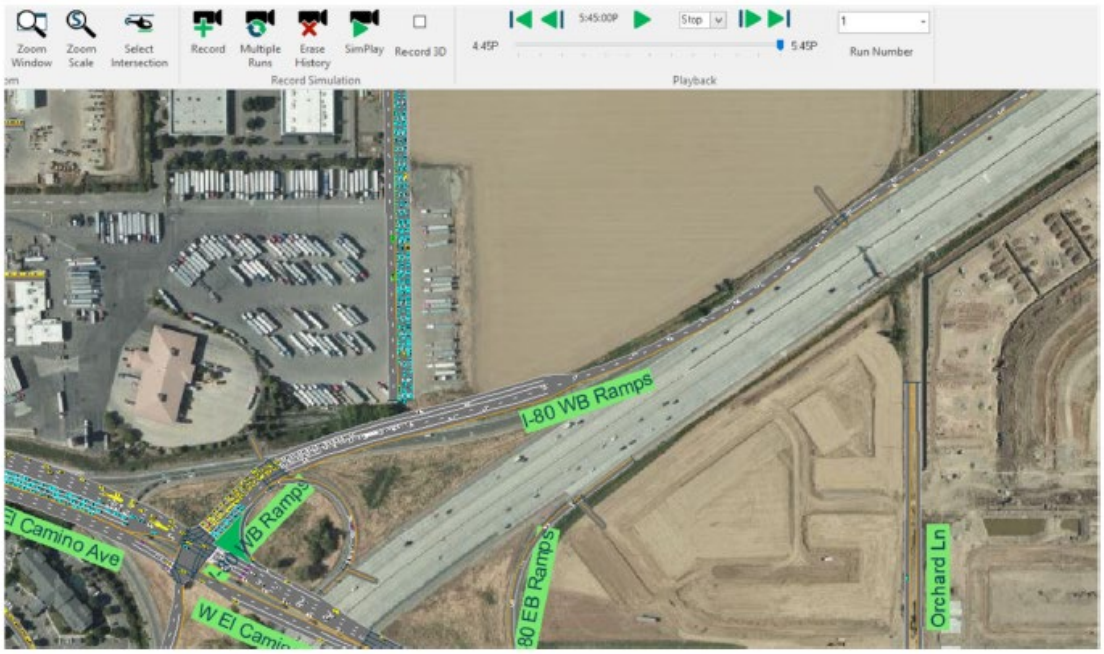
In summary, the proposed geometric modifications were found to substantially benefit traffic operations along the portions of El Centro Road and West El Camino Avenue near the Town Center. While operations would remain at LOS F at the El Centro Road/West El Camino Avenue and El Centro Road/Farm Road intersections, delays are considered more tolerable, and the overall percent demand served is much better with the proposed geometric improvements.



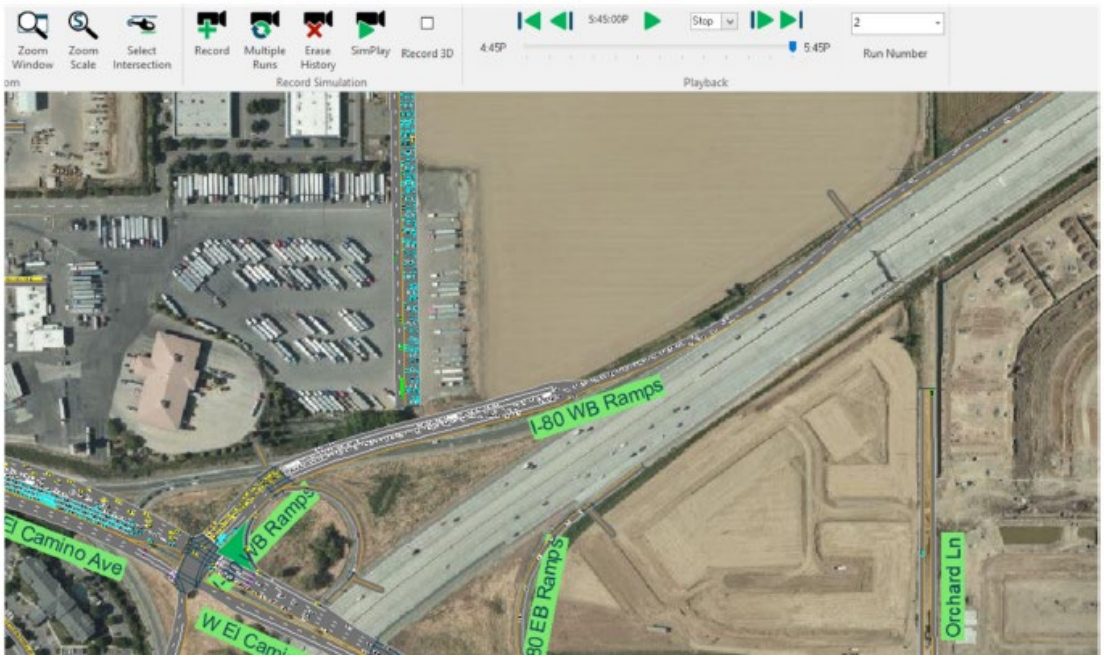
Image of traffic conditions during the AM peak hour based on SimTraffic modeling with proposed improvements in place. Key observations include:

- **Southbound queue on El Centro Road continuing to extend back from West El Camino Avenue to beyond Farm Road, though the ultimately length of the queue is shorter with the improvements.**
- **Westbound queue on West El Camino Avenue no longer causes traffic on the freeway off-ramps to spill back onto the freeway.**

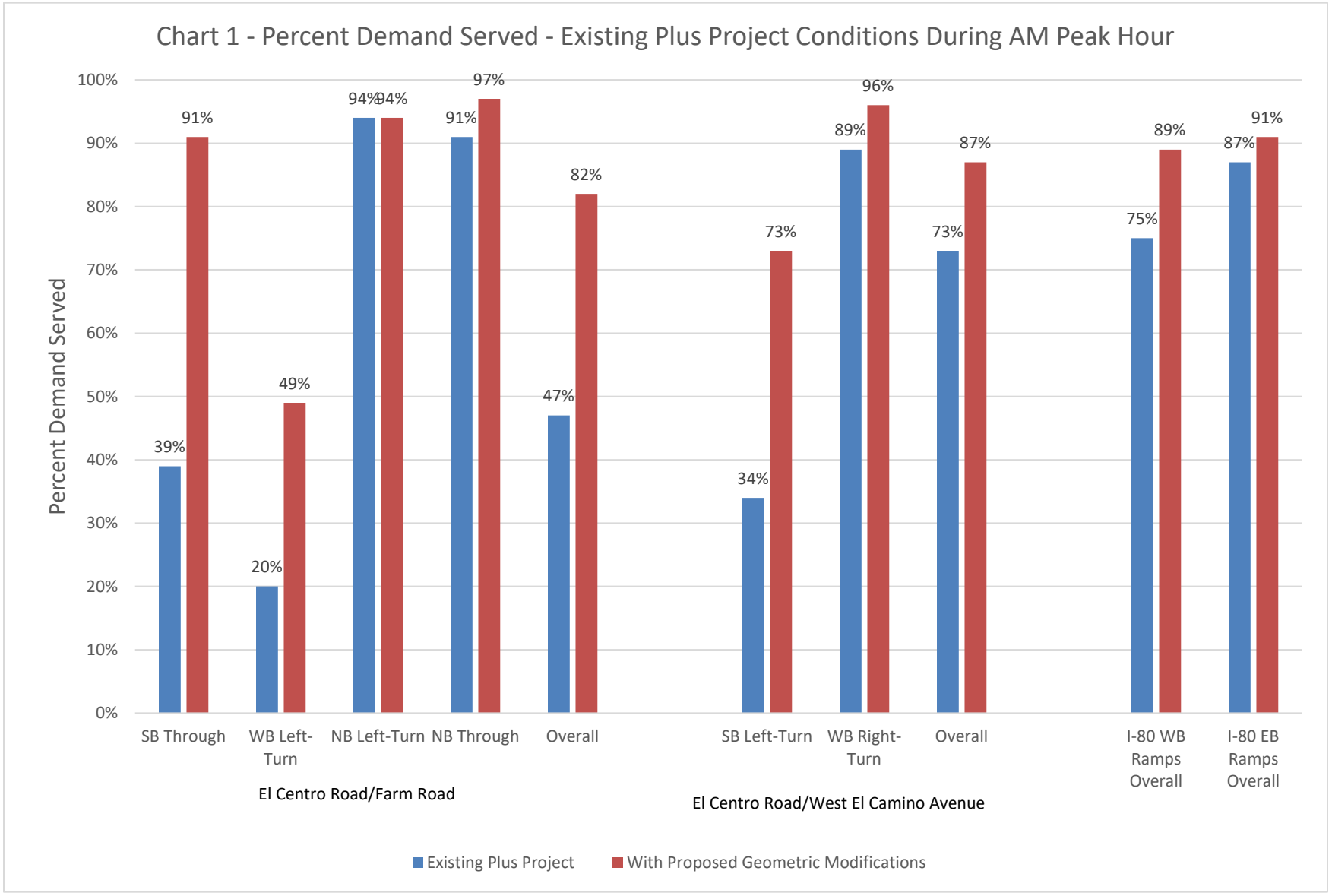
Run 1



Run 2



SimTraffic screen capture at end of PM peak hour for two of ten runs (under cumulative plus project with improvements). Results indicate that westbound off-ramp queue does not spill back onto freeway mainline.


Chart 1 - Percent Demand Served - Existing Plus Project Conditions During AM Peak Hour
Percent Demand Served
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
39%
91%
20%
49%
94%
94%
91%
97%
47%
82%
34%
73%
89%
96%
73%
87%
75%
89%
87%
91%
SB Through
WB Left-Turn
NB Left-Turn
NB Through
Overall
SB Left-Turn
WB Right-Turn
Overall
I-80 WB Ramps Overall
I-80 EB Ramps Overall
El Centro Road/Farm Road
El Centro Road/West El Camino Avenue
Existing Plus Project
With Proposed Geometric Modifications

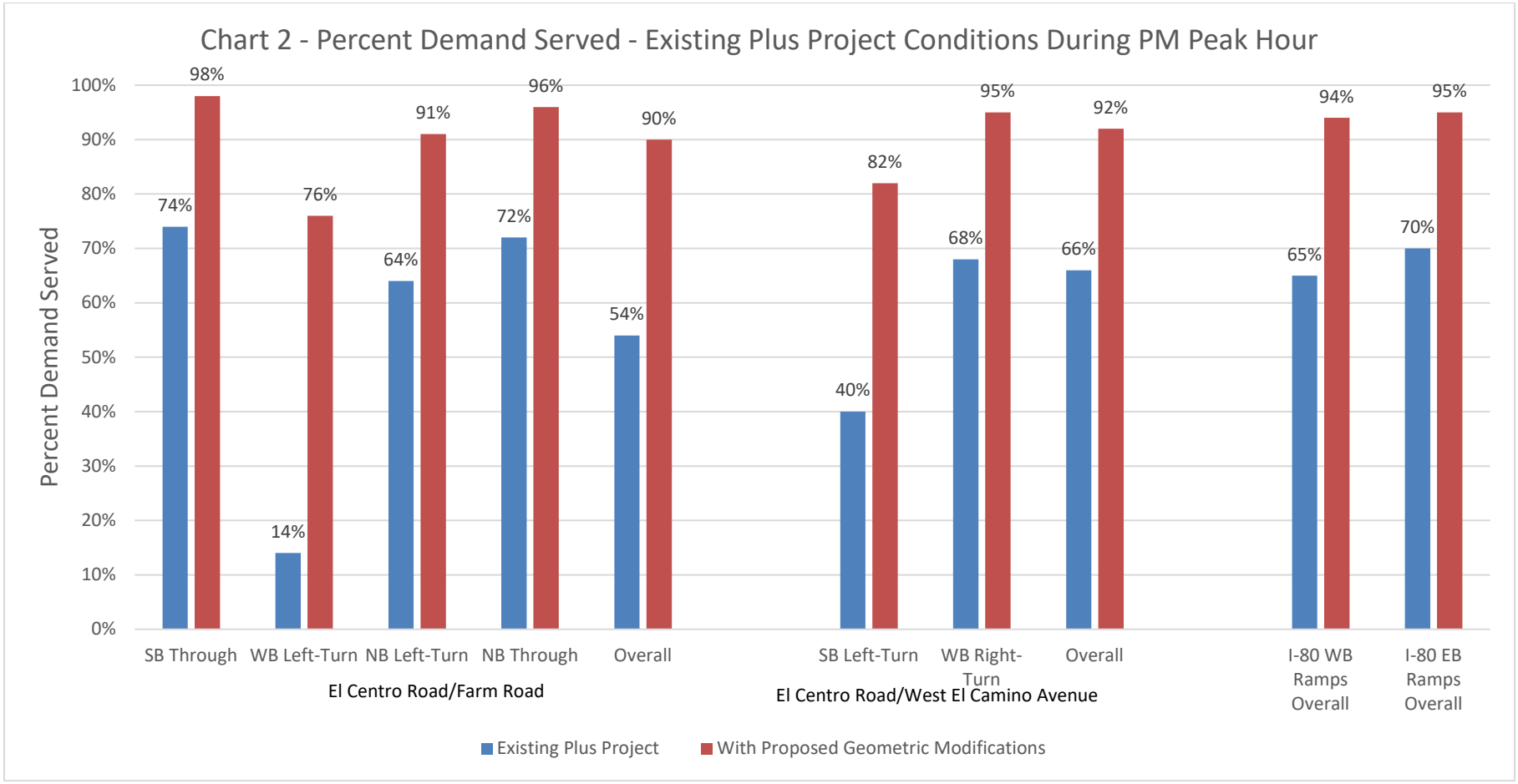

Chart 2 - Percent Demand Served - Existing Plus Project Conditions During PM Peak Hour
Percent Demand Served
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
74%
98%
14%
76%
64%
91%
72%
96%
54%
90%
40%
82%
68%
95%
66%
92%
65%
94%
70%
95%
SB Through
WB Left-Turn
NB Left-Turn
NB Through
Overall
SB Left-Turn
WB Right-Turn
Overall
I-80 WB Ramps Overall
I-80 EB Ramps Overall
El Centro Road/Farm Road
El Centro Road/West El Camino Avenue
Existing Plus Project
With Proposed Geometric Modifications

Table 19:
Site Access Intersection Operational Improvements – Cumulative Plus Project Conditions

Intersection	Traffic Control[1]	Agency	Cumulative Plus Project Conditions							
			With Assumed Lane Configurations [3]				With Geometric Modifications [4]			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
17. El Centro Road/El Camino Avenue	Signal	Sac Co	115	F	131	F	89	F	109	F
33. I-80 WB Ramps/W. El Camino Avenue	Signal	Caltrans	165	F	148	F	23	C	38	D
34. I-80 EB Ramps/W. El Camino Avenue	Signal	Caltrans	154	F	278	F	38	D	39	D
61. El Centro Road/Farm Road	Signal	Sac Co	346	F	375	F	305	F	251	F
81. Street A/W. El Camino Avenue	Signal	Sac Co	19	B	58	E	21	C	71	E
83. El Centro Road/Tomato Patch Lane N	SSSC	Sac Co	2 (20)	A (C)	6 (37)	A (E)	19 (546)	C (F)	16 (709)	C (F)
89. El Centro Road/Street 4	SSSC	Sac Co	10 (53)	A (F)	7 (52)	A (F)	36 (411)	E (F)	28 (413)	D (F)
95. El Centro Road/Street 3/Tomato Patch Lane S	Signal	Sac Co	15	B	13	B	19	B	14	B

Notes:
1. SSSC = side-street stop controlled intersection.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3. Refer to Figure 20 for assumed lane configurations.
4. Refer to previous pages for descriptions of geometric modifications.

Source: Fehr & Peers, 2021.

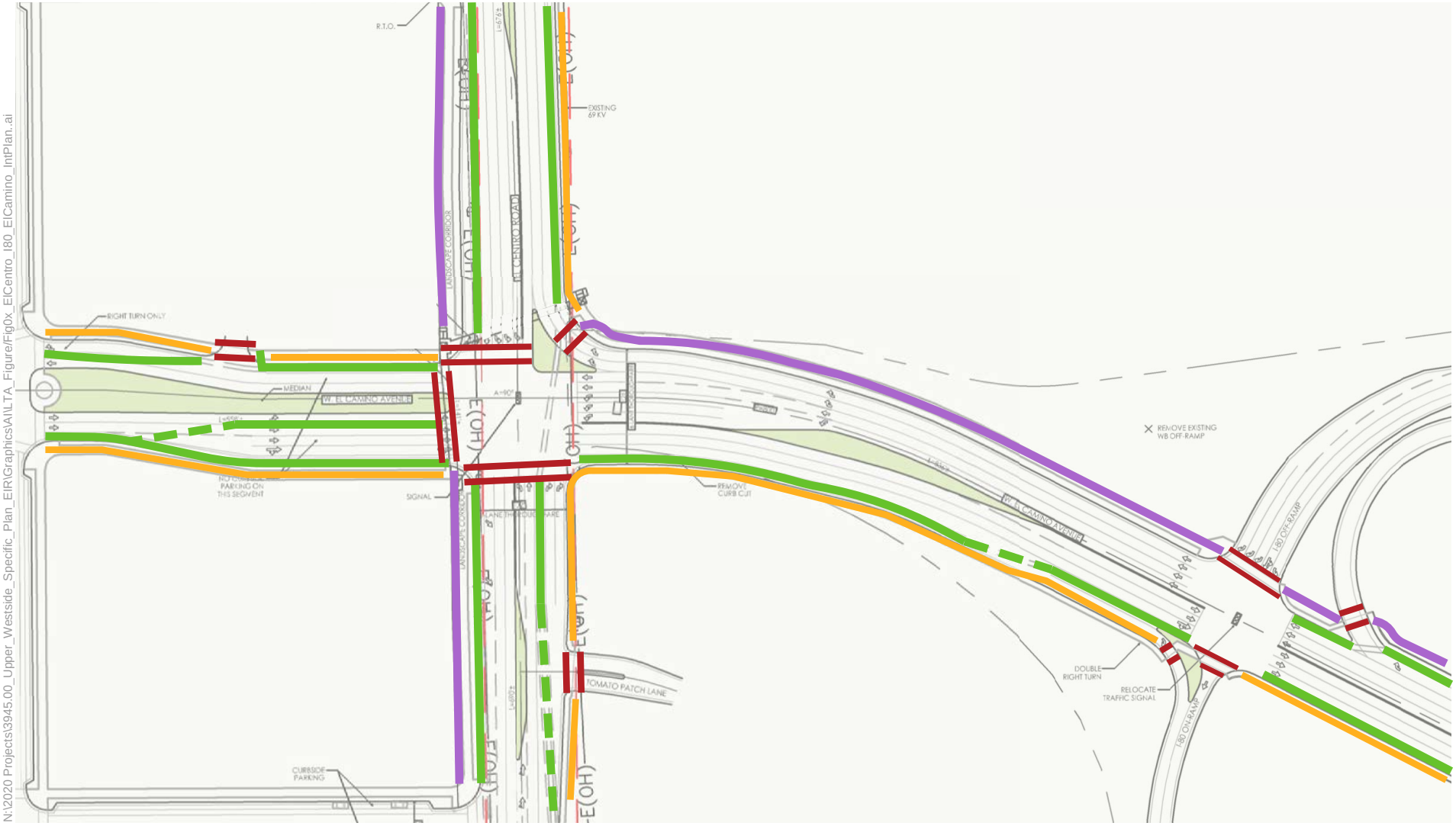
Accommodation of Bicyclists and Pedestrians

The previous section described how the proposed geometric modifications would benefit vehicular travel (including buses that would otherwise incur substantial delays during peak periods). It is equally important that the improvements also accommodate bicyclists and pedestrians traveling along El Centro Road and West El Camino Avenue.

Figure 21 displays bicycle and pedestrian facilities that would be part of these proposed improvements. Specific amenities to support biking include:

- Class I multi-use path allowing two-way bicycle travel on the north side of West El Camino Avenue that would extend from El Centro Road to the signalized Orchard Lane intersection (within the City of Sacramento) east of I-80. Additional studies during the interchange design phase will be necessary to determine its exact alignment and how/whether it intersects the three on/off ramps at-grade or not.
- Class I multi-use path on the west side of El Centro Road both north and south of West El Camino Avenue.
- Class II bike lanes in both directions of El Centro Road both north and south of West El Camino Avenue.
- Class II bike lanes in both directions of West El Camino Avenue west of El Centro Road (including an eastbound bike lane that would be located between the left and through lanes at the signal). This bike lane would operate with the eastbound left-turn phase, providing bicyclists with the ability to reach the triangular island to access the Class I multi-use path on the north side of West El Camino Avenue.
- A Class II bike lane is currently shown in the eastbound direction of West El Camino Avenue from El Centro Road extending across the interchange. Bicyclists in this lane need to navigate the merging area with vehicles desiring to travel onto the westbound I-80 diagonal on-ramp. Additional discussion with Caltrans will be necessary during the design phase of the interchange to determine whether this bike lane is desirable or not.

Pedestrian amenities include sidewalks along El Centro Road and West El Camino Avenue west of El Centro Road. It is not known whether a sidewalk would also be provided on the south side of West El Camino Avenue east of El Centro Road across the interchange, as pedestrians using it would encounter three on/off ramps carrying considerable levels of traffic. An alternate route for pedestrians would be the Class I path on the north side. Crosswalks would be provided on three of the four legs at the West El Camino Avenue/El Centro Road intersection. The east leg would not have a crosswalk because it would have adversely affected overall traffic operations in the area.



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\AIILTA_Figure/Fig0x_ElCentro_I80_ElCamino_IntPlan..ai

- Class I Multi-use Path
- Class II Bike Lane
- Sidewalk
- New Crosswalk

Figure 21

Bicycle and Pedestrian Facilities
El Centro Rd/I-80 WB Ramps/West El Camino Ave Improvements

Below are relevant design standards and guidance from Caltrans related to treatment of bicycle and pedestrian facilities at freeway interchanges is presented. The following passages from the *Highway Design Manual* (HDM) (Caltrans, 2020) are relevant to the proposed bicycle and pedestrian facilities shown on Figure 21 at the I-80/West El Camino Avenue interchange. [7]

CHAPTER 500 (TRAFFIC INTERCHANGES)

1. No longer are freeway interchanges designed with only the needs of motorists in mind. Pedestrian and bicycle traffic needs are to be considered along with the motorized traffic.
2. Local road interchanges ramp termini should be perpendicular to the local road. The high speed, shallow angle, ramp termini of the past are problematic for pedestrians and bicyclists to navigate. Vehicle speeds are reduced by the right angle turn, allowing drivers to better respond to bicycle and pedestrian conflicts.
3. Class II bikeways designed through interchanges should be accomplished considering the mobility of bicyclists and should be designed in a manner that will minimize confusion by motorists and bicyclists. Designs which allow high speed merges at on- and off-ramps to local streets and conventional highways have a large impact on bicycle and pedestrian mobility and should not be used.
4. A solution on how to best provide for bicycle travel to connect both sides of the freeway should be developed in consultation with the Local Agency and community as well as with the consideration of the local bicycle plan.

CHAPTER 1000 (BICYCLE TRANSPORTATION DESIGN)

1. Another common application of Class I facilities is to close gaps to bicycle travel caused by construction of freeways or because of the existence of natural barriers (rivers, mountains, etc.).
2. Alternating segments of Class I to Class II (or Class III) bikeways along a route are generally incompatible, as street crossings by bicyclists is required when the route changes character.
3. The minimum paved width of travel way for a two-way bike path shall be 8 feet, 10-foot preferred. Where heavy bicycle volumes are anticipated and/or significant pedestrian traffic is expected, the paved width of a two-way bike path should be greater than 10 feet, preferably 12 feet or more.
4. Development of a one-way bike path should be undertaken only in rare situations where there is a need for only one-direction of travel.

[7] Source: Highway Design Manual (HDM) | Caltrans. Accessed June 4, 2021.

5. Class I bikeways, unless adjacent to an adequate pedestrian facility (see Index 1001.3(n)) are for the exclusive use of bicycles and pedestrians; therefore, any facility serving pedestrians must meet accessibility requirements, see DIB 82. However, experience has shown that if regular pedestrian use is anticipated, separate facilities for pedestrians may be beneficial to minimize conflicts.
6. Where motor vehicle cross traffic and bicycle traffic is heavy, grade separations are desirable to eliminate intersection conflicts. Where grade separations are not feasible, assignment of right of way by traffic signals should be considered.

With regard to the applicable guidance in Chapter 500 (Traffic Interchanges), the westbound on- and off-ramps would be realigned to replace the high-speed, free-flow movements with slower-speed, right-angle signal-controlled movements.

With regard to the applicable standards and guidance in Chapter 1000 (Bicycle Transportation Design), the two-way multi-use path is consistent with many of the principles described in this chapter. Design details such as the width of the Class I path, specific treatments at its easterly terminus at Orchard Lane, and means for crossing ramps (i.e., at-grade or grade-separated, like at the US 50/Watt Avenue interchange) have not been finalized. However, it is apparent that a dedicated two-way multi-use path would be constructed to enable bicyclists and pedestrians to travel from the Upper Westside Specific Plan across I-80 via West El Camino Avenue.

6. OPERATIONAL DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This chapter identifies project-specific and cumulative operational deficiencies caused by the project and then recommended improvements to restore operations to acceptable levels.

Operational Deficiencies – Existing Plus Project Conditions

This section discusses the effects of the proposed project on the roadway system. Recall that as a consequence of SB 743, operational deficiencies (versus significant impacts) are used to describe degraded operations at roadways and intersections. Refer to the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022) for freeway off-ramp queuing and ramp meter storage analysis, as well as impacts to other modes of travel.

Roadway Segments

The proposed project would not cause deficient operations or contribute to already deficient operations at any Sacramento County study roadway segments. The proposed project would also not cause a substandard Sacramento County rural roadway (i.e., less than 24 feet of pavement width and less than six a foot shoulder) to carry over 6,000 daily vehicles or add 600 or more vehicles to a facility already carrying this level of traffic.

The project would add considerable volumes of traffic (above existing levels) to the following surface streets immediately adjacent to interchanges owned and operated by Caltrans (in descending order of traffic added):

- West El Camino Avenue directly west of I-80: 14,200 to 83,300 ADT (69,100 ADT increase)
- West El Camino Avenue directly east of I-80: 20,900 to 43,800 (22,900 ADT increase)
- West El Camino Avenue directly west of I-5: 21,100 to 40,400 ADT (19,300 ADT increase)
- Arena Boulevard directly west of I-5: 26,900 to 35,600 ADT (8,700 ADT increase)
- Del Paso Road directly west of I-5: 22,800 to 31,100 ADT (8,300 ADT increase)
- Garden Highway directly west of I-5: 16,300 to 19,300 ADT (3,000 ADT increase)

The project would also add considerable volumes of traffic (above existing levels) to the following surface streets within the City of Sacramento (in descending order of traffic added):

- West El Camino Avenue between Orchard Lane and Gateway Oaks Drive: 18,600 to 39,400 ADT (20,800 ADT increase)
- El Centro Road south of Arena Boulevard: 7,900 to 27,000 ADT (19,100 ADT increase)
- Arena Boulevard east of El Centro Road: 7,600 to 17,600 ADT (10,000 ADT increase)
- Del Paso Road east of El Centro Road: 22,800 to 31,100 ADT (8,300 ADT increase)
- San Juan Road east of Orchard Lane: 6,600 to 14,300 ADT (7,700 ADT increase)
- El Centro Road south of Del Paso Road: 11,400 to 18,000 ADT (6,600 ADT increase)
- Del Paso Road west of East Commerce Way: 43,200 to 47,000 ADT (3,800 ADT increase)
- San Juan Road west of Truxel Road: 17,400 to 21,100 (3,700 ADT increase)
- West El Camino Avenue east of I-5: 25,800 to 29,300 ADT (3,500 ADT increase)
- Garden Highway west of I-5: 16,300 to 19,300 ADT (3,000 ADT increase)
- Garden Highway east of I-5: 1,900 to 4,200 ADT (2,300 ADT increase)

Since Caltrans and the City of Sacramento do not utilize roadway segment daily volume thresholds for project-level evaluations, no corresponding LOS is provided for these segments. However, the effect of this added traffic is reflected in intersection operations along these corridors and the need for improvements, which are discussed later.

Intersections

The project would cause deficient operations or contribute to already deficient operations at the following Sacramento County intersections:

- Powerline Road/Bayou Way (#1): Operations for worst side-street movement degrade from LOS C to F during PM peak hour and traffic signal warrant would be met.
- West El Camino Avenue/El Centro Road (#17): New signalized intersection would operate at LOS F during AM and PM peak hours.
- Farm Road/El Centro Road (#61): New signalized intersection would operate at LOS F during AM and PM peak hours.
- Orchard Lane/Farm Road/CMU Driveway (#63): New signalized intersection would operate at LOS F during AM and PM peak hours.
- El Centro Road/Street 6 (#68): Operations for worst side-street movement would be LOS F during PM peak hour and traffic signal warrant would be met.

- El Centro Road/CMU/EHC Driveway (#69): Operations for worst side-street movement would be LOS F during PM peak hour and traffic signal warrant would be met.
- El Centro Road/Street 4 (#89): Operations for worst side-street movement would be LOS F during AM peak hour and traffic signal warrant would be met.

Based on the results in Table 12, the following corridors within the City of Sacramento would experience considerable increases in traffic flows, queuing, and delays as a result of the proposed project.

- Arena Boulevard Corridor West of I-5 – During the AM and PM peak hours, operations on Arena Boulevard at El Centro Road (#15), Stemmler Drive (#24), and Duckhorn Drive (#25) would degrade from LOS D or better to F. This is due to the introduction of a substantial increase in project-related traffic (between 400 to 540 vehicles per hour added in each direction). In the eastbound direction, the lack of capacity at Arena Boulevard/El Centro Road is an issue along with imbalanced lane utilization approaching I-5. In the westbound direction, the lack of a dual left-turn lane at El Centro Road to accommodate 600 PM peak hour vehicles causes substantial queue spillbacks that adversely affect upstream intersections.
- West El Camino Avenue Between I-80 and I-5 – The project would add approximately 450 vehicles in the eastbound direction during the AM peak hour and 700 vehicles in the westbound direction during the PM peak hour. Operations degrade to LOS F at the West El Camino Avenue/Gateway Oaks Drive intersection (#37) during the PM peak hour. This is caused by vehicle queue spillback from the I-5 southbound diagonal on-ramp ramp meter (see section below for details). Operations on West El Camino Avenue at Orchard Lane (#35) and West River Drive (#36) remain at LOS D or better despite the substantial increases in traffic.

Although the project would add considerable levels of traffic to a number of other corridors within the City of Sacramento (see list above), resulting operations would generally not degrade to a level where operational improvements should be considered.

Review of Table 12 also indicated several Caltrans ramp terminal intersections that would experience LOS F operations with the addition of project trips. These include:

- Arena Boulevard/I-5 NB Ramps – operations would worsen from LOS B to F during the PM peak hour. The project would cause the NB off-ramp left-turn movement to increase from 587 to 960 vehicles.
- Garden Highway/I-5 SB Ramps – operations would worsen to LOS F during the PM peak hour, primarily because of the southbound loop on-ramp ramp meter queue spillback. West El Camino Avenue/I-80 WB and EB Ramps – despite the assumed widening of the existing interchange,

operations would be at LOS F during both peak hours at the WB ramps intersection and at LOS F during the PM peak hour at the EB Ramps intersection. This is caused by queue spillbacks from the El Centro Road/West El Camino Avenue intersection.

Table 20 displays a set of recommended operational enhancements that would address many of the operational deficiencies identified under existing plus project conditions. Recommended improvements within Sacramento County are described in detail below:

- Powerline Road/Bayou Way (#1) – all approaches currently include a shared left/through/right lane. As part of the signal installation, minor widening would occur to enable all approaches to consist of a dedicated left and a shared through/right lane.
- Radio Road/Street 12 (E) (#47) – installation of a traffic signal with protected eastbound left-turn phasing is recommended. Analysis showed that under cumulative plus project conditions with a traffic signal at this location, the maximum queue in the eastbound direction would not spill back to the roundabout on Radio Road at Bryte Bend Road, which is situated 430 feet to the west.
- Farm Road/Street A (#60) – As part of the improvements, the second westbound travel lane departing El Centro Road would extend beyond this intersection, terminating just to the west. Restricted left-turn movements from Street A are recommended, as those movements could instead use alternate parallel routes including Street B and Street 6.
- Farm Road/MDR Access (#62) – Side-street movements are recommended to be restricted to right-turns only.
- Farm Road/CMU Driveway (#63) – The third left-turn lane, which would serve over 1,530 vehicles during the PM peak hour, is required for vehicle storage and overall egress considerations.

Note that modification to the El Centro Road/Radio Road intersection would also be required at some point as a result of the extension of Natomas Crossing Drive to this location. The geometrics and resulting traffic operations at this intersection with this extension in place are discussed under the cumulative improvements section (along with fair share calculations).

Table 20:
Recommended Improvements to Address Operational Deficiencies – Existing Plus Project Conditions

Facility	Lead Agency	Description of Improvement(s)
Powerline Road/Bayou Way (#1)	Sacramento County	Install traffic signal
El Centro Road and West El Camino Avenue Corridors	Sacramento County	Construct Proposed Geometric Modifications (see Figure 20)
I-80/West El Camino Avenue Interchange [1]	Caltrans	Install two metered lanes and one HOV lane on the I-80 WB diagonal on-ramp
Arena Boulevard/El Centro Road (#15)	City of Sacramento	At Arena Boulevard/El Centro Road, construct second westbound left-turn lane, second southbound through lane, restripe eastbound right-turn lane to a shared through/right, and lengthen northbound right-turn lane to 400 feet with right-turn overlap arrow. Pay fair share cost for constructing Natomas Crossing Drive as a two-lane street from Duckhorn Drive to El Centro Road.
I-5/West El Camino Avenue Interchange [1]	Caltrans	Widen the I-5 SB diagonal on-ramp to consist of two ramp-metered lanes
Radio Road/Street 12 (E) (#45)	Sacramento County	Install traffic signal
Farm Road/Street A (#60)	Sacramento County	Install raised median on Farm Road at Street A to restrict turn movements on Street A to right-turn only.
Farm Road/MDR Access (#62)	Sacramento County	Install raised median on Farm Road at MDR Access to restrict turn movements to right-turn only.
Farm Road/Orchard Lane/CMU Driveway (#63)	Sacramento County	Expand northbound approach to consist of two left-turn lanes and a shared left/right lane.

Notes:
1. Identified improvements derived from the ramp metering analysis whose results are contained in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022).

Source: Fehr & Peers, 2021.

Table 20 also includes improvements under the jurisdiction of Caltrans and the City of Sacramento. Although ramp meter analysis results were not presented in this report, Table 20 identifies the need for two specific ramp meter modifications in order to address ramp meter queue spillback onto surface streets. Additional studies involving Caltrans are required to further define each of these improvements. Improvements are recommended at the Arena Boulevard/El Centro Road intersection in the City of Sacramento (see separately bound **Appendix E** for geometric drawing). Coordination between staff from the City and County occurred to reach agreement on the improvements shown in that drawing.

Table 21 illustrates the effectiveness of the above measures at study intersections influenced by each improvement. See separately bound **Appendix E** for calculations.

Table 21:
Intersection Level of Service – Existing Plus Project Conditions with Operational Improvements

Intersection	Traffic Control[1]	Agency	Existing Conditions				Existing Plus Project Conditions							
							Without Improvements				With Improvements [3]			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1. Powerline Road/Bayou Way	SSSC	Sac Co	6 (23)	A (C)	15 (18)	B (C)	9 (33)	A (D)	67 (92)	F (F)	29	C	22	C
15. El Centro Road/Arena Boulevard/Natomas Central Dr	Signal	City of Sac	22	C	17	B	137	F	85	F	55	D	27	C
17. El Centro Road/El Camino Avenue	SSSC / Signal	Sac Co	23 (238)	C (F)	13 (21)	B (C)	113	F	126	F	89	F	86	F
24. Stemmler Drive/Arena Boulevard	Signal	City of Sac	15	B	12	B	139	F	96	F	87	F	14	B
25. Duckhorn Drive/Arena Boulevard	Signal	City of Sac	46	D	24	C	123	F	79	E	57	E	37	D
26. I-5 SB Ramps/Arena Boulevard	Signal	Caltrans	6	A	6	A	48	D	47	D	6	A	6	A
27. I-5 NB Ramps/Arena Boulevard	Signal	Caltrans	11	B	17	B	43	D	147	F	11	B	18	B
33. I-80 WB Ramps/W. El Camino Avenue	Signal	Caltrans	21	C	13	B	140	F	140	F	27	C	31	C
34. I-80 EB Ramps/W. El Camino Avenue	Signal	Caltrans	13	B	16	B	36	D	223	F	21	C	40	D
35. Orchard Lane/W. El Camino Avenue	Signal	City of Sac	15	B	18	B	42	D	15	B	39	D	16	B
36. West River Drive/W. El Camino Avenue	Signal	City of Sac	15	B	7	A	16	B	11	B	19	B	12	B
37. Gateway Oaks Drive/W. El Camino Avenue	Signal	City of Sac	28	C	44	D	31	C	103	F	35	D	90	F
38. I-5 SB Ramps/W. El Camino Avenue	Free	Caltrans	7	A	2	A	7	A	5	A	7	A	3	A
39. I-5 NB Ramps/W. El Camino Avenue	Signal	Caltrans	29	C	6	A	45	D	15	B	39	D	15	B
45. Radio Road/Street 12 (E)	SSSC	Sac Co	Does Not Exist				13 (54)	B (F)	10 (23)	A (C)	10	A	8	A

Table 21:
Intersection Level of Service – Existing Plus Project Conditions with Operational Improvements

Intersection	Traffic Control[1]	Agency	Existing Conditions				Existing Plus Project Conditions							
							Without Improvements				With Improvements [3]			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
60. Farm Road/Street A	SSSC	Sac Co	Does Not Exist				4 (29)	A (D)	4 (41)	A (E)	1 (12)	A (B)	3 (16)	A (C)
61. El Centro Road/Farm Road	Signal	Sac Co	Does Not Exist				388	F	310	F	249	F	131	F
62. MDR Access/Farm Road	SSSC	Sac Co					200 (461)	F (F)	150 (382)	F (F)	117 (305)	F (F)	69 (105)	F (F)
63. Orchard Lane/Farm Road/CMU Dwy	Signal	Sac Co					266	F	218	F	203	F	176	F
68. El Centro Road/Street 6	SSSC	Sac Co					69 (346)	F (F)	81 (315)	F (F)	34 (212)	D (F)	20 (102)	C (F)
74. El Centro Road/Street 5	SSSC	Sac Co					21 (900)	C (F)	35 (900)	E (F)	29 (881)	D (F)	32 (881)	D (F)
81. Street A/W. El Camino Avenue	Signal	Sac Co					19	B	28	C	19	B	33	C
83. El Centro Road/Tomato Patch Lane N	SSSC	Sac Co	Does Not Exist				4 (43)	A (E)	5 (27)	A (D)	17 (532)	C (F)	20 (469)	C (F)
89. El Centro Road/Street 4	SSSC	Sac Co					18 (124)	C (F)	5 (35)	A (D)	33 (454)	D (F)	14 (160)	B (F)
95. El Centro Road/Street 3/Tomato Patch Lane S	Signal	Sac Co					19	B	12	B	21	C	15	B

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3 Operational improvements are listed in Table 20.
Source: Fehr & Peers, 2021.

Table 22 shows the number of existing study intersections (operating with a traffic signal or all-way stop) that would operate at LOS D or better, LOS E, and LOS F under existing and existing plus project conditions, and existing plus project conditions with recommended improvements. Key findings from this table are:

- During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from two to five. With the proposed improvements, LOS F operations at Arena Boulevard/El Centro Road would be restored to LOS D, and LOS F operations at the I-80 WB Ramps/West El Camino Avenue intersection would be improved to LOS C. Although delays at the West El Camino Avenue/El Centro Road, Arena Boulevard/Stemmler Drive, and Arena Boulevard/Duckhorn Drive intersections would be reduced with the improvements, operations would not be improved to LOS D or better at these locations.

- During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from zero to eight. With the proposed improvements, five of the eight LOS F intersections, would be restored to LOS D or better. These intersections are: Arena Boulevard/El Centro Road, Arena Boulevard/Stemmler Avenue, I-5 NB Ramps/Arena Boulevard, I-80 WB Ramps/West El Camino Avenue, and I-80 EB Ramps/West El Camino Avenue. The three that would remain at LOS F (along with an explanation of their operations) would be:

    - West El Camino Avenue / El Centro Road – Although operations remain at LOS F, conditions are much improved with the proposed geometric modifications described in the previous chapter.

    - Gateway Oaks Drive / West El Camino Avenue – Operations improve slightly by adding a second southbound I-5 on-ramp lane. However, the modeling assumed no change in the number of hourly vehicles entering the freeway (by virtue of decreasing the ramp meter rate). Thus, further decreases in delay could be achieved if the metering rate was increased.

    - I-5 SB Ramps/Garden Highway – Caltrans has indicated that there is not a physical improvement planned at this interchange. The tight spacing of the interchange and its proximity of businesses, Discovery Park, and other constraints would make any improvements difficult to complete. It is noted that the source of the congestion is the southbound loop on-ramp ramp meter. By virtue of the project improving the southbound diagonal on-ramp at West El Camino Avenue, some existing trips at this interchange may be diverted to that on-ramp, thereby this interchange's operations.

Table 22: Intersection LOS Summary – Existing Plus Project Conditions with Operational Improvements						
Intersection Operations	**Existing Conditions**		**Existing Plus Conditions**			
			Without Improvements		**With Improvements**	
	AM Peak Hour	**PM Peak Hour**	**AM Peak Hour**	**PM Peak Hour**	**AM Peak Hour**	**PM Peak Hour**
Currently Existing Study Intersections (Operated with a Traffic Signal or All-Way Stop) [1]						
LOS D or Better	32	34	29	25	31	31
LOS E	0	0	0	1	1	0
LOS F	2	0	5	8	2	3
Total Intersections	34	34	34	34	34	34

Notes:
1. Side-street stop intersections excluded because LOS F on a side-street is not as meaningful (i.e., volume could be low, downstream queuing effects, etc.). List includes West El Camino Avenue/El Centro Road intersection, which would be signalized with the project.

Source: Fehr & Peers, 2021.

Operational Deficiencies – Cumulative Plus Project Conditions

This section discusses the cumulative effects of the proposed project on the roadway system.

Roadway Segments

The proposed project would cause deficient operations at the following Sacramento County study roadway segments:

- Powerline Road: Bayou Way to Del Paso Road – LOS D to E
- Powerline Road: Del Paso Road to Garden Highway – LOS C to E
- Garden Highway: Powerline Road to Radio Road – LOS D to E
- Garden Highway: Radio Road to San Juan Road – LOS C to E
- Radio Road: Street 12 (E) to El Centro Road – new roadway operating at LOS F with project
- San Juan Road: El Centro Road to Orchard Lane – LOS C to F

The first four segments listed above are rural two-lane roads with a LOS D standard. Hence, the degradation to LOS E is considered unacceptable.

The segment of Radio Road between Street 12 (East) and El Centro Road is proposed as a two-lane, low access control arterial. Under cumulative plus project conditions, it would carry 17,100 ADT and have a 1.14 v/c ratio. Under existing plus project conditions, it would carry 14,700 ADT and operate at LOS E. The cumulatively worsened operations are caused by planned land development assumed under the cumulative scenario. The following is recommended to improve operations on this segment to an acceptable level:

- Design Radio Road between Street 12 (East) and El Centro Road as a two-lane moderate access control arterial. Resulting operations would be at LOS E.

The segment of San Juan Road between El Centro Road and Orchard Lane is classified as a two-lane, low access control arterial. It would carry 15,600 ADT under cumulative plus project conditions. The following is recommended to improve operations on this segment to an acceptable level:

- Upgrade San Juan Road between El Centro Road and Orchard Lane to be a two-lane moderate access control arterial. Resulting operations would be at LOS E.

It should be noted that under "plus project" conditions, there are five distinct segments of El Centro Road: between San Juan Road to West El Camino Avenue. Each segment would operate at LOS F as either a four or six lane moderate access control arterial, with v/c ratios ranging from 1.01 to 1.27. Under cumulative no project conditions, this same segment would operate at LOS F (v/c ratio of 1.32) as a two-lane low access control arterial. Since this project would not increase the roadway's v/c ratio, it would not exacerbate projected unacceptable conditions despite the corridor operating at LOS F conditions with the project. This same conclusion holds true for the short segment of West El Camino Avenue between El Centro Road and I-80.

The proposed project would cause the following substandard Sacramento County rural roadways (i.e., less than 24 feet of pavement width and less than a six foot shoulder) to carry over 6,000 daily vehicles:

- Powerline Road: Bayou Way to Del Paso Road
- Powerline Road: Del Paso Road to Garden Highway
- Garden Highway: Powerline Road to Radio Road
- Garden Highway: Radio Road to San Juan Road

Under cumulative no project conditions, they would carry between 3,300 and 4,700 ADT. Under cumulative plus project conditions, they would carry between 7,000 and 9,500 ADT. The project would add considerably more trips to these segments under cumulative conditions versus existing conditions. This is likely due to new employment uses contained within Metro Air Park, which attract home-based work trips from the project. It is also possible that some of these trips are using the new I-5/Metro Air Park interchange to travel to/from the north on I-5.

The County's TAG indicates that when deficient operations (i.e., volume exceeding 6,000 ADT) are identified on substandard roadways, they should be upgraded to the current rural roadway standard, which consists of two 12-foot travel lanes and 6-foot paved shoulders. The following is therefore recommended:

- The project applicant shall pay their fair share cost of improving the following roadways to conform with current County design standards:
    - Powerline Road from Bayou Way to Garden Highway
    - Garden Highway from Powerline Road to San Juan Road

The fair share recommendation reflects the fact that the degraded condition occurs in the cumulative setting and is partially driven by other land development and roadway improvements within the County.

The project would add considerable volumes of traffic (beyond the cumulative no project levels shown) to the following surface streets immediately adjacent to interchanges owned and operated by Caltrans (in descending order of traffic added):

- West El Camino Avenue directly west of I-80: 26,200 to 86,700 ADT (60,500 ADT increase)
- West El Camino Avenue directly east of I-80: 24,200 to 45,400 ADT (21,200 ADT increase)
- West El Camino Avenue directly west of I-5: 24,100 to 41,700 ADT (17,600 ADT increase)
- Arena Boulevard directly west of I-5: 35,700 to 41,700 ADT (6,000 ADT increase)
- Del Paso Road directly west of I-5: 29,200 to 35,000 ADT (5,800 ADT increase)
- Garden Highway directly west of I-5: 17,400 to 21,700 ADT (4,300 ADT increase)

The project would also add considerable volumes of traffic (beyond the cumulative no project levels shown) to the following surface streets within the City of Sacramento (in descending order of traffic added):

- El Centro Road south of Arena Boulevard: 14,000 to 35,900 ADT (21,900 ADT increase)
- West El Camino Avenue between Orchard Lane and Gateway Oaks Drive: 20,800 to 40,400 ADT (19,600 ADT increase)
- El Centro Road south of Del Paso Road: 21,900 to 33,500 ADT (11,600 ADT increase)
- Arena Boulevard east of El Centro Road: 14,200 to 24,000 ADT (9,800 ADT increase)
- San Juan Road east of Orchard Lane: 7,700 to 15,500 ADT (7,800 ADT increase)
- Del Paso Road east of El Centro Road: 29,200 to 35,000 ADT (5,800 ADT increase)
- Del Paso Road west of East Commerce Way: 60,700 to 64,700 ADT (4,000 ADT increase)
- Garden Highway west of Gateway Oaks: 4,000 to 8,100 ADT (4,100 ADT increase)

Since Caltrans and the City of Sacramento do not utilize roadway segment daily volume thresholds, no corresponding LOS is provided for these segments.

Intersections

The project would cause deficient operations or contribute to anticipated cumulatively deficient operations at the following Sacramento County intersections:

- Powerline Road/Bayou Way (#1): LOS F operations at the worst side-street movement would be exacerbated by more than five seconds during the PM peak hour and traffic signal warrant would be met.
- West El Camino Avenue/El Centro Road (#17): New signalized intersection would operate at LOS F during AM and PM peak hours.
- Street 12 (East)/Radio Road (#45): New unsignalized intersection would have LOS F operations at the worst side-street movement during the AM peak hour and traffic signal warrant would be met.
- San Juan Road/Orchard Lane (#50): New unsignalized intersection would have LOS F operations at the worst side-street movement during the AM peak hour and traffic signal warrant would be met.
- Farm Road/Street A (#60): New unsignalized intersection would have LOS F operations at the worst side-street movement during the PM peak hour and traffic signal warrant would be met.
- Farm Road/El Centro Road (#61): New signalized intersection would operate at LOS F during AM and PM peak hours.
- Orchard Lane/Farm Road/CMU Driveway (#63): New signalized intersection would operate at LOS F during AM and PM peak hours.
- El Centro Road/Street 6 (#68): New unsignalized intersection would have LOS F operations for worst side-street movement during AM peak hour and traffic signal warrant would be met.
- El Centro Road/CMU/EHC Driveway (#69): New unsignalized intersection would have LOS F operations for worst side-street movement during AM and PM peak hours and traffic signal warrant would be met.

According to Table 16, numerous study intersections under the jurisdiction of Caltrans or the City of Sacramento would operate at LOS F during the AM and/or PM peak hours under cumulative no project conditions. The project would exacerbate congested conditions at many of those locations and also cause added delays at many other intersections. Project-related degradations in traffic operations would be particularly pronounced at the following intersections/corridors:

- Arena Boulevard Corridor at I-5 – During the AM and PM peak hours, operations on Arena Boulevard at El Centro Road (#15), Stemmler Drive (#24), and Duckhorn Drive (#25) would degrade from LOS D or better to LOS F. Similar operational issues identified under existing plus project conditions (i.e., heavy project-related increases in the northbound right-turn and westbound left-turn movements) occur under cumulative plus project conditions. As a result of increased congestion located both west and east of the interchange, both interchange ramp intersections (#26 and #27) would worsen to LOS F conditions during both peak hours.

- West El Camino Avenue at I-5 – Similar to existing plus project conditions, the project would degrade conditions at the West El Camino Avenue/Gateway Oaks Drive intersection (#37) from LOS D to F during the PM peak hour. This is caused by vehicle queue spillback from the I-5 southbound diagonal on-ramp ramp meter, as well as heavy project-related increases in westbound through travel (500 vehicles added during the PM peak hour). Queue spillback in the westbound direction from this intersection would extend through the interchange, causing the NB off-ramp intersection (#39) to worsen from LOS A to F during the PM peak hour.

- West El Camino Avenue at I-80 – despite the assumed widening of the existing interchange, operations would be at LOS F during both peak hours at both interchange ramp intersections (#34 and #35). This is caused both by queue spillbacks from the El Centro Road/West El Camino Avenue intersection as well as heavy travel demands at the interchange itself.

Table 23 displays a set of recommended operational enhancements to address the operational deficiencies identified under cumulative plus project conditions. See **Figure 22** for illustration of recommended improvements.

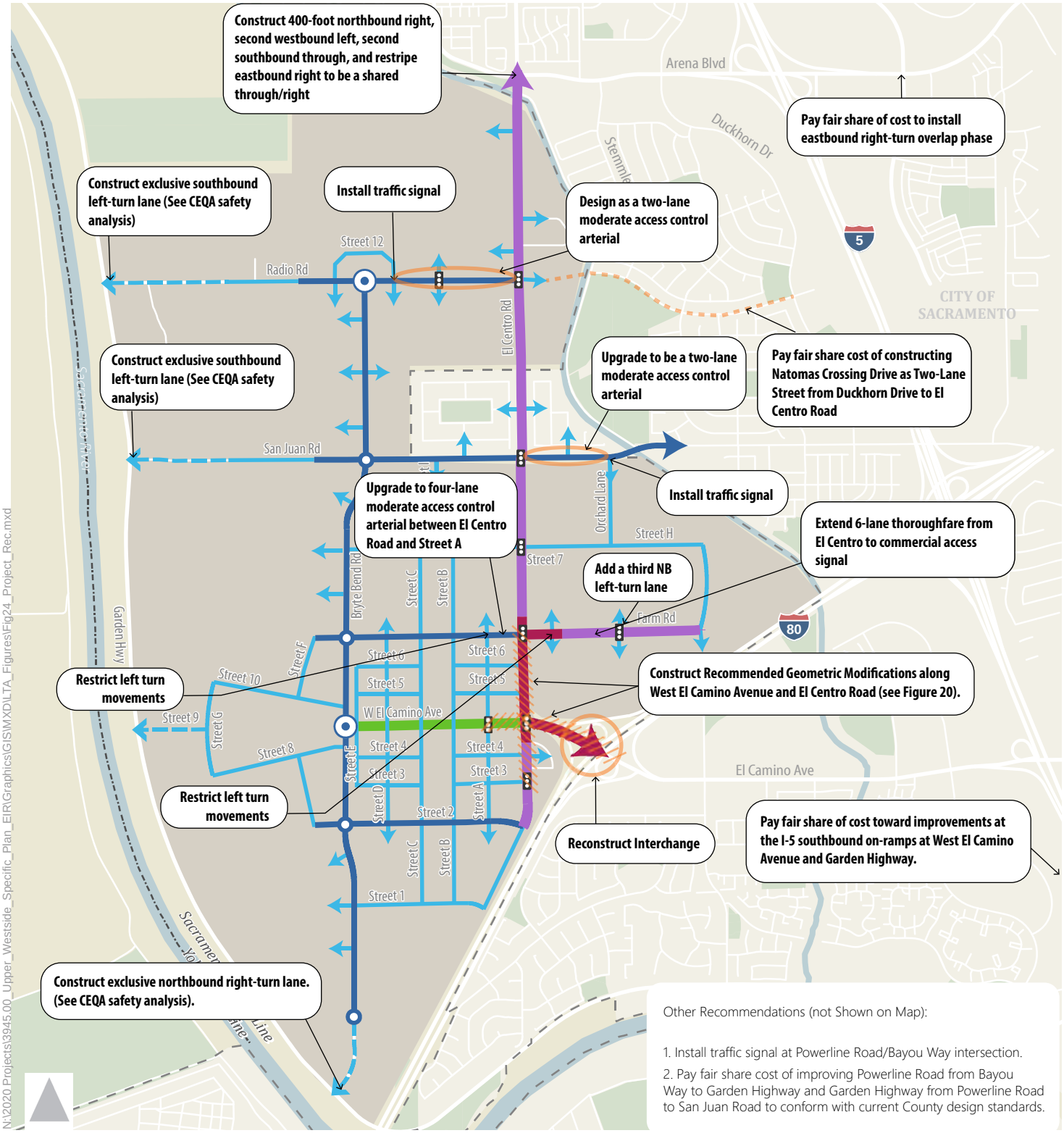
Table 23 recommends that the project make a fair share payment for construction of Natomas Crossing Drive as a two-lane roadway for 0.8 miles between Duckhorn Drive and El Centro Road. This improvement would offset worsening conditions on Arena Boulevard between El Centro Road and I-5. The recommendation for a fair share payment is driven by the fact that the improvement would benefit a number of existing and future land uses, and project benefits would be largely indirect. Secondly, much of the improvement would be situated within the City of Sacramento and therefore under their jurisdiction to approve and oversee construction. As evidenced by aerial imagery, right-of-way has been dedicated within the developed residential area for this improvement. The portion of the improvement within Sacramento County would include a bridge over Witter Slough. Natomas Crossing Drive would form the fourth leg to the El Centro Road/Radio Road intersection, which is planned to be signalized.

Table 23:
Recommended Improvements to Address Operational Deficiencies – Cumulative Plus Project Conditions

Facility	Lead Agency	Description of Improvement(s)
Powerline Road/Bayou Way (#1)	Sacramento County	Install traffic signal
El Centro Road and West El Camino Avenue Corridors	Sacramento County	Construct Proposed Geometric Modifications (described in detail in previous chapter) and reoptimize signal timings
I-80/West El Camino Avenue Interchange [1]	Caltrans	Install two ramp-metered lanes and one HOV lane on the I-80 WB diagonal on-ramp
Arena Boulevard/El Centro Road (#15)	City of Sacramento	At Arena Boulevard/El Centro Road (#15), construct second westbound left-turn lane, second southbound through lane, restripe eastbound right-turn lane to a shared through/right, and lengthen northbound right-turn lane to 400 feet with right-turn overlap arrow. Pay fair share cost for constructing Natomas Crossing Drive as a two-lane street from Duckhorn Drive to El Centro Road. Increase the ramp metering rate at the I-5 SB loop on-ramp
Arena Boulevard/East Commerce Way (#28)	City of Sacramento	Install an eastbound right-turn overlap phase
I-5/West El Camino Avenue Interchange [1]	Caltrans	Widen the I-5 SB diagonal on-ramp to consist of two ramp-metered lanes
Street 12 (East)/Radio Road (#45)	Sacramento County	Install traffic signal
San Juan Road/Orchard Lane (#50)	Sacramento County	Install traffic signal
Street A/Farm Road (#60)	Sacramento County	Install raised median on Farm Road at Street A to restrict turn movements on Street A to right-turn only.
Farm Road/MDR Access (#62)	Sacramento County	Install raised median on Farm Road at MDR Access to restrict turn movements to right-turn only.
Farm Road/Orchard Lane/CMU Driveway (#63)	Sacramento County	Expand northbound approach to consist of two left-turn lanes and a shared left/right lane.

Notes:
1. Identified improvements derived from the ramp metering analysis whose results are contained in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022).

Source: Fehr & Peers, 2021.



N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig24_Project_Rec.mxd

Note:
The on-site improvements would be constructed by the project as development occurs. The timing of construction (or fair share payments) for off-site improvements will vary depending on the location and type of improvement.

Figure 22
Cumulative Plus Project Recommendations

The circulation effects of the Natomas Crossing Drive roadway connection were tested using the cumulative plus project version of the SACSIM travel demand model. Separately bound **Appendix E** includes a plot showing the net change in traffic resulting from the inclusion of the street. This plot indicates the following:

- Traffic levels of Natomas Crossing Drive would gradually increase from 1,700 vehicles per day west of Duckhorn Drive to 3,900 vehicles per day at El Centro Road.
- The new connection would enable more efficient travel routes. This is evidenced by a net decrease of 1,600 daily trips on El Centro Road south of Arena Boulevard, and 1,600 fewer daily trips on Arena Boulevard east of El Centro Road, and 1,300 fewer daily trips on San Juan Road east of El Centro Road.
- Intersections that would benefit from this new connection would be: El Centro Road/San Juan Road, El Centro Road/Arena Boulevard, Arena Boulevard/Stemmler Drive, and Arena Boulevard/Duckhorn Drive. While the El Centro Road/Radio Road/Natomas Crossing Drive intersection would experience more traffic due to a busier east leg, it would operate at an acceptable LOS D during the AM and PM peak hours under cumulative plus project conditions.

The project's fair share is estimated at 51 percent (see separately bound **Appendix E** for detailed calculations). This is based on its proportionate share of growth in traffic on the following roadways between existing and cumulative plus project conditions:

- San Juan Road east of El Centro Road
- San Juan Road east of Duckhorn Drive
- Arena Blvd east of Duckhorn Drive

These roadways were selected because they represent gateway links to various land uses whose trips could benefit (either directly or indirectly) from the roadway connection.

Table 23 includes improvements under the jurisdiction of Caltrans, City of Sacramento, and Sacramento County. Ramp meter analysis was performed as part of this study and is documented in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022). Mitigation Measure TR-8 of that report requires the project applicant to pay its fair share percentage toward improvements at the I-5 SB diagonal on-ramp at West El Camino Avenue, I-5 on-ramps at Garden Highway, and I-5 SB diagonal on-ramp at Del Paso Road.

Table 24 illustrates the effectiveness of the measures shown in Table 23 at study intersections influenced by each improvement. See Appendix E for calculations.

Table 24:
Intersection Level of Service – Cumulative Plus Project Conditions with Operational Improvements

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions							
							Without Improvements				With Improvements [3]			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1. Powerline Road/Bayou Way	SSSC	Sac Co	3 (23)	A (C)	328 (981)	F (F)	4 (41)	A (E)	737 (2294)	F (F)	20	C	23.4	C
15. El Centro Road/Arena Boulevard/Natomas Central Dr	Signal	City of Sac	39	D	26	C	132	F	126	F	83	F	93	F
17. El Centro Road/El Camino Avenue	SSSC / Signal	Sac Co	54	D	54	D	115	F	131	F	89	F	109	F
24. Stemmler Drive/Arena Boulevard	Signal	City of Sac	72	E	13	B	127	F	111	F	51	D	22	C
25. Duckhorn Drive/Arena Boulevard	Signal	City of Sac	56	E	47	D	152	F	133	F	60	E	66	E
26. I-5 SB Ramps/Arena Boulevard	Signal	Caltrans	10	B	6	A	165	F	109	F	10	B	6	A
27. I-5 NB Ramps/Arena Boulevard	Signal	Caltrans	24	C	73	E	237	F	226	F	26	C	77	E
28. East Commerce Way/Arena Boulevard	Signal	City of Sac	69	E	67	E	102	F	91	F	35	C	86	F
33. I-80 WB Ramps/W. El Camino Avenue	Signal	Caltrans	12	B	9	A	165	F	148	F	23	C	38	D
34. I-80 EB Ramps/W. El Camino Avenue	Signal	Caltrans	11	B	12	B	154	F	278	F	38	D	39	D

Table 24:
Intersection Level of Service – Cumulative Plus Project Conditions with Operational Improvements

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions							
							Without Improvements				With Improvements [3]			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
35. Orchard Lane/W. El Camino Avenue	Signal	City of Sac	38	D	27	C	32	C	79	E	43	D	39	D
36. West River Drive/W. El Camino Avenue	Signal	City of Sac	21	C	14	B	25	C	56	E	35	C	38	D
37. Gateway Oaks Drive/W. El Camino Avenue	Signal	City of Sac	28	C	52	D	42	D	126	F	62	E	104	F
38. I-5 SB Ramps/W. El Camino Avenue	Free	Caltrans	3	A	1	A	11	B	83	F	39	D	9	A
39. I-5 NB Ramps/W. El Camino Avenue	Signal	Caltrans	14	B	7	A	23	C	148	F	59	E	18	B
45 Street 12 (E)/Radio Road	SSSC	Sac Co	Does Not Exist				15 (68)	B (F)	10 (27)	A (D)	8	A	10	A
50 San Juan Road/Orchard Lane	SSSC	Sac Co					6 (56)	A (F)	2 (27)	A (D)	7	A	7	A
60. Farm Road/Street A	SSSC	Sac Co					4 (49)	A (E)	6 (55)	A (F)	2 (15)	A (B)	3 (18)	A (C)
61. El Centro Road/Farm Road	Signal	Sac Co					346	F	375	F	305	F	251	F
62. MDR Access/Farm Road	SSSC	Sac Co					192 (470)	F (F)	148 (446)	F (F)	129 (300)	F (F)	116 (313)	F (F)
63. Orchard Lane/Farm Road/CMU Dwy	Signal	Sac Co					247	F	242	F	183	F	178	F
68. El Centro Road/Street 6	SSSC	Sac Co					51 (276)	F (F)	62 (110)	F (F)	37 (169)	E (F)	35 (122)	D (F)
74. El Centro Road/Street 5	SSSC	Sac Co					17 (900)	C (F)	33 (900)	D (F)	32 (845)	D (F)	39 (888)	E (F)

Table 24:
Intersection Level of Service – Cumulative Plus Project Conditions with Operational Improvements

Intersection	Traffic Control[1]	Agency	Cumulative No Project Conditions				Cumulative Plus Project Conditions							
							Without Improvements				With Improvements [3]			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
81. Street A/W. El Camino Avenue	Signal	Sac Co					19	B	58	E	21	C	71	E
83. El Centro Road/Tomato Patch Lane N	SSSC	Sac Co	Does Not Exist				2 (20)	A (C)	6 (37)	A (E)	19 (546)	C (F)	16 (709)	C (F)
89. El Centro Road/Street 4	SSSC	Sac Co					10 (53)	A (F)	7 (52)	A (F)	36 (411)	E (F)	28 (413)	D (F)
95. El Centro Road/Street 3/Tomato Patch Lane S	Signal	Sac Co					15	B	13	B	19	B	14	BC

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3 Operational improvements are listed in Table 23.
Source: Fehr & Peers, 2021.

Table 25 shows the number of existing study intersections (operating with a traffic signal or all-way stop) that operate at LOS D or better, LOS E, and LOS F under cumulative no project and cumulative plus project conditions (both without and with recommended improvements). Key findings from this table are:

- During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from eight under cumulative no project conditions to 18 under cumulative plus project conditions. The number of intersections operating at LOS F would be reduced to 11 with the proposed improvements in place.
- During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from ten under cumulative no project conditions to 22 under cumulative plus project conditions. The number of intersections operating at LOS F would be reduced to 14 with the proposed improvements in place.

Table 25:
Intersection LOS Summary – Cumulative Plus Project Conditions with Operational Improvements

Intersection Operations	Cumulative No Project Conditions		Cumulative Plus Conditions			
			Without Improvements		With Improvements	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Currently Existing Study Intersections (Operated with a Traffic Signal or All-Way Stop) [1]						
LOS D or Better	21	18	15	8	19	16
LOS E	5	6	1	4	4	4
LOS F	8	10	18	22	11	14
Total Intersections	34	34	34	34	34	34

Notes:
1. Side-street stop intersections excluded because LOS F on a side-street is not as meaningful (i.e., volume could be low, downstream queuing effects, etc.). List includes West El Camino Avenue/El Centro Road intersection, which would be signalized with the project.

Source: Fehr & Peers, 2021.

Potential Limitations to Travel Demand Forecasts (Emerging Technology)

While the SACSIM model represents ranges from state-of-practice to advanced-practice in travel modeling, travel behavior and the transportation systems are changing quickly in response to emerging trends, new technologies, and different preferences. Some of the new travel options and technologies emerging in the SACOG region are discussed below. Additionally, information about how technology is affecting travel is accumulating over time. Some of these emergent changes that could influence future travel forecasts include:

- Substitution of internet shopping and home delivery for some shopping or meal-related travel.
    - The 2018 SACOG Household Travel Survey (SHTS) showed that adults reported receiving a home delivery of a package on 17 percent of the travel days in the survey—and additional 4 percent received packages at work, food deliveries at home, etc. How these percentages compared to earlier years is not known.
    - National Household Travel Survey (NHTS) showed the number of online purchases with home delivery doubling between 2009 and 2017, from about 2.5 to 4.9 per household per month (FHWA 2018).
    - Comparisons of 2017 to 2009 NHTS data show that nationally, non-work trips per household declined by 11 percent. Most of that decline is attributed to lower rates of shopping trips and other family-related errands (FHWA 2018).
- New travel modes and choices
    - Transportation Network Companies (TNCs), car share, bike share, scooter share, and on-demand micro transit have increased the travel options available to travelers in the SACOG region and have contributed to changes in traditional travel demand relationships. The current share of resident trips served by TNCs is less than one-quarter percent, based on the 2018 SACOG Household Travel Survey (SHTS), and future growth depends on TNCs developing a sustainable business model.
- Automation of vehicles
    - Both passenger vehicles and commercial vehicles and trucks are evolving to include more automation. Research, development, and deployment testing is proceeding on fully Autonomous Vehicles (AV), for which no human driver would be required, and the vehicle itself can navigate the roadways to take people or goods where they need to go. Forecasts of how quickly research, development, and deployment testing will transition to full deployment and

marketing of fully AV vary widely both on the pace of the transition, and the market acceptance of fully autonomous operation. More uncertainty exists for the behavioral response to AVs. In terms of impact on the transportation system and the environment, a scenario of concern would be one in which AVs are privately owned, like most are at present, but the automated function of the vehicles would entice users to travel more. Examples of this phenomenon could include:

- Vehicles are repositioned to serve different members of a household (e.g., have a car drop a worker at their workplace, then drive back home empty to serve another trip, such as a student going to school). The repositioning of driverless vehicles could add significantly to traffic volumes and VMT.
- The time spent in a vehicle is reevaluated by travelers, resulting in an increase in the willingness to make longer trips. For example, if a person could read or do work in a vehicle instead of focusing on driving, they might be willing to commute longer to work. Conversely, a worker who prefers to live in a rural area, but is unwilling to drive far enough to act on that preference in a conventional vehicle, may be willing to do so in an AV.
- There may be an increasing willingness to drive more to avoid parking costs or tolls. For example, a person going to a sporting event in an area that charges for parking may use an AV to be dropped off at the venue, with the AV repositioning to an area that does not charge for parking.

SACSIM does not explicitly capture the above-mentioned new modes of travel and emerging trends in travel behavior. Through validation of the model to 2016 conditions, the cumulative effect of the new modes and changes are reflected in the resulting travel demand estimates, but the underlying behavioral impact of the modes are not modeled. Significant uncertainties exist at the present time that prevent explicit modeling of these new modes and emerging trends.

Additionally, future deployment levels for new modes of travel are unknown. For example, Uber and Lyft have both significantly increased trips, but both continue to run large operating losses and are reliant on investors to cover losses. A sustainable business model may require significant changes to services and/or fares, both of which could affect the trajectory of use and impact on travel behavior. Similar issues apply to bike share and other micro-mobility services.

The impact of new modes on individual and household travel behavior also is not fully understood and is the subject of ongoing research. Limitations on accessing utilization data directly from TNC vendors, in particular, constrains the ability to fully understand the impact of those services. Regulatory and legislative efforts to address the limits on access are underway in California and elsewhere, but these efforts will take

time. Only a few household travel surveys, including the 2018 SHTS, have surveyed TNC use in detail, and the e-assist JUMP bikes were introduced partway through the 2018 SHTS. Other major research studies focused on TNC use, and TNC driver behavior, are just being launched in California, and data collection and analysis has not yet started. Until this research is completed, there is no effective way to incorporate even the known new modes into travel demand models.

Potential Limitations to Travel Demand Model and Forecasts (COVID-19)

Transportation and mobility are being transformed through a number of forces ranging from new technologies, different personal preferences, and the unique effects caused by the COVID-19 pandemic, the combination of which could alter traditional travel demand relationships in the near- and long-term future.

The COVID-19 pandemic and subsequent actions by federal, state, and local governments to curtail mobility and encourage physical distancing (i.e., limit in-person economic and social interactions) profoundly changed travel conditions. While travel activity will likely return to some form of normality after government shelter-in-place orders are lifted and the pandemic has concluded, it is likely that some of these temporary changes will influence people's travel choices into the future, including either accelerating or diminishing some of the emerging trends in transportation that were already underway prior to the pandemic.

The traffic counts collected for the transportation analysis pre-date any response to the pandemic. In addition, the travel demand forecasts developed for the transportation of the proposed project do not account for the potential short-term or long-term behavioral changes that may be instituted to reduce the general public's exposure level to this or other viruses moving forward. Although such measures (e.g. shifting to more telecommuting and virtual meetings) would tend to result in fewer average daily trips for most land uses, the degree that the changes would be implemented and their resilience over time is not known and cannot be predicted with a high degree of confidence.



Technical Appendix to Final Local Transportation Analysis for Upper Westside Specific Plan

Prepared for:
Sacramento County

March 2022

RS20-3945

FEHR PEERS

LIST OF MATERIALS

Appendix A: Existing Conditions Technical Calculations (Page x)

Appendix B: Trip Generation Technical Information (Page x)

Appendix C: Existing Plus Project Conditions Technical Calculations (Page x)

Appendix D: Cumulative Conditions Technical Calculations (Page x)

Appendix E: Other Supporting Information (Page x)

Appendix A: Existing Conditions Technical Calculations

FEHR PEERS

TECHNICAL MEMORANDUM

Date: February 8, 2022

To: Cameron Shew and Todd Taylor – Sacramento County

From: John Gard – Fehr & Peers

Subject: ***Comparison of Existing Volumes Used in Upper Westside Specific Plan Analysis***

RS20-3945

Caltrans' December 22, 2021, comment letter on this project requested further review of several Interstate 5 (I-5) on- and off-ramps, for which Caltrans' own 2018 traffic volumes differed considerably from the existing volumes used in the *Final Local Transportation Analysis for the Upper Westside Specific Plan* (Fehr & Peers, November 2021). The comment letter specifically mentions 13 ramps located on I-5 at the Del Paso Road, Arena Boulevard, West El Camino Avenue, and Garden Highway interchanges as being considerably different than UWSP existing volumes. Caltrans also provided figures showing 2018 AM and PM peak hour volumes at these ramps.

Background

This study was initiated in Fall 2020 after the COVID-19 Pandemic was already well underway. Because collection of new counts during this time period would have yielded unreasonably low volumes, it was agreed that the study would rely on pre-COVID counts to be obtained from a variety of sources including historical counts (i.e., 2017 through February 2020) and Streetlight Data.

Comparison of UWSP Existing Volumes with Caltrans 2018 Ramp Volumes

Appendix A to this memorandum contains a comparison table of AM and PM peak hour volumes at the 13 ramps in question. This table indicates the following:

- UWSP existing volumes are noticeably lower than the 2018 Caltrans counts at four specific ramps, which are:
    - I-5/Del Paso Road SB Loop On-ramp (AM Peak Hour)
    - I-5/Arena Boulevard SB Slip On-ramp (PM Peak Hour)
    - I-5/West El Camino NB Slip Off-ramp (AM Peak Hour)
    - I-5/Garden Highway SB Slip Off-ramp (AM Peak Hour)

Volumes at these ramps are investigated further below along with any recommendation for addressing the differences.

1. *I-5/Del Paso Road SB Loop On-ramp (AM Peak Hour)*

The UWSP volume was 739 vehicles, while the Caltrans volume was 949 vehicles. Thus, the UWSP volume represents 210 fewer vehicles (a 22% decrease). The UWSP volume is based on actual counts performed by NDS on Thursday, February 6, 2020. No adjustments to UWSP volumes or analysis at this ramp are warranted for the following reasons:

1. An actual pre-COVID count was the basis of the UWSP volumes.
2. It is conceivable that increased morning peak hour congestion on southbound I-5 between 2018 and 2020 could have resulted in changes in travel patterns.
3. The UWSP project would not directly add trips to this on-ramp.

2. *I-5/Arena Boulevard SB Slip On-ramp (PM Peak Hour)*

The UWSP volume was 339 vehicles, while the Caltrans volume was 450 vehicles. Thus, the UWSP volume represents 111 fewer vehicles (a 25% decrease). The UWSP volume is based on actual counts performed by NDS on Thursday, February 6, 2020. No adjustments to UWSP volumes or analysis at this ramp are warranted for the following reasons:

1. The SimTraffic model developed for the Arena Boulevard corridor had a global PM peak hour of 4:45 to 5:45 PM. During that hour, the on-ramp measured volume was 339 vehicles. The ramp's peak hour occurred from 4:30 to 5:30 PM with the ramp carrying 398 vehicles.
2. This on-ramp consists of one metered general-purpose lane and one HOV bypass (non-metered) lane. Results in the UWSP CEQA VMT report indicate that the on-ramp maximum queues would not come close to filling the entirety of the 1,200 feet of storage that is provided. Thus, reanalysis of this on-ramp with an additional to 50 to 100 vehicles during the PM peak hour would not alter the study conclusions.

3. *I-5/West El Camino NB Slip Off-ramp (AM Peak Hour)*

The UWSP volume was 840 vehicles, while the Caltrans volume was 986 vehicles. Thus, the UWSP volume represents 146 fewer vehicles (a 15% decrease). The UWSP volume was estimated from Streetlight Data. According to the UWSP volumes, about 57% of the on-ramp traffic during the AM peak hour turns left. The right-turn is a free-flow movement that is not controlled by the signal. Thus, the volume difference for queue forming traffic at this off-ramp is about 85 vehicles (i.e., 57% of 146).

A May 2016 traffic count at this ramp terminal intersection showed 2,064 vehicles heading westbound across the I-5 West El Camino Avenue Overcrossing (toward the SB ramps). The UWSP volume for this movement is 2,281 vehicles. Thus, UWSP volumes used in the operations analysis are already 10% greater than the May 2016 counts. Thus, any tests of increased northbound off-ramp traffic at this on-

ramp should increase a commensurate decrease in westbound through traffic. The following sensitivity test is recommended:

1. Increase the cumulative plus project northbound off-ramp left-turn movement by 100 vehicles with a commensurate 100 vehicle decrease in the westbound through movement. Reanalyze the off-ramp maximum queue length under the "plus improvements" scenario. Note that Table 15 of the CEQA VMT report had shown a maximum queue of 775 feet for this off-ramp (with 1,000 feet of available storage). Testing how this maximum queue would be affected by this volume shift is warranted.

4. I-5/Garden Highway SB Slip Off-ramp (AM Peak Hour)

The UWSP volume was 386 vehicles, while the Caltrans volume was 588 vehicles. Thus, the UWSP volume represents 202 fewer vehicles (a 34% decrease). The UWSP volume is based on actual counts performed by NDS on Wednesday April 19, 2019. Note that construction activity had not yet begun along Garden Highway adjacent to the interchange. No adjustments to UWSP volumes or analysis at this ramp are warranted for the following reasons:

1. An actual pre-COVID count was the basis of the UWSP volumes.
2. Table 13 of the CEQA VMT report indicates a maximum queue of 150 feet for this off-ramp (with 1,425 feet of available storage) under Existing Plus Project conditions. Even if the existing volume was increased by 200 vehicles per hour, the maximum queue would not exceed the available storage.
3. Table 15 of the CEQA VMT report shows this off-ramp having a maximum queue in excess of one-half mile whether or not the project is implemented. Modifying the existing volume by 200 vehicles would further exacerbate this queue. The CEQA VMT report describes the sources of downstream congestion that are contributing to these queueing issues.

There were two instances in which the UWSP volumes were noticeably greater than the Caltrans counts for a freeway on- or off-ramp that would be a direct route for UWSP trips. These locations are described below:

- I-5/Arena Boulevard NB Slip Off-ramp (PM Peak Hour) – UWSP volume is a 418-vehicle increase over Caltrans 2018 count. The UWSP volume is based on actual counts performed by NDS on Thursday, February 6, 2020.
- I-5/West El Camino SB Slip On-ramp (PM Peak Hour) – UWSP volume is a 326-vehicle increase over Caltrans 2018 count. The UWSP volume was balanced using a combination of PeMS data, Streetlight Data, and nearby surface street intersection counts in 2017.

Maintaining volumes as is at both ramps is recommended to minimize rework and provide a conservative analysis.

Interchange	Ramp	Caltrans 2018 Count		UWSP Existing Volume		Difference (UWSP-CT)		UWSP % Decrease		Source of UWSP Data that was lower than 2018 Caltrans counts
		AM	PM	AM	PM	AM	PM	AM	PM	
I-5/Del Paso	SB Diagonal Off	407	387	604	478	197	91			
I-5/Del Paso	SB Loop On	949	586	739	551	-210	-35	22%		Counted on Thurs, 2/6/2020 by NDS. Worsened SB I-5 AM congestion may have shifted some on-ramp trips to other routes.
I-5/Del Paso	NB Diagonal Off	799	1380	996	1454	197	74			
I-5/Del Paso	NB Loop On	120	164	244	158	124	-6			
I-5/Arena	SB Loop On	500	347	638	351	138	4			
I-5/Arena	SB Diagonal On	715	450	921	339	206	-111		25%	Counted in February 2020 by NDS. Arena PM peak hour was 4:45 - 5:45 PM. Volume measured on Thurs, 2/6/2020 was 339 vph. Peak hour of movement was 398 vph.
I-5/Arena	NB Diagonal Off	850	1071	832	1489	-18	418			
I-5/Arena	NB Loop On	135	111	191	100	56	-11			
I-5/Arena	NB Diagonal On	82	197	114	183	32	-14			
I-5/El Camino	SB Loop On	663	305	850	387	187	82			
I-5/El Camino	SB Diagonal On	299	592	465	918	166	326			
I-5/El Camino	NB Diagonal Off	986	776	840	785	-146	9	15%		Estimated from Streetlight Data. A May 2016 count showed an AM peak hour volume of 1,093 vehicles with the majority being an increase in NB RT off-ramp vehicles.
I-5/Garden Hwy	SB Diagonal Off	588	575	386	501	-202	-74	34%		Volume measured on Wed, 4/10/2019. Construction along Garden Highway had not yet begun as of March 2019.

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	29	26	50	1	70	0	138	42	0	8	269	195
Future Vol, veh/h	29	26	50	1	70	0	138	42	0	8	269	195
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	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	26	50	1	70	0	138	42	0	8	269	195

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	736	701	367	739	798	42	464	0	0	42	0	0
Stage 1	383	383	-	318	318	-	-	-	-	-	-	-
Stage 2	353	318	-	421	480	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	333	362	676	332	318	1026	1092	-	-	1561	-	-
Stage 1	638	610	-	691	652	-	-	-	-	-	-	-
Stage 2	662	652	-	608	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	241	313	676	259	275	1026	1092	-	-	1561	-	-
Mov Cap-2 Maneuver	241	313	-	259	275	-	-	-	-	-	-	-
Stage 1	556	606	-	602	568	-	-	-	-	-	-	-
Stage 2	506	568	-	535	549	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.1	22.6	6.7	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1092	-	-	379	275	1561	-	-
HCM Lane V/C Ratio	0.126	-	-	0.277	0.258	0.005	-	-
HCM Control Delay (s)	8.8	0	-	18.1	22.6	7.3	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	1.1	1	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	102	78	32	36	268
Future Vol, veh/h	75	102	78	32	36	268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	75	102	78	32	36	268

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	434	94	0	0	110	0
Stage 1	94	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	577	960	-	-	1474	-
Stage 1	927	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	560	960	-	-	1474	-
Mov Cap-2 Maneuver	560	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	698	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	737	1474	-
HCM Lane V/C Ratio	-	-	0.24	0.024	-
HCM Control Delay (s)	-	-	11.4	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	8	12	11	9	3
Future Vol, veh/h	3	8	12	11	9	3
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	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	3	8	12	11	9	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	32	18
Stage 1	-	-	-	-	18	-
Stage 2	-	-	-	-	14	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1586	-	-	-	979	1058
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1586	-	-	-	977	1058
Mov Cap-2 Maneuver	-	-	-	-	977	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1586	-	-	-	996
HCM Lane V/C Ratio	0.002	-	-	-	0.012
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	33	16	10	35	92
Future Vol, veh/h	11	33	16	10	35	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	40	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	11	33	16	10	35	92

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	183	21	0	0	26	0
Stage 1	21	-	-	-	-	-
Stage 2	162	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	800	1048	-	-	1569	-
Stage 1	994	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	781	1048	-	-	1569	-
Mov Cap-2 Maneuver	781	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	839	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	781	1048	1569	-
HCM Lane V/C Ratio	-	-	0.014	0.031	0.022	-
HCM Control Delay (s)	-	-	9.7	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	116	22	5	5	0
Future Vol, veh/h	0	116	22	5	5	0
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	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	116	22	5	5	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	27	0	-	0	141	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	5.1	-	-	-	6.43	7.2
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	3.2	-	-	-	3.527	4.3
Pot Cap-1 Maneuver	1096	-	-	-	850	808
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	906	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1096	-	-	-	850	808
Mov Cap-2 Maneuver	-	-	-	-	850	-
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	906	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1096	-	-	-	850
HCM Lane V/C Ratio	-	-	-	-	0.006
HCM Control Delay (s)	0	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

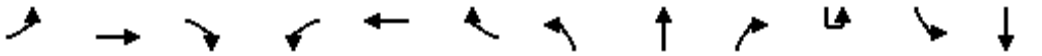
Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	19	97	14	101	230	8
Future Vol, veh/h	19	97	14	101	230	8
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	40
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	97	14	101	230	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	115	0	-	0	200	65
Stage 1	-	-	-	-	65	-
Stage 2	-	-	-	-	135	-
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	1474	-	-	-	789	999
Stage 1	-	-	-	-	958	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1474	-	-	-	778	999
Mov Cap-2 Maneuver	-	-	-	-	778	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1474	-	-	-	778	999
HCM Lane V/C Ratio	0.013	-	-	-	0.296	0.008
HCM Control Delay (s)	7.5	-	-	-	11.6	8.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	1.2	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	59	0	33	0	0	0	46	425	0	0	0	244
Future Volume (veh/h)	59	0	33	0	0	0	46	425	0	0	0	244
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856				1856	1856	0		0	1856
Adj Flow Rate, veh/h	59	0	33				46	425	0		0	244
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	3	3	3				3	3	0		0	3
Cap, veh/h	676	0	310				188	1793	0		0	1001
Arrive On Green	0.20	0.00	0.20				0.11	0.51	0.00		0.00	0.28
Sat Flow, veh/h	3428	0	1571				1767	3618	0		0	3618
Grp Volume(v), veh/h	59	0	33				46	425	0		0	244
Grp Sat Flow(s),veh/h/ln	1714	0	1571				1767	1763	0		0	1763
Q Serve(g_s), s	0.4	0.0	0.5				0.7	2.0	0.0		0.0	1.6
Cycle Q Clear(g_c), s	0.4	0.0	0.5				0.7	2.0	0.0		0.0	1.6
Prop In Lane	1.00		1.00				1.00		0.00		0.00	
Lane Grp Cap(c), veh/h	676	0	310				188	1793	0		0	1001
V/C Ratio(X)	0.09	0.00	0.11				0.24	0.24	0.00		0.00	0.24
Avail Cap(c_a), veh/h	3477	0	1594				1792	5948	0		0	5959
HCM Platoon Ratio	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	1.00	0.00		0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	9.7				12.1	4.1	0.0		0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.1				0.2	0.1	0.0		0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1				0.2	0.1	0.0		0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.7	0.0	9.8				12.4	4.2	0.0		0.0	8.3
LnGrp LOS	A	A	A				B	A	A		A	A
Approach Vol, veh/h		92						471				252
Approach Delay, s/veh		9.7						5.0				8.3
Approach LOS		A						A				A

Timer - Assigned Phs		3	4		6		8				
Phs Duration (G+Y+Rc), s		6.6	13.6		9.3		20.2				
Change Period (Y+Rc), s		3.5	* 5.2		3.5		5.2				
Max Green Setting (Gmax), s		30.0	* 50		30.0		49.9				
Max Q Clear Time (g_c+I1), s		2.7	3.6		2.5		4.0				
Green Ext Time (p_c), s		0.0	2.2		0.2		4.1				

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	14
Future Volume (veh/h)	14
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	8
Peak Hour Factor	1.00
Percent Heavy Veh, %	3
Cap, veh/h	442
Arrive On Green	0.28
Sat Flow, veh/h	1556
Grp Volume(v), veh/h	8
Grp Sat Flow(s),veh/h/ln	1556
Q Serve(g_s), s	0.1
Cycle Q Clear(g_c), s	0.1
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	442
V/C Ratio(X)	0.02
Avail Cap(c_a), veh/h	2630
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	7.6
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	7.6
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	66	0	26	161	0	46	0	269	0	0	0
Future Volume (veh/h)	0	66	0	26	161	0	46	0	269	0	0	0
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	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	66	0	26	161	0	46	0	98	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	1200	535	128	1046	0	210	0	0	0	7	0
Arrive On Green	0.00	0.34	0.00	0.07	0.56	0.00	0.12	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3618	1572	1767	1856	0	1767	46		0	-64944	0
Grp Volume(v), veh/h	0	66	0	26	161	0	46	11.0		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1856	0	1767	B		0	1856	0
Q Serve(g_s), s	0.0	0.3	0.0	0.4	1.1	0.0	0.6			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.3	0.0	0.4	1.1	0.0	0.6			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1200	535	128	1046	0	210			0	7	0
V/C Ratio(X)	0.00	0.05	0.00	0.20	0.15	0.00	0.22			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	6504	2901	1956	3423	0	1956			0	2054	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	6.0	0.0	11.8	2.8	0.0	10.8			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	0.2			0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.2			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.0	0.0	12.1	2.8	0.0	11.0			0.0	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B			A	A	A
Approach Vol, veh/h		66			187						0	
Approach Delay, s/veh		6.0			4.1						0.0	
Approach LOS		A			A							

Timer - Assigned Phs	2	3	4	5	6
Phs Duration (G+Y+Rc), s	19.9	7.2	0.0	6.1	13.8
Change Period (Y+Rc), s	* 4.6	4.0	3.5	* 4.1	* 4.6
Max Green Setting (Gmax), s	* 50	30.0	30.0	* 30	* 50
Max Q Clear Time (g_c+I1), s	3.1	2.6	0.0	2.4	2.3
Green Ext Time (p_c), s	0.5	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	597	350	301	520	122	273	454	112	306	1109	439
Future Volume (veh/h)	353	597	350	301	520	122	273	454	112	306	1109	439
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	353	597	145	301	520	22	273	454	47	306	1109	406
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	541	802	247	372	802	248	346	2337	1273	372	2376	908
Arrive On Green	0.11	0.16	0.16	0.11	0.16	0.16	0.10	0.46	0.46	0.11	0.47	0.47
Sat Flow, veh/h	5023	5106	1576	3456	5106	1582	3456	5106	2782	3456	5106	1584
Grp Volume(v), veh/h	353	597	145	301	520	22	273	454	47	306	1109	406
Grp Sat Flow(s),veh/h/ln	1674	1702	1576	1728	1702	1582	1728	1702	1391	1728	1702	1584
Q Serve(g_s), s	8.8	14.5	11.1	11.1	12.4	1.5	10.0	6.9	1.2	11.3	19.3	19.1
Cycle Q Clear(g_c), s	8.8	14.5	11.1	11.1	12.4	1.5	10.0	6.9	1.2	11.3	19.3	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	541	802	247	372	802	248	346	2337	1273	372	2376	908
V/C Ratio(X)	0.65	0.74	0.59	0.81	0.65	0.09	0.79	0.19	0.04	0.82	0.47	0.45
Avail Cap(c_a), veh/h	753	1583	489	385	1394	432	385	2337	1273	439	2376	908
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	52.3	50.9	56.7	51.4	46.8	57.2	21.0	19.4	56.8	23.7	15.9
Incr Delay (d2), s/veh	0.5	0.5	0.8	10.8	0.3	0.1	8.3	0.2	0.1	8.9	0.7	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	8.7	6.1	4.3	5.3	5.2	0.6	4.7	2.7	0.4	5.3	7.6	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	52.8	51.7	67.5	51.8	46.9	65.5	21.2	19.5	65.7	24.4	17.5
LnGrp LOS	E	D	D	E	D	D	E	C	B	E	C	B
Approach Vol, veh/h		1095			843			774			1821	
Approach Delay, s/veh		53.8			57.3			36.7			29.8	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.5	26.1	18.5	65.9	19.5	26.1	19.5	64.9
Change Period (Y+Rc), s	5.5	* 5.7	5.5	* 5.4	5.5	* 5.7	5.5	* 5.4
Max Green Setting (Gmax), s	14.5	* 36	14.5	* 39	14.5	* 40	16.5	* 37
Max Q Clear Time (g_c+I1), s	10.8	14.4	12.0	21.3	13.1	16.5	13.3	8.9
Green Ext Time (p_c), s	0.5	2.2	0.1	5.4	0.1	2.8	0.2	5.7

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	892	116	67	449	3	111	4	106	23	9	7
Future Volume (veh/h)	9	892	116	67	449	3	111	4	106	23	9	7
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		0.99	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	9	892	73	67	449	1	111	4	23	23	9	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	1783	554	216	2232	691	304	328	274	235	135	112
Arrive On Green	0.03	0.35	0.35	0.12	0.44	0.44	0.17	0.18	0.18	0.07	0.07	0.07
Sat Flow, veh/h	3428	5066	1572	1767	5066	1569	1767	1856	1552	3534	1856	1546
Grp Volume(v), veh/h	9	892	73	67	449	1	111	4	23	23	9	2
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1767	1689	1569	1767	1856	1552	1767	1856	1546
Q Serve(g_s), s	0.2	10.1	2.3	2.5	4.0	0.0	4.0	0.1	0.9	0.4	0.3	0.1
Cycle Q Clear(g_c), s	0.2	10.1	2.3	2.5	4.0	0.0	4.0	0.1	0.9	0.4	0.3	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	102	1783	554	216	2232	691	304	328	274	235	135	112
V/C Ratio(X)	0.09	0.50	0.13	0.31	0.20	0.00	0.37	0.01	0.08	0.10	0.07	0.02
Avail Cap(c_a), veh/h	1416	3487	1083	730	3487	1080	730	1277	1068	1460	1277	1064
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	18.5	16.0	29.1	12.5	11.4	26.6	24.7	25.0	31.9	31.4	31.3
Incr Delay (d2), s/veh	0.1	0.4	0.2	0.3	0.1	0.0	0.3	0.0	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.5	0.8	1.0	1.3	0.0	1.6	0.1	0.3	0.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	18.9	16.2	29.4	12.6	11.4	26.8	24.7	25.0	31.9	31.5	31.3
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		974			517			138			34	
Approach Delay, s/veh		18.9			14.7			26.5			31.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	37.5	17.7	10.2	13.7	31.1	10.1	17.7
Change Period (Y+Rc), s	* 5.1	* 5.5	* 5.2	* 4.9	* 4.8	* 5.5	* 5.3	4.9
Max Green Setting (Gmax), s	* 3.6	* 50	* 30	* 50	* 30	* 50	* 30	50.0
Max Q Clear Time (g_c+I1), s	2.2	6.0	6.0	2.3	4.5	12.1	2.4	2.9
Green Ext Time (p_c), s	0.0	5.8	0.1	0.0	0.1	13.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	592	212	104	196	14	118	537	83	126	1466	182
Future Volume (veh/h)	223	592	212	104	196	14	118	537	83	126	1466	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	223	592	43	104	196	3	118	537	33	126	1466	111
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	395	907	278	386	622	277	364	2736	666	365	2739	665
Arrive On Green	0.12	0.18	0.18	0.11	0.18	0.18	0.11	0.43	0.43	0.11	0.43	0.43
Sat Flow, veh/h	3428	5066	1552	3428	3526	1572	3428	6383	1553	3428	6383	1551
Grp Volume(v), veh/h	223	592	43	104	196	3	118	537	33	126	1466	111
Grp Sat Flow(s),veh/h/ln	1714	1689	1552	1714	1763	1572	1714	1596	1553	1714	1596	1551
Q Serve(g_s), s	8.0	14.1	3.0	3.6	6.3	0.2	4.1	6.8	1.6	4.4	22.1	5.7
Cycle Q Clear(g_c), s	8.0	14.1	3.0	3.6	6.3	0.2	4.1	6.8	1.6	4.4	22.1	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	907	278	386	622	277	364	2736	666	365	2739	665
V/C Ratio(X)	0.56	0.65	0.15	0.27	0.32	0.01	0.32	0.20	0.05	0.34	0.54	0.17
Avail Cap(c_a), veh/h	462	1594	488	462	1117	498	382	2736	666	382	2739	665
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)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	49.6	45.1	52.8	46.7	44.2	53.8	23.2	21.7	53.9	27.5	22.8
Incr Delay (d2), s/veh	0.4	1.5	0.5	0.1	0.4	0.0	0.2	0.2	0.1	0.2	0.8	0.5
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	3.4	6.0	1.2	1.5	2.8	0.1	1.8	2.5	0.6	1.9	8.3	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	51.1	45.5	52.9	47.1	44.2	54.0	23.3	21.8	54.1	28.3	23.4
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		858			303			688			1703	
Approach Delay, s/veh		51.8			49.1			28.5			29.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	29.0	19.4	61.1	20.1	29.4	19.3	61.2
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4
Max Green Setting (Gmax), s	17.5	* 41	14.5	* 35	17.5	* 41	14.5	* 35
Max Q Clear Time (g_c+I1), s	10.0	8.3	6.4	8.8	5.6	16.1	6.1	24.1
Green Ext Time (p_c), s	0.2	1.6	0.1	8.2	0.1	7.1	0.1	9.4

Intersection Summary	
HCM 6th Ctrl Delay	36.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	286	9	23	256	185	25	45	74	235	13	53
Future Volume (veh/h)	31	286	9	23	256	185	25	45	74	235	13	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	31	286	9	23	256	108	25	45	11	235	13	14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	90	401	13	100	426	360	68	123	161	415	436	369
Arrive On Green	0.05	0.22	0.22	0.06	0.23	0.23	0.11	0.11	0.11	0.23	0.23	0.23
Sat Flow, veh/h	1767	1788	56	1767	1856	1569	651	1172	1533	1767	1856	1572
Grp Volume(v), veh/h	31	0	295	23	256	108	70	0	11	235	13	14
Grp Sat Flow(s),veh/h/ln	1767	0	1844	1767	1856	1569	1823	0	1533	1767	1856	1572
Q Serve(g_s), s	0.7	0.0	6.0	0.5	5.0	2.3	1.4	0.0	0.3	4.7	0.2	0.3
Cycle Q Clear(g_c), s	0.7	0.0	6.0	0.5	5.0	2.3	1.4	0.0	0.3	4.7	0.2	0.3
Prop In Lane	1.00		0.03	1.00		1.00	0.36		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	0	413	100	426	360	192	0	161	415	436	369
V/C Ratio(X)	0.34	0.00	0.71	0.23	0.60	0.30	0.37	0.00	0.07	0.57	0.03	0.04
Avail Cap(c_a), veh/h	1622	0	2608	1754	2670	2258	2126	0	1788	2631	2762	2341
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	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.5	0.0	14.4	18.2	13.9	12.8	16.8	0.0	16.3	13.6	11.9	11.9
Incr Delay (d2), s/veh	0.8	0.0	0.9	0.4	0.5	0.2	0.4	0.0	0.1	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.0	0.2	1.6	0.6	0.6	0.0	0.1	1.5	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.3	0.0	15.3	18.6	14.4	13.0	17.2	0.0	16.3	14.1	11.9	11.9
LnGrp LOS	B	A	B	B	B	B	B	A	B	B	B	B
Approach Vol, veh/h		326			387			81			262	
Approach Delay, s/veh		15.7			14.3			17.1			13.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.6	13.8		13.2	5.8	13.6		7.7
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5
Max Green Setting (Gmax), s	37.0	* 58		60.0	40.0	* 57		47.0
Max Q Clear Time (g_c+I1), s	2.7	7.0		6.7	2.5	8.0		3.4
Green Ext Time (p_c), s	0.0	1.0		0.4	0.0	1.0		0.3

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	347	300	115	115	154	246	79	647	146	293	1008	190
Future Volume (veh/h)	347	300	115	115	154	246	79	647	146	293	1008	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.85	1.00		0.90	1.00		0.89
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	347	300	35	115	154	46	79	647	77	293	1008	96
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	396	956	543	311	866	329	298	1351	687	351	1405	557
Arrive On Green	0.12	0.27	0.27	0.09	0.25	0.25	0.09	0.38	0.38	0.10	0.40	0.40
Sat Flow, veh/h	3428	3526	1498	3428	3526	1338	3428	3526	1421	3428	3526	1397
Grp Volume(v), veh/h	347	300	35	115	154	46	79	647	77	293	1008	96
Grp Sat Flow(s),veh/h/ln	1714	1763	1498	1714	1763	1338	1714	1763	1421	1714	1763	1397
Q Serve(g_s), s	12.9	8.8	2.0	4.1	4.5	3.5	2.8	18.0	3.9	10.9	31.3	5.8
Cycle Q Clear(g_c), s	12.9	8.8	2.0	4.1	4.5	3.5	2.8	18.0	3.9	10.9	31.3	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	396	956	543	311	866	329	298	1351	687	351	1405	557
V/C Ratio(X)	0.88	0.31	0.06	0.37	0.18	0.14	0.26	0.48	0.11	0.83	0.72	0.17
Avail Cap(c_a), veh/h	419	956	543	475	919	349	351	1351	687	641	1405	557
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	37.7	27.4	55.6	38.7	38.3	55.5	30.3	19.0	57.3	32.9	25.2
Incr Delay (d2), s/veh	16.8	0.3	0.1	0.3	0.1	0.3	0.2	1.2	0.3	2.0	3.2	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	6.4	3.8	0.7	1.8	1.9	1.2	1.2	7.6	1.3	4.7	13.4	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	38.0	27.5	55.9	38.8	38.6	55.6	31.5	19.3	59.3	36.1	25.9
LnGrp LOS	E	D	C	E	D	D	E	C	B	E	D	C
Approach Vol, veh/h		682			315			803			1397	
Approach Delay, s/veh		55.4			45.0			32.7			40.3	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.1	37.0	16.0	56.8	16.8	40.4	18.0	54.8
Change Period (Y+Rc), s	* 5.1	* 5.1	* 4.7	* 5	5.0	* 5.1	* 4.7	* 5
Max Green Setting (Gmax), s	* 16	* 34	* 13	* 47	18.0	* 32	* 24	* 36
Max Q Clear Time (g_c+I1), s	14.9	6.5	4.8	33.3	6.1	10.8	12.9	20.0
Green Ext Time (p_c), s	0.1	1.5	0.1	4.0	0.1	2.5	0.4	5.1

Intersection Summary	
HCM 6th Ctrl Delay	42.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	501	261	132	924	62	14	10	10	122	97	638
Future Volume (veh/h)	239	501	261	132	924	62	14	10	10	122	97	638
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		0.99	1.00		0.97	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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	239	501	130	132	924	32	12	13	1	110	114	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	348	1775	790	208	1869	828	155	163	134	212	223	189
Arrive On Green	0.20	0.99	0.99	0.12	0.52	0.52	0.09	0.09	0.09	0.12	0.12	0.12
Sat Flow, veh/h	3483	3582	1595	1795	3582	1587	1795	1885	1552	1795	1885	1598
Grp Volume(v), veh/h	239	501	130	132	924	32	12	13	1	110	114	86
Grp Sat Flow(s),veh/h/ln	1742	1791	1595	1795	1791	1587	1795	1885	1552	1795	1885	1598
Q Serve(g_s), s	7.0	0.2	0.1	7.7	18.3	1.1	0.7	0.7	0.1	6.3	6.2	5.5
Cycle Q Clear(g_c), s	7.0	0.2	0.1	7.7	18.3	1.1	0.7	0.7	0.1	6.3	6.2	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	1775	790	208	1869	828	155	163	134	212	223	189
V/C Ratio(X)	0.69	0.28	0.16	0.63	0.49	0.04	0.08	0.08	0.01	0.52	0.51	0.46
Avail Cap(c_a), veh/h	465	1775	790	222	1869	828	570	598	492	243	255	216
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.68	0.68	0.68	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.2	0.2	46.4	17.0	12.8	46.2	46.2	45.9	45.6	45.5	45.2
Incr Delay (d2), s/veh	1.1	0.4	0.4	2.5	0.6	0.1	0.1	0.1	0.0	0.7	0.7	0.6
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	2.8	0.1	0.1	3.5	7.2	0.4	0.3	0.3	0.0	2.8	2.9	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	0.6	0.7	48.9	17.6	12.9	46.3	46.3	45.9	46.3	46.2	45.8
LnGrp LOS	D	A	A	D	B	B	D	D	D	D	D	D
Approach Vol, veh/h		870			1088			26			310	
Approach Delay, s/veh		12.4			21.3			46.3			46.1	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.3	62.0		18.1	18.2	59.1		14.6
Change Period (Y+Rc), s	* 4.3	* 4.6		* 5.1	* 5.4	* 4.6		5.1
Max Green Setting (Gmax), s	* 15	* 26		* 15	* 14	* 27		34.9
Max Q Clear Time (g_c+I1), s	9.0	20.3		8.3	9.7	2.2		2.7
Green Ext Time (p_c), s	0.2	2.3		0.4	0.1	2.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	171	54	152	351	52	81	281	72	247	732	452
Future Volume (veh/h)	148	171	54	152	351	52	81	281	72	247	732	452
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		0.98	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	148	171	19	152	351	19	81	281	19	247	732	336
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	370	1282	570	370	1283	570	343	843	369	374	875	383
Arrive On Green	0.11	0.36	0.36	0.11	0.36	0.36	0.10	0.24	0.24	0.11	0.25	0.25
Sat Flow, veh/h	3428	3526	1566	3428	3526	1566	3428	3526	1541	3428	3526	1542
Grp Volume(v), veh/h	148	171	19	152	351	19	81	281	19	247	732	336
Grp Sat Flow(s),veh/h/ln	1714	1763	1566	1714	1763	1566	1714	1763	1541	1714	1763	1542
Q Serve(g_s), s	4.4	3.6	0.9	4.6	7.7	0.9	2.4	7.2	1.0	7.6	21.7	23.0
Cycle Q Clear(g_c), s	4.4	3.6	0.9	4.6	7.7	0.9	2.4	7.2	1.0	7.6	21.7	23.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	370	1282	570	370	1283	570	343	843	369	374	875	383
V/C Ratio(X)	0.40	0.13	0.03	0.41	0.27	0.03	0.24	0.33	0.05	0.66	0.84	0.88
Avail Cap(c_a), veh/h	439	1282	570	439	1283	570	439	1048	458	377	981	429
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)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	23.4	22.5	45.8	24.7	22.5	45.6	34.6	32.2	47.0	39.2	39.7
Incr Delay (d2), s/veh	0.2	0.2	0.1	0.3	0.5	0.1	0.1	0.1	0.0	3.4	5.2	15.8
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	1.9	1.5	0.3	1.9	3.2	0.3	1.0	3.0	0.4	3.4	9.7	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	23.6	22.6	46.1	25.2	22.6	45.8	34.7	32.3	50.4	44.5	55.5
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	D	E
Approach Vol, veh/h		338			522			381			1315	
Approach Delay, s/veh		33.4			31.2			36.9			48.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.8	44.6	15.9	32.7	16.8	44.6	16.9	31.7
Change Period (Y+Rc), s	* 4.9	* 4.6	* 4.9	* 5.4	* 4.9	* 4.6	* 4.9	* 5.4
Max Green Setting (Gmax), s	* 14	* 31	* 14	* 31	* 14	* 32	* 12	* 33
Max Q Clear Time (g_c+I1), s	6.4	9.7	4.4	25.0	6.6	5.6	9.6	9.2
Green Ext Time (p_c), s	0.1	1.4	0.1	2.0	0.1	0.6	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	14.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	329	53	189	0	24	4	33	46	2	4	9	48
Future Vol, veh/h	329	53	189	0	24	4	33	46	2	4	9	48
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	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	329	53	189	0	24	4	33	46	2	4	9	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	168	155	33	275	178	47	57	0	0	48	0	0
Stage 1	41	41	-	113	113	-	-	-	-	-	-	-
Stage 2	127	114	-	162	65	-	-	-	-	-	-	-
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	796	737	1041	677	716	1022	1547	-	-	1559	-	-
Stage 1	974	861	-	892	802	-	-	-	-	-	-	-
Stage 2	877	801	-	840	841	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	758	719	1041	513	698	1022	1547	-	-	1559	-	-
Mov Cap-2 Maneuver	758	719	-	513	698	-	-	-	-	-	-	-
Stage 1	953	858	-	872	784	-	-	-	-	-	-	-
Stage 2	828	783	-	643	838	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.4	10.1	3	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1547	-	-	828	731	1559	-	-
HCM Lane V/C Ratio	0.021	-	-	0.69	0.038	0.003	-	-
HCM Control Delay (s)	7.4	0	-	18.4	10.1	7.3	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	5.7	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	18	82	38	139	88
Future Vol, veh/h	18	18	82	38	139	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	82	38	139	88

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	467	101	0	0	120	0
Stage 1	101	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	554	954	-	-	1468	-
Stage 1	923	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	499	954	-	-	1468	-
Mov Cap-2 Maneuver	499	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	632	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	4.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	655	1468	-
HCM Lane V/C Ratio	-	-	0.055	0.095	-
HCM Control Delay (s)	-	-	10.8	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.3	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	26	32	44	37	8
Future Vol, veh/h	13	26	32	44	37	8
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	26	32	44	37	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	76	0	-	0	106	54
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	52	-
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	1523	-	-	-	892	1013
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	970	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1523	-	-	-	884	1013
Mov Cap-2 Maneuver	-	-	-	-	884	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	970	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	904
HCM Lane V/C Ratio	0.009	-	-	-	0.05
HCM Control Delay (s)	7.4	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	41	43	27	29	29
Future Vol, veh/h	15	41	43	27	29	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	40	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	41	43	27	29	29

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	144	57	0	0	70	0
Stage 1	57	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	849	1009	-	-	1531	-
Stage 1	966	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	833	1009	-	-	1531	-
Mov Cap-2 Maneuver	833	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	918	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	3.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	833	1009	1531	-
HCM Lane V/C Ratio	-	-	0.018	0.041	0.019	-
HCM Control Delay (s)	-	-	9.4	8.7	7.4	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	42	85	5	5	0
Future Vol, veh/h	0	42	85	5	5	0
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	42	85	5	5	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	90	0	-	0	130	88
Stage 1	-	-	-	-	88	-
Stage 2	-	-	-	-	42	-
Critical Hdwy	5.1	-	-	-	6.42	7.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	3.2	-	-	-	3.518	4.3
Pot Cap-1 Maneuver	1030	-	-	-	864	740
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1030	-	-	-	864	740
Mov Cap-2 Maneuver	-	-	-	-	864	-
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	980	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1030	-	-	-	864
HCM Lane V/C Ratio	-	-	-	-	0.006
HCM Control Delay (s)	0	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

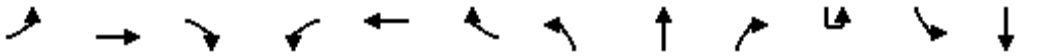
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	7	35	68	149	59	17
Future Vol, veh/h	7	35	68	149	59	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	40
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	7	35	68	149	59	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	217	0	-	0	192	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	49	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1359	-	-	-	799	907
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	976	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1359	-	-	-	795	907
Mov Cap-2 Maneuver	-	-	-	-	795	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	976	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1359	-	-	-	795	907
HCM Lane V/C Ratio	0.005	-	-	-	0.074	0.019
HCM Control Delay (s)	7.7	-	-	-	9.9	9
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	46	0	29	0	0	0	130	424	0	0	3	269
Future Volume (veh/h)	46	0	29	0	0	0	130	424	0	0	3	269
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	0		1870	1870
Adj Flow Rate, veh/h	46	0	29				130	424	0		3	269
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	2	2	2				2	2	0		2	2
Cap, veh/h	573	0	262				376	2028	0		114	879
Arrive On Green	0.17	0.00	0.17				0.21	0.57	0.00		0.25	0.25
Sat Flow, veh/h	3456	0	1582				1781	3647	0		11	3465
Grp Volume(v), veh/h	46	0	29				130	424	0		146	126
Grp Sat Flow(s),veh/h/ln	1728	0	1582				1781	1777	0		1860	1617
Q Serve(g_s), s	0.4	0.0	0.5				2.0	1.9	0.0		0.0	2.1
Cycle Q Clear(g_c), s	0.4	0.0	0.5				2.0	1.9	0.0		2.1	2.1
Prop In Lane	1.00		1.00				1.00		0.00		0.02	
Lane Grp Cap(c), veh/h	573	0	262				376	2028	0		583	410
V/C Ratio(X)	0.08	0.00	0.11				0.35	0.21	0.00		0.25	0.31
Avail Cap(c_a), veh/h	3141	0	1438				1619	5373	0		2898	2450
HCM Platoon Ratio	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	1.00	0.00		1.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	11.7				11.1	3.5	0.0		10.0	10.0
Incr Delay (d2), s/veh	0.0	0.0	0.1				0.2	0.1	0.0		0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1				0.5	0.1	0.0		0.6	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	0.0	11.8				11.3	3.5	0.0		10.3	10.6
LnGrp LOS	B	A	B				B	A	A		B	B
Approach Vol, veh/h		75						554				288
Approach Delay, s/veh		11.7						5.3				10.4
Approach LOS		B						A				B

Timer - Assigned Phs		3	4		6		8				
Phs Duration (G+Y+Rc), s		10.5	13.6		9.0		24.0				
Change Period (Y+Rc), s		3.5	* 5.2		3.5		5.2				
Max Green Setting (Gmax), s		30.0	* 50		30.0		49.9				
Max Q Clear Time (g_c+I1), s		4.0	4.1		2.5		3.9				
Green Ext Time (p_c), s		0.1	2.3		0.2		4.1				

Intersection Summary	
HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	40
Future Volume (veh/h)	40
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	16
Peak Hour Factor	1.00
Percent Heavy Veh, %	2
Cap, veh/h	398
Arrive On Green	0.25
Sat Flow, veh/h	1569
Grp Volume(v), veh/h	16
Grp Sat Flow(s),veh/h/ln	1569
Q Serve(g_s), s	0.3
Cycle Q Clear(g_c), s	0.3
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	398
V/C Ratio(X)	0.04
Avail Cap(c_a), veh/h	2378
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	9.3
Incr Delay (d2), s/veh	0.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.1
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	9.3
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	167	21	76	27	0	5	0	60	0	0	0
Future Volume (veh/h)	0	167	21	76	27	0	5	0	60	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	0	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	167	9	76	27	0	5	0	9	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	2	2	2
Cap, veh/h	0	1209	535	315	1249	0	27	0	0	0	7	0
Arrive On Green	0.00	0.34	0.34	0.18	0.67	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1573	1781	1870	0	1781	5		0	-65463	0
Grp Volume(v), veh/h	0	167	9	76	27	0	5	14.4		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1573	1781	1870	0	1781	B		0	1870	0
Q Serve(g_s), s	0.0	0.9	0.1	1.0	0.1	0.0	0.1			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.9	0.1	1.0	0.1	0.0	0.1			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1209	535	315	1249	0	27			0	7	0
V/C Ratio(X)	0.00	0.14	0.02	0.24	0.02	0.00	0.19			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	6549	2900	1970	3447	0	1970			0	2068	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	6.2	5.9	9.6	1.5	0.0	13.2			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	1.2			0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.2	0.0	0.0	0.0			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.2	5.9	9.7	1.5	0.0	14.4			0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B			A	A	A
Approach Vol, veh/h		176			103						0	
Approach Delay, s/veh		6.2			7.6						0.0	
Approach LOS		A			A							

Timer - Assigned Phs	2	3	4	5	6
Phs Duration (G+Y+Rc), s	22.7	4.4	0.0	8.9	13.8
Change Period (Y+Rc), s	* 4.6	4.0	3.5	* 4.1	* 4.6
Max Green Setting (Gmax), s	* 50	30.0	30.0	* 30	* 50
Max Q Clear Time (g_c+I1), s	2.1	2.1	0.0	3.0	2.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	6.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	616	525	269	169	601	233	303	888	159	124	461	259
Future Volume (veh/h)	616	525	269	169	601	233	303	888	159	124	461	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	616	525	56	169	601	41	303	888	65	124	461	227
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	697	914	282	374	759	236	354	2257	1229	371	2281	927
Arrive On Green	0.14	0.18	0.18	0.11	0.15	0.15	0.10	0.44	0.44	0.11	0.44	0.44
Sat Flow, veh/h	5063	5147	1590	3483	5147	1598	3483	5147	2802	3483	5147	1595
Grp Volume(v), veh/h	616	525	56	169	601	41	303	888	65	124	461	227
Grp Sat Flow(s),veh/h/ln	1688	1716	1590	1742	1716	1598	1742	1716	1401	1742	1716	1595
Q Serve(g_s), s	15.5	12.1	3.9	5.9	14.7	2.9	11.1	15.2	1.7	4.3	7.1	9.0
Cycle Q Clear(g_c), s	15.5	12.1	3.9	5.9	14.7	2.9	11.1	15.2	1.7	4.3	7.1	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	697	914	282	374	759	236	354	2257	1229	371	2281	927
V/C Ratio(X)	0.88	0.57	0.20	0.45	0.79	0.17	0.86	0.39	0.05	0.33	0.20	0.24
Avail Cap(c_a), veh/h	759	1595	493	388	1405	436	388	2257	1229	442	2281	927
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	49.0	45.6	54.4	53.5	48.5	57.5	24.8	21.0	53.8	22.1	13.3
Incr Delay (d2), s/veh	10.7	0.2	0.1	0.3	0.7	0.1	14.6	0.5	0.1	0.2	0.2	0.6
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	7.2	5.2	1.5	2.6	6.3	1.2	5.5	6.1	0.6	1.9	2.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	49.2	45.7	54.7	54.2	48.6	72.1	25.3	21.1	54.0	22.3	13.9
LnGrp LOS	E	D	D	D	D	D	E	C	C	D	C	B
Approach Vol, veh/h		1197			811			1256			812	
Approach Delay, s/veh		57.5			54.0			36.4			24.8	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.4	24.9	18.7	63.0	19.5	28.8	19.3	62.4
Change Period (Y+Rc), s	5.5	* 5.7	5.5	* 5.4	5.5	* 5.7	5.5	* 5.4
Max Green Setting (Gmax), s	19.5	* 36	14.5	* 39	14.5	* 40	16.5	* 37
Max Q Clear Time (g_c+I1), s	17.7	16.7	13.1	11.0	7.9	14.1	6.3	17.2
Green Ext Time (p_c), s	0.4	2.5	0.1	2.2	0.1	2.3	0.1	9.7

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	947	170	68	697	1	76	0	83	9	4	5
Future Volume (veh/h)	2	947	170	68	697	1	76	0	83	9	4	5
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		0.99	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	947	120	68	697	1	76	0	13	9	4	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	1946	603	222	2526	781	279	328	276	106	93	78
Arrive On Green	0.01	0.38	0.38	0.12	0.49	0.49	0.16	0.00	0.18	0.03	0.05	0.05
Sat Flow, veh/h	3456	5106	1581	1781	5106	1579	1781	1870	1575	3563	1870	1579
Grp Volume(v), veh/h	2	947	120	68	697	1	76	0	13	9	4	1
Grp Sat Flow(s),veh/h/ln	1728	1702	1581	1781	1702	1579	1781	1870	1575	1781	1870	1579
Q Serve(g_s), s	0.0	10.0	3.6	2.5	5.7	0.0	2.7	0.0	0.5	0.2	0.1	0.0
Cycle Q Clear(g_c), s	0.0	10.0	3.6	2.5	5.7	0.0	2.7	0.0	0.5	0.2	0.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	24	1946	603	222	2526	781	279	328	276	106	93	78
V/C Ratio(X)	0.08	0.49	0.20	0.31	0.28	0.00	0.27	0.00	0.05	0.08	0.04	0.01
Avail Cap(c_a), veh/h	1462	3599	1115	753	3599	1113	753	1318	1110	1507	1318	1113
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	16.7	14.7	28.2	10.5	9.1	26.3	0.0	24.3	33.5	32.1	32.0
Incr Delay (d2), s/veh	0.5	0.4	0.3	0.3	0.1	0.0	0.2	0.0	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	1.2	1.0	1.7	0.0	1.1	0.0	0.2	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	17.1	15.0	28.5	10.6	9.1	26.5	0.0	24.4	33.6	32.2	32.1
LnGrp LOS	D	B	B	C	B	A	C	A	C	C	C	C
Approach Vol, veh/h		1069			766			89			14	
Approach Delay, s/veh		16.9			12.2			26.2			33.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	40.6	16.3	8.4	13.7	32.5	7.4	17.3
Change Period (Y+Rc), s	* 5.1	* 5.5	* 5.2	* 4.9	* 4.8	* 5.5	* 5.3	4.9
Max Green Setting (Gmax), s	* 30	* 50	* 30	* 50	* 30	* 50	* 30	50.0
Max Q Clear Time (g_c+I1), s	2.0	7.7	4.7	2.1	4.5	12.0	2.2	2.5
Green Ext Time (p_c), s	0.0	9.7	0.1	0.0	0.1	15.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	905	102	215	390	51	353	1412	60	94	683	98
Future Volume (veh/h)	55	905	102	215	390	51	353	1412	60	94	683	98
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		0.98	1.00		0.99
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	905	29	215	390	16	353	1412	19	94	683	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1282	396	399	949	423	385	2293	556	360	2245	545
Arrive On Green	0.10	0.25	0.25	0.12	0.27	0.27	0.11	0.36	0.36	0.10	0.35	0.35
Sat Flow, veh/h	3456	5106	1577	3456	3554	1585	3456	6434	1561	3456	6434	1563
Grp Volume(v), veh/h	55	905	29	215	390	16	353	1412	19	94	683	29
Grp Sat Flow(s),veh/h/ln	1728	1702	1577	1728	1777	1585	1728	1609	1561	1728	1609	1563
Q Serve(g_s), s	1.9	21.0	1.8	7.6	11.7	1.0	13.1	23.5	1.0	3.3	10.1	1.6
Cycle Q Clear(g_c), s	1.9	21.0	1.8	7.6	11.7	1.0	13.1	23.5	1.0	3.3	10.1	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	1282	396	399	949	423	385	2293	556	360	2245	545
V/C Ratio(X)	0.16	0.71	0.07	0.54	0.41	0.04	0.92	0.62	0.03	0.26	0.30	0.05
Avail Cap(c_a), veh/h	465	1606	496	465	1126	502	385	2293	556	385	2245	545
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)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	44.3	37.1	54.2	39.2	35.3	57.1	34.5	27.3	53.6	30.8	28.1
Incr Delay (d2), s/veh	0.1	1.6	0.2	0.4	0.4	0.0	25.6	1.2	0.1	0.1	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	8.8	0.7	3.3	5.1	0.4	7.0	9.1	0.4	1.4	3.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	45.9	37.3	54.7	39.6	35.3	82.8	35.7	27.4	53.8	31.2	28.3
LnGrp LOS	D	D	D	D	D	D	F	D	C	D	C	C
Approach Vol, veh/h		989			621			1784			806	
Approach Delay, s/veh		46.1			44.7			45.0			33.7	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.4	40.8	19.0	51.7	20.5	38.8	20.0	50.8
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4
Max Green Setting (Gmax), s	17.5	* 41	14.5	* 35	17.5	* 41	14.5	* 35
Max Q Clear Time (g_c+I1), s	13.1	13.7	5.3	25.5	9.6	23.0	15.1	12.1
Green Ext Time (p_c), s	0.0	3.4	0.1	8.0	0.2	9.1	0.0	9.6

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	217	25	87	220	166	4	21	42	203	46	34
Future Volume (veh/h)	53	217	25	87	220	166	4	21	42	203	46	34
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		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	217	25	87	220	86	4	21	4	203	46	9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	318	37	272	502	424	14	75	76	424	445	371
Arrive On Green	0.08	0.19	0.19	0.15	0.27	0.27	0.05	0.05	0.05	0.24	0.24	0.24
Sat Flow, veh/h	1781	1647	190	1781	1870	1579	297	1559	1585	1781	1870	1559
Grp Volume(v), veh/h	53	0	242	87	220	86	25	0	4	203	46	9
Grp Sat Flow(s),veh/h/ln	1781	0	1836	1781	1870	1579	1856	0	1585	1781	1870	1559
Q Serve(g_s), s	1.2	0.0	5.1	1.8	4.0	1.7	0.5	0.0	0.1	4.1	0.8	0.2
Cycle Q Clear(g_c), s	1.2	0.0	5.1	1.8	4.0	1.7	0.5	0.0	0.1	4.1	0.8	0.2
Prop In Lane	1.00		0.10	1.00		1.00	0.16		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	137	0	354	272	502	424	89	0	76	424	445	371
V/C Ratio(X)	0.39	0.00	0.68	0.32	0.44	0.20	0.28	0.00	0.05	0.48	0.10	0.02
Avail Cap(c_a), veh/h	1588	0	2521	1717	2613	2206	2101	0	1795	2575	2704	2253
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	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	15.6	15.7	12.6	11.8	19.1	0.0	18.9	13.6	12.4	12.1
Incr Delay (d2), s/veh	0.7	0.0	0.9	0.3	0.2	0.1	0.6	0.0	0.1	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.7	0.6	1.3	0.5	0.2	0.0	0.0	1.3	0.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	0.0	16.4	15.9	12.8	11.8	19.7	0.0	19.0	13.9	12.4	12.1
LnGrp LOS	B	A	B	B	B	B	B	A	B	B	B	B
Approach Vol, veh/h		295			393			29			258	
Approach Delay, s/veh		16.9			13.3			19.6			13.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	15.7		13.6	9.8	12.6		5.5
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5
Max Green Setting (Gmax), s	37.0	* 58		60.0	40.0	* 57		47.0
Max Q Clear Time (g_c+I1), s	3.2	6.0		6.1	3.8	7.1		2.5
Green Ext Time (p_c), s	0.1	0.9		0.4	0.1	0.8		0.1

Intersection Summary		
HCM 6th Ctrl Delay		14.6
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	412	295	81	157	258	354	124	1001	237	517	887	368
Future Volume (veh/h)	412	295	81	157	258	354	124	1001	237	517	887	368
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	412	295	23	157	258	94	124	1001	155	517	887	192
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	465	707	453	318	553	242	315	1423	769	540	1654	724
Arrive On Green	0.13	0.20	0.20	0.09	0.16	0.16	0.09	0.40	0.40	0.16	0.47	0.47
Sat Flow, veh/h	3456	3554	1552	3456	3554	1555	3456	3554	1557	3456	3554	1556
Grp Volume(v), veh/h	412	295	23	157	258	94	124	1001	155	517	887	192
Grp Sat Flow(s),veh/h/ln	1728	1777	1552	1728	1777	1555	1728	1777	1557	1728	1777	1556
Q Serve(g_s), s	15.2	9.4	1.4	5.6	8.6	7.1	4.4	30.6	7.3	19.3	23.1	9.8
Cycle Q Clear(g_c), s	15.2	9.4	1.4	5.6	8.6	7.1	4.4	30.6	7.3	19.3	23.1	9.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	465	707	453	318	553	242	315	1423	769	540	1654	724
V/C Ratio(X)	0.89	0.42	0.05	0.49	0.47	0.39	0.39	0.70	0.20	0.96	0.54	0.27
Avail Cap(c_a), veh/h	529	957	562	532	954	417	540	1423	769	540	1654	724
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	45.5	33.2	56.1	50.0	49.3	55.7	32.5	18.6	54.4	24.8	21.2
Incr Delay (d2), s/veh	14.0	0.5	0.1	0.4	0.8	1.4	0.3	2.9	0.6	28.2	1.3	0.9
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	7.4	4.2	0.5	2.4	3.8	2.8	1.9	13.2	2.7	10.3	9.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.3	46.0	33.3	56.6	50.8	50.7	56.0	35.4	19.2	82.6	26.0	22.1
LnGrp LOS	E	D	C	E	D	D	E	D	B	F	C	C
Approach Vol, veh/h		730			509			1280			1596	
Approach Delay, s/veh		58.8			52.6			35.5			43.9	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.6	25.3	16.6	65.5	17.0	31.0	25.0	57.1
Change Period (Y+Rc), s	* 5.1	* 5.1	* 4.7	* 5	5.0	* 5.1	* 4.7	* 5
Max Green Setting (Gmax), s	* 20	* 35	* 20	* 35	20.0	* 35	* 20	* 35
Max Q Clear Time (g_c+I1), s	17.2	10.6	6.4	25.1	7.6	11.4	21.3	32.6
Green Ext Time (p_c), s	0.3	2.6	0.1	3.1	0.2	2.5	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	513	1208	66	22	389	186	208	113	171	129	31	162
Future Volume (veh/h)	513	1208	66	22	389	186	208	113	171	129	31	162
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		0.99	1.00		0.97	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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	513	1208	33	22	389	66	160	179	28	80	100	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	529	1810	806	104	1509	668	243	255	210	212	222	188
Arrive On Green	0.30	1.00	1.00	0.06	0.42	0.42	0.14	0.14	0.14	0.12	0.12	0.12
Sat Flow, veh/h	3483	3582	1595	1795	3582	1584	1795	1885	1555	1795	1885	1598
Grp Volume(v), veh/h	513	1208	33	22	389	66	160	179	28	80	100	21
Grp Sat Flow(s),veh/h/ln	1742	1791	1595	1795	1791	1584	1795	1885	1555	1795	1885	1598
Q Serve(g_s), s	16.0	0.0	0.0	1.3	7.8	2.8	9.3	10.0	1.7	4.5	5.4	1.3
Cycle Q Clear(g_c), s	16.0	0.0	0.0	1.3	7.8	2.8	9.3	10.0	1.7	4.5	5.4	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	529	1810	806	104	1509	668	243	255	210	212	222	188
V/C Ratio(X)	0.97	0.67	0.04	0.21	0.26	0.10	0.66	0.70	0.13	0.38	0.45	0.11
Avail Cap(c_a), veh/h	529	1810	806	222	1509	668	570	598	493	227	238	202
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	0.0	0.0	49.4	20.7	19.2	45.2	45.4	41.9	44.8	45.2	43.4
Incr Delay (d2), s/veh	24.7	1.3	0.1	0.3	0.4	0.3	1.1	1.3	0.1	0.4	0.5	0.1
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	7.2	0.3	0.0	0.6	3.2	1.0	4.2	4.7	0.7	2.0	2.6	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.7	1.3	0.1	49.8	21.0	19.5	46.3	46.8	42.0	45.2	45.7	43.5
LnGrp LOS	E	A	A	D	C	B	D	D	D	D	D	D
Approach Vol, veh/h		1754			477			367			201	
Approach Delay, s/veh		19.3			22.1			46.2			45.3	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.0	51.0		18.1	11.8	60.2		20.0
Change Period (Y+Rc), s	* 4.3	* 4.6		* 5.1	* 5.4	* 4.6		5.1
Max Green Setting (Gmax), s	* 17	* 25		* 14	* 14	* 28		34.9
Max Q Clear Time (g_c+I1), s	18.0	9.8		7.4	3.3	2.0		12.0
Green Ext Time (p_c), s	0.0	1.5		0.2	0.0	6.2		0.8

Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	574	367	44	179	231	181	101	710	209	225	414	181
Future Volume (veh/h)	574	367	44	179	231	181	101	710	209	225	414	181
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		0.98	1.00		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	574	367	16	179	231	51	101	710	82	225	414	61
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	569	1316	585	375	1118	496	360	824	360	377	842	368
Arrive On Green	0.16	0.37	0.37	0.11	0.31	0.31	0.10	0.23	0.23	0.11	0.24	0.24
Sat Flow, veh/h	3456	3554	1579	3456	3554	1577	3456	3554	1553	3456	3554	1553
Grp Volume(v), veh/h	574	367	16	179	231	51	101	710	82	225	414	61
Grp Sat Flow(s),veh/h/ln	1728	1777	1579	1728	1777	1577	1728	1777	1553	1728	1777	1553
Q Serve(g_s), s	18.1	8.0	0.7	5.4	5.2	2.5	3.0	21.1	4.7	6.8	11.1	3.4
Cycle Q Clear(g_c), s	18.1	8.0	0.7	5.4	5.2	2.5	3.0	21.1	4.7	6.8	11.1	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	569	1316	585	375	1118	496	360	824	360	377	842	368
V/C Ratio(X)	1.01	0.28	0.03	0.48	0.21	0.10	0.28	0.86	0.23	0.60	0.49	0.17
Avail Cap(c_a), veh/h	569	1316	585	412	1118	496	412	992	433	412	989	432
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)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	24.3	22.0	46.1	27.6	26.7	45.5	40.5	34.3	46.7	36.3	33.3
Incr Delay (d2), s/veh	19.6	0.1	0.0	0.4	0.4	0.4	0.2	5.9	0.1	1.2	0.2	0.1
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	9.1	3.3	0.3	2.3	2.2	1.0	1.3	9.6	1.8	2.9	4.7	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	24.4	22.0	46.4	28.1	27.1	45.6	46.5	34.4	47.9	36.4	33.4
LnGrp LOS	F	C	C	D	C	C	D	D	C	D	D	C
Approach Vol, veh/h		957			461			893			700	
Approach Delay, s/veh		49.1			35.1			45.3			39.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	39.2	16.4	31.5	16.8	45.3	16.9	30.9
Change Period (Y+Rc), s	* 4.9	* 4.6	* 4.9	* 5.4	* 4.9	* 4.6	* 4.9	* 5.4
Max Green Setting (Gmax), s	* 18	* 28	* 13	* 31	* 13	* 34	* 13	* 31
Max Q Clear Time (g_c+I1), s	20.1	7.2	5.0	13.1	7.4	10.0	8.8	23.1
Green Ext Time (p_c), s	0.0	0.9	0.1	1.6	0.1	1.4	0.2	2.1

Intersection Summary	
HCM 6th Ctrl Delay	43.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SimTraffic LOS Report

Existing Conditions (AM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	52	55	106.2%	31.8	7.1	C
	Through	235	238	101.1%	23.5	3.2	C
	Right Turn	93	89	96.1%	6.9	1.4	A
	Subtotal	380	382	100.6%	20.9	2.3	C
SB	Left Turn	192	188	97.9%	32.5	2.4	C
	Through	403	396	98.3%	23.7	2.7	C
	Right Turn	14	14	99.3%	1.3	1.3	A
	Subtotal	609	598	98.2%	26.1	2.3	C
EB	Left Turn	5	5	106.0%	44.6	28.2	D
	Through	199	199	100.0%	25.4	4.5	C
	Right Turn	127	131	102.8%	8.2	1.4	A
	Subtotal	331	335	101.1%	19.5	2.7	B
WB	Left Turn	75	75	100.1%	30.0	7.8	C
	Through	69	73	105.7%	16.8	3.3	B
	Right Turn	107	107	99.8%	3.1	0.8	A
	Subtotal	251	255	101.5%	14.6	1.8	B
Total		1,571	1,570	99.9%	21.5	1.4	C

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	101	100	99.2%	23.5	3.7	C
	Through	6	5	90.0%	13.7	14.7	B
	Right Turn	378	379	100.2%	9.9	3.2	A
	Subtotal	485	484	99.9%	13.0	2.9	B
SB	Left Turn	51	51	99.0%	28.7	8.3	C
	Through	9	7	82.2%	29.9	20.2	C
	Right Turn	7	8	115.7%	5.8	6.2	A
	Subtotal	67	66	98.5%	26.0	6.5	C
EB	Left Turn	2	3	130.0%	18.4	23.0	B
	Through	374	369	98.7%	19.0	3.5	B
	Right Turn	108	107	98.9%	4.2	1.0	A
	Subtotal	484	479	98.9%	15.6	2.8	B
WB	Left Turn	185	183	98.8%	23.1	4.5	C
	Through	128	129	100.5%	9.2	3.5	A
	Right Turn	18	20	113.3%	2.2	1.1	A
	Subtotal	331	332	100.2%	16.5	3.8	B
Total		1,367	1,361	99.5%	15.3	2.7	B

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	44	45	103.0%	65.7	15.2	E
	Through	57	57	99.6%	45.9	16.7	D
	Right Turn	631	621	98.4%	35.9	4.8	D
	Subtotal	732	723	98.8%	38.5	4.5	D
SB	Left Turn	238	249	104.5%	62.2	7.2	E
	Through	95	105	110.1%	36.1	8.3	D
	Right Turn	45	45	100.9%	22.9	9.6	C
	Subtotal	378	399	105.4%	51.4	5.9	D
EB	Left Turn	30	28	92.0%	73.6	16.9	E
	Through	774	772	99.8%	55.2	7.9	E
	Right Turn	34	35	103.8%	21.3	7.0	C
	Subtotal	838	835	99.7%	54.4	7.5	D
WB	Left Turn	325	319	98.2%	62.5	4.9	E
	Through	242	242	99.8%	34.3	5.7	C
	Right Turn	151	147	97.6%	3.7	0.7	A
	Subtotal	718	708	98.6%	41.2	3.5	D
Total		2,666	2,665	100.0%	46.1	2.7	D

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	202	207	102.2%	10.4	2.0	B
	Through						
	Right Turn	93	95	101.9%	4.0	0.7	A
	Subtotal	295	301	102.1%	8.5	1.4	A
EB	Left Turn						
	Through	732	729	99.6%	7.4	0.5	A
	Right Turn	921	921	100.0%	3.6	0.4	A
	Subtotal	1,653	1,651	99.8%	5.3	0.2	A
WB	Left Turn						
	Through	625	614	98.2%	5.4	0.8	A
	Right Turn						
	Subtotal	625	614	98.2%	5.4	0.8	A
Total		2,573	2,566	99.7%	5.7	0.3	A

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	317	314	99.0%	12.3	1.0	B
	Through						
	Right Turn	515	521	101.1%	8.1	1.5	A
	Subtotal	832	835	100.3%	9.6	0.9	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	743	741	99.7%	10.8	2.3	B
	Right Turn						
	Subtotal	743	741	99.7%	10.8	2.3	B
WB	Left Turn						
	Through	946	934	98.8%	13.7	2.2	B
	Right Turn	114	119	103.9%	4.3	0.7	A
	Subtotal	1,060	1,053	99.3%	12.7	1.9	B
Total		2,635	2,628	99.7%	11.2	1.4	B

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	146	149	102.1%	28.1	4.5	C
	Through	50	50	99.6%	44.2	6.3	D
	Right Turn	26	28	108.1%	5.7	2.5	A
	Subtotal	222	227	102.3%	28.8	2.9	C
SB	Left Turn	193	188	97.3%	32.2	6.4	C
	Through	19	19	101.6%	41.7	17.9	D
	Right Turn	488	478	97.9%	2.9	0.2	A
	Subtotal	700	685	97.8%	12.2	2.4	B
EB	Left Turn	362	359	99.0%	34.8	3.3	C
	Through	855	862	100.8%	16.0	3.5	B
	Right Turn	41	44	107.1%	2.6	0.9	A
	Subtotal	1,258	1,264	100.5%	21.0	2.8	C
WB	Left Turn	9	9	95.6%	26.5	21.0	C
	Through	424	424	100.0%	25.3	4.5	C
	Right Turn	160	149	93.0%	5.3	1.0	A
	Subtotal	593	582	98.1%	20.2	3.5	C
Total		2,773	2,758	99.4%	19.3	1.9	B

SimTraffic LOS Report

Existing Conditions (AM Peak Hour)

Del Paso Road (#12 to #13, #19 to #22)

Intersection 12 **El Centro Rd/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	178	180	101.0%	39.7	6.4	D
	Through	42	44	104.0%	44.8	9.8	D
	Right Turn	416	416	99.9%	2.2	0.4	A
	Subtotal	636	639	100.5%	15.7	2.5	B
SB	Left Turn	324	330	101.7%	42.4	8.7	D
	Through	109	109	100.3%	41.5	9.5	D
	Right Turn	8	8	103.8%	2.8	2.4	A
	Subtotal	441	447	101.4%	41.6	7.5	D
EB	Left Turn	3	3	96.7%	24.1	34.1	C
	Through	728	726	99.7%	32.4	5.2	C
	Right Turn	133	137	102.7%	10.5	2.3	B
	Subtotal	864	865	100.1%	29.1	4.7	C
WB	Left Turn	299	305	101.9%	44.3	5.8	D
	Through	610	616	101.0%	18.2	3.0	B
	Right Turn	151	153	101.3%	1.7	0.4	A
	Subtotal	1,060	1,074	101.3%	23.5	3.1	C
Total		3,001	3,025	100.8%	26.1	3.6	C

Intersection 13 **El Centro Rd/Duckhorn Dr** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	526	528	100.4%	1.1	0.2	A
	Right Turn	13	15	117.7%	0.4	0.4	A
	Subtotal	539	544	100.8%	1.0	0.2	A
SB	Left Turn	197	192	97.3%	7.3	1.5	A
	Through	346	359	103.8%	2.0	0.3	A
	Right Turn						
	Subtotal	543	551	101.4%	3.9	0.7	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	109	111	101.7%	4.9	1.4	A
	Subtotal	109	111	101.7%	4.9	1.4	A
Total		1,191	1,205	101.2%	2.8	0.5	A

Intersection 19 **Natomas Central Dr/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	97	95	98.0%	31.3	3.7	C
	Through	17	15	90.0%	16.4	16.8	B
	Right Turn	53	54	100.9%	6.9	2.5	A
	Subtotal	167	164	98.1%	22.5	3.3	C
SB	Left Turn	184	181	98.2%	32.3	3.6	C
	Through	19	21	110.5%	36.8	16.1	D
	Right Turn	22	23	104.5%	8.5	5.6	A
	Subtotal	225	225	99.8%	30.3	3.4	C
EB	Left Turn	8	8	102.5%	36.1	26.4	D
	Through	627	629	100.4%	25.3	2.5	C
	Right Turn	53	55	102.8%	8.9	2.0	A
	Subtotal	688	692	100.6%	24.4	2.5	C
WB	Left Turn	30	27	89.0%	44.4	15.2	D
	Through	684	698	102.1%	18.9	3.4	B
	Right Turn	42	43	101.7%	5.3	1.7	A
	Subtotal	756	768	101.5%	19.2	3.3	B
Total		1,836	1,848	100.7%	22.8	1.8	C

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	373	379	101.6%	21.6	1.3	C
	Through						
	Right Turn	231	234	101.1%	9.2	1.7	A
	Subtotal	604	612	101.4%	16.9	1.0	B
EB	Left Turn						
	Through	1,004	1,012	100.8%	6.4	1.3	A
	Right Turn						
	Subtotal	1,004	1,012	100.8%	6.4	1.3	A
WB	Left Turn						
	Through	829	836	100.8%	5.6	0.7	A
	Right Turn	739	751	101.6%	5.7	0.9	A
	Subtotal	1,568	1,587	101.2%	5.7	0.7	A
Total		3,176	3,211	101.1%	8.0	0.5	A

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	218	217	99.4%	36.3	13.2	D
	Through						
	Right Turn	778	773	99.4%	23.9	10.3	C
	Subtotal	996	990	99.4%	26.7	10.5	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,133	1,140	100.6%	19.4	3.8	B
	Right Turn						
	Subtotal	1,133	1,140	100.6%	19.4	3.8	B
WB	Left Turn						
	Through	1,350	1,363	101.0%	5.4	1.0	A
	Right Turn						
	Subtotal	1,350	1,363	101.0%	5.4	1.0	A
Total		3,479	3,493	100.4%	16.0	2.3	B

Intersection 22 **E Commerce Wy/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	92	95	103.7%	56.2	14.7	E
	Through	219	217	98.9%	35.7	8.7	D
	Right Turn	130	132	101.7%	10.1	2.8	B
	Subtotal	441	444	100.7%	32.7	8.3	C
SB	Left Turn	94	92	98.1%	63.9	14.2	E
	Through	399	395	99.0%	40.6	7.4	D
	Right Turn	606	612	101.0%	4.5	0.7	A
	Subtotal	1,099	1,099	100.0%	22.4	3.5	C
EB	Left Turn	431	429	99.6%	55.0	10.5	D
	Through	1,199	1,215	101.3%	31.7	3.8	C
	Right Turn	281	284	101.1%	9.4	2.4	A
	Subtotal	1,911	1,928	100.9%	33.7	3.4	C
WB	Left Turn	259	257	99.3%	55.1	14.3	E
	Through	850	871	102.5%	32.6	2.8	C
	Right Turn	105	106	100.7%	7.2	1.6	A
	Subtotal	1,214	1,234	101.7%	35.3	3.2	D
Total		4,665	4,706	100.9%	31.4	2.7	C

SimTraffic LOS Report

Existing Conditions (AM Peak Hour)

W. El Camino Avenue (#17, #33 to #39)

Intersection 17 **El Centro Rd/W El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	23	21	90.0%	107.1	55.0	F
	Right Turn	35	35	100.3%	10.6	4.8	B
	Subtotal	58	56	96.2%	52.6	23.5	F
SB	Left Turn	991	972	98.1%	6.3	0.6	A
	Through	28	26	94.3%	10.0	1.1	B
	Right Turn						
	Subtotal	1,019	998	97.9%	6.4	0.6	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	85	76	89.1%	238.0	73.3	F
	Through						
	Right Turn	266	260	97.8%	6.7	4.3	A
	Subtotal	351	336	95.7%	63.5	18.8	F
Total		1,428	1,390	97.3%	23.3	5.3	C

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	705	692	98.2%	48.0	27.8	D
	Through						
	Right Turn	93	89	95.6%	2.4	1.2	A
	Subtotal	798	781	97.9%	43.0	25.4	D
EB	Left Turn						
	Through	507	502	98.9%	11.2	1.1	B
	Right Turn	529	512	96.7%	0.6	0.1	A
	Subtotal	1,036	1,013	97.8%	5.8	0.6	A
WB	Left Turn						
	Through	258	252	97.5%	11.9	13.6	B
	Right Turn						
	Subtotal	258	252	97.5%	11.9	13.6	B
Total		2,092	2,046	97.8%	20.9	10.2	C

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	117	111	94.9%	18.6	2.9	B
	Through						
	Right Turn	372	375	100.9%	13.9	2.8	B
	Subtotal	489	486	99.4%	14.9	2.3	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,040	1,026	98.7%	21.7	8.8	C
	Right Turn						
	Subtotal	1,040	1,026	98.7%	21.7	8.8	C
WB	Left Turn						
	Through	545	539	98.8%	6.9	2.5	A
	Right Turn	602	610	101.3%	1.2	0.2	A
	Subtotal	1,147	1,149	100.2%	4.0	1.3	A
Total		2,676	2,661	99.5%	12.9	4.0	B

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	440	443	100.7%	43.5	7.3	D
	Through						
	Right Turn	118	116	98.4%	21.1	4.4	C
	Subtotal	558	559	100.2%	39.0	6.8	D
SB	Left Turn						
	Through						
	Right Turn	2	2	110.0%	3.6	4.6	A
	Subtotal	2	2	110.0%	3.6	4.6	A
EB	Left Turn	2	3	125.0%	30.4	40.3	C
	Through	1,306	1,301	99.6%	9.1	1.8	A
	Right Turn	84	86	102.5%	1.1	0.6	A
	Subtotal	1,392	1,390	99.8%	8.7	1.7	A
WB	Left Turn	57	54	94.6%	43.5	9.7	D
	Through	705	708	100.5%	7.7	1.8	A
	Right Turn						
	Subtotal	762	762	100.0%	10.3	1.5	B
Total		2,714	2,713	100.0%	15.4	2.3	B

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	9	90.0%	24.6	20.4	C
	Through						
	Right Turn	47	50	107.0%	14.5	5.0	B
	Subtotal	57	59	104.0%	17.1	7.0	B
SB	Left Turn	5	4	80.0%	25.0	17.8	C
	Through						
	Right Turn	5	5	94.0%	8.3	12.8	A
	Subtotal	10	9	87.0%	19.4	13.4	B
EB	Left Turn	5	4	84.0%	26.7	20.3	C
	Through	1,382	1,372	99.3%	16.7	6.0	B
	Right Turn	37	37	99.5%	16.1	5.2	B
	Subtotal	1,424	1,413	99.2%	16.7	6.0	B
WB	Left Turn	193	190	98.6%	31.9	7.4	C
	Through	747	753	100.9%	5.9	4.5	A
	Right Turn	5	4	70.0%	0.1	0.2	A
	Subtotal	945	947	100.2%	11.2	4.6	B
Total		2,436	2,428	99.7%	14.6	5.0	B

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	239	232	97.1%	47.4	9.6	D
	Through	87	85	97.5%	35.4	9.3	D
	Right Turn	133	131	98.6%	9.9	3.0	A
	Subtotal	459	448	97.6%	34.0	4.9	C
SB	Left Turn	134	129	96.1%	46.9	4.1	D
	Through	26	26	100.8%	49.5	18.5	D
	Right Turn	37	39	106.5%	3.8	0.9	A
	Subtotal	197	194	98.7%	37.6	4.0	D
EB	Left Turn	295	298	101.1%	49.8	9.7	D
	Through	676	668	98.8%	25.7	4.6	C
	Right Turn	465	469	100.9%	12.0	1.9	B
	Subtotal	1,436	1,435	100.0%	25.8	3.6	C
WB	Left Turn	281	271	96.3%	49.6	3.4	D
	Through	656	657	100.2%	29.9	4.6	C
	Right Turn	494	479	96.9%	7.2	0.8	A
	Subtotal	1,431	1,407	98.3%	26.0	2.3	C
Total		3,523	3,485	98.9%	27.6	2.0	C

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	465	456	98.2%	0.2	0.1	A
	Right Turn						
	Subtotal	465	456	98.2%	0.2	0.1	A
WB	Left Turn						
	Through	1,431	1,408	98.4%	7.3	0.8	A
	Right Turn	850	839	98.7%	11.4	1.3	B
	Subtotal	2,281	2,247	98.5%	8.9	1.0	A
Total		2,746	2,703	98.4%	7.4	0.9	A

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	480	471	98.1%	39.3	3.3	D
	Through						
	Right Turn	360	356	98.8%	2.8	0.2	A
	Subtotal	840	826	98.4%	23.3	2.5	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	465	454	97.7%	5.0	0.6	A
	Right Turn						
	Subtotal	465	454	97.7%	5.0	0.6	A
WB	Left Turn						
	Through	1,801	1,775	98.6%	37.1	19.7	D
	Right Turn						
	Subtotal	1,801	1,775	98.6%	37.1	19.7	D
Total		3,106	3,056	98.4%	28.8	11.9	C

SimTraffic LOS Report

Existing Conditions (AM Peak Hour)

Garden Highway (#7 to #11)

Intersection 7 **Gateway Oaks Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2	1	55.0%	2.6	6.4	A
	Right Turn	5	5	100.0%	3.4	2.0	A
	Subtotal	7	6	87.1%	4.0	2.8	A
SB	Left Turn	392	401	102.3%	23.9	3.8	C
	Through	5	5	98.0%	27.9	19.1	C
	Right Turn	32	35	107.8%	2.5	0.7	A
	Subtotal	429	440	102.6%	22.5	3.7	C
EB	Left Turn	60	59	97.7%	26.8	6.5	C
	Through	348	349	100.4%	10.7	2.7	B
	Right Turn						
	Subtotal	408	408	100.0%	13.1	3.1	B
WB	Left Turn	27	28	105.2%	33.4	8.0	C
	Through	93	98	105.3%	14.0	3.8	B
	Right Turn	663	689	103.9%	19.4	3.0	B
	Subtotal	783	815	104.1%	19.3	2.9	B
Total		1,627	1,669	102.6%	18.5	2.7	B

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	247	247	100.2%	24.3	4.3	C
	Through						
	Right Turn	139	147	105.8%	1.9	0.1	A
	Subtotal	386	395	102.2%	15.8	3.3	B
EB	Left Turn	353	363	102.8%	25.9	4.6	C
	Through	393	395	100.6%	5.7	0.6	A
	Right Turn						
	Subtotal	746	758	101.6%	15.9	2.3	B
WB	Left Turn						
	Through	643	667	103.7%	22.8	1.9	C
	Right Turn	430	417	96.9%	11.3	5.8	B
	Subtotal	1,073	1,084	101.0%	18.3	2.9	B
Total		2,205	2,236	101.4%	17.0	2.1	B

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	390	384	98.5%	17.6	2.9	B
	Through						
	Right Turn	495	503	101.7%	1.6	0.3	A
	Subtotal	885	888	100.3%	8.6	1.5	A
EB	Left Turn	103	95	91.8%	23.2	4.2	C
	Through	537	545	101.5%	6.1	1.0	A
	Right Turn						
	Subtotal	640	639	99.9%	8.7	1.5	A
WB	Left Turn						
	Through	567	568	100.1%	19.4	3.3	B
	Right Turn	302	294	97.4%	11.6	1.3	B
	Subtotal	869	862	99.2%	16.9	2.6	B
Total		2,394	2,389	99.8%	11.6	1.5	B

Intersection 10 **Natomas Park Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	4	3	82.5%	14.0	23.7	B
	Through	2	1	70.0%	14.4	19.0	B
	Right Turn	4	5	122.5%	3.7	3.5	A
	Subtotal	10	10	96.0%	13.4	12.2	B
SB	Left Turn	25	26	103.6%	32.8	7.3	C
	Through	8	7	92.5%	19.2	18.8	B
	Right Turn	125	129	102.9%	13.8	1.8	B
	Subtotal	158	162	102.5%	16.9	1.7	B
EB	Left Turn	331	337	101.7%	35.0	6.5	C
	Through	587	585	99.6%	7.9	2.1	A
	Right Turn	9	8	93.3%	3.1	2.4	A
	Subtotal	927	930	100.3%	17.8	3.5	B
WB	Left Turn	20	19	95.5%	45.4	26.6	D
	Through	740	733	99.0%	28.9	8.2	C
	Right Turn	79	85	107.7%	20.2	7.6	C
	Subtotal	839	837	99.8%	28.3	8.0	C
Total		1,934	1,938	100.2%	22.2	4.8	C

Intersection 11 **Truxel Rd/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	504	506	100.3%	24.5	2.2	C
	Through						
	Right Turn	273	278	101.8%	14.3	3.1	B
	Subtotal	777	784	100.8%	20.9	2.3	C
EB	Left Turn	87	88	100.6%	41.4	10.1	D
	Through	529	525	99.2%	20.4	5.5	C
	Right Turn						
	Subtotal	616	612	99.4%	23.3	5.7	C
WB	Left Turn						
	Through	566	560	98.9%	20.0	2.5	B
	Right Turn	249	249	100.0%	7.6	2.0	A
	Subtotal	815	809	99.2%	15.8	2.3	B
Total		2,208	2,205	99.9%	19.7	2.8	B

SimTraffic LOS Report

Existing Conditions (AM Peak Hour)

San Juan Road (#16)

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Existing Conditions**
Volume and Delay by Movement **AM Peak Hour**

Intersection 16 **El Centro Rd/San Juan Rd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	23	25	108.3%	12.4	2.4	B
	Through	150	145	96.3%	17.2	1.7	C
	Right Turn	98	99	101.1%	5.8	0.9	A
	Subtotal	271	269	99.1%	12.5	1.6	B
SB	Left Turn	143	137	96.1%	30.2	34.7	D
	Through	444	427	96.1%	74.3	44.9	F
	Right Turn	14	15	104.3%	16.9	16.6	C
	Subtotal	601	579	96.3%	63.1	41.7	F
EB	Left Turn	36	36	99.2%	9.0	1.8	A
	Through	23	25	108.3%	15.1	1.3	C
	Right Turn	115	117	101.4%	14.0	2.7	B
	Subtotal	174	177	101.8%	13.2	2.2	B
WB	Left Turn	369	351	95.0%	184.6	78.7	F
	Through	20	19	93.0%	187.2	96.4	F
	Right Turn	137	133	96.9%	135.8	83.0	F
	Subtotal	526	502	95.4%	172.0	80.6	F
Total		1,572	1,526	97.1%	83.8	33.4	F

SimTraffic LOS Report

Existing Conditions (PM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	46	45	98.3%	30.9	5.3	C
	Through	276	279	101.2%	21.5	3.8	C
	Right Turn	174	177	101.7%	6.1	0.9	A
	Subtotal	496	502	101.1%	16.8	2.9	B
SB	Left Turn	115	113	98.3%	24.0	4.5	C
	Through	115	120	104.3%	15.4	3.4	B
	Right Turn	6	7	118.3%	1.4	1.6	A
	Subtotal	236	240	101.7%	19.3	2.9	B
EB	Left Turn	3	2	73.3%	23.9	29.6	C
	Through	91	86	94.3%	23.7	4.0	C
	Right Turn	19	22	113.2%	4.3	1.7	A
	Subtotal	113	110	96.9%	20.7	3.8	C
WB	Left Turn	92	94	102.3%	24.6	5.3	C
	Through	138	137	99.1%	13.2	4.1	B
	Right Turn	124	120	97.0%	3.6	0.9	A
	Subtotal	354	351	99.2%	12.9	2.8	B
Total		1,199	1,202	100.3%	16.5	1.9	B

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	136	130	95.7%	16.6	3.1	B
	Through	9	10	108.9%	23.2	9.8	C
	Right Turn	114	115	100.9%	4.0	0.6	A
	Subtotal	259	255	98.5%	11.5	2.4	B
SB	Left Turn	22	21	97.3%	24.1	9.7	C
	Through	3	4	126.7%	13.0	19.4	B
	Right Turn	1	2	180.0%	1.8	1.9	A
	Subtotal	26	27	103.8%	21.9	7.0	C
EB	Left Turn	17	17	99.4%	19.6	7.0	B
	Through	259	256	98.7%	12.8	3.1	B
	Right Turn	101	103	101.9%	3.3	1.0	A
	Subtotal	377	376	99.6%	10.9	2.6	B
WB	Left Turn	185	180	97.2%	18.9	1.6	B
	Through	227	227	99.9%	7.9	2.3	A
	Right Turn	58	56	96.9%	2.5	1.0	A
	Subtotal	470	463	98.5%	11.5	1.6	B
Total		1,132	1,120	99.0%	11.5	1.7	B

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	16	15	96.3%	40.3	10.4	D
	Through	30	30	99.3%	29.1	9.2	C
	Right Turn	287	289	100.7%	8.3	1.9	A
	Subtotal	333	334	100.4%	11.7	1.8	B
SB	Left Turn	238	242	101.8%	31.4	4.1	C
	Through	90	89	98.6%	21.0	3.6	C
	Right Turn	21	19	90.0%	10.9	7.8	B
	Subtotal	349	350	100.3%	27.6	3.2	C
EB	Left Turn	33	33	98.5%	39.3	9.9	D
	Through	372	367	98.8%	30.1	4.9	C
	Right Turn	32	31	96.9%	6.5	2.8	A
	Subtotal	437	431	98.6%	29.2	4.2	C
WB	Left Turn	599	611	102.0%	34.4	5.7	C
	Through	426	423	99.2%	16.9	2.7	B
	Right Turn	158	165	104.6%	2.7	0.5	A
	Subtotal	1,183	1,199	101.3%	24.0	3.7	C
Total		2,302	2,314	100.5%	23.7	2.6	C

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	166	163	98.0%	12.9	1.9	B
	Through						
	Right Turn	128	127	99.0%	9.7	2.8	A
	Subtotal	294	289	98.4%	11.4	1.8	B
EB	Left Turn						
	Through	561	561	100.1%	4.2	0.7	A
	Right Turn	339	343	101.0%	0.4	0.1	A
	Subtotal	900	904	100.4%	2.8	0.4	A
WB	Left Turn						
	Through	1,055	1,074	101.8%	6.6	0.8	A
	Right Turn						
	Subtotal	1,055	1,074	101.8%	6.6	0.8	A
Total		2,249	2,267	100.8%	5.8	0.5	A

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	587	589	100.3%	11.3	2.1	B
	Through						
	Right Turn	902	905	100.4%	17.1	4.2	B
	Subtotal	1,489	1,494	100.3%	14.9	2.7	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	627	618	98.6%	19.2	2.5	B
	Right Turn						
	Subtotal	627	618	98.6%	19.2	2.5	B
WB	Left Turn						
	Through	819	827	101.0%	23.2	4.5	C
	Right Turn	183	177	96.8%	4.5	0.6	A
	Subtotal	1,002	1,004	100.2%	20.1	3.9	C
Total		3,118	3,117	100.0%	17.4	2.4	B

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	73	75	102.1%	35.6	9.0	D
	Through	39	42	107.7%	46.6	13.9	D
	Right Turn	20	18	92.0%	8.4	6.3	A
	Subtotal	132	135	102.2%	36.1	6.5	D
SB	Left Turn	181	178	98.3%	37.3	3.9	D
	Through	13	11	87.7%	38.2	24.6	D
	Right Turn	263	263	100.2%	1.8	0.2	A
	Subtotal	457	453	99.1%	17.3	2.3	B
EB	Left Turn	482	482	100.0%	39.3	4.2	D
	Through	963	955	99.2%	16.9	3.4	B
	Right Turn	84	86	102.7%	3.0	0.5	A
	Subtotal	1,529	1,524	99.6%	23.4	3.1	C
WB	Left Turn	15	14	95.3%	46.9	27.1	D
	Through	663	665	100.3%	27.3	4.1	C
	Right Turn	152	153	100.9%	5.6	1.3	A
	Subtotal	830	832	100.3%	23.8	3.4	C
Total		2,948	2,944	99.9%	23.2	2.7	C

SimTraffic LOS Report

Existing Conditions (PM Peak Hour)

Del Paso Road (#12 to #13, #19 to #22)

Intersection 12 **El Centro Rd/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	151	150	99.6%	31.2	2.8	C
	Through	107	111	104.1%	25.3	4.0	C
	Right Turn	441	423	96.0%	2.0	0.2	A
	Subtotal	699	685	98.0%	12.2	1.9	B
SB	Left Turn	239	245	102.6%	30.2	4.6	C
	Through	88	91	103.8%	27.2	6.9	C
	Right Turn	7	7	95.7%	2.4	3.7	A
	Subtotal	334	343	102.8%	28.7	3.3	C
EB	Left Turn	3	2	66.7%	26.4	39.3	C
	Through	249	242	97.0%	25.1	5.0	C
	Right Turn	58	59	102.4%	4.8	1.9	A
	Subtotal	310	303	97.7%	21.2	4.3	C
WB	Left Turn	254	253	99.5%	29.6	2.8	C
	Through	415	426	102.7%	16.5	3.1	B
	Right Turn	231	235	101.9%	2.3	0.6	A
	Subtotal	900	915	101.6%	16.0	1.7	B
Total		2,243	2,246	100.1%	17.5	1.3	B

Intersection 13 **El Centro Rd/Duckhorn Dr** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	487	478	98.1%	1.3	0.2	A
	Right Turn	20	22	110.0%	0.4	0.3	A
	Subtotal	507	500	98.5%	1.2	0.2	A
SB	Left Turn	135	129	95.8%	5.7	0.8	A
	Through	278	290	104.1%	1.7	0.3	A
	Right Turn						
	Subtotal	413	419	101.4%	2.9	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	210	206	98.2%	5.9	1.1	A
	Subtotal	210	206	98.2%	5.9	1.1	A
Total		1,130	1,125	99.5%	2.7	0.3	A

Intersection 19 **Natomas Central Dr/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	9	8	83.3%	18.4	16.0	B
	Through	18	17	95.6%	25.7	10.6	C
	Right Turn	56	55	97.3%	3.8	0.8	A
	Subtotal	83	79	95.4%	10.4	3.6	B
SB	Left Turn	66	63	95.3%	20.8	3.7	C
	Through	20	19	97.0%	26.3	11.0	C
	Right Turn	5	6	112.0%	4.7	5.8	A
	Subtotal	91	88	96.6%	21.6	3.6	C
EB	Left Turn	71	70	98.9%	23.8	6.6	C
	Through	188	185	98.5%	14.1	4.9	B
	Right Turn	27	27	100.7%	3.2	1.7	A
	Subtotal	286	283	98.8%	15.4	4.5	B
WB	Left Turn	89	88	98.5%	24.3	5.1	C
	Through	182	178	97.8%	12.4	4.3	B
	Right Turn	181	187	103.2%	4.8	1.3	A
	Subtotal	452	453	100.1%	11.5	2.8	B
Total		912	902	98.9%	13.7	2.9	B

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	341	341	99.9%	21.2	1.8	C
	Through						
	Right Turn	137	142	103.6%	7.5	1.6	A
	Subtotal	478	483	101.0%	17.1	1.1	B
EB	Left Turn						
	Through	681	668	98.1%	4.1	0.6	A
	Right Turn						
	Subtotal	681	668	98.1%	4.1	0.6	A
WB	Left Turn						
	Through	763	770	100.9%	5.9	1.0	A
	Right Turn	551	541	98.3%	3.5	0.3	A
	Subtotal	1,314	1,311	99.8%	4.9	0.5	A
Total		2,473	2,462	99.6%	7.1	0.5	A

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	303	306	101.1%	30.5	7.3	C
	Through						
	Right Turn	1,151	1,142	99.2%	24.6	8.1	C
	Subtotal	1,454	1,448	99.6%	25.8	7.7	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	864	850	98.4%	13.4	1.5	B
	Right Turn						
	Subtotal	864	850	98.4%	13.4	1.5	B
WB	Left Turn						
	Through	1,011	1,014	100.3%	4.9	1.1	A
	Right Turn						
	Subtotal	1,011	1,014	100.3%	4.9	1.1	A
Total		3,329	3,313	99.5%	16.4	3.4	B

Intersection 22 **E Commerce Wy/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	233	241	103.3%	114.2	56.5	F
	Through	467	483	103.3%	69.5	29.1	E
	Right Turn	230	236	102.7%	17.5	5.4	B
	Subtotal	930	960	103.2%	67.9	27.9	E
SB	Left Turn	99	101	101.6%	80.7	32.5	F
	Through	155	157	101.3%	66.4	26.2	E
	Right Turn	243	254	104.6%	1.8	0.4	A
	Subtotal	497	512	103.0%	38.3	14.5	D
EB	Left Turn	764	719	94.1%	101.4	48.9	F
	Through	1,014	1,014	100.0%	24.1	3.8	C
	Right Turn	237	240	101.1%	6.9	1.6	A
	Subtotal	2,015	1,973	97.9%	49.1	16.9	D
WB	Left Turn	234	224	95.8%	83.6	27.3	F
	Through	861	870	101.0%	30.1	6.5	C
	Right Turn	125	127	101.4%	11.7	1.6	B
	Subtotal	1,220	1,221	100.0%	38.4	4.1	D
Total		4,662	4,665	100.1%	49.0	13.9	D

SimTraffic LOS Report

Existing Conditions (PM Peak Hour)

W. El Camino Avenue (#17, #33 to #39)

Intersection 17 **El Centro Rd/W El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	46	47	101.7%	20.7	5.8	C
	Right Turn	56	60	107.0%	4.5	0.7	A
	Subtotal	102	107	104.6%	11.9	3.3	B
SB	Left Turn	343	340	99.0%	1.8	0.3	A
	Through	41	43	103.7%	4.2	1.3	A
	Right Turn						
	Subtotal	384	382	99.5%	2.1	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	99	98	98.9%	12.4	2.8	B
	Through						
	Right Turn	966	960	99.4%	17.6	3.6	C
	Subtotal	1,065	1,058	99.3%	17.2	3.4	C
Total		1,551	1,547	99.7%	13.1	2.5	B

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	321	324	100.9%	22.4	3.3	C
	Through						
	Right Turn	152	161	106.0%	1.6	0.3	A
	Subtotal	473	485	102.6%	16.0	3.1	B
EB	Left Turn						
	Through	239	235	98.1%	4.2	1.4	A
	Right Turn	174	181	104.1%	0.4	0.1	A
	Subtotal	413	416	100.6%	2.4	0.7	A
WB	Left Turn						
	Through	913	906	99.3%	15.6	4.6	B
	Right Turn						
	Subtotal	913	906	99.3%	15.6	4.6	B
Total		1,799	1,807	100.4%	12.6	3.0	B

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	646	640	99.1%	30.7	13.7	C
	Through						
	Right Turn	688	689	100.1%	15.2	3.2	B
	Subtotal	1,334	1,329	99.6%	22.9	6.9	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	480	482	100.5%	8.2	1.1	A
	Right Turn						
	Subtotal	480	482	100.5%	8.2	1.1	A
WB	Left Turn						
	Through	675	672	99.5%	20.8	10.2	C
	Right Turn	491	499	101.6%	1.3	0.2	A
	Subtotal	1,166	1,171	100.4%	12.6	5.8	B
Total		2,980	2,982	100.1%	16.4	4.4	B

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	213	206	96.6%	54.5	10.2	D
	Through						
	Right Turn	98	101	103.5%	11.8	4.5	B
	Subtotal	311	307	98.7%	38.5	8.8	D
SB	Left Turn	2	2	91.3%	53.8	8.6	D
	Through						
	Right Turn	1	1	120.0%	0.7	2.2	A
	Subtotal	3	3	100.8%	50.2	14.8	D
EB	Left Turn	2	1	60.0%	8.3	14.0	A
	Through	881	867	98.4%	15.4	5.7	B
	Right Turn	285	295	103.4%	3.1	0.9	A
	Subtotal	1,168	1,163	99.6%	12.3	4.5	B
WB	Left Turn	113	114	100.4%	46.1	6.4	D
	Through	952	953	100.1%	15.6	6.6	B
	Right Turn	1	1	140.0%	1.1	2.7	A
	Subtotal	1,066	1,068	100.1%	18.8	5.7	B
Total		2,548	2,541	99.7%	18.3	4.6	B

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	96.0%	23.2	9.5	C
	Through						
	Right Turn	32	31	97.2%	12.5	3.1	B
	Subtotal	42	41	96.9%	15.3	2.7	B
SB	Left Turn	5	3	66.0%	14.1	17.5	B
	Through						
	Right Turn	5	5	108.0%	3.7	5.4	A
	Subtotal	10	9	87.0%	11.1	13.1	B
EB	Left Turn	5	4	80.0%	20.0	14.1	C
	Through	949	945	99.6%	8.4	3.0	A
	Right Turn	27	27	99.6%	9.2	5.9	A
	Subtotal	981	976	99.5%	8.5	3.1	A
WB	Left Turn	59	58	98.1%	19.0	8.6	B
	Through	1,051	1,069	101.7%	3.7	2.6	A
	Right Turn	5	5	108.0%	1.9	2.0	A
	Subtotal	1,115	1,132	101.5%	4.5	2.8	A
Total		2,148	2,158	100.4%	6.6	2.8	A

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	400	403	100.8%	127.9	53.8	F
	Through	60	58	96.8%	71.2	30.2	E
	Right Turn	371	371	99.9%	19.4	11.7	B
	Subtotal	831	832	100.1%	75.9	30.1	E
SB	Left Turn	450	446	99.2%	93.1	16.0	F
	Through	117	117	100.1%	42.4	10.3	D
	Right Turn	306	306	100.0%	8.2	1.9	A
	Subtotal	873	869	99.6%	55.1	9.4	E
EB	Left Turn	66	65	98.6%	60.6	14.9	E
	Through	719	701	97.5%	18.3	5.5	B
	Right Turn	200	199	99.6%	5.4	2.1	A
	Subtotal	985	965	98.0%	18.4	4.5	B
WB	Left Turn	212	212	100.0%	49.6	11.9	D
	Through	456	470	103.2%	28.9	4.1	C
	Right Turn	102	103	100.8%	3.1	0.4	A
	Subtotal	770	785	102.0%	31.5	2.9	C
Total		3,459	3,452	99.8%	43.6	9.2	D

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	918	904	98.5%	0.3	0.0	A
	Right Turn						
	Subtotal	918	904	98.5%	0.3	0.0	A
WB	Left Turn						
	Through	770	788	102.3%	2.1	1.3	A
	Right Turn	387	390	100.8%	3.8	4.7	A
	Subtotal	1,157	1,178	101.8%	2.7	2.5	A
Total		2,075	2,082	100.3%	1.7	1.5	A

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	196	197	100.6%	41.3	3.7	D
	Through						
	Right Turn	589	595	101.1%	3.8	0.4	A
	Subtotal	785	793	101.0%	13.0	1.3	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	918	910	99.1%	1.9	0.5	A
	Right Turn						
	Subtotal	918	910	99.1%	1.9	0.5	A
WB	Left Turn						
	Through	961	979	101.9%	3.8	0.9	A
	Right Turn						
	Subtotal	961	979	101.9%	3.8	0.9	A
Total		2,664	2,682	100.7%	5.8	0.6	A

SimTraffic LOS Report

Existing Conditions (PM Peak Hour)

Garden Highway (#7 to #11)

Intersection 7 **Gateway Oaks Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	4	3	77.5%	17.3	17.4	B
	Through	6	5	88.3%	18.6	13.7	B
	Right Turn	36	35	97.5%	7.8	2.6	A
	Subtotal	46	44	94.6%	12.1	2.7	B
SB	Left Turn	763	758	99.4%	14.1	2.2	B
	Through	1	1	50.0%	1.4	4.4	A
	Right Turn	42	45	106.0%	2.6	0.7	A
	Subtotal	806	803	99.7%	13.5	2.1	B
EB	Left Turn	17	14	81.2%	31.8	20.2	C
	Through	151	154	102.2%	16.5	3.9	B
	Right Turn	1	2	190.0%	1.6	2.8	A
	Subtotal	169	170	100.6%	17.8	4.0	B
WB	Left Turn	10	12	117.0%	29.4	20.1	C
	Through	227	228	100.6%	22.4	3.4	C
	Right Turn	284	295	103.8%	10.3	1.7	B
	Subtotal	521	535	102.6%	16.3	1.8	B
Total		1,542	1,552	100.6%	14.9	1.6	B

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	413	411	99.6%	18.8	2.3	B
	Through						
	Right Turn	88	89	101.1%	2.2	0.2	A
	Subtotal	501	500	99.9%	15.7	2.1	B
EB	Left Turn	378	361	95.5%	22.6	3.4	C
	Through	573	587	102.4%	7.2	1.2	A
	Right Turn						
	Subtotal	951	948	99.7%	13.2	1.7	B
WB	Left Turn						
	Through	430	442	102.7%	28.8	9.4	C
	Right Turn	473	445	94.1%	86.2	48.3	F
	Subtotal	903	887	98.2%	57.2	28.3	E
Total		2,355	2,335	99.1%	30.4	10.7	C

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	395	392	99.2%	33.1	11.1	C
	Through						
	Right Turn	262	269	102.7%	3.8	5.4	A
	Subtotal	657	661	100.6%	21.2	9.0	C
EB	Left Turn	303	294	97.2%	44.0	30.5	D
	Through	683	702	102.8%	7.0	1.9	A
	Right Turn						
	Subtotal	986	997	101.1%	18.0	9.8	B
WB	Left Turn						
	Through	635	624	98.3%	54.1	24.8	D
	Right Turn	507	495	97.6%	41.0	22.5	D
	Subtotal	1,142	1,119	98.0%	48.3	23.6	D
Total		2,785	2,777	99.7%	30.9	12.2	C

Intersection 10 **Natomas Park Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	7	6	90.0%	12.9	14.1	B
	Through	7	7	102.9%	22.4	11.3	C
	Right Turn	3	3	100.0%	2.7	4.6	A
	Subtotal	17	17	97.1%	18.9	7.0	B
SB	Left Turn	119	124	104.1%	26.1	5.8	C
	Through	8	9	110.0%	16.4	13.0	B
	Right Turn	403	409	101.6%	22.6	6.3	C
	Subtotal	530	542	102.3%	23.4	5.6	C
EB	Left Turn	128	132	102.8%	39.1	6.7	D
	Through	945	954	101.0%	15.1	2.2	B
	Right Turn	4	5	117.5%	7.2	10.4	A
	Subtotal	1,077	1,091	101.3%	18.2	2.4	B
WB	Left Turn	4	4	92.5%	43.6	38.7	D
	Through	732	714	97.6%	33.4	9.3	C
	Right Turn	31	32	102.3%	20.7	6.3	C
	Subtotal	767	750	97.7%	33.1	9.4	C
Total		2,391	2,399	100.3%	24.1	4.6	C

Intersection 11 **Truxel Rd/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	384	387	100.9%	31.8	3.1	C
	Through						
	Right Turn	188	187	99.3%	15.3	3.6	B
	Subtotal	572	574	100.3%	26.8	2.7	C
EB	Left Turn	233	228	98.0%	46.0	5.7	D
	Through	834	845	101.4%	18.2	2.7	B
	Right Turn						
	Subtotal	1,067	1,074	100.6%	23.9	3.0	C
WB	Left Turn						
	Through	579	570	98.5%	32.8	9.4	C
	Right Turn	387	396	102.2%	17.2	6.4	B
	Subtotal	966	966	100.0%	26.4	8.2	C
Total		2,605	2,613	100.3%	25.5	4.4	C

SimTraffic LOS Report

Existing Conditions (PM Peak Hour)

San Juan Road (#16)

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Existing Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 16 **El Centro Rd/San Juan Rd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	55	53	96.5%	9.4	1.1	A
	Through	402	398	98.9%	18.3	1.9	C
	Right Turn	286	289	101.0%	8.4	1.2	A
	Subtotal	743	739	99.5%	13.9	1.6	B
SB	Left Turn	82	79	96.3%	6.9	0.8	A
	Through	181	180	99.7%	12.6	1.5	B
	Right Turn	19	22	117.4%	3.5	0.9	A
	Subtotal	282	282	99.9%	10.6	1.1	B
EB	Left Turn	21	20	93.3%	5.7	2.0	A
	Through	34	33	95.9%	9.9	1.4	A
	Right Turn	44	41	93.6%	3.3	0.9	A
	Subtotal	99	93	94.3%	6.2	0.9	A
WB	Left Turn	121	113	93.2%	6.7	0.4	A
	Through	19	22	115.3%	11.0	2.1	B
	Right Turn	67	66	99.0%	3.5	0.4	A
	Subtotal	207	201	97.1%	6.1	0.6	A
Total		1,331	1,316	98.8%	11.4	0.9	B

Appendix B: Trip Generation Technical Information

Land Use (Proposed Project Buildout)	Units1	ITE Code	Quantity	Daily	In	Out	Total	In	Out	Total
(710) - General Office Building (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA	7102	532.6	5,375	453	74	527	89	469	558
(312) - Business Hotel (Adj Streets, 7-9A, 4-6P)	Rooms	3123	285	1,146	47	64	111	50	41	91
(730) - Government Office Building (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA	7304	50	1,130	125	42	167	22	65	86
(310) - Hotel (Adj Streets, 7-9A, 4-6P)	Rooms	3105	125	1,045	35	24	59	38	37	75
(312) - Business Hotel (Adj Streets, 7-9A, 4-6P)	Rooms	3126	125	502	21	28	49	22	18	40
(522) - Middle School/Junior High School (Adj Streets, 7-9A, 4-6P)	Students	5227	3,000	6,390	940	800	1,740	250	260	510
(492) - Health/Fitness Club (Adj Streets, 7-9A, 4-6P)	Avg. 1,000 Square Feet Gross Floor Area	4928	15		10	10	20	30	22	52
(730) - Government Office Building (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA	7309	24.4	551	61	20	81	11	32	42
(495) - Recreational Community Center (Adj Streets, 7-9A, 4-6P)	Avg. 1,000 Square Feet Gross Floor Area	49510	20	576	51	26	77	34	38	72
(820) - Shopping Center (Adj Street, 7-9A, 4-6P)	1000 Sq. Ft.	82011	73.8	4,890	117	72	189	208	226	434
(720) - Medical-Dental Office Building (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA	72012	41.6	1,511	80	22	102	40	103	143
(540) - Junior/Community College (Adj Streets, 7-9A, 4-6P)	Avg. 1,000 Square Feet Gross Floor Area	54013	208	4,212	332	99	431	194	194	387
(850) - Supermarket (Adj Street, 7-9A, 4-6P)	1000 Sq. Ft.	85014	50	4,757	115	76	191	238	228	466
(932) - High-Turnover (Sit-Down) Restaurant (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA	93215	29.8	3,343	163	133	296	180	111	291
(934) - Fast-Food Restaurant with Drive-Through Window (Adj Streets, 7-9/	1000 Sq. Ft. FLA	93416	9	4,239	185	177	362	153	141	294
Custom (for 15 ksf gym daily trips)	Custom	17	15	400						
(310) - Hotel (Adj Streets, 7-9A, 4-6P)	Rooms	31018	285	2,383	79	55	134	87	84	171
Custom (for 50 ksf gym daily trips)	Custom	19	50	1,330						
(934) - Fast-Food Restaurant with Drive-Through Window (Adj Streets, 7-9/	1000 Sq. Ft. FLA	93420	15	7,064	308	295	603	255	235	490
(210) - Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)	Dwelling Units	21021	4,173	39,393	772	2,316	3,088	2,603	1,528	4,131
(495) - Recreational Community Center (Adj Streets, 7-9A, 4-6P)	Avg. 1,000 Square Feet Gross Floor Area	49522	52	1,499	61	31	92	56	64	120
(850) - Supermarket (Adj Street, 7-9A, 4-6P)	1000 Sq. Ft.	85023	15	1,602	34	23	57	71	68	139
(932) - High-Turnover (Sit-Down) Restaurant (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA	93224	74	8,301	405	331	736	448	275	723
(492) - Health/Fitness Club (Adj Streets, 7-9A, 4-6P)	Avg. 1,000 Square Feet Gross Floor Area	49225	50		34	32	66	99	74	173
(820) - Shopping Center (Adj Street, 7-9A, 4-6P)	1000 Sq. Ft.	82026	171	8,659	147	90	237	388	420	808
(221) - Multifamily Housing Mid-Rise (Adj Streets, 7-9A, 4-6P)	Dwelling Units	22127	4,286	23,316	401	1,142	1,543	1,150	736	1,886
(710) - General Office Building (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA	71028	322.2	3,301	283	46	329	55	291	346
(710) - General Office Building (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA	71029	718	6,993	716	117	833	132	694	826
(210) - Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)	Dwelling Units	21030	194	1,831	36	108	144	121	71	192
(221) - Multifamily Housing Mid-Rise (Adj Streets, 7-9A, 4-6P)	Dwelling Units	22131	703	3,824	66	187	253	188	121	309
(530) - High School (Adj Streets, 7-9A, 4-6P)	Students	53032	1,500	3,045	523	257	780	101	109	210
(540) - Junior/Community College (Adj Streets, 7-9A, 4-6P)	Students	54033	2,500	2,875	223	52	275	154	121	275
Net Raw Project Trips				155,483	6,823	6,749	13,572	7,467	6,876	14,340
Reductions										
Internal Capture				-34,890	-2,369	-2,355	-4,724	-1,907	-1,757	-3,664
Shift to Transit				-3,576	-136	-135	-271	-164	-151	-315
Shift to Walk/Bike				-622	-41	-40	-81	-37	-34	-72
External Project Vehicle Trips				116,395	4,277	4,219	8,495	5,358	4,933	10,289
				0.748602	0.62679	0.625	0.6259	0.718	0.717	0.71749

Note: The above list has multiple land use inputs because model was built first for the Town Center, E/HC, and then expanded to include the rest of the plan area.

DIVERTED LINK TRIPS FROM I-80 and I-5	Diverted Iink Percentage for	PM	AM/Daily							
	Shopping Center	26%	13%	1,319	22	13	35	111	121	232
	Supermarket	38%	19%	904	18	12	29	84	81	165
	High-Turnover Restaurant	26%	13%	1,133	46	38	84	117	72	189
	Fast-Food Restaurant w/ DT Window	25%	12%	1,015	37	35	72	73	67	141
	TOTAL DIVERTED			4,372	123	98	221	386	341	726
PASS-BY TRIPS		PM	AM/Daily							
	Shopping Center	34%	17%	1,724	28	17	45	145	158	303
	Supermarket	36%	18%	857	17	11	28	80	76	156
	High-Turnover Restaurant	43%	22%	1,918	78	64	142	194	119	313
	Fast-Food Restaurant w/ DT Window	49%	25%	2,115	77	74	151	143	132	276
	TOTAL PASS-BY			6,614	201	166	366	562	485	1,048

Note: Because Trip Genreation Handbook does not contain daily or AM pass-by rates, often used conservative approach is to assume those rates at 50% of what is shown for PM peak hour.

New Project Vehicle Trips				105,409	3,953	3,955	7,908	4,410	4,107	8,515
New Project Vehicle Trips + Diverted Link Trips to Fwys				109,781	4,076	4,053	8,129	4,796	4,448	9,241
SUBTRACTION OF EXISTING USES										
(934) - Fast-Food Restaurant with Drive-Through Window (Adj Streets, 7-9/	1000 Sq. Ft. FLA		3.2	1,507	66	63	129	54	51	105
(932) - High-Turnover (Sit-Down) Restaurant (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA		8.6	965	47	38	85	52	32	84
Self-Storage Facility	70 ksf	Code 154	70	98	4	2	6	2	5	7
(312) - Business Hotel (Adj Streets, 7-9A, 4-6P)	Rooms		145	583	24	33	57	25	21	46
3 ksf gas station with 12 fueling positions			12	2464	76	74	150	86	82	168
Truck Stop	OBSERVED on 12/8/20			3373	88	84	172	108	105	213
Light Industrial		ksf	45	223	27	4	31	3	26	29
Golf Driving Range		tee posit	12	164	3	2	5	7	8	15
Single-Family Rural Residential			20	189	4	11	15	12	8	20
Office			40	390	40	6	46	7	39	46
	TOTAL			9,956	379	317	696	356	377	733

Note: given nature of uses and lack of bike/ped/transit facilities, it was not necessary to adjust these rates to reflect non-auto trips or internal trips.

DIVERTED LINK TRIPS FROM I-80 and I-5	Diverted Iink Percentage for	PM	AM/Daily							
	Truck Stop	75%	75%	2529.75	66	63	129	81	78.75	159.75
	Gas Station	31%	31%	764	24	23	47	27	25	52
	Fast-Food Restaurant w/ DT Window	26%	13%	196	9	8	17	14	13	27
	High-Turnover Restaurant	26%	13%	125	6	5	11	14	8	22
	TOTAL			3,615	104	99	203	135	126	261
PASS-BY TRIPS										
	Gas Station	56%	56%	1,380	43	41	84	48	46	94
	High-Turnover Restaurant	43%	22%	212	10	8	19	22	14	36
	Fast-Food Restaurant w/ DT Window	25%	12%	181	8	8	15	14	13	26
	TOTAL			1,773	61	57	118	84	72	156
Existing (new) Trips				4,568	214	161	375	137	179	316
Existing (new) Trips + Diverted Link Trips to Fwys				8,183	318	260	578	272	305	577

NET INCREASE IN TRIPS DUE TO PROJECT							
NEW TRIPS	100,841	3,740	3,794	7,534	4,273	3,929	8,199
NEW+DIVERTED LINK TRIPS	101,598	3,758	3,793	7,551	4,524	4,143	8,665

Various definitions and equations relied upon

1. DU = dweling units. KSF = 1000 square feet

2. ITE Trip Generation land use category (710) - General Office Building (Adj Streets, 7-9A, 4-6P)
   - Daily: Ln(T) = 0.97 * ln(X) + 2.50
   - AM Peak Hour: T = 0.94(X) + 26.49 (86% in, 14.000000000000002% out)
   - PM Peak Hour: Ln(T) = 0.95 * ln(X) + 0.36 (16% in, 84% out)
3. ITE Trip Generation land use category (312) - Business Hotel (Adj Streets, 7-9A, 4-6P)
   - Daily: T = 4.02(X)
   - AM Peak Hour: T = 0.39(X) (42% in, 57.99999999999999% out)
   - PM Peak Hour: T = 0.32(X) (55.000000000000001% in, 45% out)
4. ITE Trip Generation land use category (730) - Government Office Building (Adj Streets, 7-9A, 4-6P)
   - Daily: T = 22.59(X)
   - AM Peak Hour: T = 3.34(X) (75% in, 25% out)
   - PM Peak Hour: T = 1.71(X) (25% in, 75% out)
5. ITE Trip Generation land use category (310) - Hotel (Adj Streets, 7-9A, 4-6P)
   - Daily: T = 8.36(X)
   - AM Peak Hour: T = 0.47(X) (59% in, 41% out)
   - PM Peak Hour: T = 0.60(X) (51% in, 49% out)
6. ITE Trip Generation land use category (312) - Business Hotel (Adj Streets, 7-9A, 4-6P)
   - Daily: T = 4.02(X)
   - AM Peak Hour: T = 0.39(X) (42% in, 57.99999999999999% out)
   - PM Peak Hour: T = 0.32(X) (55.000000000000001% in, 45% out)
7. ITE Trip Generation land use category (522) - Middle School/Junior High School (Adj Streets, 7-9A, 4-6P)
   - Daily: T = 2.13(X)
   - AM Peak Hour: T = 0.58(X) (54% in, 46% out)
   - PM Peak Hour: T = 0.17(X) (49% in, 51% out)
8. ITE Trip Generation land use category (492) - Health/Fitness Club (Adj Streets, 7-9A, 4-6P)
   - Daily: T = 0.00(X)
   - AM Peak Hour: T = 1.31(X) (51% in, 49% out)
   - PM Peak Hour: T = 3.45(X) (56.99999999999999% in, 43% out)
9. ITE Trip Generation land use category (730) - Government Office Building (Adj Streets, 7-9A, 4-6P)
   - Daily: T = 22.59(X)
   - AM Peak Hour: T = 3.34(X) (75% in, 25% out)
   - PM Peak Hour: T = 1.71(X) (25% in, 75% out)
10. ITE Trip Generation land use category (495) - Recreational Community Center (Adj Streets, 7-9A, 4-6P)
    - Daily: Ln(T) = 0.98 * ln(X) + 3.42
    - AM Peak Hour: Ln(T) = 0.54 * ln(X) + 2.73 (66% in, 34% out)
    - PM Peak Hour: Ln(T) = 0.76 * ln(X) + 2.00 (47% in, 53% out)
11. ITE Trip Generation land use category (820) - Shopping Center (Adj Street, 7-9A, 4-6P)
    - Daily: Ln(T) = 0.68 * ln(X) + 5.57
    - AM Peak Hour: T = 0.50(X) + 151.78 (62% in, 38% out)
    - PM Peak Hour: Ln(T) = 0.74 * ln(X) + 2.89 (48% in, 52% out)
12. ITE Trip Generation land use category (720) - Medical-Dental Office Building (Adj Streets, 7-9A, 4-6P)
    - Daily: T = 38.42(X) + -87.62
    - AM Peak Hour: Ln(T) = 0.89 * ln(X) + 1.31 (78% in, 22% out)
    - PM Peak Hour: T = 3.39(X) + 2.02 (28.000000000000004% in, 72% out)
13. ITE Trip Generation land use category (540) - Junior/Community College (Adj Streets, 7-9A, 4-6P)
    - Daily: T = 20.25(X)
    - AM Peak Hour: T = 2.07(X) (77% in, 23% out)
    - PM Peak Hour: T = 1.86(X) (50% in, 50% out)
14. ITE Trip Generation land use category (850) - Supermarket (Adj Street, 7-9A, 4-6P)
    - Daily: T = 70.89(X) + 1212.64
    - AM Peak Hour: T = 3.82(X) (60% in, 40% out)
    - PM Peak Hour: Ln(T) = 0.75 * ln(X) + 3.21 (51% in, 49% out)

Applies to the proposed project buildout

MXD+ Vehicle Trip Generation Reduction Percent			
	Daily	AM Peak Hour	PM Peak Hour
Internal Capture	22.50%	34.90%	25.60%
Shift to Transit	2.30%	2%	2.20%
Shift to Walk/Bike	0.40%	0.60%	0.50%

15. ITE Trip Generation land use category (932) - High-Turnover (Sit-Down) Restaurant (Adj Streets, 7-9A, 4-6P)
Daily: T = 112.18(X)

AM Peak Hour: T = 9.94(X) (55.000000000000001% in, 45% out)

PM Peak Hour: T = 9.77(X) (62% in, 38% out)

16. ITE Trip Generation land use category (934) - Fast-Food Restaurant with Drive-Through Window (Adj Streets, 7-9A, 4-6P)

Daily: T = 470.95(X)
AM Peak Hour: T = 40.19(X) (51% in, 49% out)
PM Peak Hour: T = 32.67(X) (52% in, 48% out)

17. ITE Trip Generation land use category Custom
Daily: T = 0.00(X)
AM Peak Hour: T = 0.00(X)
PM Peak Hour: T = 0.00(X)

18. ITE Trip Generation land use category (310) - Hotel (Adj Streets, 7-9A, 4-6P)
Daily: T = 8.36(X)
AM Peak Hour: T = 0.47(X) (59% in, 41% out)
PM Peak Hour: T = 0.60(X) (51% in, 49% out)

19. ITE Trip Generation land use category Custom
Daily: T = 0.00(X)
AM Peak Hour: T = 0.00(X)
PM Peak Hour: T = 0.00(X)

20. ITE Trip Generation land use category (934) - Fast-Food Restaurant with Drive-Through Window (Adj Streets, 7-9A, 4-6P)

Daily: T = 470.95(X)
AM Peak Hour: T = 40.19(X) (51% in, 49% out)
PM Peak Hour: T = 32.67(X) (52% in, 48% out)

21. ITE Trip Generation land use category (210) - Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)
Daily: T = 9.44(X)
AM Peak Hour: T = 0.74(X) (25% in, 75% out)
PM Peak Hour: T = 0.99(X) (63% in, 37% out)

22. ITE Trip Generation land use category (495) - Recreational Community Center (Adj Streets, 7-9A, 4-6P)
Daily: T = 28.82(X)
AM Peak Hour: T = 1.76(X) (66% in, 34% out)
PM Peak Hour: T = 2.31(X) (47% in, 53% out)

23. ITE Trip Generation land use category (850) - Supermarket (Adj Street, 7-9A, 4-6P)
Daily: T = 106.78(X)
AM Peak Hour: T = 3.82(X) (60% in, 40% out)
PM Peak Hour: T = 9.24(X) (51% in, 49% out)

24. ITE Trip Generation land use category (932) - High-Turnover (Sit-Down) Restaurant (Adj Streets, 7-9A, 4-6P)
Daily: T = 112.18(X)

AM Peak Hour: T = 9.94(X) (55.000000000000001% in, 45% out)

PM Peak Hour: T = 9.77(X) (62% in, 38% out)

25. ITE Trip Generation land use category (492) - Health/Fitness Club (Adj Streets, 7-9A, 4-6P)
Daily: T = 0.00(X)
AM Peak Hour: T = 1.31(X) (51% in, 49% out)

PM Peak Hour: T = 3.45(X) (56.999999999999999% in, 43% out)

26. ITE Trip Generation land use category (820) - Shopping Center (Adj Street, 7-9A, 4-6P)
Daily: Ln(T) = 0.68 * ln(X) + 5.57
AM Peak Hour: T = 0.50(X) + 151.78 (62% in, 38% out)
PM Peak Hour: Ln(T) = 0.74 * ln(X) + 2.89 (48% in, 52% out)

27. ITE Trip Generation land use category (221) - Multifamily Housing Mid-Rise (Adj Streets, 7-9A, 4-6P)
Daily: T = 5.44(X)
AM Peak Hour: T = 0.36(X) (26% in, 74% out)
PM Peak Hour: T = 0.44(X) (61% in, 39% out)

28. ITE Trip Generation land use category (710) - General Office Building (Adj Streets, 7-9A, 4-6P)
Daily: Ln(T) = 0.97 * ln(X) + 2.50
AM Peak Hour: T = 0.94(X) + 26.49 (86% in, 14.000000000000002% out)
PM Peak Hour: Ln(T) = 0.95 * ln(X) + 0.36 (16% in, 84% out)

29. ITE Trip Generation land use category (710) - General Office Building (Adj Streets, 7-9A, 4-6P)
Daily: T = 9.74(X)

AM Peak Hour: T = 1.16(X) (86% in, 14.000000000000002% out)

PM Peak Hour: T = 1.15(X) (16% in, 84% out)

30. ITE Trip Generation land use category (210) - Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)
Daily: T = 9.44(X)
AM Peak Hour: T = 0.74(X) (25% in, 75% out)
PM Peak Hour: T = 0.99(X) (63% in, 37% out)

31. ITE Trip Generation land use category (221) - Multifamily Housing Mid-Rise (Adj Streets, 7-9A, 4-6P)

Daily: T = 5.44(X)

AM Peak Hour: T = 0.36(X) (26% in, 74% out)

PM Peak Hour: T = 0.44(X) (61% in, 39% out)

32. ITE Trip Generation land use category (530) - High School (Adj Streets, 7-9A, 4-6P)

Daily: T = 2.03(X)

AM Peak Hour: T = 0.52(X) (67% in, 33% out)

PM Peak Hour: T = 0.14(X) (48% in, 52% out)

33. ITE Trip Generation land use category (540) - Junior/Community College (Adj Streets, 7-9A, 4-6P)

Daily: T = 1.15(X)

AM Peak Hour: T = 0.11(X) (81% in, 19% out)

PM Peak Hour: T = 0.11(X) (56.000000000000001% in, 44% out)

34. Reductions based on application of MXD+ model:

Total Reductions: Daily = 25.2%, AM Peak Hour = 37.5%, PM Peak Hour = 28.3%

Internal Capture: Daily = 22.5%, AM Peak Hour = 34.9%, PM Peak Hour = 25.6%

External Walk, Bike, and Transit: Daily = 2.7%, AM Peak Hour = 2.6%, PM Peak Hour = 2.7%

Mixed-Use Trip Generation (MXD+) Model Recalibration and Validation to 2019 Conditions

July 13, 2020

FEHR PEERS

Mixed-Use Trip Generation (MXD+) Model
Recalibration and Validation to 2019 Conditions
July 13, 2020

This paper documents the recalibration and validation effort undertaken by Fehr & Peers in 2019-2020 of the MXD+ Tool. This revalidation was necessary given the myriad changes in mobility, technology, and societal behavior that have occurred since MXD+ was originally formulated in the late-2000's. This paper provides a straightforward "nuts and bolts" type description of this process.

MXD+ Model Origin

In the late-2000's, two separate research studies improved the state of practice regarding prediction of trips from mixed-use projects. Studies sponsored by the US EPA (MXD) and the Transportation Research Board (NCHRP 684) developed separate tools for improving trip generation estimates for mixed-use developments. The MXD model was originally derived from 239 mixed-use sites across the country, and validated in 2009 against 22 sites. NC*HRP 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments* (2011) was based on six well-known MXD sites.

The principal authors of these original two methods (Reid Ewing at the University of Utah, Brian Bochner at Texas A&M, and Jerry Walters at Fehr & Peers) decided to collaborate on an integrated method that captured the best of both sets of research findings. And thus, MXD+ was created. They published a paper entitled Get*ting Trip Generation Right: Eliminating the Bias Against Mixed-Use Development* (American Planning Association, 2013). According to that paper, MXD+ achieved average errors of 2%, 12%, and 4%, for daily, AM peak hour, and PM peak hour conditions, respectively. These values suggest a good fit between the model's estimation and the counts.

Purpose/Need of Revalidation and Calibration

Excluding the unprecedented changes in travel and economic distress that have occurred in 2020 due to the COVID-19 Pandemic, there have been sweeping changes in travel behavior in the 10-plus years since MXD+ was originally validated. Some of the many examples include increased e-commerce activity, the introduction of ridehailing (i.e., Transportation Network Companies (TNCs), such as Uber and Lyft), increased telecommuting, micromobility (e.g., bikeshare, e-scooters, and microtransit), increased auto ownership, and decreased transit ridership.

Additionally, in 2017, the Institute of Transportation Engineers (ITE) released the 10th Edition of the *Trip Generation Manual*. When compared to the 9th Edition (2012), the 10th Edition demonstrates sizeable decreases in vehicle trip rates for nearly all types of employment uses (due to the replacement of very old data with new data collected after 2010). It also includes several new land use categories (i.e., fast casual restaurant), more overall data, and better definitions for land uses often found in mixed-use sites

Model Recalibration

Model recalibration involved site selection, data collection, and then calibration.

Site Selection

Fehr & Peers selected sites that were geographically diverse, both in terms of locations across the US, and as well as in their place type. They had varying levels of mode choice options, and their site trips were able to be accurately counted. The sites were well understood in terms of occupied land uses, available modes of travel, and other built environment characteristics. This diversity of use type, geographic placement, size allows for the model to be calibrated against a wider set of conditions versus an alternate approach where a more homogeneous set of sites were selected.

Consistent with standard practice in statistical analysis, the selected sites were divided into separate "calibration" and "validation" datasets. Early analysis findings indicated that model accuracy could be improved for weekday AM and PM peak hour conditions through a set of minor adjustments, which are discussed in detail later. The calibration dataset (12 sites) was used to determine the best fit provided by the adjusted set of factors. The validation dataset (4 sites), which was not included in the calibration dataset, were specifically selected to provide a diverse range of geographic settings, modal opportunities, and project sizes, which could be used to test the accuracy of the model. Those results are presented in case study format at the end of this paper.

Figure 1 shows the 12 calibration sites that were selected, as well as the four validation sites. Aside from the four case studies, individual site locations are not disclosed in this article because such information is not necessary to understand the data collection and analysis results. Case in point, transportation planners/engineers routinely use data from the *Trip Generation Manual*, which only discloses the states from which the data was collected. The traffic data collection did not require encroachment onto any private property to place cameras or hose tubes.

Data Collection

Table 1 provides an overview of the size, diversity of uses, and transit proximity of the sites that comprise the calibration database.

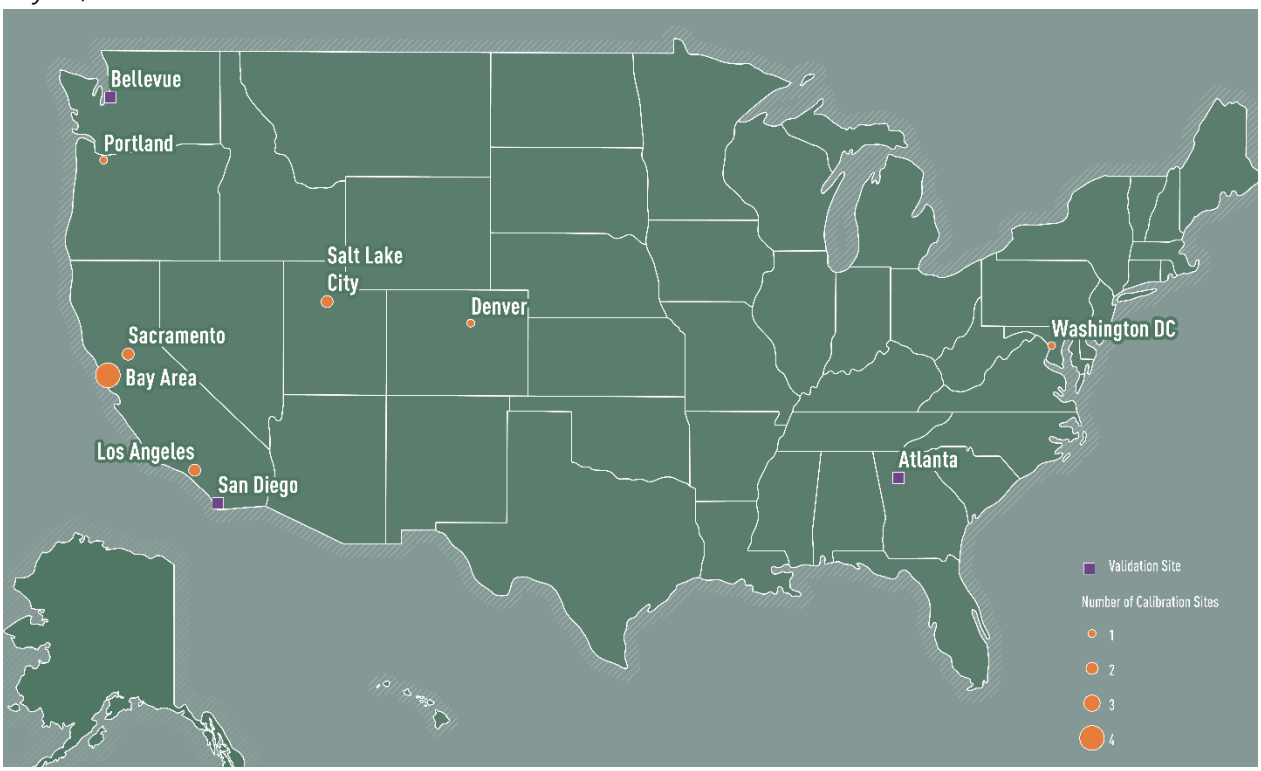


Figure 1: MXD+ Calibration and Validation Sites

Table 1 – Overview of MXD+ Calibration Sites

Metric	Range	Average	Median	Total
Acres	4 – 221 acres	50 acres	19 acres	603 acres
Number of Dwelling Units [1]	8 – 1,841 units	563 units	414 units	6,756 units
Retail	0 – 753,000 sq. ft.	168,000 sq. ft.	38,000 sq. ft.	2,013,000 sq. ft.
Office	0 – 1,084,000 sq. ft.	212,000 sq. ft.	41,000 sq. ft.	2,544,000 sq. ft.
Range of Transit Services	None, adjacent street bus stops, on-site transit centers, and nearby/on-site light rail			
Range of Land Uses	➢ Grocery Store ➢ Student Housing ➢ Medical-Office Building ➢ Restaurants	➢ Health Club ➢ Pharmacy ➢ Hotel ➢ Coffee Shop ➢ Library	➢ Schools ➢ Museum ➢ Movie Theater ➢ Bowling Alley ➢ Hospital	
Notes: [1] Over 95% of dwelling units are multi-family. Site with only 8 dwelling units also includes 315 student housing units.				

The average site was 50 acres and consisted of about 563 dwelling units (the vast majority being multi-family) and 380,000 square feet of non-residential space.

The MXD+ tool includes queries from various sources (e.g., US Census, American Community Survey, local travel demand models, etc.) to enable easy importing of built environment and surrounding area travel characteristics and demographic variables. Some of the more important variables are: Employment within a one-mile walk, Percentage of regional employment within a 30 minute transit ride, and site/adjacent area intersection density (a proxy for site walkability and internal trip-making potential), and Average vehicle ownership per household.

Measurement of vehicle trips generated by each site was a critical component of the data collection effort. It was important that the data collection was comprehensive in terms of collecting all types of vehicle trips generated by each site (including project-related vehicles parking on-site or on-street, persons being dropped-off or picked-up by a taxi, TNC, or friend/spouse/coworker, and truck/service deliveries.

To overcome the considerable cost associated with data collection via video cameras, an innovative approach was undertaken whereby collection of a site's travel during its busiest 14 hours can be used to accurately estimate its 24-hour traffic generation. Typically, these 14 hours represent about 90 percent of the land use's total daily trip generation. A factoring process was then performed using the ITE hourly trip generation data (from the *Trip Generation Manual)* to convert the 14 hour counts into 24-hour observations.

In several instances, site characteristics allowed for a multi-day hose tube count (i.e., a pneumatic tube placed across a road that would register a vehicle as it passes over) to be performed. But this was the exception and not the norm since the majority of sites were located in dense, urban environments where tube counts would have likely yielded inaccurate results.

In several cases, site reconnaissance was necessary to better understand site-specific travel behavior. This led to conclusions that on-street parking on one side of the street is project-related, while the other side is not. Other situations involved motorists parking in nearby garages/lots and walking into the MXD. In those instances, pedestrian activity (both at intersections and mid-block) were observed and classified into groups to translate pedestrian groups into vehicle trips.

Seven (7) of the 12 calibration data sites were counted in October 2019. The remaining five were counted as part of prior research efforts, in either 2015 or 2017. **Table 2** shows the number of vehicle trips these sites were observed to generate on a weekday daily basis, and during the AM and PM peak hours.

Table 2 – Trips Generated by MXD+ Calibration Sites

Time Period	External Vehicle Trips [1]		
	Range	Average	Median
Weekday (Daily)	2,383 – 35,825	12,461	9,495
Weekday AM Peak Hour [2]	100 – 2,017	752	518
Weekday PM Peak Hour [3]	181 – 3,381	1,161	712

Notes:
[1] Includes trips to/from the site for all purposes including deliveries, TNC trips, pass-by trips (i.e., already on the adjacent street) in addition to the typical trip types.
[2] AM peak hour represents the site's busiest consecutive 60-minute period of travel between 7 and 9 AM.
[3] PM peak hour represents the site's busiest consecutive 60-minute period of travel between 4 and 6 PM.

Recalibration of MXD+

The land use and built environment variables described above were input into MXD+ for each of the 12 calibration sites. MXD+ then processes that data in the following generalized steps:

- Step 1 – Gross number of vehicle trips are estimated for land uses based on published rates contained in the *Trip Generation Manual, 10th Edition*.[1]
- Step 2 – Built environment and site characteristics variables are used to estimate the likelihood for internal trip-making, and external trips being made by transit and walking/biking.
- Step 3 – The model estimates the number of internal trips made between complementary land uses within the site.
- Step 4 – The model estimates the number of external trips made by transit and walking/biking.

Nearly all data presented in the current *Trip Generation Manual* for the suburban/urban place type were collected at low-density, single-use, homogeneous developments with little or no public transit service, free parking, and little to no convenient pedestrian access. Hence, direct use of those rates for projects not aligned with those built environment factors are likely to result in an

[1] MXD+ is programmed to include trip generation rates (both weighted averages and as derived from fitted curve equations) from the 10th Edition of the *Trip Generation Manual*. Data is input only for the "suburban/urban" land use category, and not for the "rural", "multi-use urban", or "center city core" categories because their corresponding datasets generally have insufficient numbers of sites from which reliable trip generation rates could be derived.

overestimation of vehicle trips. This statement, while obvious, is intended to set the stage for why gross ITE trip generation estimates (without any adjustments) substantially overestimate trips observed at the MXD sites.

The following guidance from Page 14 of the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017) was used in the calibration process:

> *"The trip generation estimate should reflect, to the extent possible, the specific uses within the known or assumed generalized (using zoning) classification."*

Thus, individual uses such as grocery stores, banks, pharmacies, restaurants, health clubs, day-care centers, etc. present at each site were entered separately into MXD+ versus being aggregated into a single 'retail shopping center' category.

In reviewing the preliminary MXD+ results, it was concluded that the daily results were sufficiently accurate so as to not require any adjustments. But for AM and PM peak hour conditions, it was observed that MXD+ tended to underestimate the observed count more often than desired. This was certainly an undesirable outcome because MXD+ applications should be reasonably conservative. If anything, they should err on the side of overestimating actual trips. The means by which internal trips and external non-auto trips were estimated for AM and PM peak hour conditions was quickly identified as a leading culprit.

The following describes the steps for how internal trips and external walk/bike trips for AM and PM peak hour conditions are estimated:

- Step 1 – Apply the MXD+ peak hour factors by trip purpose to the daily predicted probabilities of these trip reductions to obtain AM and PM peak hour percentages.
- Step 2 – Apply the following weighting of the two methods that independently estimate these trip reductions:
    - AM Peak Hour: 10% NCHRP 684 and 90% MXD+
    - PM Peak Hour: 37% NCHRP 684 and 63% MXD+

An iterative statistical analysis was performed to determine which set of peak hour factors for the MXD+ component of this calculation best fit the data from the calibration dataset. The best fit values are shown in **Table 3**.

The *NCHRP 684* procedure has been incorporated by ITE into its Trip Generation Handbook, and is hence known as the "ITE with Internalization". Note that this procedure estimates internal trips only for AM and PM peak hours (and not daily conditions).

Table 3 – Updated MXD+ Peak Hour Factors by Trip Purpose [1]

Predicted Probability [2]	AM Peak Hour			PM Peak Hour		
	HBW [3]	HBO [4]	NHB [5]	HBW [3]	HBO [4]	NHB [5]
Internal Capture	1.10	1.80	1.00	1.00	1.00	1.00
Walking/Biking External	1.20	1.30	1.00	1.00	1.00	1.00
Transit External	1.40	1.10	1.00	1.40	1.00	1.00

Notes:
[1] Source was analysis of data from the 2017 National Household Travel Survey, specifically analyzing the national dataset to understand the relative likelihood of each type of travel choice during weekday AM and PM peak hours, versus on a daily basis.
[2] These factors are multiplicatively applied (by trip purpose) to the daily predicted possibilities for each type of vehicle trip reduction
[3] HBW = Home-based work trip.
[4] HBO = Home-based other trip (e.g., shopping, school, recreation, etc.).
[5] NHB = Non-home-based trip (e.g., from office to deli).

Transparency in calculations is one of the many objectives of MXD+. By virtue of displaying these values here, it is possible for others to replicate MXD+ results, albeit through a substantial amount of data collection and analysis. The original MXD model (from 2011) is available for download from EPA's website (https://www.epa.gov/smartgrowth/mixed-use-trip-generation-model), though it is noted that model does not include the latest land use categories, trip generation rates, and equations from the 10th Edition of the *Trip Generation Manual*. However, that model does form the basis for the daily module of MXD+, but with these aforementioned adjustments added.

The calibration tests focus on the following five specific areas (from least to most statistically complex):

- Aggregate total trips
- Proportion of cases where MXD+ underestimates the actual number of trips
- Average absolute error
- Correlation coefficient[2]
- Percent RMSE[3]

[2] This statistic measures the relationship between variables. A measure close to 1 means that variables are highly positively correlated; a value of zero suggests no or weak correlation, and a value close to -1 represents strong negative correlation.

[3] This statistic is a measure of the model's accuracy. It is the square root of the mean squared error between the predicted and observed count divided by the mean of the observed count.

Table 4 displays the five calibration statistics for daily, and AM and PM peak hour conditions, as well as the applicable statistical goal/objective for the given calibration statistic.

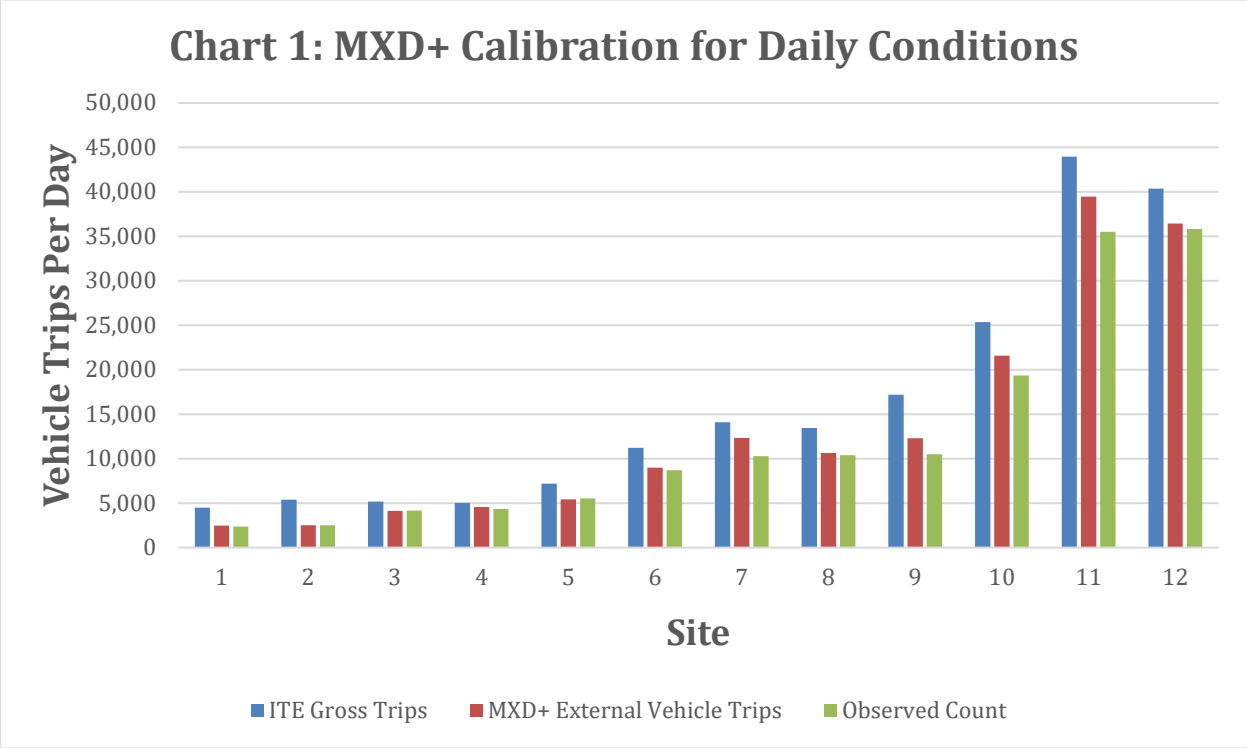
Table 4 – MXD+ Calibration Results

Calibration Statistic	Goal/Objective	Daily	AM Peak Hour	PM Peak Hour
Aggregate Total of MXD+ Vehicle Trip Generation Estimates Versus Actual Counts	As close to zero as possible	+ 7%	- 0.9%	+1.6%
Proportion of Calibration Sites That Were Underestimated by MXD+ [1]	Ideally none	0 of 12	4 of 12	3 of 12
Average Absolute Error	As close to zero as possible	6%	11%	6%
Correlation Coefficient	> 0.88 [2]	1.00	0.99	1.00
Percent RMSE	< 40% [2]	12%	13%	7%

Notes:
[1] Estimates that were within five percent of the actual counts were not considered underestimations since traffic volumes themselves may fluctuate by five percent or more from one day to the next.
[2] Based on statistical measures typically applied in travel demand model development.

Table 4 indicates that MXD+ does an excellent job of fitting the data for all three time periods. Challenges did however arise more frequently during peak hours versus daily conditions. Unique site specific conditions, such as their specific temporal commute patterns, degree of retail tenant success, and presence of TNCs contributed to some of these challenges.

Chart 1 orders the 12 calibration sites from least to greatest number of observed daily trips. Data is then presented for the MXD+ external vehicle trip estimate and the ITE gross trip estimate. At sites 1 – 6, MXD+ predictions are nearly identical to the observed counts. Slightly greater variation occurs at the larger sites (i.e., 7 – 12) for reasons discussed below.



For the 12 sites, MXD+ estimated 160,696 daily external vehicle trips. This represents 7% more trips than the 149,527 daily trips that were counted. This implies that MXD+ is being reasonably conservative.

If these sites had simply been analyzed using ITE gross daily trip estimates (i.e., without any reductions of internal trips or external non-auto trips), the resulting estimate would have been 192,905 daily trips, which is a 29% overestimation versus the counts. This reiterates prior research findings that the use of ITE rates for the suburban/urban place type without any adjustments for internal trips and external non-auto trips would result in a substantial overestimation of a mixed-use site's vehicle trip generation. This is acknowledged on page 8 of the *Trip Generation Handbook* by the following statement: "The application of suburban data in dense or multimodal urban settings can in some cases overestimate motor vehicle demand."

For the 12 calibration sites, the reduction in daily trips caused by internal trip-making and external non-auto travel ranged from 10 to 50 percent, with average/median values near 20 percent. This large range is caused by a number of factors including: mix of land use, presence of transit, and site design, size, and geographic location.

Validation of MXD+

Four case studies from across the US were selected for validation purposes. As noted previously, these sites were excluded from the calibration dataset in order to achieve the statistically desirable independent validation dataset. These sites were specifically chosen, as they are geographically diverse, are of widely varying sizes, and provide widely differing levels of modal travel options.

- **Safeway / Avalon, Bellevue, WA** – This four-acre site is situated in downtown Bellevue, across Lake Washington from downtown Seattle. Despite being only 10 miles from downtown Seattle, a commute to downtown by auto can exceed over an hour. Sound Transit operates fixed-route bus service with stops immediately adjacent to the building. The site is located in a suburban downtown setting with good sidewalk connectivity and heavy pedestrian volumes, but also wide arterial streets, large blocks, and heavy traffic. There no bike routes/lanes nearby. Adjacent land uses include a variety of residential, retail, and employment centers as well as a large regional mall and the Downtown Park. Apartment residents pay $85 to $110 per month for a parking space.
- **Hazard Center, San Diego, CA** – is situated on 16-acres and located five miles north of Downtown San Diego near the intersection of Interstate 8 and State Route 163. All land uses are situated within a ¼-mile walk to the Hazard Center Light Rail Station, which serves the San Diego Trolley Green Line light rail service. This station transports riders to downtown San Diego in about 20 minutes. A bus stop is also situated within ¼ mile of the site. A variety of uses are within a ½-mile walk of the site including Westfield Mission Valley Mall, grocers, employers, and restaurants. The San Diego River multi-use pathway is situated adjacent to this site.
- **Avalon, Alpharetta, GA** – is a quintessential suburban mixed-use project now found in many communities across the country. At a considerable size of 79 acres, it features a vast array of land uses – all of the typical ones found in mixed-use sites plus some other atypical uses such as single-family residential. It is a food & beverage destination with numerous bars and restaurants ranging from fast-food, fast casual, high-turnover sit-down, to quality establishments. Avalon is located directly west of US Highway 19, about 25 miles north of downtown Atlanta. Adjacent transit is limited to a single local bus route that operates on 30 minute headways. Parking is not priced anywhere within Avalon with the exception of the hotel. The site is anchored by Avalon Boulevard, a 1,200-foot long, walkable "Main Street" flanked by ground-floor retail and stacked residential on both sides. Lower density residential, office, and parking extends outwardly from the site's hub, with vehicular access provided by 10 distinct driveways on two public streets. Adjacent land uses are suburban or rural in nature.

- **Southport, West Sacramento, CA** – is a very large (3,000 developed acres), established community situated directly west of downtown Sacramento. It features a wide array of land use types (i.e., residential, jobs, shopping, schools, etc.) often found in self-contained communities. Fixed route bus service is provided on main arterials within the community, and downtown Sacramento can be reached via a five-mile trip. It is geographically isolated from adjacent communities by the Sacramento River and shipping channels, allowing for its trips to be accurately counted via four gateways.

Table 5 displays the land uses present at each validation data site.

Table 5 – Validation Sites Land Uses

Site	Single-Family	Multi-Family	Office	General Retail [1]	Sit-Down Restaurants	Grocery Store	Hotel	Other/Note
Safeway / Avalon Bellevue, WA	-	368 du's	-	15 ksf	8 ksf	55 ksf	-	-
Hazard Center, San Diego, CA	-	120 du's	256 ksf	111 ksf	23 ksf	-	305 rooms	7-screen movie theater
Avalon Alpharetta, GA	100 du's	525 du's	582 ksf	250 ksf	54 ksf	45 ksf	330 rooms	12-screen movie theater
Southport, West Sacramento, CA	6,811 du's	893 du's	80 ksf	387 ksf	15 ksf	54 ksf	-	Elementary & High School, 600 ksf manufacturing

Notes:
[1] Includes wide array of uses such as: cleaners, dance studios, bookstore, financial office, salon, learning center, jewelers, salons, auto detailing, optometry, etc. Banks, gas stations, fast-food restaurants, coffee shops, and fitness studios were estimated separately (based on their specific uses) but included in this land use total for reporting purposes.
du's = dwelling units. ksf = thousand square feet.

Table 6 presents the number of external vehicle trips measured at each validation site in October 2019 versus the estimated number it would generate using MXD+. Footnote 2 in the table highlights an interesting phenomenon associated with the Southport validation case study. Because it is being validation at the gateways to entire community (versus essentially driveways for the other sites), it is necessary to subtract pass-by trips that would visit the retail uses, as those trips would not add traffic to the community gateways. Those values are shown in brackets.

Table 6 – Validation Sites Trip Generation Comparison

Site	Size	External Vehicle Trip Generation					
		Daily		AM Peak Hour		PM Peak Hour	
		October 2019 Count	MXD+ [1]	October 2019 Count	MXD+ [1]	October 2019 Count	MXD+ [1]
Safeway / Avalon Bellevue, WA	4 acres	5,505	5,968 (+8%)	239	254 (+6%)	512	497 (- 3%)
Hazard Center San Diego, CA	16 acres	11,189	12,395 (+11%)	680	696 (+2%)	930	977 (+5%)
Avalon Alpharetta, GA	79 acres	33,301	33,332 (0%)	1,685	1,894 (+12%)	2,543	2,674 (+5%)
Southport West Sacramento, CA	3,000 acres	75,191	78,961 [74,138] [2] (-1.4%)	6,484	5,919 [5,672] [2] (-12.5%)	6,192	8,156 [7,480] [2] (+21%)

Notes:
[1] Values in parentheses represent the percent increase in trips estimated by MXD+ versus the 2019 field measurements.
[2] Values in brackets represent the MXD+ external vehicle trips minus pass-by trips (see text below for explanation). The corresponding percentage (shown in parentheses) represents the percent change in trips estimated by MXD+ (after subtracting pass-by trips) versus the 2019 field measurements.
du's = dwelling units. ksf = thousand square feet.

The following findings are derived from Table 6:

- For the three smaller sites, MXD+ produces a desirable result in which each validation site's external vehicle trips tend to be slightly overestimated. This is preferable to the converse in which MXD+ consistently underestimates actual trips. Accordingly, the results from MXD+ can be considered reasonably, but not overly, conservative.
- The goodness of fit at the Avalon validation site was a particularly important outcome, as the calibration sites were not in that part of the US and also not "manufactured mixed-use" in an otherwise suburban setting.
- Despite the calibration dataset consisting of a maximum site size of 221 acres and 1,840 units, the model's estimate was within 1.4% of the actual count for daily conditions. But AM and PM peak hour validation results did not fare as well. We suspect the AM peak hour underestimation could be associated with the various schools (i.e., three K-8 public schools and a public high school) in the community and their district boundaries (i.e., more

students being transported from outside the community to these schools). The PM peak hour overestimation likely stems from reliance on ITE trip rates for single-family and multi-family uses, which turned out to be substantially higher than was observed in one particular neighborhood[4]. The Southport validation site highlights how use of MXD+ may be considered for very large projects, but it would be prudent to perform spot checks of trip rates, understand school district boundaries, etc.

Table 7 displays the internal trip percentage reductions, and external trips made by transit and walk/bike for each validation site.

Table 7 – Percent Internal Trips and External Non-Auto Trips at Each Validation Site

Site	Percent Reduction in Daily Trips Due to			Percent Reduction in AM Peak Hour Trips Due to			Percent Reduction in PM Peak Hour Trips Due to		
	Internal Trips	External Trips		Internal Trips	External Trips		Internal Trips	External Trips	
		Transit	Bike/ Walk		Transit	Bike/ Walk		Transit	Bike/ Walk
Safeway / Avalon Bellevue, WA	4.1%	6.4%	29.1%	9.2%	6.7%	35.0%	14.2%	6.5%	28.4%
Hazard Center, San Diego, CA	4.7%	4.9%	11.6%	10.1%	5.6%	14.3%	14.1%	5.3%	11.6%
Avalon Alpharetta, GA	5.4%	3.8%	2.3%	9.9%	4.1%	2.9%	12.0%	3.9%	2.3%
Southport, West Sacramento, CA	26.8%	1.8%	0.3%	39.0%	2.0%	0.3%	23.7%	2.2%	0.2%

Notes:
[1] Output from MXD+.

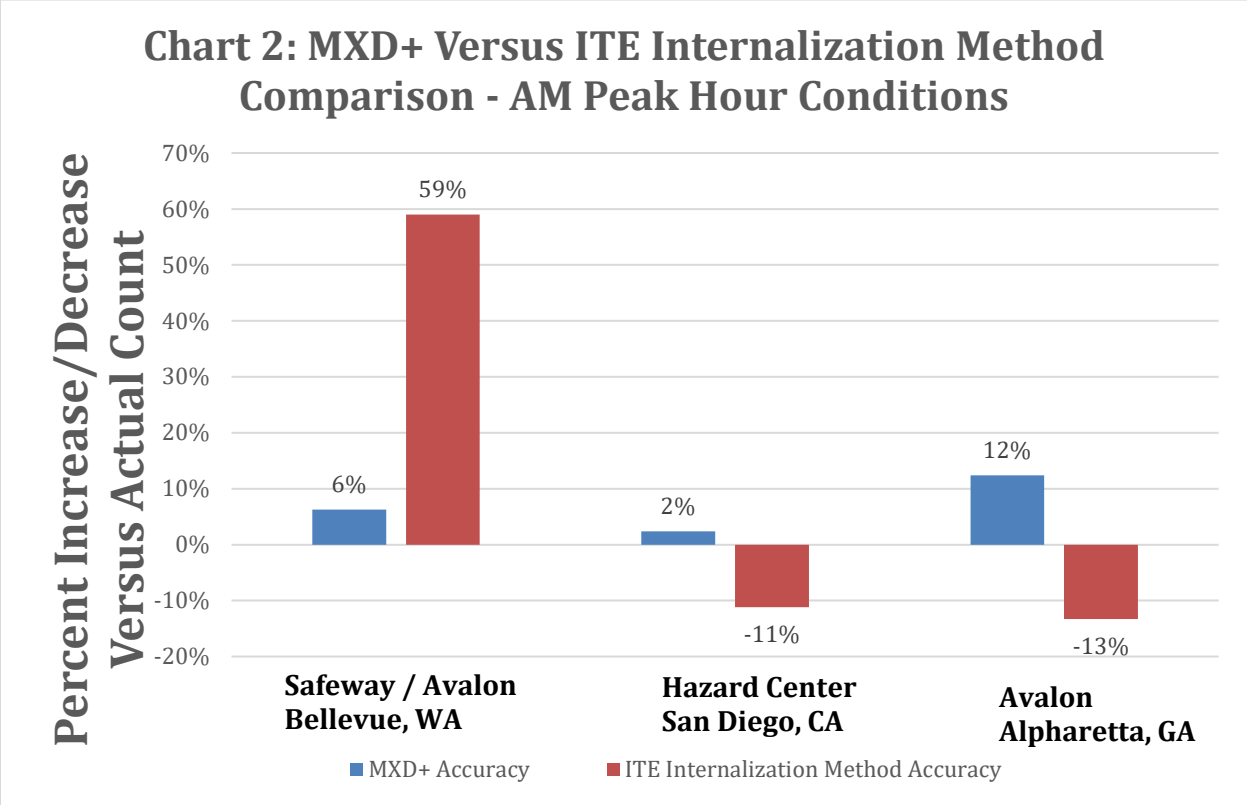
[4] In one neighborhood consisting a combined 325 single-family and multi-family units, the measured vehicle trips entering/exiting the neighborhood during the PM peak hour trip was 51% below the unadjusted ITE trip rates for those uses. When translated to the 7,700 total units in Southport, this resulted in ITE gross trips beginning at a level much higher than was being generated.

The following conclusions are drawn from the results in Table 7:

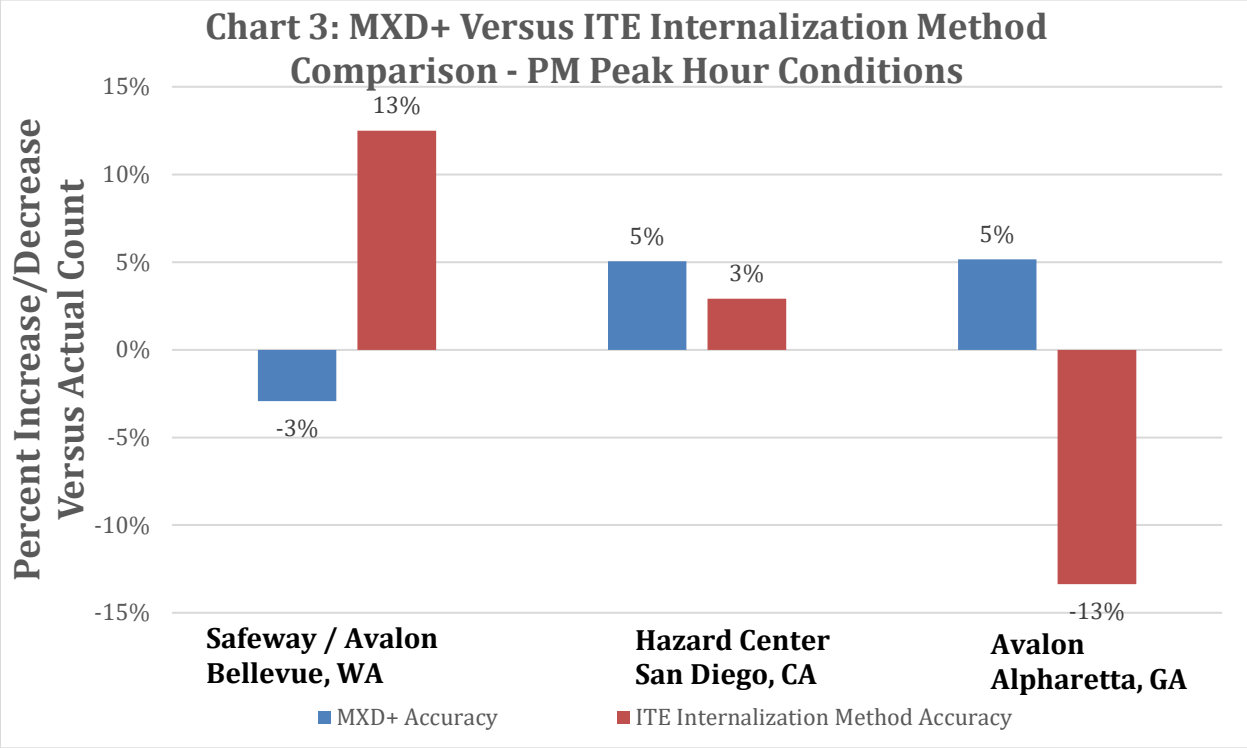
- It is not surprising that the Bellevue, WA site had a large bike/walk percentage given that is situated in Downtown Bellevue, where numerous jobs, retail, and recreation are situated close to the site.
- At the San Diego, CA site, internalization was greatest during the PM peak hour given the full activation of the various retail offerings and conclusion of the office workday.
- Despite the variety of complementary land uses at the Avalon Alpharetta, GA site, only modest levels of internalization were estimated. This is due to the amount of office space (over half a million square feet), which is disproportionately higher than the other uses. The site's jobs-housing balance skews heavily toward non-residential. It should also be noted that about 4% of external trips were assumed to be transit. This would equate to about 140 riders during the PM peak hour, which seems a bit excessive for the fixed-route bus service present.[5]
- At the Southport, CA site, internalization was greatest during the AM peak hour, which is expected given the effects of travel between home and school (to drop off students or work). External travel by transit and walk/bike was modest (less than 2.5%) as expected given that most households are not within walking distance of a bus stop and nearby destinations cannot easily be accessed on foot or by bike.

Charts 2 and 3 show results for AM and PM peak hours, respectively, of how MXD+ performed versus the ITE Internalization Method for the Bellevue, WA, San Diego, CA, and Alpharetta, GA validation sites. The Southport West Sacramento, CA site was excluded for the aforementioned reasons regarding the effects of pass-by traffic, which equally influence results from MXD+ and the ITE Internalization Method.

[5] In situations like this, local knowledge of expected transit ridership could dictate that the analyst modify MXD+ to assume no transit service, with an "off model" approach followed to determine whether any transit reductions are warranted. The presence of transit is a binary choice in MXD+. The type of transit, headways, service duration, and geographic service area are not explicitly considered.



As shown, the MXD+ estimate was closer to the actual count value at all three locations during the AM peak hour, and at two of the three locations during the PM peak hour. During the AM peak hour, the average absolute error was 7% for MXD+ and 28% for the ITE Internalization method. During the PM peak hour, the average absolute error was 4% for MXD+ and 10% for the ITE Internalization method. This clearly indicates that MXD estimates were more accurate than the ITE Internalization Method at the validation data sites.



Conclusions

This study has demonstrated that a minor recalibration of MXD+ has resulted in an analytical tool that accurately estimates the trip generation of mixed-use developments for weekday daily, AM peak hour, and PM peak hour conditions. By focusing the recalibration on 2019 conditions, the model was proven to develop accurate travel estimates despite the myriad changes in travel behavior that have occurred since the model was originally developed. The validation of the model against four mixed-use sites indicates that it may be applied across a wide range of geographies, project sizes, transportation mode availability, and land use mixes.

Paper Contributors

John Gard, T.E., is a Principal with 25 years of consulting experience at Fehr & Peers. John has applied MXD+ on numerous projects across the Western United States. He has a Bachelor's degree in Applied Mathematics and a Master's Degree in Civil Engineering from U.C. Davis. He can be reached at j.gard@fehrandpeers.com.

Corwin Bell is a Transportation Planner at Fehr & Peers with a background in consulting and academic research. He has a Bachelor's Degree in Urban Studies and a Master's Degree in City Planning from U.C. Berkeley. He can be reached at c.bell@fehrandpeers.com.

References

Walters, Jerry, Bochner, Brian, and Ewing, Reid. 2013. Gett*ing Trip Generation Right: Eliminating the Bias Against Mixed-Use Development* (American Planning Association, 2013 PAS Memo.

Bochner, Brian, Hooper, Kevin, Sperry, Benjamin, and Dunphy, Robert, 2011. NC*HRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments. Washington, DC: National Cooperative Highway Research Program, Transportation Research Board.*

Institute of Transportation Engineers, 2017 *Trip Generation Manual, 10th Edition*.

Institute of Transportation Engineers, 2017 *Trip Generation Handbook*.

Appendix C: Existing Plus Project Conditions Technical Calculations

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	32	25	116	1	73	0	225	46	0	8	271	180
Future Vol, veh/h	32	25	116	1	73	0	225	46	0	8	271	180
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	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	25	116	1	73	0	225	46	0	8	271	180

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	910	873	361	944	963	46	451	0	0	46	0	0
Stage 1	377	377	-	496	496	-	-	-	-	-	-	-
Stage 2	533	496	-	448	467	-	-	-	-	-	-	-
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	255	289	684	242	256	1023	1109	-	-	1562	-	-
Stage 1	644	616	-	556	545	-	-	-	-	-	-	-
Stage 2	531	545	-	590	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	155	227	684	154	201	1023	1109	-	-	1562	-	-
Mov Cap-2 Maneuver	155	227	-	154	201	-	-	-	-	-	-	-
Stage 1	510	612	-	440	432	-	-	-	-	-	-	-
Stage 2	349	432	-	467	558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.3	33.2	7.5	0.1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1109	-	-	356	200	1562	-	-
HCM Lane V/C Ratio	0.203	-	-	0.486	0.37	0.005	-	-
HCM Control Delay (s)	9.1	0	-	24.3	33.2	7.3	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.8	-	-	2.6	1.6	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	77	109	162	37	38	335
Future Vol, veh/h	77	109	162	37	38	335
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	109	162	37	38	335

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	592	181	0	0	199	0
Stage 1	181	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	469	862	-	-	1373	-
Stage 1	850	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	453	862	-	-	1373	-
Mov Cap-2 Maneuver	453	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	627	1373	-
HCM Lane V/C Ratio	-	-	0.297	0.028	-
HCM Control Delay (s)	-	-	13.1	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.1	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	0	14	95	78	3
Future Vol, veh/h	8	0	14	95	78	3
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	14	95	78	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	109	0	-	0	78	62
Stage 1	-	-	-	-	62	-
Stage 2	-	-	-	-	16	-
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	1481	-	-	-	925	1003
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1481	-	-	-	920	1003
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	1007	-

Approach	EB	WB	SB
HCM Control Delay, s	7.4	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1481	-	-	-	923
HCM Lane V/C Ratio	0.005	-	-	-	0.088
HCM Control Delay (s)	7.4	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	56	49	0	33	112
Future Vol, veh/h	0	56	49	0	33	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	40	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	56	49	0	33	112

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	227	49	0	0	49	0
Stage 1	49	-	-	-	-	-
Stage 2	178	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	761	1020	-	-	1558	-
Stage 1	973	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	743	1020	-	-	1558	-
Mov Cap-2 Maneuver	743	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	833	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1020	1558	-
HCM Lane V/C Ratio	-	-	-	0.055	0.021	-
HCM Control Delay (s)	-	-	0	8.7	7.4	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	129	30	28	129	1
Future Vol, veh/h	1	129	30	28	129	1
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	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	129	30	28	129	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	58	0	-	0	161	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	131	-
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	1546	-	-	-	830	1044
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	895	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1546	-	-	-	829	1044
Mov Cap-2 Maneuver	-	-	-	-	829	-
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	895	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1546	-	-	-	830
HCM Lane V/C Ratio	0.001	-	-	-	0.157
HCM Control Delay (s)	7.3	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

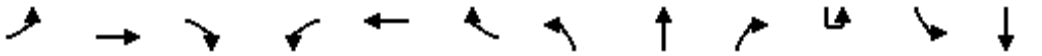
Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	22	231	45	113	223	8
Future Vol, veh/h	22	231	45	113	223	8
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	40
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	231	45	113	223	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	158	0	-	0	377	102
Stage 1	-	-	-	-	102	-
Stage 2	-	-	-	-	275	-
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	1422	-	-	-	625	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1422	-	-	-	614	953
Mov Cap-2 Maneuver	-	-	-	-	614	-
Stage 1	-	-	-	-	905	-
Stage 2	-	-	-	-	771	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1422	-	-	-	614	953
HCM Lane V/C Ratio	0.015	-	-	-	0.363	0.008
HCM Control Delay (s)	7.6	-	-	-	14.2	8.8
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	1.7	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	59	0	33	0	0	0	7	680	0	0	0	748
Future Volume (veh/h)	59	0	33	0	0	0	7	680	0	0	0	748
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856				1856	1856	0		0	1856
Adj Flow Rate, veh/h	59	0	33				7	680	0		0	748
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	3	3	3				3	3	0		0	3
Cap, veh/h	638	0	292				33	1988	0		0	1568
Arrive On Green	0.19	0.00	0.19				0.02	0.56	0.00		0.00	0.44
Sat Flow, veh/h	3428	0	1571				1767	3618	0		0	3618
Grp Volume(v), veh/h	59	0	33				7	680	0		0	748
Grp Sat Flow(s),veh/h/ln	1714	0	1571				1767	1763	0		0	1763
Q Serve(g_s), s	0.5	0.0	0.6				0.1	3.6	0.0		0.0	5.2
Cycle Q Clear(g_c), s	0.5	0.0	0.6				0.1	3.6	0.0		0.0	5.2
Prop In Lane	1.00		1.00				1.00		0.00		0.00	
Lane Grp Cap(c), veh/h	638	0	292				33	1988	0		0	1568
V/C Ratio(X)	0.09	0.00	0.11				0.21	0.34	0.00		0.00	0.48
Avail Cap(c_a), veh/h	2954	0	1354				1523	5052	0		0	5062
HCM Platoon Ratio	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	1.00	0.00		0.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	11.8				16.8	4.1	0.0		0.0	6.8
Incr Delay (d2), s/veh	0.0	0.0	0.1				1.2	0.1	0.0		0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2				0.1	0.3	0.0		0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	0.0	11.8				18.0	4.2	0.0		0.0	7.1
LnGrp LOS	B	A	B				B	A	A		A	A
Approach Vol, veh/h		92						687				748
Approach Delay, s/veh		11.8						4.4				7.1
Approach LOS		B						A				A

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		4.2	20.7		10.0		24.8					
Change Period (Y+Rc), s		3.5	* 5.2		3.5		5.2					
Max Green Setting (Gmax), s		30.0	* 50		30.0		49.9					
Max Q Clear Time (g_c+I1), s		2.1	7.2		2.6		5.6					
Green Ext Time (p_c), s		0.0	8.0		0.2		7.1					

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	0
Peak Hour Factor	1.00
Percent Heavy Veh, %	3
Cap, veh/h	699
Arrive On Green	0.00
Sat Flow, veh/h	1572
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	1572
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	699
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	2258
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	72	0	26	170	0	46	0	269	0	0	0
Future Volume (veh/h)	0	72	0	26	170	0	46	0	269	0	0	0
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	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	72	0	26	170	0	46	0	98	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	1200	535	128	1046	0	210	0	0	0	7	0
Arrive On Green	0.00	0.34	0.00	0.07	0.56	0.00	0.12	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3618	1572	1767	1856	0	1767	46		0	-64944	0
Grp Volume(v), veh/h	0	72	0	26	170	0	46	11.0		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1856	0	1767	B		0	1856	0
Q Serve(g_s), s	0.0	0.4	0.0	0.4	1.2	0.0	0.6			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.4	0.0	0.4	1.2	0.0	0.6			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1200	535	128	1046	0	210			0	7	0
V/C Ratio(X)	0.00	0.06	0.00	0.20	0.16	0.00	0.22			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	6504	2901	1956	3423	0	1956			0	2054	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	6.0	0.0	11.8	2.8	0.0	10.8			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	0.2			0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.2			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.0	0.0	12.1	2.9	0.0	11.0			0.0	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B			A	A	A
Approach Vol, veh/h		72			196						0	
Approach Delay, s/veh		6.0			4.1						0.0	
Approach LOS		A			A							

Timer - Assigned Phs	2	3	4	5	6
Phs Duration (G+Y+Rc), s	19.9	7.2	0.0	6.1	13.8
Change Period (Y+Rc), s	* 4.6	4.0	3.5	* 4.1	* 4.6
Max Green Setting (Gmax), s	* 50	30.0	30.0	* 30	* 50
Max Q Clear Time (g_c+I1), s	3.2	2.6	0.0	2.4	2.4
Green Ext Time (p_c), s	0.5	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	377	596	310	301	552	140	274	393	112	292	1050	538
Future Volume (veh/h)	377	596	310	301	552	140	274	393	112	292	1050	538
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	377	596	104	301	552	25	274	393	47	292	1050	507
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	541	798	246	372	798	247	346	2340	1275	372	2379	909
Arrive On Green	0.11	0.16	0.16	0.11	0.16	0.16	0.10	0.46	0.46	0.11	0.47	0.47
Sat Flow, veh/h	5023	5106	1576	3456	5106	1582	3456	5106	2782	3456	5106	1584
Grp Volume(v), veh/h	377	596	104	301	552	25	274	393	47	292	1050	507
Grp Sat Flow(s),veh/h/ln	1674	1702	1576	1728	1702	1582	1728	1702	1391	1728	1702	1584
Q Serve(g_s), s	9.4	14.5	7.7	11.1	13.3	1.8	10.1	5.9	1.2	10.7	18.0	26.1
Cycle Q Clear(g_c), s	9.4	14.5	7.7	11.1	13.3	1.8	10.1	5.9	1.2	10.7	18.0	26.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	541	798	246	372	798	247	346	2340	1275	372	2379	909
V/C Ratio(X)	0.70	0.75	0.42	0.81	0.69	0.10	0.79	0.17	0.04	0.78	0.44	0.56
Avail Cap(c_a), veh/h	753	1583	489	385	1394	432	385	2340	1275	439	2379	909
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)	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	52.4	49.5	56.7	51.9	47.0	57.2	20.7	19.4	56.5	23.3	17.4
Incr Delay (d2), s/veh	0.4	0.4	0.3	10.8	0.4	0.1	8.6	0.2	0.1	6.4	0.6	2.5
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	3.9	6.1	3.0	5.3	5.6	0.7	4.7	2.3	0.4	4.9	7.1	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	52.7	49.8	67.5	52.3	47.1	65.7	20.8	19.5	62.9	23.9	19.8
LnGrp LOS	E	D	D	E	D	D	E	C	B	E	C	B
Approach Vol, veh/h		1077			878			714			1849	
Approach Delay, s/veh		53.7			57.4			38.0			29.0	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	26.0	18.5	66.0	19.5	26.0	19.5	65.0
Change Period (Y+Rc), s	5.5	* 5.7	5.5	* 5.4	5.5	* 5.7	5.5	* 5.4
Max Green Setting (Gmax), s	4.0	* 36	14.5	* 39	14.5	* 40	16.5	* 37
Max Q Clear Time (g_c+I1), s	11.4	15.3	12.1	28.1	13.1	16.5	12.7	7.9
Green Ext Time (p_c), s	0.5	2.3	0.1	4.3	0.1	2.7	0.2	5.0

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	969	122	53	482	3	116	5	102	12	10	7
Future Volume (veh/h)	9	969	122	53	482	3	116	5	102	12	10	7
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	9	969	80	53	482	1	116	5	25	12	10	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	1942	603	193	2324	720	308	336	285	136	86	73
Arrive On Green	0.03	0.38	0.38	0.11	0.46	0.46	0.17	0.18	0.18	0.04	0.05	0.05
Sat Flow, veh/h	3428	5066	1572	1767	5066	1569	1767	1856	1572	3534	1856	1567
Grp Volume(v), veh/h	9	969	80	53	482	1	116	5	25	12	10	2
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1767	1689	1569	1767	1856	1572	1767	1856	1567
Q Serve(g_s), s	0.2	10.4	2.4	2.0	4.1	0.0	4.1	0.2	0.9	0.2	0.4	0.1
Cycle Q Clear(g_c), s	0.2	10.4	2.4	2.0	4.1	0.0	4.1	0.2	0.9	0.2	0.4	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	102	1942	603	193	2324	720	308	336	285	136	86	73
V/C Ratio(X)	0.09	0.50	0.13	0.27	0.21	0.00	0.38	0.01	0.09	0.09	0.12	0.03
Avail Cap(c_a), veh/h	1443	3554	1103	744	3554	1101	744	1302	1103	1488	1302	1099
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	16.8	14.3	29.1	11.5	10.4	26.0	24.0	24.3	33.1	32.6	32.4
Incr Delay (d2), s/veh	0.1	0.4	0.2	0.3	0.1	0.0	0.3	0.0	0.0	0.1	0.2	0.1
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	0.1	3.5	0.8	0.8	1.3	0.0	1.7	0.1	0.3	0.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	17.2	14.5	29.4	11.6	10.4	26.3	24.0	24.3	33.2	32.8	32.5
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		1058			536			146			24	
Approach Delay, s/veh		17.1			13.4			25.9			32.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	38.2	17.6	8.2	12.6	32.8	8.0	17.8
Change Period (Y+Rc), s	* 5.1	* 5.5	* 5.2	* 4.9	* 4.8	* 5.5	* 5.3	4.9
Max Green Setting (Gmax), s	* 30	* 50	* 30	* 50	* 30	* 50	* 30	50.0
Max Q Clear Time (g_c+I1), s	2.2	6.1	6.1	2.4	4.0	12.4	2.2	2.9
Green Ext Time (p_c), s	0.0	6.3	0.1	0.0	0.0	14.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	634	241	111	217	12	120	485	87	123	1383	178
Future Volume (veh/h)	214	634	241	111	217	12	120	485	87	123	1383	178
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	214	634	52	111	217	3	120	485	34	123	1383	106
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	395	962	299	388	662	295	364	2664	656	365	2665	656
Arrive On Green	0.12	0.19	0.19	0.11	0.19	0.19	0.11	0.42	0.42	0.11	0.42	0.42
Sat Flow, veh/h	3428	5066	1572	3428	3526	1572	3428	6383	1572	3428	6383	1570
Grp Volume(v), veh/h	214	634	52	111	217	3	120	485	34	123	1383	106
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1763	1572	1714	1596	1572	1714	1596	1570
Q Serve(g_s), s	7.7	15.1	3.6	3.9	6.9	0.2	4.2	6.2	1.7	4.3	20.9	5.5
Cycle Q Clear(g_c), s	7.7	15.1	3.6	3.9	6.9	0.2	4.2	6.2	1.7	4.3	20.9	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	962	299	388	662	295	364	2664	656	365	2665	656
V/C Ratio(X)	0.54	0.66	0.17	0.29	0.33	0.01	0.33	0.18	0.05	0.34	0.52	0.16
Avail Cap(c_a), veh/h	462	1594	495	462	1117	498	382	2664	656	382	2665	656
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)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	48.8	44.1	52.8	45.7	43.0	53.8	23.9	22.6	53.8	28.2	23.7
Incr Delay (d2), s/veh	0.4	1.4	0.5	0.1	0.4	0.0	0.2	0.2	0.1	0.2	0.7	0.5
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	3.3	6.3	1.4	1.6	3.0	0.1	1.8	2.3	0.6	1.8	7.9	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	50.2	44.6	53.0	46.1	43.0	54.0	24.0	22.7	54.0	28.9	24.2
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		900			331			639			1612	
Approach Delay, s/veh		50.9			48.4			29.6			30.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	30.5	19.3	59.7	20.2	30.8	19.3	59.7
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4
Max Green Setting (Gmax), s	17.5	* 41	14.5	* 35	17.5	* 41	14.5	* 35
Max Q Clear Time (g_c+I1), s	9.7	8.9	6.3	8.2	5.9	17.1	6.2	22.9
Green Ext Time (p_c), s	0.2	1.8	0.1	7.4	0.1	7.6	0.1	10.1

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	569	9	21	646	190	25	54	95	202	12	64
Future Volume (veh/h)	33	569	9	21	646	190	25	54	95	202	12	64
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	33	569	9	21	646	171	25	54	18	202	12	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	89	740	12	88	753	637	57	123	154	305	321	272
Arrive On Green	0.05	0.41	0.41	0.05	0.41	0.41	0.10	0.10	0.10	0.17	0.17	0.17
Sat Flow, veh/h	1767	1822	29	1767	1856	1571	578	1249	1566	1767	1856	1572
Grp Volume(v), veh/h	33	0	578	21	646	171	79	0	18	202	12	10
Grp Sat Flow(s),veh/h/ln	1767	0	1850	1767	1856	1571	1827	0	1566	1767	1856	1572
Q Serve(g_s), s	1.0	0.0	15.1	0.6	17.8	4.1	2.3	0.0	0.6	6.0	0.3	0.3
Cycle Q Clear(g_c), s	1.0	0.0	15.1	0.6	17.8	4.1	2.3	0.0	0.6	6.0	0.3	0.3
Prop In Lane	1.00		0.02	1.00		1.00	0.32		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	0	752	88	753	637	180	0	154	305	321	272
V/C Ratio(X)	0.37	0.00	0.77	0.24	0.86	0.27	0.44	0.00	0.12	0.66	0.04	0.04
Avail Cap(c_a), veh/h	1165	0	1880	1260	1918	1623	1530	0	1312	1890	1984	1681
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	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	0.0	14.4	25.6	15.2	11.1	23.8	0.0	23.1	21.7	19.3	19.3
Incr Delay (d2), s/veh	1.0	0.0	0.6	0.5	1.1	0.1	0.6	0.0	0.1	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	5.1	0.3	6.1	1.1	1.0	0.0	0.2	2.3	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	0.0	15.0	26.2	16.3	11.2	24.5	0.0	23.2	22.6	19.3	19.3
LnGrp LOS	C	A	B	C	B	B	C	A	C	C	B	B
Approach Vol, veh/h		611			838			97			224	
Approach Delay, s/veh		15.7			15.5			24.2			22.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	27.4		13.4	6.3	27.4		9.0
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5
Max Green Setting (Gmax), s	37.0	* 58		60.0	40.0	* 57		47.0
Max Q Clear Time (g_c+I1), s	3.0	19.8		8.0	2.6	17.1		4.3
Green Ext Time (p_c), s	0.0	3.0		0.3	0.0	2.3		0.3

Intersection Summary		
HCM 6th Ctrl Delay		16.9
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	392	128	108	297	212	131	677	149	297	998	191
Future Volume (veh/h)	363	392	128	108	297	212	131	677	149	297	998	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.85	1.00		0.84	1.00		0.89
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	363	392	48	108	297	42	131	677	98	297	998	93
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	411	976	559	310	870	330	314	1328	638	355	1371	541
Arrive On Green	0.12	0.28	0.28	0.09	0.25	0.25	0.09	0.38	0.38	0.10	0.39	0.39
Sat Flow, veh/h	3428	3526	1499	3428	3526	1339	3428	3526	1316	3428	3526	1393
Grp Volume(v), veh/h	363	392	48	108	297	42	131	677	98	297	998	93
Grp Sat Flow(s),veh/h/ln	1714	1763	1499	1714	1763	1339	1714	1763	1316	1714	1763	1393
Q Serve(g_s), s	13.5	11.8	2.7	3.8	9.0	3.2	4.7	19.3	5.6	11.1	31.4	5.7
Cycle Q Clear(g_c), s	13.5	11.8	2.7	3.8	9.0	3.2	4.7	19.3	5.6	11.1	31.4	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	411	976	559	310	870	330	314	1328	638	355	1371	541
V/C Ratio(X)	0.88	0.40	0.09	0.35	0.34	0.13	0.42	0.51	0.15	0.84	0.73	0.17
Avail Cap(c_a), veh/h	419	976	559	475	919	349	351	1328	638	641	1371	541
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	38.2	26.8	55.5	40.3	38.1	55.8	31.2	19.9	57.2	33.9	26.0
Incr Delay (d2), s/veh	18.5	0.4	0.1	0.2	0.3	0.2	0.3	1.4	0.5	2.0	3.4	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	6.8	5.1	1.0	1.7	3.9	1.0	2.0	8.2	1.7	4.8	13.5	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	38.6	26.9	55.8	40.6	38.3	56.1	32.6	20.4	59.2	37.3	26.7
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	D	C
Approach Vol, veh/h		803			447			906			1388	
Approach Delay, s/veh		54.3			44.0			34.7			41.3	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	37.2	16.6	55.6	16.8	41.1	18.2	54.0
Change Period (Y+Rc), s	* 5.1	* 5.1	* 4.7	* 5	5.0	* 5.1	* 4.7	* 5
Max Green Setting (Gmax), s	* 16	* 34	* 13	* 47	18.0	* 32	* 24	* 36
Max Q Clear Time (g_c+I1), s	15.5	11.0	6.7	33.4	5.8	13.8	13.1	21.3
Green Ext Time (p_c), s	0.0	2.6	0.1	3.9	0.1	3.2	0.4	5.3

Intersection Summary	
HCM 6th Ctrl Delay	42.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	655	258	132	946	58	28	16	12	130	109	610
Future Volume (veh/h)	229	655	258	132	946	58	28	16	12	130	109	610
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		0.99	1.00		0.97	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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	229	655	128	132	946	30	22	24	1	120	124	57
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	348	1692	753	208	1786	791	197	207	170	212	223	189
Arrive On Green	0.20	0.94	0.94	0.12	0.50	0.50	0.11	0.11	0.11	0.12	0.12	0.12
Sat Flow, veh/h	3483	3582	1595	1795	3582	1586	1795	1885	1552	1795	1885	1598
Grp Volume(v), veh/h	229	655	128	132	946	30	22	24	1	120	124	57
Grp Sat Flow(s),veh/h/ln	1742	1791	1595	1795	1791	1586	1795	1885	1552	1795	1885	1598
Q Serve(g_s), s	6.7	1.7	0.6	7.7	19.8	1.1	1.2	1.3	0.1	6.9	6.8	3.6
Cycle Q Clear(g_c), s	6.7	1.7	0.6	7.7	19.8	1.1	1.2	1.3	0.1	6.9	6.8	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	1692	753	208	1786	791	197	207	170	212	223	189
V/C Ratio(X)	0.66	0.39	0.17	0.63	0.53	0.04	0.11	0.12	0.01	0.57	0.56	0.30
Avail Cap(c_a), veh/h	465	1692	753	222	1786	791	570	598	492	243	255	216
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.3	1.6	1.6	46.4	18.8	14.1	44.1	44.2	43.6	45.8	45.8	44.4
Incr Delay (d2), s/veh	0.8	0.7	0.5	2.8	0.8	0.1	0.1	0.1	0.0	0.9	0.8	0.3
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	0.6	0.3	3.5	7.9	0.4	0.5	0.6	0.0	3.1	3.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	2.3	2.1	49.2	19.6	14.2	44.2	44.3	43.6	46.7	46.6	44.7
LnGrp LOS	D	A	A	D	B	B	D	D	D	D	D	D
Approach Vol, veh/h		1012			1108			47			301	
Approach Delay, s/veh		11.5			23.0			44.2			46.3	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.3	59.5		18.1	18.2	56.6		17.2				
Change Period (Y+Rc), s	* 4.3	* 4.6		* 5.1	* 5.4	* 4.6		5.1				
Max Green Setting (Gmax), s	* 15	* 26		* 15	* 14	* 27		34.9				
Max Q Clear Time (g_c+I1), s	10.7	21.8		8.9	9.7	3.7		3.3				
Green Ext Time (p_c), s	0.2	1.9		0.4	0.1	3.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	224	152	157	368	67	110	293	54	241	653	438
Future Volume (veh/h)	161	224	152	157	368	67	110	293	54	241	653	438
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		0.98	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	161	224	53	157	368	24	110	293	13	241	653	308
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	371	1317	585	371	1317	585	361	808	353	374	821	359
Arrive On Green	0.11	0.37	0.37	0.11	0.37	0.37	0.11	0.23	0.23	0.11	0.23	0.23
Sat Flow, veh/h	3428	3526	1566	3428	3526	1566	3428	3526	1541	3428	3526	1542
Grp Volume(v), veh/h	161	224	53	157	368	24	110	293	13	241	653	308
Grp Sat Flow(s),veh/h/ln	1714	1763	1566	1714	1763	1566	1714	1763	1541	1714	1763	1542
Q Serve(g_s), s	4.8	4.7	2.4	4.7	8.0	1.1	3.3	7.7	0.7	7.4	19.2	21.1
Cycle Q Clear(g_c), s	4.8	4.7	2.4	4.7	8.0	1.1	3.3	7.7	0.7	7.4	19.2	21.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	371	1317	585	371	1317	585	361	808	353	374	821	359
V/C Ratio(X)	0.43	0.17	0.09	0.42	0.28	0.04	0.30	0.36	0.04	0.64	0.80	0.86
Avail Cap(c_a), veh/h	439	1317	585	439	1317	585	439	1048	458	377	981	429
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)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	23.0	22.3	45.8	24.1	21.9	45.5	35.6	33.0	47.0	39.7	40.4
Incr Delay (d2), s/veh	0.3	0.3	0.3	0.3	0.5	0.1	0.2	0.1	0.0	2.9	3.2	12.2
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	2.0	1.9	0.9	2.0	3.3	0.4	1.4	3.2	0.3	3.2	8.4	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	23.3	22.6	46.1	24.6	22.1	45.7	35.7	33.0	49.8	42.9	52.6
LnGrp LOS	D	C	C	D	C	C	D	D	C	D	D	D
Approach Vol, veh/h		438			549			416			1202	
Approach Delay, s/veh		31.6			30.7			38.3			46.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.8	45.7	16.5	31.0	16.8	45.7	16.9	30.6
Change Period (Y+Rc), s	* 4.9	* 4.6	* 4.9	* 5.4	* 4.9	* 4.6	* 4.9	* 5.4
Max Green Setting (Gmax), s	* 14	* 31	* 14	* 31	* 14	* 32	* 12	* 33
Max Q Clear Time (g_c+I1), s	6.8	10.0	5.3	23.1	6.7	6.7	9.4	9.7
Green Ext Time (p_c), s	0.1	1.4	0.1	2.2	0.1	0.9	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	55	0	45	17
Future Vol, veh/h	0	29	55	0	45	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	29	55	0	45	17

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	162	55	0	0	55	0
Stage 1	55	-	-	-	-	-
Stage 2	107	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	829	1012	-	-	1550	-
Stage 1	968	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	805	1012	-	-	1550	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	890	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	5.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1012	1550	-
HCM Lane V/C Ratio	-	-	0.029	0.029	-
HCM Control Delay (s)	-	-	8.7	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	76	56	20	40	23
Future Vol, veh/h	32	76	56	20	40	23
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	185	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	76	56	20	40	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	86	0	-	0	226	86
Stage 1	-	-	-	-	76	-
Stage 2	-	-	-	-	150	-
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	1510	-	-	-	762	973
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1496	-	-	-	732	955
Mov Cap-2 Maneuver	-	-	-	-	732	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1496	-	-	-	800
HCM Lane V/C Ratio	0.021	-	-	-	0.079
HCM Control Delay (s)	7.5	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

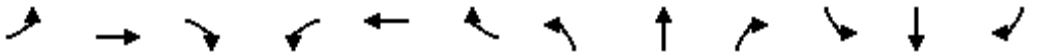
Intersection	
Int Delay, s/veh	13

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	332	213	191	205	42
Future Vol, veh/h	120	332	213	191	205	42
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	185	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	332	213	191	205	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	414	0	-	0	901	329
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	582	-
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	1145	-	-	-	309	712
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	559	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1134	-	-	-	271	699
Mov Cap-2 Maneuver	-	-	-	-	271	-
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	53.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1134	-	-	-	302
HCM Lane V/C Ratio	0.106	-	-	-	0.818
HCM Control Delay (s)	8.6	-	-	-	53.8
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	6.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	281	130	393	284	120	80	10	177	200	10	40
Future Volume (veh/h)	126	281	130	393	284	120	80	10	177	200	10	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.91	1.00		0.89	1.00		0.91
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	281	130	393	284	37	80	10	177	200	10	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	317	147	479	595	458	103	19	339	237	99	394
Arrive On Green	0.09	0.27	0.27	0.14	0.32	0.32	0.06	0.25	0.25	0.13	0.33	0.33
Sat Flow, veh/h	1781	1182	547	3456	1870	1438	1781	76	1351	1781	302	1208
Grp Volume(v), veh/h	126	0	411	393	284	37	80	0	187	200	0	50
Grp Sat Flow(s),veh/h/ln	1781	0	1728	1728	1870	1438	1781	0	1427	1781	0	1511
Q Serve(g_s), s	6.6	0.0	21.7	10.5	11.6	1.7	4.2	0.0	10.7	10.4	0.0	2.2
Cycle Q Clear(g_c), s	6.6	0.0	21.7	10.5	11.6	1.7	4.2	0.0	10.7	10.4	0.0	2.2
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.95	1.00		0.80
Lane Grp Cap(c), veh/h	158	0	464	479	595	458	103	0	359	237	0	493
V/C Ratio(X)	0.80	0.00	0.89	0.82	0.48	0.08	0.77	0.00	0.52	0.84	0.00	0.10
Avail Cap(c_a), veh/h	302	0	612	638	690	531	227	0	460	347	0	589
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	33.3	39.7	26.0	22.6	44.1	0.0	30.6	40.2	0.0	22.3
Incr Delay (d2), s/veh	8.8	0.0	11.9	6.3	0.6	0.1	11.5	0.0	1.2	11.8	0.0	0.1
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	3.2	0.0	10.2	4.8	5.1	0.6	2.2	0.0	3.8	5.3	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	0.0	45.2	46.0	26.6	22.7	55.6	0.0	31.8	51.9	0.0	22.4
LnGrp LOS	D	A	D	D	C	C	E	A	C	D	A	C
Approach Vol, veh/h		537			714			267			250	
Approach Delay, s/veh		46.6			37.1			38.9			46.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	28.2	18.6	29.8	11.0	35.3	13.9	34.6
Change Period (Y+Rc), s	5.5	4.4	5.5	4.4	5.5	4.4	5.5	4.4
Max Green Setting (Gmax), s	18.5	30.6	17.5	33.6	12.1	37.0	16.1	35.0
Max Q Clear Time (g_c+I1), s	12.4	12.7	12.5	23.7	6.2	4.2	8.6	13.6
Green Ext Time (p_c), s	0.3	1.2	0.7	1.8	0.1	0.3	0.2	1.7

Intersection Summary	
HCM 6th Ctrl Delay	41.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	1	299	8	2	8	259	660	2	3	857	668
Future Volume (veh/h)	296	1	299	8	2	8	259	660	2	3	857	668
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.95	1.00		0.94
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	297	0	65	8	2	8	259	660	2	3	857	260
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	591	0	249	119	30	119	299	1520	5	93	1077	452
Arrive On Green	0.17	0.00	0.17	0.16	0.16	0.16	0.17	0.42	0.42	0.05	0.30	0.30
Sat Flow, veh/h	3563	0	1500	734	183	734	1781	3634	11	1781	3554	1493
Grp Volume(v), veh/h	297	0	65	18	0	0	259	323	339	3	857	260
Grp Sat Flow(s),veh/h/ln	1781	0	1500	1651	0	0	1781	1777	1868	1781	1777	1493
Q Serve(g_s), s	7.2	0.0	3.6	0.9	0.0	0.0	13.5	12.3	12.3	0.2	21.1	14.0
Cycle Q Clear(g_c), s	7.2	0.0	3.6	0.9	0.0	0.0	13.5	12.3	12.3	0.2	21.1	14.0
Prop In Lane	1.00		1.00	0.44		0.44	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	591	0	249	268	0	0	299	743	781	93	1077	452
V/C Ratio(X)	0.50	0.00	0.26	0.07	0.00	0.00	0.87	0.43	0.43	0.03	0.80	0.57
Avail Cap(c_a), veh/h	1293	0	544	572	0	0	476	1085	1140	93	1405	590
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	0.0	34.7	33.8	0.0	0.0	38.6	19.7	19.7	42.9	30.5	28.0
Incr Delay (d2), s/veh	0.7	0.0	0.6	0.1	0.0	0.0	9.6	0.4	0.4	0.1	2.5	1.2
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	3.1	0.0	1.4	0.4	0.0	0.0	6.5	4.8	5.1	0.1	8.9	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	0.0	35.2	33.9	0.0	0.0	48.2	20.1	20.1	43.0	33.0	29.2
LnGrp LOS	D	A	D	C	A	A	D	C	C	D	C	C
Approach Vol, veh/h		362			18			921			1120	
Approach Delay, s/veh		36.6			33.9			28.0			32.1	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	44.7		20.2	21.5	33.7		19.9
Change Period (Y+Rc), s	5.5	4.8		4.4	5.5	4.8		4.5
Max Green Setting (Gmax), s	5.0	58.2		34.6	25.5	37.7		33.0
Max Q Clear Time (g_c+I1), s	2.2	14.3		9.2	15.5	23.1		2.9
Green Ext Time (p_c), s	0.0	4.2		1.2	0.5	5.8		0.1

Intersection Summary		
HCM 6th Ctrl Delay	31.2	
HCM 6th LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	103	0	0	68	20	853	17	3	1152	9
Future Vol, veh/h	0	0	103	0	0	68	20	853	17	3	1152	9
Conflicting Peds, #/hr	0	0	10	0	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	220	-	160	160	-	160
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	103	0	0	68	20	853	17	3	1152	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	596	-	-	447	1171	0	0	880	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	447	0	0	559	592	-	-	764	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	439	-	-	548	586	-	-	757	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	12.5	0.3	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	586	-	-	439	548	757	-	-
HCM Lane V/C Ratio	0.034	-	-	0.235	0.124	0.004	-	-
HCM Control Delay (s)	11.4	-	-	15.7	12.5	9.8	-	-
HCM Lane LOS	B	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.4	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	501	65	145	768	37	76
Future Vol, veh/h	501	65	145	768	37	76
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	185	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	501	65	145	768	37	76

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	576	0	1602	544
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	1058	-
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	-	-	997	-	116	539
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	334	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	988	-	98	534
Mov Cap-2 Maneuver	-	-	-	-	98	-
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	285	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	38.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	217	-	-	988	-
HCM Lane V/C Ratio	0.521	-	-	0.147	-
HCM Control Delay (s)	38.3	-	-	9.3	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	2.7	-	-	0.5	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	5	370	5	3	279
Future Vol, veh/h	2	5	370	5	3	279
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	5	370	5	3	279

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	678	393	0	0	385	0
Stage 1	383	-	-	-	-	-
Stage 2	295	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	418	656	-	-	1173	-
Stage 1	689	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	408	644	-	-	1162	-
Mov Cap-2 Maneuver	408	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	746	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	553	1162	-
HCM Lane V/C Ratio	-	-	0.013	0.003	-
HCM Control Delay (s)	-	-	11.6	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	16	0	2	4	0	0	9	11	0	5	1
Future Vol, veh/h	0	16	0	2	4	0	0	9	11	0	5	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	2	4	0	0	9	11	0	5	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	14	0	0	26	0	0	47	44	36	54	44	24
Stage 1	-	-	-	-	-	-	26	26	-	18	18	-
Stage 2	-	-	-	-	-	-	21	18	-	36	26	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1604	-	-	1588	-	-	954	848	1037	944	848	1052
Stage 1	-	-	-	-	-	-	992	874	-	1001	880	-
Stage 2	-	-	-	-	-	-	998	880	-	980	874	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1589	-	-	1573	-	-	930	830	1017	907	830	1032
Mov Cap-2 Maneuver	-	-	-	-	-	-	930	830	-	907	830	-
Stage 1	-	-	-	-	-	-	982	865	-	991	870	-
Stage 2	-	-	-	-	-	-	981	870	-	950	865	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.4	9	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	923	1589	-	-	1573	-	-	858
HCM Lane V/C Ratio	0.022	-	-	-	0.001	-	-	0.007
HCM Control Delay (s)	9	0	-	-	7.3	-	-	9.2
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

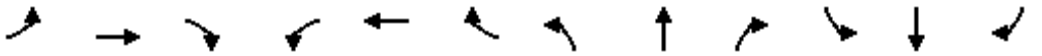
Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	26	0	1	5	18	0	15	6	84	24	1
Future Vol, veh/h	1	26	0	1	5	18	0	15	6	84	24	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	26	0	1	5	18	0	15	6	84	24	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	36	0	0	77	73	46	75	64	34
Stage 1	-	-	-	-	-	-	38	38	-	26	26	-
Stage 2	-	-	-	-	-	-	39	35	-	49	38	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	1575	-	-	912	817	1023	915	827	1039
Stage 1	-	-	-	-	-	-	977	863	-	992	874	-
Stage 2	-	-	-	-	-	-	976	866	-	964	863	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1564	-	-	1560	-	-	873	799	1004	878	809	1019
Mov Cap-2 Maneuver	-	-	-	-	-	-	873	799	-	878	809	-
Stage 1	-	-	-	-	-	-	967	854	-	982	864	-
Stage 2	-	-	-	-	-	-	938	856	-	932	854	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	9.4	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	848	1564	-	-	1560	-	-	863
HCM Lane V/C Ratio	0.025	0.001	-	-	0.001	-	-	0.126
HCM Control Delay (s)	9.4	7.3	-	-	7.3	-	-	9.8
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	31	95	181	3	21	19	871	271	2	1339	5
Future Volume (veh/h)	25	31	95	181	3	21	19	871	271	2	1339	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.96
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	31	95	181	3	21	19	871	134	2	1339	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	69	212	221	54	377	38	1640	706	5	1608	6
Arrive On Green	0.03	0.18	0.18	0.12	0.27	0.27	0.02	0.46	0.46	0.00	0.44	0.44
Sat Flow, veh/h	1781	394	1207	1781	197	1380	1781	3554	1530	1781	3631	14
Grp Volume(v), veh/h	25	0	126	181	0	24	19	871	134	2	655	689
Grp Sat Flow(s),veh/h/ln	1781	0	1602	1781	0	1577	1781	1777	1530	1781	1777	1867
Q Serve(g_s), s	1.2	0.0	5.9	8.3	0.0	0.9	0.9	14.7	4.3	0.1	27.3	27.3
Cycle Q Clear(g_c), s	1.2	0.0	5.9	8.3	0.0	0.9	0.9	14.7	4.3	0.1	27.3	27.3
Prop In Lane	1.00		0.75	1.00		0.88	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	47	0	281	221	0	431	38	1640	706	5	787	827
V/C Ratio(X)	0.53	0.00	0.45	0.82	0.00	0.06	0.50	0.53	0.19	0.41	0.83	0.83
Avail Cap(c_a), veh/h	200	0	640	350	0	764	106	1915	825	106	958	1006
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	30.9	35.8	0.0	22.5	40.6	16.1	13.3	41.8	20.6	20.6
Incr Delay (d2), s/veh	9.1	0.0	1.1	8.1	0.0	0.1	9.8	0.3	0.1	48.0	5.4	5.1
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	0.6	0.0	2.3	4.1	0.0	0.4	0.5	5.4	1.5	0.1	11.2	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	0.0	32.0	43.9	0.0	22.5	50.4	16.4	13.5	89.8	26.0	25.7
LnGrp LOS	D	A	C	D	A	C	D	B	B	F	C	C
Approach Vol, veh/h		151			205			1024			1346	
Approach Delay, s/veh		34.9			41.4			16.6			26.0	
Approach LOS		C			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	43.5	15.9	18.7	7.3	41.9	7.7	26.9
Change Period (Y+Rc), s	5.5	4.8	5.5	4.0	5.5	4.8	5.5	4.0
Max Green Setting (Gmax), s	5.0	45.2	16.5	33.5	5.0	45.2	9.4	40.6
Max Q Clear Time (g_c+I1), s	2.1	16.7	10.3	7.9	2.9	29.3	3.2	2.9
Green Ext Time (p_c), s	0.0	7.0	0.2	0.8	0.0	7.8	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	3	288	21	23	31	49	29	1	5	204	85
Future Vol, veh/h	11	3	288	21	23	31	49	29	1	5	204	85
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	3	288	21	23	31	49	29	1	5	204	85
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10.6	8.9	9.2	10.9
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	62%	100%	0%	100%	0%	2%
Vol Thru, %	37%	0%	1%	0%	43%	69%
Vol Right, %	1%	0%	99%	0%	57%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	11	291	21	54	294
LT Vol	49	11	0	21	0	5
Through Vol	29	0	3	0	23	204
RT Vol	1	0	288	0	31	85
Lane Flow Rate	79	11	291	21	54	294
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.117	0.018	0.391	0.037	0.081	0.39
Departure Headway (Hd)	5.351	6.046	4.84	6.291	5.377	4.781
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	662	588	736	564	658	747
Service Time	3.447	3.822	2.616	4.089	3.174	2.853
HCM Lane V/C Ratio	0.119	0.019	0.395	0.037	0.082	0.394
HCM Control Delay	9.2	8.9	10.7	9.3	8.7	10.9
HCM Lane LOS	A	A	B	A	A	B
HCM 95th-tile Q	0.4	0.1	1.9	0.1	0.3	1.9

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	337	10	55	172	8	19	1	29	48	3	12
Future Vol, veh/h	1	337	10	55	172	8	19	1	29	48	3	12
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	337	10	55	172	8	19	1	29	48	3	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	190	0	0	357	0	0	658	654	362	665	655	196
Stage 1	-	-	-	-	-	-	354	354	-	296	296	-
Stage 2	-	-	-	-	-	-	304	300	-	369	359	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1384	-	-	1202	-	-	378	386	683	374	386	845
Stage 1	-	-	-	-	-	-	663	630	-	712	668	-
Stage 2	-	-	-	-	-	-	705	666	-	651	627	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1371	-	-	1191	-	-	350	361	670	338	361	829
Mov Cap-2 Maneuver	-	-	-	-	-	-	350	361	-	338	361	-
Stage 1	-	-	-	-	-	-	656	623	-	705	631	-
Stage 2	-	-	-	-	-	-	653	629	-	615	620	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.9	13.2	16.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	488	1371	-	-	1191	-	-	382
HCM Lane V/C Ratio	0.1	0.001	-	-	0.046	-	-	0.165
HCM Control Delay (s)	13.2	7.6	-	-	8.2	-	-	16.3
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.6

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	1	380	31	68	194	8	30	4	67	47	8	7
Future Vol, veh/h	1	380	31	68	194	8	30	4	67	47	8	7
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	380	31	68	194	8	30	4	67	47	8	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	212	0	0	421	0	0	760	756	416	787	767	218
Stage 1	-	-	-	-	-	-	408	408	-	344	344	-
Stage 2	-	-	-	-	-	-	352	348	-	443	423	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1358	-	-	1138	-	-	323	337	637	309	332	822
Stage 1	-	-	-	-	-	-	620	597	-	671	637	-
Stage 2	-	-	-	-	-	-	665	634	-	594	588	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1345	-	-	1127	-	-	294	310	625	256	305	806
Mov Cap-2 Maneuver	-	-	-	-	-	-	294	310	-	256	305	-
Stage 1	-	-	-	-	-	-	614	590	-	664	593	-
Stage 2	-	-	-	-	-	-	605	590	-	521	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.1	15.2	21.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	455	1345	-	-	1127	-	-	284
HCM Lane V/C Ratio	0.222	0.001	-	-	0.06	-	-	0.218
HCM Control Delay (s)	15.2	7.7	-	-	8.4	-	-	21.2
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	0.8

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	471	22	54	238	7	25	3	29	31	17	7
Future Vol, veh/h	1	471	22	54	238	7	25	3	29	31	17	7
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	471	22	54	238	7	25	3	29	31	17	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	255	0	0	503	0	0	866	857	502	870	865	262
Stage 1	-	-	-	-	-	-	494	494	-	360	360	-
Stage 2	-	-	-	-	-	-	372	363	-	510	505	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1310	-	-	1061	-	-	274	295	569	272	292	777
Stage 1	-	-	-	-	-	-	557	546	-	658	626	-
Stage 2	-	-	-	-	-	-	648	625	-	546	540	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1298	-	-	1051	-	-	244	274	558	241	271	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	244	274	-	241	271	-
Stage 1	-	-	-	-	-	-	551	540	-	651	588	-
Stage 2	-	-	-	-	-	-	586	588	-	509	534	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	17.5	21.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	345	1298	-	-	1051	-	-	274
HCM Lane V/C Ratio	0.165	0.001	-	-	0.051	-	-	0.201
HCM Control Delay (s)	17.5	7.8	-	-	8.6	-	-	21.4
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0.2	-	-	0.7

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	505	29	64	261	5	31	1	65	48	2	6
Future Vol, veh/h	2	505	29	64	261	5	31	1	65	48	2	6
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	505	29	64	261	5	31	1	65	48	2	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	276	0	0	544	0	0	940	938	540	969	950	284
Stage 1	-	-	-	-	-	-	534	534	-	402	402	-
Stage 2	-	-	-	-	-	-	406	404	-	567	548	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1287	-	-	1025	-	-	244	264	542	233	260	755
Stage 1	-	-	-	-	-	-	530	524	-	625	600	-
Stage 2	-	-	-	-	-	-	622	599	-	508	517	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1275	-	-	1015	-	-	224	242	532	190	238	741
Mov Cap-2 Maneuver	-	-	-	-	-	-	224	242	-	190	238	-
Stage 1	-	-	-	-	-	-	524	518	-	618	557	-
Stage 2	-	-	-	-	-	-	571	556	-	440	511	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.7	18.3	28.6
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	366	1275	-	-	1015	-	-	208
HCM Lane V/C Ratio	0.265	0.002	-	-	0.063	-	-	0.269
HCM Control Delay (s)	18.3	7.8	-	-	8.8	-	-	28.6
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1	0	-	-	0.2	-	-	1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	1	3	4	1	0	1	40	9	0	66	2
Future Vol, veh/h	8	1	3	4	1	0	1	40	9	0	66	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1	3	4	1	0	1	40	9	0	66	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	134	138	87	136	135	65	78	0	0	59	0	0
Stage 1	77	77	-	57	57	-	-	-	-	-	-	-
Stage 2	57	61	-	79	78	-	-	-	-	-	-	-
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	838	753	971	835	756	999	1520	-	-	1545	-	-
Stage 1	932	831	-	955	847	-	-	-	-	-	-	-
Stage 2	955	844	-	930	830	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	820	737	953	815	740	980	1506	-	-	1530	-	-
Mov Cap-2 Maneuver	820	737	-	815	740	-	-	-	-	-	-	-
Stage 1	922	823	-	944	838	-	-	-	-	-	-	-
Stage 2	944	835	-	917	822	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.5	0.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1506	-	-	841	799	1530	-	-
HCM Lane V/C Ratio	0.001	-	-	0.014	0.006	-	-	-
HCM Control Delay (s)	7.4	0	-	9.3	9.5	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

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	9	9	1	3	3	31	1	40	9	29	71	2
Future Vol, veh/h	9	9	1	3	3	31	1	40	9	29	71	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	9	1	3	3	31	1	40	9	29	71	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	214	201	92	202	198	65	83	0	0	59	0	0
Stage 1	140	140	-	57	57	-	-	-	-	-	-	-
Stage 2	74	61	-	145	141	-	-	-	-	-	-	-
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	743	695	965	756	698	999	1514	-	-	1545	-	-
Stage 1	863	781	-	955	847	-	-	-	-	-	-	-
Stage 2	935	844	-	858	780	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	692	667	947	721	670	980	1500	-	-	1530	-	-
Mov Cap-2 Maneuver	692	667	-	721	670	-	-	-	-	-	-	-
Stage 1	854	758	-	944	838	-	-	-	-	-	-	-
Stage 2	893	835	-	822	757	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	9.1	0.1	2.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1500	-	-	690	919	1530	-	-
HCM Lane V/C Ratio	0.001	-	-	0.028	0.04	0.019	-	-
HCM Control Delay (s)	7.4	0	-	10.4	9.1	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	30	79	11	1	42	1	80	27	1	0	34	59
Future Vol, veh/h	30	79	11	1	42	1	80	27	1	0	34	59
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	79	11	1	42	1	80	27	1	0	34	59

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	293	272	84	317	301	48	103	0	0	38	0	0
Stage 1	74	74	-	198	198	-	-	-	-	-	-	-
Stage 2	219	198	-	119	103	-	-	-	-	-	-	-
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	659	635	975	636	612	1021	1489	-	-	1572	-	-
Stage 1	935	833	-	804	737	-	-	-	-	-	-	-
Stage 2	783	737	-	885	810	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	584	588	957	530	567	1002	1475	-	-	1557	-	-
Mov Cap-2 Maneuver	584	588	-	530	567	-	-	-	-	-	-	-
Stage 1	875	825	-	753	690	-	-	-	-	-	-	-
Stage 2	688	690	-	784	802	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	11.8	5.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1475	-	-	608	572	1557	-	-
HCM Lane V/C Ratio	0.054	-	-	0.197	0.077	-	-	-
HCM Control Delay (s)	7.6	0	-	12.4	11.8	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0.2	0	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	95	1	1	1	0	42	95	1	0	93	0
Future Vol, veh/h	0	95	1	1	1	0	42	95	1	0	93	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	95	1	1	1	0	42	95	1	0	93	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	293	293	113	341	293	116	103	0	0	106	0	0
Stage 1	103	103	-	190	190	-	-	-	-	-	-	-
Stage 2	190	190	-	151	103	-	-	-	-	-	-	-
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	659	618	940	613	618	936	1489	-	-	1485	-	-
Stage 1	903	810	-	812	743	-	-	-	-	-	-	-
Stage 2	812	743	-	851	810	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	631	588	922	514	588	918	1475	-	-	1471	-	-
Mov Cap-2 Maneuver	631	588	-	514	588	-	-	-	-	-	-	-
Stage 1	868	802	-	780	713	-	-	-	-	-	-	-
Stage 2	779	713	-	742	802	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	11.6	2.3	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1475	-	-	590	549	1471	-	-
HCM Lane V/C Ratio	0.028	-	-	0.163	0.004	-	-	-
HCM Control Delay (s)	7.5	0	-	12.3	11.6	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	15	2	0	4	1	2	36	0	1	70	4
Future Vol, veh/h	7	15	2	0	4	1	2	36	0	1	70	4
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	15	2	0	4	1	2	36	0	1	70	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	157	154	112	163	156	76	94	0	0	56	0	0
Stage 1	94	94	-	60	60	-	-	-	-	-	-	-
Stage 2	63	60	-	103	96	-	-	-	-	-	-	-
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	809	738	941	802	736	985	1500	-	-	1549	-	-
Stage 1	913	817	-	951	845	-	-	-	-	-	-	-
Stage 2	948	845	-	903	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	773	708	905	756	707	948	1471	-	-	1519	-	-
Mov Cap-2 Maneuver	773	708	-	756	707	-	-	-	-	-	-	-
Stage 1	895	801	-	932	828	-	-	-	-	-	-	-
Stage 2	924	828	-	866	799	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	9.9	0.4	0.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1471	-	-	740	745	1519	-	-
HCM Lane V/C Ratio	0.001	-	-	0.032	0.007	0.001	-	-
HCM Control Delay (s)	7.5	0	-	10	9.9	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	38	9	29	30	44
Future Vol, veh/h	20	38	9	29	30	44
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	38	9	29	30	44

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	139	92	94	0	-	0
Stage 1	72	-	-	-	-	-
Stage 2	67	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	854	965	1500	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	817	929	1471	-	-	-
Mov Cap-2 Maneuver	817	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	938	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1471	-	887	-	-
HCM Lane V/C Ratio	0.006	-	0.065	-	-
HCM Control Delay (s)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	69	33	1	5	41
Future Vol, veh/h	3	69	33	1	5	41
Conflicting Peds, #/hr	20	20	0	20	20	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	69	33	1	5	41

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	125	74	0	0	54	0
Stage 1	54	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	870	988	-	-	1551	-
Stage 1	969	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	834	951	-	-	1521	-
Mov Cap-2 Maneuver	834	-	-	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	931	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	945	1521	-
HCM Lane V/C Ratio	-	-	0.076	0.003	-
HCM Control Delay (s)	-	-	9.1	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	28	2	61	4	48	72	50	7	10	52	31
Future Vol, veh/h	15	28	2	61	4	48	72	50	7	10	52	31
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	28	2	61	4	48	72	50	7	10	52	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	352	329	108	341	341	94	103	0	0	77	0	0
Stage 1	108	108	-	218	218	-	-	-	-	-	-	-
Stage 2	244	221	-	123	123	-	-	-	-	-	-	-
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	603	590	946	613	581	963	1489	-	-	1522	-	-
Stage 1	897	806	-	784	723	-	-	-	-	-	-	-
Stage 2	760	720	-	881	794	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	523	535	910	541	527	927	1461	-	-	1493	-	-
Mov Cap-2 Maneuver	523	535	-	541	527	-	-	-	-	-	-	-
Stage 1	835	785	-	730	673	-	-	-	-	-	-	-
Stage 2	667	670	-	826	773	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	11.6	4.2	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1461	-	-	541	657	1493	-	-
HCM Lane V/C Ratio	0.049	-	-	0.083	0.172	0.007	-	-
HCM Control Delay (s)	7.6	0	-	12.3	11.6	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.6	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	83	0	308	68	118
Future Vol, veh/h	0	83	0	308	68	118
Conflicting Peds, #/hr	0	20	0	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	83	0	308	68	118

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	167	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	877	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	844	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	844	-	-
HCM Lane V/C Ratio	-	0.098	-	-
HCM Control Delay (s)	-	9.7	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	0	215	27	129
Future Vol, veh/h	0	31	0	215	27	129
Conflicting Peds, #/hr	0	20	0	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	31	0	215	27	129

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	132	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	917	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	882	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	882	-	-
HCM Lane V/C Ratio	-	0.035	-	-
HCM Control Delay (s)	-	9.2	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	17	16	1	2	25	8	8	6	3	6	2	5
Future Vol, veh/h	17	16	1	2	25	8	8	6	3	6	2	5
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	16	1	2	25	8	8	6	3	6	2	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	53	0	0	37	0	0	128	128	57	128	124	69
Stage 1	-	-	-	-	-	-	71	71	-	53	53	-
Stage 2	-	-	-	-	-	-	57	57	-	75	71	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1553	-	-	1574	-	-	845	763	1009	845	766	994
Stage 1	-	-	-	-	-	-	939	836	-	960	851	-
Stage 2	-	-	-	-	-	-	955	847	-	934	836	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1523	-	-	1544	-	-	799	726	971	799	728	956
Mov Cap-2 Maneuver	-	-	-	-	-	-	799	726	-	799	728	-
Stage 1	-	-	-	-	-	-	911	811	-	931	834	-
Stage 2	-	-	-	-	-	-	929	830	-	897	811	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.7	0.4	9.6	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	796	1523	-	-	1544	-	-	839
HCM Lane V/C Ratio	0.021	0.011	-	-	0.001	-	-	0.015
HCM Control Delay (s)	9.6	7.4	0	-	7.3	0	-	9.4
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	24	39	11	9	6
Future Vol, veh/h	29	24	39	11	9	6
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	24	39	11	9	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	141	52	35	0	-	0
Stage 1	32	-	-	-	-	-
Stage 2	109	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	852	1016	1576	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	799	978	1546	-	-	-
Mov Cap-2 Maneuver	799	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	899	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	5.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1546	-	871	-	-
HCM Lane V/C Ratio	0.025	-	0.061	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	14	19	10	2	17
Future Vol, veh/h	3	14	19	10	2	17
Conflicting Peds, #/hr	20	20	0	20	20	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	14	19	10	2	17

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	85	64	0	0	49	0
Stage 1	44	-	-	-	-	-
Stage 2	41	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	916	1000	-	-	1558	-
Stage 1	978	-	-	-	-	-
Stage 2	981	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	880	962	-	-	1528	-
Mov Cap-2 Maneuver	880	-	-	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	961	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	946	1528	-
HCM Lane V/C Ratio	-	-	0.018	0.001	-
HCM Control Delay (s)	-	-	8.9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	39	1	1	14	0	8	6	9	0	1	2
Future Vol, veh/h	4	39	1	1	14	0	8	6	9	0	1	2
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	39	1	1	14	0	8	6	9	0	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	34	0	0	60	0	0	106	104	80	111	104	54
Stage 1	-	-	-	-	-	-	68	68	-	36	36	-
Stage 2	-	-	-	-	-	-	38	36	-	75	68	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1578	-	-	1544	-	-	873	786	980	867	786	1013
Stage 1	-	-	-	-	-	-	942	838	-	980	865	-
Stage 2	-	-	-	-	-	-	977	865	-	934	838	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1548	-	-	1515	-	-	835	754	943	818	754	975
Mov Cap-2 Maneuver	-	-	-	-	-	-	835	754	-	818	754	-
Stage 1	-	-	-	-	-	-	921	820	-	958	848	-
Stage 2	-	-	-	-	-	-	954	848	-	898	820	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.5	9.4	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	849	1548	-	-	1515	-	-	888
HCM Lane V/C Ratio	0.027	0.003	-	-	0.001	-	-	0.003
HCM Control Delay (s)	9.4	7.3	0	-	7.4	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	108	0	215	44	14
Future Vol, veh/h	0	108	0	215	44	14
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	108	0	215	44	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	71	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	991	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	972	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	972	-	-
HCM Lane V/C Ratio	-	0.111	-	-
HCM Control Delay (s)	-	9.2	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	3	1	2	1	1	1	5	1	1	2	1
Future Vol, veh/h	1	3	1	2	1	1	1	5	1	1	2	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	3	1	2	1	1	1	5	1	1	2	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	34	33	23	35	33	26	13	0	0	16	0	0
Stage 1	15	15	-	18	18	-	-	-	-	-	-	-
Stage 2	19	18	-	17	15	-	-	-	-	-	-	-
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	973	860	1054	971	860	1050	1606	-	-	1602	-	-
Stage 1	1005	883	-	1001	880	-	-	-	-	-	-	-
Stage 2	1000	880	-	1002	883	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	952	841	1034	948	841	1030	1591	-	-	1587	-	-
Mov Cap-2 Maneuver	952	841	-	948	841	-	-	-	-	-	-	-
Stage 1	994	873	-	990	870	-	-	-	-	-	-	-
Stage 2	987	870	-	987	873	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.9	1	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1591	-	-	895	937	1587	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.004	0.001	-	-
HCM Control Delay (s)	7.3	0	-	9	8.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	1	11	1	40	1	10	19	31	2	1
Future Vol, veh/h	0	3	1	11	1	40	1	10	19	31	2	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	1	11	1	40	1	10	19	31	2	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	51	0	0	14	0	0	69	87	24	81	67	41
Stage 1	-	-	-	-	-	-	14	14	-	53	53	-
Stage 2	-	-	-	-	-	-	55	73	-	28	14	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1555	-	-	1604	-	-	923	803	1052	907	824	1030
Stage 1	-	-	-	-	-	-	1006	884	-	960	851	-
Stage 2	-	-	-	-	-	-	957	834	-	989	884	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1540	-	-	1589	-	-	898	781	1032	860	802	1010
Mov Cap-2 Maneuver	-	-	-	-	-	-	898	781	-	860	802	-
Stage 1	-	-	-	-	-	-	996	875	-	950	837	-
Stage 2	-	-	-	-	-	-	938	820	-	951	875	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.5	9	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	928	1540	-	-	1589	-	-	860
HCM Lane V/C Ratio	0.032	-	-	-	0.007	-	-	0.04
HCM Control Delay (s)	9	0	-	-	7.3	0	-	9.4
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	187	4	1	126	0	1	8	1	0	2	18
Future Vol, veh/h	22	187	4	1	126	0	1	8	1	0	2	18
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	187	4	1	126	0	1	8	1	0	2	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	136	0	0	201	0	0	391	381	209	386	383	146
Stage 1	-	-	-	-	-	-	243	243	-	138	138	-
Stage 2	-	-	-	-	-	-	148	138	-	248	245	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1448	-	-	1371	-	-	568	552	831	573	550	901
Stage 1	-	-	-	-	-	-	761	705	-	865	782	-
Stage 2	-	-	-	-	-	-	855	782	-	756	703	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1434	-	-	1358	-	-	537	531	815	547	529	884
Mov Cap-2 Maneuver	-	-	-	-	-	-	537	531	-	547	529	-
Stage 1	-	-	-	-	-	-	741	686	-	843	773	-
Stage 2	-	-	-	-	-	-	827	773	-	727	684	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	11.7	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	551	1434	-	-	1358	-	-	828
HCM Lane V/C Ratio	0.018	0.015	-	-	0.001	-	-	0.024
HCM Control Delay (s)	11.7	7.5	0	-	7.7	0	-	9.5
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	212	1	0	129	0	2	14	0	0	3	1
Future Vol, veh/h	1	212	1	0	129	0	2	14	0	0	3	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	212	1	0	129	0	2	14	0	0	3	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	139	0	0	223	0	0	366	364	233	371	364	149
Stage 1	-	-	-	-	-	-	225	225	-	139	139	-
Stage 2	-	-	-	-	-	-	141	139	-	232	225	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1445	-	-	1346	-	-	590	564	806	586	564	898
Stage 1	-	-	-	-	-	-	778	718	-	864	782	-
Stage 2	-	-	-	-	-	-	862	782	-	771	718	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1431	-	-	1333	-	-	575	552	791	563	552	881
Mov Cap-2 Maneuver	-	-	-	-	-	-	575	552	-	563	552	-
Stage 1	-	-	-	-	-	-	769	710	-	854	774	-
Stage 2	-	-	-	-	-	-	850	774	-	748	710	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11.7	11
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	555	1431	-	-	1333	-	-	609
HCM Lane V/C Ratio	0.029	0.001	-	-	-	-	-	0.007
HCM Control Delay (s)	11.7	7.5	0	-	0	-	-	11
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	214	5	10	75	1	10	1	40	1	1	4
Future Vol, veh/h	3	214	5	10	75	1	10	1	40	1	1	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	214	5	10	75	1	10	1	40	1	1	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	86	0	0	229	0	0	341	339	237	359	341	96
Stage 1	-	-	-	-	-	-	233	233	-	106	106	-
Stage 2	-	-	-	-	-	-	108	106	-	253	235	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1510	-	-	1339	-	-	613	582	802	596	581	960
Stage 1	-	-	-	-	-	-	770	712	-	900	807	-
Stage 2	-	-	-	-	-	-	897	807	-	751	710	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1496	-	-	1326	-	-	593	565	787	550	564	942
Mov Cap-2 Maneuver	-	-	-	-	-	-	593	565	-	550	564	-
Stage 1	-	-	-	-	-	-	761	703	-	889	792	-
Stage 2	-	-	-	-	-	-	876	792	-	704	701	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.9	10.3	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	734	1496	-	-	1326	-	-	766
HCM Lane V/C Ratio	0.069	0.002	-	-	0.008	-	-	0.008
HCM Control Delay (s)	10.3	7.4	0	-	7.7	0	-	9.7
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	262	1	8	64	4	9	7	72	1	1	11
Future Vol, veh/h	17	262	1	8	64	4	9	7	72	1	1	11
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	262	1	8	64	4	9	7	72	1	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	78	0	0	273	0	0	405	401	283	438	399	86
Stage 1	-	-	-	-	-	-	307	307	-	92	92	-
Stage 2	-	-	-	-	-	-	98	94	-	346	307	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1520	-	-	1290	-	-	556	538	756	529	539	973
Stage 1	-	-	-	-	-	-	703	661	-	915	819	-
Stage 2	-	-	-	-	-	-	908	817	-	670	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1506	-	-	1278	-	-	530	517	742	457	518	955
Mov Cap-2 Maneuver	-	-	-	-	-	-	530	517	-	457	518	-
Stage 1	-	-	-	-	-	-	688	646	-	895	805	-
Stage 2	-	-	-	-	-	-	882	803	-	585	646	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.8	11	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	690	1506	-	-	1278	-	-	831
HCM Lane V/C Ratio	0.128	0.011	-	-	0.006	-	-	0.016
HCM Control Delay (s)	11	7.4	0	-	7.8	0	-	9.4
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	330	1	5	69	3	5	1	18	1	1	2
Future Vol, veh/h	4	330	1	5	69	3	5	1	18	1	1	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	330	1	5	69	3	5	1	18	1	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	341	0	0	441	441	351	449	440	91
Stage 1	-	-	-	-	-	-	349	349	-	91	91	-
Stage 2	-	-	-	-	-	-	92	92	-	358	349	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1515	-	-	1218	-	-	527	510	692	520	511	967
Stage 1	-	-	-	-	-	-	667	633	-	916	820	-
Stage 2	-	-	-	-	-	-	915	819	-	660	633	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1501	-	-	1206	-	-	512	496	679	493	497	949
Mov Cap-2 Maneuver	-	-	-	-	-	-	512	496	-	493	497	-
Stage 1	-	-	-	-	-	-	659	625	-	905	809	-
Stage 2	-	-	-	-	-	-	900	808	-	633	625	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.5	11	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	627	1501	-	-	1206	-	-	651
HCM Lane V/C Ratio	0.038	0.003	-	-	0.004	-	-	0.006
HCM Control Delay (s)	11	7.4	0	-	8	0	-	10.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	334	1	6	58	0	11	4	42	0	1	2
Future Vol, veh/h	9	334	1	6	58	0	11	4	42	0	1	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	334	1	6	58	0	11	4	42	0	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	68	0	0	345	0	0	445	443	355	466	443	78
Stage 1	-	-	-	-	-	-	363	363	-	80	80	-
Stage 2	-	-	-	-	-	-	82	80	-	386	363	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1533	-	-	1214	-	-	523	509	689	507	509	983
Stage 1	-	-	-	-	-	-	656	625	-	929	828	-
Stage 2	-	-	-	-	-	-	926	828	-	637	625	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1518	-	-	1202	-	-	507	493	676	459	493	964
Mov Cap-2 Maneuver	-	-	-	-	-	-	507	493	-	459	493	-
Stage 1	-	-	-	-	-	-	646	614	-	914	816	-
Stage 2	-	-	-	-	-	-	910	816	-	584	614	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.8	11.4	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	620	1518	-	-	1202	-	-	731
HCM Lane V/C Ratio	0.092	0.006	-	-	0.005	-	-	0.004
HCM Control Delay (s)	11.4	7.4	0	-	8	0	-	9.9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	1	95	1	1	73
Future Vol, veh/h	6	1	95	1	1	73
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	1	95	1	1	73

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	191	116	0	0	106	0
Stage 1	106	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	798	936	-	-	1485	-
Stage 1	918	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	781	918	-	-	1471	-
Mov Cap-2 Maneuver	781	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	928	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	798	1471	-
HCM Lane V/C Ratio	-	-	0.009	0.001	-
HCM Control Delay (s)	-	-	9.6	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	71	10	0	1	7
Future Vol, veh/h	5	71	10	0	1	7
Conflicting Peds, #/hr	10	0	0	10	10	10
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	71	10	0	1	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	111	30
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	91	-
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	1596	-	-	-	886	1044
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1581	-	-	-	866	1024
Mov Cap-2 Maneuver	-	-	-	-	866	-
Stage 1	-	-	-	-	990	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1581	-	-	-	1001
HCM Lane V/C Ratio	0.003	-	-	-	0.008
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	71	9	5	6	1
Future Vol, veh/h	1	71	9	5	6	1
Conflicting Peds, #/hr	10	0	0	10	10	10
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	71	9	5	6	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	105	32
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	83	-
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	1591	-	-	-	893	1042
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1576	-	-	-	874	1022
Mov Cap-2 Maneuver	-	-	-	-	874	-
Stage 1	-	-	-	-	990	-
Stage 2	-	-	-	-	931	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1576	-	-	-	892
HCM Lane V/C Ratio	0.001	-	-	-	0.008
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	71	6	5	1	1	9
Future Vol, veh/h	71	6	5	1	1	9
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	6	5	1	1	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	37	26	20	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	975	1050	1596	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	1002	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	953	1030	1581	-	-	-
Mov Cap-2 Maneuver	953	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	992	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	6.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1581	-	959	-	-
HCM Lane V/C Ratio	0.003	-	0.08	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	44	21	4	5	102
Future Vol, veh/h	23	44	21	4	5	102
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	44	21	4	5	102

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	155	43	0	0	35	0
Stage 1	33	-	-	-	-	-
Stage 2	122	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	836	1027	-	-	1576	-
Stage 1	989	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	817	1008	-	-	1561	-
Mov Cap-2 Maneuver	817	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	933	1561	-
HCM Lane V/C Ratio	-	-	0.072	0.003	-
HCM Control Delay (s)	-	-	9.2	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	39	6	15	18	9
Future Vol, veh/h	18	39	6	15	18	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	39	6	15	18	9

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	59	14	0	0	21	0
Stage 1	14	-	-	-	-	-
Stage 2	45	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	948	1066	-	-	1595	-
Stage 1	1009	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	938	1066	-	-	1595	-
Mov Cap-2 Maneuver	938	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	966	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	4.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1022	1595	-
HCM Lane V/C Ratio	-	-	0.056	0.011	-
HCM Control Delay (s)	-	-	8.7	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	67

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	349	59	292	0	27	5	147	46	2	4	9	46
Future Vol, veh/h	349	59	292	0	27	5	147	46	2	4	9	46
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	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	349	59	292	0	27	5	147	46	2	4	9	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	397	382	32	557	404	47	55	0	0	48	0	0
Stage 1	40	40	-	341	341	-	-	-	-	-	-	-
Stage 2	357	342	-	216	63	-	-	-	-	-	-	-
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	563	551	1042	441	536	1022	1550	-	-	1559	-	-
Stage 1	975	862	-	674	639	-	-	-	-	-	-	-
Stage 2	661	638	-	786	842	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	495	496	1042	267	482	1022	1550	-	-	1559	-	-
Mov Cap-2 Maneuver	495	496	-	267	482	-	-	-	-	-	-	-
Stage 1	880	859	-	609	577	-	-	-	-	-	-	-
Stage 2	566	576	-	525	839	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	92.2	12.3	5.7	0.5
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1550	-	-	634	525	1559	-	-
HCM Lane V/C Ratio	0.095	-	-	1.104	0.061	0.003	-	-
HCM Control Delay (s)	7.6	0	-	92.2	12.3	7.3	0	-
HCM Lane LOS	A	A	-	F	B	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	20.8	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	10	204	40	137	194
Future Vol, veh/h	27	10	204	40	137	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	10	204	40	137	194

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	692	224	0	0	244	0
Stage 1	224	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	410	815	-	-	1322	-
Stage 1	813	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	362	815	-	-	1322	-
Mov Cap-2 Maneuver	362	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	557	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	426	1322	-
HCM Lane V/C Ratio	-	-	0.087	0.104	-
HCM Control Delay (s)	-	-	14.3	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.3	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	26	25	166	145	15
Future Vol, veh/h	15	26	25	166	145	15
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	26	25	166	145	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	191	0	-	0	164	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	56	-
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	1383	-	-	-	827	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1383	-	-	-	818	946
Mov Cap-2 Maneuver	-	-	-	-	818	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1383	-	-	-	829
HCM Lane V/C Ratio	0.011	-	-	-	0.193
HCM Control Delay (s)	7.6	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	72	67	20	72	64
Future Vol, veh/h	6	72	67	20	72	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	40	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	72	67	20	72	64

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	285	77	0	0	87	0
Stage 1	77	-	-	-	-	-
Stage 2	208	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	705	984	-	-	1509	-
Stage 1	946	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	670	984	-	-	1509	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	670	984	1509	-
HCM Lane V/C Ratio	-	-	0.009	0.073	0.048	-
HCM Control Delay (s)	-	-	10.4	8.9	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.2	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	59	110	266	87	1
Future Vol, veh/h	2	59	110	266	87	1
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	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	59	110	266	87	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	376	0	-	0	173	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	63	-
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	1182	-	-	-	817	943
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	960	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1182	-	-	-	815	943
Mov Cap-2 Maneuver	-	-	-	-	815	-
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	960	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1182	-	-	-	816
HCM Lane V/C Ratio	0.002	-	-	-	0.108
HCM Control Delay (s)	8.1	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

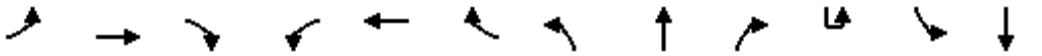
Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	16	125	341	153	53	30
Future Vol, veh/h	16	125	341	153	53	30
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	40
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	125	341	153	53	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	494	0	-	0	575	418
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	157	-
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	1070	-	-	-	480	635
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1070	-	-	-	472	635
Mov Cap-2 Maneuver	-	-	-	-	472	-
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1070	-	-	-	472	635
HCM Lane V/C Ratio	0.015	-	-	-	0.112	0.047
HCM Control Delay (s)	8.4	-	-	-	13.6	11
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	46	0	29	0	0	0	130	828	0	0	3	539
Future Volume (veh/h)	46	0	29	0	0	0	130	828	0	0	3	539
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	0		1870	1870
Adj Flow Rate, veh/h	46	0	29				130	828	0		3	539
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	2	2	2				2	2	0		2	2
Cap, veh/h	549	0	251				351	2170	0		98	1114
Arrive On Green	0.16	0.00	0.16				0.20	0.61	0.00		0.32	0.32
Sat Flow, veh/h	3456	0	1582				1781	3647	0		4	3475
Grp Volume(v), veh/h	46	0	29				130	828	0		290	252
Grp Sat Flow(s),veh/h/ln	1728	0	1582				1781	1777	0		1862	1617
Q Serve(g_s), s	0.4	0.0	0.6				2.4	4.5	0.0		0.0	4.7
Cycle Q Clear(g_c), s	0.4	0.0	0.6				2.4	4.5	0.0		4.7	4.7
Prop In Lane	1.00		1.00				1.00		0.00		0.01	
Lane Grp Cap(c), veh/h	549	0	251				351	2170	0		693	518
V/C Ratio(X)	0.08	0.00	0.12				0.37	0.38	0.00		0.42	0.49
Avail Cap(c_a), veh/h	2749	0	1258				1417	4702	0		2539	2144
HCM Platoon Ratio	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	1.00	0.00		1.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	13.6				13.1	3.7	0.0		10.3	10.3
Incr Delay (d2), s/veh	0.0	0.0	0.1				0.2	0.2	0.0		0.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2				0.7	0.3	0.0		1.3	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.6	0.0	13.7				13.4	3.9	0.0		10.9	11.3
LnGrp LOS	B	A	B				B	A	A		B	B
Approach Vol, veh/h		75						958				582
Approach Delay, s/veh		13.6						5.2				10.9
Approach LOS		B						A				B

Timer - Assigned Phs		3	4		6		8				
Phs Duration (G+Y+Rc), s		10.9	17.3		9.5		28.2				
Change Period (Y+Rc), s		3.5	* 5.2		3.5		5.2				
Max Green Setting (Gmax), s		30.0	* 50		30.0		49.9				
Max Q Clear Time (g_c+I1), s		4.4	6.7		2.6		6.5				
Green Ext Time (p_c), s		0.1	5.0		0.2		9.2				

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	40
Future Volume (veh/h)	40
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	40
Peak Hour Factor	1.00
Percent Heavy Veh, %	2
Cap, veh/h	504
Arrive On Green	0.32
Sat Flow, veh/h	1573
Grp Volume(v), veh/h	40
Grp Sat Flow(s),veh/h/ln	1573
Q Serve(g_s), s	0.7
Cycle Q Clear(g_c), s	0.7
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	504
V/C Ratio(X)	0.08
Avail Cap(c_a), veh/h	2085
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	8.9
Incr Delay (d2), s/veh	0.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.2
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	9.0
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	167	21	76	27	0	5	0	60	0	0	0
Future Volume (veh/h)	0	167	21	76	27	0	5	0	60	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	0	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	167	21	76	27	0	5	0	-111	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	2	2	2
Cap, veh/h	0	1209	535	315	1249	0	27	0	0	0	7	0
Arrive On Green	0.00	0.34	0.34	0.18	0.67	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1573	1781	1870	0	1781	5		0	-65463	0
Grp Volume(v), veh/h	0	167	21	76	27	0	5	14.4		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1573	1781	1870	0	1781	B		0	1870	0
Q Serve(g_s), s	0.0	0.9	0.2	1.0	0.1	0.0	0.1			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.9	0.2	1.0	0.1	0.0	0.1			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1209	535	315	1249	0	27			0	7	0
V/C Ratio(X)	0.00	0.14	0.04	0.24	0.02	0.00	0.19			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	6549	2900	1970	3447	0	1970			0	2068	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	6.2	6.0	9.6	1.5	0.0	13.2			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	1.2			0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.2	0.0	0.0	0.0			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.2	6.0	9.7	1.5	0.0	14.4			0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B			A	A	A
Approach Vol, veh/h		188			103						0	
Approach Delay, s/veh		6.2			7.6						0.0	
Approach LOS		A			A							

Timer - Assigned Phs	2	3	4	5	6
Phs Duration (G+Y+Rc), s	22.7	4.4	0.0	8.9	13.8
Change Period (Y+Rc), s	* 4.6	4.0	3.5	* 4.1	* 4.6
Max Green Setting (Gmax), s	* 50	30.0	30.0	* 30	* 50
Max Q Clear Time (g_c+I1), s	2.1	2.1	0.0	3.0	2.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	687	562	265	169	625	229	287	817	159	148	421	295
Future Volume (veh/h)	687	562	265	169	625	229	287	817	159	148	421	295
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	687	562	59	169	625	114	287	817	94	148	421	264
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	755	1004	310	374	789	245	348	2163	1178	373	2200	920
Arrive On Green	0.15	0.20	0.20	0.11	0.15	0.15	0.10	0.42	0.42	0.11	0.43	0.43
Sat Flow, veh/h	5063	5147	1590	3483	5147	1598	3483	5147	2802	3483	5147	1595
Grp Volume(v), veh/h	687	562	59	169	625	114	287	817	94	148	421	264
Grp Sat Flow(s),veh/h/ln	1688	1716	1590	1742	1716	1598	1742	1716	1401	1742	1716	1595
Q Serve(g_s), s	17.4	12.8	4.0	5.9	15.2	8.5	10.5	14.2	2.6	5.2	6.6	10.9
Cycle Q Clear(g_c), s	17.4	12.8	4.0	5.9	15.2	8.5	10.5	14.2	2.6	5.2	6.6	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	755	1004	310	374	789	245	348	2163	1178	373	2200	920
V/C Ratio(X)	0.91	0.56	0.19	0.45	0.79	0.47	0.82	0.38	0.08	0.40	0.19	0.29
Avail Cap(c_a), veh/h	759	1595	493	388	1405	436	388	2163	1178	442	2200	920
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)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	47.3	43.7	54.4	53.0	50.2	57.4	26.0	22.6	54.1	23.2	14.0
Incr Delay (d2), s/veh	13.1	0.2	0.1	0.3	0.7	0.5	11.0	0.5	0.1	0.3	0.2	0.8
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	8.2	5.4	1.6	2.6	6.5	3.3	5.1	5.7	0.9	2.2	2.7	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.6	47.4	43.8	54.7	53.7	50.7	68.4	26.5	22.7	54.4	23.4	14.7
LnGrp LOS	E	D	D	D	D	D	E	C	C	D	C	B
Approach Vol, veh/h		1308			908			1198			833	
Approach Delay, s/veh		57.8			53.5			36.2			26.2	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	25.6	18.5	61.0	19.5	31.1	19.4	60.0
Change Period (Y+Rc), s	5.5	* 5.7	5.5	* 5.4	5.5	* 5.7	5.5	* 5.4
Max Green Setting (Gmax), s	9.5	* 36	14.5	* 39	14.5	* 40	16.5	* 37
Max Q Clear Time (g_c+I1), s	9.4	17.2	12.5	12.9	7.9	14.8	7.2	16.2
Green Ext Time (p_c), s	0.0	2.7	0.1	2.1	0.1	2.5	0.1	9.4

Intersection Summary	
HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1048	182	71	802	0	84	0	72	9	5	5
Future Volume (veh/h)	2	1048	182	71	802	0	84	0	72	9	5	5
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	1048	140	71	802	-2	84	0	-5	9	5	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	2115	655	225	2703	839	266	272	230	106	51	43
Arrive On Green	0.01	0.41	0.41	0.13	0.53	0.00	0.15	0.00	0.00	0.03	0.03	0.00
Sat Flow, veh/h	3456	5106	1582	1781	5106	1585	1781	1870	1585	3563	1870	1585
Grp Volume(v), veh/h	2	1048	140	71	802	-2	84	0	-5	9	5	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1582	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.0	10.9	4.1	2.6	6.3	0.0	3.0	0.0	0.0	0.2	0.2	0.0
Cycle Q Clear(g_c), s	0.0	10.9	4.1	2.6	6.3	0.0	3.0	0.0	0.0	0.2	0.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	24	2115	655	225	2703	839	266	272	230	106	51	43
V/C Ratio(X)	0.08	0.50	0.21	0.32	0.30	0.00	0.32	0.00	-0.02	0.08	0.10	0.00
Avail Cap(c_a), veh/h	1438	3542	1097	741	3542	1100	741	1298	1100	1483	1298	1100
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	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.5	15.6	13.6	28.6	9.5	0.0	27.4	0.0	0.0	34.0	34.2	0.0
Incr Delay (d2), s/veh	0.5	0.4	0.3	0.3	0.1	0.0	0.3	0.0	0.0	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.7	1.4	1.0	1.9	0.0	1.2	0.0	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	15.9	13.9	28.9	9.6	0.0	27.6	0.0	0.0	34.1	34.5	0.0
LnGrp LOS	D	B	B	C	A	A	C	A	A	C	C	A
Approach Vol, veh/h		1190			871			79			14	
Approach Delay, s/veh		15.7			11.2			29.4			34.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	43.6	16.0	6.8	13.9	35.4	7.4	15.4
Change Period (Y+Rc), s	* 5.1	* 5.5	* 5.2	* 4.9	* 4.8	* 5.5	* 5.3	4.9
Max Green Setting (Gmax), s	* 30	* 50	* 30	* 50	* 30	* 50	* 30	50.0
Max Q Clear Time (g_c+I1), s	2.0	8.3	5.0	2.2	4.6	12.9	2.2	0.0
Green Ext Time (p_c), s	0.0	11.5	0.1	0.0	0.1	16.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	1012	113	221	452	59	374	1372	56	103	635	104
Future Volume (veh/h)	28	1012	113	221	452	59	374	1372	56	103	635	104
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	1012	-76	221	452	50	374	1372	3	103	635	32
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1369	425	399	1102	491	385	2177	535	363	2136	526
Arrive On Green	0.07	0.27	0.00	0.12	0.31	0.31	0.11	0.34	0.34	0.11	0.33	0.33
Sat Flow, veh/h	3456	5106	1585	3456	3554	1585	3456	6434	1581	3456	6434	1584
Grp Volume(v), veh/h	28	1012	-76	221	452	50	374	1372	3	103	635	32
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1777	1585	1728	1609	1581	1728	1609	1584
Q Serve(g_s), s	1.0	23.5	0.0	7.9	13.1	2.9	14.0	23.3	0.2	3.6	9.5	1.8
Cycle Q Clear(g_c), s	1.0	23.5	0.0	7.9	13.1	2.9	14.0	23.3	0.2	3.6	9.5	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	1369	425	399	1102	491	385	2177	535	363	2136	526
V/C Ratio(X)	0.11	0.74	-0.18	0.55	0.41	0.10	0.97	0.63	0.01	0.28	0.30	0.06
Avail Cap(c_a), veh/h	465	1606	499	465	1126	502	385	2177	535	385	2136	526
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)	0.94	0.94	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	43.4	0.0	54.3	35.4	31.9	57.5	36.2	28.5	53.7	32.2	29.6
Incr Delay (d2), s/veh	0.1	2.0	0.0	0.4	0.3	0.1	37.7	1.4	0.0	0.2	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.9	0.0	3.4	5.6	1.1	8.0	9.1	0.1	1.5	3.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	45.4	0.0	54.8	35.8	32.1	95.3	37.6	28.5	53.8	32.5	29.8
LnGrp LOS	E	D	A	D	D	C	F	D	C	D	C	C
Approach Vol, veh/h		964			723			1749			770	
Approach Delay, s/veh		49.3			41.3			49.9			35.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	46.4	19.2	49.4	20.5	41.0	20.0	48.5
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4
Max Green Setting (Gmax), s	17.5	* 41	14.5	* 35	17.5	* 41	14.5	* 35
Max Q Clear Time (g_c+I1), s	13.0	15.1	5.6	25.3	9.9	25.5	16.0	11.5
Green Ext Time (p_c), s	0.0	4.1	0.1	8.1	0.2	8.9	0.0	9.1

Intersection Summary	
HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	593	25	99	510	150	4	27	53	187	48	37
Future Volume (veh/h)	56	593	25	99	510	150	4	27	53	187	48	37
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	593	25	99	510	131	4	27	-24	187	48	-17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	690	29	251	852	721	3	21	20	326	342	290
Arrive On Green	0.07	0.39	0.39	0.14	0.46	0.46	0.01	0.01	0.00	0.18	0.18	0.00
Sat Flow, veh/h	1781	1782	75	1781	1870	1582	240	1619	1585	1781	1870	1585
Grp Volume(v), veh/h	56	0	618	99	510	131	31	0	-24	187	48	-17
Grp Sat Flow(s),veh/h/ln	1781	0	1857	1781	1870	1582	1858	0	1585	1781	1870	1585
Q Serve(g_s), s	1.7	0.0	17.0	2.8	11.3	2.7	0.7	0.0	0.0	5.3	1.2	0.0
Cycle Q Clear(g_c), s	1.7	0.0	17.0	2.8	11.3	2.7	0.7	0.0	0.0	5.3	1.2	0.0
Prop In Lane	1.00		0.04	1.00		1.00	0.13		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	0	720	251	852	721	24	0	20	326	342	290
V/C Ratio(X)	0.43	0.00	0.86	0.39	0.60	0.18	1.29	0.00	-1.17	0.57	0.14	-0.06
Avail Cap(c_a), veh/h	1187	0	1906	1283	1954	1652	1573	0	1342	1925	2021	1713
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	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.6	0.0	15.6	21.7	11.3	9.0	27.4	0.0	0.0	20.7	19.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	1.2	0.4	0.3	0.0	154.5	0.0	0.0	0.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	5.9	1.1	3.6	0.7	1.3	0.0	0.0	2.0	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	0.0	16.8	22.1	11.6	9.0	181.9	0.0	0.0	21.3	19.1	0.0
LnGrp LOS	C	A	B	C	B	A	F	A	A	C	B	A
Approach Vol, veh/h		674			740			7			218	
Approach Delay, s/veh		17.5			12.5			805.5			22.5	
Approach LOS		B			B			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	29.9		13.9	11.3	26.1		4.2
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5
Max Green Setting (Gmax), s	37.0	* 58		60.0	40.0	* 57		47.0
Max Q Clear Time (g_c+I1), s	3.7	13.3		7.3	4.8	19.0		2.7
Green Ext Time (p_c), s	0.1	2.2		0.4	0.1	2.6		0.1

Intersection Summary		
HCM 6th Ctrl Delay		19.3
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	472	382	116	151	395	382	137	1011	229	528	952	393
Future Volume (veh/h)	472	382	116	151	395	382	137	1011	229	528	952	393
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.96	1.00		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	472	382	36	151	395	212	137	1011	178	528	952	295
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	519	924	551	318	713	313	317	1207	665	540	1437	627
Arrive On Green	0.15	0.26	0.26	0.09	0.20	0.20	0.09	0.34	0.34	0.16	0.40	0.40
Sat Flow, veh/h	3456	3554	1559	3456	3554	1561	3456	3554	1529	3456	3554	1552
Grp Volume(v), veh/h	472	382	36	151	395	212	137	1011	178	528	952	295
Grp Sat Flow(s),veh/h/ln	1728	1777	1559	1728	1777	1561	1728	1777	1529	1728	1777	1552
Q Serve(g_s), s	17.5	11.6	2.0	5.4	13.0	16.3	4.9	34.1	9.7	19.8	28.3	18.2
Cycle Q Clear(g_c), s	17.5	11.6	2.0	5.4	13.0	16.3	4.9	34.1	9.7	19.8	28.3	18.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	519	924	551	318	713	313	317	1207	665	540	1437	627
V/C Ratio(X)	0.91	0.41	0.07	0.48	0.55	0.68	0.43	0.84	0.27	0.98	0.66	0.47
Avail Cap(c_a), veh/h	529	957	565	532	954	419	540	1207	665	540	1437	627
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	39.9	28.0	56.0	46.7	48.0	55.8	39.6	23.8	54.6	31.5	28.5
Incr Delay (d2), s/veh	19.0	0.4	0.1	0.4	0.9	3.6	0.3	7.0	1.0	33.0	2.4	2.5
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	8.8	5.1	0.7	2.3	5.8	6.5	2.1	15.5	3.6	10.9	12.2	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	40.3	28.0	56.5	47.6	51.6	56.2	46.6	24.7	87.7	33.9	31.0
LnGrp LOS	E	D	C	E	D	D	E	D	C	F	C	C
Approach Vol, veh/h		890			758			1326			1775	
Approach Delay, s/veh		57.3			50.5			44.7			49.4	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.6	31.2	16.6	57.6	16.9	38.9	25.0	49.2
Change Period (Y+Rc), s	* 5.1	* 5.1	* 4.7	* 5	5.0	* 5.1	* 4.7	* 5
Max Green Setting (Gmax), s	* 20	* 35	* 20	* 35	20.0	* 35	* 20	* 35
Max Q Clear Time (g_c+I1), s	19.5	18.3	6.9	30.3	7.4	13.6	21.8	36.1
Green Ext Time (p_c), s	0.1	3.9	0.2	2.2	0.2	3.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	49.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	491	1279	58	28	514	172	242	107	169	132	28	159
Future Volume (veh/h)	491	1279	58	28	514	172	242	107	169	132	28	159
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		0.99	1.00		0.97	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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	491	1279	27	28	514	59	174	201	29	152	0	19
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	529	1741	775	122	1477	653	260	273	225	422	0	188
Arrive On Green	0.30	0.97	0.97	0.07	0.41	0.41	0.14	0.14	0.14	0.12	0.00	0.12
Sat Flow, veh/h	3483	3582	1595	1795	3582	1584	1795	1885	1557	3591	0	1598
Grp Volume(v), veh/h	491	1279	27	28	514	59	174	201	29	152	0	19
Grp Sat Flow(s),veh/h/ln	1742	1791	1595	1795	1791	1584	1795	1885	1557	1795	0	1598
Q Serve(g_s), s	15.0	3.8	0.1	1.6	10.8	2.5	10.1	11.2	1.8	4.3	0.0	1.2
Cycle Q Clear(g_c), s	15.0	3.8	0.1	1.6	10.8	2.5	10.1	11.2	1.8	4.3	0.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	529	1741	775	122	1477	653	260	273	225	422	0	188
V/C Ratio(X)	0.93	0.73	0.03	0.23	0.35	0.09	0.67	0.74	0.13	0.36	0.00	0.10
Avail Cap(c_a), veh/h	529	1741	775	222	1477	653	570	598	494	454	0	202
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.7	0.8	0.8	48.5	22.2	19.7	44.5	45.0	41.0	44.7	0.0	43.3
Incr Delay (d2), s/veh	21.4	2.6	0.1	0.3	0.6	0.2	1.1	1.5	0.1	0.2	0.0	0.1
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	6.7	1.1	0.0	0.7	4.5	0.9	4.5	5.3	0.7	1.9	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	3.4	0.9	48.9	22.8	20.0	45.7	46.5	41.1	44.9	0.0	43.4
LnGrp LOS	E	A	A	D	C	B	D	D	D	D	A	D
Approach Vol, veh/h		1797			601			404			171	
Approach Delay, s/veh		18.6			23.7			45.7			44.8	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.0	49.9		18.0	12.9	58.1		21.0
Change Period (Y+Rc), s	* 4.3	* 4.6		* 5.1	* 5.4	* 4.6		5.1
Max Green Setting (Gmax), s	* 17	* 25		* 14	* 14	* 28		34.9
Max Q Clear Time (g_c+I1), s	17.0	12.8		6.3	3.6	5.8		13.2
Green Ext Time (p_c), s	0.0	1.8		0.2	0.0	6.4		0.9

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	612	363	82	163	333	189	149	605	212	236	424	180
Future Volume (veh/h)	612	363	82	163	333	189	149	605	212	236	424	180
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		0.98	1.00		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	612	363	-17	163	333	146	149	605	171	236	424	50
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	569	1407	628	374	1208	536	373	734	321	377	738	323
Arrive On Green	0.16	0.40	0.00	0.11	0.34	0.34	0.11	0.21	0.21	0.11	0.21	0.21
Sat Flow, veh/h	3456	3554	1585	3456	3554	1578	3456	3554	1551	3456	3554	1553
Grp Volume(v), veh/h	612	363	-17	163	333	146	149	605	171	236	424	50
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1578	1728	1777	1551	1728	1777	1553
Q Serve(g_s), s	18.1	7.6	0.0	4.9	7.5	7.4	4.4	17.9	10.8	7.2	11.8	2.9
Cycle Q Clear(g_c), s	18.1	7.6	0.0	4.9	7.5	7.4	4.4	17.9	10.8	7.2	11.8	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	569	1407	628	374	1208	536	373	734	321	377	738	323
V/C Ratio(X)	1.08	0.26	-0.03	0.44	0.28	0.27	0.40	0.82	0.53	0.63	0.57	0.15
Avail Cap(c_a), veh/h	569	1407	628	412	1208	536	412	992	433	412	989	432
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)	0.31	0.31	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	22.3	0.0	45.9	26.5	26.4	45.7	41.7	38.9	46.9	39.2	35.7
Incr Delay (d2), s/veh	44.9	0.1	0.0	0.3	0.6	1.3	0.3	3.1	0.5	1.7	0.3	0.1
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	11.1	3.1	0.0	2.1	3.2	2.9	1.9	7.9	4.1	3.1	5.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.9	22.5	0.0	46.2	27.0	27.7	46.0	44.8	39.4	48.6	39.5	35.8
LnGrp LOS	F	C	A	D	C	C	D	D	D	D	D	D
Approach Vol, veh/h		958			642			925			710	
Approach Delay, s/veh		66.6			32.0			44.0			42.2	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	42.0	16.8	28.2	16.8	48.2	16.9	28.1
Change Period (Y+Rc), s	* 4.9	* 4.6	* 4.9	* 5.4	* 4.9	* 4.6	* 4.9	* 5.4
Max Green Setting (Gmax), s	* 18	* 28	* 13	* 31	* 13	* 34	* 13	* 31
Max Q Clear Time (g_c+I1), s	20.1	9.5	6.4	13.8	6.9	9.6	9.2	19.9
Green Ext Time (p_c), s	0.0	1.4	0.1	1.6	0.1	1.4	0.2	2.2

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	62	54	0	36	77
Future Vol, veh/h	0	62	54	0	36	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	62	54	0	36	77

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	203	54	0	0	54	0
Stage 1	54	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	786	1013	-	-	1551	-
Stage 1	969	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	767	1013	-	-	1551	-
Mov Cap-2 Maneuver	767	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	858	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	2.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1013	1551	-
HCM Lane V/C Ratio	-	-	0.061	0.023	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	30	77	10	30	54
Future Vol, veh/h	28	30	77	10	30	54
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	185	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	30	77	10	30	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	97	0	-	0	188	102
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	96	-
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	1496	-	-	-	801	953
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1482	-	-	-	770	935
Mov Cap-2 Maneuver	-	-	-	-	770	-
Stage 1	-	-	-	-	905	-
Stage 2	-	-	-	-	919	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1482	-	-	-	869
HCM Lane V/C Ratio	0.019	-	-	-	0.097
HCM Control Delay (s)	7.5	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

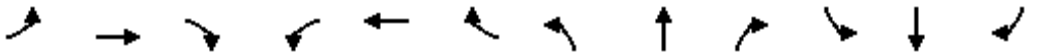
Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	74	131	297	313	50
Future Vol, veh/h	40	74	131	297	313	50
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	185	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	74	131	297	313	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	438	0	-	0	454	300
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	164	-
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	1122	-	-	-	564	740
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1111	-	-	-	533	726
Mov Cap-2 Maneuver	-	-	-	-	533	-
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	23.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1111	-	-	-	553
HCM Lane V/C Ratio	0.036	-	-	-	0.656
HCM Control Delay (s)	8.4	-	-	-	23.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	4.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	337	20	80	363	240	45	0	55	280	0	20
Future Volume (veh/h)	30	337	20	80	363	240	45	0	55	280	0	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.94	1.00		0.96
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	337	20	80	363	88	45	0	55	280	0	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	438	26	204	520	421	77	0	284	343	0	516
Arrive On Green	0.03	0.25	0.25	0.06	0.28	0.28	0.04	0.00	0.19	0.19	0.00	0.34
Sat Flow, veh/h	1781	1745	104	3456	1870	1515	1781	0	1497	1781	0	1522
Grp Volume(v), veh/h	30	0	357	80	363	88	45	0	55	280	0	20
Grp Sat Flow(s),veh/h/ln	1781	0	1848	1728	1870	1515	1781	0	1497	1781	0	1522
Q Serve(g_s), s	1.1	0.0	11.5	1.4	11.2	2.9	1.6	0.0	2.0	9.7	0.0	0.6
Cycle Q Clear(g_c), s	1.1	0.0	11.5	1.4	11.2	2.9	1.6	0.0	2.0	9.7	0.0	0.6
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	57	0	464	204	520	421	77	0	284	343	0	516
V/C Ratio(X)	0.52	0.00	0.77	0.39	0.70	0.21	0.59	0.00	0.19	0.82	0.00	0.04
Avail Cap(c_a), veh/h	152	0	995	349	1036	839	238	0	689	817	0	1195
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.6	0.0	22.4	29.1	20.8	17.8	30.2	0.0	21.9	24.9	0.0	14.2
Incr Delay (d2), s/veh	7.2	0.0	2.7	1.2	1.7	0.2	7.0	0.0	0.3	4.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	4.9	0.6	4.7	0.9	0.8	0.0	0.7	4.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	0.0	25.1	30.4	22.5	18.0	37.2	0.0	22.3	29.6	0.0	14.3
LnGrp LOS	D	A	C	C	C	B	D	A	C	C	A	B
Approach Vol, veh/h		387			531			100			300	
Approach Delay, s/veh		26.1			23.0			29.0			28.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	16.6	9.3	20.5	8.3	26.2	7.6	22.3
Change Period (Y+Rc), s	5.5	4.4	5.5	4.4	5.5	4.4	5.5	4.4
Max Green Setting (Gmax), s	29.5	29.6	6.5	34.6	8.6	50.5	5.5	35.6
Max Q Clear Time (g_c+I1), s	11.7	4.0	3.4	13.5	3.6	2.6	3.1	13.2
Green Ext Time (p_c), s	0.8	0.3	0.0	2.0	0.0	0.1	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	459	3	310	4	3	5	211	1101	8	9	571	424
Future Volume (veh/h)	459	3	310	4	3	5	211	1101	8	9	571	424
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.95	1.00		0.94
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	461	0	138	4	3	5	211	1101	8	9	571	106
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	739	0	314	92	69	115	250	1327	10	96	996	417
Arrive On Green	0.21	0.00	0.21	0.16	0.16	0.16	0.14	0.37	0.37	0.05	0.28	0.28
Sat Flow, veh/h	3563	0	1513	557	418	696	1781	3615	26	1781	3554	1488
Grp Volume(v), veh/h	461	0	138	12	0	0	211	541	568	9	571	106
Grp Sat Flow(s),veh/h/ln	1781	0	1513	1670	0	0	1781	1777	1864	1781	1777	1488
Q Serve(g_s), s	10.9	0.0	7.4	0.6	0.0	0.0	10.7	25.7	25.7	0.4	12.8	5.1
Cycle Q Clear(g_c), s	10.9	0.0	7.4	0.6	0.0	0.0	10.7	25.7	25.7	0.4	12.8	5.1
Prop In Lane	1.00		1.00	0.33		0.42	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	739	0	314	276	0	0	250	652	684	96	996	417
V/C Ratio(X)	0.62	0.00	0.44	0.04	0.00	0.00	0.84	0.83	0.83	0.09	0.57	0.25
Avail Cap(c_a), veh/h	1481	0	629	594	0	0	432	846	887	96	1022	428
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	32.1	32.6	0.0	0.0	38.9	26.7	26.7	41.8	28.6	25.9
Incr Delay (d2), s/veh	0.9	0.0	1.0	0.1	0.0	0.0	7.5	5.5	5.2	0.4	0.7	0.3
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	4.7	0.0	2.8	0.2	0.0	0.0	5.0	11.1	11.6	0.2	5.3	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	0.0	33.1	32.7	0.0	0.0	46.4	32.2	32.0	42.2	29.4	26.2
LnGrp LOS	C	A	C	C	A	A	D	C	C	D	C	C
Approach Vol, veh/h		599			12			1320			686	
Approach Delay, s/veh		34.1			32.7			34.4			29.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	38.9		23.7	18.6	30.8		19.8
Change Period (Y+Rc), s	5.5	4.8		4.4	5.5	4.8		4.5
Max Green Setting (Gmax), s	5.0	44.2		38.6	22.5	26.7		33.0
Max Q Clear Time (g_c+I1), s	12.4	27.7		12.9	12.7	14.8		2.6
Green Ext Time (p_c), s	0.0	6.3		2.2	0.4	3.1		0.0

Intersection Summary		
HCM 6th Ctrl Delay	32.9	
HCM 6th LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	60	0	0	18	64	1302	30	5	862	18
Future Vol, veh/h	0	0	60	0	0	18	64	1302	30	5	862	18
Conflicting Peds, #/hr	0	0	10	0	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	220	-	160	160	-	160
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	60	0	0	18	64	1302	30	5	862	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	451	-	-	671	890	0	0	1342	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	556	0	0	399	757	-	-	509	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	545	-	-	391	750	-	-	504	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	14.7	0.5	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	750	-	-	545	391	504	-	-
HCM Lane V/C Ratio	0.085	-	-	0.11	0.046	0.01	-	-
HCM Control Delay (s)	10.2	-	-	12.4	14.7	12.2	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.4	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	697	40	74	420	32	59
Future Vol, veh/h	697	40	74	420	32	59
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	185	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	697	40	74	420	32	59

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	747	0	1295	727
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	568	-
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	-	-	861	-	179	424
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	567	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	853	-	162	420
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	473	-
Stage 2	-	-	-	-	518	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	25.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	269	-	-	853	-
HCM Lane V/C Ratio	0.338	-	-	0.087	-
HCM Control Delay (s)	25.1	-	-	9.6	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.4	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	1	293	2	2	265
Future Vol, veh/h	2	1	293	2	2	265
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	293	2	2	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	583	314	0	0	305	0
Stage 1	304	-	-	-	-	-
Stage 2	279	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	475	726	-	-	1256	-
Stage 1	748	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	465	712	-	-	1244	-
Mov Cap-2 Maneuver	465	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	759	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	526	1244	-
HCM Lane V/C Ratio	-	-	0.006	0.002	-
HCM Control Delay (s)	-	-	11.9	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	3	0	13	10	0	0	9	4	0	7	1
Future Vol, veh/h	1	3	0	13	10	0	0	9	4	0	7	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	3	0	13	10	0	0	9	4	0	7	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	13	0	0	65	61	23	68	61	30
Stage 1	-	-	-	-	-	-	15	15	-	46	46	-
Stage 2	-	-	-	-	-	-	50	46	-	22	15	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1596	-	-	1606	-	-	929	830	1054	925	830	1044
Stage 1	-	-	-	-	-	-	1005	883	-	968	857	-
Stage 2	-	-	-	-	-	-	963	857	-	996	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1581	-	-	1591	-	-	898	806	1034	890	806	1024
Mov Cap-2 Maneuver	-	-	-	-	-	-	898	806	-	890	806	-
Stage 1	-	-	-	-	-	-	995	873	-	958	842	-
Stage 2	-	-	-	-	-	-	937	842	-	972	873	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	4.1	9.2	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	865	1581	-	-	1591	-	-	828
HCM Lane V/C Ratio	0.015	0.001	-	-	0.008	-	-	0.01
HCM Control Delay (s)	9.2	7.3	-	-	7.3	-	-	9.4
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

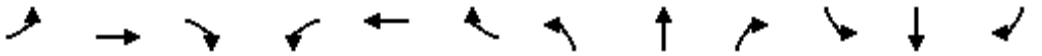
Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	0	4	23	100	1	13	2	49	12	0
Future Vol, veh/h	0	6	0	4	23	100	1	13	2	49	12	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	0	4	23	100	1	13	2	49	12	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	133	0	0	16	0	0	113	157	26	115	107	93
Stage 1	-	-	-	-	-	-	16	16	-	91	91	-
Stage 2	-	-	-	-	-	-	97	141	-	24	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1452	-	-	1602	-	-	864	735	1050	862	783	964
Stage 1	-	-	-	-	-	-	1004	882	-	916	820	-
Stage 2	-	-	-	-	-	-	910	780	-	994	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1438	-	-	1587	-	-	835	718	1030	831	765	946
Mov Cap-2 Maneuver	-	-	-	-	-	-	835	718	-	831	765	-
Stage 1	-	-	-	-	-	-	994	873	-	907	809	-
Stage 2	-	-	-	-	-	-	886	770	-	968	873	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	9.9	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	753	1438	-	-	1587	-	-	817
HCM Lane V/C Ratio	0.021	-	-	-	0.003	-	-	0.075
HCM Control Delay (s)	9.9	0	-	-	7.3	-	-	9.8
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1	56	121	9	2	128	1577	180	11	764	27
Future Volume (veh/h)	9	1	56	121	9	2	128	1577	180	11	764	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.96
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	1	56	121	9	2	128	1577	130	11	764	27
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	4	235	151	339	75	162	1863	804	24	1563	55
Arrive On Green	0.01	0.16	0.16	0.08	0.23	0.23	0.09	0.52	0.52	0.01	0.45	0.45
Sat Flow, veh/h	1781	27	1503	1781	1473	327	1781	3554	1533	1781	3496	124
Grp Volume(v), veh/h	9	0	57	121	0	11	128	1577	130	11	388	403
Grp Sat Flow(s),veh/h/ln	1781	0	1530	1781	0	1800	1781	1777	1533	1781	1777	1843
Q Serve(g_s), s	0.4	0.0	2.9	6.0	0.0	0.4	6.3	34.0	3.9	0.5	13.8	13.9
Cycle Q Clear(g_c), s	0.4	0.0	2.9	6.0	0.0	0.4	6.3	34.0	3.9	0.5	13.8	13.9
Prop In Lane	1.00		0.98	1.00		0.18	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	20	0	239	151	0	414	162	1863	804	24	794	824
V/C Ratio(X)	0.45	0.00	0.24	0.80	0.00	0.03	0.79	0.85	0.16	0.46	0.49	0.49
Avail Cap(c_a), veh/h	99	0	564	175	0	739	322	2118	914	99	837	868
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	0.0	33.1	40.2	0.0	26.7	39.9	18.2	11.1	43.9	17.5	17.5
Incr Delay (d2), s/veh	15.1	0.0	0.5	20.1	0.0	0.0	8.4	3.1	0.1	13.3	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.1	3.5	0.0	0.2	3.0	12.9	1.3	0.3	5.3	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	0.0	33.6	60.4	0.0	26.7	48.3	21.3	11.2	57.2	18.0	18.0
LnGrp LOS	E	A	C	E	A	C	D	C	B	E	B	B
Approach Vol, veh/h		66			132			1835			802	
Approach Delay, s/veh		37.1			57.6			22.4			18.5	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	51.8	13.1	18.0	13.6	44.8	6.5	24.6
Change Period (Y+Rc), s	5.5	4.8	5.5	4.0	5.5	4.8	5.5	4.0
Max Green Setting (Gmax), s	5.0	53.4	8.8	33.0	16.2	42.2	5.0	36.8
Max Q Clear Time (g_c+I1), s	2.5	36.0	8.0	4.9	8.3	15.9	2.4	2.4
Green Ext Time (p_c), s	0.0	11.0	0.0	0.3	0.2	4.9	0.0	0.0

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

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	84	29	24	1	14	13	66	62	6	35	18	32
Future Vol, veh/h	84	29	24	1	14	13	66	62	6	35	18	32
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	29	24	1	14	13	66	62	6	35	18	32
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.6	7.8	8.4	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	49%	100%	0%	100%	0%	41%
Vol Thru, %	46%	0%	55%	0%	52%	21%
Vol Right, %	4%	0%	45%	0%	48%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	84	53	1	27	85
LT Vol	66	84	0	1	0	35
Through Vol	62	0	29	0	14	18
RT Vol	6	0	24	0	13	32
Lane Flow Rate	134	84	53	1	27	85
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.168	0.13	0.07	0.002	0.036	0.103
Departure Headway (Hd)	4.521	5.569	4.747	5.686	4.843	4.365
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	796	645	756	630	740	823
Service Time	2.536	3.291	2.469	3.412	2.569	2.382
HCM Lane V/C Ratio	0.168	0.13	0.07	0.002	0.036	0.103
HCM Control Delay	8.4	9.1	7.8	8.4	7.8	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.2	0	0.1	0.3

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	160	13	51	406	54	13	5	48	22	1	1
Future Vol, veh/h	10	160	13	51	406	54	13	5	48	22	1	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	160	13	51	406	54	13	5	48	22	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	470	0	0	183	0	0	743	769	187	768	748	453
Stage 1	-	-	-	-	-	-	197	197	-	545	545	-
Stage 2	-	-	-	-	-	-	546	572	-	223	203	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1092	-	-	1392	-	-	331	332	855	319	341	607
Stage 1	-	-	-	-	-	-	805	738	-	523	519	-
Stage 2	-	-	-	-	-	-	522	504	-	780	733	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1082	-	-	1379	-	-	312	310	839	281	319	595
Mov Cap-2 Maneuver	-	-	-	-	-	-	312	310	-	281	319	-
Stage 1	-	-	-	-	-	-	790	724	-	513	495	-
Stage 2	-	-	-	-	-	-	496	480	-	717	719	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.8	12.1	18.6
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	574	1082	-	-	1379	-	-	289
HCM Lane V/C Ratio	0.115	0.009	-	-	0.037	-	-	0.083
HCM Control Delay (s)	12.1	8.4	-	-	7.7	-	-	18.6
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.3

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	4	206	20	90	470	58	36	9	76	20	5	4
Future Vol, veh/h	4	206	20	90	470	58	36	9	76	20	5	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	206	20	90	470	58	36	9	76	20	5	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	538	0	0	236	0	0	928	952	236	966	933	519
Stage 1	-	-	-	-	-	-	234	234	-	689	689	-
Stage 2	-	-	-	-	-	-	694	718	-	277	244	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1030	-	-	1331	-	-	248	259	803	234	266	557
Stage 1	-	-	-	-	-	-	769	711	-	436	446	-
Stage 2	-	-	-	-	-	-	433	433	-	729	704	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1020	-	-	1318	-	-	225	236	788	190	242	546
Mov Cap-2 Maneuver	-	-	-	-	-	-	225	236	-	190	242	-
Stage 1	-	-	-	-	-	-	759	701	-	430	412	-
Stage 2	-	-	-	-	-	-	392	400	-	642	694	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.2	17.4	24
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	411	1020	-	-	1318	-	-	218
HCM Lane V/C Ratio	0.294	0.004	-	-	0.068	-	-	0.133
HCM Control Delay (s)	17.4	8.5	-	-	7.9	-	-	24
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.2	0	-	-	0.2	-	-	0.5

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	278	18	62	603	20	11	14	65	17	5	4
Future Vol, veh/h	6	278	18	62	603	20	11	14	65	17	5	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	278	18	62	603	20	11	14	65	17	5	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	633	0	0	306	0	0	1061	1066	307	1096	1065	633
Stage 1	-	-	-	-	-	-	309	309	-	747	747	-
Stage 2	-	-	-	-	-	-	752	757	-	349	318	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	950	-	-	1255	-	-	202	222	733	191	223	480
Stage 1	-	-	-	-	-	-	701	660	-	405	420	-
Stage 2	-	-	-	-	-	-	402	416	-	667	654	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	941	-	-	1243	-	-	185	206	719	155	206	471
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	206	-	155	206	-
Stage 1	-	-	-	-	-	-	690	649	-	399	395	-
Stage 2	-	-	-	-	-	-	370	391	-	584	644	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.7	16.1	27.9
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	413	941	-	-	1243	-	-	183
HCM Lane V/C Ratio	0.218	0.006	-	-	0.05	-	-	0.142
HCM Control Delay (s)	16.1	8.8	-	-	8	-	-	27.9
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	0.5

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	338	13	76	648	48	40	8	96	22	4	2
Future Vol, veh/h	3	338	13	76	648	48	40	8	96	22	4	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	338	13	76	648	48	40	8	96	22	4	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	706	0	0	361	0	0	1198	1219	365	1247	1201	692
Stage 1	-	-	-	-	-	-	361	361	-	834	834	-
Stage 2	-	-	-	-	-	-	837	858	-	413	367	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	892	-	-	1198	-	-	162	180	680	150	185	444
Stage 1	-	-	-	-	-	-	657	626	-	362	383	-
Stage 2	-	-	-	-	-	-	361	374	-	616	622	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	884	-	-	1187	-	-	147	165	667	115	169	436
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	165	-	115	169	-
Stage 1	-	-	-	-	-	-	648	618	-	357	355	-
Stage 2	-	-	-	-	-	-	329	347	-	514	614	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.8	26.3	40.8
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	884	-	-	1187	-	-	128
HCM Lane V/C Ratio	0.465	0.003	-	-	0.064	-	-	0.219
HCM Control Delay (s)	26.3	9.1	-	-	8.2	-	-	40.8
HCM Lane LOS	D	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	2.3	0	-	-	0.2	-	-	0.8

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	2	11	3	0	1	64	7	0	59	5
Future Vol, veh/h	2	1	2	11	3	0	1	64	7	0	59	5
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	2	11	3	0	1	64	7	0	59	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	153	155	82	153	154	88	74	0	0	81	0	0
Stage 1	72	72	-	80	80	-	-	-	-	-	-	-
Stage 2	81	83	-	73	74	-	-	-	-	-	-	-
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	814	737	978	814	738	970	1526	-	-	1517	-	-
Stage 1	938	835	-	929	828	-	-	-	-	-	-	-
Stage 2	927	826	-	937	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	795	722	959	795	723	952	1511	-	-	1503	-	-
Mov Cap-2 Maneuver	795	722	-	795	723	-	-	-	-	-	-	-
Stage 1	928	827	-	919	819	-	-	-	-	-	-	-
Stage 2	914	817	-	925	825	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.7	0.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1511	-	-	835	778	1503	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.018	-	-	-
HCM Control Delay (s)	7.4	0	-	9.3	9.7	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	5	1	10	14	38	1	71	4	20	58	12
Future Vol, veh/h	7	5	1	10	14	38	1	71	4	20	58	12
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	5	1	10	14	38	1	71	4	20	58	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	225	201	84	202	205	93	80	0	0	85	0	0
Stage 1	114	114	-	85	85	-	-	-	-	-	-	-
Stage 2	111	87	-	117	120	-	-	-	-	-	-	-
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	730	695	975	756	691	964	1518	-	-	1512	-	-
Stage 1	891	801	-	923	824	-	-	-	-	-	-	-
Stage 2	894	823	-	888	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	669	671	957	728	667	946	1504	-	-	1498	-	-
Mov Cap-2 Maneuver	669	671	-	728	667	-	-	-	-	-	-	-
Stage 1	881	782	-	913	815	-	-	-	-	-	-	-
Stage 2	834	814	-	861	777	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	9.7	0.1	1.7
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1504	-	-	686	828	1498	-	-
HCM Lane V/C Ratio	0.001	-	-	0.019	0.075	0.013	-	-
HCM Control Delay (s)	7.4	0	-	10.3	9.7	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

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	70	115	16	2	21	1	97	19	3	0	46	38
Future Vol, veh/h	70	115	16	2	21	1	97	19	3	0	46	38
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	115	16	2	21	1	97	19	3	0	46	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	311	301	85	366	319	41	94	0	0	32	0	0
Stage 1	75	75	-	225	225	-	-	-	-	-	-	-
Stage 2	236	226	-	141	94	-	-	-	-	-	-	-
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	642	612	974	590	598	1030	1500	-	-	1580	-	-
Stage 1	934	833	-	778	718	-	-	-	-	-	-	-
Stage 2	767	717	-	862	817	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	580	560	956	456	547	1010	1486	-	-	1565	-	-
Mov Cap-2 Maneuver	580	560	-	456	547	-	-	-	-	-	-	-
Stage 1	864	825	-	720	664	-	-	-	-	-	-	-
Stage 2	686	663	-	722	809	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	11.9	6.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1486	-	-	586	548	1565	-	-
HCM Lane V/C Ratio	0.065	-	-	0.343	0.044	-	-	-
HCM Control Delay (s)	7.6	0	-	14.3	11.9	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.5	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	119	2	5	2	0	37	142	2	0	92	0
Future Vol, veh/h	0	119	2	5	2	0	37	142	2	0	92	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	119	2	5	2	0	37	142	2	0	92	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	330	330	112	390	329	163	102	0	0	154	0	0
Stage 1	102	102	-	227	227	-	-	-	-	-	-	-
Stage 2	228	228	-	163	102	-	-	-	-	-	-	-
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	623	589	941	569	590	882	1490	-	-	1426	-	-
Stage 1	904	811	-	776	716	-	-	-	-	-	-	-
Stage 2	775	715	-	839	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	597	562	923	457	563	865	1476	-	-	1412	-	-
Mov Cap-2 Maneuver	597	562	-	457	563	-	-	-	-	-	-	-
Stage 1	871	803	-	748	690	-	-	-	-	-	-	-
Stage 2	745	689	-	706	803	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	12.6	1.5	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1476	-	-	566	483	1412	-	-
HCM Lane V/C Ratio	0.025	-	-	0.214	0.014	-	-	-
HCM Control Delay (s)	7.5	0	-	13.1	12.6	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	9	1	0	21	1	1	69	0	1	59	9
Future Vol, veh/h	5	9	1	0	21	1	1	69	0	1	59	9
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	9	1	0	21	1	1	69	0	1	59	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	188	177	104	182	181	109	88	0	0	89	0	0
Stage 1	86	86	-	91	91	-	-	-	-	-	-	-
Stage 2	102	91	-	91	90	-	-	-	-	-	-	-
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	772	717	951	779	713	945	1508	-	-	1506	-	-
Stage 1	922	824	-	916	820	-	-	-	-	-	-	-
Stage 2	904	820	-	916	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	723	688	915	740	684	909	1479	-	-	1477	-	-
Mov Cap-2 Maneuver	723	688	-	740	684	-	-	-	-	-	-	-
Stage 1	904	808	-	898	804	-	-	-	-	-	-	-
Stage 2	862	804	-	887	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	10.4	0.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1479	-	-	711	692	1477	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	0.032	0.001	-	-
HCM Control Delay (s)	7.4	0	-	10.2	10.4	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	22	44	27	40	28
Future Vol, veh/h	47	22	44	27	40	28
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	22	44	27	40	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	209	94	88	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	135	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	779	963	1508	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	727	927	1479	-	-	-
Mov Cap-2 Maneuver	727	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	874	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	4.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1479	-	781	-	-
HCM Lane V/C Ratio	0.03	-	0.088	-	-
HCM Control Delay (s)	7.5	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	84	34	8	6	54
Future Vol, veh/h	4	84	34	8	6	54
Conflicting Peds, #/hr	20	20	0	20	20	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	84	34	8	6	54

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	144	78	0	0	62	0
Stage 1	58	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	849	983	-	-	1541	-
Stage 1	965	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	814	946	-	-	1512	-
Mov Cap-2 Maneuver	814	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	915	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	939	1512	-
HCM Lane V/C Ratio	-	-	0.094	0.004	-
HCM Control Delay (s)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	28	18	3	51	18	83	102	62	23	18	57	17
Future Vol, veh/h	28	18	3	51	18	83	102	62	23	18	57	17
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	18	3	51	18	83	102	62	23	18	57	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	470	431	106	430	428	114	94	0	0	105	0	0
Stage 1	122	122	-	298	298	-	-	-	-	-	-	-
Stage 2	348	309	-	132	130	-	-	-	-	-	-	-
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	504	517	948	535	519	939	1500	-	-	1486	-	-
Stage 1	882	795	-	711	667	-	-	-	-	-	-	-
Stage 2	668	660	-	871	789	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	400	455	912	465	457	904	1471	-	-	1458	-	-
Mov Cap-2 Maneuver	400	455	-	465	457	-	-	-	-	-	-	-
Stage 1	802	770	-	646	606	-	-	-	-	-	-	-
Stage 2	535	600	-	821	764	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	12.5	4.2	1.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1471	-	-	434	631	1458	-	-
HCM Lane V/C Ratio	0.069	-	-	0.113	0.241	0.012	-	-
HCM Control Delay (s)	7.6	0	-	14.3	12.5	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.9	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	58	0	184	152	65
Future Vol, veh/h	0	58	0	184	152	65
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	58	0	184	152	65

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	225	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	814	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	783	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	783	-	-
HCM Lane V/C Ratio	-	0.074	-	-
HCM Control Delay (s)	-	10	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	41	0	154	179	29
Future Vol, veh/h	0	41	0	154	179	29
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	41	0	154	179	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	214	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	826	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	810	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	810	-	-
HCM Lane V/C Ratio	-	0.051	-	-
HCM Control Delay (s)	-	9.7	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	22	6	5	19	2	2	3	1	7	10	18
Future Vol, veh/h	10	22	6	5	19	2	2	3	1	7	10	18
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	22	6	5	19	2	2	3	1	7	10	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	41	0	0	48	0	0	129	116	65	117	118	60
Stage 1	-	-	-	-	-	-	65	65	-	50	50	-
Stage 2	-	-	-	-	-	-	64	51	-	67	68	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1568	-	-	1559	-	-	844	774	999	859	772	1005
Stage 1	-	-	-	-	-	-	946	841	-	963	853	-
Stage 2	-	-	-	-	-	-	947	852	-	943	838	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1538	-	-	1529	-	-	782	738	961	817	736	967
Mov Cap-2 Maneuver	-	-	-	-	-	-	782	738	-	817	736	-
Stage 1	-	-	-	-	-	-	921	819	-	938	834	-
Stage 2	-	-	-	-	-	-	898	833	-	914	816	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	1.4	9.6	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	783	1538	-	-	1529	-	-	858
HCM Lane V/C Ratio	0.008	0.007	-	-	0.003	-	-	0.041
HCM Control Delay (s)	9.6	7.4	0	-	7.4	0	-	9.4
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	37	26	10	20	29
Future Vol, veh/h	16	37	26	10	20	29
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	37	26	10	20	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	137	75	69	0	-	0
Stage 1	55	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	856	986	1532	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	810	949	1503	-	-	-
Mov Cap-2 Maneuver	810	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	923	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	902	-	-
HCM Lane V/C Ratio	0.017	-	0.059	-	-
HCM Control Delay (s)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	6	26	12	11	48
Future Vol, veh/h	11	6	26	12	11	48
Conflicting Peds, #/hr	20	20	0	20	20	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	6	26	12	11	48

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	142	72	0	0	58	0
Stage 1	52	-	-	-	-	-
Stage 2	90	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	851	990	-	-	1546	-
Stage 1	970	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	814	953	-	-	1517	-
Mov Cap-2 Maneuver	814	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	910	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	858	1517	-
HCM Lane V/C Ratio	-	-	0.02	0.007	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	26	4	4	37	0	2	2	5	0	28	7
Future Vol, veh/h	10	26	4	4	37	0	2	2	5	0	28	7
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	26	4	4	37	0	2	2	5	0	28	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	57	0	0	50	0	0	151	133	68	137	135	77
Stage 1	-	-	-	-	-	-	68	68	-	65	65	-
Stage 2	-	-	-	-	-	-	83	65	-	72	70	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1547	-	-	1557	-	-	816	758	995	834	756	984
Stage 1	-	-	-	-	-	-	942	838	-	946	841	-
Stage 2	-	-	-	-	-	-	925	841	-	938	837	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1518	-	-	1527	-	-	751	722	957	791	720	947
Mov Cap-2 Maneuver	-	-	-	-	-	-	751	722	-	791	720	-
Stage 1	-	-	-	-	-	-	918	816	-	921	822	-
Stage 2	-	-	-	-	-	-	867	822	-	907	815	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.7	9.3	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	844	1518	-	-	1527	-	-	756
HCM Lane V/C Ratio	0.011	0.007	-	-	0.003	-	-	0.046
HCM Control Delay (s)	9.3	7.4	0	-	7.4	0	-	10
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	38	0	154	127	93
Future Vol, veh/h	0	38	0	154	127	93
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	38	0	154	127	93

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	194	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	847	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	831	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	831	-	-
HCM Lane V/C Ratio	-	0.046	-	-
HCM Control Delay (s)	-	9.5	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	1	1	3	1	2	3	1	1	6	9
Future Vol, veh/h	1	2	1	1	3	1	2	3	1	1	6	9
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	1	1	3	1	2	3	1	1	6	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	43	41	31	42	45	24	25	0	0	14	0	0
Stage 1	23	23	-	18	18	-	-	-	-	-	-	-
Stage 2	20	18	-	24	27	-	-	-	-	-	-	-
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	960	851	1043	961	847	1052	1589	-	-	1604	-	-
Stage 1	995	876	-	1001	880	-	-	-	-	-	-	-
Stage 2	999	880	-	994	873	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	937	832	1023	939	828	1032	1574	-	-	1589	-	-
Mov Cap-2 Maneuver	937	832	-	939	828	-	-	-	-	-	-	-
Stage 1	984	866	-	990	870	-	-	-	-	-	-	-
Stage 2	984	870	-	980	863	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.1	2.4	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1574	-	-	899	884	1589	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.006	0.001	-	-
HCM Control Delay (s)	7.3	0	-	9	9.1	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	1	19	5	31	4	5	9	41	16	0
Future Vol, veh/h	0	1	1	19	5	31	4	5	9	41	16	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	19	5	31	4	5	9	41	16	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	46	0	0	12	0	0	89	96	22	88	81	41
Stage 1	-	-	-	-	-	-	12	12	-	69	69	-
Stage 2	-	-	-	-	-	-	77	84	-	19	12	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1562	-	-	1607	-	-	896	794	1055	897	809	1030
Stage 1	-	-	-	-	-	-	1009	886	-	941	837	-
Stage 2	-	-	-	-	-	-	932	825	-	1000	886	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1547	-	-	1592	-	-	857	769	1035	860	783	1010
Mov Cap-2 Maneuver	-	-	-	-	-	-	857	769	-	860	783	-
Stage 1	-	-	-	-	-	-	999	877	-	932	819	-
Stage 2	-	-	-	-	-	-	894	807	-	976	877	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.5	9.1	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	906	1547	-	-	1592	-	-	837
HCM Lane V/C Ratio	0.02	-	-	-	0.012	-	-	0.068
HCM Control Delay (s)	9.1	0	-	-	7.3	0	-	9.6
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	158	3	1	159	0	1	6	1	0	13	46
Future Vol, veh/h	32	158	3	1	159	0	1	6	1	0	13	46
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	158	3	1	159	0	1	6	1	0	13	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	169	0	0	171	0	0	435	405	180	408	406	179
Stage 1	-	-	-	-	-	-	234	234	-	171	171	-
Stage 2	-	-	-	-	-	-	201	171	-	237	235	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1409	-	-	1406	-	-	531	535	863	554	534	864
Stage 1	-	-	-	-	-	-	769	711	-	831	757	-
Stage 2	-	-	-	-	-	-	801	757	-	766	710	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1396	-	-	1393	-	-	474	511	847	527	510	848
Mov Cap-2 Maneuver	-	-	-	-	-	-	474	511	-	527	510	-
Stage 1	-	-	-	-	-	-	743	686	-	803	749	-
Stage 2	-	-	-	-	-	-	737	749	-	732	685	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	11.9	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	532	1396	-	-	1393	-	-	740
HCM Lane V/C Ratio	0.015	0.023	-	-	0.001	-	-	0.08
HCM Control Delay (s)	11.9	7.6	0	-	7.6	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	169	1	0	186	0	1	6	0	0	30	1
Future Vol, veh/h	1	169	1	0	186	0	1	6	0	0	30	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	169	1	0	186	0	1	6	0	0	30	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	196	0	0	180	0	0	394	378	190	381	378	206
Stage 1	-	-	-	-	-	-	182	182	-	196	196	-
Stage 2	-	-	-	-	-	-	212	196	-	185	182	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1377	-	-	1396	-	-	566	554	852	577	554	835
Stage 1	-	-	-	-	-	-	820	749	-	806	739	-
Stage 2	-	-	-	-	-	-	790	739	-	817	749	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1364	-	-	1383	-	-	531	542	836	561	542	819
Mov Cap-2 Maneuver	-	-	-	-	-	-	531	542	-	561	542	-
Stage 1	-	-	-	-	-	-	811	741	-	797	732	-
Stage 2	-	-	-	-	-	-	749	732	-	802	741	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11.8	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	540	1364	-	-	1383	-	-	548
HCM Lane V/C Ratio	0.013	0.001	-	-	-	-	-	0.057
HCM Control Delay (s)	11.8	7.6	0	-	0	-	-	12
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	92	14	41	197	1	1	3	23	3	1	3
Future Vol, veh/h	2	92	14	41	197	1	1	3	23	3	1	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	92	14	41	197	1	1	3	23	3	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	208	0	0	116	0	0	405	403	119	416	410	218
Stage 1	-	-	-	-	-	-	113	113	-	290	290	-
Stage 2	-	-	-	-	-	-	292	290	-	126	120	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1363	-	-	1473	-	-	556	536	933	547	531	822
Stage 1	-	-	-	-	-	-	892	802	-	718	672	-
Stage 2	-	-	-	-	-	-	716	672	-	878	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1350	-	-	1459	-	-	529	508	915	507	503	806
Mov Cap-2 Maneuver	-	-	-	-	-	-	529	508	-	507	503	-
Stage 1	-	-	-	-	-	-	881	792	-	709	644	-
Stage 2	-	-	-	-	-	-	683	644	-	843	786	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.3	9.5	11.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	820	1350	-	-	1459	-	-	602
HCM Lane V/C Ratio	0.033	0.001	-	-	0.028	-	-	0.012
HCM Control Delay (s)	9.5	7.7	0	-	7.5	0	-	11.1
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	119	3	75	246	4	1	6	22	7	11	15
Future Vol, veh/h	8	119	3	75	246	4	1	6	22	7	11	15
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	119	3	75	246	4	1	6	22	7	11	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	260	0	0	132	0	0	568	557	141	569	556	268
Stage 1	-	-	-	-	-	-	147	147	-	408	408	-
Stage 2	-	-	-	-	-	-	421	410	-	161	148	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1304	-	-	1453	-	-	434	439	907	433	439	771
Stage 1	-	-	-	-	-	-	856	775	-	620	597	-
Stage 2	-	-	-	-	-	-	610	595	-	841	775	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1292	-	-	1439	-	-	388	401	890	388	401	756
Mov Cap-2 Maneuver	-	-	-	-	-	-	388	401	-	388	401	-
Stage 1	-	-	-	-	-	-	842	762	-	610	555	-
Stage 2	-	-	-	-	-	-	545	553	-	800	762	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.8	10.5	12.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	686	1292	-	-	1439	-	-	505
HCM Lane V/C Ratio	0.042	0.006	-	-	0.052	-	-	0.065
HCM Control Delay (s)	10.5	7.8	0	-	7.6	0	-	12.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.2	-	-	0.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	138	5	15	313	1	2	1	12	2	2	10
Future Vol, veh/h	5	138	5	15	313	1	2	1	12	2	2	10
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	138	5	15	313	1	2	1	12	2	2	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	324	0	0	153	0	0	521	515	161	521	517	334
Stage 1	-	-	-	-	-	-	161	161	-	354	354	-
Stage 2	-	-	-	-	-	-	360	354	-	167	163	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1236	-	-	1428	-	-	466	464	884	466	462	708
Stage 1	-	-	-	-	-	-	841	765	-	663	630	-
Stage 2	-	-	-	-	-	-	658	630	-	835	763	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1224	-	-	1414	-	-	443	447	867	444	445	695
Mov Cap-2 Maneuver	-	-	-	-	-	-	443	447	-	444	445	-
Stage 1	-	-	-	-	-	-	830	754	-	654	616	-
Stage 2	-	-	-	-	-	-	632	616	-	811	752	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	10	11.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	728	1224	-	-	1414	-	-	599
HCM Lane V/C Ratio	0.021	0.004	-	-	0.011	-	-	0.023
HCM Control Delay (s)	10	8	0	-	7.6	0	-	11.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	137	8	46	305	0	2	1	18	0	5	22
Future Vol, veh/h	6	137	8	46	305	0	2	1	18	0	5	22
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	137	8	46	305	0	2	1	18	0	5	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	315	0	0	155	0	0	584	570	161	580	574	325
Stage 1	-	-	-	-	-	-	163	163	-	407	407	-
Stage 2	-	-	-	-	-	-	421	407	-	173	167	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1245	-	-	1425	-	-	423	431	884	426	429	716
Stage 1	-	-	-	-	-	-	839	763	-	621	597	-
Stage 2	-	-	-	-	-	-	610	597	-	829	760	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1233	-	-	1411	-	-	385	404	867	395	402	702
Mov Cap-2 Maneuver	-	-	-	-	-	-	385	404	-	395	402	-
Stage 1	-	-	-	-	-	-	827	752	-	612	568	-
Stage 2	-	-	-	-	-	-	557	568	-	799	749	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	10	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	739	1233	-	-	1411	-	-	617
HCM Lane V/C Ratio	0.028	0.005	-	-	0.033	-	-	0.044
HCM Control Delay (s)	10	7.9	0	-	7.6	0	-	11.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	1	183	13	1	103
Future Vol, veh/h	2	1	183	13	1	103
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	183	13	1	103

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	315	210	0	0	206	0
Stage 1	200	-	-	-	-	-
Stage 2	115	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	678	830	-	-	1365	-
Stage 1	834	-	-	-	-	-
Stage 2	910	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	664	814	-	-	1352	-
Mov Cap-2 Maneuver	664	-	-	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	900	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	707	1352	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Control Delay (s)	-	-	10.1	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	27	61	1	1	16
Future Vol, veh/h	16	27	61	1	1	16
Conflicting Peds, #/hr	10	0	0	10	10	10
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	27	61	1	1	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	72	0	-	0	141	82
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	69	-
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	1528	-	-	-	852	978
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	954	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1513	-	-	-	826	959
Mov Cap-2 Maneuver	-	-	-	-	826	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	944	-

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1513	-	-	-	950
HCM Lane V/C Ratio	0.011	-	-	-	0.018
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	26	61	4	5	1
Future Vol, veh/h	2	26	61	4	5	1
Conflicting Peds, #/hr	10	0	0	10	10	10
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	26	61	4	5	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	75	0	-	0	113	83
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	40	-
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	1524	-	-	-	884	976
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	982	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1509	-	-	-	865	957
Mov Cap-2 Maneuver	-	-	-	-	865	-
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	972	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1509	-	-	-	879
HCM Lane V/C Ratio	0.001	-	-	-	0.007
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	5	4	0	0	61
Future Vol, veh/h	26	5	4	0	0	61
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	5	4	0	0	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	59	51	71	0	-	0
Stage 1	41	-	-	-	-	-
Stage 2	18	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	948	1017	1529	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	1005	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	926	998	1514	-	-	-
Mov Cap-2 Maneuver	926	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	995	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	7.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1514	-	937	-	-
HCM Lane V/C Ratio	0.003	-	0.033	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	11	233	31	37	74
Future Vol, veh/h	9	11	233	31	37	74
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	11	233	31	37	74

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	417	269	0	0	274	0
Stage 1	259	-	-	-	-	-
Stage 2	158	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	592	770	-	-	1289	-
Stage 1	784	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	563	755	-	-	1277	-
Mov Cap-2 Maneuver	563	-	-	-	-	-
Stage 1	776	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	655	1277	-
HCM Lane V/C Ratio	-	-	0.031	0.029	-
HCM Control Delay (s)	-	-	10.7	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	17	21	17	31	17
Future Vol, veh/h	12	17	21	17	31	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	17	21	17	31	17

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	109	30	0	0	38	0
Stage 1	30	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	888	1044	-	-	1572	-
Stage 1	993	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	870	1044	-	-	1572	-
Mov Cap-2 Maneuver	870	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	925	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	4.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	964	1572	-
HCM Lane V/C Ratio	-	-	0.03	0.02	-
HCM Control Delay (s)	-	-	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

SimTraffic LOS Report

Existing Plus Project Conditions (AM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	100	94	94.2%	78.3	13.5	E
	Through	450	447	99.3%	40.9	6.7	D
	Right Turn	472	476	100.9%	16.9	3.6	B
	Subtotal	1,022	1,018	99.6%	32.7	4.9	C
SB	Left Turn	52	38	73.1%	323.6	37.4	F
	Through	825	575	69.7%	284.6	17.2	F
	Right Turn	16	12	71.9%	95.7	38.6	F
	Subtotal	893	624	69.9%	283.9	15.9	F
EB	Left Turn	6	5	78.3%	51.3	44.1	D
	Through	378	388	102.6%	57.3	5.5	E
	Right Turn	166	162	97.8%	36.2	7.7	D
	Subtotal	550	555	100.9%	51.7	5.5	D
WB	Left Turn	507	326	64.3%	309.5	20.2	F
	Through	157	102	64.8%	206.2	23.4	F
	Right Turn	18	13	70.0%	135.0	75.1	F
	Subtotal	682	441	64.6%	281.7	22.4	F
Total		3,147	2,637	83.8%	137.0	3.3	F

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	155	84	54.2%	348.6	119.2	F
	Through	7	5	72.9%	127.4	126.4	F
	Right Turn	344	218	63.4%	221.2	50.4	F
	Subtotal	506	307	60.7%	258.5	66.4	F
SB	Left Turn	51	49	95.3%	128.2	123.5	F
	Through	9	9	101.1%	116.3	96.2	F
	Right Turn	19	21	107.9%	105.5	50.9	F
	Subtotal	79	78	99.0%	119.7	60.8	F
EB	Left Turn	3	2	73.3%	37.6	52.1	D
	Through	763	738	96.7%	73.6	16.2	E
	Right Turn	136	137	100.9%	19.5	7.5	B
	Subtotal	902	878	97.3%	64.4	13.9	E
WB	Left Turn	170	125	73.3%	204.2	33.0	F
	Through	492	346	70.2%	257.5	39.9	F
	Right Turn	18	14	78.3%	145.4	69.0	F
	Subtotal	680	484	71.2%	241.1	31.9	F
Total		2,167	1,747	80.6%	139.3	10.9	F

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	47	37	78.5%	384.9	221.4	F
	Through	58	55	95.2%	81.4	79.4	F
	Right Turn	693	666	96.1%	34.3	11.7	C
	Subtotal	798	758	95.0%	53.3	28.8	D
SB	Left Turn	210	202	96.4%	101.7	81.6	F
	Through	89	84	93.8%	143.1	135.3	F
	Right Turn	75	72	95.3%	136.8	132.1	F
	Subtotal	374	357	95.6%	120.3	109.0	F
EB	Left Turn	36	31	85.6%	115.3	23.4	F
	Through	1,113	960	86.2%	84.1	8.7	F
	Right Turn	43	34	79.1%	48.8	11.4	D
	Subtotal	1,192	1,024	85.9%	83.9	8.2	F
WB	Left Turn	326	255	78.1%	262.6	34.6	F
	Through	558	435	78.0%	354.6	36.6	F
	Right Turn	123	121	98.2%	12.7	6.3	B
	Subtotal	1,007	811	80.5%	272.7	23.8	F
Total		3,371	2,951	87.5%	123.0	12.1	F

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	162	161	99.6%	20.3	2.7	C
	Through						
	Right Turn	70	74	106.1%	74.1	60.4	E
	Subtotal	232	236	101.6%	38.7	18.8	D
EB	Left Turn						
	Through	929	834	89.7%	13.2	3.3	B
	Right Turn	1,097	1,001	91.2%	6.4	0.5	A
	Subtotal	2,026	1,834	90.5%	9.5	1.5	A
WB	Left Turn						
	Through	937	813	86.8%	171.3	41.9	F
	Right Turn						
	Subtotal	937	813	86.8%	171.3	41.9	F
Total		3,195	2,883	90.2%	47.8	7.9	D

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	563	546	97.1%	77.9	45.8	E
	Through						
	Right Turn	428	422	98.5%	8.5	4.3	A
	Subtotal	991	968	97.7%	44.7	23.3	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	893	806	90.2%	23.2	22.7	C
	Right Turn						
	Subtotal	893	806	90.2%	23.2	22.7	C
WB	Left Turn						
	Through	863	840	97.3%	65.3	27.3	E
	Right Turn	105	103	98.4%	3.7	0.6	A
	Subtotal	968	943	97.4%	57.7	23.9	E
Total		2,852	2,717	95.3%	42.5	19.4	D

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	150	151	100.7%	29.4	6.9	C
	Through	46	45	98.7%	40.5	11.4	D
	Right Turn	27	29	107.8%	6.5	2.3	A
	Subtotal	223	226	101.1%	28.7	6.8	C
SB	Left Turn	195	200	102.4%	36.1	5.2	D
	Through	20	19	94.0%	40.7	15.8	D
	Right Turn	359	360	100.2%	2.4	0.4	A
	Subtotal	574	578	100.7%	14.7	2.7	B
EB	Left Turn	347	317	91.2%	36.3	5.7	D
	Through	935	878	93.9%	17.9	2.7	B
	Right Turn	39	38	97.7%	2.6	0.7	A
	Subtotal	1,321	1,233	93.3%	21.8	2.7	C
WB	Left Turn	12	13	105.0%	37.8	10.3	D
	Through	457	464	101.5%	23.4	3.2	C
	Right Turn	162	153	94.3%	4.6	0.6	A
	Subtotal	631	629	99.7%	19.1	2.8	B
Total		2,749	2,665	97.0%	20.2	1.9	C

SimTraffic LOS Report

Existing Plus Project Conditions (AM Peak Hour)

Del Paso Road (#12 to #13, #19 to #22)

Intersection 12 **El Centro Rd/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	184	184	100.1%	52.9	4.9	D
	Through	49	50	101.0%	49.5	7.9	D
	Right Turn	592	603	101.8%	4.1	0.6	A
	Subtotal	825	837	101.4%	17.7	1.5	B
SB	Left Turn	341	345	101.2%	49.9	5.9	D
	Through	99	101	102.3%	44.6	11.0	D
	Right Turn	8	8	100.0%	3.5	2.6	A
	Subtotal	448	454	101.4%	47.8	6.4	D
EB	Left Turn	3	2	63.3%	38.7	53.6	D
	Through	779	767	98.4%	38.6	4.7	D
	Right Turn	133	134	100.4%	15.9	1.9	B
	Subtotal	915	902	98.6%	35.1	3.6	D
WB	Left Turn	761	709	93.1%	154.4	11.8	F
	Through	654	632	96.6%	24.4	3.5	C
	Right Turn	149	147	98.8%	2.2	0.8	A
	Subtotal	1,564	1,488	95.1%	86.7	7.7	F
Total		3,752	3,681	98.1%	53.3	3.2	D

Intersection 13 **El Centro Rd/Duckhorn Dr** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	716	728	101.6%	1.7	0.2	A
	Right Turn	22	21	93.6%	0.7	0.4	A
	Subtotal	738	748	101.4%	1.7	0.2	A
SB	Left Turn	202	192	95.0%	11.1	3.4	B
	Through	793	757	95.5%	2.7	0.2	A
	Right Turn						
	Subtotal	995	949	95.4%	4.5	1.0	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	108	108	100.1%	6.3	1.1	A
	Subtotal	108	108	100.1%	6.3	1.1	A
Total		1,841	1,805	98.1%	3.5	0.6	A

Intersection 19 **Natomas Central Dr/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	98	98	99.7%	36.0	8.6	D
	Through	17	16	92.9%	22.5	9.7	C
	Right Turn	100	96	96.1%	7.9	2.7	A
	Subtotal	215	210	97.5%	22.3	5.2	C
SB	Left Turn	184	184	100.1%	34.9	3.1	C
	Through	18	17	94.4%	22.0	10.6	C
	Right Turn	22	20	89.1%	9.9	5.8	A
	Subtotal	224	221	98.5%	31.6	2.8	C
EB	Left Turn	8	7	88.8%	44.1	20.6	D
	Through	632	621	98.3%	28.0	3.1	C
	Right Turn	55	57	103.6%	8.8	2.3	A
	Subtotal	695	685	98.6%	26.3	2.5	C
WB	Left Turn	71	69	96.8%	41.0	11.3	D
	Through	693	677	97.7%	21.8	3.0	C
	Right Turn	42	41	97.1%	6.4	1.3	A
	Subtotal	806	786	97.6%	22.7	2.9	C
Total		1,940	1,902	98.0%	25.0	1.6	C

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	350	321	91.8%	158.4	76.4	F
	Through						
	Right Turn	478	432	90.4%	193.3	90.6	F
	Subtotal	828	754	91.0%	179.4	85.9	F
EB	Left Turn						
	Through	1,196	1,189	99.4%	12.4	1.5	B
	Right Turn						
	Subtotal	1,196	1,189	99.4%	12.4	1.5	B
WB	Left Turn						
	Through	1,086	1,077	99.1%	34.5	20.3	C
	Right Turn	847	859	101.4%	6.3	0.6	A
	Subtotal	1,933	1,936	100.1%	22.1	11.4	C
Total		3,957	3,878	98.0%	44.6	15.4	D

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	209	208	99.5%	35.2	12.2	D
	Through						
	Right Turn	776	784	101.1%	25.7	13.1	C
	Subtotal	985	992	100.8%	27.7	12.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,225	1,187	96.9%	25.6	6.2	C
	Right Turn						
	Subtotal	1,225	1,187	96.9%	25.6	6.2	C
WB	Left Turn						
	Through	1,724	1,721	99.8%	5.3	1.2	A
	Right Turn						
	Subtotal	1,724	1,721	99.8%	5.3	1.2	A
Total		3,934	3,901	99.2%	17.4	2.4	B

Intersection 22 **E Commerce Wy/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	98	95	97.2%	54.7	13.6	D
	Through	218	220	101.1%	31.1	6.8	C
	Right Turn	129	132	101.9%	9.9	2.5	A
	Subtotal	445	447	100.5%	29.8	6.7	C
SB	Left Turn	60	59	98.0%	64.0	10.1	E
	Through	272	258	94.7%	36.5	6.8	D
	Right Turn	779	776	99.6%	6.6	0.7	A
	Subtotal	1,111	1,092	98.3%	16.7	1.9	B
EB	Left Turn	446	461	103.4%	64.5	17.1	E
	Through	1,269	1,247	98.2%	36.8	9.2	D
	Right Turn	286	282	98.7%	11.8	3.5	B
	Subtotal	2,001	1,990	99.4%	40.1	7.8	D
WB	Left Turn	239	242	101.3%	57.3	11.2	E
	Through	1,049	1,061	101.2%	40.8	6.2	D
	Right Turn	100	102	101.8%	9.2	1.9	A
	Subtotal	1,388	1,405	101.2%	41.4	6.3	D
Total		4,945	4,934	99.8%	34.4	4.7	C

SimTraffic LOS Report

Existing Plus Project Conditions (AM Peak Hour)

W. El Camino Avenue (#17, #33 to #39, #61 to #63, #68 to #69, #74, #77 to #83, #89, #95, #101)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	3	2	66.7%	37.0	53.9	D
	Through	282	290	102.7%	50.5	7.3	D
	Right Turn	745	731	98.2%	42.6	8.4	D
	Subtotal	1,030	1,023	99.3%	45.0	7.4	D
SB	Left Turn	1,947	660	33.9%	427.5	26.1	F
	Through	200	67	33.5%	288.6	16.6	F
	Right Turn	5	3	50.0%	270.2	16.7	F
	Subtotal	2,152	729	33.9%	414.0	21.9	F
EB	Left Turn	68	67	97.8%	82.8	17.4	F
	Through	626	619	98.8%	50.5	7.1	D
	Right Turn	11	11	103.6%	20.5	11.0	C
	Subtotal	705	697	98.8%	53.3	6.8	D
WB	Left Turn	477	403	84.4%	173.6	46.2	F
	Through	820	702	85.6%	72.2	11.1	E
	Right Turn	1,285	1,148	89.3%	21.2	3.9	C
	Subtotal	2,582	2,253	87.2%	62.9	9.4	E
Total		6,469	4,701	72.7%	113.0	5.6	F

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	691	614	88.9%	418.6	165.6	F
	Through						
	Right Turn	1,005	791	78.7%	464.4	163.4	F
	Subtotal	1,696	1,405	82.8%	444.2	165.9	F
EB	Left Turn						
	Through	1,762	1,054	59.8%	24.0	1.7	C
	Right Turn	1,556	955	61.4%	11.4	1.1	B
	Subtotal	3,318	2,009	60.6%	18.1	1.5	B
WB	Left Turn						
	Through	1,577	1,460	92.6%	55.4	10.7	E
	Right Turn	234	233	99.7%	2.5	0.5	A
	Subtotal	1,811	1,694	93.5%	48.1	8.7	D
Total		6,825	5,108	74.8%	140.3	43.7	F

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	887	872	98.3%	108.7	65.8	F
	Through						
	Right Turn	272	277	101.7%	13.1	1.8	B
	Subtotal	1,159	1,148	99.1%	82.8	45.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,628	1,183	72.7%	19.7	3.9	B
	Right Turn						
	Subtotal	1,628	1,183	72.7%	19.7	3.9	B
WB	Left Turn						
	Through	924	849	91.8%	17.4	5.1	B
	Right Turn	604	552	91.4%	1.0	0.2	A
	Subtotal	1,528	1,400	91.6%	10.9	3.2	B
Total		4,315	3,732	86.5%	35.8	15.3	D

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	487	358	73.6%	237.6	21.6	F
	Through						
	Right Turn	105	77	73.0%	197.6	19.7	F
	Subtotal	592	435	73.5%	231.0	20.2	F
SB	Left Turn	1	0	40.0%	0.3	0.8	A
	Through						
	Right Turn	3	4	120.0%	6.9	6.6	A
	Subtotal	4	4	100.0%	6.9	6.6	A
EB	Left Turn	3	3	86.7%	19.2	33.0	B
	Through	1,771	1,361	76.9%	5.5	1.3	A
	Right Turn	108	82	75.6%	1.1	0.8	A
	Subtotal	1,882	1,446	76.8%	5.4	1.3	A
WB	Left Turn	40	39	98.0%	38.3	8.2	D
	Through	1,038	1,038	100.0%	6.1	1.7	A
	Right Turn						
	Subtotal	1,078	1,077	99.9%	7.3	1.8	A
Total		3,556	2,962	83.3%	41.6	1.4	D

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	12	121.0%	39.0	19.2	D
	Through						
	Right Turn	35	36	102.0%	16.3	4.0	B
	Subtotal	45	48	106.2%	22.0	5.3	C
SB	Left Turn	5	5	90.0%	24.9	25.0	C
	Through						
	Right Turn	5	3	64.0%	4.9	7.2	A
	Subtotal	10	8	77.0%	22.9	21.5	C
EB	Left Turn	5	4	70.0%	27.9	24.2	C
	Through	1,835	1,409	76.8%	18.1	6.6	B
	Right Turn	37	26	71.1%	18.3	7.3	B
	Subtotal	1,877	1,439	76.7%	18.2	6.6	B
WB	Left Turn	195	201	102.8%	35.1	7.8	D
	Through	1,063	1,069	100.6%	9.1	2.1	A
	Right Turn	5	5	104.0%	5.6	4.3	A
	Subtotal	1,263	1,275	101.0%	13.2	2.3	B
Total		3,195	2,770	86.7%	16.0	4.4	B

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	281	279	99.1%	50.0	9.3	D
	Through	91	94	103.1%	38.0	7.8	D
	Right Turn	137	135	98.7%	12.4	3.1	B
	Subtotal	509	508	99.7%	37.9	6.7	D
SB	Left Turn	112	106	94.7%	43.8	8.8	D
	Through	28	27	95.4%	50.3	16.3	D
	Right Turn	67	67	100.0%	4.7	1.4	A
	Subtotal	207	200	96.5%	32.6	6.3	C
EB	Left Turn	329	253	76.9%	50.8	4.0	D
	Through	1,051	826	78.6%	32.1	6.7	C
	Right Turn	490	383	78.2%	15.7	5.2	B
	Subtotal	1,870	1,462	78.2%	30.6	5.1	C
WB	Left Turn	271	278	102.4%	48.4	4.5	D
	Through	888	890	100.2%	32.8	7.5	C
	Right Turn	489	479	97.9%	9.3	3.4	A
	Subtotal	1,648	1,646	99.9%	28.6	5.4	C
Total		4,234	3,816	90.1%	30.9	4.4	C

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	594	498	83.8%	0.3	0.1	A
	Right Turn						
	Subtotal	594	498	83.8%	0.3	0.1	A
WB	Left Turn						
	Through	1,648	1,648	100.0%	7.4	0.9	A
	Right Turn	795	808	101.6%	11.8	0.8	B
	Subtotal	2,443	2,456	100.5%	8.9	0.8	A
Total		3,037	2,953	97.2%	7.4	0.7	A

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	631	646	102.4%	35.4	2.3	D
	Through						
	Right Turn	356	358	100.5%	2.7	0.2	A
	Subtotal	987	1,004	101.7%	24.0	1.2	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	594	497	83.6%	8.2	1.1	A
	Right Turn						
	Subtotal	594	497	83.6%	8.2	1.1	A
WB	Left Turn						
	Through	1,812	1,809	99.8%	67.7	26.5	E
	Right Turn						
	Subtotal	1,812	1,809	99.8%	67.7	26.5	E
Total		3,393	3,309	97.5%	45.1	14.3	D

Intersection 61 **El Centro Rd/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	122	114	93.5%	174.7	93.6	F
	Through	867	791	91.2%	24.1	2.3	C
	Right Turn	67	59	88.4%	6.7	1.3	A
	Subtotal	1,056	964	91.3%	42.1	11.9	D
SB	Left Turn	369	155	42.1%	679.4	43.3	F
	Through	1,061	416	39.2%	714.6	34.5	F
	Right Turn	185	73	39.2%	695.7	55.2	F
	Subtotal	1,615	644	39.9%	702.4	36.1	F
EB	Left Turn	160	40	24.9%	670.1	117.5	F
	Through	116	32	27.7%	658.4	72.8	F
	Right Turn	350	91	26.0%	691.8	40.5	F
	Subtotal	626	163	26.0%	673.6	59.7	F
WB	Left Turn	606	123	20.3%	1057.0	98.1	F
	Through	70	19	27.7%	543.9	79.0	F
	Right Turn	134	35	25.8%	505.9	70.4	F
	Subtotal	810	177	21.9%	925.8	93.6	F
Total		4,107	1,949	47.4%	387.9	13.3	F

Intersection 62 **MDR Access/Farm Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	2	1	40.0%	334.5	381.6	F
	Through						
	Right Turn	70	49	69.3%	457.3	146.4	F
	Subtotal	72	49	68.5%	460.9	143.7	F
EB	Left Turn	18	6	35.6%	16.0	33.9	C
	Through	534	236	44.3%	2.7	0.5	A
	Right Turn						
	Subtotal	552	243	44.0%	3.3	1.4	A
WB	Left Turn						
	Through	740	124	16.8%	461.3	65.7	F
	Right Turn	3	1	33.3%	48.9	89.3	E
	Subtotal	743	125	16.9%	459.3	66.3	F
Total		1,367	417	30.5%	200.3	21.1	F

Intersection 63 **Orchard Ln/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	652	110	16.9%	730.5	44.0	F
	Through						
	Right Turn	2	0	10.0%	280.6	423.4	F
	Subtotal	654	110	16.8%	727.7	43.4	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	11	5	44.5%	10.8	8.7	B
	Right Turn	525	235	44.7%	4.3	0.8	A
	Subtotal	536	240	44.7%	4.7	0.8	A
WB	Left Turn	17	8	48.2%	647.1	107.5	F
	Through	91	37	40.2%	656.6	52.1	F
	Right Turn						
	Subtotal	108	45	41.5%	652.8	53.1	F
Total		1,298	395	30.4%	265.7	50.3	F

Intersection 68 **El Centro Rd/Street 6** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,056	974	92.2%	0.4	0.4	A
	Right Turn						
	Subtotal	1,056	974	92.2%	0.4	0.4	A
SB	Left Turn						
	Through	2,065	678	32.8%	135.4	8.5	F
	Right Turn	2	1	30.0%	12.9	40.7	B
	Subtotal	2,067	678	32.8%	135.4	8.4	F
EB	Left Turn						
	Through						
	Right Turn	107	78	73.1%	346.1	43.5	F
	Subtotal	107	78	73.1%	346.1	43.5	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,230	1,730	53.6%	69.3	4.1	F

Intersection 69 **El Centro Rd/CMU/EMC Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	954	878	92.0%	0.1	0.0	A
	Right Turn	681	627	92.0%	1.3	0.1	A
	Subtotal	1,635	1,504	92.0%	0.6	0.1	A
SB	Left Turn						
	Through	2,172	754	34.7%	76.9	4.2	F
	Right Turn						
	Subtotal	2,172	754	34.7%	76.9	4.2	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	102	96	94.4%	4.2	0.8	A
	Subtotal	102	96	94.4%	4.2	0.8	A
Total		3,909	2,355	60.2%	25.5	1.6	D

Intersection 74 **El Centro Rd/Street 5** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,635	1,504	92.0%	1.4	0.1	A
	Right Turn						
	Subtotal	1,635	1,504	92.0%	1.4	0.1	A
SB	Left Turn						
	Through	2,105	735	34.9%	62.6	12.3	F
	Right Turn	67	20	30.0%	0.4	0.6	A
	Subtotal	2,172	755	34.8%	61.0	12.6	F
EB	Left Turn						
	Through						
	Right Turn	47	0	0.0%	900.0	0.0	F
	Subtotal	47	0	0.0%	0.0	0.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,854	2,259	58.6%	20.6	2.0	C

Intersection 77 **Street E/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	67	69	103.0%	7.4	1.2	A
	Through	3	3	113.3%	3.6	3.1	A
	Right Turn						
	Subtotal	70	72	103.4%	7.3	1.1	A
SB	Left Turn						
	Through	1	1	50.0%	0.5	1.5	A
	Right Turn	25	24	96.4%	3.3	1.3	A
	Subtotal	26	25	94.6%	3.3	1.3	A
EB	Left Turn	28	27	97.9%	2.4	0.5	A
	Through	145	143	98.8%	1.1	0.4	A
	Right Turn	41	42	101.2%	0.4	0.2	A
	Subtotal	214	212	99.2%	1.1	0.2	A
WB	Left Turn						
	Through	220	195	88.7%	3.0	0.1	A
	Right Turn						
	Subtotal	220	195	88.7%	3.0	0.1	A
Total		530	504	95.2%	2.9	0.3	A

Intersection 78 **Street D/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	23	25	109.1%	6.0	1.0	A
	Through	24	23	95.0%	6.9	0.8	A
	Right Turn	100	104	104.3%	4.2	0.8	A
	Subtotal	147	152	103.5%	4.9	0.7	A
SB	Left Turn	46	45	98.7%	5.4	0.5	A
	Through	33	34	104.2%	7.0	0.5	A
	Right Turn	4	6	137.5%	2.5	2.0	A
	Subtotal	83	85	102.8%	6.0	0.3	A
EB	Left Turn	7	7	102.9%	5.5	1.4	A
	Through	121	119	98.5%	9.2	0.7	A
	Right Turn	17	19	108.8%	4.4	1.0	A
	Subtotal	145	145	99.9%	8.4	0.6	A
WB	Left Turn	61	56	91.0%	8.7	0.7	A
	Through	193	165	85.2%	11.7	0.3	B
	Right Turn	86	71	83.0%	6.9	0.7	A
	Subtotal	340	291	85.7%	10.1	0.3	B
Total		715	674	94.2%	8.1	0.3	A

Intersection 79 **Street C/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	34	33	98.2%	7.7	1.0	A
	Right Turn	90	88	97.7%	4.2	0.5	A
	Subtotal	124	121	97.8%	5.2	0.5	A
SB	Left Turn	88	91	103.6%	6.4	0.7	A
	Through	33	31	94.5%	7.6	1.2	A
	Right Turn						
	Subtotal	121	122	101.2%	6.7	0.3	A
EB	Left Turn	2	1	60.0%	1.5	3.2	A
	Through	265	267	100.7%	10.9	0.6	B
	Right Turn						
	Subtotal	267	268	100.4%	10.9	0.6	B
WB	Left Turn	70	59	84.6%	11.1	1.6	B
	Through	340	293	86.1%	14.5	1.6	B
	Right Turn	102	94	92.0%	10.3	2.2	B
	Subtotal	512	446	87.1%	13.2	1.4	B
Total		1,024	958	93.5%	10.7	0.6	B

Intersection 80 **Street B/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	24	24	100.4%	5.8	0.9	A
	Through	32	34	105.6%	7.1	0.9	A
	Right Turn	1	2	180.0%	1.1	1.5	A
	Subtotal	57	60	104.7%	6.4	0.9	A
SB	Left Turn						
	Through	28	29	104.3%	6.6	0.9	A
	Right Turn	17	16	95.9%	3.2	0.5	A
	Subtotal	45	46	101.1%	5.1	0.8	A
EB	Left Turn	10	9	90.0%	8.2	3.1	A
	Through	421	426	101.1%	12.1	0.8	B
	Right Turn	12	13	104.2%	7.9	1.7	A
	Subtotal	443	447	101.0%	11.9	0.8	B
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		545	553	101.4%	10.9	0.8	B

Intersection 81 **Street A/W. El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	16	15	93.8%	31.3	9.2	C
	Through	31	30	96.5%	24.9	4.1	C
	Right Turn	147	152	103.4%	12.8	3.2	B
	Subtotal	194	197	101.5%	16.2	3.4	B
SB	Left Turn	56	50	88.9%	30.1	7.6	C
	Through	62	66	106.3%	28.4	6.5	C
	Right Turn	10	9	93.0%	16.7	13.1	B
	Subtotal	128	125	97.7%	27.9	6.2	C
EB	Left Turn	12	12	100.0%	33.7	12.7	C
	Through	402	406	100.9%	16.5	1.8	B
	Right Turn	8	8	103.8%	13.7	14.1	B
	Subtotal	422	426	100.9%	17.0	1.6	B
WB	Left Turn	176	154	87.5%	47.1	9.0	D
	Through	446	383	85.9%	13.2	2.5	B
	Right Turn	206	174	84.7%	9.2	1.1	A
	Subtotal	828	712	86.0%	20.1	3.1	C
Total		1,572	1,459	92.8%	19.4	1.9	B

Intersection 82 **Parking Garage/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	100	95	95.1%	9.4	3.7	A
	Subtotal	100	95	95.1%	9.4	3.7	A
EB	Left Turn						
	Through	705	695	98.6%	6.0	2.0	A
	Right Turn						
	Subtotal	705	695	98.6%	6.0	2.0	A
WB	Left Turn						
	Through	728	616	84.7%	6.3	0.9	A
	Right Turn	100	92	91.6%	4.0	0.5	A
	Subtotal	828	708	85.5%	6.0	0.8	A
Total		1,633	1,498	91.7%	6.3	1.1	A

Intersection 83 **El Centro Rd/Tomato Patch Ln North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	970	965	99.5%	2.1	1.2	A
	Right Turn	5	5	108.0%	1.3	3.2	A
	Subtotal	975	970	99.5%	2.1	1.2	A
SB	Left Turn						
	Through	688	481	69.9%	1.3	0.1	A
	Right Turn						
	Subtotal	688	481	69.9%	1.3	0.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	60	59	97.7%	43.2	37.1	E
	Subtotal	60	59	97.7%	43.2	37.1	E
Total		1,723	1,510	87.6%	3.6	2.3	A

Intersection 89 **El Centro Rd/Street 4** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	772	784	101.6%	4.2	1.8	A
	Right Turn						
	Subtotal	772	784	101.6%	4.2	1.8	A
SB	Left Turn						
	Through	560	387	69.2%	0.2	0.1	A
	Right Turn	128	94	73.3%	0.3	0.1	A
	Subtotal	688	481	69.9%	0.2	0.1	A
EB	Left Turn	203	188	92.7%	124.2	57.1	F
	Through						
	Right Turn	10	11	110.0%	22.7	21.2	C
	Subtotal	213	199	93.5%	118.1	55.4	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,673	1,465	87.5%	18.0	7.8	C

Intersection 95 **El Centro Rd/Street 3/Tomato Patch Ln South** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	9	8	92.2%	18.7	13.7	B
	Through	429	429	100.0%	19.2	3.7	B
	Right Turn	9	9	96.7%	14.2	9.1	B
	Subtotal	447	446	99.8%	19.2	3.6	B
SB	Left Turn	377	263	69.8%	27.8	6.7	C
	Through	63	43	67.5%	6.5	3.6	A
	Right Turn	130	93	71.8%	4.4	1.0	A
	Subtotal	570	399	70.0%	20.1	4.7	C
EB	Left Turn	236	244	103.6%	22.2	6.3	C
	Through	7	6	84.3%	32.8	14.6	C
	Right Turn						
	Subtotal	243	250	103.0%	22.5	6.4	C
WB	Left Turn	6	6	91.7%	8.1	10.5	A
	Through	1	1	90.0%	0.4	1.1	A
	Right Turn	107	111	103.5%	6.4	1.8	A
	Subtotal	114	117	102.7%	7.0	2.0	A
Total		1,374	1,213	88.3%	19.1	3.3	B

Intersection 101 **El Centro Rd/Street 2** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1	1	60.0%	0.4	0.9	A
	Through	71	73	102.7%	0.3	0.2	A
	Right Turn						
	Subtotal	72	74	102.1%	0.3	0.2	A
SB	Left Turn						
	Through	9	7	74.4%	1.5	2.4	A
	Right Turn	60	41	68.3%	1.2	0.9	A
	Subtotal	69	48	69.1%	1.3	0.8	A
EB	Left Turn	376	372	99.0%	7.3	0.6	A
	Through						
	Right Turn	1	2	170.0%	2.2	4.7	A
	Subtotal	377	374	99.2%	7.3	0.6	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		518	495	95.6%	5.8	0.6	A

SimTraffic LOS Report

Existing Plus Project Conditions (AM Peak Hour)

Garden Highway (#7 to #11)

Intersection 7 **Gateway Oaks Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2	1	70.0%	18.5	24.3	B
	Right Turn	5	5	102.0%	2.7	2.0	A
	Subtotal	7	7	92.9%	11.9	11.5	B
SB	Left Turn	370	366	99.0%	24.5	3.5	C
	Through	5	6	110.0%	10.4	18.2	B
	Right Turn	35	36	102.0%	4.0	1.5	A
	Subtotal	410	407	99.4%	22.6	3.6	C
EB	Left Turn	77	76	98.1%	33.9	8.3	C
	Through	458	467	101.9%	13.3	2.2	B
	Right Turn						
	Subtotal	535	542	101.3%	16.0	2.8	B
WB	Left Turn	27	29	105.9%	34.4	9.4	C
	Through	133	132	99.2%	15.3	5.7	B
	Right Turn	661	674	102.0%	19.9	3.4	B
	Subtotal	821	835	101.7%	19.7	3.6	B
Total		1,773	1,791	101.0%	19.2	2.6	B

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	217	216	99.7%	26.9	2.8	C
	Through						
	Right Turn	143	141	98.7%	2.5	0.2	A
	Subtotal	360	358	99.3%	17.0	2.1	B
EB	Left Turn	398	400	100.5%	30.1	6.8	C
	Through	436	438	100.5%	6.6	0.9	A
	Right Turn						
	Subtotal	834	838	100.5%	18.1	4.0	B
WB	Left Turn						
	Through	677	696	102.8%	23.4	2.3	C
	Right Turn	406	389	95.9%	25.9	29.0	C
	Subtotal	1,083	1,085	100.2%	24.6	11.3	C
Total		2,277	2,280	100.1%	20.9	5.4	C

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	369	376	102.0%	19.2	1.9	B
	Through						
	Right Turn	515	526	102.0%	3.6	0.4	A
	Subtotal	884	902	102.0%	10.2	0.9	B
EB	Left Turn	105	103	97.7%	20.7	2.9	C
	Through	548	550	100.4%	5.9	0.8	A
	Right Turn						
	Subtotal	653	653	100.0%	8.3	1.1	A
WB	Left Turn						
	Through	557	553	99.3%	20.4	1.4	C
	Right Turn	302	298	98.7%	11.5	0.8	B
	Subtotal	859	851	99.1%	17.1	1.1	B
Total		2,396	2,406	100.4%	12.2	0.7	B

Intersection 10 **Natomas Park Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	4	3	70.0%	9.0	24.6	A
	Through	2	2	95.0%	19.2	28.1	B
	Right Turn	4	5	117.5%	3.3	2.7	A
	Subtotal	10	9	94.0%	15.8	18.3	B
SB	Left Turn	29	34	117.6%	34.6	8.1	C
	Through	8	9	116.3%	21.3	13.5	C
	Right Turn	132	128	96.6%	15.0	1.8	B
	Subtotal	169	171	101.1%	20.1	3.6	C
EB	Left Turn	350	357	102.0%	35.1	5.2	D
	Through	558	557	99.9%	8.0	1.1	A
	Right Turn	9	9	101.1%	3.1	3.0	A
	Subtotal	917	924	100.7%	19.1	2.7	B
WB	Left Turn	20	23	114.0%	80.3	37.5	F
	Through	723	723	100.0%	69.7	40.7	E
	Right Turn	86	86	99.4%	59.4	38.3	E
	Subtotal	829	831	100.3%	68.8	40.3	E
Total		1,925	1,935	100.5%	40.7	16.9	D

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Existing Plus Project Conditions**
Volume and Delay by Movement **AM Peak Hour**

Intersection 11 **Truxel Rd/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	535	530	99.1%	25.6	4.0	C
	Through						
	Right Turn	277	278	100.5%	17.4	7.1	B
	Subtotal	812	809	99.6%	22.9	4.5	C
EB	Left Turn	67	69	103.6%	42.3	10.9	D
	Through	524	528	100.7%	18.8	4.1	B
	Right Turn						
	Subtotal	591	597	101.0%	21.3	4.6	C
WB	Left Turn						
	Through	552	555	100.5%	29.4	12.3	C
	Right Turn	284	285	100.3%	15.6	9.9	B
	Subtotal	836	840	100.5%	24.8	11.7	C
Total		2,239	2,246	100.3%	23.1	6.3	C

SimTraffic LOS Report

Existing Plus Project Conditions (AM Peak Hour)

San Juan Road (#16)

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Existing Plus Project Conditions**
Volume and Delay by Movement **AM Peak Hour**

Intersection 16 **El Centro Rd/San Juan Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	242	240	99.3%	55.2	13.9	E
	Through	503	505	100.4%	31.8	3.1	C
	Right Turn	172	174	101.2%	9.5	1.3	A
	Subtotal	917	919	100.2%	34.0	5.3	C
SB	Left Turn	307	312	101.8%	53.7	13.2	D
	Through	894	901	100.8%	37.3	7.3	D
	Right Turn	54	54	99.3%	9.7	2.4	A
	Subtotal	1,255	1,267	101.0%	40.2	6.5	D
EB	Left Turn	120	119	98.8%	38.5	8.9	D
	Through	90	85	94.0%	44.8	3.9	D
	Right Turn	72	74	102.6%	10.7	1.5	B
	Subtotal	282	277	98.2%	33.6	4.8	C
WB	Left Turn	380	378	99.4%	51.3	10.8	D
	Through	158	157	99.3%	38.5	7.2	D
	Right Turn	267	273	102.4%	14.3	4.3	B
	Subtotal	805	808	100.4%	36.7	8.8	D
Total		3,259	3,271	100.4%	37.1	3.9	D

SimTraffic LOS Report

Existing Plus Project Conditions (PM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	80	68	84.8%	82.5	13.3	F
	Through	907	811	89.4%	58.7	2.7	E
	Right Turn	566	514	90.8%	39.8	2.1	D
	Subtotal	1,553	1,393	89.7%	52.9	2.8	D
SB	Left Turn	34	32	93.2%	57.5	11.1	E
	Through	446	456	102.2%	31.1	3.8	C
	Right Turn	7	9	132.9%	0.9	1.0	A
	Subtotal	487	497	102.1%	32.1	3.7	C
EB	Left Turn	5	4	88.0%	24.2	30.7	C
	Through	177	169	95.7%	45.4	5.4	D
	Right Turn	21	22	103.3%	13.9	5.6	B
	Subtotal	203	196	96.3%	41.5	5.0	D
WB	Left Turn	593	418	70.4%	241.5	8.0	F
	Through	297	212	71.3%	167.8	7.1	F
	Right Turn						
	Subtotal	890	629	70.7%	217.4	7.4	F
Total		3,133	2,714	86.6%	85.2	3.7	F

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	147	129	87.7%	210.9	98.7	F
	Through	9	7	80.0%	79.8	61.9	E
	Right Turn	150	145	96.6%	65.0	56.2	E
	Subtotal	306	281	91.8%	134.3	73.6	F
SB	Left Turn	22	22	100.0%	59.9	22.7	E
	Through	2	2	110.0%	19.3	21.8	B
	Right Turn	10	11	107.0%	56.5	32.2	E
	Subtotal	34	35	102.6%	59.0	16.4	E
EB	Left Turn	22	20	89.5%	46.7	12.6	D
	Through	625	571	91.4%	18.3	4.1	B
	Right Turn	127	118	92.7%	4.6	1.5	A
	Subtotal	774	709	91.5%	16.6	3.5	B
WB	Left Turn	192	139	72.4%	143.7	21.7	F
	Through	716	506	70.6%	191.4	13.9	F
	Right Turn	58	46	79.0%	108.1	14.3	F
	Subtotal	966	691	71.5%	177.5	13.5	F
Total		2,080	1,715	82.4%	96.1	9.9	F

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	17	14	84.7%	116.3	53.0	F
	Through	25	26	102.4%	34.3	14.3	C
	Right Turn	311	314	100.9%	15.1	3.8	B
	Subtotal	353	354	100.2%	19.7	5.2	B
SB	Left Turn	220	217	98.5%	48.1	4.8	D
	Through	76	77	101.7%	50.3	13.0	D
	Right Turn	46	45	97.2%	44.3	14.8	D
	Subtotal	342	339	99.1%	48.1	6.3	D
EB	Left Turn	38	35	91.3%	54.0	16.7	D
	Through	764	716	93.8%	35.4	5.5	D
	Right Turn	38	34	88.9%	14.5	9.6	B
	Subtotal	840	785	93.4%	35.3	5.6	D
WB	Left Turn	611	453	74.1%	108.6	12.7	F
	Through	895	690	77.1%	197.8	22.0	F
	Right Turn	203	179	88.1%	4.0	1.1	A
	Subtotal	1,709	1,321	77.3%	140.6	12.1	F
Total		3,244	2,799	86.3%	78.6	4.3	E

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	178	178	100.2%	25.0	6.2	C
	Through						
	Right Turn	141	141	99.9%	50.9	37.8	D
	Subtotal	319	319	100.1%	37.6	19.0	D
EB	Left Turn						
	Through	678	644	94.9%	7.8	3.3	A
	Right Turn	620	604	97.5%	0.9	0.2	A
	Subtotal	1,298	1,248	96.1%	4.4	1.7	A
WB	Left Turn						
	Through	1,568	1,233	78.7%	106.1	21.5	F
	Right Turn						
	Subtotal	1,568	1,233	78.7%	106.1	21.5	F
Total		3,185	2,801	87.9%	47.2	6.4	D

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	960	790	82.3%	327.8	51.8	F
	Through						
	Right Turn	883	802	90.8%	89.8	19.7	F
	Subtotal	1,843	1,592	86.4%	202.7	26.6	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	755	728	96.5%	20.7	4.4	C
	Right Turn						
	Subtotal	755	728	96.5%	20.7	4.4	C
WB	Left Turn						
	Through	898	798	88.9%	239.8	95.1	F
	Right Turn	193	195	100.8%	15.3	20.5	B
	Subtotal	1,091	993	91.0%	192.4	81.2	F
Total		3,689	3,313	89.8%	146.5	26.8	F

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	72	72	100.0%	86.9	84.4	F
	Through	39	36	93.1%	50.3	14.1	D
	Right Turn	21	23	111.4%	7.2	3.2	A
	Subtotal	132	132	99.8%	58.1	38.8	E
SB	Left Turn	178	174	97.7%	41.9	5.2	D
	Through	12	12	98.3%	49.2	35.4	D
	Right Turn	235	238	101.1%	14.2	26.1	B
	Subtotal	425	423	99.6%	25.9	14.2	C
EB	Left Turn	476	442	92.8%	44.1	6.4	D
	Through	1,078	1,015	94.1%	16.7	2.8	B
	Right Turn	84	79	93.9%	2.9	0.8	A
	Subtotal	1,638	1,536	93.7%	23.8	2.5	C
WB	Left Turn	12	12	98.3%	63.3	24.4	E
	Through	781	740	94.7%	81.4	67.1	F
	Right Turn	151	151	99.7%	24.2	41.4	C
	Subtotal	944	902	95.5%	71.1	60.0	E
Total		3,139	2,992	95.3%	37.2	16.2	D

SimTraffic LOS Report

Existing Plus Project Conditions (PM Peak Hour)

Del Paso Road (#12 to #13, #19 to #22)

Intersection 12 **El Centro Rd/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	146	145	99.0%	32.0	4.4	C
	Through	101	101	99.5%	34.1	7.1	C
	Right Turn	822	833	101.4%	5.4	0.6	A
	Subtotal	1,069	1,078	100.9%	11.8	1.1	B
SB	Left Turn	244	247	101.2%	29.6	2.6	C
	Through	95	100	105.3%	26.4	5.8	C
	Right Turn	7	8	118.6%	3.0	2.2	A
	Subtotal	346	355	102.7%	28.2	2.1	C
EB	Left Turn	3	4	123.3%	27.0	22.7	C
	Through	281	283	100.7%	28.4	2.8	C
	Right Turn	54	53	98.5%	7.2	2.4	A
	Subtotal	338	340	100.5%	25.4	2.5	C
WB	Left Turn	462	458	99.2%	30.0	2.6	C
	Through	458	467	101.9%	16.4	3.2	B
	Right Turn	239	236	98.6%	2.1	0.7	A
	Subtotal	1,159	1,160	100.1%	19.1	1.8	B
Total		2,912	2,934	100.7%	18.3	1.1	B

Intersection 13 **El Centro Rd/Duckhorn Dr** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	859	867	100.9%	2.5	0.4	A
	Right Turn	24	25	105.4%	1.0	0.6	A
	Subtotal	883	892	101.0%	2.4	0.4	A
SB	Left Turn	124	127	102.3%	12.4	2.7	B
	Through	500	497	99.3%	1.9	0.2	A
	Right Turn						
	Subtotal	624	623	99.9%	4.1	0.7	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	208	211	101.3%	17.1	7.6	C
	Subtotal	208	211	101.3%	17.1	7.6	C
Total		1,715	1,726	100.6%	4.9	1.2	A

Intersection 19 **Natomas Central Dr/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	7	7	95.7%	24.9	17.0	C
	Through	19	20	102.6%	24.6	8.2	C
	Right Turn	88	86	98.2%	3.9	0.6	A
	Subtotal	114	113	98.8%	9.4	2.9	A
SB	Left Turn	66	70	106.2%	22.1	5.4	C
	Through	19	19	97.4%	27.6	7.7	C
	Right Turn	6	7	116.7%	2.1	1.0	A
	Subtotal	91	96	105.1%	21.5	4.5	C
EB	Left Turn	72	69	96.1%	25.4	5.8	C
	Through	184	182	98.9%	16.3	3.5	B
	Right Turn	31	34	108.7%	4.0	1.4	A
	Subtotal	287	285	99.2%	16.9	3.3	B
WB	Left Turn	125	126	100.6%	24.2	5.2	C
	Through	184	189	102.8%	13.3	3.1	B
	Right Turn	181	182	100.6%	4.9	1.2	A
	Subtotal	490	497	101.4%	13.4	1.8	B
Total		982	990	100.8%	14.8	2.1	B

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	334	335	100.3%	21.8	2.7	C
	Through						
	Right Turn	236	232	98.5%	12.2	1.3	B
	Subtotal	570	568	99.6%	18.0	1.6	B
EB	Left Turn						
	Through	1,095	1,106	101.0%	5.6	0.8	A
	Right Turn						
	Subtotal	1,095	1,106	101.0%	5.6	0.8	A
WB	Left Turn						
	Through	923	927	100.4%	6.4	1.0	A
	Right Turn	549	566	103.1%	3.7	0.3	A
	Subtotal	1,472	1,493	101.4%	5.4	0.7	A
Total		3,137	3,166	100.9%	7.7	0.5	A

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	324	327	100.8%	28.5	8.1	C
	Through						
	Right Turn	1,110	1,122	101.0%	21.4	8.5	C
	Subtotal	1,434	1,448	101.0%	23.0	8.3	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,100	1,109	100.8%	25.9	5.8	C
	Right Turn						
	Subtotal	1,100	1,109	100.8%	25.9	5.8	C
WB	Left Turn						
	Through	1,148	1,175	102.3%	6.3	1.0	A
	Right Turn						
	Subtotal	1,148	1,175	102.3%	6.3	1.0	A
Total		3,682	3,732	101.3%	18.8	3.3	B

Intersection 22 **E Commerce Wy/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	249	251	100.8%	101.6	28.8	F
	Through	462	471	102.0%	65.5	11.0	E
	Right Turn	231	226	98.0%	18.3	4.7	B
	Subtotal	942	948	100.7%	63.6	14.7	E
SB	Left Turn	95	93	97.4%	81.3	14.6	F
	Through	161	161	99.9%	65.8	12.2	E
	Right Turn	253	258	102.1%	2.9	1.7	A
	Subtotal	509	512	100.5%	37.0	4.9	D
EB	Left Turn	791	766	96.9%	97.7	30.6	F
	Through	1,169	1,183	101.2%	34.2	14.4	C
	Right Turn	250	257	102.6%	7.7	1.3	A
	Subtotal	2,210	2,205	99.8%	52.9	14.4	D
WB	Left Turn	232	223	96.1%	91.0	18.1	F
	Through	974	1,003	102.9%	41.0	11.9	D
	Right Turn	112	110	98.6%	11.5	2.9	B
	Subtotal	1,318	1,336	101.4%	47.2	10.8	D
Total		4,979	5,001	100.4%	51.9	10.5	D

SimTraffic LOS Report

Existing Plus Project Conditions (PM Peak Hour)

W. El Camino Avenue (#17, #33 to #39, #61 to #63, #68 to #69, #74, #77 to #83, #89, #95, #101)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	15	15	98.7%	83.9	70.0	F
	Through	255	249	97.8%	91.7	38.5	F
	Right Turn	582	570	98.0%	33.5	7.2	C
	Subtotal	852	834	97.9%	51.4	13.6	D
SB	Left Turn	1,652	664	40.2%	424.1	20.5	F
	Through	180	72	39.8%	292.0	18.4	F
	Right Turn	17	6	34.7%	267.4	18.4	F
	Subtotal	1,849	741	40.1%	411.0	20.1	F
EB	Left Turn	78	74	94.6%	154.5	97.7	F
	Through	730	703	96.3%	56.0	9.5	E
	Right Turn	1	1	70.0%	18.4	26.7	B
	Subtotal	809	778	96.1%	64.8	11.3	E
WB	Left Turn	831	491	59.0%	170.0	37.1	F
	Through	822	539	65.5%	64.3	9.7	E
	Right Turn	2,126	1,443	67.9%	56.4	30.6	E
	Subtotal	3,779	2,473	65.4%	81.2	24.4	F
Total		7,289	4,825	66.2%	125.8	17.3	F

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	287	154	53.7%	1000.4	225.8	F
	Through						
	Right Turn	1,066	527	49.5%	1104.9	285.4	F
	Subtotal	1,353	681	50.4%	1081.8	272.9	F
EB	Left Turn						
	Through	1,835	1,185	64.6%	19.3	1.8	B
	Right Turn	1,129	747	66.2%	9.9	1.6	A
	Subtotal	2,964	1,931	65.2%	15.7	1.6	B
WB	Left Turn						
	Through	2,713	1,946	71.7%	63.4	9.1	E
	Right Turn	337	255	75.7%	9.2	4.6	A
	Subtotal	3,050	2,201	72.2%	57.3	8.4	E
Total		7,367	4,814	65.3%	139.9	24.8	F

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,615	886	54.9%	816.8	114.0	F
	Through						
	Right Turn	264	150	57.0%	586.3	74.2	F
	Subtotal	1,879	1,037	55.2%	785.1	108.5	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,363	863	63.3%	22.1	1.7	C
	Right Turn						
	Subtotal	1,363	863	63.3%	22.1	1.7	C
WB	Left Turn						
	Through	1,435	1,307	91.1%	43.0	8.3	D
	Right Turn	462	411	88.9%	2.9	0.9	A
	Subtotal	1,897	1,718	90.6%	33.4	6.6	C
Total		5,139	3,618	70.4%	222.6	9.8	F

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	247	251	101.5%	62.9	16.5	E
	Through						
	Right Turn	93	94	100.8%	16.4	7.2	B
	Subtotal	340	344	101.3%	51.6	14.3	D
SB	Left Turn	3	3	83.3%	33.3	38.5	C
	Through						
	Right Turn	1	1	90.0%	4.9	10.5	A
	Subtotal	4	3	85.0%	32.6	36.5	C
EB	Left Turn	2	1	60.0%	11.3	22.5	B
	Through	1,333	848	63.6%	6.3	1.1	A
	Right Turn	292	186	63.6%	2.4	1.2	A
	Subtotal	1,627	1,035	63.6%	5.7	0.9	A
WB	Left Turn	111	106	95.1%	43.7	4.3	D
	Through	1,649	1,469	89.1%	8.9	3.0	A
	Right Turn	1	1	90.0%	0.6	1.9	A
	Subtotal	1,761	1,576	89.5%	11.4	2.7	B
Total		3,732	2,958	79.3%	14.9	2.5	B

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	9	93.0%	21.5	19.3	C
	Through						
	Right Turn	35	36	104.0%	13.0	3.0	B
	Subtotal	45	46	101.6%	15.7	3.1	B
SB	Left Turn	5	4	88.0%	18.9	18.9	B
	Through						
	Right Turn	5	6	118.0%	5.6	6.0	A
	Subtotal	10	10	103.0%	13.2	8.0	B
EB	Left Turn	5	4	70.0%	25.2	26.2	C
	Through	1,396	923	66.1%	10.8	3.2	B
	Right Turn	28	21	76.4%	11.8	4.0	B
	Subtotal	1,429	948	66.4%	10.9	3.1	B
WB	Left Turn	53	47	88.7%	24.8	4.2	C
	Through	1,746	1,568	89.8%	10.6	2.6	B
	Right Turn	5	5	100.0%	5.7	2.3	A
	Subtotal	1,804	1,620	89.8%	10.9	2.5	B
Total		3,288	2,624	79.8%	11.0	2.5	B

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	459	469	102.2%	54.2	11.6	D
	Through	80	80	100.1%	39.4	12.6	D
	Right Turn	366	362	98.9%	33.0	7.1	C
	Subtotal	905	911	100.7%	44.3	8.4	D
SB	Left Turn	464	173	37.3%	498.1	57.8	F
	Through	120	48	40.0%	278.5	36.1	F
	Right Turn	319	119	37.2%	233.7	29.4	F
	Subtotal	903	340	37.6%	373.5	52.7	F
EB	Left Turn	72	43	59.6%	101.0	14.6	F
	Through	1,147	730	63.7%	146.7	16.4	F
	Right Turn	214	129	60.1%	99.2	14.9	F
	Subtotal	1,433	902	62.9%	138.0	16.2	F
WB	Left Turn	209	209	99.9%	71.0	17.6	E
	Through	1,072	1,078	100.6%	57.1	26.9	E
	Right Turn	112	111	99.4%	21.4	18.7	C
	Subtotal	1,393	1,398	100.4%	56.3	25.1	E
Total		4,634	3,550	76.6%	103.4	12.5	F

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	898	598	66.5%	0.3	0.0	A
	Right Turn						
	Subtotal	898	598	66.5%	0.3	0.0	A
WB	Left Turn						
	Through	1,393	1,397	100.3%	6.5	11.3	A
	Right Turn	329	336	102.0%	7.0	10.9	A
	Subtotal	1,722	1,733	100.6%	6.6	11.2	A
Total		2,620	2,330	88.9%	5.0	8.5	A

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	582	587	100.8%	38.3	4.3	D
	Through						
	Right Turn	618	623	100.8%	3.8	0.2	A
	Subtotal	1,200	1,210	100.8%	20.7	2.5	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	898	602	67.1%	11.1	1.7	B
	Right Turn						
	Subtotal	898	602	67.1%	11.1	1.7	B
WB	Left Turn						
	Through	1,140	1,149	100.7%	10.8	1.7	B
	Right Turn						
	Subtotal	1,140	1,149	100.7%	10.8	1.7	B
Total		3,238	2,961	91.4%	15.0	1.3	B

Intersection 61 **El Centro Rd/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	754	482	63.9%	227.1	42.6	F
	Through	1,112	800	72.0%	94.5	26.8	F
	Right Turn	132	98	74.2%	85.0	36.1	F
	Subtotal	1,998	1,380	69.1%	141.7	32.2	F
SB	Left Turn	337	253	75.2%	439.7	48.5	F
	Through	523	386	73.8%	488.6	32.0	F
	Right Turn	81	64	78.8%	398.0	81.6	F
	Subtotal	941	703	74.7%	465.5	35.1	F
EB	Left Turn	217	181	83.4%	378.5	122.0	F
	Through	97	71	72.8%	434.6	145.6	F
	Right Turn	148	109	73.9%	432.4	117.2	F
	Subtotal	462	361	78.1%	403.4	118.4	F
WB	Left Turn	978	137	14.0%	1077.4	171.1	F
	Through	56	10	18.2%	509.2	129.7	F
	Right Turn	556	100	18.0%	482.9	107.2	F
	Subtotal	1,590	248	15.6%	823.4	139.7	F
Total		4,991	2,692	53.9%	310.0	32.1	F

Intersection 62 **MDR Access/Farm Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	15	13	85.3%	296.4	306.1	F
	Through						
	Right Turn	28	26	92.5%	233.2	270.0	F
	Subtotal	43	39	90.0%	155.7	177.5	F
EB	Left Turn	64	43	67.3%	180.1	278.9	F
	Through	502	373	74.3%	28.9	46.7	D
	Right Turn						
	Subtotal	566	416	73.6%	32.5	49.4	D
WB	Left Turn						
	Through	1,562	206	13.2%	381.8	118.2	F
	Right Turn	14	3	22.1%	83.5	166.1	F
	Subtotal	1,576	209	13.3%	380.3	119.1	F
Total		2,185	664	30.4%	149.8	46.9	F

Intersection 63 **Orchard Ln/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,535	177	11.6%	640.6	126.2	F
	Through						
	Right Turn	26	4	15.4%	578.9	308.8	F
	Subtotal	1,561	181	11.6%	638.5	124.9	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	97	71	72.7%	47.0	49.7	D
	Right Turn	420	316	75.2%	32.6	49.9	C
	Subtotal	517	386	74.7%	35.3	50.2	D
WB	Left Turn	9	8	84.4%	48.1	35.8	D
	Through	41	35	84.9%	326.0	109.6	F
	Right Turn						
	Subtotal	50	42	84.8%	253.1	93.4	F
Total		2,128	610	28.7%	217.5	50.6	F

Intersection 68 **El Centro Rd/Street 6** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,998	1,388	69.5%	33.2	14.1	D
	Right Turn						
	Subtotal	1,998	1,388	69.5%	33.2	14.1	D
SB	Left Turn						
	Through	1,737	683	39.3%	142.1	14.9	F
	Right Turn	12	4	35.0%	52.6	46.3	F
	Subtotal	1,749	688	39.3%	141.8	14.9	F
EB	Left Turn						
	Through						
	Right Turn	124	85	68.3%	315.3	40.0	F
	Subtotal	124	85	68.3%	315.3	40.0	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,871	2,160	55.8%	81.4	14.5	F

Intersection 69 **El Centro Rd/CMU/EMC Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,605	1,133	70.6%	28.9	12.7	D
	Right Turn	854	625	73.2%	1.2	0.1	A
	Subtotal	2,459	1,759	71.5%	18.7	7.7	C
SB	Left Turn						
	Through	1,861	766	41.2%	78.4	5.1	F
	Right Turn						
	Subtotal	1,861	766	41.2%	78.4	5.1	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	393	260	66.1%	404.5	108.3	F
	Subtotal	393	260	66.1%	404.5	108.3	F
Total		4,713	2,784	59.1%	68.0	8.1	F

Intersection 74 **El Centro Rd/Street 5** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,459	1,764	71.7%	24.6	12.3	C
	Right Turn						
	Subtotal	2,459	1,764	71.7%	24.6	12.3	C
SB	Left Turn						
	Through	1,789	740	41.3%	64.2	4.9	F
	Right Turn	72	27	36.9%	5.8	16.8	A
	Subtotal	1,861	766	41.2%	62.1	5.2	F
EB	Left Turn						
	Through						
	Right Turn	60	0	0.0%	900.0	0.0	F
	Subtotal	60	0	0.0%	0.0	0.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		4,380	2,531	57.8%	35.4	8.8	E

Intersection 77 **Street E/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	55	53	97.1%	5.6	1.2	A
	Through	1	1	110.0%	2.8	4.0	A
	Right Turn	1	1	110.0%	0.5	1.0	A
	Subtotal	57	56	97.5%	5.6	1.0	A
SB	Left Turn						
	Through	1	1	50.0%	0.5	1.5	A
	Right Turn	37	34	91.6%	3.6	1.1	A
	Subtotal	38	34	90.5%	3.6	1.1	A
EB	Left Turn	13	14	107.7%	1.9	1.0	A
	Through	111	104	94.0%	1.6	0.7	A
	Right Turn	58	58	100.7%	0.3	0.1	A
	Subtotal	182	177	97.1%	1.1	0.4	A
WB	Left Turn						
	Through	118	98	82.7%	2.4	0.2	A
	Right Turn	1	2	150.0%	0.8	1.0	A
	Subtotal	119	99	83.3%	2.4	0.2	A
Total		396	366	92.4%	2.4	0.3	A

Intersection 78 **Street D/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	21	21	101.4%	5.1	0.7	A
	Through	21	20	96.7%	6.2	2.5	A
	Right Turn	99	101	102.1%	3.7	0.3	A
	Subtotal	141	143	101.2%	4.3	0.3	A
SB	Left Turn	98	97	98.7%	5.7	0.4	A
	Through	38	40	106.1%	6.8	0.9	A
	Right Turn	11	12	110.0%	3.0	0.7	A
	Subtotal	147	149	101.4%	5.8	0.6	A
EB	Left Turn	7	6	84.3%	4.1	2.5	A
	Through	82	80	97.0%	9.7	1.0	A
	Right Turn	23	20	87.4%	3.9	1.1	A
	Subtotal	112	106	94.2%	8.5	1.0	A
WB	Left Turn	108	85	78.3%	8.2	0.4	A
	Through	87	66	76.1%	11.3	0.3	B
	Right Turn	59	48	80.8%	6.1	0.9	A
	Subtotal	254	199	78.1%	8.7	0.5	A
Total		654	596	91.1%	7.1	0.4	A

Intersection 79 **Street C/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	34	34	98.5%	8.3	1.3	A
	Right Turn	119	128	107.3%	5.2	0.4	A
	Subtotal	153	161	105.4%	5.9	0.5	A
SB	Left Turn	149	148	99.6%	8.2	1.0	A
	Through	52	50	96.9%	8.7	0.6	A
	Right Turn	5	5	102.0%	3.3	2.6	A
	Subtotal	206	204	99.0%	8.1	0.8	A
EB	Left Turn	1	1	60.0%	2.7	4.0	A
	Through	278	276	99.1%	11.3	1.1	B
	Right Turn						
	Subtotal	279	276	99.0%	11.3	1.1	B
WB	Left Turn	108	85	78.3%	12.7	1.7	B
	Through	249	195	78.2%	14.8	1.9	B
	Right Turn	113	83	73.4%	10.4	2.4	B
	Subtotal	470	362	77.1%	13.4	1.9	B
Total		1,108	1,004	90.6%	10.6	1.0	B

Intersection 80 **Street B/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	29	27	94.1%	5.1	0.6	A
	Through	32	36	110.9%	7.2	0.8	A
	Right Turn						
	Subtotal	61	63	103.0%	6.2	0.4	A
SB	Left Turn						
	Through	56	53	93.8%	7.3	0.5	A
	Right Turn	9	12	133.3%	3.0	1.3	A
	Subtotal	65	65	99.2%	6.7	0.5	A
EB	Left Turn	11	12	110.9%	15.3	7.9	C
	Through	518	523	101.0%	16.6	7.2	C
	Right Turn	17	16	94.7%	10.8	7.3	B
	Subtotal	546	552	101.0%	16.4	7.0	C
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		672	679	101.0%	14.5	5.6	B

Intersection 81 **Street A/W. El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	16	15	94.4%	29.0	16.9	C
	Through	41	42	101.2%	28.8	8.3	C
	Right Turn	104	105	101.2%	15.0	6.7	B
	Subtotal	161	162	100.5%	20.1	5.1	C
SB	Left Turn	124	125	100.5%	51.1	40.0	D
	Through	90	90	99.4%	52.3	36.2	D
	Right Turn	19	21	108.4%	39.6	34.7	D
	Subtotal	233	235	100.7%	50.5	37.8	D
EB	Left Turn	26	25	95.0%	41.4	12.4	D
	Through	481	487	101.2%	27.6	16.6	C
	Right Turn	11	12	112.7%	20.7	25.8	C
	Subtotal	518	524	101.2%	28.0	15.4	C
WB	Left Turn	206	137	66.5%	54.8	28.0	D
	Through	398	287	72.1%	13.5	2.6	B
	Right Turn	200	143	71.4%	7.1	1.4	A
	Subtotal	804	567	70.5%	21.9	8.9	C
Total		1,716	1,487	86.7%	28.3	14.3	C

Intersection 82 **Parking Garage/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	100	99	99.1%	4.9	2.0	A
	Subtotal	100	99	99.1%	4.9	2.0	A
EB	Left Turn						
	Through	809	781	96.5%	10.8	6.0	B
	Right Turn						
	Subtotal	809	781	96.5%	10.8	6.0	B
WB	Left Turn						
	Through	704	466	66.2%	4.5	1.0	A
	Right Turn	150	95	63.4%	2.6	0.6	A
	Subtotal	854	561	65.7%	4.2	0.9	A
Total		1,763	1,441	81.7%	7.9	3.4	A

Intersection 83 **El Centro Rd/Tomato Patch Ln North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	688	671	97.6%	1.6	2.6	A
	Right Turn	5	6	120.0%	0.1	0.3	A
	Subtotal	693	677	97.7%	1.6	2.6	A
SB	Left Turn						
	Through	1,012	562	55.6%	1.2	0.1	A
	Right Turn						
	Subtotal	1,012	562	55.6%	1.2	0.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	164	165	100.5%	26.8	20.1	D
	Subtotal	164	165	100.5%	26.8	20.1	D
Total		1,869	1,405	75.1%	4.7	4.0	A

Intersection 89 **El Centro Rd/Street 4** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	553	543	98.2%	1.8	1.7	A
	Right Turn						
	Subtotal	553	543	98.2%	1.8	1.7	A
SB	Left Turn						
	Through	854	473	55.3%	0.2	0.0	A
	Right Turn	158	89	56.4%	0.3	0.1	A
	Subtotal	1,012	562	55.5%	0.2	0.0	A
EB	Left Turn	140	134	95.7%	34.5	35.5	D
	Through						
	Right Turn	7	8	120.0%	3.1	4.1	A
	Subtotal	147	142	96.9%	31.7	30.0	D
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,712	1,247	72.9%	4.8	4.3	A

Intersection 95 **El Centro Rd/Street 3/Tomato Patch Ln South** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	14	14	100.7%	21.7	7.5	C
	Through	161	158	98.1%	13.8	1.7	B
	Right Turn	2	2	115.0%	2.3	3.9	A
	Subtotal	177	174	98.5%	14.4	2.0	B
SB	Left Turn	270	149	55.2%	20.9	6.3	C
	Through	390	226	58.0%	10.8	2.5	B
	Right Turn	201	110	54.7%	4.4	0.5	A
	Subtotal	861	485	56.4%	12.5	2.2	B
EB	Left Turn	177	178	100.6%	15.7	2.6	B
	Through	4	5	125.0%	15.4	14.9	B
	Right Turn						
	Subtotal	181	183	101.2%	15.8	2.6	B
WB	Left Turn	21	21	98.6%	13.0	3.5	B
	Through	13	13	103.1%	11.3	9.8	B
	Right Turn	215	208	96.8%	4.7	1.0	A
	Subtotal	249	242	97.3%	5.7	1.0	A
Total		1,468	1,085	73.9%	11.8	1.4	B

Intersection 101 **El Centro Rd/Street 2** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	26	28	106.9%	0.1	0.2	A
	Right Turn						
	Subtotal	26	28	106.9%	0.1	0.2	A
SB	Left Turn						
	Through	61	36	58.9%	7.7	1.0	A
	Right Turn	350	211	60.4%	5.2	0.6	A
	Subtotal	411	247	60.2%	5.6	0.6	A
EB	Left Turn	151	147	97.1%	6.1	0.9	A
	Through						
	Right Turn						
	Subtotal	151	147	97.1%	6.1	0.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		588	422	71.7%	5.4	0.4	A

SimTraffic LOS Report

Existing Plus Project Conditions (PM Peak Hour)

Garden Highway (#7 to #11)

Intersection 7 **Gateway Oaks Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	4	3	85.0%	6.4	13.9	A
	Through	6	7	110.0%	40.2	38.3	D
	Right Turn	36	33	91.7%	8.2	4.1	A
	Subtotal	46	43	93.5%	12.6	7.7	B
SB	Left Turn	761	761	100.0%	27.0	11.8	C
	Through	1	1	120.0%	12.1	18.9	B
	Right Turn	71	71	99.6%	8.0	3.0	A
	Subtotal	833	833	100.0%	25.2	10.5	C
EB	Left Turn	22	21	94.5%	40.7	9.0	D
	Through	230	230	99.9%	19.5	7.6	B
	Right Turn	1	2	190.0%	3.3	5.2	A
	Subtotal	253	252	99.8%	21.0	6.9	C
WB	Left Turn	10	8	79.0%	55.2	35.3	E
	Through	475	423	89.1%	30.3	12.4	C
	Right Turn	340	309	90.8%	11.6	4.3	B
	Subtotal	825	740	89.7%	23.2	9.4	C
Total		1,957	1,868	95.5%	23.5	8.1	C

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	527	525	99.6%	32.9	6.4	C
	Through						
	Right Turn	148	153	103.2%	7.5	2.0	A
	Subtotal	675	678	100.4%	27.0	5.7	C
EB	Left Turn	447	442	98.9%	67.1	67.0	E
	Through	581	572	98.4%	27.2	41.6	C
	Right Turn						
	Subtotal	1,028	1,014	98.6%	43.3	48.9	D
WB	Left Turn						
	Through	674	590	87.5%	57.4	18.2	E
	Right Turn	468	363	77.6%	150.3	37.8	F
	Subtotal	1,142	953	83.5%	92.7	25.8	F
Total		2,845	2,644	92.9%	53.6	7.2	D

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	275	240	87.1%	238.0	84.3	F
	Through						
	Right Turn	473	420	88.9%	204.7	88.2	F
	Subtotal	748	660	88.2%	217.7	86.5	F
EB	Left Turn	311	291	93.5%	41.4	8.1	D
	Through	797	805	101.0%	6.3	2.3	A
	Right Turn						
	Subtotal	1,108	1,096	98.9%	15.4	3.9	B
WB	Left Turn						
	Through	663	550	83.0%	130.1	32.2	F
	Right Turn	514	427	83.1%	120.3	31.7	F
	Subtotal	1,177	977	83.0%	125.9	31.6	F
Total		3,033	2,733	90.1%	91.4	20.5	F

Intersection 10 **Natomas Park Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	7	6	80.0%	39.9	77.2	D
	Through	7	7	92.9%	16.0	18.1	B
	Right Turn	3	3	100.0%	8.7	13.1	A
	Subtotal	17	15	88.8%	24.5	20.0	C
SB	Left Turn	124	120	97.0%	42.4	22.9	D
	Through	8	7	86.3%	23.0	25.7	C
	Right Turn	395	383	96.9%	74.5	47.7	E
	Subtotal	527	510	96.7%	66.5	41.2	E
EB	Left Turn	121	117	97.0%	39.1	4.2	D
	Through	946	923	97.5%	19.9	5.0	B
	Right Turn	5	5	98.0%	6.1	8.2	A
	Subtotal	1,072	1,045	97.5%	22.0	4.4	C
WB	Left Turn	4	3	65.0%	218.1	114.1	F
	Through	775	606	78.2%	249.4	101.6	F
	Right Turn	30	23	78.0%	221.6	87.1	F
	Subtotal	809	632	78.1%	248.6	101.4	F
Total		2,425	2,202	90.8%	86.4	23.1	F

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Existing Plus Project Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 11 **Truxel Rd/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	407	405	99.4%	34.1	2.3	C
	Through						
	Right Turn	190	185	97.1%	70.8	67.0	E
	Subtotal	597	589	98.7%	44.8	17.9	D
EB	Left Turn	186	175	93.9%	62.8	8.4	E
	Through	887	870	98.0%	32.4	8.3	C
	Right Turn						
	Subtotal	1,073	1,044	97.3%	37.4	7.8	D
WB	Left Turn						
	Through	619	477	77.0%	370.2	179.1	F
	Right Turn	376	298	79.2%	312.0	147.2	F
	Subtotal	995	775	77.8%	347.2	166.0	F
Total		2,665	2,408	90.4%	105.0	15.5	F

SimTraffic LOS Report

Existing Plus Project Conditions (PM Peak Hour)

San Juan Road (#16)

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Existing Plus Project Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 16 **El Centro Rd/San Juan Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	46	40	87.4%	43.7	6.9	D
	Through	1,136	1,127	99.2%	32.6	3.7	C
	Right Turn	406	398	98.1%	15.9	2.9	B
	Subtotal	1,588	1,565	98.5%	28.7	3.2	C
SB	Left Turn	265	260	97.9%	58.8	23.9	E
	Through	561	568	101.2%	12.7	1.8	B
	Right Turn	96	91	94.3%	2.7	0.9	A
	Subtotal	922	918	99.5%	25.2	8.6	C
EB	Left Turn	79	81	102.7%	39.6	7.0	D
	Through	82	81	98.4%	39.3	7.0	D
	Right Turn	60	61	100.8%	5.1	1.3	A
	Subtotal	221	222	100.6%	29.9	3.9	C
WB	Left Turn	181	180	99.6%	50.4	14.0	D
	Through	90	92	101.9%	34.1	4.3	C
	Right Turn	181	180	99.7%	14.2	2.9	B
	Subtotal	452	452	100.1%	33.1	7.1	C
Total		3,183	3,157	99.2%	28.5	3.7	C

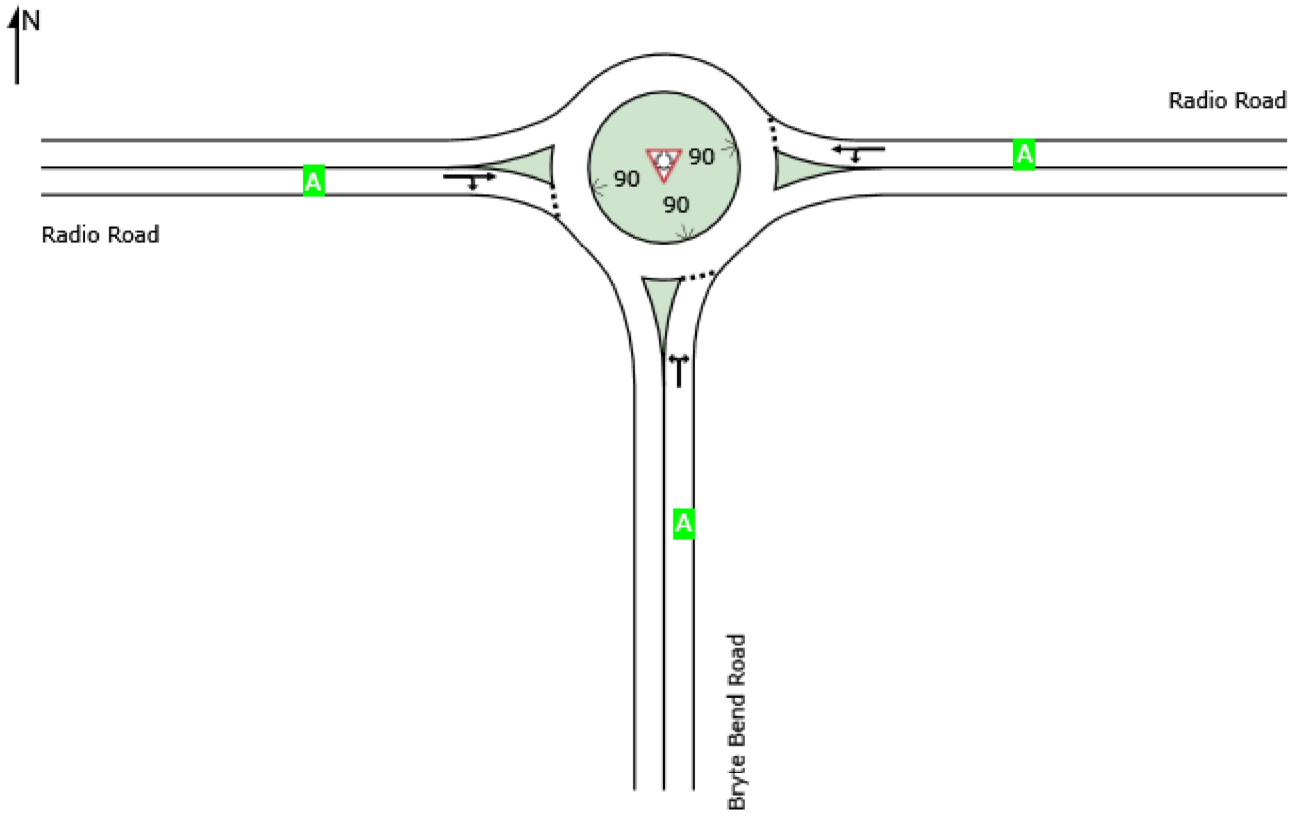
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 44 [44 Radio Road & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	West	
LOS	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

MOVEMENT SUMMARY

Site: 44 [44 Radio Road & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	3	2.0	0.295	5.6	LOS A	1.6	41.1	0.29	0.15	0.29	34.6
18	R2	358	2.0	0.295	5.6	LOS A	1.6	41.1	0.29	0.15	0.29	33.6
Approach		361	2.0	0.295	5.6	LOS A	1.6	41.1	0.29	0.15	0.29	33.6
East: Radio Road												
1	L2	182	2.0	0.189	4.2	LOS A	1.0	24.2	0.03	0.00	0.03	33.4
6	T1	73	2.0	0.189	4.2	LOS A	1.0	24.2	0.03	0.00	0.03	33.4
Approach		255	2.0	0.189	4.2	LOS A	1.0	24.2	0.03	0.00	0.03	33.4
West: Radio Road												
2	T1	94	2.0	0.104	4.1	LOS A	0.5	11.5	0.34	0.20	0.34	35.5
12	R2	22	2.0	0.104	4.1	LOS A	0.5	11.5	0.34	0.20	0.34	34.5
Approach		116	2.0	0.104	4.1	LOS A	0.5	11.5	0.34	0.20	0.34	35.3
All Vehicles		732	2.0	0.295	4.9	LOS A	1.6	41.1	0.21	0.11	0.21	33.8

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

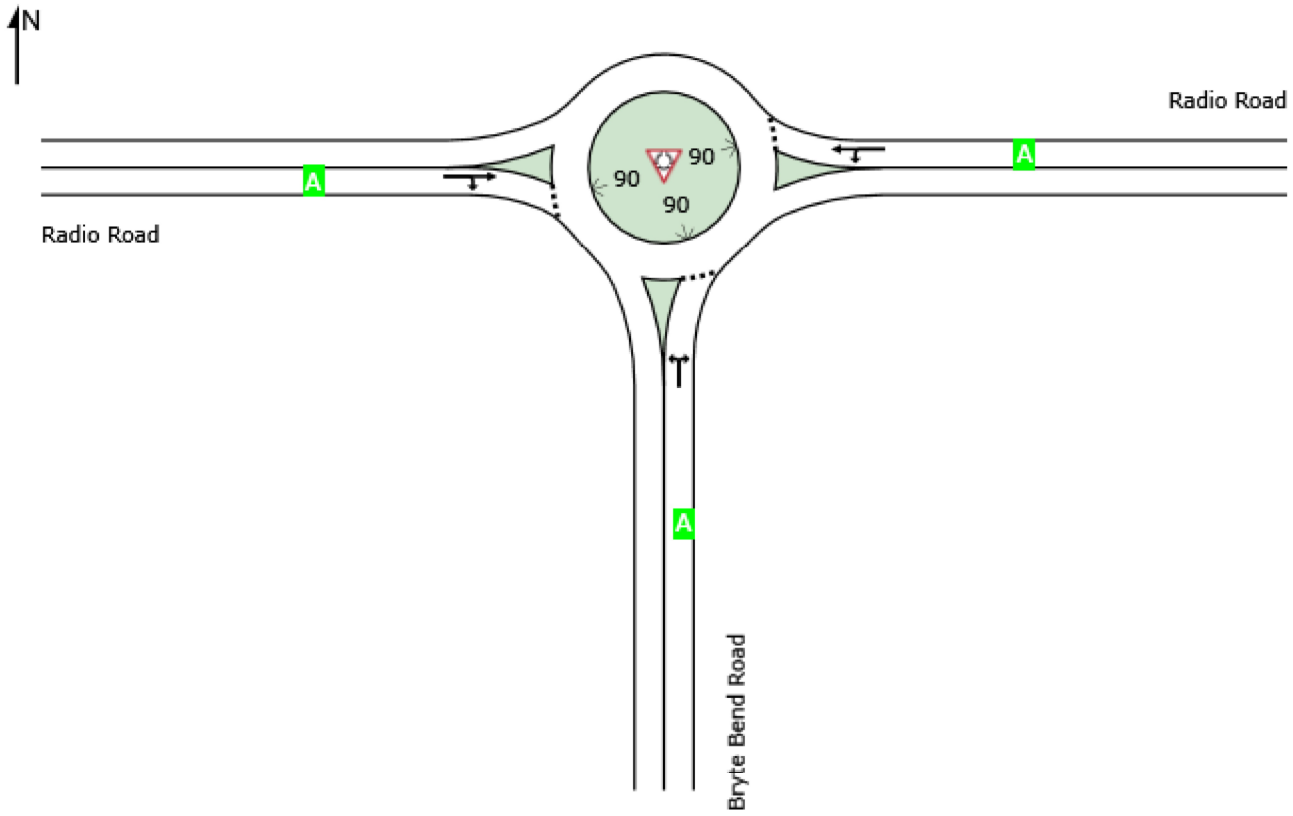
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 44 [44 Radio Road & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	West	
LOS	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

MOVEMENT SUMMARY

Site: 44 [44 Radio Road & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	9	2.0	0.072	3.3	LOS A	0.3	8.1	0.11	0.03	0.11	35.6
18	R2	86	2.0	0.072	3.3	LOS A	0.3	8.1	0.11	0.03	0.11	34.6
Approach		95	2.0	0.072	3.3	LOS A	0.3	8.1	0.11	0.03	0.11	34.7
East: Radio Road												
1	L2	103	2.0	0.135	3.8	LOS A	0.6	16.2	0.06	0.01	0.06	34.0
6	T1	78	2.0	0.135	3.8	LOS A	0.6	16.2	0.06	0.01	0.06	34.0
Approach		181	2.0	0.135	3.8	LOS A	0.6	16.2	0.06	0.01	0.06	34.0
West: Radio Road												
2	T1	28	2.0	0.049	3.4	LOS A	0.2	5.3	0.24	0.11	0.24	35.9
12	R2	32	2.0	0.049	3.4	LOS A	0.2	5.3	0.24	0.11	0.24	34.9
Approach		60	2.0	0.049	3.4	LOS A	0.2	5.3	0.24	0.11	0.24	35.3
All Vehicles		336	2.0	0.135	3.6	LOS A	0.6	16.2	0.11	0.03	0.11	34.4

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

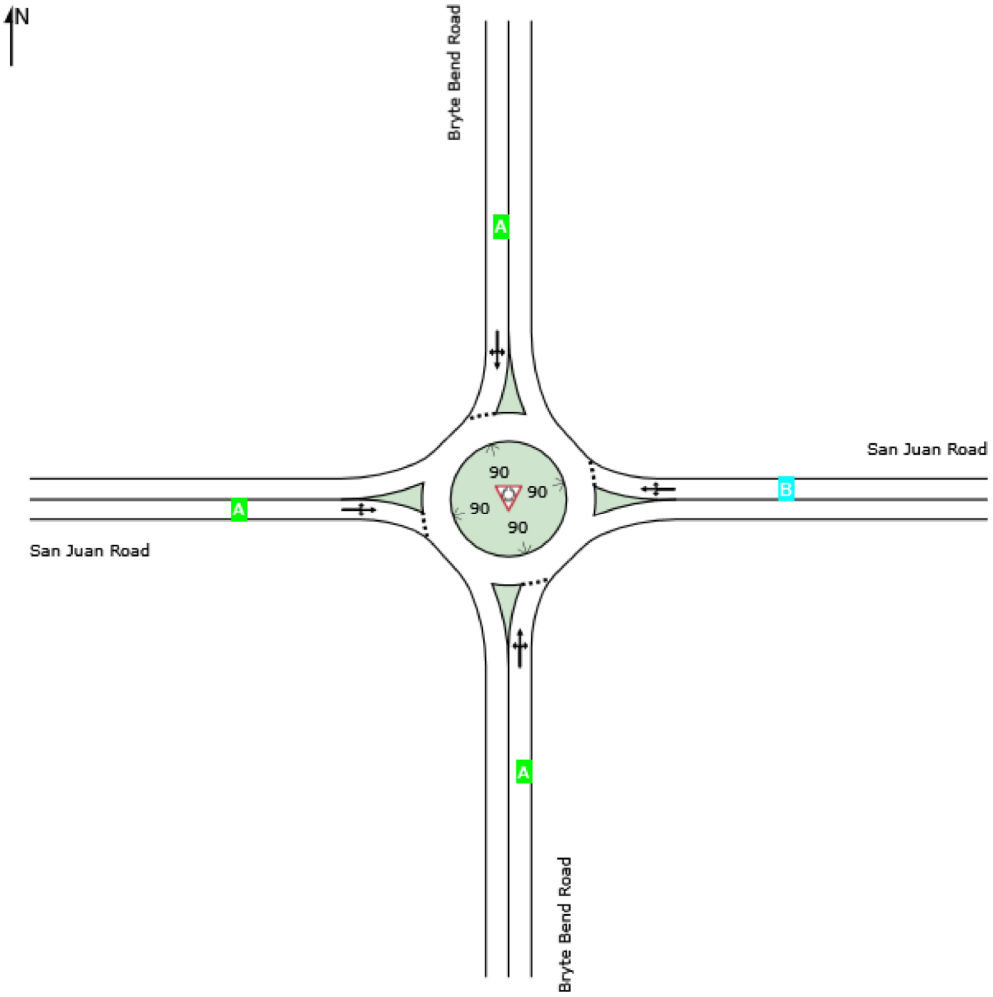
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 49 [49 San Juan Road & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	B	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 49 [49 San Juan Road & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	54	2.0	0.354	6.5	LOS A	2.0	51.6	0.38	0.23	0.38	33.8
8	T1	244	2.0	0.354	6.5	LOS A	2.0	51.6	0.38	0.23	0.38	33.8
18	R2	115	2.0	0.354	6.5	LOS A	2.0	51.6	0.38	0.23	0.38	32.9
Approach		413	2.0	0.354	6.5	LOS A	2.0	51.6	0.38	0.23	0.38	33.5
East: San Juan Road												
1	L2	80	2.0	0.526	10.3	LOS B	4.0	102.4	0.64	0.59	0.75	31.9
6	T1	12	2.0	0.526	10.3	LOS B	4.0	102.4	0.64	0.59	0.75	31.9
16	R2	427	2.0	0.526	10.3	LOS B	4.0	102.4	0.64	0.59	0.75	31.1
Approach		519	2.0	0.526	10.3	LOS B	4.0	102.4	0.64	0.59	0.75	31.2
North: Bryte Bend Road												
7	L2	34	2.0	0.087	3.8	LOS A	0.4	9.6	0.30	0.16	0.30	34.7
4	T1	65	2.0	0.087	3.8	LOS A	0.4	9.6	0.30	0.16	0.30	34.6
14	R2	2	2.0	0.087	3.8	LOS A	0.4	9.6	0.30	0.16	0.30	33.7
Approach		101	2.0	0.087	3.8	LOS A	0.4	9.6	0.30	0.16	0.30	34.6
West: San Juan Road												
5	L2	4	2.0	0.144	4.5	LOS A	0.6	16.5	0.35	0.21	0.35	35.2
2	T1	102	2.0	0.144	4.5	LOS A	0.6	16.5	0.35	0.21	0.35	35.2
12	R2	55	2.0	0.144	4.5	LOS A	0.6	16.5	0.35	0.21	0.35	34.2
Approach		161	2.0	0.144	4.5	LOS A	0.6	16.5	0.35	0.21	0.35	34.8
All Vehicles		1194	2.0	0.526	7.6	LOS A	4.0	102.4	0.48	0.38	0.53	32.8

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

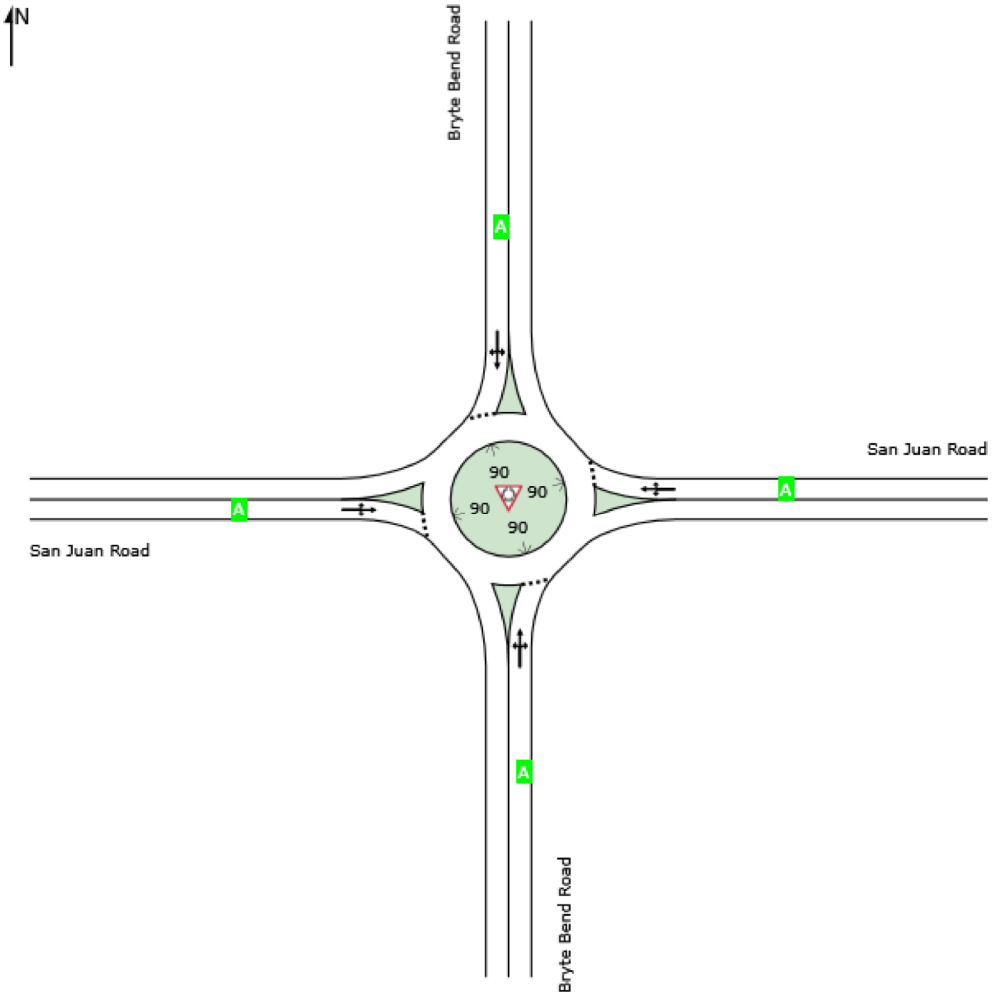
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 49 [49 San Juan Road & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 49 [49 San Juan Road & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	74	2.0	0.196	4.9	LOS A	0.9	23.9	0.34	0.20	0.34	34.1
8	T1	68	2.0	0.196	4.9	LOS A	0.9	23.9	0.34	0.20	0.34	34.1
18	R2	83	2.0	0.196	4.9	LOS A	0.9	23.9	0.34	0.20	0.34	33.2
Approach		225	2.0	0.196	4.9	LOS A	0.9	23.9	0.34	0.20	0.34	33.8
East: San Juan Road												
1	L2	114	2.0	0.237	5.2	LOS A	1.2	30.3	0.34	0.20	0.34	33.7
6	T1	135	2.0	0.237	5.2	LOS A	1.2	30.3	0.34	0.20	0.34	33.7
16	R2	27	2.0	0.237	5.2	LOS A	1.2	30.3	0.34	0.20	0.34	32.8
Approach		276	2.0	0.237	5.2	LOS A	1.2	30.3	0.34	0.20	0.34	33.6
North: Bryte Bend Road												
7	L2	72	2.0	0.189	5.5	LOS A	0.8	21.6	0.48	0.37	0.48	33.6
4	T1	108	2.0	0.189	5.5	LOS A	0.8	21.6	0.48	0.37	0.48	33.6
14	R2	2	2.0	0.189	5.5	LOS A	0.8	21.6	0.48	0.37	0.48	32.7
Approach		182	2.0	0.189	5.5	LOS A	0.8	21.6	0.48	0.37	0.48	33.6
West: San Juan Road												
5	L2	1	2.0	0.141	4.9	LOS A	0.6	15.6	0.44	0.32	0.44	35.0
2	T1	83	2.0	0.141	4.9	LOS A	0.6	15.6	0.44	0.32	0.44	35.0
12	R2	56	2.0	0.141	4.9	LOS A	0.6	15.6	0.44	0.32	0.44	34.0
Approach		140	2.0	0.141	4.9	LOS A	0.6	15.6	0.44	0.32	0.44	34.6
All Vehicles		823	2.0	0.237	5.1	LOS A	1.2	30.3	0.39	0.26	0.39	33.8

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

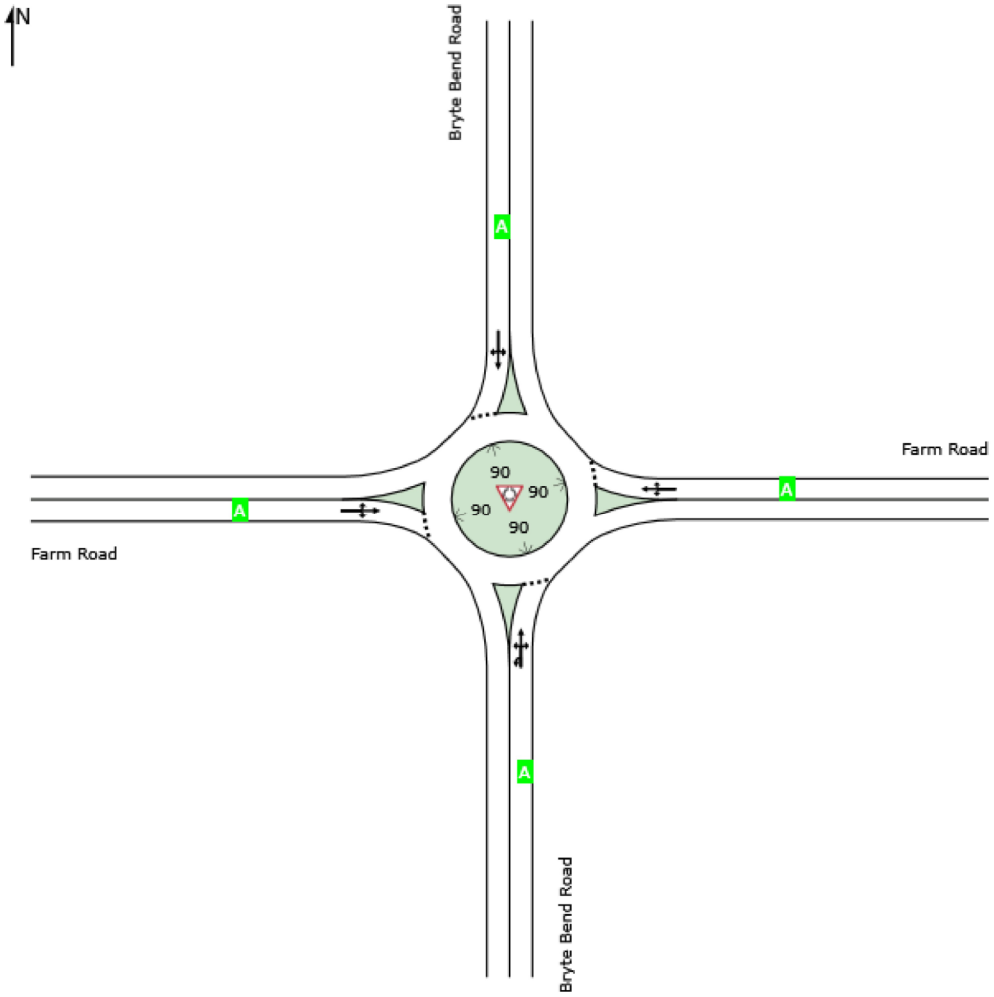
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 56 [56 Farm Road & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 56 [56 Farm Road & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3u	U	116	2.0	0.335	7.5	LOS A	1.7	42.4	0.57	0.49	0.57	33.0
3	L2	1	2.0	0.335	7.5	LOS A	1.7	42.4	0.57	0.49	0.57	32.3
8	T1	177	2.0	0.335	7.5	LOS A	1.7	42.4	0.57	0.49	0.57	32.3
18	R2	14	2.0	0.335	7.5	LOS A	1.7	42.4	0.57	0.49	0.57	31.5
Approach		308	2.0	0.335	7.5	LOS A	1.7	42.4	0.57	0.49	0.57	32.5
East: Farm Road												
1	L2	2	2.0	0.215	6.0	LOS A	1.0	24.9	0.50	0.41	0.50	34.4
6	T1	83	2.0	0.215	6.0	LOS A	1.0	24.9	0.50	0.41	0.50	34.4
16	R2	117	2.0	0.215	6.0	LOS A	1.0	24.9	0.50	0.41	0.50	33.5
Approach		202	2.0	0.215	6.0	LOS A	1.0	24.9	0.50	0.41	0.50	33.9
North: Bryte Bend Road												
7	L2	193	2.0	0.341	6.7	LOS A	1.9	47.2	0.45	0.31	0.45	32.7
4	T1	53	2.0	0.341	6.7	LOS A	1.9	47.2	0.45	0.31	0.45	32.7
14	R2	127	2.0	0.341	6.7	LOS A	1.9	47.2	0.45	0.31	0.45	31.9
Approach		373	2.0	0.341	6.7	LOS A	1.9	47.2	0.45	0.31	0.45	32.4
West: Farm Road												
5	L2	57	2.0	0.206	5.9	LOS A	0.9	23.6	0.51	0.42	0.51	33.7
2	T1	119	2.0	0.206	5.9	LOS A	0.9	23.6	0.51	0.42	0.51	33.7
12	R2	15	2.0	0.206	5.9	LOS A	0.9	23.6	0.51	0.42	0.51	32.8
Approach		191	2.0	0.206	5.9	LOS A	0.9	23.6	0.51	0.42	0.51	33.6
All Vehicles		1074	2.0	0.341	6.7	LOS A	1.9	47.2	0.50	0.40	0.50	32.9

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

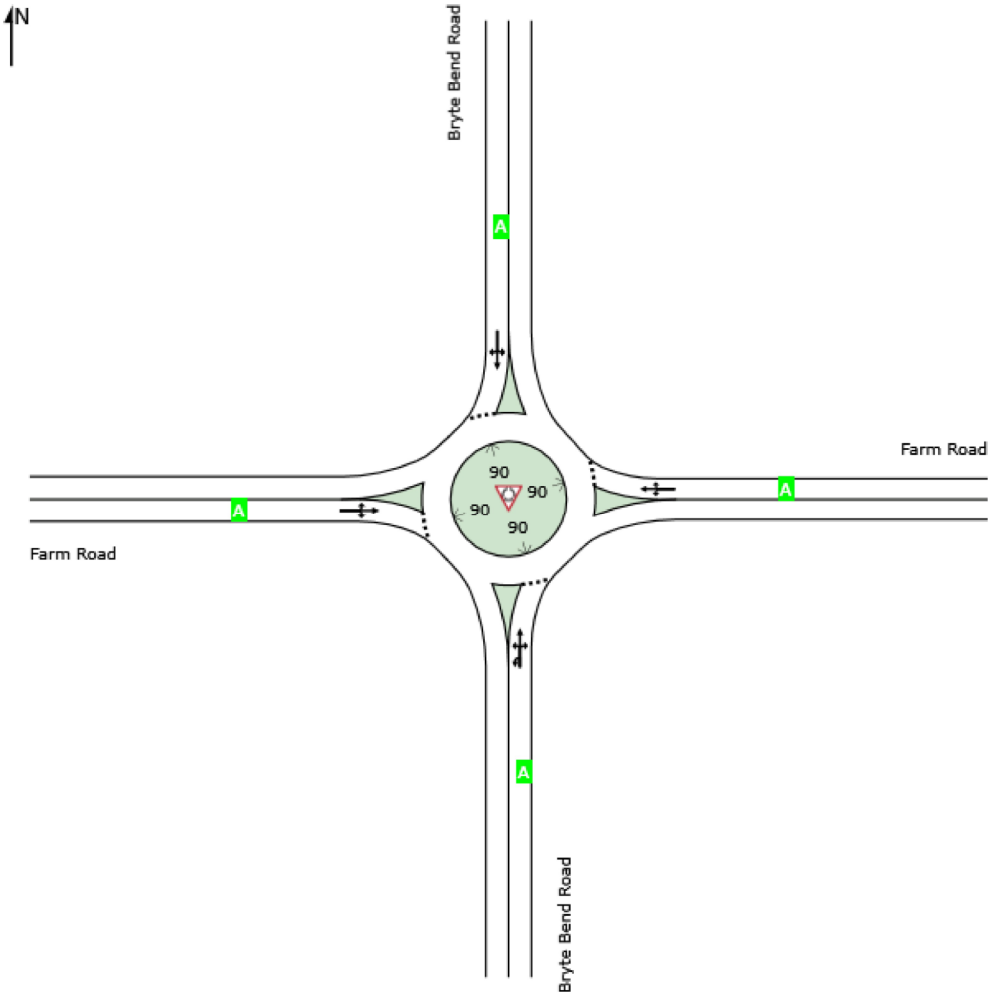
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 56 [56 Farm Road & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 56 [56 Farm Road & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3u	U	49	2.0	0.169	4.8	LOS A	0.8	19.7	0.38	0.25	0.38	34.7
3	L2	7	2.0	0.169	4.8	LOS A	0.8	19.7	0.38	0.25	0.38	33.9
8	T1	125	2.0	0.169	4.8	LOS A	0.8	19.7	0.38	0.25	0.38	33.9
18	R2	3	2.0	0.169	4.8	LOS A	0.8	19.7	0.38	0.25	0.38	33.0
Approach		184	2.0	0.169	4.8	LOS A	0.8	19.7	0.38	0.25	0.38	34.1
East: Farm Road												
1	L2	38	2.0	0.368	7.1	LOS A	2.1	52.2	0.47	0.34	0.47	33.6
6	T1	123	2.0	0.368	7.1	LOS A	2.1	52.2	0.47	0.34	0.47	33.6
16	R2	236	2.0	0.368	7.1	LOS A	2.1	52.2	0.47	0.34	0.47	32.7
Approach		397	2.0	0.368	7.1	LOS A	2.1	52.2	0.47	0.34	0.47	33.0
North: Bryte Bend Road												
7	L2	112	2.0	0.254	5.7	LOS A	1.3	32.0	0.42	0.29	0.42	33.5
4	T1	129	2.0	0.254	5.7	LOS A	1.3	32.0	0.42	0.29	0.42	33.5
14	R2	33	2.0	0.254	5.7	LOS A	1.3	32.0	0.42	0.29	0.42	32.6
Approach		274	2.0	0.254	5.7	LOS A	1.3	32.0	0.42	0.29	0.42	33.4
West: Farm Road												
5	L2	36	2.0	0.099	4.7	LOS A	0.4	10.5	0.45	0.33	0.45	34.1
2	T1	58	2.0	0.099	4.7	LOS A	0.4	10.5	0.45	0.33	0.45	34.1
12	R2	1	2.0	0.099	4.7	LOS A	0.4	10.5	0.45	0.33	0.45	33.2
Approach		95	2.0	0.099	4.7	LOS A	0.4	10.5	0.45	0.33	0.45	34.1
All Vehicles		950	2.0	0.368	6.0	LOS A	2.1	52.2	0.44	0.31	0.44	33.4

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

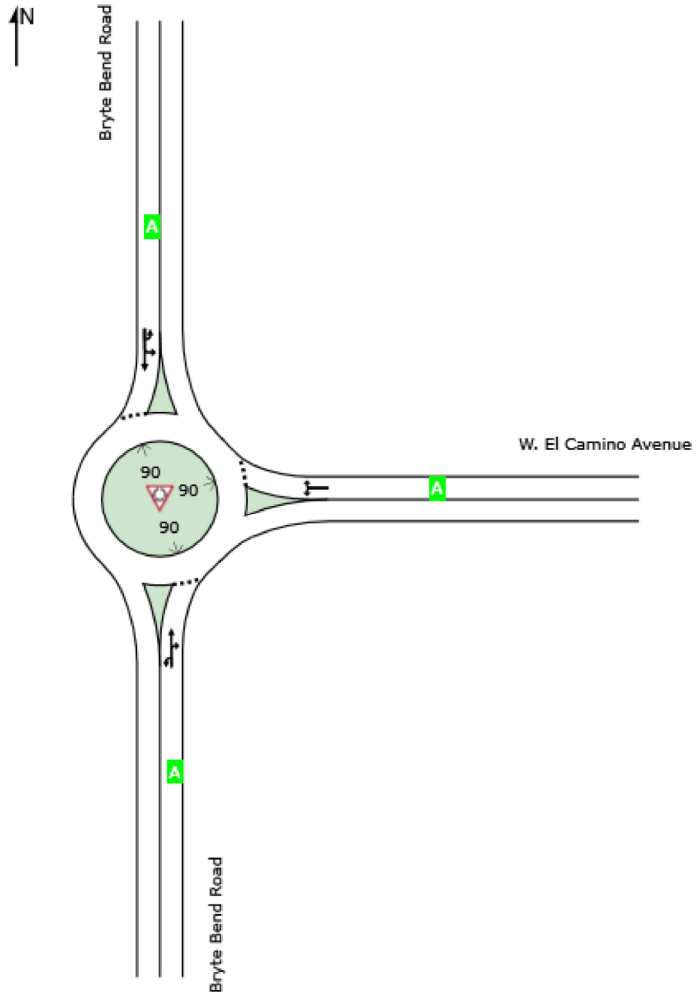
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 76 [76 W. El Camino Avenue & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	North	
LOS	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 76 [76 W. El Camino Avenue & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3u	U	22	2.0	0.184	4.7	LOS A	0.9	22.2	0.31	0.18	0.31	35.5
8	T1	102	2.0	0.184	4.7	LOS A	0.9	22.2	0.31	0.18	0.31	34.7
18	R2	91	2.0	0.184	4.7	LOS A	0.9	22.2	0.31	0.18	0.31	33.8
Approach		215	2.0	0.184	4.7	LOS A	0.9	22.2	0.31	0.18	0.31	34.4
East: W. El Camino Avenue												
1	L2	121	2.0	0.268	5.6	LOS A	1.4	35.2	0.34	0.20	0.34	33.6
16	R2	191	2.0	0.268	5.6	LOS A	1.4	35.2	0.34	0.20	0.34	32.7
Approach		312	2.0	0.268	5.6	LOS A	1.4	35.2	0.34	0.20	0.34	33.0
North: Bryte Bend Road												
7u	U	15	2.0	0.130	4.2	LOS A	0.6	14.9	0.30	0.17	0.30	33.5
7	L2	123	2.0	0.130	4.2	LOS A	0.6	14.9	0.30	0.17	0.30	32.8
4	T1	13	2.0	0.130	4.2	LOS A	0.6	14.9	0.30	0.17	0.30	32.8
Approach		151	2.0	0.130	4.2	LOS A	0.6	14.9	0.30	0.17	0.30	32.9
All Vehicles		678	2.0	0.268	5.0	LOS A	1.4	35.2	0.33	0.19	0.33	33.4

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

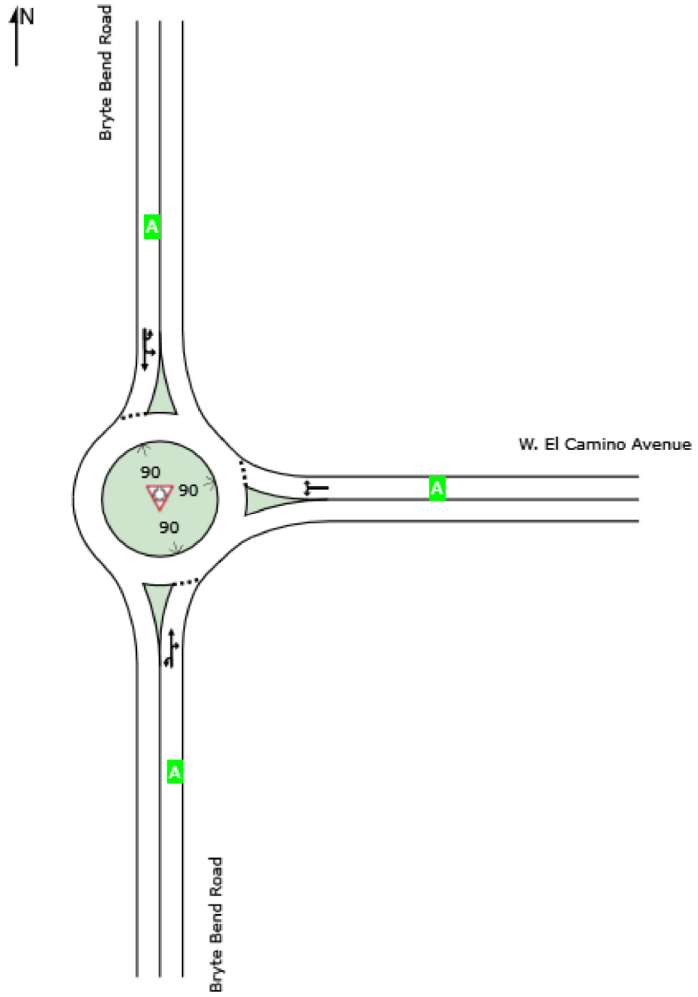
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 76 [76 W. El Camino Avenue & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	North	
LOS	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 76 [76 W. El Camino Avenue & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3u	U	61	2.0	0.131	4.2	LOS A	0.6	15.0	0.29	0.16	0.29	34.6
8	T1	38	2.0	0.131	4.2	LOS A	0.6	15.0	0.29	0.16	0.29	33.8
18	R2	55	2.0	0.131	4.2	LOS A	0.6	15.0	0.29	0.16	0.29	33.0
Approach		154	2.0	0.131	4.2	LOS A	0.6	15.0	0.29	0.16	0.29	33.8
East: W. El Camino Avenue												
1	L2	67	2.0	0.174	4.5	LOS A	0.8	21.0	0.26	0.13	0.26	34.3
16	R2	143	2.0	0.174	4.5	LOS A	0.8	21.0	0.26	0.13	0.26	33.4
Approach		210	2.0	0.174	4.5	LOS A	0.8	21.0	0.26	0.13	0.26	33.7
North: Bryte Bend Road												
7u	U	3	2.0	0.178	4.6	LOS A	0.8	21.4	0.30	0.17	0.30	34.2
7	L2	127	2.0	0.178	4.6	LOS A	0.8	21.4	0.30	0.17	0.30	33.5
4	T1	80	2.0	0.178	4.6	LOS A	0.8	21.4	0.30	0.17	0.30	33.5
Approach		210	2.0	0.178	4.6	LOS A	0.8	21.4	0.30	0.17	0.30	33.5
All Vehicles		574	2.0	0.178	4.4	LOS A	0.8	21.4	0.28	0.15	0.28	33.6

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

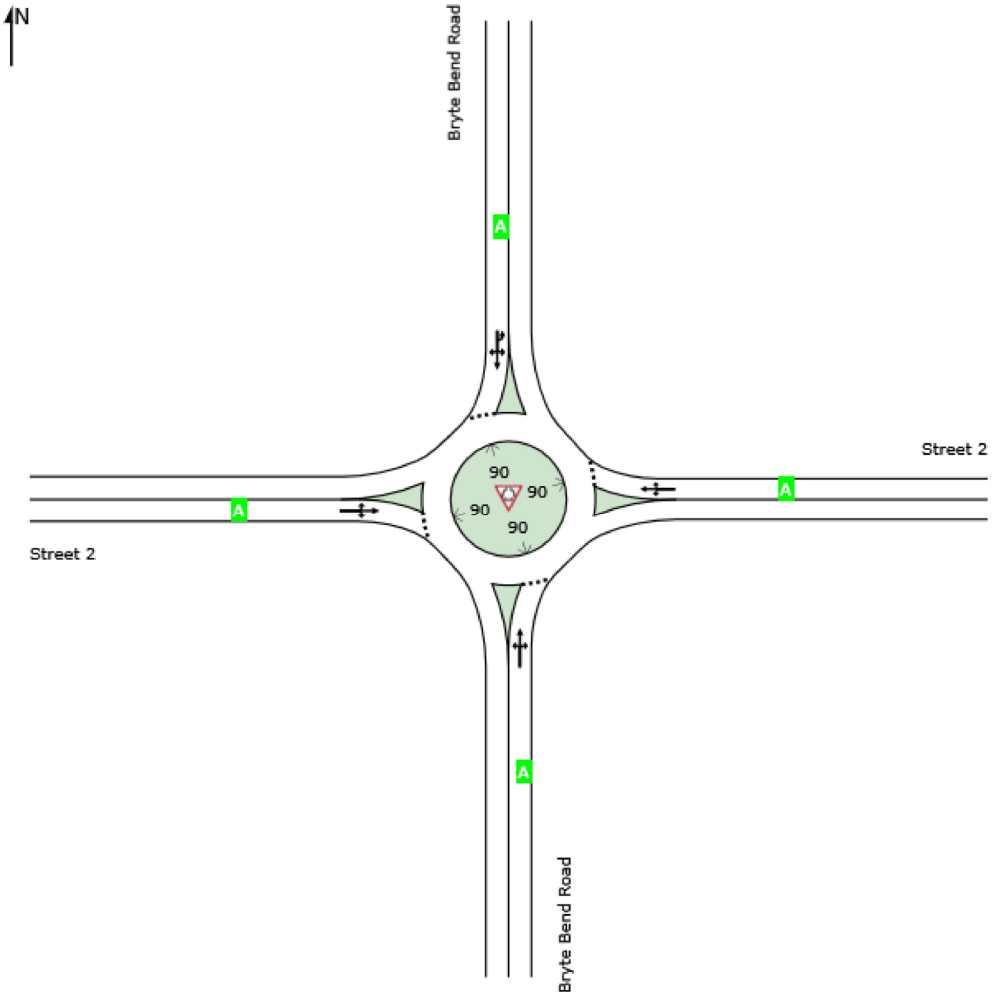
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 96 [96 Street 2 & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 96 [96 Street 2 & Bryte Bend Road - AM]

AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	48	2.0	0.199	5.2	LOS A	0.9	23.6	0.42	0.29	0.42	34.2
8	T1	63	2.0	0.199	5.2	LOS A	0.9	23.6	0.42	0.29	0.42	34.2
18	R2	99	2.0	0.199	5.2	LOS A	0.9	23.6	0.42	0.29	0.42	33.3
Approach		210	2.0	0.199	5.2	LOS A	0.9	23.6	0.42	0.29	0.42	33.7
East: Street 2												
1	L2	17	2.0	0.086	4.2	LOS A	0.4	9.2	0.38	0.25	0.38	34.9
6	T1	54	2.0	0.086	4.2	LOS A	0.4	9.2	0.38	0.25	0.38	34.9
16	R2	19	2.0	0.086	4.2	LOS A	0.4	9.2	0.38	0.25	0.38	33.9
Approach		90	2.0	0.086	4.2	LOS A	0.4	9.2	0.38	0.25	0.38	34.7
North: Bryte Bend Road												
7u	U	112	2.0	0.127	4.1	LOS A	0.6	14.7	0.27	0.14	0.27	33.1
7	L2	20	2.0	0.127	4.1	LOS A	0.6	14.7	0.27	0.14	0.27	32.4
4	T1	16	2.0	0.127	4.1	LOS A	0.6	14.7	0.27	0.14	0.27	32.4
14	R2	4	2.0	0.127	4.1	LOS A	0.6	14.7	0.27	0.14	0.27	31.6
Approach		152	2.0	0.127	4.1	LOS A	0.6	14.7	0.27	0.14	0.27	32.9
West: Street 2												
5	L2	21	2.0	0.102	4.0	LOS A	0.4	11.3	0.32	0.18	0.32	35.0
2	T1	83	2.0	0.102	4.0	LOS A	0.4	11.3	0.32	0.18	0.32	35.0
12	R2	12	2.0	0.102	4.0	LOS A	0.4	11.3	0.32	0.18	0.32	34.0
Approach		116	2.0	0.102	4.0	LOS A	0.4	11.3	0.32	0.18	0.32	34.9
All Vehicles		568	2.0	0.199	4.5	LOS A	0.9	23.6	0.35	0.22	0.35	33.9

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

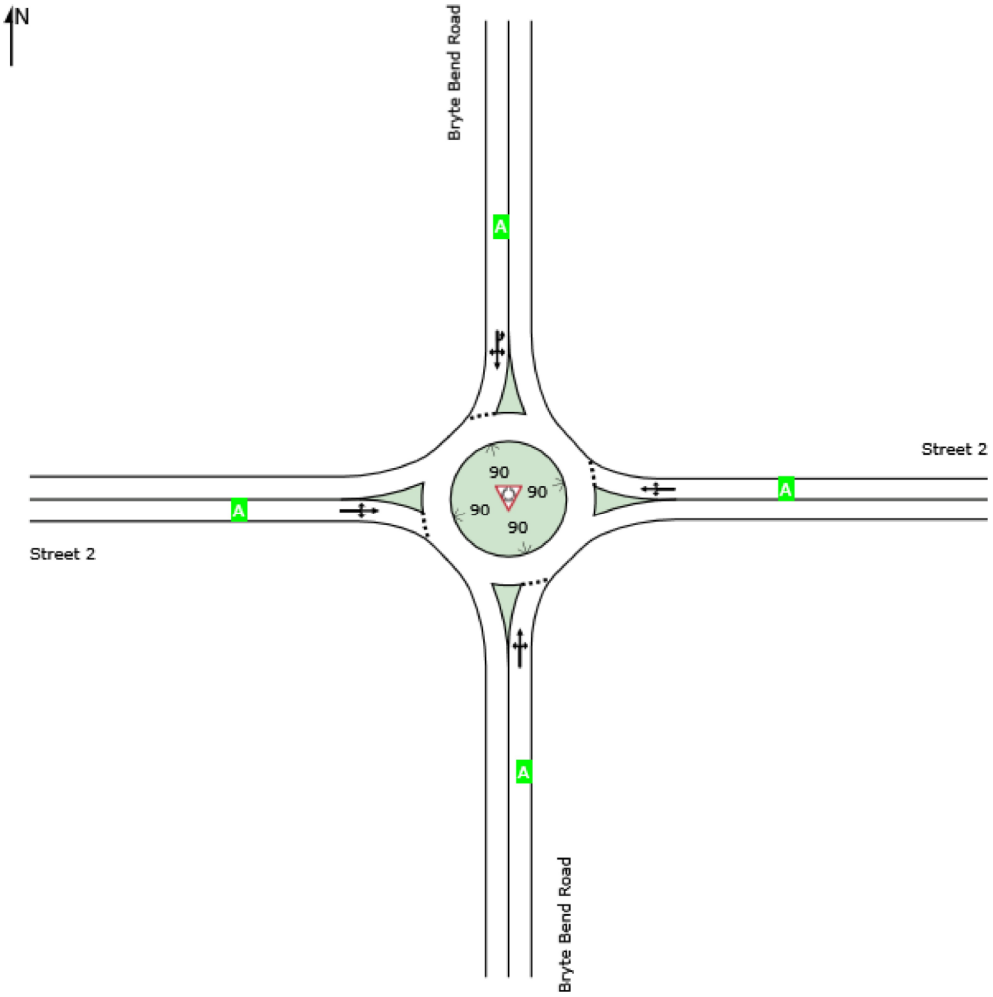
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 96 [96 Street 2 & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 96 [96 Street 2 & Bryte Bend Road - PM]

PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	40	2.0	0.132	4.1	LOS A	0.6	15.2	0.28	0.15	0.28	34.7
8	T1	59	2.0	0.132	4.1	LOS A	0.6	15.2	0.28	0.15	0.28	34.7
18	R2	58	2.0	0.132	4.1	LOS A	0.6	15.2	0.28	0.15	0.28	33.7
Approach		157	2.0	0.132	4.1	LOS A	0.6	15.2	0.28	0.15	0.28	34.3
East: Street 2												
1	L2	102	2.0	0.167	4.6	LOS A	0.8	19.6	0.34	0.21	0.34	33.7
6	T1	61	2.0	0.167	4.6	LOS A	0.8	19.6	0.34	0.21	0.34	33.7
16	R2	26	2.0	0.167	4.6	LOS A	0.8	19.6	0.34	0.21	0.34	32.8
Approach		189	2.0	0.167	4.6	LOS A	0.8	19.6	0.34	0.21	0.34	33.5
North: Bryte Bend Road												
7u	U	56	2.0	0.151	4.6	LOS A	0.7	17.3	0.37	0.24	0.37	34.3
7	L2	19	2.0	0.151	4.6	LOS A	0.7	17.3	0.37	0.24	0.37	33.6
4	T1	62	2.0	0.151	4.6	LOS A	0.7	17.3	0.37	0.24	0.37	33.5
14	R2	28	2.0	0.151	4.6	LOS A	0.7	17.3	0.37	0.24	0.37	32.7
Approach		165	2.0	0.151	4.6	LOS A	0.7	17.3	0.37	0.24	0.37	33.6
West: Street 2												
5	L2	13	2.0	0.079	4.1	LOS A	0.3	8.4	0.38	0.24	0.38	35.0
2	T1	33	2.0	0.079	4.1	LOS A	0.3	8.4	0.38	0.24	0.38	35.0
12	R2	37	2.0	0.079	4.1	LOS A	0.3	8.4	0.38	0.24	0.38	34.0
Approach		83	2.0	0.079	4.1	LOS A	0.3	8.4	0.38	0.24	0.38	34.5
All Vehicles		594	2.0	0.167	4.4	LOS A	0.8	19.6	0.34	0.21	0.34	33.9

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

FEHR PEERS

Major Street	Power Line Rd	Project	Upper Westside
Minor Street	Bayou Wy South	Scenario	Existing Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	225	8	32	1
Through	46	271	25	73
Right	0	180	116	0
Total	271	459	173	74

Major Street Direction

X	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	33.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	74

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**0.7**	**173**	**977**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

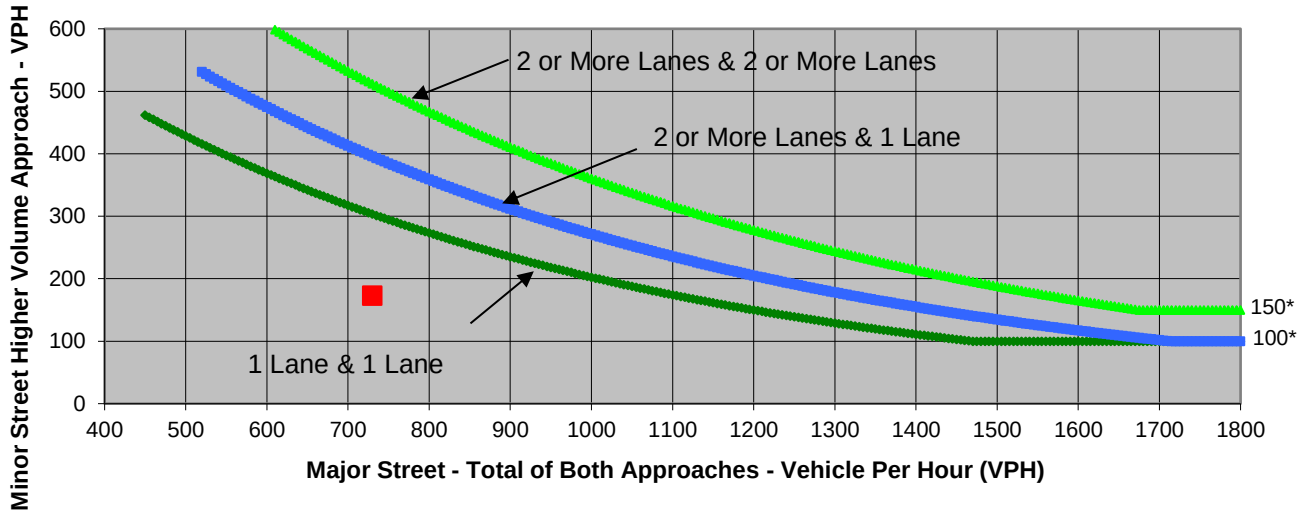
Major Street	Power Line Rd	Project	Upper Westside
Minor Street	Bayou Wy South	Scenario	Existing Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	225	8	32	1
Through	46	271	25	73
Right	0	180	116	0
Total	271	459	173	74

Major Street Direction

X	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Power Line Rd	Bayou Wy South	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**730**	**173**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Power Line Rd	Project	Upper Westside
Minor Street	Bayou Wy South	Scenario	Existing Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	147	4	349	0
Through	46	9	59	27
Right	2	46	292	5
Total	195	59	700	32

Major Street Direction

X	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	92.2
Approach with Worst Case Delay	EB
Total Vehicles on Approach	700

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**17.9**	**700**	**986**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

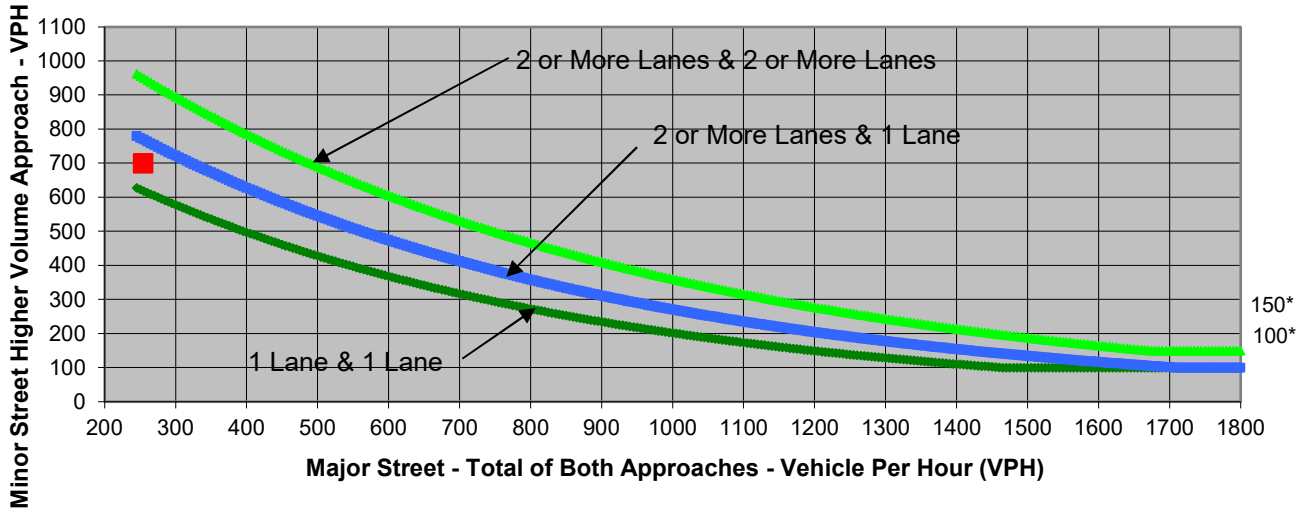
Major Street	Power Line Rd	Project	Upper Westside
Minor Street	Bayou Wy South	Scenario	Existing Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	147	4	349	0
Through	46	9	59	27
Right	2	46	292	5
Total	195	59	700	32

Major Street Direction

X	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Power Line Rd	Bayou Wy South	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**254**	**700**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	Farm Rd
Scenario	Existing Plus Project
Minor Street	MDR Access
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	18	0
Through	0	0	534	740
Right	0	70	0	3
Total	0	72	552	743

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	461
Approach with Worst Case Delay	SB
Total Vehicles on Approach	72

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**9.2**	**72**	**1,367**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR & PEERS

Major Street	Farm Rd
Minor Street	MDR Access

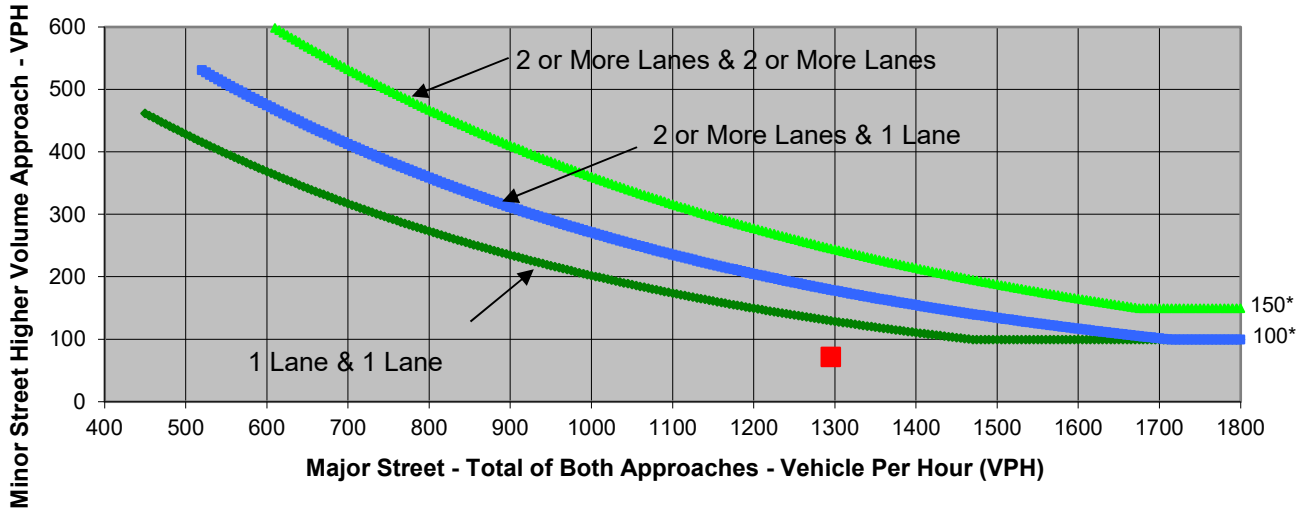
Project	Upper Westside
Scenario	Existing Plus Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	18	0
Through	0	0	534	740
Right	0	70	0	3
Total	0	72	552	743

Major Street Direction

	North/South
x	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Farm Rd	MDR Access	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,295**	**72**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Farm Rd
Minor Street	MDR Access

Project	Upper Westside
Scenario	Existing Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	64	0
Through	0	0	502	1,562
Right	0	28	0	14
Total	0	43	566	1,576

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	382
Approach with Worst Case Delay	SB
Total Vehicles on Approach	43

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**4.6**	**43**	**2,185**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Farm Rd
Minor Street	MDR Access

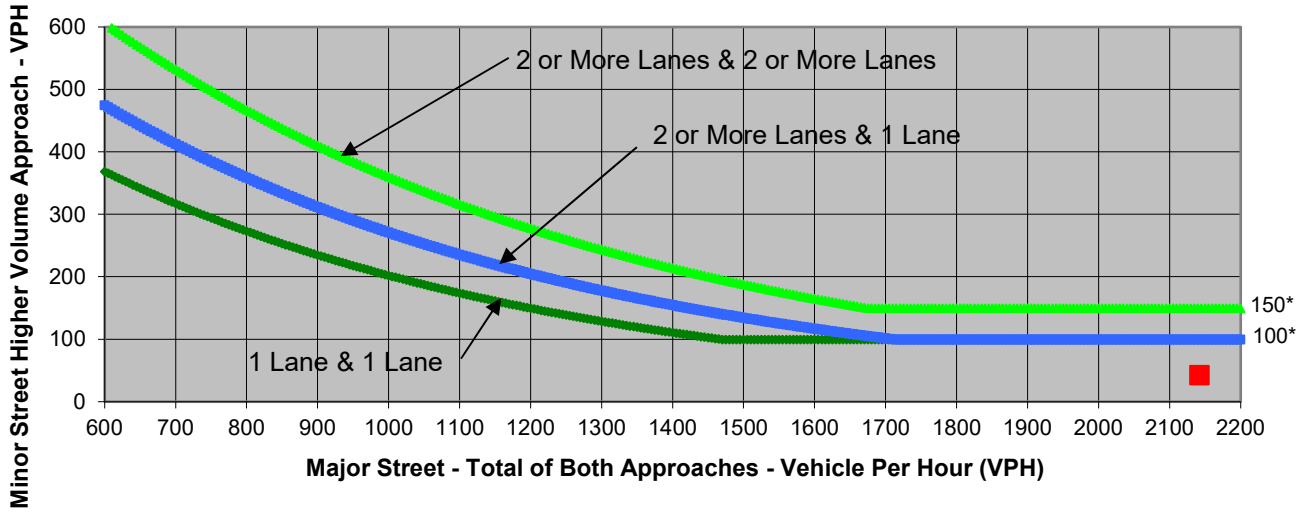
Project	Upper Westside
Scenario	Existing Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	64	0
Through	0	0	502	1,562
Right	0	28	0	14
Total	0	43	566	1,576

Major Street Direction

	North/South
x	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Farm Rd	MDR Access	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**2,142**	**43**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	El Centro Rd
Scenario	Existing Plus Project
Minor Street	Street 6
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,056	2,065	0	0
Right	0	2	107	0
Total	1,056	2,067	107	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	346
Approach with Worst Case Delay	EB
Total Vehicles on Approach	107

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**10.3**	**107**	**3,230**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

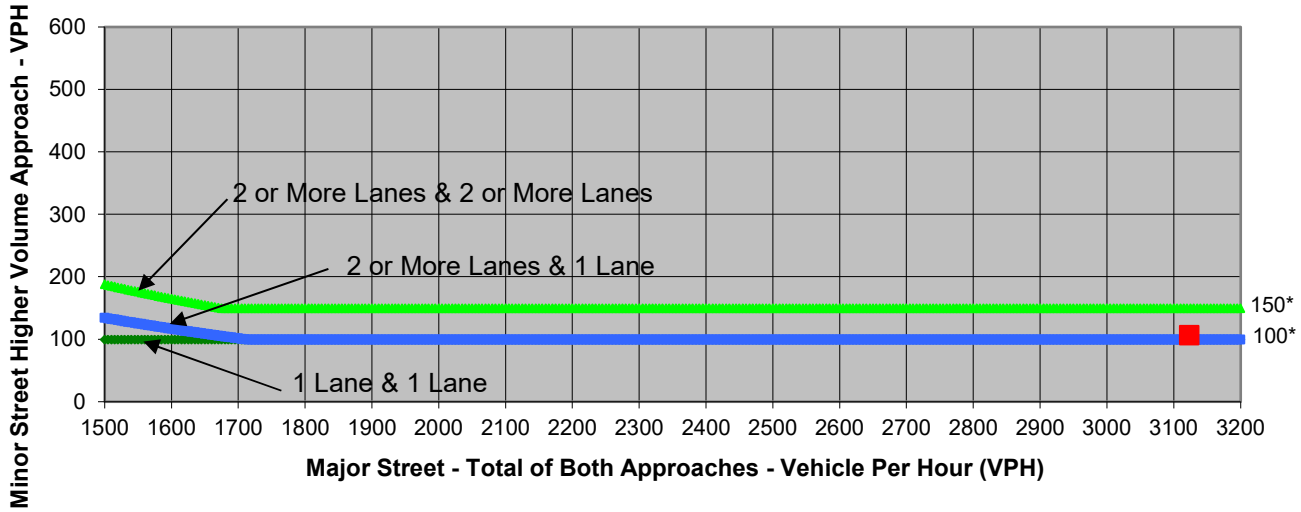
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 6	Scenario	Existing Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,056	2,065	0	0
Right	0	2	107	0
Total	1,056	2,067	107	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 6	
Number of Approach Lanes	**3**	**1**	**YES**
Traffic Volume (VPH) *	**3,123**	**107**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	El Centro Rd
Scenario	Existing Plus Project
Minor Street	Street 6
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,998	1,737	0	0
Right	0	12	124	0
Total	1,998	1,749	124	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	315
Approach with Worst Case Delay	EB
Total Vehicles on Approach	124

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**10.9**	**124**	**3,871**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

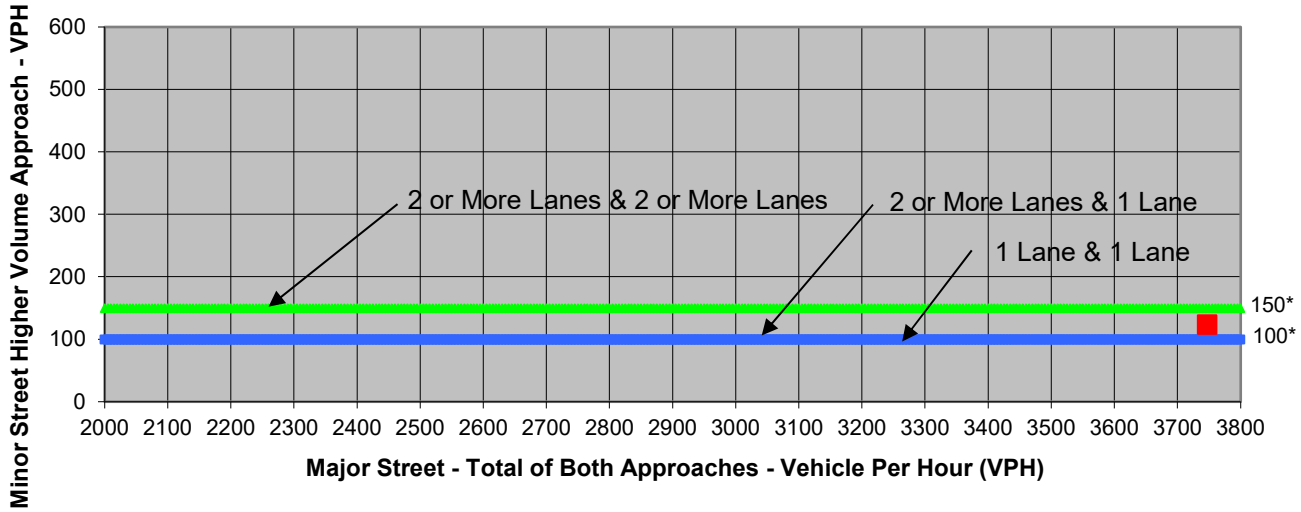
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 6	Scenario	Existing Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,998	1,737	0	0
Right	0	12	124	0
Total	1,998	1,749	124	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 6	
Number of Approach Lanes	**3**	**1**	**YES**
Traffic Volume (VPH) *	**3,747**	**124**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	El Centro Rd	Project	Upper Westside
Minor Street	CMU/EMC Dwy	Scenario	Existing Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	954	2,172	0	0
Right	681	0	0	102
Total	1,635	2,172	0	102

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	77
Approach with Worst Case Delay	WB
Total Vehicles on Approach	102

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**2.2**	**102**	**3,909**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

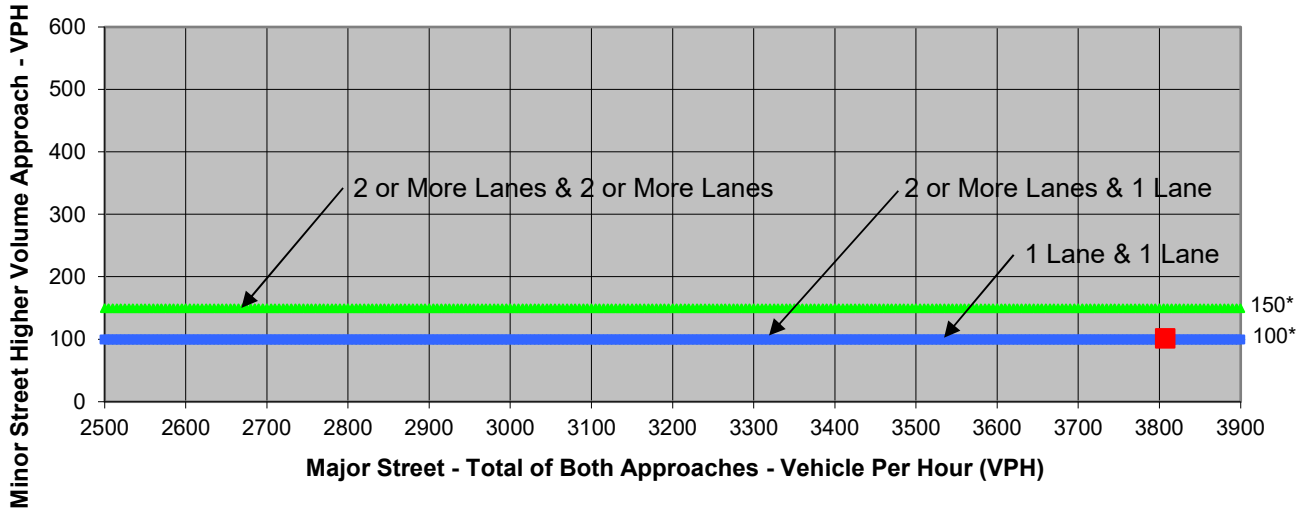
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	CMU/EMC Dwy	Scenario	Existing Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	954	2,172	0	0
Right	681	0	0	102
Total	1,635	2,172	0	102

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	CMU/EMC Dwy	
Number of Approach Lanes	**3**	**1**	**YES**
Traffic Volume (VPH) *	**3,807**	**102**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	El Centro Rd
Scenario	Existing Plus Project
Minor Street	CMU/EMC Dwy
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,605	1,861	0	0
Right	854	0	0	393
Total	2,459	1,861	0	393

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	405
Approach with Worst Case Delay	WB
Total Vehicles on Approach	393

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**44.2**	**393**	**4,713**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

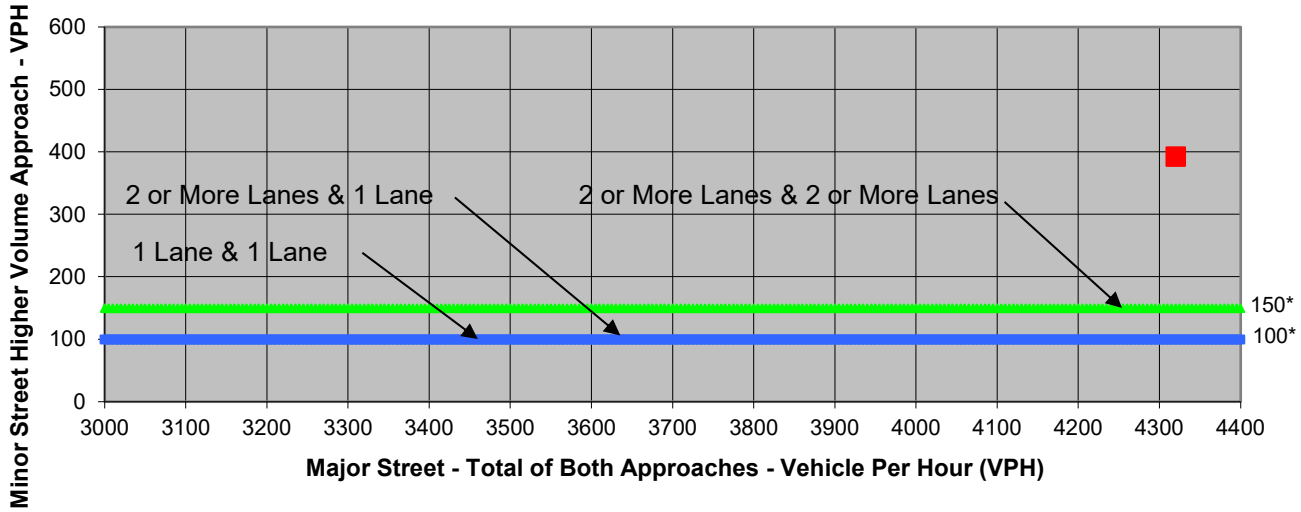
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	CMU/EMC Dwy	Scenario	Existing Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,605	1,861	0	0
Right	854	0	0	393
Total	2,459	1,861	0	393

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	CMU/EMC Dwy	
Number of Approach Lanes	**3**	**1**	**YES**
Traffic Volume (VPH) *	**4,320**	**393**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	El Centro Rd
Scenario	Existing Plus Project
Minor Street	Street 5
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,635	2,105	0	0
Right	0	67	47	0
Total	1,635	2,172	47	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	900
Approach with Worst Case Delay	EB
Total Vehicles on Approach	47

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**11.8**	**47**	**3,854**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

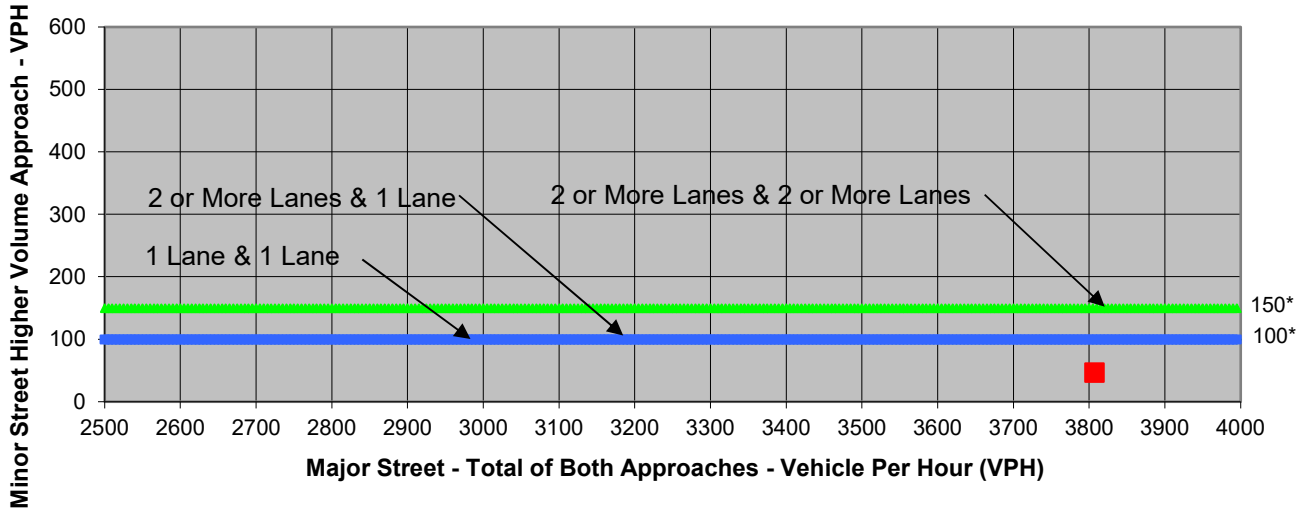
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 5	Scenario	Existing Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,635	2,105	0	0
Right	0	67	47	0
Total	1,635	2,172	47	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 5	
Number of Approach Lanes	**3**	**1**	**NO**
Traffic Volume (VPH) *	**3,807**	**47**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	El Centro Rd
Scenario	Existing Plus Project
Minor Street	Street 5
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	2,459	1,789	0	0
Right	0	72	60	0
Total	2,459	1,861	60	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	900
Approach with Worst Case Delay	EB
Total Vehicles on Approach	60

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**15**	**60**	**4,380**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

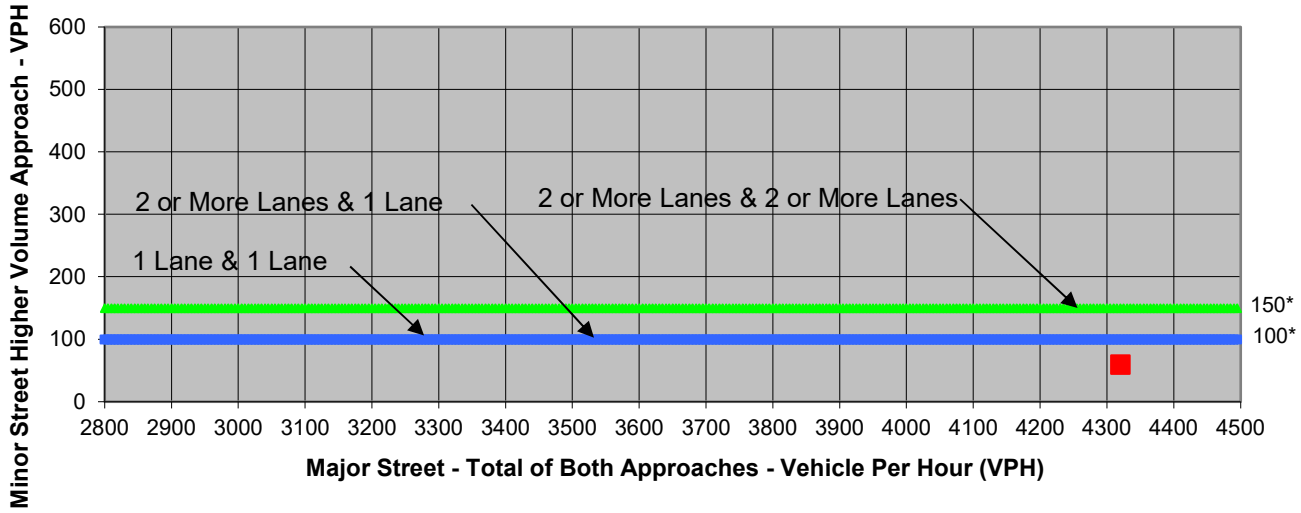
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 5	Scenario	Existing Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	2,459	1,789	0	0
Right	0	72	60	0
Total	2,459	1,861	60	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 5	
Number of Approach Lanes	**3**	**1**	**NO**
Traffic Volume (VPH) *	**4,320**	**60**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	El Centro Rd
Scenario	Existing Plus Project
Minor Street	Street 4
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	203	0
Through	772	560	0	0
Right	0	128	10	0
Total	772	688	213	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	124
Approach with Worst Case Delay	EB
Total Vehicles on Approach	213

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**7.3**	**213**	**1,673**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR & PEERS

Major Street	El Centro Rd
Minor Street	Street 4

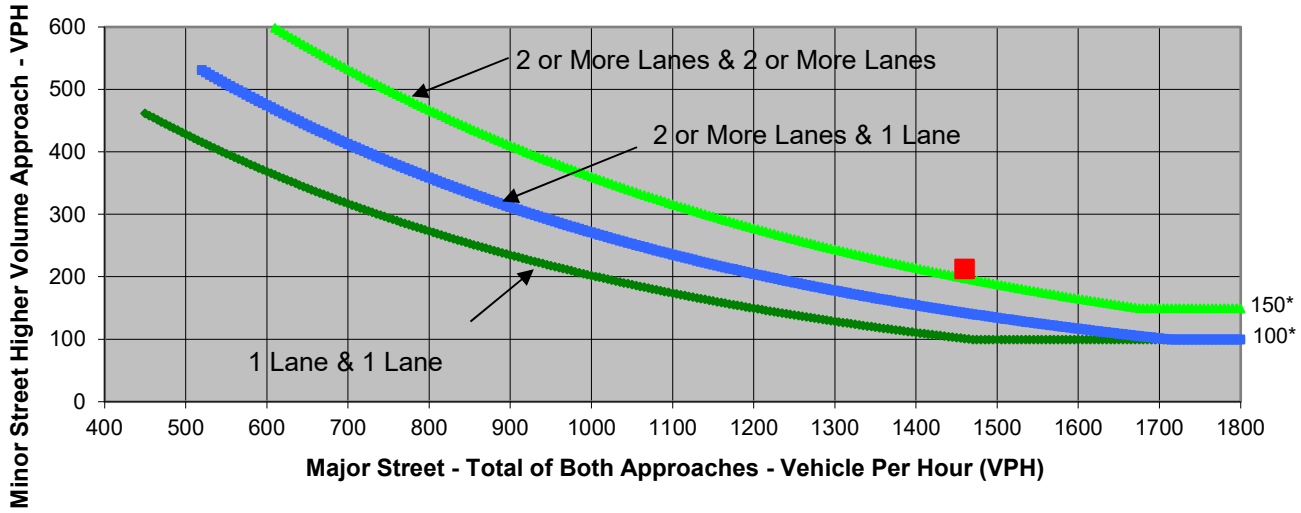
Project	Upper Westside
Scenario	Existing Plus Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	203	0
Through	772	560	0	0
Right	0	128	10	0
Total	772	688	213	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 4	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,460**	**213**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 4	Scenario	Existing Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	140	0
Through	553	854	0	0
Right	0	158	7	0
Total	553	1,012	147	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	35
Approach with Worst Case Delay	EB
Total Vehicles on Approach	147

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project	**1.4**	**147**	**1,712**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR & PEERS

Major Street	El Centro Rd
Minor Street	Street 4

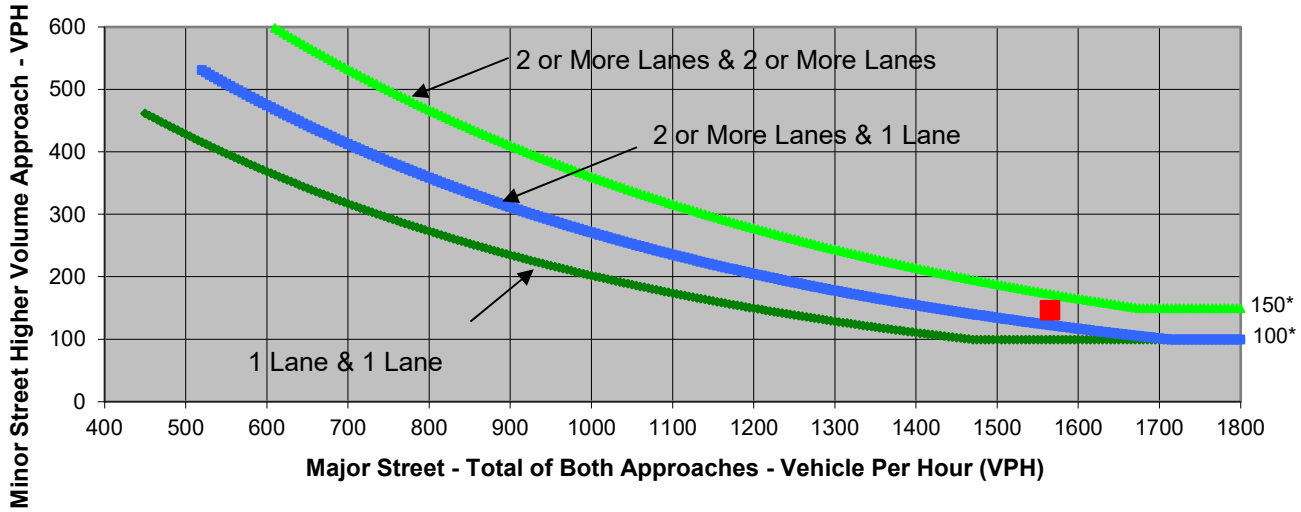
Project	Upper Westside
Scenario	Existing Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	140	0
Through	553	854	0	0
Right	0	158	7	0
Total	553	1,012	147	0

Major Street Direction

x	North/South
	East/West

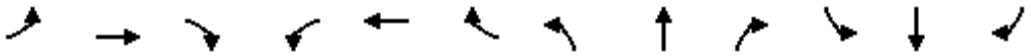


* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 4	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**1,565**	**147**	

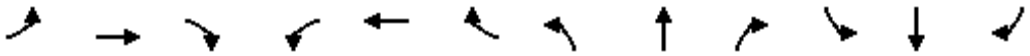
* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	25	116	1	73	0	225	46	0	8	271	180
Future Volume (veh/h)	32	25	116	1	73	0	225	46	0	8	271	180
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	25	116	1	73	0	225	46	0	8	271	180
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	42	193	195	205	0	278	841	0	18	319	212
Arrive On Green	0.14	0.14	0.14	0.11	0.11	0.00	0.16	0.45	0.00	0.01	0.30	0.30
Sat Flow, veh/h	1781	289	1340	1781	1870	0	1781	1870	0	1781	1049	696
Grp Volume(v), veh/h	32	0	141	1	73	0	225	46	0	8	0	451
Grp Sat Flow(s),veh/h/ln	1781	0	1629	1781	1870	0	1781	1870	0	1781	0	1745
Q Serve(g_s), s	1.1	0.0	5.6	0.0	2.5	0.0	8.5	1.0	0.0	0.3	0.0	16.9
Cycle Q Clear(g_c), s	1.1	0.0	5.6	0.0	2.5	0.0	8.5	1.0	0.0	0.3	0.0	16.9
Prop In Lane	1.00		0.82	1.00		0.00	1.00		0.00	1.00		0.40
Lane Grp Cap(c), veh/h	256	0	235	195	205	0	278	841	0	18	0	531
V/C Ratio(X)	0.12	0.00	0.60	0.01	0.36	0.00	0.81	0.05	0.00	0.44	0.00	0.85
Avail Cap(c_a), veh/h	897	0	821	897	942	0	487	1349	0	128	0	907
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	27.9	27.6	28.7	0.0	28.3	10.8	0.0	34.2	0.0	22.7
Incr Delay (d2), s/veh	0.2	0.0	2.5	0.0	1.0	0.0	5.6	0.0	0.0	15.5	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.3	0.0	1.2	0.0	3.6	0.3	0.0	0.2	0.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	0.0	30.3	27.6	29.7	0.0	33.9	10.8	0.0	49.6	0.0	26.6
LnGrp LOS	C	A	C	C	C	A	C	B	A	D	A	C
Approach Vol, veh/h		173			74			271			459	
Approach Delay, s/veh		29.6			29.7			30.0			27.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	36.1		15.3	15.3	25.9		12.9				
Change Period (Y+Rc), s	4.5	4.8		5.3	4.5	4.8		5.3				
Max Green Setting (Gmax), s	5.0	50.1		35.0	19.0	36.1		35.0				
Max Q Clear Time (g_c+I1), s	2.3	3.0		7.6	10.5	18.9		4.5				
Green Ext Time (p_c), s	0.0	0.2		0.9	0.4	2.3		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		28.5	
HCM 6th LOS		C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	59	292	0	27	5	147	46	2	4	9	46
Future Volume (veh/h)	349	59	292	0	27	5	147	46	2	4	9	46
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	349	59	292	0	27	5	147	46	2	4	9	46
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	81	403	126	109	20	186	443	19	10	40	204
Arrive On Green	0.30	0.30	0.30	0.00	0.07	0.07	0.10	0.25	0.25	0.01	0.15	0.15
Sat Flow, veh/h	1781	273	1353	1781	1535	284	1781	1779	77	1781	266	1360
Grp Volume(v), veh/h	349	0	351	0	0	32	147	0	48	4	0	55
Grp Sat Flow(s),veh/h/ln	1781	0	1627	1781	0	1819	1781	0	1856	1781	0	1626
Q Serve(g_s), s	9.0	0.0	10.2	0.0	0.0	0.9	4.3	0.0	1.1	0.1	0.0	1.6
Cycle Q Clear(g_c), s	9.0	0.0	10.2	0.0	0.0	0.9	4.3	0.0	1.1	0.1	0.0	1.6
Prop In Lane	1.00		0.83	1.00		0.16	1.00		0.04	1.00		0.84
Lane Grp Cap(c), veh/h	530	0	484	126	0	129	186	0	462	10	0	244
V/C Ratio(X)	0.66	0.00	0.73	0.00	0.00	0.25	0.79	0.00	0.10	0.42	0.00	0.23
Avail Cap(c_a), veh/h	1182	0	1079	1182	0	1207	186	0	1059	169	0	912
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	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	0.0	16.6	0.0	0.0	23.2	23.1	0.0	15.3	26.2	0.0	19.7
Incr Delay (d2), s/veh	1.4	0.0	2.1	0.0	0.0	1.0	20.4	0.0	0.1	26.2	0.0	0.5
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	3.4	0.0	3.6	0.0	0.0	0.4	2.5	0.0	0.4	0.1	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	0.0	18.7	0.0	0.0	24.2	43.4	0.0	15.4	52.4	0.0	20.2
LnGrp LOS	B	A	B	A	A	C	D	A	B	D	A	C
Approach Vol, veh/h		700			32			195			59	
Approach Delay, s/veh		18.1			24.2			36.5			22.4	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.8	17.9		21.0	10.0	12.7		9.0				
Change Period (Y+Rc), s	4.5	4.8		5.3	4.5	4.8		5.3				
Max Green Setting (Gmax), s	5.0	30.1		35.0	5.5	29.6		35.0				
Max Q Clear Time (g_c+I1), s	2.1	3.1		12.2	6.3	3.6		2.9				
Green Ext Time (p_c), s	0.0	0.2		3.5	0.0	0.2		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			22.2									
HCM 6th LOS			C									

Appendix D: Cumulative Conditions Technical Calculations

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	24	43	2	46	0	84	433	7	8	280	0
Future Vol, veh/h	0	24	43	2	46	0	84	433	7	8	280	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	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	24	43	2	46	0	84	433	7	8	280	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	924	904	280	935	901	437	280	0	0	440	0	0
Stage 1	296	296	-	605	605	-	-	-	-	-	-	-
Stage 2	628	608	-	330	296	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	249	276	756	245	277	617	1277	-	-	1115	-	-
Stage 1	710	666	-	483	486	-	-	-	-	-	-	-
Stage 2	469	484	-	681	666	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	199	250	756	199	251	617	1277	-	-	1115	-	-
Mov Cap-2 Maneuver	199	250	-	199	251	-	-	-	-	-	-	-
Stage 1	648	661	-	441	444	-	-	-	-	-	-	-
Stage 2	384	442	-	614	661	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	23	1.3	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1277	-	-	438	248	1115	-	-
HCM Lane V/C Ratio	0.066	-	-	0.153	0.194	0.007	-	-
HCM Control Delay (s)	8	0	-	14.7	23	8.3	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.7	0	-	-

Intersection	
Int Delay, s/veh	5.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	231	291	28	45	262
Future Vol, veh/h	75	231	291	28	45	262
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	75	231	291	28	45	262

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	657	305	0	0	319	0
Stage 1	305	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	428	732	-	-	1235	-
Stage 1	745	-	-	-	-	-
Stage 2	710	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	410	732	-	-	1235	-
Mov Cap-2 Maneuver	410	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	679	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	614	1235	-
HCM Lane V/C Ratio	-	-	0.498	0.036	-
HCM Control Delay (s)	-	-	16.5	8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.8	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	201	224	7	1
Future Vol, veh/h	0	0	201	224	7	1
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	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	201	224	7	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	425	0	-	0	313	313
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1129	-	-	-	678	725
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1129	-	-	-	678	725
Mov Cap-2 Maneuver	-	-	-	-	678	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1129	-	-	-	684
HCM Lane V/C Ratio	-	-	-	-	0.012
HCM Control Delay (s)	0	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	339	102	0	0	94
Future Vol, veh/h	0	339	102	0	0	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	40	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	0	339	102	0	0	94

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	196	102	0	0	102	0
Stage 1	102	-	-	-	-	-
Stage 2	94	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	786	945	-	-	1471	-
Stage 1	915	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	786	945	-	-	1471	-
Mov Cap-2 Maneuver	786	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	922	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	945	1471	-
HCM Lane V/C Ratio	-	-	-	0.359	-	-
HCM Control Delay (s)	-	-	0	10.9	0	-
HCM Lane LOS	-	-	A	B	A	-
HCM 95th %tile Q(veh)	-	-	-	1.6	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	119	74	5	5	0
Future Vol, veh/h	0	119	74	5	5	0
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	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	119	74	5	5	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	79	0	-	0	196	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	119	-
Critical Hdwy	5.1	-	-	-	6.43	7.2
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	3.2	-	-	-	3.527	4.3
Pot Cap-1 Maneuver	1042	-	-	-	790	751
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	904	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1042	-	-	-	790	751
Mov Cap-2 Maneuver	-	-	-	-	790	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	904	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1042	-	-	-	790
HCM Lane V/C Ratio	-	-	-	-	0.006
HCM Control Delay (s)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

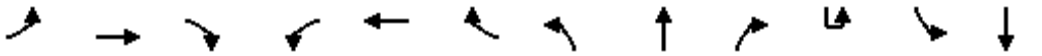
Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	20	99	22	60	294	52
Future Vol, veh/h	20	99	22	60	294	52
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	40
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	99	22	60	294	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	82	0	-	0	191	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	139	-
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	1515	-	-	-	798	1016
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	888	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1515	-	-	-	787	1016
Mov Cap-2 Maneuver	-	-	-	-	787	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	888	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1515	-	-	-	787	1016
HCM Lane V/C Ratio	0.013	-	-	-	0.374	0.051
HCM Control Delay (s)	7.4	-	-	-	12.3	8.7
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	1.7	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	216	0	271	0	0	0	89	788	0	0	0	403
Future Volume (veh/h)	216	0	271	0	0	0	89	788	0	0	0	403
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856				1856	1856	0		0	1856
Adj Flow Rate, veh/h	216	0	271				89	788	0		0	403
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	3	3	3				3	3	0		0	3
Cap, veh/h	949	0	435				279	1774	0		0	906
Arrive On Green	0.28	0.00	0.28				0.16	0.50	0.00		0.00	0.26
Sat Flow, veh/h	3428	0	1571				1767	3618	0		0	3618
Grp Volume(v), veh/h	216	0	271				89	788	0		0	403
Grp Sat Flow(s),veh/h/ln	1714	0	1571				1767	1763	0		0	1763
Q Serve(g_s), s	1.9	0.0	6.0				1.8	5.7	0.0		0.0	3.8
Cycle Q Clear(g_c), s	1.9	0.0	6.0				1.8	5.7	0.0		0.0	3.8
Prop In Lane	1.00		1.00				1.00		0.00		0.00	
Lane Grp Cap(c), veh/h	949	0	435				279	1774	0		0	906
V/C Ratio(X)	0.23	0.00	0.62				0.32	0.44	0.00		0.00	0.44
Avail Cap(c_a), veh/h	3641	0	1668				961	5242	0		0	3958
HCM Platoon Ratio	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	1.00	0.00		0.00	1.00
Uniform Delay (d), s/veh	11.0	0.0	12.5				14.8	6.3	0.0		0.0	12.3
Incr Delay (d2), s/veh	0.0	0.0	0.5				0.2	0.2	0.0		0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.7				0.6	1.0	0.0		0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	13.0				15.0	6.5	0.0		0.0	12.8
LnGrp LOS	B	A	B				B	A	A		A	B
Approach Vol, veh/h		487						877				426
Approach Delay, s/veh		12.2						7.4				12.7
Approach LOS		B						A				B

Timer - Assigned Phs		3	4		6		8				
Phs Duration (G+Y+Rc), s		9.7	15.4		14.4		25.1				
Change Period (Y+Rc), s		3.5	* 5.2		3.5		5.2				
Max Green Setting (Gmax), s		21.5	* 44		42.0		58.8				
Max Q Clear Time (g_c+I1), s		3.8	5.8		8.0		7.7				
Green Ext Time (p_c), s		0.1	3.9		1.6		8.8				

Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	69
Future Volume (veh/h)	69
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	23
Peak Hour Factor	1.00
Percent Heavy Veh, %	3
Cap, veh/h	399
Arrive On Green	0.26
Sat Flow, veh/h	1554
Grp Volume(v), veh/h	23
Grp Sat Flow(s),veh/h/ln	1554
Q Serve(g_s), s	0.4
Cycle Q Clear(g_c), s	0.4
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	399
V/C Ratio(X)	0.06
Avail Cap(c_a), veh/h	1745
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	11.1
Incr Delay (d2), s/veh	0.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.1
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	11.2
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	77	4	26	284	200	64	20	269	170	20	30
Future Volume (veh/h)	30	77	4	26	284	200	64	20	269	170	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.91	1.00		0.87	1.00		0.94
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	30	77	1	26	284	200	64	20	98	170	20	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	56	1165	473	50	317	223	91	50	246	211	177	265
Arrive On Green	0.03	0.33	0.33	0.03	0.33	0.33	0.05	0.21	0.21	0.12	0.28	0.28
Sat Flow, veh/h	1767	3526	1431	1767	970	683	1767	243	1188	1767	643	964
Grp Volume(v), veh/h	30	77	1	26	0	484	64	0	118	170	0	50
Grp Sat Flow(s),veh/h/ln	1767	1763	1431	1767	0	1652	1767	0	1431	1767	0	1607
Q Serve(g_s), s	1.1	1.0	0.0	1.0	0.0	18.9	2.4	0.0	4.8	6.4	0.0	1.6
Cycle Q Clear(g_c), s	1.1	1.0	0.0	1.0	0.0	18.9	2.4	0.0	4.8	6.4	0.0	1.6
Prop In Lane	1.00		1.00	1.00		0.41	1.00		0.83	1.00		0.60
Lane Grp Cap(c), veh/h	56	1165	473	50	0	541	91	0	296	211	0	442
V/C Ratio(X)	0.53	0.07	0.00	0.52	0.00	0.89	0.70	0.00	0.40	0.81	0.00	0.11
Avail Cap(c_a), veh/h	133	1248	507	250	0	714	248	0	528	274	0	607
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.3	15.5	15.2	32.5	0.0	21.7	31.6	0.0	23.2	29.1	0.0	18.4
Incr Delay (d2), s/veh	7.6	0.0	0.0	3.0	0.0	9.6	3.6	0.0	0.3	12.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.3	0.0	0.4	0.0	7.7	1.1	0.0	1.6	3.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.9	15.5	15.2	35.5	0.0	31.3	35.2	0.0	23.5	41.6	0.0	18.4
LnGrp LOS	D	B	B	D	A	C	D	A	C	D	A	B
Approach Vol, veh/h		108			510			182			220	
Approach Delay, s/veh		22.3			31.5			27.7			36.3	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	28.1	9.0	23.0	7.4	28.3	13.6	18.4
Change Period (Y+Rc), s	5.5	* 5.9	5.5	4.4	5.5	5.9	5.5	* 4.4
Max Green Setting (Gmax), s	5.1	* 29	9.5	25.6	9.6	24.0	10.5	* 25
Max Q Clear Time (g_c+I1), s	3.1	20.9	4.4	3.6	3.0	3.0	8.4	6.8
Green Ext Time (p_c), s	0.0	1.3	0.0	0.1	0.0	0.2	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	918	688	301	1156	120	698	583	112	369	1484	516
Future Volume (veh/h)	405	918	688	301	1156	120	698	583	112	369	1484	516
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	405	918	517	301	1156	42	698	583	32	369	1484	476
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	541	1571	486	372	1571	487	412	1498	815	419	1508	638
Arrive On Green	0.11	0.31	0.31	0.11	0.31	0.31	0.12	0.29	0.29	0.12	0.30	0.30
Sat Flow, veh/h	5023	5106	1580	3456	5106	1584	3456	5106	2778	3456	5106	1583
Grp Volume(v), veh/h	405	918	517	301	1156	42	698	583	32	369	1484	476
Grp Sat Flow(s),veh/h/ln	1674	1702	1580	1728	1702	1584	1728	1702	1389	1728	1702	1583
Q Serve(g_s), s	10.2	19.7	40.0	11.1	26.3	2.5	15.5	11.8	1.1	13.7	37.5	33.4
Cycle Q Clear(g_c), s	10.2	19.7	40.0	11.1	26.3	2.5	15.5	11.8	1.1	13.7	37.5	33.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	541	1571	486	372	1571	487	412	1498	815	419	1508	638
V/C Ratio(X)	0.75	0.58	1.06	0.81	0.74	0.09	1.69	0.39	0.04	0.88	0.98	0.75
Avail Cap(c_a), veh/h	591	1571	486	372	1571	487	412	1498	815	444	1508	638
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	38.0	45.0	56.7	40.3	32.0	57.3	36.6	32.8	56.2	45.5	33.1
Incr Delay (d2), s/veh	4.0	0.4	58.6	11.7	1.6	0.0	322.6	0.8	0.1	16.7	19.6	7.7
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	4.4	8.1	23.0	5.4	11.0	0.9	25.1	4.9	0.4	6.8	18.0	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	38.4	103.6	68.4	41.9	32.0	379.9	37.4	32.9	72.9	65.1	40.9
LnGrp LOS	E	D	F	E	D	C	F	D	C	E	E	D
Approach Vol, veh/h		1840			1499			1313			2329	
Approach Delay, s/veh		61.5			46.9			219.4			61.4	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.5	45.7	21.0	43.8	19.5	45.7	21.3	43.5
Change Period (Y+Rc), s	5.5	* 5.7	5.5	* 5.4	5.5	* 5.7	5.5	* 5.4
Max Green Setting (Gmax), s	15.3	* 39	15.5	* 38	14.0	* 40	16.7	* 37
Max Q Clear Time (g_c+I1), s	12.2	28.3	17.5	39.5	13.1	42.0	15.7	13.8
Green Ext Time (p_c), s	0.3	4.1	0.0	0.0	0.1	0.0	0.1	6.8

Intersection Summary	
HCM 6th Ctrl Delay	88.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	760	168	91	1027	3	176	10	134	131	20	7
Future Volume (veh/h)	9	760	168	91	1027	3	176	10	134	131	20	7
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		0.99	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	9	760	89	91	1027	1	176	10	29	131	20	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	101	1499	465	229	1988	615	285	310	259	540	296	247
Arrive On Green	0.03	0.30	0.30	0.13	0.39	0.39	0.16	0.17	0.17	0.15	0.16	0.16
Sat Flow, veh/h	3428	5066	1572	1767	5066	1568	1767	1856	1552	3534	1856	1546
Grp Volume(v), veh/h	9	760	89	91	1027	1	176	10	29	131	20	2
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1767	1689	1568	1767	1856	1552	1767	1856	1546
Q Serve(g_s), s	0.2	10.0	3.4	3.8	12.4	0.0	7.5	0.4	1.3	2.6	0.7	0.1
Cycle Q Clear(g_c), s	0.2	10.0	3.4	3.8	12.4	0.0	7.5	0.4	1.3	2.6	0.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	101	1499	465	229	1988	615	285	310	259	540	296	247
V/C Ratio(X)	0.09	0.51	0.19	0.40	0.52	0.00	0.62	0.03	0.11	0.24	0.07	0.01
Avail Cap(c_a), veh/h	592	3504	1088	531	4114	1274	873	1452	1214	777	945	787
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	23.5	21.2	32.2	18.6	14.9	31.5	28.1	28.5	30.0	28.7	28.5
Incr Delay (d2), s/veh	0.1	0.5	0.4	0.4	0.4	0.0	0.8	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.7	1.2	1.6	4.4	0.0	3.1	0.2	0.5	1.1	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	24.0	21.6	32.6	19.1	14.9	32.3	28.1	28.5	30.1	28.8	28.5
LnGrp LOS	D	C	C	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		858			1119			215			153	
Approach Delay, s/veh		23.9			20.2			31.6			29.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	37.1	18.2	17.8	15.2	29.3	17.6	18.4
Change Period (Y+Rc), s	* 5.1	* 5.5	* 5.2	* 4.9	* 4.8	* 5.5	* 5.3	4.9
Max Green Setting (Gmax), s	* 14	* 65	* 40	* 41	* 24	* 56	* 18	63.0
Max Q Clear Time (g_c+I1), s	2.2	14.4	9.5	2.7	5.8	12.0	4.6	3.3
Green Ext Time (p_c), s	0.0	16.8	0.2	0.0	0.1	11.8	0.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	305	473	253	98	488	184	424	917	52	374	1896	185
Future Volume (veh/h)	305	473	253	98	488	184	424	917	52	374	1896	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	305	473	52	98	488	37	424	917	18	374	1896	104
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	396	924	283	384	631	282	411	2608	634	424	2633	639
Arrive On Green	0.12	0.18	0.18	0.11	0.18	0.18	0.12	0.41	0.41	0.12	0.41	0.41
Sat Flow, veh/h	3428	5066	1552	3428	3526	1572	3428	6383	1553	3428	6383	1551
Grp Volume(v), veh/h	305	473	52	98	488	37	424	917	18	374	1896	104
Grp Sat Flow(s),veh/h/ln	1714	1689	1552	1714	1763	1572	1714	1596	1553	1714	1596	1551
Q Serve(g_s), s	11.2	10.9	3.7	3.4	17.1	2.6	15.6	12.9	0.9	13.9	32.3	5.5
Cycle Q Clear(g_c), s	11.2	10.9	3.7	3.4	17.1	2.6	15.6	12.9	0.9	13.9	32.3	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	396	924	283	384	631	282	411	2608	634	424	2633	639
V/C Ratio(X)	0.77	0.51	0.18	0.26	0.77	0.13	1.03	0.35	0.03	0.88	0.72	0.16
Avail Cap(c_a), veh/h	396	1586	486	396	1112	496	411	2608	634	464	2633	639
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)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	47.9	45.0	52.8	50.8	44.9	57.2	26.5	23.0	56.0	31.9	24.1
Incr Delay (d2), s/veh	7.4	0.8	0.6	0.1	2.8	0.3	52.5	0.4	0.1	15.6	1.7	0.5
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	5.2	4.6	1.4	1.4	7.6	1.0	9.6	4.8	0.3	6.8	12.2	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.2	48.7	45.5	52.9	53.6	45.1	109.7	26.9	23.1	71.6	33.7	24.6
LnGrp LOS	E	D	D	D	D	D	F	C	C	E	C	C
Approach Vol, veh/h		830			623			1359			2374	
Approach Delay, s/veh		53.8			53.0			52.7			39.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	29.4	21.6	58.5	20.1	29.8	21.1	59.0
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4
Max Green Setting (Gmax), s	15.0	* 41	17.6	* 34	15.0	* 41	15.6	* 36
Max Q Clear Time (g_c+I1), s	13.2	19.1	15.9	14.9	5.4	12.9	17.6	34.3
Green Ext Time (p_c), s	0.1	4.1	0.1	11.4	0.1	6.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	46.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	201	9	32	282	283	25	45	100	384	17	83
Future Volume (veh/h)	50	201	9	32	282	283	25	45	100	384	17	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	50	201	9	32	282	174	25	45	13	384	17	27
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	128	378	17	130	400	338	67	120	157	465	488	414
Arrive On Green	0.07	0.21	0.21	0.07	0.22	0.22	0.10	0.10	0.10	0.26	0.26	0.26
Sat Flow, veh/h	1767	1760	79	1767	1856	1569	651	1172	1533	1767	1856	1572
Grp Volume(v), veh/h	50	0	210	32	282	174	70	0	13	384	17	27
Grp Sat Flow(s),veh/h/ln	1767	0	1839	1767	1856	1569	1823	0	1533	1767	1856	1572
Q Serve(g_s), s	1.2	0.0	4.5	0.8	6.2	4.3	1.6	0.0	0.3	9.0	0.3	0.6
Cycle Q Clear(g_c), s	1.2	0.0	4.5	0.8	6.2	4.3	1.6	0.0	0.3	9.0	0.3	0.6
Prop In Lane	1.00		0.04	1.00		1.00	0.36		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	0	395	130	400	338	187	0	157	465	488	414
V/C Ratio(X)	0.39	0.00	0.53	0.25	0.70	0.51	0.37	0.00	0.08	0.83	0.03	0.07
Avail Cap(c_a), veh/h	739	0	3065	579	2924	2472	1051	0	884	3608	3789	3211
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	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	15.4	19.3	16.0	15.3	18.5	0.0	18.0	15.3	12.1	12.2
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.4	0.9	0.5	0.5	0.0	0.1	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.5	0.3	2.2	1.3	0.6	0.0	0.1	3.1	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	0.0	15.8	19.7	16.9	15.8	19.0	0.0	18.0	16.8	12.1	12.2
LnGrp LOS	C	A	B	B	B	B	B	A	B	B	B	B
Approach Vol, veh/h		260			488			83			428	
Approach Delay, s/veh		16.7			16.7			18.8			16.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	14.1		15.3	6.8	14.1		8.0
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5
Max Green Setting (Gmax), s	18.5	* 70		90.3	14.5	* 74		25.5
Max Q Clear Time (g_c+I1), s	3.2	8.2		11.0	2.8	6.5		3.6
Green Ext Time (p_c), s	0.0	1.3		0.7	0.0	0.7		0.2

Intersection Summary		
HCM 6th Ctrl Delay		16.7
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	341	373	181	300	325	213	179	759	252	364	1228	189
Future Volume (veh/h)	341	373	181	300	325	213	179	759	252	364	1228	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.85	1.00		0.90	1.00		0.89
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	341	373	111	300	325	43	179	759	204	364	1228	110
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	389	910	531	353	871	331	316	1283	676	420	1390	550
Arrive On Green	0.11	0.26	0.26	0.10	0.25	0.25	0.09	0.36	0.36	0.12	0.39	0.39
Sat Flow, veh/h	3428	3526	1494	3428	3526	1340	3428	3526	1413	3428	3526	1395
Grp Volume(v), veh/h	341	373	111	300	325	43	179	759	204	364	1228	110
Grp Sat Flow(s),veh/h/ln	1714	1763	1494	1714	1763	1340	1714	1763	1413	1714	1763	1395
Q Serve(g_s), s	12.7	11.4	6.8	11.2	9.9	3.2	6.5	22.7	11.7	13.6	42.1	6.7
Cycle Q Clear(g_c), s	12.7	11.4	6.8	11.2	9.9	3.2	6.5	22.7	11.7	13.6	42.1	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	389	910	531	353	871	331	316	1283	676	420	1390	550
V/C Ratio(X)	0.88	0.41	0.21	0.85	0.37	0.13	0.57	0.59	0.30	0.87	0.88	0.20
Avail Cap(c_a), veh/h	393	910	531	448	895	340	316	1283	676	554	1390	550
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	40.0	29.6	57.3	40.6	38.1	56.5	33.5	21.6	56.0	36.6	25.9
Incr Delay (d2), s/veh	18.7	0.4	0.3	9.8	0.4	0.2	1.5	2.0	1.1	9.0	8.5	0.8
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	6.4	4.9	2.4	5.3	4.3	1.1	2.8	9.7	4.0	6.2	18.9	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.4	40.4	29.9	67.1	41.0	38.3	58.0	35.5	22.7	65.0	45.1	26.7
LnGrp LOS	E	D	C	E	D	D	E	D	C	E	D	C
Approach Vol, veh/h		825			668			1142			1702	
Approach Delay, s/veh		53.5			52.5			36.8			48.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.8	37.2	16.7	56.2	18.4	38.7	20.6	52.3
Change Period (Y+Rc), s	* 5.1	* 5.1	* 4.7	* 5	5.0	* 5.1	* 4.7	* 5
Max Green Setting (Gmax), s	* 15	* 33	* 12	* 50	17.0	* 31	* 21	* 41
Max Q Clear Time (g_c+I1), s	14.7	11.9	8.5	44.1	13.2	13.4	15.6	24.7
Green Ext Time (p_c), s	0.0	2.8	0.1	3.1	0.2	3.3	0.4	6.8

Intersection Summary	
HCM 6th Ctrl Delay	46.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	535	214	182	660	49	1	7	42	163	72	571
Future Volume (veh/h)	346	535	214	182	660	49	1	7	42	163	72	571
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		0.99	1.00		0.97	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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	346	535	100	182	660	24	1	7	3	118	136	73
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	402	1870	833	211	1914	848	105	110	90	212	223	189
Arrive On Green	0.19	0.87	0.87	0.12	0.53	0.53	0.06	0.06	0.06	0.12	0.12	0.12
Sat Flow, veh/h	3483	3582	1595	1795	3582	1587	1795	1885	1552	1795	1885	1598
Grp Volume(v), veh/h	346	535	100	182	660	24	1	7	3	118	136	73
Grp Sat Flow(s),veh/h/ln	1742	1791	1595	1795	1791	1587	1795	1885	1552	1795	1885	1598
Q Serve(g_s), s	10.6	2.8	1.0	10.9	11.6	0.8	0.1	0.4	0.2	6.8	7.5	4.6
Cycle Q Clear(g_c), s	10.6	2.8	1.0	10.9	11.6	0.8	0.1	0.4	0.2	6.8	7.5	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	402	1870	833	211	1914	848	105	110	90	212	223	189
V/C Ratio(X)	0.86	0.29	0.12	0.86	0.34	0.03	0.01	0.06	0.03	0.56	0.61	0.39
Avail Cap(c_a), veh/h	443	1870	833	222	1914	848	555	583	480	260	272	231
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	3.5	3.4	47.6	14.6	12.1	48.8	49.0	48.9	45.8	46.1	44.8
Incr Delay (d2), s/veh	11.9	0.3	0.3	22.6	0.4	0.1	0.0	0.1	0.1	0.8	1.0	0.5
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	4.8	0.9	0.4	6.1	4.5	0.3	0.0	0.2	0.1	3.1	3.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	3.9	3.7	70.2	15.0	12.2	48.8	49.0	48.9	46.6	47.1	45.3
LnGrp LOS	E	A	A	E	B	B	D	D	D	D	D	D
Approach Vol, veh/h		981			866			11			327	
Approach Delay, s/veh		22.1			26.6			49.0			46.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	63.4		18.1	18.4	62.0		11.5
Change Period (Y+Rc), s	* 4.3	* 4.6		* 5.1	* 5.4	* 4.6		5.1
Max Green Setting (Gmax), s	* 14	* 27		* 16	* 14	* 27		34.0
Max Q Clear Time (g_c+I1), s	12.6	13.6		9.5	12.9	4.8		2.4
Green Ext Time (p_c), s	0.1	2.4		0.4	0.0	2.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	261	43	377	285	152	76	466	127	338	1349	276
Future Volume (veh/h)	177	261	43	377	285	152	76	466	127	338	1349	276
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	177	261	12	377	285	45	76	466	39	338	1349	200
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	372	1050	466	374	1052	467	337	1047	459	397	1109	486
Arrive On Green	0.11	0.30	0.30	0.11	0.30	0.30	0.10	0.30	0.30	0.12	0.31	0.31
Sat Flow, veh/h	3428	3526	1565	3428	3526	1565	3428	3526	1544	3428	3526	1544
Grp Volume(v), veh/h	177	261	12	377	285	45	76	466	39	338	1349	200
Grp Sat Flow(s),veh/h/ln	1714	1763	1565	1714	1763	1565	1714	1763	1544	1714	1763	1544
Q Serve(g_s), s	5.3	6.2	0.6	12.0	6.8	2.3	2.2	11.8	2.0	10.6	34.6	11.2
Cycle Q Clear(g_c), s	5.3	6.2	0.6	12.0	6.8	2.3	2.2	11.8	2.0	10.6	34.6	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	372	1050	466	374	1052	467	337	1047	459	397	1109	486
V/C Ratio(X)	0.48	0.25	0.03	1.01	0.27	0.10	0.23	0.44	0.09	0.85	1.22	0.41
Avail Cap(c_a), veh/h	374	1050	466	374	1052	467	374	1048	459	436	1109	486
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)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	29.3	27.3	49.0	29.4	27.9	45.7	31.3	27.9	47.7	37.7	29.7
Incr Delay (d2), s/veh	0.3	0.5	0.1	48.6	0.6	0.4	0.1	0.1	0.0	12.7	105.8	0.2
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	2.2	2.6	0.2	7.5	2.9	0.9	0.9	4.9	0.7	5.1	30.5	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	29.8	27.4	97.6	30.1	28.3	45.8	31.4	27.9	60.4	143.5	29.9
LnGrp LOS	D	C	C	F	C	C	D	C	C	E	F	C
Approach Vol, veh/h		450			707			581			1887	
Approach Delay, s/veh		36.2			66.0			33.1			116.6	
Approach LOS		D			E			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.8	37.4	15.7	40.0	16.9	37.4	17.6	38.1
Change Period (Y+Rc), s	* 4.9	* 4.6	* 4.9	* 5.4	* 4.9	* 4.6	* 4.9	* 5.4
Max Green Setting (Gmax), s	* 12	* 32	* 12	* 35	* 12	* 32	* 14	* 33
Max Q Clear Time (g_c+I1), s	7.3	8.8	4.2	36.6	14.0	8.2	12.6	13.8
Green Ext Time (p_c), s	0.1	1.1	0.1	0.0	0.0	1.0	0.1	1.8

Intersection Summary	
HCM 6th Ctrl Delay	83.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	230	70	79	173	155	117
Future Vol, veh/h	230	70	79	173	155	117
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	230	70	79	173	155	117
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	12.4	9.6	10.8
HCM LOS	B	A	B

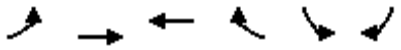
Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	173	230	70	155	117
LT Vol	0	0	230	0	155	0
Through Vol	79	0	0	0	0	117
RT Vol	0	173	0	70	0	0
Lane Flow Rate	79	173	230	70	155	117
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.129	0.249	0.412	0.102	0.272	0.189
Departure Headway (Hd)	5.882	5.173	6.442	5.233	6.319	5.813
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	611	695	561	687	570	619
Service Time	3.608	2.899	4.163	2.953	4.044	3.538
HCM Lane V/C Ratio	0.129	0.249	0.41	0.102	0.272	0.189
HCM Control Delay	9.5	9.6	13.6	8.5	11.4	9.9
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.4	1	2	0.3	1.1	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	46	147	313	42	16	47	589	162	5	904	211
Future Volume (veh/h)	135	46	147	313	42	16	47	589	162	5	904	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.97
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	135	46	147	313	42	16	47	589	65	5	904	211
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	167	68	218	352	360	137	63	2092	639	22	1566	364
Arrive On Green	0.09	0.18	0.18	0.20	0.28	0.28	0.04	0.41	0.41	0.01	0.38	0.38
Sat Flow, veh/h	1767	382	1220	1767	1273	485	1767	5066	1546	3428	4082	948
Grp Volume(v), veh/h	135	0	193	313	0	58	47	589	65	5	747	368
Grp Sat Flow(s),veh/h/ln	1767	0	1602	1767	0	1757	1767	1689	1546	1714	1689	1652
Q Serve(g_s), s	7.7	0.0	11.6	17.7	0.0	2.5	2.7	8.0	2.7	0.1	18.0	18.2
Cycle Q Clear(g_c), s	7.7	0.0	11.6	17.7	0.0	2.5	2.7	8.0	2.7	0.1	18.0	18.2
Prop In Lane	1.00		0.76	1.00		0.28	1.00		1.00	1.00		0.57
Lane Grp Cap(c), veh/h	167	0	286	352	0	497	63	2092	639	22	1296	634
V/C Ratio(X)	0.81	0.00	0.68	0.89	0.00	0.12	0.74	0.28	0.10	0.23	0.58	0.58
Avail Cap(c_a), veh/h	335	0	638	547	0	911	115	2092	639	166	1296	634
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	0.0	39.5	40.1	0.0	27.4	49.2	20.1	18.5	50.9	25.1	25.2
Incr Delay (d2), s/veh	8.9	0.0	2.8	11.1	0.0	0.1	15.5	0.3	0.3	5.0	1.9	3.8
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	3.8	0.0	4.7	8.7	0.0	1.1	1.4	3.0	1.0	0.1	7.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	0.0	42.3	51.2	0.0	27.5	64.6	20.4	18.8	55.9	27.0	29.0
LnGrp LOS	D	A	D	D	A	C	E	C	B	E	C	C
Approach Vol, veh/h		328			371			701			1120	
Approach Delay, s/veh		47.4			47.5			23.2			27.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	48.0	26.0	22.8	9.2	45.0	15.2	33.5
Change Period (Y+Rc), s	5.5	5.5	5.5	4.4	5.5	5.5	5.5	4.4
Max Green Setting (Gmax), s	5.0	41.2	31.9	41.0	6.7	39.5	19.5	53.4
Max Q Clear Time (g_c+I1), s	2.1	10.0	19.7	13.6	4.7	20.2	9.7	4.5
Green Ext Time (p_c), s	0.0	4.0	0.8	1.2	0.0	6.7	0.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	177	508	458	819	380	139
Future Volume (veh/h)	177	508	458	819	380	139
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	177	508	458	304	380	58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	217	903	530	1005	641	570
Arrive On Green	0.12	0.49	0.29	0.29	0.36	0.36
Sat Flow, veh/h	1767	1856	1856	1524	1767	1572
Grp Volume(v), veh/h	177	508	458	304	380	58
Grp Sat Flow(s),veh/h/ln	1767	1856	1856	1524	1767	1572
Q Serve(g_s), s	6.9	13.6	16.5	6.2	12.3	1.7
Cycle Q Clear(g_c), s	6.9	13.6	16.5	6.2	12.3	1.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	217	903	530	1005	641	570
V/C Ratio(X)	0.81	0.56	0.86	0.30	0.59	0.10
Avail Cap(c_a), veh/h	264	1026	604	1066	641	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	12.8	23.8	5.4	18.2	14.8
Incr Delay (d2), s/veh	14.9	0.6	11.4	0.2	4.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	4.8	8.1	4.1	5.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.9	13.3	35.2	5.6	22.2	15.2
LnGrp LOS	D	B	D	A	C	B
Approach Vol, veh/h		685	762		438	
Approach Delay, s/veh		21.5	23.4		21.3	
Approach LOS		C	C		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			39.3		31.0	14.2	25.2
Change Period (Y+Rc), s			5.1		5.5	5.5	5.1
Max Green Setting (Gmax), s			38.9		25.5	10.5	22.9
Max Q Clear Time (g_c+I1), s			15.6		14.3	8.9	18.5
Green Ext Time (p_c), s			3.1		1.1	0.1	1.6

Intersection Summary		
HCM 6th Ctrl Delay		22.2
HCM 6th LOS		C

Intersection	
Int Delay, s/veh	327.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	27	129	0	11	4	0	74	4	479	209	40
Future Vol, veh/h	249	27	129	0	11	4	0	74	4	479	209	40
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	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	249	27	129	0	11	4	0	74	4	479	209	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1271	1265	229	1341	1283	76	249	0	0	78	0	0
Stage 1	1187	1187	-	76	76	-	-	-	-	-	-	-
Stage 2	84	78	-	1265	1207	-	-	-	-	-	-	-
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	~ 145	169	810	129	165	985	1317	-	-	1520	-	-
Stage 1	~ 230	262	-	933	832	-	-	-	-	-	-	-
Stage 2	924	830	-	208	256	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 95	107	810	63	104	985	1317	-	-	1520	-	-
Mov Cap-2 Maneuver	~ 95	107	-	63	104	-	-	-	-	-	-	-
Stage 1	~ 230	166	-	933	832	-	-	-	-	-	-	-
Stage 2	908	830	-	93	162	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 980.5	34.5	0	5.6
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1317	-	-	134	137	1520	-	-
HCM Lane V/C Ratio	-	-	-	3.022	0.109	0.315	-	-
HCM Control Delay (s)	0	-	-	$ 980.5	34.5	8.5	0	-
HCM Lane LOS	A	-	-	F	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	37.9	0.4	1.4	-	-

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

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	4	52	37	243	119
Future Vol, veh/h	19	4	52	37	243	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	4	52	37	243	119

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	676	71	0	0	89	0
Stage 1	71	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	419	991	-	-	1506	-
Stage 1	952	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	347	991	-	-	1506	-
Mov Cap-2 Maneuver	347	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	5.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	391	1506	-
HCM Lane V/C Ratio	-	-	0.059	0.161	-
HCM Control Delay (s)	-	-	14.8	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.6	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	188	22	19	73	6
Future Vol, veh/h	8	188	22	19	73	6
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	188	22	19	73	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	41	0	-	0	236	32
Stage 1	-	-	-	-	32	-
Stage 2	-	-	-	-	204	-
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	1568	-	-	-	752	1042
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	830	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1568	-	-	-	747	1042
Mov Cap-2 Maneuver	-	-	-	-	747	-
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	830	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1568	-	-	-	763
HCM Lane V/C Ratio	0.005	-	-	-	0.104
HCM Control Delay (s)	7.3	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	57	0	165	78
Future Vol, veh/h	0	0	57	0	165	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	40	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	57	0	165	78

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	465	57	0	0	57	0
Stage 1	57	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	556	1009	-	-	1547	-
Stage 1	966	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	494	1009	-	-	1547	-
Mov Cap-2 Maneuver	494	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	597	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	5.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	-	1547	-
HCM Lane V/C Ratio	-	-	-	-	0.107	-
HCM Control Delay (s)	-	-	0	0	7.6	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	-	-	0.4	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	67	104	5	5	0
Future Vol, veh/h	0	67	104	5	5	0
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	67	104	5	5	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	109	0	-	0	174	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	5.1	-	-	-	6.42	7.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	3.2	-	-	-	3.518	4.3
Pot Cap-1 Maneuver	1011	-	-	-	816	720
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	956	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1011	-	-	-	816	720
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	956	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1011	-	-	-	816
HCM Lane V/C Ratio	-	-	-	-	0.006
HCM Control Delay (s)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

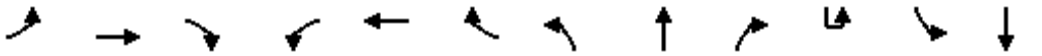
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	35	32	72	114	64	32
Future Vol, veh/h	35	32	72	114	64	32
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	40
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	35	32	72	114	64	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	186	0	-	0	231	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	102	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1395	-	-	-	759	924
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	925	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1395	-	-	-	739	924
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	925	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1395	-	-	-	739	924
HCM Lane V/C Ratio	0.025	-	-	-	0.087	0.035
HCM Control Delay (s)	7.6	-	-	-	10.3	9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	129	0	148	0	0	0	370	759	0	0	3	642
Future Volume (veh/h)	129	0	148	0	0	0	370	759	0	0	3	642
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	0		1870	1870
Adj Flow Rate, veh/h	129	0	148				370	759	0		3	642
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	2	2	2				2	2	0		2	2
Cap, veh/h	719	0	329				436	2218	0		71	1084
Arrive On Green	0.21	0.00	0.21				0.24	0.62	0.00		0.31	0.31
Sat Flow, veh/h	3456	0	1581				1781	3647	0		3	3478
Grp Volume(v), veh/h	129	0	148				370	759	0		346	299
Grp Sat Flow(s),veh/h/ln	1728	0	1581				1781	1777	0		1865	1617
Q Serve(g_s), s	1.6	0.0	4.2				10.3	5.3	0.0		0.0	8.1
Cycle Q Clear(g_c), s	1.6	0.0	4.2				10.3	5.3	0.0		8.1	8.1
Prop In Lane	1.00		1.00				1.00		0.00		0.01	
Lane Grp Cap(c), veh/h	719	0	329				436	2218	0		651	504
V/C Ratio(X)	0.18	0.00	0.45				0.85	0.34	0.00		0.53	0.59
Avail Cap(c_a), veh/h	2032	0	929				1391	4817	0		1388	1150
HCM Platoon Ratio	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	1.00	0.00		1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	17.9				18.7	4.7	0.0		15.1	15.1
Incr Delay (d2), s/veh	0.0	0.0	0.4				1.8	0.1	0.0		1.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.4				3.6	0.9	0.0		2.9	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	0.0	18.3				20.5	4.8	0.0		16.0	16.7
LnGrp LOS	B	A	B				C	A	A		B	B
Approach Vol, veh/h		277						1129				701
Approach Delay, s/veh		17.7						9.9				16.0
Approach LOS		B						A				B

Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			16.2	21.4		14.3		37.6				
Change Period (Y+Rc), s			3.5	* 5.2		3.5		5.2				
Max Green Setting (Gmax), s			40.5	* 37		30.5		70.3				
Max Q Clear Time (g_c+I1), s			12.3	10.1		6.2		7.3				
Green Ext Time (p_c), s			0.5	5.8		0.8		8.5				

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	166
Future Volume (veh/h)	166
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	56
Peak Hour Factor	1.00
Percent Heavy Veh, %	2
Cap, veh/h	490
Arrive On Green	0.31
Sat Flow, veh/h	1572
Grp Volume(v), veh/h	56
Grp Sat Flow(s),veh/h/ln	1572
Q Serve(g_s), s	1.3
Cycle Q Clear(g_c), s	1.3
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	490
V/C Ratio(X)	0.11
Avail Cap(c_a), veh/h	1119
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	12.7
Incr Delay (d2), s/veh	0.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.4
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	12.9
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	258	45	76	14	50	15	10	60	70	10	20
Future Volume (veh/h)	20	258	45	76	14	50	15	10	60	70	10	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.95	1.00		0.97
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	258	18	76	14	50	15	10	9	70	10	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	961	409	125	110	391	34	70	63	119	69	138
Arrive On Green	0.02	0.27	0.27	0.07	0.32	0.32	0.02	0.08	0.08	0.07	0.13	0.13
Sat Flow, veh/h	1781	3554	1514	1781	347	1238	1781	884	796	1781	545	1091
Grp Volume(v), veh/h	20	258	18	76	0	64	15	0	19	70	0	30
Grp Sat Flow(s),veh/h/ln	1781	1777	1514	1781	0	1585	1781	0	1680	1781	0	1636
Q Serve(g_s), s	0.5	2.4	0.4	1.7	0.0	1.2	0.3	0.0	0.4	1.6	0.0	0.7
Cycle Q Clear(g_c), s	0.5	2.4	0.4	1.7	0.0	1.2	0.3	0.0	0.4	1.6	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.78	1.00		0.47	1.00		0.67
Lane Grp Cap(c), veh/h	44	961	409	125	0	501	34	0	133	119	0	207
V/C Ratio(X)	0.45	0.27	0.04	0.61	0.00	0.13	0.44	0.00	0.14	0.59	0.00	0.14
Avail Cap(c_a), veh/h	236	2030	865	451	0	1127	408	0	1029	408	0	986
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	11.9	11.2	18.7	0.0	10.1	20.1	0.0	17.8	18.8	0.0	16.1
Incr Delay (d2), s/veh	7.1	0.1	0.0	1.8	0.0	0.0	3.3	0.0	0.2	4.6	0.0	0.1
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	0.2	0.6	0.1	0.6	0.0	0.3	0.2	0.0	0.2	0.7	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	12.0	11.2	20.5	0.0	10.2	23.4	0.0	18.0	23.4	0.0	16.2
LnGrp LOS	C	B	B	C	A	B	C	A	B	C	A	B
Approach Vol, veh/h		296			140			34			100	
Approach Delay, s/veh		12.9			15.8			20.4			21.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	19.0	6.3	9.7	8.4	17.1	8.3	7.7
Change Period (Y+Rc), s	5.5	* 5.9	5.5	4.4	5.5	5.9	5.5	* 4.4
Max Green Setting (Gmax), s	5.5	* 30	9.5	25.0	10.5	23.7	9.5	* 25
Max Q Clear Time (g_c+I1), s	2.5	3.2	2.3	2.7	3.7	4.4	3.6	2.4
Green Ext Time (p_c), s	0.0	0.2	0.0	0.1	0.0	0.8	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	666	1119	867	169	939	330	729	1298	159	224	882	346
Future Volume (veh/h)	666	1119	867	169	939	330	729	1298	159	224	882	346
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	666	1119	672	169	939	166	729	1298	59	224	882	308
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	739	1595	494	374	1397	434	415	1569	853	375	1510	701
Arrive On Green	0.15	0.31	0.31	0.11	0.27	0.27	0.12	0.30	0.30	0.11	0.29	0.29
Sat Flow, veh/h	5063	5147	1593	3483	5147	1598	3483	5147	2798	3483	5147	1594
Grp Volume(v), veh/h	666	1119	672	169	939	166	729	1298	59	224	882	308
Grp Sat Flow(s),veh/h/ln	1688	1716	1593	1742	1716	1598	1742	1716	1399	1742	1716	1594
Q Serve(g_s), s	16.8	24.9	40.3	5.9	21.1	11.0	15.5	30.5	1.9	8.0	19.0	17.5
Cycle Q Clear(g_c), s	16.8	24.9	40.3	5.9	21.1	11.0	15.5	30.5	1.9	8.0	19.0	17.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	739	1595	494	374	1397	434	415	1569	853	375	1510	701
V/C Ratio(X)	0.90	0.70	1.36	0.45	0.67	0.38	1.76	0.83	0.07	0.60	0.58	0.44
Avail Cap(c_a), veh/h	759	1595	494	375	1397	434	415	1569	853	375	1510	701
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	39.5	44.9	54.4	42.2	38.5	57.3	42.0	32.1	55.3	39.2	25.3
Incr Delay (d2), s/veh	13.3	1.2	175.1	0.3	1.0	0.2	349.7	5.2	0.2	1.8	1.7	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	10.4	39.3	2.6	8.9	4.2	26.8	13.2	0.7	3.5	8.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	40.7	220.0	54.7	43.2	38.7	407.0	47.1	32.2	57.1	40.8	27.3
LnGrp LOS	E	D	F	D	D	D	F	D	C	E	D	C
Approach Vol, veh/h		2457			1274			2086			1414	
Approach Delay, s/veh		97.1			44.2			172.5			40.5	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.5	41.0	21.0	43.5	19.5	46.0	19.5	45.0
Change Period (Y+Rc), s	5.5	* 5.7	5.5	* 5.4	5.5	* 5.7	5.5	* 5.4
Max Green Setting (Gmax), s	19.5	* 35	15.5	* 38	14.0	* 40	14.0	* 40
Max Q Clear Time (g_c+I1), s	19.8	23.1	17.5	21.0	7.9	42.3	10.0	32.5
Green Ext Time (p_c), s	0.2	3.7	0.0	4.1	0.1	0.0	0.1	5.8

Intersection Summary	
HCM 6th Ctrl Delay	98.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1447	329	128	644	190	122	6	110	76	12	5
Future Volume (veh/h)	2	1447	329	128	644	190	122	6	110	76	12	5
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		0.99	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	1447	262	128	644	130	122	6	19	76	12	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	2452	760	185	2932	907	203	247	208	370	230	194
Arrive On Green	0.01	0.48	0.48	0.10	0.57	0.57	0.11	0.13	0.13	0.10	0.12	0.12
Sat Flow, veh/h	3456	5106	1582	1781	5106	1580	1781	1870	1571	3563	1870	1577
Grp Volume(v), veh/h	2	1447	262	128	644	130	122	6	19	76	12	1
Grp Sat Flow(s),veh/h/ln	1728	1702	1582	1781	1702	1580	1781	1870	1571	1781	1870	1577
Q Serve(g_s), s	0.1	23.4	11.7	7.9	7.0	4.3	7.4	0.3	1.2	2.2	0.6	0.1
Cycle Q Clear(g_c), s	0.1	23.4	11.7	7.9	7.0	4.3	7.4	0.3	1.2	2.2	0.6	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	24	2452	760	185	2932	907	203	247	208	370	230	194
V/C Ratio(X)	0.08	0.59	0.34	0.69	0.22	0.14	0.60	0.02	0.09	0.21	0.05	0.01
Avail Cap(c_a), veh/h	395	3217	997	379	3692	1142	372	838	704	429	674	568
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	21.5	18.4	49.3	11.8	11.2	47.9	43.0	43.4	46.7	44.1	43.8
Incr Delay (d2), s/veh	0.5	0.5	0.5	1.8	0.1	0.1	1.1	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.8	4.3	3.5	2.4	1.5	3.3	0.1	0.5	1.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.7	21.9	19.0	51.0	11.9	11.4	49.0	43.0	43.5	46.8	44.1	43.8
LnGrp LOS	E	C	B	D	B	B	D	D	D	D	D	D
Approach Vol, veh/h		1711			902			147			89	
Approach Delay, s/veh		21.5			17.4			48.0			46.4	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	70.9	18.2	18.9	16.6	60.2	17.1	19.9
Change Period (Y+Rc), s	* 5.1	* 5.5	* 5.2	* 4.9	* 4.8	* 5.5	* 5.3	4.9
Max Green Setting (Gmax), s	* 13	* 82	* 24	* 41	* 24	* 72	* 14	51.0
Max Q Clear Time (g_c+I1), s	2.1	9.0	9.4	2.6	9.9	25.4	4.2	3.2
Green Ext Time (p_c), s	0.0	10.9	0.1	0.0	0.1	29.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	1137	341	196	454	404	557	1711	63	388	1477	27
Future Volume (veh/h)	178	1137	341	196	454	404	557	1711	63	388	1477	27
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		0.98	1.00		0.99
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	1137	184	196	454	211	557	1711	17	388	1477	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	398	1475	456	398	1027	458	473	1897	460	442	1839	447
Arrive On Green	0.12	0.29	0.29	0.12	0.29	0.29	0.14	0.29	0.29	0.13	0.29	0.29
Sat Flow, veh/h	3456	5106	1578	3456	3554	1585	3456	6434	1560	3456	6434	1562
Grp Volume(v), veh/h	178	1137	184	196	454	211	557	1711	17	388	1477	7
Grp Sat Flow(s),veh/h/ln	1728	1702	1578	1728	1777	1585	1728	1609	1560	1728	1609	1562
Q Serve(g_s), s	6.2	26.5	12.2	6.9	13.5	14.2	17.8	33.2	1.0	14.3	27.7	0.4
Cycle Q Clear(g_c), s	6.2	26.5	12.2	6.9	13.5	14.2	17.8	33.2	1.0	14.3	27.7	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	398	1475	456	398	1027	458	473	1897	460	442	1839	447
V/C Ratio(X)	0.45	0.77	0.40	0.49	0.44	0.46	1.18	0.90	0.04	0.88	0.80	0.02
Avail Cap(c_a), veh/h	399	1599	494	399	1121	500	473	1897	460	529	1839	447
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)	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	42.3	37.2	53.9	37.7	37.9	56.1	44.0	32.7	55.7	43.0	33.3
Incr Delay (d2), s/veh	0.2	2.2	1.0	0.4	0.4	1.0	99.9	7.5	0.2	12.2	3.8	0.1
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	2.7	11.1	4.7	3.0	5.8	5.5	14.1	13.7	0.4	6.8	11.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	44.5	38.2	54.3	38.1	38.9	156.0	51.5	32.8	67.9	46.8	33.4
LnGrp LOS	D	D	D	D	D	D	F	D	C	E	D	C
Approach Vol, veh/h		1499			861			2285			1872	
Approach Delay, s/veh		44.8			42.0			76.8			51.2	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	43.7	22.1	43.7	20.5	43.6	23.3	42.6
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4
Max Green Setting (Gmax), s	15.0	* 41	19.9	* 32	15.0	* 41	17.8	* 34
Max Q Clear Time (g_c+I1), s	8.2	16.2	16.3	35.2	8.9	28.5	19.8	29.7
Green Ext Time (p_c), s	0.2	5.0	0.3	0.0	0.2	8.9	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	57.5
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	221	25	64	192	434	4	28	37	268	61	70
Future Volume (veh/h)	97	221	25	64	192	434	4	28	37	268	61	70
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		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	221	25	64	192	186	4	28	3	268	61	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	323	37	225	389	328	13	91	89	442	464	387
Arrive On Green	0.11	0.20	0.20	0.13	0.21	0.21	0.06	0.06	0.06	0.25	0.25	0.25
Sat Flow, veh/h	1781	1650	187	1781	1870	1577	232	1626	1585	1781	1870	1560
Grp Volume(v), veh/h	97	0	246	64	192	186	32	0	3	268	61	18
Grp Sat Flow(s),veh/h/ln	1781	0	1837	1781	1870	1577	1859	0	1585	1781	1870	1560
Q Serve(g_s), s	2.1	0.0	5.1	1.3	3.7	4.3	0.7	0.0	0.1	5.5	1.0	0.4
Cycle Q Clear(g_c), s	2.1	0.0	5.1	1.3	3.7	4.3	0.7	0.0	0.1	5.5	1.0	0.4
Prop In Lane	1.00		0.10	1.00		1.00	0.12		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	0	360	225	389	328	104	0	89	442	464	387
V/C Ratio(X)	0.48	0.00	0.68	0.28	0.49	0.57	0.31	0.00	0.03	0.61	0.13	0.05
Avail Cap(c_a), veh/h	1282	0	4243	978	4002	3375	975	0	831	2838	2980	2484
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	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	15.3	16.2	14.3	14.6	18.6	0.0	18.3	13.6	12.0	11.7
Incr Delay (d2), s/veh	0.6	0.0	0.9	0.3	0.4	0.6	0.6	0.0	0.1	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.7	0.5	1.3	1.3	0.3	0.0	0.0	1.8	0.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	0.0	16.2	16.5	14.7	15.1	19.2	0.0	18.4	14.1	12.0	11.7
LnGrp LOS	B	A	B	B	B	B	B	A	B	B	B	B
Approach Vol, veh/h		343			442			35			347	
Approach Delay, s/veh		16.6			15.1			19.1			13.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	13.1		13.9	8.7	12.6		5.8
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5
Max Green Setting (Gmax), s	29.5	* 88		65.3	22.5	* 95		21.5
Max Q Clear Time (g_c+I1), s	4.1	6.3		7.5	3.3	7.1		2.7
Green Ext Time (p_c), s	0.1	0.9		0.6	0.1	0.9		0.1

Intersection Summary		
HCM 6th Ctrl Delay		15.2
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	594	482	139	243	326	397	178	1344	325	870	1034	366
Future Volume (veh/h)	594	482	139	243	326	397	178	1344	325	870	1034	366
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	594	482	98	243	326	152	178	1344	290	870	1034	205
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	420	725	463	319	619	271	318	1295	712	646	1632	714
Arrive On Green	0.12	0.20	0.20	0.09	0.17	0.17	0.09	0.36	0.36	0.19	0.46	0.46
Sat Flow, veh/h	3456	3554	1552	3456	3554	1558	3456	3554	1554	3456	3554	1556
Grp Volume(v), veh/h	594	482	98	243	326	152	178	1344	290	870	1034	205
Grp Sat Flow(s),veh/h/ln	1728	1777	1552	1728	1777	1558	1728	1777	1554	1728	1777	1556
Q Serve(g_s), s	15.8	16.2	6.2	8.9	10.8	11.6	6.4	47.4	16.2	24.3	28.9	10.7
Cycle Q Clear(g_c), s	15.8	16.2	6.2	8.9	10.8	11.6	6.4	47.4	16.2	24.3	28.9	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	420	725	463	319	619	271	318	1295	712	646	1632	714
V/C Ratio(X)	1.41	0.66	0.21	0.76	0.53	0.56	0.56	1.04	0.41	1.35	0.63	0.29
Avail Cap(c_a), veh/h	420	820	504	505	902	395	779	1295	712	646	1632	714
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.1	47.6	34.4	57.6	48.8	49.1	56.5	41.3	23.6	52.8	26.8	21.9
Incr Delay (d2), s/veh	200.1	2.0	0.3	1.4	1.0	2.5	0.6	35.4	1.7	166.2	1.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.4	7.3	2.3	3.9	4.8	4.6	2.8	26.1	6.1	25.2	12.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	257.2	49.7	34.7	59.0	49.8	51.6	57.1	76.8	25.3	219.1	28.7	22.9
LnGrp LOS	F	D	C	E	D	D	E	F	C	F	C	C
Approach Vol, veh/h		1174			721			1812			2109	
Approach Delay, s/veh		153.4			53.3			66.6			106.7	
Approach LOS		F			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.9	27.7	16.7	64.7	17.0	31.6	29.0	52.4
Change Period (Y+Rc), s	* 5.1	* 5.1	* 4.7	* 5	5.0	* 5.1	* 4.7	* 5
Max Green Setting (Gmax), s	* 16	* 33	* 29	* 32	19.0	* 30	* 24	* 37
Max Q Clear Time (g_c+I1), s	17.8	13.6	8.4	30.9	10.9	18.2	26.3	49.4
Green Ext Time (p_c), s	0.0	3.3	0.3	0.7	0.3	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	97.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	692	1085	52	58	420	171	203	0	219	149	34	151
Future Volume (veh/h)	692	1085	52	58	420	171	203	0	219	149	34	151
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		0.99	1.00		0.97	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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	692	1085	23	58	420	43	203	0	34	173	0	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	592	1667	742	176	1445	639	485	0	210	423	0	188
Arrive On Green	0.34	0.93	0.93	0.10	0.40	0.40	0.14	0.00	0.14	0.12	0.00	0.12
Sat Flow, veh/h	3483	3582	1595	1795	3582	1584	3591	0	1555	3591	0	1598
Grp Volume(v), veh/h	692	1085	23	58	420	43	203	0	34	173	0	18
Grp Sat Flow(s),veh/h/ln	1742	1791	1595	1795	1791	1584	1795	0	1555	1795	0	1598
Q Serve(g_s), s	18.7	5.9	0.1	3.3	8.7	1.8	5.7	0.0	2.1	4.9	0.0	1.1
Cycle Q Clear(g_c), s	18.7	5.9	0.1	3.3	8.7	1.8	5.7	0.0	2.1	4.9	0.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	592	1667	742	176	1445	639	485	0	210	423	0	188
V/C Ratio(X)	1.17	0.65	0.03	0.33	0.29	0.07	0.42	0.00	0.16	0.41	0.00	0.10
Avail Cap(c_a), veh/h	592	1667	742	212	1445	639	1110	0	481	424	0	189
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	2.2	2.0	46.2	22.2	20.1	43.6	0.0	42.1	45.0	0.0	43.3
Incr Delay (d2), s/veh	84.3	0.9	0.0	0.4	0.5	0.2	0.2	0.0	0.1	0.2	0.0	0.1
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	18.0	1.2	0.0	1.5	3.6	0.7	2.5	0.0	0.8	2.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.6	3.1	2.1	46.6	22.6	20.3	43.8	0.0	42.2	45.2	0.0	43.4
LnGrp LOS	F	A	A	D	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1800			521			237			191	
Approach Delay, s/veh		48.3			25.1			43.6			45.0	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	23.0	49.0		18.1	16.2	55.8		20.0
Change Period (Y+Rc), s	* 4.3	* 4.6		* 5.1	* 5.4	* 4.6		5.1
Max Green Setting (Gmax), s	* 18	* 25		* 13	* 13	* 30		34.0
Max Q Clear Time (g_c+I1), s	20.7	10.7		6.9	5.3	7.9		7.7
Green Ext Time (p_c), s	0.0	1.5		0.2	0.0	5.1		0.4

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	572	383	0	251	301	238	66	1215	361	315	730	194
Future Volume (veh/h)	572	383	0	251	301	238	66	1215	361	315	730	194
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		0.98	1.00		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	572	383	0	251	301	59	66	1215	241	315	730	84
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	506	1263	563	377	1130	502	327	1089	477	377	1140	499
Arrive On Green	0.15	0.36	0.00	0.11	0.32	0.32	0.09	0.31	0.31	0.11	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	3456	3554	1578	3456	3554	1556	3456	3554	1557
Grp Volume(v), veh/h	572	383	0	251	301	59	66	1215	241	315	730	84
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1578	1728	1777	1556	1728	1777	1557
Q Serve(g_s), s	16.1	8.6	0.0	7.7	6.9	2.9	1.9	33.7	14.0	9.8	19.3	4.3
Cycle Q Clear(g_c), s	16.1	8.6	0.0	7.7	6.9	2.9	1.9	33.7	14.0	9.8	19.3	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	506	1263	563	377	1130	502	327	1089	477	377	1140	499
V/C Ratio(X)	1.13	0.30	0.00	0.67	0.27	0.12	0.20	1.12	0.51	0.84	0.64	0.17
Avail Cap(c_a), veh/h	506	1263	563	377	1130	502	377	1089	477	377	1140	499
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)	0.27	0.27	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	25.6	0.0	47.1	27.9	26.6	46.0	38.1	31.3	48.0	31.9	26.8
Incr Delay (d2), s/veh	66.3	0.2	0.0	3.6	0.6	0.5	0.1	65.0	0.3	14.2	0.9	0.1
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	11.4	3.5	0.0	3.4	3.0	1.1	0.8	23.8	5.1	4.9	8.1	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.2	25.8	0.0	50.7	28.5	27.1	46.1	103.1	31.7	62.2	32.9	26.9
LnGrp LOS	F	C	A	D	C	C	D	F	C	E	C	C
Approach Vol, veh/h		955			611			1522			1129	
Approach Delay, s/veh		78.2			37.5			89.3			40.6	
Approach LOS		E			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	39.8	15.3	40.7	16.9	43.9	16.9	39.1
Change Period (Y+Rc), s	* 4.9	* 4.6	* 4.9	* 5.4	* 4.9	* 4.6	* 4.9	* 5.4
Max Green Setting (Gmax), s	* 16	* 29	* 12	* 34	* 12	* 33	* 12	* 34
Max Q Clear Time (g_c+I1), s	18.1	8.9	3.9	21.3	9.7	10.6	11.8	35.7
Green Ext Time (p_c), s	0.0	1.2	0.0	2.7	0.1	1.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	66.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	20.4
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	462	162	97	158	111	112
Future Vol, veh/h	462	162	97	158	111	112
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	462	162	97	158	111	112
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	27.3	11.1	11.8
HCM LOS	D	B	B

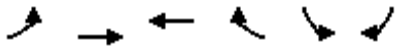
Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	158	462	162	111	112
LT Vol	0	0	462	0	111	0
Through Vol	97	0	0	0	0	112
RT Vol	0	158	0	162	0	0
Lane Flow Rate	97	158	462	162	111	112
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.183	0.267	0.831	0.237	0.226	0.212
Departure Headway (Hd)	6.793	6.078	6.472	5.262	7.316	6.805
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	527	589	559	682	490	526
Service Time	4.554	3.839	4.212	3.002	5.078	4.567
HCM Lane V/C Ratio	0.184	0.268	0.826	0.238	0.227	0.213
HCM Control Delay	11.1	11.1	33.5	9.6	12.2	11.4
HCM Lane LOS	B	B	D	A	B	B
HCM 95th-tile Q	0.7	1.1	8.5	0.9	0.9	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	55	72	79	219	11	170	926	289	21	548	235
Future Volume (veh/h)	142	55	72	79	219	11	170	926	289	21	548	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.97
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	55	72	79	219	11	170	926	116	21	548	235
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	166	217	102	330	17	206	2422	740	77	1338	554
Arrive On Green	0.10	0.23	0.23	0.06	0.19	0.19	0.12	0.47	0.47	0.02	0.38	0.38
Sat Flow, veh/h	1781	726	950	1781	1763	89	1781	5106	1560	3456	3510	1453
Grp Volume(v), veh/h	142	0	127	79	0	230	170	926	116	21	531	252
Grp Sat Flow(s),veh/h/ln	1781	0	1676	1781	0	1852	1781	1702	1560	1728	1702	1559
Q Serve(g_s), s	7.5	0.0	6.1	4.2	0.0	11.1	9.0	11.2	4.1	0.6	11.0	11.5
Cycle Q Clear(g_c), s	7.5	0.0	6.1	4.2	0.0	11.1	9.0	11.2	4.1	0.6	11.0	11.5
Prop In Lane	1.00		0.57	1.00		0.05	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	176	0	382	102	0	346	206	2422	740	77	1298	594
V/C Ratio(X)	0.81	0.00	0.33	0.77	0.00	0.66	0.83	0.38	0.16	0.27	0.41	0.42
Avail Cap(c_a), veh/h	308	0	790	249	0	811	343	2422	740	180	1298	594
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	30.9	44.6	0.0	36.2	41.5	16.2	14.3	46.1	21.8	21.9
Incr Delay (d2), s/veh	8.5	0.0	0.5	11.6	0.0	2.2	8.2	0.5	0.5	1.9	1.0	2.2
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	3.7	0.0	2.5	2.2	0.0	5.1	4.2	4.0	1.5	0.3	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	31.4	56.2	0.0	38.4	49.7	16.7	14.8	48.0	22.7	24.1
LnGrp LOS	D	A	C	E	A	D	D	B	B	D	C	C
Approach Vol, veh/h		269			309			1212			804	
Approach Delay, s/veh		41.7			42.9			21.1			23.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	51.0	11.0	26.3	16.6	42.1	15.0	22.3
Change Period (Y+Rc), s	5.5	5.5	5.5	4.4	5.5	5.5	5.5	4.4
Max Green Setting (Gmax), s	5.0	45.5	13.4	45.2	18.5	32.0	16.6	42.0
Max Q Clear Time (g_c+I1), s	2.6	13.2	6.2	8.1	11.0	13.5	9.5	13.1
Green Ext Time (p_c), s	0.0	7.0	0.1	0.8	0.2	5.2	0.2	1.4

Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	141	385	429	44	701	261
Future Volume (veh/h)	141	385	429	44	701	261
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	385	429	15	701	115
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	174	773	473	1124	828	737
Arrive On Green	0.10	0.41	0.25	0.25	0.47	0.47
Sat Flow, veh/h	1781	1870	1870	1533	1781	1585
Grp Volume(v), veh/h	141	385	429	15	701	115
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1533	1781	1585
Q Serve(g_s), s	6.8	13.2	19.4	0.2	30.2	3.6
Cycle Q Clear(g_c), s	6.8	13.2	19.4	0.2	30.2	3.6
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	174	773	473	1124	828	737
V/C Ratio(X)	0.81	0.50	0.91	0.01	0.85	0.16
Avail Cap(c_a), veh/h	194	835	513	1158	828	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	18.9	31.6	3.5	20.6	13.4
Incr Delay (d2), s/veh	20.5	0.5	19.1	0.0	10.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	5.4	10.7	0.2	13.5	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.0	19.4	50.7	3.5	31.0	13.9
LnGrp LOS	E	B	D	A	C	B
Approach Vol, veh/h		526	444		816	
Approach Delay, s/veh		30.0	49.1		28.5	
Approach LOS		C	D		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			41.1		46.0	14.0	27.1
Change Period (Y+Rc), s			5.1		5.5	5.5	5.1
Max Green Setting (Gmax), s			38.9		40.5	9.5	23.9
Max Q Clear Time (g_c+I1), s			15.2		32.2	8.8	21.4
Green Ext Time (p_c), s			2.2		2.0	0.0	0.6

Intersection Summary		
HCM 6th Ctrl Delay		34.1
HCM 6th LOS		C

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	24	106	1	46	0	140	552	21	10	354	0
Future Vol, veh/h	0	24	106	1	46	0	140	552	21	10	354	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	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	24	106	1	46	0	140	552	21	10	354	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1240	1227	354	1282	1217	563	354	0	0	573	0	0
Stage 1	374	374	-	843	843	-	-	-	-	-	-	-
Stage 2	866	853	-	439	374	-	-	-	-	-	-	-
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	152	178	690	142	181	526	1205	-	-	1000	-	-
Stage 1	647	618	-	358	380	-	-	-	-	-	-	-
Stage 2	348	376	-	597	618	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	100	146	690	91	148	526	1205	-	-	1000	-	-
Mov Cap-2 Maneuver	100	146	-	91	148	-	-	-	-	-	-	-
Stage 1	536	611	-	297	315	-	-	-	-	-	-	-
Stage 2	246	312	-	480	611	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	40.9	1.6	0.2
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1205	-	-	409	146	1000	-	-
HCM Lane V/C Ratio	0.116	-	-	0.318	0.322	0.01	-	-
HCM Control Delay (s)	8.4	0	-	17.9	40.9	8.6	0	-
HCM Lane LOS	A	A	-	C	E	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	1.3	1.3	0	-	-

Intersection	
Int Delay, s/veh	8.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	286	425	28	47	396
Future Vol, veh/h	74	286	425	28	47	396
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	286	425	28	47	396

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	929	439	0	0	453	0
Stage 1	439	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	297	618	-	-	1108	-
Stage 1	650	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	281	618	-	-	1108	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	650	-	-	-	-	-
Stage 2	583	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.2	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	496	1108	-
HCM Lane V/C Ratio	-	-	0.726	0.042	-
HCM Control Delay (s)	-	-	29.2	8.4	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	5.9	0.1	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	236	358	138	1
Future Vol, veh/h	0	0	236	358	138	1
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	236	358	138	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	594	0	-	0	415	415
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	0	-
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	982	-	-	-	594	637
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	982	-	-	-	594	637
Mov Cap-2 Maneuver	-	-	-	-	594	-
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	982	-	-	-	594
HCM Lane V/C Ratio	-	-	-	-	0.234
HCM Control Delay (s)	0	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	288	267	0	62	110
Future Vol, veh/h	0	288	267	0	62	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	40	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	288	267	0	62	110

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	501	267	0	0	267	0
Stage 1	267	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	530	772	-	-	1297	-
Stage 1	778	-	-	-	-	-
Stage 2	805	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	503	772	-	-	1297	-
Mov Cap-2 Maneuver	503	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	764	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	772	1297	-
HCM Lane V/C Ratio	-	-	-	0.373	0.048	-
HCM Control Delay (s)	-	-	0	12.4	7.9	0
HCM Lane LOS	-	-	A	B	A	A
HCM 95th %tile Q(veh)	-	-	-	1.7	0.1	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	120	148	103	184	4
Future Vol, veh/h	1	120	148	103	184	4
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	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	120	148	103	184	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	251	0	-	0	270	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	122	-
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	1314	-	-	-	719	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1314	-	-	-	718	899
Mov Cap-2 Maneuver	-	-	-	-	718	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	903	-

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)	1314	-	-	-	721
HCM Lane V/C Ratio	0.001	-	-	-	0.261
HCM Control Delay (s)	7.7	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1

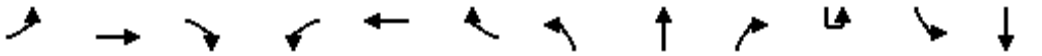
Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	24	275	205	113	324	42
Future Vol, veh/h	24	275	205	113	324	42
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	40
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	275	205	113	324	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	318	0	-	0	585	262
Stage 1	-	-	-	-	262	-
Stage 2	-	-	-	-	323	-
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	1242	-	-	-	473	777
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1242	-	-	-	462	777
Mov Cap-2 Maneuver	-	-	-	-	462	-
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	26.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1242	-	-	-	462	777
HCM Lane V/C Ratio	0.019	-	-	-	0.701	0.054
HCM Control Delay (s)	8	-	-	-	29.1	9.9
HCM Lane LOS	A	-	-	-	D	A
HCM 95th %tile Q(veh)	0.1	-	-	-	5.4	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	162	0	179	0	0	0	43	1256	0	0	0	862
Future Volume (veh/h)	162	0	179	0	0	0	43	1256	0	0	0	862
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856				1856	1856	0		0	1856
Adj Flow Rate, veh/h	162	0	179				43	1256	0		0	862
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	3	3	3				3	3	0		0	3
Cap, veh/h	755	0	346				159	2129	0		0	1562
Arrive On Green	0.22	0.00	0.22				0.09	0.60	0.00		0.00	0.44
Sat Flow, veh/h	3428	0	1570				1767	3618	0		0	3618
Grp Volume(v), veh/h	162	0	179				43	1256	0		0	862
Grp Sat Flow(s),veh/h/ln	1714	0	1570				1767	1763	0		0	1763
Q Serve(g_s), s	1.9	0.0	5.0				1.1	10.8	0.0		0.0	8.9
Cycle Q Clear(g_c), s	1.9	0.0	5.0				1.1	10.8	0.0		0.0	8.9
Prop In Lane	1.00		1.00				1.00		0.00		0.00	
Lane Grp Cap(c), veh/h	755	0	346				159	2129	0		0	1562
V/C Ratio(X)	0.21	0.00	0.52				0.27	0.59	0.00		0.00	0.55
Avail Cap(c_a), veh/h	2909	0	1333				768	4189	0		0	3163
HCM Platoon Ratio	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	1.00	0.00		0.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	17.0				21.0	6.0	0.0		0.0	10.2
Incr Delay (d2), s/veh	0.1	0.0	0.4				0.3	0.4	0.0		0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.6				0.4	1.9	0.0		0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.0	17.4				21.3	6.4	0.0		0.0	10.6
LnGrp LOS	B	A	B				C	A	A		A	B
Approach Vol, veh/h		341						1299				942
Approach Delay, s/veh		16.7						6.9				10.4
Approach LOS		B						A				B

Timer - Assigned Phs		3	4		6		8				
Phs Duration (G+Y+Rc), s		8.0	27.1		14.4		35.1				
Change Period (Y+Rc), s		3.5	* 5.2		3.5		5.2				
Max Green Setting (Gmax), s		21.5	* 44		42.0		58.8				
Max Q Clear Time (g_c+I1), s		3.1	10.9		7.0		12.8				
Green Ext Time (p_c), s		0.0	9.7		1.1		17.0				

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	80
Future Volume (veh/h)	80
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.96
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	80
Peak Hour Factor	1.00
Percent Heavy Veh, %	3
Cap, veh/h	668
Arrive On Green	0.44
Sat Flow, veh/h	1507
Grp Volume(v), veh/h	80
Grp Sat Flow(s),veh/h/ln	1507
Q Serve(g_s), s	1.5
Cycle Q Clear(g_c), s	1.5
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	668
V/C Ratio(X)	0.12
Avail Cap(c_a), veh/h	1352
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	8.1
Incr Delay (d2), s/veh	0.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.4
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	8.2
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	74	4	26	356	200	71	20	269	170	20	30
Future Volume (veh/h)	30	74	4	26	356	200	71	20	269	170	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.91	1.00		0.89	1.00		0.94
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	30	74	1	26	356	200	71	20	269	170	20	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	53	1236	504	48	374	210	91	25	334	205	204	307
Arrive On Green	0.03	0.35	0.35	0.03	0.35	0.35	0.05	0.25	0.25	0.12	0.32	0.32
Sat Flow, veh/h	1767	3526	1437	1767	1075	604	1767	98	1323	1767	646	968
Grp Volume(v), veh/h	30	74	1	26	0	556	71	0	289	170	0	50
Grp Sat Flow(s),veh/h/ln	1767	1763	1437	1767	0	1679	1767	0	1422	1767	0	1614
Q Serve(g_s), s	1.4	1.2	0.0	1.2	0.0	27.1	3.3	0.0	16.0	7.9	0.0	1.8
Cycle Q Clear(g_c), s	1.4	1.2	0.0	1.2	0.0	27.1	3.3	0.0	16.0	7.9	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.36	1.00		0.93	1.00		0.60
Lane Grp Cap(c), veh/h	53	1236	504	48	0	584	91	0	359	205	0	511
V/C Ratio(X)	0.57	0.06	0.00	0.54	0.00	0.95	0.78	0.00	0.81	0.83	0.00	0.10
Avail Cap(c_a), veh/h	108	1236	504	202	0	587	200	0	424	221	0	511
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	18.1	17.7	40.3	0.0	26.7	39.3	0.0	29.4	36.2	0.0	20.2
Incr Delay (d2), s/veh	9.1	0.0	0.0	3.5	0.0	25.5	5.3	0.0	7.9	21.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.4	0.0	0.6	0.0	13.8	1.6	0.0	6.1	4.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	18.1	17.7	43.8	0.0	52.1	44.5	0.0	37.3	57.4	0.0	20.2
LnGrp LOS	D	B	B	D	A	D	D	A	D	E	A	C
Approach Vol, veh/h		105			582			360			220	
Approach Delay, s/veh		27.0			51.7			38.7			49.0	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	35.0	9.8	30.9	7.8	35.3	15.2	25.5
Change Period (Y+Rc), s	5.5	* 5.9	5.5	4.4	5.5	5.9	5.5	* 4.4
Max Green Setting (Gmax), s	5.1	* 29	9.5	25.6	9.6	24.0	10.5	* 25
Max Q Clear Time (g_c+I1), s	3.4	29.1	5.3	3.8	3.2	3.2	9.9	18.0
Green Ext Time (p_c), s	0.0	0.1	0.0	0.1	0.0	0.2	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	403	901	695	301	1279	111	893	814	112	421	1631	451
Future Volume (veh/h)	403	901	695	301	1279	111	893	814	112	421	1631	451
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	403	901	516	301	1279	34	893	814	32	421	1631	410
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	541	1571	486	372	1571	487	412	1461	795	444	1508	638
Arrive On Green	0.11	0.31	0.31	0.11	0.31	0.31	0.12	0.29	0.29	0.13	0.30	0.30
Sat Flow, veh/h	5023	5106	1580	3456	5106	1584	3456	5106	2778	3456	5106	1583
Grp Volume(v), veh/h	403	901	516	301	1279	34	893	814	32	421	1631	410
Grp Sat Flow(s),veh/h/ln	1674	1702	1580	1728	1702	1584	1728	1702	1389	1728	1702	1583
Q Serve(g_s), s	10.1	19.3	40.0	11.1	30.1	2.0	15.5	17.6	1.1	15.7	38.4	27.1
Cycle Q Clear(g_c), s	10.1	19.3	40.0	11.1	30.1	2.0	15.5	17.6	1.1	15.7	38.4	27.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	541	1571	486	372	1571	487	412	1461	795	444	1508	638
V/C Ratio(X)	0.74	0.57	1.06	0.81	0.81	0.07	2.17	0.56	0.04	0.95	1.08	0.64
Avail Cap(c_a), veh/h	591	1571	486	372	1571	487	412	1461	795	444	1508	638
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)	0.14	0.14	0.14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	37.8	45.0	56.7	41.6	31.8	57.3	39.4	33.5	56.2	45.8	31.3
Incr Delay (d2), s/veh	0.6	0.0	34.6	11.7	3.2	0.0	533.3	1.5	0.1	29.6	48.6	4.9
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	4.2	7.9	19.7	5.4	12.8	0.7	37.1	7.4	0.4	8.5	22.4	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	37.9	79.6	68.4	44.7	31.9	590.5	40.9	33.6	85.8	94.4	36.2
LnGrp LOS	E	D	F	E	D	C	F	D	C	F	F	D
Approach Vol, veh/h		1820			1614			1739			2462	
Approach Delay, s/veh		53.9			48.9			323.0			83.2	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.5	45.7	21.0	43.8	19.5	45.7	22.2	42.6
Change Period (Y+Rc), s	5.5	* 5.7	5.5	* 5.4	5.5	* 5.7	5.5	* 5.4
Max Green Setting (Gmax), s	15.3	* 39	15.5	* 38	14.0	* 40	16.7	* 37
Max Q Clear Time (g_c+I1), s	12.1	32.1	17.5	40.4	13.1	42.0	17.7	19.6
Green Ext Time (p_c), s	0.3	3.4	0.0	0.0	0.1	0.0	0.0	8.2

Intersection Summary	
HCM 6th Ctrl Delay	123.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	922	157	99	1249	53	182	10	131	201	16	7
Future Volume (veh/h)	9	922	157	99	1249	53	182	10	131	201	16	7
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	9	922	70	99	1249	25	182	10	27	201	16	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	100	1801	559	216	2256	699	255	280	237	508	280	236
Arrive On Green	0.03	0.36	0.36	0.12	0.45	0.45	0.14	0.15	0.15	0.14	0.15	0.15
Sat Flow, veh/h	3428	5066	1572	1767	5066	1569	1767	1856	1572	3534	1856	1566
Grp Volume(v), veh/h	9	922	70	99	1249	25	182	10	27	201	16	2
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1767	1689	1569	1767	1856	1572	1767	1856	1566
Q Serve(g_s), s	0.2	12.9	2.7	4.7	16.3	0.8	8.8	0.4	1.3	4.6	0.7	0.1
Cycle Q Clear(g_c), s	0.2	12.9	2.7	4.7	16.3	0.8	8.8	0.4	1.3	4.6	0.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	1801	559	216	2256	699	255	280	237	508	280	236
V/C Ratio(X)	0.09	0.51	0.13	0.46	0.55	0.04	0.71	0.04	0.11	0.40	0.06	0.01
Avail Cap(c_a), veh/h	530	3138	974	476	3684	1141	782	1300	1102	696	846	714
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	22.8	19.5	36.7	18.4	14.1	36.7	32.6	33.0	35.0	32.7	32.5
Incr Delay (d2), s/veh	0.1	0.5	0.2	0.6	0.4	0.0	1.4	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	1.0	2.0	5.8	0.3	3.8	0.2	0.5	2.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	23.3	19.7	37.3	18.8	14.1	38.1	32.6	33.1	35.1	32.7	32.5
LnGrp LOS	D	C	B	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		1001			1373			219			219	
Approach Delay, s/veh		23.2			20.0			37.2			34.9	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	45.5	18.2	18.5	15.8	37.5	18.2	18.4
Change Period (Y+Rc), s	* 5.1	* 5.5	* 5.2	* 4.9	* 4.8	* 5.5	* 5.3	4.9
Max Green Setting (Gmax), s	* 14	* 65	* 40	* 41	* 24	* 56	* 18	63.0
Max Q Clear Time (g_c+I1), s	2.2	18.3	10.8	2.7	6.7	14.9	6.6	3.3
Green Ext Time (p_c), s	0.0	21.7	0.2	0.0	0.1	14.4	0.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	326	595	339	102	658	250	451	1193	50	368	1912	269
Future Volume (veh/h)	326	595	339	102	658	250	451	1193	50	368	1912	269
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	326	595	87	102	658	107	451	1193	16	368	1912	181
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	396	1193	370	386	820	366	411	2277	561	419	2291	563
Arrive On Green	0.12	0.24	0.24	0.11	0.23	0.23	0.12	0.36	0.36	0.12	0.36	0.36
Sat Flow, veh/h	3428	5066	1572	3428	3526	1572	3428	6383	1572	3428	6383	1570
Grp Volume(v), veh/h	326	595	87	102	658	107	451	1193	16	368	1912	181
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1763	1572	1714	1596	1572	1714	1596	1570
Q Serve(g_s), s	12.1	13.2	5.8	3.5	22.9	7.3	15.6	19.2	0.9	13.7	35.6	10.9
Cycle Q Clear(g_c), s	12.1	13.2	5.8	3.5	22.9	7.3	15.6	19.2	0.9	13.7	35.6	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	396	1193	370	386	820	366	411	2277	561	419	2291	563
V/C Ratio(X)	0.82	0.50	0.23	0.26	0.80	0.29	1.10	0.52	0.03	0.88	0.83	0.32
Avail Cap(c_a), veh/h	396	1586	492	396	1112	496	411	2277	561	464	2291	563
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)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	43.0	40.2	52.8	47.1	41.1	57.2	33.1	27.2	56.1	38.1	30.2
Incr Delay (d2), s/veh	10.8	0.6	0.6	0.1	3.7	0.6	72.9	0.9	0.1	15.1	3.8	1.5
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	5.7	5.5	2.3	1.5	10.2	2.8	10.8	7.3	0.3	6.7	14.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	43.6	40.8	52.9	50.7	41.7	130.1	33.9	27.3	71.2	41.9	31.7
LnGrp LOS	E	D	D	D	D	D	F	C	C	E	D	C
Approach Vol, veh/h		1008			867			1660			2461	
Approach Delay, s/veh		50.9			49.9			60.0			45.5	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	36.3	21.4	51.8	20.1	36.7	21.1	52.1
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4
Max Green Setting (Gmax), s	15.0	* 41	17.6	* 34	15.0	* 41	15.6	* 36
Max Q Clear Time (g_c+I1), s	14.1	24.9	15.7	21.2	5.5	15.2	17.6	37.6
Green Ext Time (p_c), s	0.1	5.3	0.2	10.2	0.1	7.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	51.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	399	9	36	386	270	25	56	85	374	19	105
Future Volume (veh/h)	75	399	9	36	386	270	25	56	85	374	19	105
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	75	399	9	36	386	194	25	56	26	374	19	33
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	156	497	11	137	491	415	60	134	167	443	466	395
Arrive On Green	0.09	0.28	0.28	0.08	0.26	0.26	0.11	0.11	0.11	0.25	0.25	0.25
Sat Flow, veh/h	1767	1807	41	1767	1856	1570	564	1263	1567	1767	1856	1572
Grp Volume(v), veh/h	75	0	408	36	386	194	81	0	26	374	19	33
Grp Sat Flow(s),veh/h/ln	1767	0	1848	1767	1856	1570	1827	0	1567	1767	1856	1572
Q Serve(g_s), s	2.1	0.0	10.8	1.0	10.2	5.5	2.2	0.0	0.8	10.6	0.4	0.8
Cycle Q Clear(g_c), s	2.1	0.0	10.8	1.0	10.2	5.5	2.2	0.0	0.8	10.6	0.4	0.8
Prop In Lane	1.00		0.02	1.00		1.00	0.31		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	0	508	137	491	415	194	0	167	443	466	395
V/C Ratio(X)	0.48	0.00	0.80	0.26	0.79	0.47	0.42	0.00	0.16	0.84	0.04	0.08
Avail Cap(c_a), veh/h	620	0	2581	486	2451	2073	883	0	757	3024	3175	2691
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	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	17.8	22.9	18.0	16.3	22.0	0.0	21.4	18.8	15.0	15.1
Incr Delay (d2), s/veh	0.8	0.0	1.1	0.4	1.1	0.3	0.5	0.0	0.2	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	4.0	0.4	3.8	1.7	0.9	0.0	0.3	4.0	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	18.9	23.3	19.1	16.6	22.6	0.0	21.6	20.5	15.0	15.2
LnGrp LOS	C	A	B	C	B	B	C	A	C	C	B	B
Approach Vol, veh/h		483			616			107			426	
Approach Delay, s/veh		19.7			18.6			22.3			19.8	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	18.6		16.9	7.6	19.1		9.1
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5
Max Green Setting (Gmax), s	18.5	* 70		90.3	14.5	* 74		25.5
Max Q Clear Time (g_c+I1), s	4.1	12.2		12.6	3.0	12.8		4.2
Green Ext Time (p_c), s	0.1	1.7		0.7	0.0	1.5		0.3

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	402	169	306	399	299	164	839	254	451	1204	190
Future Volume (veh/h)	346	402	169	306	399	299	164	839	254	451	1204	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.85	1.00		0.82	1.00		0.89
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	346	402	100	306	399	97	164	839	205	451	1204	106
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	393	913	532	359	876	333	316	1190	599	502	1382	546
Arrive On Green	0.11	0.26	0.26	0.10	0.25	0.25	0.09	0.34	0.34	0.15	0.39	0.39
Sat Flow, veh/h	3428	3526	1494	3428	3526	1341	3428	3526	1286	3428	3526	1394
Grp Volume(v), veh/h	346	402	100	306	399	97	164	839	205	451	1204	106
Grp Sat Flow(s),veh/h/ln	1714	1763	1494	1714	1763	1341	1714	1763	1286	1714	1763	1394
Q Serve(g_s), s	12.9	12.4	6.1	11.4	12.5	7.6	5.9	26.9	13.8	16.8	41.0	6.5
Cycle Q Clear(g_c), s	12.9	12.4	6.1	11.4	12.5	7.6	5.9	26.9	13.8	16.8	41.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	913	532	359	876	333	316	1190	599	502	1382	546
V/C Ratio(X)	0.88	0.44	0.19	0.85	0.46	0.29	0.52	0.71	0.34	0.90	0.87	0.19
Avail Cap(c_a), veh/h	393	913	532	448	895	340	316	1190	599	554	1382	546
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	40.3	29.3	57.2	41.4	39.6	56.3	37.4	24.1	54.5	36.5	26.0
Incr Delay (d2), s/veh	19.4	0.5	0.2	10.4	0.5	0.7	0.7	3.5	1.6	15.5	7.8	0.8
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	6.6	5.4	2.2	5.4	5.4	2.5	2.5	11.8	4.3	8.2	18.3	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.0	40.7	29.6	67.6	41.9	40.2	57.0	41.0	25.6	70.0	44.3	26.8
LnGrp LOS	E	D	C	E	D	D	E	D	C	E	D	C
Approach Vol, veh/h		848			802			1208			1761	
Approach Delay, s/veh		53.8			51.5			40.5			49.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	37.4	16.7	55.9	18.6	38.8	23.7	48.9
Change Period (Y+Rc), s	* 5.1	* 5.1	* 4.7	* 5	5.0	* 5.1	* 4.7	* 5
Max Green Setting (Gmax), s	* 15	* 33	* 12	* 50	17.0	* 31	* 21	* 41
Max Q Clear Time (g_c+I1), s	14.9	14.5	7.9	43.0	13.4	14.4	18.8	28.9
Green Ext Time (p_c), s	0.0	3.6	0.1	3.4	0.2	3.4	0.2	6.3

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	329	653	236	148	776	43	4	12	43	178	82	530
Future Volume (veh/h)	329	653	236	148	776	43	4	12	43	178	82	530
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		0.99	1.00		0.97	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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	329	653	114	148	776	21	4	12	3	130	149	70
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	384	1813	807	210	1873	830	135	141	116	212	223	189
Arrive On Green	0.22	1.00	1.00	0.12	0.52	0.52	0.07	0.07	0.07	0.12	0.12	0.12
Sat Flow, veh/h	3483	3582	1595	1795	3582	1587	1795	1885	1552	1795	1885	1598
Grp Volume(v), veh/h	329	653	114	148	776	21	4	12	3	130	149	70
Grp Sat Flow(s),veh/h/ln	1742	1791	1595	1795	1791	1587	1795	1885	1552	1795	1885	1598
Q Serve(g_s), s	10.0	0.0	0.0	8.7	14.5	0.7	0.2	0.7	0.2	7.6	8.3	4.4
Cycle Q Clear(g_c), s	10.0	0.0	0.0	8.7	14.5	0.7	0.2	0.7	0.2	7.6	8.3	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	384	1813	807	210	1873	830	135	141	116	212	223	189
V/C Ratio(X)	0.86	0.36	0.14	0.71	0.41	0.03	0.03	0.08	0.03	0.61	0.67	0.37
Avail Cap(c_a), veh/h	443	1813	807	222	1873	830	555	583	480	260	272	231
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	0.0	0.0	46.7	16.0	12.7	47.2	47.4	47.2	46.1	46.4	44.7
Incr Delay (d2), s/veh	11.7	0.5	0.3	6.5	0.6	0.0	0.0	0.1	0.0	1.1	2.7	0.5
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	4.4	0.1	0.1	4.2	5.7	0.2	0.1	0.3	0.1	3.4	4.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	0.5	0.3	53.3	16.6	12.7	47.2	47.5	47.2	47.2	49.1	45.2
LnGrp LOS	D	A	A	D	B	B	D	D	D	D	D	D
Approach Vol, veh/h		1096			945			19			349	
Approach Delay, s/veh		16.5			22.2			47.4			47.6	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.4	62.1		18.1	18.3	60.3		13.3
Change Period (Y+Rc), s	* 4.3	* 4.6		* 5.1	* 5.4	* 4.6		5.1
Max Green Setting (Gmax), s	* 14	* 27		* 16	* 14	* 27		34.0
Max Q Clear Time (g_c+I1), s	12.0	16.5		10.3	10.7	2.0		2.7
Green Ext Time (p_c), s	0.1	2.6		0.4	0.0	2.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	339	88	339	391	125	77	552	120	298	1407	254
Future Volume (veh/h)	187	339	88	339	391	125	77	552	120	298	1407	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	187	339	25	339	391	35	77	552	38	298	1407	180
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	373	1049	466	374	1051	466	338	1072	470	374	1109	486
Arrive On Green	0.11	0.30	0.30	0.11	0.30	0.30	0.10	0.30	0.30	0.11	0.31	0.31
Sat Flow, veh/h	3428	3526	1565	3428	3526	1565	3428	3526	1544	3428	3526	1545
Grp Volume(v), veh/h	187	339	25	339	391	35	77	552	38	298	1407	180
Grp Sat Flow(s),veh/h/ln	1714	1763	1565	1714	1763	1565	1714	1763	1544	1714	1763	1545
Q Serve(g_s), s	5.7	8.2	1.3	10.8	9.6	1.8	2.3	14.2	1.9	9.3	34.6	9.9
Cycle Q Clear(g_c), s	5.7	8.2	1.3	10.8	9.6	1.8	2.3	14.2	1.9	9.3	34.6	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	373	1049	466	374	1051	466	338	1072	470	374	1109	486
V/C Ratio(X)	0.50	0.32	0.05	0.91	0.37	0.08	0.23	0.51	0.08	0.80	1.27	0.37
Avail Cap(c_a), veh/h	374	1049	466	374	1051	466	374	1072	470	436	1109	486
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)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	30.0	27.6	48.4	30.5	27.7	45.7	31.6	27.3	47.8	37.7	29.2
Incr Delay (d2), s/veh	0.3	0.7	0.2	24.4	1.0	0.3	0.1	0.2	0.0	7.3	128.2	0.2
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	2.4	3.5	0.5	5.8	4.1	0.7	1.0	5.9	0.7	4.3	34.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	30.7	27.8	72.9	31.5	28.0	45.8	31.8	27.3	55.1	165.9	29.4
LnGrp LOS	D	C	C	E	C	C	D	C	C	E	F	C
Approach Vol, veh/h		551			765			667			1885	
Approach Delay, s/veh		36.0			49.7			33.1			135.3	
Approach LOS		D			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	37.4	15.8	40.0	16.9	37.3	16.9	38.9
Change Period (Y+Rc), s	* 4.9	* 4.6	* 4.9	* 5.4	* 4.9	* 4.6	* 4.9	* 5.4
Max Green Setting (Gmax), s	* 12	* 32	* 12	* 35	* 12	* 32	* 14	* 33
Max Q Clear Time (g_c+I1), s	7.7	11.6	4.3	36.6	12.8	10.2	11.3	16.2
Green Ext Time (p_c), s	0.1	1.5	0.1	0.0	0.0	1.3	0.2	2.1

Intersection Summary	
HCM 6th Ctrl Delay	86.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	66	506	0	53	44
Future Vol, veh/h	0	66	506	0	53	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	66	506	0	53	44

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	656	506	0	0	506	0
Stage 1	506	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	430	566	-	-	1059	-
Stage 1	606	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	408	566	-	-	1059	-
Mov Cap-2 Maneuver	408	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	833	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	4.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	566	1059	-
HCM Lane V/C Ratio	-	-	0.117	0.05	-
HCM Control Delay (s)	-	-	12.2	8.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	76	56	20	40	23
Future Vol, veh/h	34	76	56	20	40	23
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	185	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	76	56	20	40	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	86	0	-	0	230	86
Stage 1	-	-	-	-	76	-
Stage 2	-	-	-	-	154	-
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	1510	-	-	-	758	973
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	874	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1496	-	-	-	726	955
Mov Cap-2 Maneuver	-	-	-	-	726	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	865	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1496	-	-	-	796
HCM Lane V/C Ratio	0.023	-	-	-	0.079
HCM Control Delay (s)	7.5	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

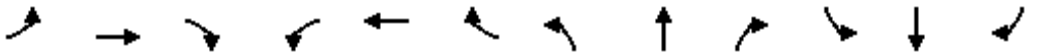
Intersection	
Int Delay, s/veh	14.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	398	260	191	205	42
Future Vol, veh/h	120	398	260	191	205	42
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	185	-	-	-	185	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	398	260	191	205	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	461	0	-	0	1014	376
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	648	-
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	1100	-	-	-	264	670
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	521	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1090	-	-	-	230	657
Mov Cap-2 Maneuver	-	-	-	-	230	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	516	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	67.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1090	-	-	-	230	657
HCM Lane V/C Ratio	0.11	-	-	-	0.891	0.064
HCM Control Delay (s)	8.7	-	-	-	79.1	10.9
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	-	-	7.3	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	347	130	393	331	120	80	10	77	200	10	40
Future Volume (veh/h)	126	347	130	393	331	120	80	10	77	200	10	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.91	1.00		0.88	1.00		0.90
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	347	130	393	331	42	80	10	77	200	10	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	384	144	523	656	508	130	39	301	260	93	373
Arrive On Green	0.10	0.30	0.30	0.15	0.35	0.35	0.07	0.24	0.23	0.15	0.31	0.31
Sat Flow, veh/h	1781	1273	477	3456	1870	1449	1781	165	1273	1781	301	1203
Grp Volume(v), veh/h	126	0	477	393	331	42	80	0	87	200	0	50
Grp Sat Flow(s),veh/h/ln	1781	0	1750	1728	1870	1449	1781	0	1439	1781	0	1504
Q Serve(g_s), s	6.7	0.0	25.6	10.6	13.6	1.9	4.3	0.0	4.8	10.5	0.0	2.3
Cycle Q Clear(g_c), s	6.7	0.0	25.6	10.6	13.6	1.9	4.3	0.0	4.8	10.5	0.0	2.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.89	1.00		0.80
Lane Grp Cap(c), veh/h	183	0	528	523	656	508	130	0	340	260	0	466
V/C Ratio(X)	0.69	0.00	0.90	0.75	0.50	0.08	0.62	0.00	0.26	0.77	0.00	0.11
Avail Cap(c_a), veh/h	321	0	609	672	678	525	248	0	457	365	0	576
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.3	0.0	32.8	39.7	25.0	21.2	43.9	0.0	30.4	40.1	0.0	24.2
Incr Delay (d2), s/veh	4.5	0.0	15.4	3.5	0.6	0.1	4.7	0.0	0.4	6.3	0.0	0.1
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	3.1	0.0	12.6	4.7	5.9	0.6	2.1	0.0	1.7	5.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	0.0	48.2	43.2	25.6	21.3	48.7	0.0	30.8	46.4	0.0	24.3
LnGrp LOS	D	A	D	D	C	C	D	A	C	D	A	C
Approach Vol, veh/h		603			766			167			250	
Approach Delay, s/veh		47.9			34.4			39.4			42.0	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.3	27.1	18.8	33.5	11.1	34.3	14.0	38.2
Change Period (Y+Rc), s	5.5	4.4	5.5	4.4	5.5	4.4	5.5	4.4
Max Green Setting (Gmax), s	18.5	30.6	17.5	33.6	12.1	37.0	16.1	35.0
Max Q Clear Time (g_c+I1), s	12.5	6.8	12.6	27.6	6.3	4.3	8.7	15.6
Green Ext Time (p_c), s	0.3	0.5	0.6	1.5	0.1	0.3	0.2	1.9

Intersection Summary	
HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	1	323	8	2	8	338	1049	2	3	1083	537
Future Volume (veh/h)	273	1	323	8	2	8	338	1049	2	3	1083	537
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.96	1.00		0.94
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	274	0	65	8	2	8	338	1049	2	3	1083	262
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	540	0	227	109	27	109	369	1779	3	103	1159	488
Arrive On Green	0.15	0.00	0.15	0.15	0.15	0.14	0.21	0.49	0.49	0.06	0.33	0.33
Sat Flow, veh/h	3563	0	1494	732	183	732	1781	3639	7	1781	3554	1497
Grp Volume(v), veh/h	274	0	65	18	0	0	338	512	539	3	1083	262
Grp Sat Flow(s),veh/h/ln	1781	0	1494	1647	0	0	1781	1777	1869	1781	1777	1497
Q Serve(g_s), s	8.0	0.0	4.3	1.1	0.0	0.0	20.9	23.3	23.3	0.2	33.3	16.1
Cycle Q Clear(g_c), s	8.0	0.0	4.3	1.1	0.0	0.0	20.9	23.3	23.3	0.2	33.3	16.1
Prop In Lane	1.00		1.00	0.44		0.44	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	540	0	227	245	0	0	369	869	914	103	1159	488
V/C Ratio(X)	0.51	0.00	0.29	0.07	0.00	0.00	0.92	0.59	0.59	0.03	0.93	0.54
Avail Cap(c_a), veh/h	1044	0	438	490	0	0	435	943	992	103	1177	496
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	0.0	42.4	41.3	0.0	0.0	43.7	20.7	20.7	50.1	36.8	31.0
Incr Delay (d2), s/veh	0.7	0.0	0.7	0.1	0.0	0.0	21.8	0.8	0.8	0.1	13.4	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	3.5	0.0	1.7	0.4	0.0	0.0	11.2	9.3	9.8	0.1	16.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	0.0	43.1	41.5	0.0	0.0	65.5	21.5	21.5	50.2	50.2	32.1
LnGrp LOS	D	A	D	D	A	A	E	C	C	D	D	C
Approach Vol, veh/h		339			18			1389			1348	
Approach Delay, s/veh		44.4			41.5			32.2			46.7	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	59.9		21.5	28.9	41.5		20.8
Change Period (Y+Rc), s	5.5	4.8		4.4	5.5	4.8		4.5
Max Green Setting (Gmax), s	5.0	59.8		33.0	27.5	37.3		33.0
Max Q Clear Time (g_c+I1), s	12.2	25.3		10.0	22.9	35.3		3.1
Green Ext Time (p_c), s	0.0	7.6		1.1	0.4	1.4		0.1

Intersection Summary	
HCM 6th Ctrl Delay	39.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	105	0	0	68	21	1321	17	3	1406	5
Future Vol, veh/h	0	0	105	0	0	68	21	1321	17	3	1406	5
Conflicting Peds, #/hr	0	0	10	0	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	220	-	160	160	-	160
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	105	0	0	68	21	1321	17	3	1406	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	723	-	-	681	1421	0	0	1348	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	369	0	0	393	475	-	-	507	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	362	-	-	386	470	-	-	502	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	16.3	0.2	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	470	-	-	362	386	502	-	-
HCM Lane V/C Ratio	0.045	-	-	0.29	0.176	0.006	-	-
HCM Control Delay (s)	13	-	-	19	16.3	12.2	-	-
HCM Lane LOS	B	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.6	0	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	537	110	74	633	84	56
Future Vol, veh/h	537	110	74	633	84	56
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	185	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	537	110	74	633	84	56

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	657	0	1383	602
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	781	-
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	-	-	931	-	158	500
Stage 1	-	-	-	-	547	-
Stage 2	-	-	-	-	451	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	922	-	144	495
Mov Cap-2 Maneuver	-	-	-	-	144	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	415	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	56
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	201	-	-	922	-
HCM Lane V/C Ratio	0.697	-	-	0.08	-
HCM Control Delay (s)	56	-	-	9.2	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	4.4	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	9	628	12	1	309
Future Vol, veh/h	5	9	628	12	1	309
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	9	628	12	1	309

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	965	654	0	0	650	0
Stage 1	644	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	283	467	-	-	936	-
Stage 1	523	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	277	458	-	-	927	-
Mov Cap-2 Maneuver	277	-	-	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	727	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	371	927	-
HCM Lane V/C Ratio	-	-	0.038	0.001	-
HCM Control Delay (s)	-	-	15.1	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	19	0	4	2	0	0	18	18	0	5	0
Future Vol, veh/h	2	19	0	4	2	0	0	18	18	0	5	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	19	0	4	2	0	0	18	18	0	5	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	29	0	0	56	53	39	71	53	22
Stage 1	-	-	-	-	-	-	33	33	-	20	20	-
Stage 2	-	-	-	-	-	-	23	20	-	51	33	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1584	-	-	941	838	1033	920	838	1055
Stage 1	-	-	-	-	-	-	983	868	-	999	879	-
Stage 2	-	-	-	-	-	-	995	879	-	962	868	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1592	-	-	1569	-	-	917	818	1013	869	818	1035
Mov Cap-2 Maneuver	-	-	-	-	-	-	917	818	-	869	818	-
Stage 1	-	-	-	-	-	-	972	858	-	988	868	-
Stage 2	-	-	-	-	-	-	977	868	-	915	858	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	4.9	9.1	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	905	1592	-	-	1569	-	-	818
HCM Lane V/C Ratio	0.04	0.001	-	-	0.003	-	-	0.006
HCM Control Delay (s)	9.1	7.3	-	-	7.3	-	-	9.4
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

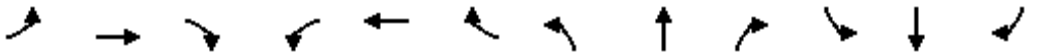
Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	0	3	6	4	0	133	93	9	87	0
Future Vol, veh/h	0	37	0	3	6	4	0	133	93	9	87	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	37	0	3	6	4	0	133	93	9	87	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	47	0	0	115	73	57	184	71	28
Stage 1	-	-	-	-	-	-	47	47	-	24	24	-
Stage 2	-	-	-	-	-	-	68	26	-	160	47	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1596	-	-	1560	-	-	862	817	1009	777	819	1047
Stage 1	-	-	-	-	-	-	967	856	-	994	875	-
Stage 2	-	-	-	-	-	-	942	874	-	842	856	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1581	-	-	1545	-	-	774	799	990	601	801	1027
Mov Cap-2 Maneuver	-	-	-	-	-	-	774	799	-	601	801	-
Stage 1	-	-	-	-	-	-	957	847	-	984	865	-
Stage 2	-	-	-	-	-	-	838	864	-	637	847	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.7	10.6	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	868	1581	-	-	1545	-	-	777
HCM Lane V/C Ratio	0.26	-	-	-	0.002	-	-	0.124
HCM Control Delay (s)	10.6	0	-	-	7.3	-	-	10.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1	0	-	-	0	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	61	16	176	2	15	3	1274	277	2	1552	10
Future Volume (veh/h)	91	61	16	176	2	15	3	1274	277	2	1552	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.97
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	61	16	176	2	15	3	1274	194	2	1552	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	239	63	212	41	307	7	1735	748	5	1762	11
Arrive On Green	0.07	0.17	0.17	0.12	0.22	0.22	0.00	0.49	0.49	0.00	0.49	0.49
Sat Flow, veh/h	1781	1416	371	1781	185	1385	1781	3554	1531	1781	3619	23
Grp Volume(v), veh/h	91	0	77	176	0	17	3	1274	194	2	762	800
Grp Sat Flow(s),veh/h/ln	1781	0	1787	1781	0	1570	1781	1777	1531	1781	1777	1865
Q Serve(g_s), s	4.5	0.0	3.3	8.6	0.0	0.8	0.2	25.6	6.6	0.1	34.4	34.5
Cycle Q Clear(g_c), s	4.5	0.0	3.3	8.6	0.0	0.8	0.2	25.6	6.6	0.1	34.4	34.5
Prop In Lane	1.00		0.21	1.00		0.88	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	118	0	301	212	0	348	7	1735	748	5	865	908
V/C Ratio(X)	0.77	0.00	0.26	0.83	0.00	0.05	0.42	0.73	0.26	0.41	0.88	0.88
Avail Cap(c_a), veh/h	269	0	669	289	0	606	100	1875	808	100	938	984
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0	32.3	38.5	0.0	27.4	44.4	18.3	13.4	44.5	20.6	20.6
Incr Delay (d2), s/veh	10.2	0.0	0.4	13.5	0.0	0.1	34.7	1.4	0.2	48.2	9.2	8.9
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	2.3	0.0	1.5	4.5	0.0	0.3	0.1	9.6	2.3	0.1	14.7	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	0.0	32.8	52.0	0.0	27.4	79.1	19.7	13.6	92.7	29.8	29.5
LnGrp LOS	D	A	C	D	A	C	E	B	B	F	C	C
Approach Vol, veh/h		168			193			1471			1564	
Approach Delay, s/veh		42.8			49.9			19.0			29.8	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	48.5	16.2	19.1	5.9	48.4	11.4	23.8
Change Period (Y+Rc), s	5.5	4.8	5.5	4.0	5.5	4.8	5.5	4.0
Max Green Setting (Gmax), s	5.0	47.2	14.5	33.5	5.0	47.2	13.5	34.5
Max Q Clear Time (g_c+I1), s	2.1	27.6	10.6	5.3	2.2	36.5	6.5	2.8
Green Ext Time (p_c), s	0.0	9.7	0.2	0.4	0.0	7.1	0.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	2	320	25	21	49	44	41	1	6	178	86
Future Vol, veh/h	14	2	320	25	21	49	44	41	1	6	178	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	2	320	25	21	49	44	41	1	6	178	86
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	11.2	8.9	9.4	10.8
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	51%	100%	0%	100%	0%	2%
Vol Thru, %	48%	0%	1%	0%	30%	66%
Vol Right, %	1%	0%	99%	0%	70%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	86	14	322	25	70	270
LT Vol	44	14	0	25	0	6
Through Vol	41	0	2	0	21	178
RT Vol	1	0	320	0	49	86
Lane Flow Rate	86	14	322	25	70	270
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.132	0.023	0.432	0.044	0.105	0.367
Departure Headway (Hd)	5.543	6.041	4.833	6.406	5.402	4.898
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	650	587	737	562	667	726
Service Time	3.547	3.832	2.622	4.111	3.106	2.987
HCM Lane V/C Ratio	0.132	0.024	0.437	0.044	0.105	0.372
HCM Control Delay	9.4	9	11.3	9.4	8.7	10.8
HCM Lane LOS	A	A	B	A	A	B
HCM 95th-tile Q	0.5	0.1	2.2	0.1	0.4	1.7

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	294	11	34	334	5	23	1	43	33	3	13
Future Vol, veh/h	1	294	11	34	334	5	23	1	43	33	3	13
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	294	11	34	334	5	23	1	43	33	3	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	349	0	0	315	0	0	735	729	320	749	732	357
Stage 1	-	-	-	-	-	-	312	312	-	415	415	-
Stage 2	-	-	-	-	-	-	423	417	-	334	317	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1210	-	-	1245	-	-	335	350	721	328	348	687
Stage 1	-	-	-	-	-	-	699	658	-	615	592	-
Stage 2	-	-	-	-	-	-	609	591	-	680	654	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1198	-	-	1233	-	-	313	333	707	295	331	674
Mov Cap-2 Maneuver	-	-	-	-	-	-	313	333	-	295	331	-
Stage 1	-	-	-	-	-	-	692	651	-	609	570	-
Stage 2	-	-	-	-	-	-	572	569	-	631	647	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	13.5	17
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	488	1198	-	-	1233	-	-	349
HCM Lane V/C Ratio	0.137	0.001	-	-	0.028	-	-	0.14
HCM Control Delay (s)	13.5	8	-	-	8	-	-	17
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.5

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	352	17	58	334	6	30	2	73	35	7	4
Future Vol, veh/h	1	352	17	58	334	6	30	2	73	35	7	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	352	17	58	334	6	30	2	73	35	7	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	350	0	0	379	0	0	842	839	381	873	844	357
Stage 1	-	-	-	-	-	-	373	373	-	463	463	-
Stage 2	-	-	-	-	-	-	469	466	-	410	381	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1209	-	-	1179	-	-	284	302	666	271	300	687
Stage 1	-	-	-	-	-	-	648	618	-	579	564	-
Stage 2	-	-	-	-	-	-	575	562	-	619	613	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1197	-	-	1168	-	-	261	281	653	226	279	674
Mov Cap-2 Maneuver	-	-	-	-	-	-	261	281	-	226	279	-
Stage 1	-	-	-	-	-	-	642	611	-	573	531	-
Stage 2	-	-	-	-	-	-	531	529	-	542	606	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.2	15.4	22.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	449	1197	-	-	1168	-	-	247
HCM Lane V/C Ratio	0.234	0.001	-	-	0.05	-	-	0.186
HCM Control Delay (s)	15.4	8	-	-	8.2	-	-	22.9
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0	-	-	0.2	-	-	0.7

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	64	371	25	48	377	114	19	33	28	98	6	2
Future Vol, veh/h	64	371	25	48	377	114	19	33	28	98	6	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	371	25	48	377	114	19	33	28	98	6	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	501	0	0	406	0	0	1066	1119	404	1092	1074	454
Stage 1	-	-	-	-	-	-	522	522	-	540	540	-
Stage 2	-	-	-	-	-	-	544	597	-	552	534	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1063	-	-	1153	-	-	200	207	647	192	220	606
Stage 1	-	-	-	-	-	-	538	531	-	526	521	-
Stage 2	-	-	-	-	-	-	523	491	-	518	524	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1053	-	-	1142	-	-	176	183	635	144	194	595
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	183	-	144	194	-
Stage 1	-	-	-	-	-	-	500	494	-	489	494	-
Stage 2	-	-	-	-	-	-	489	465	-	430	487	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.7	27.2	74.6
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	241	1053	-	-	1142	-	-	148
HCM Lane V/C Ratio	0.332	0.061	-	-	0.042	-	-	0.716
HCM Control Delay (s)	27.2	8.6	-	-	8.3	-	-	74.6
HCM Lane LOS	D	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.4	0.2	-	-	0.1	-	-	4.2

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	480	26	64	511	8	21	5	102	40	5	3
Future Vol, veh/h	1	480	26	64	511	8	21	5	102	40	5	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	480	26	64	511	8	21	5	102	40	5	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	529	0	0	516	0	0	1162	1162	513	1212	1171	535
Stage 1	-	-	-	-	-	-	505	505	-	653	653	-
Stage 2	-	-	-	-	-	-	657	657	-	559	518	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1038	-	-	1050	-	-	172	195	561	159	193	545
Stage 1	-	-	-	-	-	-	549	540	-	456	464	-
Stage 2	-	-	-	-	-	-	454	462	-	513	533	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1028	-	-	1040	-	-	156	179	550	118	177	535
Mov Cap-2 Maneuver	-	-	-	-	-	-	156	179	-	118	177	-
Stage 1	-	-	-	-	-	-	544	534	-	451	431	-
Stage 2	-	-	-	-	-	-	415	429	-	410	527	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	19.9	48.6
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	368	1028	-	-	1040	-	-	129
HCM Lane V/C Ratio	0.348	0.001	-	-	0.062	-	-	0.372
HCM Control Delay (s)	19.9	8.5	-	-	8.7	-	-	48.6
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	1.5	0	-	-	0.2	-	-	1.5

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	2	4	4	1	0	1	57	8	0	46	1
Future Vol, veh/h	10	2	4	4	1	0	1	57	8	0	46	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	2	4	4	1	0	1	57	8	0	46	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	131	134	67	133	130	81	57	0	0	75	0	0
Stage 1	57	57	-	73	73	-	-	-	-	-	-	-
Stage 2	74	77	-	60	57	-	-	-	-	-	-	-
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	841	757	997	839	761	979	1547	-	-	1524	-	-
Stage 1	955	847	-	937	834	-	-	-	-	-	-	-
Stage 2	935	831	-	951	847	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	823	741	978	817	745	960	1532	-	-	1509	-	-
Mov Cap-2 Maneuver	823	741	-	817	745	-	-	-	-	-	-	-
Stage 1	944	839	-	927	825	-	-	-	-	-	-	-
Stage 2	924	822	-	936	839	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.5	0.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1532	-	-	845	802	1509	-	-
HCM Lane V/C Ratio	0.001	-	-	0.019	0.006	-	-	-
HCM Control Delay (s)	7.4	0	-	9.3	9.5	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	9	11	1	6	4	31	1	44	9	19	58	1
Future Vol, veh/h	9	11	1	6	4	31	1	44	9	19	58	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	11	1	6	4	31	1	44	9	19	58	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	185	172	79	174	168	69	69	0	0	63	0	0
Stage 1	107	107	-	61	61	-	-	-	-	-	-	-
Stage 2	78	65	-	113	107	-	-	-	-	-	-	-
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	776	721	981	789	725	994	1532	-	-	1540	-	-
Stage 1	898	807	-	950	844	-	-	-	-	-	-	-
Stage 2	931	841	-	892	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	726	696	962	756	700	975	1517	-	-	1525	-	-
Mov Cap-2 Maneuver	726	696	-	756	700	-	-	-	-	-	-	-
Stage 1	888	788	-	940	835	-	-	-	-	-	-	-
Stage 2	888	832	-	859	788	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	9.2	0.1	1.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1517	-	-	718	902	1525	-	-
HCM Lane V/C Ratio	0.001	-	-	0.029	0.045	0.012	-	-
HCM Control Delay (s)	7.4	0	-	10.2	9.2	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	45	76	14	1	34	6	92	30	1	0	31	47
Future Vol, veh/h	45	76	14	1	34	6	92	30	1	0	31	47
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	76	14	1	34	6	92	30	1	0	31	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	310	290	75	335	313	51	88	0	0	41	0	0
Stage 1	65	65	-	225	225	-	-	-	-	-	-	-
Stage 2	245	225	-	110	88	-	-	-	-	-	-	-
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	642	620	986	619	602	1017	1508	-	-	1568	-	-
Stage 1	946	841	-	778	718	-	-	-	-	-	-	-
Stage 2	759	718	-	895	822	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	568	569	967	512	553	998	1494	-	-	1553	-	-
Mov Cap-2 Maneuver	568	569	-	512	553	-	-	-	-	-	-	-
Stage 1	878	833	-	722	666	-	-	-	-	-	-	-
Stage 2	664	666	-	794	814	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	11.6	5.7	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1494	-	-	594	590	1553	-	-
HCM Lane V/C Ratio	0.062	-	-	0.227	0.069	-	-	-
HCM Control Delay (s)	7.6	0	-	12.8	11.6	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	0.2	0	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	90	1	3	1	0	35	127	1	0	93	0
Future Vol, veh/h	0	90	1	3	1	0	35	127	1	0	93	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	90	1	3	1	0	35	127	1	0	93	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	311	311	113	357	311	148	103	0	0	138	0	0
Stage 1	103	103	-	208	208	-	-	-	-	-	-	-
Stage 2	208	208	-	149	103	-	-	-	-	-	-	-
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	642	604	940	598	604	899	1489	-	-	1446	-	-
Stage 1	903	810	-	794	730	-	-	-	-	-	-	-
Stage 2	794	730	-	854	810	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	616	577	922	506	577	882	1475	-	-	1432	-	-
Mov Cap-2 Maneuver	616	577	-	506	577	-	-	-	-	-	-	-
Stage 1	871	802	-	766	704	-	-	-	-	-	-	-
Stage 2	765	704	-	750	802	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	12	1.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1475	-	-	579	522	1432	-	-
HCM Lane V/C Ratio	0.024	-	-	0.157	0.008	-	-	-
HCM Control Delay (s)	7.5	0	-	12.4	12	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	7	14	1	0	2	1	1	50	0	3	51	4
Future Vol, veh/h	7	14	1	0	2	1	1	50	0	3	51	4
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	14	1	0	2	1	1	50	0	3	51	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	153	151	93	159	153	90	75	0	0	70	0	0
Stage 1	79	79	-	72	72	-	-	-	-	-	-	-
Stage 2	74	72	-	87	81	-	-	-	-	-	-	-
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	814	741	964	807	739	968	1524	-	-	1531	-	-
Stage 1	930	829	-	938	835	-	-	-	-	-	-	-
Stage 2	935	835	-	921	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	779	711	928	763	709	931	1495	-	-	1502	-	-
Mov Cap-2 Maneuver	779	711	-	763	709	-	-	-	-	-	-	-
Stage 1	911	812	-	919	818	-	-	-	-	-	-	-
Stage 2	913	818	-	885	811	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	9.7	0.1	0.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1495	-	-	739	770	1502	-	-
HCM Lane V/C Ratio	0.001	-	-	0.03	0.004	0.002	-	-
HCM Control Delay (s)	7.4	0	-	10	9.7	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	37	5	37	29	36
Future Vol, veh/h	17	37	5	37	29	36
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	37	5	37	29	36

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	134	87	85	0	-	0
Stage 1	67	-	-	-	-	-
Stage 2	67	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	860	971	1512	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	825	934	1483	-	-	-
Mov Cap-2 Maneuver	825	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	938	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1483	-	897	-	-
HCM Lane V/C Ratio	0.003	-	0.06	-	-
HCM Control Delay (s)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	72	49	2	4	45
Future Vol, veh/h	4	72	49	2	4	45
Conflicting Peds, #/hr	20	20	0	20	20	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	72	49	2	4	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	143	90	0	0	71	0
Stage 1	70	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	850	968	-	-	1529	-
Stage 1	953	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	815	931	-	-	1500	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	924	1500	-
HCM Lane V/C Ratio	-	-	0.082	0.003	-
HCM Control Delay (s)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	27	25	3	73	3	55	77	48	4	20	36	35
Future Vol, veh/h	27	25	3	73	3	55	77	48	4	20	36	35
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	25	3	73	3	55	77	48	4	20	36	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	367	340	94	352	355	90	91	0	0	72	0	0
Stage 1	114	114	-	224	224	-	-	-	-	-	-	-
Stage 2	253	226	-	128	131	-	-	-	-	-	-	-
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	589	582	963	603	571	968	1504	-	-	1528	-	-
Stage 1	891	801	-	779	718	-	-	-	-	-	-	-
Stage 2	751	717	-	876	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	504	523	927	529	513	931	1475	-	-	1499	-	-
Mov Cap-2 Maneuver	504	523	-	529	513	-	-	-	-	-	-	-
Stage 1	827	775	-	723	666	-	-	-	-	-	-	-
Stage 2	653	665	-	817	762	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	12	4.5	1.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1475	-	-	526	646	1499	-	-
HCM Lane V/C Ratio	0.052	-	-	0.105	0.203	0.013	-	-
HCM Control Delay (s)	7.6	0	-	12.6	12	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.8	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	80	0	386	88	103
Future Vol, veh/h	0	80	0	386	88	103
Conflicting Peds, #/hr	0	20	0	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	80	0	386	88	103

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	180	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	863	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	830	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	830	-	-
HCM Lane V/C Ratio	-	0.096	-	-
HCM Control Delay (s)	-	9.8	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	0	274	66	146
Future Vol, veh/h	0	18	0	274	66	146
Conflicting Peds, #/hr	0	20	0	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	0	274	66	146

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	179	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	864	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	831	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	831	-	-
HCM Lane V/C Ratio	-	0.022	-	-
HCM Control Delay (s)	-	9.4	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	14	2	1	31	4	12	10	2	7	1	3
Future Vol, veh/h	14	14	2	1	31	4	12	10	2	7	1	3
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	14	2	1	31	4	12	10	2	7	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	55	0	0	36	0	0	120	120	55	124	119	73
Stage 1	-	-	-	-	-	-	63	63	-	55	55	-
Stage 2	-	-	-	-	-	-	57	57	-	69	64	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1550	-	-	1575	-	-	855	770	1012	850	771	989
Stage 1	-	-	-	-	-	-	948	842	-	957	849	-
Stage 2	-	-	-	-	-	-	955	847	-	941	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1520	-	-	1545	-	-	813	734	974	802	735	952
Mov Cap-2 Maneuver	-	-	-	-	-	-	813	734	-	802	735	-
Stage 1	-	-	-	-	-	-	921	818	-	930	832	-
Stage 2	-	-	-	-	-	-	932	830	-	902	818	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	0.2	9.7	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	789	1520	-	-	1545	-	-	831
HCM Lane V/C Ratio	0.03	0.009	-	-	0.001	-	-	0.013
HCM Control Delay (s)	9.7	7.4	0	-	7.3	0	-	9.4
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	22	45	11	11	5
Future Vol, veh/h	26	22	45	11	11	5
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	22	45	11	11	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	155	54	36	0	-	0
Stage 1	34	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	836	1013	1575	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	781	975	1545	-	-	-
Mov Cap-2 Maneuver	781	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	887	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	5.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1545	-	859	-	-
HCM Lane V/C Ratio	0.029	-	0.056	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	8	36	7	1	16
Future Vol, veh/h	6	8	36	7	1	16
Conflicting Peds, #/hr	20	20	0	20	20	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	8	36	7	1	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	98	80	0	0	63	0
Stage 1	60	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	901	980	-	-	1540	-
Stage 1	963	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	866	943	-	-	1511	-
Mov Cap-2 Maneuver	866	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	964	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	908	1511	-
HCM Lane V/C Ratio	-	-	0.015	0.001	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

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	5	38	1	1	12	0	4	14	6	0	2	2
Future Vol, veh/h	5	38	1	1	12	0	4	14	6	0	2	2
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	38	1	1	12	0	4	14	6	0	2	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	32	0	0	59	0	0	105	103	79	113	103	52
Stage 1	-	-	-	-	-	-	69	69	-	34	34	-
Stage 2	-	-	-	-	-	-	36	34	-	79	69	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1580	-	-	1545	-	-	875	787	981	864	787	1016
Stage 1	-	-	-	-	-	-	941	837	-	982	867	-
Stage 2	-	-	-	-	-	-	980	867	-	930	837	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1550	-	-	1516	-	-	836	755	944	812	755	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	836	755	-	812	755	-
Stage 1	-	-	-	-	-	-	920	819	-	960	850	-
Stage 2	-	-	-	-	-	-	956	850	-	888	819	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.6	9.6	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	809	1550	-	-	1516	-	-	852
HCM Lane V/C Ratio	0.03	0.003	-	-	0.001	-	-	0.005
HCM Control Delay (s)	9.6	7.3	0	-	7.4	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	106	0	274	67	17
Future Vol, veh/h	0	106	0	274	67	17
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	106	0	274	67	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	96	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	960	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	942	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	942	-	-
HCM Lane V/C Ratio	-	0.113	-	-
HCM Control Delay (s)	-	9.3	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	3	2	1	1	1	8	1	1	1	1
Future Vol, veh/h	1	1	3	2	1	1	1	8	1	1	1	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	3	2	1	1	1	8	1	1	1	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	36	35	22	37	35	29	12	0	0	19	0	0
Stage 1	14	14	-	21	21	-	-	-	-	-	-	-
Stage 2	22	21	-	16	14	-	-	-	-	-	-	-
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	970	857	1055	968	857	1046	1607	-	-	1597	-	-
Stage 1	1006	884	-	998	878	-	-	-	-	-	-	-
Stage 2	996	878	-	1004	884	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	949	838	1035	945	838	1026	1592	-	-	1582	-	-
Mov Cap-2 Maneuver	949	838	-	945	838	-	-	-	-	-	-	-
Stage 1	995	874	-	987	868	-	-	-	-	-	-	-
Stage 2	983	868	-	989	874	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	8.9	0.7	2.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1592	-	-	972	934	1582	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.004	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.7	8.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	1	21	1	40	1	16	10	28	5	0
Future Vol, veh/h	0	1	1	21	1	40	1	16	10	28	5	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	21	1	40	1	16	10	28	5	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	51	0	0	12	0	0	88	105	22	98	85	41
Stage 1	-	-	-	-	-	-	12	12	-	73	73	-
Stage 2	-	-	-	-	-	-	76	93	-	25	12	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1555	-	-	1607	-	-	897	785	1055	884	805	1030
Stage 1	-	-	-	-	-	-	1009	886	-	937	834	-
Stage 2	-	-	-	-	-	-	933	818	-	993	886	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1540	-	-	1592	-	-	867	758	1035	836	778	1010
Mov Cap-2 Maneuver	-	-	-	-	-	-	867	758	-	836	778	-
Stage 1	-	-	-	-	-	-	999	877	-	928	814	-
Stage 2	-	-	-	-	-	-	906	798	-	956	877	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.5	9.4	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	846	1540	-	-	1592	-	-	827
HCM Lane V/C Ratio	0.032	-	-	-	0.013	-	-	0.04
HCM Control Delay (s)	9.4	0	-	-	7.3	0	-	9.5
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	29	152	1	1	133	0	1	14	1	0	2	20
Future Vol, veh/h	29	152	1	1	133	0	1	14	1	0	2	20
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	152	1	1	133	0	1	14	1	0	2	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	143	0	0	163	0	0	377	366	173	373	366	153
Stage 1	-	-	-	-	-	-	221	221	-	145	145	-
Stage 2	-	-	-	-	-	-	156	145	-	228	221	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1440	-	-	1416	-	-	580	562	871	584	562	893
Stage 1	-	-	-	-	-	-	781	720	-	858	777	-
Stage 2	-	-	-	-	-	-	846	777	-	775	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1426	-	-	1403	-	-	545	538	854	551	538	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	545	538	-	551	538	-
Stage 1	-	-	-	-	-	-	757	697	-	831	768	-
Stage 2	-	-	-	-	-	-	816	768	-	735	697	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.1	11.7	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	551	1426	-	-	1403	-	-	829
HCM Lane V/C Ratio	0.029	0.02	-	-	0.001	-	-	0.027
HCM Control Delay (s)	11.7	7.6	0	-	7.6	0	-	9.5
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	175	1	0	133	0	2	18	0	0	6	2
Future Vol, veh/h	1	175	1	0	133	0	2	18	0	0	6	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	175	1	0	133	0	2	18	0	0	6	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	143	0	0	186	0	0	335	331	196	340	331	153
Stage 1	-	-	-	-	-	-	188	188	-	143	143	-
Stage 2	-	-	-	-	-	-	147	143	-	197	188	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1440	-	-	1388	-	-	619	588	845	614	588	893
Stage 1	-	-	-	-	-	-	814	745	-	860	779	-
Stage 2	-	-	-	-	-	-	856	779	-	805	745	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1426	-	-	1375	-	-	600	576	829	588	576	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	600	576	-	588	576	-
Stage 1	-	-	-	-	-	-	805	737	-	851	771	-
Stage 2	-	-	-	-	-	-	839	771	-	777	737	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11.5	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	578	1426	-	-	1375	-	-	630
HCM Lane V/C Ratio	0.035	0.001	-	-	-	-	-	0.013
HCM Control Delay (s)	11.5	7.5	0	-	0	-	-	10.8
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	153	1	3	105	4	15	5	43	1	1	3
Future Vol, veh/h	2	153	1	3	105	4	15	5	43	1	1	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	153	1	3	105	4	15	5	43	1	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	119	0	0	164	0	0	293	293	174	315	291	127
Stage 1	-	-	-	-	-	-	168	168	-	123	123	-
Stage 2	-	-	-	-	-	-	125	125	-	192	168	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1469	-	-	1414	-	-	659	618	869	638	619	923
Stage 1	-	-	-	-	-	-	834	759	-	881	794	-
Stage 2	-	-	-	-	-	-	879	792	-	810	759	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1455	-	-	1401	-	-	642	603	853	589	604	906
Mov Cap-2 Maneuver	-	-	-	-	-	-	642	603	-	589	604	-
Stage 1	-	-	-	-	-	-	824	750	-	870	784	-
Stage 2	-	-	-	-	-	-	865	782	-	755	750	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	10.1	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	768	1455	-	-	1401	-	-	750
HCM Lane V/C Ratio	0.082	0.001	-	-	0.002	-	-	0.007
HCM Control Delay (s)	10.1	7.5	0	-	7.6	0	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	206	1	7	60	6	26	10	59	1	3	20
Future Vol, veh/h	9	206	1	7	60	6	26	10	59	1	3	20
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	206	1	7	60	6	26	10	59	1	3	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	76	0	0	217	0	0	334	325	227	356	322	83
Stage 1	-	-	-	-	-	-	235	235	-	87	87	-
Stage 2	-	-	-	-	-	-	99	90	-	269	235	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1523	-	-	1353	-	-	620	593	812	599	595	976
Stage 1	-	-	-	-	-	-	768	710	-	921	823	-
Stage 2	-	-	-	-	-	-	907	820	-	737	710	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1508	-	-	1340	-	-	588	574	797	532	576	957
Mov Cap-2 Maneuver	-	-	-	-	-	-	588	574	-	532	576	-
Stage 1	-	-	-	-	-	-	756	698	-	906	811	-
Stage 2	-	-	-	-	-	-	872	808	-	662	698	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	10.9	9.3
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	700	1508	-	-	1340	-	-	858
HCM Lane V/C Ratio	0.136	0.006	-	-	0.005	-	-	0.028
HCM Control Delay (s)	10.9	7.4	0	-	7.7	0	-	9.3
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	256	1	2	62	1	10	1	20	1	1	1
Future Vol, veh/h	9	256	1	2	62	1	10	1	20	1	1	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	256	1	2	62	1	10	1	20	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	73	0	0	267	0	0	363	362	277	372	362	83
Stage 1	-	-	-	-	-	-	285	285	-	77	77	-
Stage 2	-	-	-	-	-	-	78	77	-	295	285	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1527	-	-	1297	-	-	593	565	762	585	565	976
Stage 1	-	-	-	-	-	-	722	676	-	932	831	-
Stage 2	-	-	-	-	-	-	931	831	-	713	676	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1512	-	-	1285	-	-	576	549	748	554	549	957
Mov Cap-2 Maneuver	-	-	-	-	-	-	576	549	-	554	549	-
Stage 1	-	-	-	-	-	-	710	665	-	917	821	-
Stage 2	-	-	-	-	-	-	918	821	-	681	665	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	10.6	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	675	1512	-	-	1285	-	-	642
HCM Lane V/C Ratio	0.046	0.006	-	-	0.002	-	-	0.005
HCM Control Delay (s)	10.6	7.4	0	-	7.8	0	-	10.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	259	1	6	45	0	11	4	42	0	1	2
Future Vol, veh/h	9	259	1	6	45	0	11	4	42	0	1	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	259	1	6	45	0	11	4	42	0	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	55	0	0	270	0	0	357	355	280	378	355	65
Stage 1	-	-	-	-	-	-	288	288	-	67	67	-
Stage 2	-	-	-	-	-	-	69	67	-	311	288	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1550	-	-	1293	-	-	598	571	759	580	571	999
Stage 1	-	-	-	-	-	-	720	674	-	943	839	-
Stage 2	-	-	-	-	-	-	941	839	-	699	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1535	-	-	1281	-	-	579	553	745	529	553	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	579	553	-	529	553	-
Stage 1	-	-	-	-	-	-	708	663	-	928	826	-
Stage 2	-	-	-	-	-	-	924	826	-	645	663	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.9	10.7	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	690	1535	-	-	1281	-	-	779
HCM Lane V/C Ratio	0.083	0.006	-	-	0.005	-	-	0.004
HCM Control Delay (s)	10.7	7.4	0	-	7.8	0	-	9.6
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	1	153	2	1	117
Future Vol, veh/h	9	1	153	2	1	117
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	1	153	2	1	117

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	293	174	0	0	165	0
Stage 1	164	-	-	-	-	-
Stage 2	129	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	698	869	-	-	1413	-
Stage 1	865	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	683	853	-	-	1400	-
Mov Cap-2 Maneuver	683	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	887	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	697	1400	-
HCM Lane V/C Ratio	-	-	0.014	0.001	-
HCM Control Delay (s)	-	-	10.2	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	64	9	0	0	8
Future Vol, veh/h	9	64	9	0	0	8
Conflicting Peds, #/hr	10	0	0	10	10	10
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	64	9	0	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	19	0	-	0	111	29
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	92	-
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	1597	-	-	-	886	1046
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1582	-	-	-	863	1026
Mov Cap-2 Maneuver	-	-	-	-	863	-
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1582	-	-	-	1026
HCM Lane V/C Ratio	0.006	-	-	-	0.008
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	64	7	0	0	3
Future Vol, veh/h	1	64	7	0	0	3
Conflicting Peds, #/hr	10	0	0	10	10	10
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	64	7	0	0	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	17	0	-	0	93	27
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	76	-
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	1600	-	-	-	907	1048
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1585	-	-	-	888	1028
Mov Cap-2 Maneuver	-	-	-	-	888	-
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	938	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1585	-	-	-	1028
HCM Lane V/C Ratio	0.001	-	-	-	0.003
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	34	96	3	4	155
Future Vol, veh/h	28	34	96	3	4	155
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	34	96	3	4	155

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	281	118	0	0	109	0
Stage 1	108	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	709	934	-	-	1481	-
Stage 1	916	-	-	-	-	-
Stage 2	857	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	693	916	-	-	1467	-
Mov Cap-2 Maneuver	693	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	847	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	800	1467	-
HCM Lane V/C Ratio	-	-	0.078	0.003	-
HCM Control Delay (s)	-	-	9.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	95	144	9	19	20
Future Vol, veh/h	3	95	144	9	19	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	95	144	9	19	20

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	207	149	0	0	153	0
Stage 1	149	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	781	898	-	-	1428	-
Stage 1	879	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	771	898	-	-	1428	-
Mov Cap-2 Maneuver	771	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	3.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	893	1428	-
HCM Lane V/C Ratio	-	-	0.11	0.013	-
HCM Control Delay (s)	-	-	9.5	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	300	81	92	290	154	135
Future Vol, veh/h	300	81	92	290	154	135
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	300	81	92	290	154	135
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	16.4	12.1	11.8
HCM LOS	C	B	B

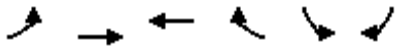
Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	290	300	81	154	135
LT Vol	0	0	300	0	154	0
Through Vol	92	0	0	0	0	135
RT Vol	0	290	0	81	0	0
Lane Flow Rate	92	290	300	81	154	135
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.16	0.447	0.569	0.126	0.293	0.237
Departure Headway (Hd)	6.26	5.548	6.829	5.616	6.839	6.33
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	572	647	528	637	525	566
Service Time	4.008	3.296	4.571	3.357	4.591	4.081
HCM Lane V/C Ratio	0.161	0.448	0.568	0.127	0.293	0.239
HCM Control Delay	10.2	12.7	18.3	9.2	12.4	11.1
HCM Lane LOS	B	B	C	A	B	B
HCM 95th-tile Q	0.6	2.3	3.5	0.4	1.2	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	79	189	285	67	12	63	721	144	4	898	251
Future Volume (veh/h)	176	79	189	285	67	12	63	721	144	4	898	251
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.97
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	79	189	285	67	12	63	721	62	4	898	251
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	104	248	322	429	77	81	2070	632	18	1440	400
Arrive On Green	0.12	0.22	0.22	0.18	0.28	0.28	0.05	0.41	0.41	0.01	0.37	0.37
Sat Flow, veh/h	1781	482	1152	1781	1539	276	1781	5106	1559	3456	3942	1096
Grp Volume(v), veh/h	176	0	268	285	0	79	63	721	62	4	775	374
Grp Sat Flow(s),veh/h/ln	1781	0	1634	1781	0	1815	1781	1702	1559	1728	1702	1635
Q Serve(g_s), s	10.5	0.0	16.7	16.9	0.0	3.5	3.8	10.6	2.7	0.1	20.2	20.4
Cycle Q Clear(g_c), s	10.5	0.0	16.7	16.9	0.0	3.5	3.8	10.6	2.7	0.1	20.2	20.4
Prop In Lane	1.00		0.71	1.00		0.15	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	209	0	352	322	0	506	81	2070	632	18	1243	597
V/C Ratio(X)	0.84	0.00	0.76	0.88	0.00	0.16	0.78	0.35	0.10	0.22	0.62	0.63
Avail Cap(c_a), veh/h	321	0	619	525	0	896	110	2070	632	160	1243	597
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	39.8	43.2	0.0	29.4	51.1	22.3	19.9	53.6	28.2	28.3
Incr Delay (d2), s/veh	11.7	0.0	3.4	10.1	0.0	0.1	21.0	0.5	0.3	6.0	2.4	4.9
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	5.3	0.0	7.0	8.3	0.0	1.6	2.1	4.0	1.0	0.1	8.1	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	0.0	43.3	53.3	0.0	29.5	72.1	22.7	20.2	59.6	30.6	33.2
LnGrp LOS	E	A	D	D	A	C	E	C	C	E	C	C
Approach Vol, veh/h		444			364			846			1153	
Approach Delay, s/veh		49.3			48.2			26.2			31.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	49.4	25.1	27.7	10.4	45.0	18.2	34.6
Change Period (Y+Rc), s	5.5	5.5	5.5	4.4	5.5	5.5	5.5	4.4
Max Green Setting (Gmax), s	5.6	41.2	31.9	41.0	6.7	39.5	19.5	53.4
Max Q Clear Time (g_c+I1), s	2.1	12.6	18.9	18.7	5.8	22.4	12.5	5.5
Green Ext Time (p_c), s	0.0	4.9	0.7	1.7	0.0	6.6	0.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	242	616	578	764	330	114
Future Volume (veh/h)	242	616	578	764	330	114
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	242	616	578	725	330	39
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	249	970	571	1008	606	539
Arrive On Green	0.14	0.52	0.31	0.31	0.34	0.34
Sat Flow, veh/h	1781	1870	1870	1537	1781	1585
Grp Volume(v), veh/h	242	616	578	725	330	39
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1537	1781	1585
Q Serve(g_s), s	10.1	17.7	22.9	22.9	11.3	1.2
Cycle Q Clear(g_c), s	10.1	17.7	22.9	22.9	11.3	1.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	249	970	571	1008	606	539
V/C Ratio(X)	0.97	0.63	1.01	0.72	0.54	0.07
Avail Cap(c_a), veh/h	249	970	571	1008	606	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	13.0	26.0	8.8	20.0	16.7
Incr Delay (d2), s/veh	48.6	1.4	40.7	2.5	3.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	6.5	15.6	13.3	4.8	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	80.7	14.3	66.8	11.3	23.5	17.0
LnGrp LOS	F	B	F	B	C	B
Approach Vol, veh/h		858	1303		369	
Approach Delay, s/veh		33.0	35.9		22.9	
Approach LOS		C	D		C	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		44.0		31.0	16.0	28.0
Change Period (Y+Rc), s		5.1		5.5	5.5	5.1
Max Green Setting (Gmax), s		38.9		25.5	10.5	22.9
Max Q Clear Time (g_c+I1), s		19.7		13.3	12.1	24.9
Green Ext Time (p_c), s		3.7		0.9	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		33.0
HCM 6th LOS		C

Intersection	
Int Delay, s/veh	737.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	249	27	230	1	11	4	75	155	4	457	357	12
Future Vol, veh/h	249	27	230	1	11	4	75	155	4	457	357	12
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	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	249	27	230	1	11	4	75	155	4	457	357	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1592	1586	363	1713	1590	157	369	0	0	159	0	0
Stage 1	1277	1277	-	307	307	-	-	-	-	-	-	-
Stage 2	315	309	-	1406	1283	-	-	-	-	-	-	-
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	~ 87	108	682	71	108	889	1190	-	-	1420	-	-
Stage 1	~ 204	237	-	703	661	-	-	-	-	-	-	-
Stage 2	696	660	-	172	236	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 49	60	682	21	60	889	1190	-	-	1420	-	-
Mov Cap-2 Maneuver	~ 49	60	-	21	60	-	-	-	-	-	-	-
Stage 1	~ 190	141	-	654	615	-	-	-	-	-	-	-
Stage 2	634	614	-	55	140	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 2293.9	73.5	2.6	4.8
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1190	-	-	86	68	1420	-	-
HCM Lane V/C Ratio	0.063	-	-	5.884	0.235	0.322	-	-
HCM Control Delay (s)	8.2	0	-	$ 2293.9	73.5	8.7	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	55.9	0.8	1.4	-	-

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

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	1	249	35	235	376
Future Vol, veh/h	17	1	249	35	235	376
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	1	249	35	235	376

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1113	267	0	0	284	0
Stage 1	267	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	231	772	-	-	1278	-
Stage 1	778	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	177	772	-	-	1278	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	323	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.5	0	3.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	185	1278	-
HCM Lane V/C Ratio	-	-	0.097	0.184	-
HCM Control Delay (s)	-	-	26.5	8.4	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.7	-

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	269	23	213	329	6
Future Vol, veh/h	8	269	23	213	329	6
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	269	23	213	329	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	236	0	-	0	415	130
Stage 1	-	-	-	-	130	-
Stage 2	-	-	-	-	285	-
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	1331	-	-	-	594	920
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	590	920
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	763	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	18.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	594
HCM Lane V/C Ratio	0.006	-	-	-	0.564
HCM Control Delay (s)	7.7	0	-	-	18.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	3.5

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	95	79	7	232	280
Future Vol, veh/h	6	95	79	7	232	280
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	40	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	95	79	7	232	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	827	83	0	0	86	0
Stage 1	83	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	341	976	-	-	1510	-
Stage 1	940	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	279	976	-	-	1510	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	384	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	3.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	279	976	1510	-
HCM Lane V/C Ratio	-	-	0.022	0.097	0.154	-
HCM Control Delay (s)	-	-	18.2	9.1	7.8	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.3	0.5	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	206	124	340	181	1
Future Vol, veh/h	4	206	124	340	181	1
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	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	206	124	340	181	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	464	0	-	0	338	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	214	-
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	1097	-	-	-	658	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	822	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1097	-	-	-	655	927
Mov Cap-2 Maneuver	-	-	-	-	655	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	822	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1097	-	-	-	656
HCM Lane V/C Ratio	0.004	-	-	-	0.277
HCM Control Delay (s)	8.3	0	-	-	12.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.1

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	44	337	416	137	74	42
Future Vol, veh/h	44	337	416	137	74	42
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	40
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	337	416	137	74	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	553	0	-	0	910	485
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	425	-
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	1017	-	-	-	305	582
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1017	-	-	-	289	582
Mov Cap-2 Maneuver	-	-	-	-	289	-
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	659	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1017	-	-	-	289	582
HCM Lane V/C Ratio	0.043	-	-	-	0.256	0.072
HCM Control Delay (s)	8.7	-	-	-	21.7	11.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	145	0	90	0	0	0	280	1089	0	0	3	1101
Future Volume (veh/h)	145	0	90	0	0	0	280	1089	0	0	3	1101
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	0		1870	1870
Adj Flow Rate, veh/h	145	0	90				280	1089	0		3	1101
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	2	2	2				2	2	0		2	2
Cap, veh/h	600	0	274				335	2440	0		59	1540
Arrive On Green	0.17	0.00	0.17				0.19	0.69	0.00		0.44	0.44
Sat Flow, veh/h	3456	0	1580				1781	3647	0		2	3481
Grp Volume(v), veh/h	145	0	90				280	1089	0		592	512
Grp Sat Flow(s),veh/h/ln	1728	0	1580				1781	1777	0		1866	1617
Q Serve(g_s), s	2.3	0.0	3.1				9.4	8.6	0.0		0.0	16.1
Cycle Q Clear(g_c), s	2.3	0.0	3.1				9.4	8.6	0.0		16.1	16.1
Prop In Lane	1.00		1.00				1.00		0.00		0.01	
Lane Grp Cap(c), veh/h	600	0	274				335	2440	0		884	715
V/C Ratio(X)	0.24	0.00	0.33				0.84	0.45	0.00		0.67	0.72
Avail Cap(c_a), veh/h	1693	0	774				1159	4013	0		1161	958
HCM Platoon Ratio	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	1.00	0.00		1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	22.5				24.4	4.4	0.0		14.2	14.2
Incr Delay (d2), s/veh	0.1	0.0	0.3				2.1	0.2	0.0		1.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.1				3.7	1.5	0.0		5.6	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	0.0	22.8				26.5	4.6	0.0		15.5	16.4
LnGrp LOS	C	A	C				C	A	A		B	B
Approach Vol, veh/h		235						1369				1203
Approach Delay, s/veh		22.5						9.1				15.4
Approach LOS		C						A				B

Timer - Assigned Phs		3	4		6		8				
Phs Duration (G+Y+Rc), s		15.2	32.7		14.3		47.9				
Change Period (Y+Rc), s		3.5	* 5.2		3.5		5.2				
Max Green Setting (Gmax), s		40.5	* 37		30.5		70.3				
Max Q Clear Time (g_c+I1), s		11.4	18.1		5.1		10.6				
Green Ext Time (p_c), s		0.4	9.4		0.6		14.4				

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	137
Future Volume (veh/h)	137
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	99
Peak Hour Factor	1.00
Percent Heavy Veh, %	2
Cap, veh/h	697
Arrive On Green	0.44
Sat Flow, veh/h	1576
Grp Volume(v), veh/h	99
Grp Sat Flow(s),veh/h/ln	1576
Q Serve(g_s), s	2.3
Cycle Q Clear(g_c), s	2.3
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	697
V/C Ratio(X)	0.14
Avail Cap(c_a), veh/h	934
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	10.3
Incr Delay (d2), s/veh	0.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.7
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	10.5
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	284	41	76	18	50	11	10	60	70	10	20
Future Volume (veh/h)	20	284	41	76	18	50	11	10	60	70	10	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.95	1.00		0.97
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	284	16	76	18	50	11	10	60	70	10	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	880	374	121	123	341	25	34	206	115	112	223
Arrive On Green	0.02	0.25	0.25	0.07	0.29	0.29	0.01	0.15	0.15	0.06	0.21	0.21
Sat Flow, veh/h	1781	3554	1510	1781	423	1174	1781	221	1327	1781	545	1089
Grp Volume(v), veh/h	20	284	16	76	0	68	11	0	70	70	0	30
Grp Sat Flow(s),veh/h/ln	1781	1777	1510	1781	0	1597	1781	0	1548	1781	0	1634
Q Serve(g_s), s	0.5	3.0	0.4	1.9	0.0	1.4	0.3	0.0	1.8	1.8	0.0	0.7
Cycle Q Clear(g_c), s	0.5	3.0	0.4	1.9	0.0	1.4	0.3	0.0	1.8	1.8	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.86	1.00		0.67
Lane Grp Cap(c), veh/h	44	880	374	121	0	464	25	0	240	115	0	335
V/C Ratio(X)	0.46	0.32	0.04	0.63	0.00	0.15	0.43	0.00	0.29	0.61	0.00	0.09
Avail Cap(c_a), veh/h	214	1840	782	409	0	1029	370	0	859	370	0	892
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	14.1	13.1	20.8	0.0	12.0	22.4	0.0	17.1	20.9	0.0	14.7
Incr Delay (d2), s/veh	7.3	0.1	0.0	2.0	0.0	0.1	4.3	0.0	0.2	5.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	0.1	0.7	0.0	0.4	0.1	0.0	0.6	0.8	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	14.2	13.1	22.8	0.0	12.1	26.7	0.0	17.4	26.0	0.0	14.8
LnGrp LOS	C	B	B	C	A	B	C	A	B	C	A	B
Approach Vol, veh/h		320			144			81			100	
Approach Delay, s/veh		15.1			17.7			18.6			22.6	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	19.2	6.2	13.8	8.6	17.2	8.4	11.5
Change Period (Y+Rc), s	5.5	* 5.9	5.5	4.4	5.5	5.9	5.5	* 4.4
Max Green Setting (Gmax), s	5.5	* 30	9.5	25.0	10.5	23.7	9.5	* 25
Max Q Clear Time (g_c+I1), s	2.5	3.4	2.3	2.7	3.9	5.0	3.8	3.8
Green Ext Time (p_c), s	0.0	0.2	0.0	0.1	0.0	0.9	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	625	1255	1013	169	1007	389	707	1424	159	259	1121	319
Future Volume (veh/h)	625	1255	1013	169	1007	389	707	1424	159	259	1121	319
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	625	1255	832	169	1007	220	707	1424	67	259	1121	280
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	704	1595	494	374	1432	445	415	1569	853	375	1510	690
Arrive On Green	0.14	0.31	0.31	0.11	0.28	0.28	0.12	0.30	0.30	0.11	0.29	0.29
Sat Flow, veh/h	5063	5147	1593	3483	5147	1598	3483	5147	2798	3483	5147	1594
Grp Volume(v), veh/h	625	1255	832	169	1007	220	707	1424	67	259	1121	280
Grp Sat Flow(s),veh/h/ln	1688	1716	1593	1742	1716	1598	1742	1716	1399	1742	1716	1594
Q Serve(g_s), s	15.8	28.9	40.3	5.9	22.8	15.0	15.5	34.6	2.2	9.3	25.6	15.7
Cycle Q Clear(g_c), s	15.8	28.9	40.3	5.9	22.8	15.0	15.5	34.6	2.2	9.3	25.6	15.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	704	1595	494	374	1432	445	415	1569	853	375	1510	690
V/C Ratio(X)	0.89	0.79	1.68	0.45	0.70	0.49	1.70	0.91	0.08	0.69	0.74	0.41
Avail Cap(c_a), veh/h	759	1595	494	375	1432	445	415	1569	853	375	1510	690
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)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	40.9	44.8	54.4	42.1	39.3	57.3	43.4	32.2	55.9	41.5	25.4
Incr Delay (d2), s/veh	1.2	0.2	309.0	0.3	1.3	0.3	326.3	9.2	0.2	4.5	3.3	1.8
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	6.7	12.0	57.7	2.6	9.7	5.8	25.5	15.5	0.8	4.2	11.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.1	41.2	353.8	54.7	43.4	39.6	383.5	52.6	32.4	60.4	44.8	27.2
LnGrp LOS	E	D	F	D	D	D	F	D	C	E	D	C
Approach Vol, veh/h		2712			1396			2198			1660	
Approach Delay, s/veh		140.5			44.2			158.5			44.3	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.6	41.9	21.0	43.5	19.5	46.0	19.5	45.0
Change Period (Y+Rc), s	5.5	* 5.7	5.5	* 5.4	5.5	* 5.7	5.5	* 5.4
Max Green Setting (Gmax), s	19.5	* 35	15.5	* 38	14.0	* 40	14.0	* 40
Max Q Clear Time (g_c+I1), s	17.8	24.8	17.5	27.6	7.9	42.3	11.3	36.6
Green Ext Time (p_c), s	0.3	3.7	0.0	4.1	0.1	0.0	0.1	2.7

Intersection Summary	
HCM 6th Ctrl Delay	108.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1625	348	128	799	244	140	5	120	70	9	5
Future Volume (veh/h)	2	1625	348	128	799	244	140	5	120	70	9	5
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		0.99	1.00		0.99
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	1625	282	128	799	172	140	5	19	70	9	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	2580	799	176	3036	939	193	237	199	349	219	185
Arrive On Green	0.01	0.51	0.51	0.10	0.59	0.59	0.11	0.13	0.13	0.10	0.12	0.12
Sat Flow, veh/h	3456	5106	1582	1781	5106	1580	1781	1870	1570	3563	1870	1577
Grp Volume(v), veh/h	2	1625	282	128	799	172	140	5	19	70	9	1
Grp Sat Flow(s),veh/h/ln	1728	1702	1582	1781	1702	1580	1781	1870	1570	1781	1870	1577
Q Serve(g_s), s	0.1	27.7	12.9	8.4	9.0	5.9	9.1	0.3	1.3	2.2	0.5	0.1
Cycle Q Clear(g_c), s	0.1	27.7	12.9	8.4	9.0	5.9	9.1	0.3	1.3	2.2	0.5	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	24	2580	799	176	3036	939	193	237	199	349	219	185
V/C Ratio(X)	0.08	0.63	0.35	0.73	0.26	0.18	0.72	0.02	0.10	0.20	0.04	0.01
Avail Cap(c_a), veh/h	375	3057	947	360	3509	1086	354	797	669	408	640	540
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.1	21.5	17.8	52.4	11.7	11.0	51.6	45.8	46.2	49.7	46.9	46.7
Incr Delay (d2), s/veh	0.5	0.6	0.5	2.2	0.1	0.2	1.9	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.4	4.7	3.7	3.2	2.1	4.1	0.1	0.5	1.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	22.1	18.4	54.5	11.8	11.2	53.6	45.8	46.3	49.8	46.9	46.7
LnGrp LOS	E	C	B	D	B	B	D	D	D	D	D	D
Approach Vol, veh/h		1909			1099			164			80	
Approach Delay, s/veh		21.6			16.7			52.5			49.4	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	76.7	18.2	18.9	16.6	66.0	17.0	20.1
Change Period (Y+Rc), s	* 5.1	* 5.5	* 5.2	* 4.9	* 4.8	* 5.5	* 5.3	4.9
Max Green Setting (Gmax), s	* 13	* 82	* 24	* 41	* 24	* 72	* 14	51.0
Max Q Clear Time (g_c+I1), s	2.1	11.0	11.1	2.5	10.4	29.7	4.2	3.3
Green Ext Time (p_c), s	0.0	14.9	0.1	0.0	0.1	30.8	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	1359	314	208	550	382	637	1810	68	438	1781	58
Future Volume (veh/h)	165	1359	314	208	550	382	637	1810	68	438	1781	58
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	165	1359	192	208	550	150	637	1810	17	438	1781	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	398	1566	484	399	1091	487	473	1695	416	489	1724	424
Arrive On Green	0.12	0.31	0.31	0.12	0.31	0.31	0.14	0.26	0.26	0.14	0.27	0.27
Sat Flow, veh/h	3456	5106	1579	3456	3554	1585	3456	6434	1580	3456	6434	1583
Grp Volume(v), veh/h	165	1359	192	208	550	150	637	1810	17	438	1781	15
Grp Sat Flow(s),veh/h/ln	1728	1702	1579	1728	1777	1585	1728	1609	1580	1728	1609	1583
Q Serve(g_s), s	5.8	32.7	12.5	7.4	16.5	9.4	17.8	34.2	1.0	16.2	34.8	0.9
Cycle Q Clear(g_c), s	5.8	32.7	12.5	7.4	16.5	9.4	17.8	34.2	1.0	16.2	34.8	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	398	1566	484	399	1091	487	473	1695	416	489	1724	424
V/C Ratio(X)	0.41	0.87	0.40	0.52	0.50	0.31	1.35	1.07	0.04	0.90	1.03	0.04
Avail Cap(c_a), veh/h	399	1599	494	399	1121	500	473	1695	416	529	1724	424
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)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	42.6	35.6	54.1	36.9	34.5	56.1	47.9	35.7	54.9	47.6	35.2
Incr Delay (d2), s/veh	0.2	4.5	0.8	0.6	0.5	0.5	169.4	42.6	0.2	16.1	30.8	0.2
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	2.5	13.9	4.8	3.2	7.1	3.6	18.7	18.3	0.4	8.0	17.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	47.1	36.4	54.7	37.4	35.0	225.5	90.5	35.8	71.0	78.3	35.3
LnGrp LOS	D	D	D	D	D	C	F	F	D	E	F	D
Approach Vol, veh/h		1716			908			2464			2234	
Approach Delay, s/veh		46.5			41.0			125.0			76.6	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	46.0	23.9	39.6	20.5	46.0	23.3	40.2
Change Period (Y+Rc), s	5.5	* 6.1	5.5	* 5.4	5.5	* 6.1	5.5	* 5.4
Max Green Setting (Gmax), s	15.0	* 41	19.9	* 32	15.0	* 41	17.8	* 34
Max Q Clear Time (g_c+I1), s	7.8	18.5	18.2	36.2	9.4	34.7	19.8	36.8
Green Ext Time (p_c), s	0.1	5.4	0.2	0.0	0.2	5.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	81.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	305	25	88	291	384	4	29	44	275	72	98
Future Volume (veh/h)	108	305	25	88	291	384	4	29	44	275	72	98
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		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	305	25	88	291	219	4	29	3	275	72	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	404	33	262	505	426	13	92	89	402	422	351
Arrive On Green	0.11	0.24	0.24	0.15	0.27	0.27	0.06	0.06	0.06	0.23	0.23	0.23
Sat Flow, veh/h	1781	1705	140	1781	1870	1579	225	1634	1585	1781	1870	1557
Grp Volume(v), veh/h	108	0	330	88	291	219	33	0	3	275	72	25
Grp Sat Flow(s),veh/h/ln	1781	0	1845	1781	1870	1579	1859	0	1585	1781	1870	1557
Q Serve(g_s), s	2.6	0.0	7.6	2.0	6.2	5.4	0.8	0.0	0.1	6.5	1.4	0.6
Cycle Q Clear(g_c), s	2.6	0.0	7.6	2.0	6.2	5.4	0.8	0.0	0.1	6.5	1.4	0.6
Prop In Lane	1.00		0.08	1.00		1.00	0.12		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	0	437	262	505	426	104	0	89	402	422	351
V/C Ratio(X)	0.53	0.00	0.75	0.34	0.58	0.51	0.32	0.00	0.03	0.68	0.17	0.07
Avail Cap(c_a), veh/h	1148	0	3818	876	3584	3026	873	0	745	2541	2668	2221
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	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.1	0.0	16.2	17.5	14.4	14.2	20.8	0.0	20.4	16.2	14.3	14.0
Incr Delay (d2), s/veh	0.8	0.0	1.0	0.3	0.4	0.4	0.6	0.0	0.1	0.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	2.7	0.7	2.1	1.6	0.3	0.0	0.0	2.3	0.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	0.0	17.2	17.8	14.8	14.5	21.4	0.0	20.5	17.0	14.3	14.0
LnGrp LOS	B	A	B	B	B	B	C	A	C	B	B	B
Approach Vol, veh/h		438			598			36			372	
Approach Delay, s/veh		17.9			15.2			21.3			16.3	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	17.0		14.0	10.2	15.4		6.1				
Change Period (Y+Rc), s	3.5	* 4.6		3.7	3.5	* 4.6		3.5				
Max Green Setting (Gmax), s	29.5	* 88		65.3	22.5	* 95		21.5				
Max Q Clear Time (g_c+I1), s	4.6	8.2		8.5	4.0	9.6		2.8				
Green Ext Time (p_c), s	0.1	1.4		0.7	0.1	1.2		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	606	507	145	253	355	494	140	1391	325	1016	1086	436
Future Volume (veh/h)	606	507	145	253	355	494	140	1391	325	1016	1086	436
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	606	507	103	253	355	196	140	1391	290	1016	1086	265
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	420	790	491	319	683	300	317	1230	676	646	1568	686
Arrive On Green	0.12	0.22	0.22	0.09	0.19	0.19	0.09	0.35	0.35	0.19	0.44	0.44
Sat Flow, veh/h	3456	3554	1555	3456	3554	1560	3456	3554	1530	3456	3554	1555
Grp Volume(v), veh/h	606	507	103	253	355	196	140	1391	290	1016	1086	265
Grp Sat Flow(s),veh/h/ln	1728	1777	1555	1728	1777	1560	1728	1777	1530	1728	1777	1555
Q Serve(g_s), s	15.8	16.8	6.3	9.3	11.7	15.1	5.0	45.0	17.1	24.3	32.0	14.9
Cycle Q Clear(g_c), s	15.8	16.8	6.3	9.3	11.7	15.1	5.0	45.0	17.1	24.3	32.0	14.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	420	790	491	319	683	300	317	1230	676	646	1568	686
V/C Ratio(X)	1.44	0.64	0.21	0.79	0.52	0.65	0.44	1.13	0.43	1.57	0.69	0.39
Avail Cap(c_a), veh/h	420	820	504	505	902	396	779	1230	676	646	1568	686
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.1	45.9	32.8	57.8	47.1	48.5	55.9	42.5	25.3	52.8	29.2	24.5
Incr Delay (d2), s/veh	212.4	1.9	0.3	1.7	0.8	3.3	0.4	69.6	2.0	265.2	2.5	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	19.2	7.5	2.4	4.1	5.2	6.0	2.1	30.7	6.4	34.0	13.5	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	269.5	47.7	33.0	59.5	48.0	51.8	56.2	112.1	27.3	318.1	31.7	26.1
LnGrp LOS	F	D	C	E	D	D	E	F	C	F	C	C
Approach Vol, veh/h		1216			804			1821			2367	
Approach Delay, s/veh		157.0			52.5			94.3			154.0	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.9	30.1	16.6	62.4	17.0	34.0	29.0	50.0
Change Period (Y+Rc), s	* 5.1	* 5.1	* 4.7	* 5	5.0	* 5.1	* 4.7	* 5
Max Green Setting (Gmax), s	* 16	* 33	* 29	* 32	19.0	* 30	* 24	* 37
Max Q Clear Time (g_c+I1), s	17.8	17.1	7.0	34.0	11.3	18.8	26.3	47.0
Green Ext Time (p_c), s	0.0	3.5	0.2	0.0	0.3	3.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	123.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	636	1231	50	48	573	206	216	0	208	218	30	70
Future Volume (veh/h)	636	1231	50	48	573	206	216	0	208	218	30	70
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		0.99	1.00		0.97	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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	636	1231	22	48	573	60	216	0	33	239	0	8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	592	1691	753	163	1444	638	485	0	210	424	0	189
Arrive On Green	0.34	0.94	0.94	0.09	0.40	0.40	0.14	0.00	0.14	0.12	0.00	0.12
Sat Flow, veh/h	3483	3582	1595	1795	3582	1584	3591	0	1555	3591	0	1598
Grp Volume(v), veh/h	636	1231	22	48	573	60	216	0	33	239	0	8
Grp Sat Flow(s),veh/h/ln	1742	1791	1595	1795	1791	1584	1795	0	1555	1795	0	1598
Q Serve(g_s), s	18.7	6.7	0.1	2.7	12.5	2.6	6.1	0.0	2.1	6.9	0.0	0.5
Cycle Q Clear(g_c), s	18.7	6.7	0.1	2.7	12.5	2.6	6.1	0.0	2.1	6.9	0.0	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	592	1691	753	163	1444	638	485	0	210	424	0	189
V/C Ratio(X)	1.07	0.73	0.03	0.29	0.40	0.09	0.45	0.00	0.16	0.56	0.00	0.04
Avail Cap(c_a), veh/h	592	1691	753	212	1444	638	1110	0	481	424	0	189
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	1.8	1.6	46.7	23.3	20.4	43.8	0.0	42.0	45.8	0.0	43.0
Incr Delay (d2), s/veh	56.9	2.5	0.1	0.3	0.7	0.2	0.2	0.0	0.1	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	1.5	0.0	1.2	5.2	1.0	2.7	0.0	0.8	3.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.2	4.3	1.7	47.0	24.0	20.6	44.0	0.0	42.2	46.9	0.0	43.0
LnGrp LOS	F	A	A	D	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1889			681			249			247	
Approach Delay, s/veh		34.2			25.3			43.8			46.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.0	48.9		18.1	15.4	56.5		20.0				
Change Period (Y+Rc), s	* 4.3	* 4.6		* 5.1	* 5.4	* 4.6		5.1				
Max Green Setting (Gmax), s	* 18	* 25		* 13	* 13	* 30		34.0				
Max Q Clear Time (g_c+I1), s	20.7	14.5		8.9	4.7	8.7		8.1				
Green Ext Time (p_c), s	0.0	1.9		0.2	0.0	6.0		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	588	473	72	243	434	168	122	1242	336	272	770	194
Future Volume (veh/h)	588	473	72	243	434	168	122	1242	336	272	770	194
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		0.98	1.00		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	588	473	21	243	434	44	122	1242	225	272	770	116
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	506	1259	559	377	1126	500	368	1089	477	377	1098	481
Arrive On Green	0.15	0.35	0.35	0.11	0.32	0.32	0.11	0.31	0.31	0.11	0.31	0.31
Sat Flow, veh/h	3456	3554	1578	3456	3554	1578	3456	3554	1556	3456	3554	1557
Grp Volume(v), veh/h	588	473	21	243	434	44	122	1242	225	272	770	116
Grp Sat Flow(s),veh/h/ln	1728	1777	1578	1728	1777	1578	1728	1777	1556	1728	1777	1557
Q Serve(g_s), s	16.1	10.9	1.0	7.4	10.5	2.2	3.6	33.7	12.9	8.4	21.0	6.1
Cycle Q Clear(g_c), s	16.1	10.9	1.0	7.4	10.5	2.2	3.6	33.7	12.9	8.4	21.0	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	506	1259	559	377	1126	500	368	1089	477	377	1098	481
V/C Ratio(X)	1.16	0.38	0.04	0.64	0.39	0.09	0.33	1.14	0.47	0.72	0.70	0.24
Avail Cap(c_a), veh/h	506	1259	559	377	1126	500	377	1089	477	377	1098	481
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)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	26.5	23.2	47.0	29.2	26.4	45.5	38.1	30.9	47.4	33.5	28.4
Incr Delay (d2), s/veh	78.1	0.2	0.0	3.0	1.0	0.3	0.2	74.7	0.3	5.8	1.7	0.1
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	12.2	4.5	0.4	3.3	4.5	0.8	1.5	25.3	4.7	3.8	9.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.1	26.6	23.3	49.9	30.2	26.7	45.7	112.9	31.2	53.2	35.2	28.5
LnGrp LOS	F	C	C	D	C	C	D	F	C	D	D	C
Approach Vol, veh/h		1082			721			1589			1158	
Approach Delay, s/veh		80.1			36.7			96.1			38.8	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	39.6	16.6	39.4	16.9	43.8	16.9	39.1
Change Period (Y+Rc), s	* 4.9	* 4.6	* 4.9	* 5.4	* 4.9	* 4.6	* 4.9	* 5.4
Max Green Setting (Gmax), s	* 16	* 29	* 12	* 34	* 12	* 33	* 12	* 34
Max Q Clear Time (g_c+I1), s	18.1	12.5	5.6	23.0	9.4	12.9	10.4	35.7
Green Ext Time (p_c), s	0.0	1.6	0.1	2.7	0.1	1.9	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	68.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	55	90	0	78	453
Future Vol, veh/h	0	55	90	0	78	453
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	55	90	0	78	453

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	699	90	0	0	90	0
Stage 1	90	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	406	968	-	-	1505	-
Stage 1	934	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	378	968	-	-	1505	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	506	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	1.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	968	1505	-
HCM Lane V/C Ratio	-	-	0.057	0.052	-
HCM Control Delay (s)	-	-	8.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	30	77	10	30	54
Future Vol, veh/h	28	30	77	10	30	54
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	185	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	30	77	10	30	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	97	0	-	0	188	102
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	96	-
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	1496	-	-	-	801	953
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1482	-	-	-	770	935
Mov Cap-2 Maneuver	-	-	-	-	770	-
Stage 1	-	-	-	-	905	-
Stage 2	-	-	-	-	919	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1482	-	-	-	869
HCM Lane V/C Ratio	0.019	-	-	-	0.097
HCM Control Delay (s)	7.5	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

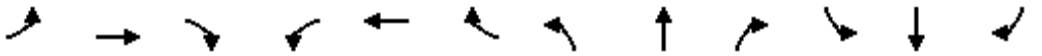
Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	139	193	297	313	50
Future Vol, veh/h	40	139	193	297	313	50
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	185	-	-	-	185	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	139	193	297	313	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	500	0	-	0	581	362
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	229	-
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	1064	-	-	-	476	683
Stage 1	-	-	-	-	712	-
Stage 2	-	-	-	-	809	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1054	-	-	-	449	670
Mov Cap-2 Maneuver	-	-	-	-	449	-
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	26.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1054	-	-	-	449	670
HCM Lane V/C Ratio	0.038	-	-	-	0.697	0.075
HCM Control Delay (s)	8.6	-	-	-	29.5	10.8
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	5.3	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	402	20	80	425	240	45	0	55	280	0	20
Future Volume (veh/h)	30	402	20	80	425	240	45	0	55	280	0	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.94	1.00		0.96
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	402	20	80	425	106	45	0	9	280	0	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	505	25	282	585	475	117	0	261	377	0	488
Arrive On Green	0.06	0.29	0.28	0.08	0.31	0.31	0.07	0.00	0.17	0.21	0.00	0.31
Sat Flow, veh/h	1781	1764	88	3456	1870	1519	1781	0	1491	1781	0	1520
Grp Volume(v), veh/h	30	0	422	80	425	106	45	0	9	280	0	20
Grp Sat Flow(s),veh/h/ln	1781	0	1852	1728	1870	1519	1781	0	1491	1781	0	1520
Q Serve(g_s), s	1.1	0.0	13.7	1.4	13.2	3.4	1.6	0.0	0.3	9.6	0.0	0.6
Cycle Q Clear(g_c), s	1.1	0.0	13.7	1.4	13.2	3.4	1.6	0.0	0.3	9.6	0.0	0.6
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	0	530	282	585	475	117	0	261	377	0	488
V/C Ratio(X)	0.31	0.00	0.80	0.28	0.73	0.22	0.38	0.00	0.03	0.74	0.00	0.04
Avail Cap(c_a), veh/h	191	0	993	424	1032	838	276	0	685	846	0	1185
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	0.0	21.5	28.2	19.9	16.6	29.2	0.0	22.5	24.1	0.0	15.4
Incr Delay (d2), s/veh	1.7	0.0	2.8	0.5	1.7	0.2	2.1	0.0	0.1	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	5.8	0.6	5.4	1.1	0.7	0.0	0.1	4.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	0.0	24.3	28.7	21.7	16.8	31.3	0.0	22.5	27.0	0.0	15.4
LnGrp LOS	C	A	C	C	C	B	C	A	C	C	A	B
Approach Vol, veh/h		452			611			54			300	
Approach Delay, s/veh		24.8			21.7			29.8			26.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.8	15.4	9.3	22.7	8.3	24.9	7.6	24.4
Change Period (Y+Rc), s	5.5	4.4	5.5	4.4	5.5	4.4	5.5	4.4
Max Green Setting (Gmax), s	29.5	29.6	6.5	34.6	8.6	50.5	5.5	35.6
Max Q Clear Time (g_c+I1), s	11.6	2.3	3.4	15.7	3.6	2.6	3.1	15.2
Green Ext Time (p_c), s	0.8	0.0	0.0	2.4	0.0	0.1	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	337	3	358	4	3	5	256	1148	8	9	1034	348
Future Volume (veh/h)	337	3	358	4	3	5	256	1148	8	9	1034	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.95	1.00		0.95
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	339	0	88	4	3	5	256	1148	8	9	1034	151
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	601	0	253	85	64	107	288	1656	12	107	1217	513
Arrive On Green	0.17	0.00	0.17	0.15	0.15	0.15	0.16	0.46	0.46	0.06	0.34	0.34
Sat Flow, veh/h	3563	0	1501	556	417	694	1781	3616	25	1781	3554	1500
Grp Volume(v), veh/h	339	0	88	12	0	0	256	564	592	9	1034	151
Grp Sat Flow(s),veh/h/ln	1781	0	1501	1667	0	0	1781	1777	1864	1781	1777	1500
Q Serve(g_s), s	9.4	0.0	5.6	0.7	0.0	0.0	15.2	27.2	27.2	0.5	29.1	7.9
Cycle Q Clear(g_c), s	9.4	0.0	5.6	0.7	0.0	0.0	15.2	27.2	27.2	0.5	29.1	7.9
Prop In Lane	1.00		1.00	0.33		0.42	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	601	0	253	256	0	0	288	814	854	107	1217	513
V/C Ratio(X)	0.56	0.00	0.35	0.05	0.00	0.00	0.89	0.69	0.69	0.08	0.85	0.29
Avail Cap(c_a), veh/h	1091	0	460	518	0	0	357	986	1035	107	1425	601
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	0.0	39.6	39.0	0.0	0.0	44.2	23.2	23.2	47.8	32.9	25.9
Incr Delay (d2), s/veh	0.8	0.0	0.8	0.1	0.0	0.0	19.7	1.6	1.6	0.3	4.5	0.3
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	4.1	0.0	2.1	0.3	0.0	0.0	8.1	11.0	11.6	0.2	12.7	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.0	0.0	40.4	39.0	0.0	0.0	63.9	24.8	24.8	48.1	37.3	26.2
LnGrp LOS	D	A	D	D	A	A	E	C	C	D	D	C
Approach Vol, veh/h		427			12			1412			1194	
Approach Delay, s/veh		41.7			39.0			31.9			36.0	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	54.1		22.6	22.9	41.7		20.6
Change Period (Y+Rc), s	5.5	4.8		4.4	5.5	4.8		4.5
Max Green Setting (Gmax), s	5.0	59.8		33.0	21.6	43.2		33.0
Max Q Clear Time (g_c+I1), s	2.5	29.2		11.4	17.2	31.1		2.7
Green Ext Time (p_c), s	0.0	8.5		1.5	0.3	5.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	58	0	0	18	64	1394	30	5	1355	36
Future Vol, veh/h	0	0	58	0	0	18	64	1394	30	5	1355	36
Conflicting Peds, #/hr	0	0	10	0	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	220	-	160	160	-	160
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	58	0	0	18	64	1394	30	5	1355	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	698	-	-	717	1401	0	0	1434	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	383	0	0	372	484	-	-	470	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	376	-	-	365	479	-	-	466	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	15.4	0.6	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	479	-	-	376	365	466	-	-
HCM Lane V/C Ratio	0.134	-	-	0.154	0.049	0.011	-	-
HCM Control Delay (s)	13.7	-	-	16.3	15.4	12.8	-	-
HCM Lane LOS	B	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.5	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	562	55	63	506	50	39
Future Vol, veh/h	562	55	63	506	50	39
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	185	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	562	55	63	506	50	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	627	0	1232	600
Stage 1	-	-	-	-	600	-
Stage 2	-	-	-	-	632	-
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	-	-	955	-	196	501
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	530	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	946	-	181	496
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	494	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	27
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	251	-	-	946	-
HCM Lane V/C Ratio	0.355	-	-	0.067	-
HCM Control Delay (s)	27	-	-	9.1	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.5	-	-	0.2	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	2	382	2	4	445
Future Vol, veh/h	4	2	382	2	4	445
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	382	2	4	445

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	856	403	0	0	394	0
Stage 1	393	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	328	647	-	-	1165	-
Stage 1	682	-	-	-	-	-
Stage 2	634	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	320	635	-	-	1154	-
Mov Cap-2 Maneuver	320	-	-	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	625	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	383	1154	-
HCM Lane V/C Ratio	-	-	0.016	0.003	-
HCM Control Delay (s)	-	-	14.5	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	2	0	10	2	0	0	7	4	0	16	3
Future Vol, veh/h	1	2	0	10	2	0	0	7	4	0	16	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	0	10	2	0	0	7	4	0	16	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	12	0	0	56	46	22	52	46	22
Stage 1	-	-	-	-	-	-	14	14	-	32	32	-
Stage 2	-	-	-	-	-	-	42	32	-	20	14	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1607	-	-	941	846	1055	947	846	1055
Stage 1	-	-	-	-	-	-	1006	884	-	984	868	-
Stage 2	-	-	-	-	-	-	972	868	-	999	884	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1592	-	-	1592	-	-	902	823	1035	915	823	1035
Mov Cap-2 Maneuver	-	-	-	-	-	-	902	823	-	915	823	-
Stage 1	-	-	-	-	-	-	996	874	-	974	854	-
Stage 2	-	-	-	-	-	-	936	854	-	977	874	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	6.1	9.1	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	889	1592	-	-	1592	-	-	851
HCM Lane V/C Ratio	0.012	0.001	-	-	0.006	-	-	0.022
HCM Control Delay (s)	9.1	7.3	-	-	7.3	-	-	9.3
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

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	6	0	70	12	3	0	114	45	8	50	0
Future Vol, veh/h	0	6	0	70	12	3	0	114	45	8	50	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	0	70	12	3	0	114	45	8	50	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	25	0	0	16	0	0	205	181	26	260	180	34
Stage 1	-	-	-	-	-	-	16	16	-	164	164	-
Stage 2	-	-	-	-	-	-	189	165	-	96	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1589	-	-	1602	-	-	753	713	1050	693	714	1039
Stage 1	-	-	-	-	-	-	1004	882	-	838	762	-
Stage 2	-	-	-	-	-	-	813	762	-	911	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1574	-	-	1587	-	-	673	668	1030	547	669	1019
Mov Cap-2 Maneuver	-	-	-	-	-	-	673	668	-	547	669	-
Stage 1	-	-	-	-	-	-	994	873	-	830	721	-
Stage 2	-	-	-	-	-	-	716	721	-	750	873	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	6.1	11.2	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	742	1574	-	-	1587	-	-	649
HCM Lane V/C Ratio	0.214	-	-	-	0.044	-	-	0.089
HCM Control Delay (s)	11.2	0	-	-	7.4	-	-	11.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	7	7	144	13	7	162	1606	193	11	1443	88
Future Volume (veh/h)	50	7	7	144	13	7	162	1606	193	11	1443	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.97
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	7	7	144	13	7	162	1606	152	11	1443	88
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	117	117	173	226	122	190	2041	881	23	1631	99
Arrive On Green	0.04	0.14	0.14	0.10	0.20	0.20	0.11	0.57	0.57	0.01	0.48	0.48
Sat Flow, veh/h	1781	839	839	1781	1129	608	1781	3554	1535	1781	3395	206
Grp Volume(v), veh/h	50	0	14	144	0	20	162	1606	152	11	752	779
Grp Sat Flow(s),veh/h/ln	1781	0	1677	1781	0	1737	1781	1777	1535	1781	1777	1825
Q Serve(g_s), s	3.1	0.0	0.8	8.9	0.0	1.0	10.1	39.5	5.3	0.7	43.0	43.6
Cycle Q Clear(g_c), s	3.1	0.0	0.8	8.9	0.0	1.0	10.1	39.5	5.3	0.7	43.0	43.6
Prop In Lane	1.00		0.50	1.00		0.35	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	65	0	235	173	0	348	190	2041	881	23	853	876
V/C Ratio(X)	0.77	0.00	0.06	0.83	0.00	0.06	0.85	0.79	0.17	0.48	0.88	0.89
Avail Cap(c_a), veh/h	215	0	492	222	0	515	214	2153	930	79	942	968
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	0.0	42.0	49.9	0.0	36.4	49.4	18.6	11.3	55.2	26.4	26.5
Incr Delay (d2), s/veh	17.4	0.0	0.1	18.8	0.0	0.1	24.5	1.9	0.1	14.5	9.2	9.6
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	1.7	0.0	0.3	4.9	0.0	0.5	5.7	15.2	1.8	0.4	19.1	19.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	0.0	42.1	68.8	0.0	36.5	73.9	20.5	11.4	69.7	35.5	36.1
LnGrp LOS	E	A	D	E	A	D	E	C	B	E	D	D
Approach Vol, veh/h		64			164			1920			1542	
Approach Delay, s/veh		64.8			64.8			24.3			36.1	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	69.5	16.4	19.8	17.5	58.9	9.6	26.6
Change Period (Y+Rc), s	5.5	4.8	5.5	4.0	5.5	4.8	5.5	4.0
Max Green Setting (Gmax), s	5.0	68.2	14.0	33.0	13.5	59.7	13.6	33.4
Max Q Clear Time (g_c+I1), s	2.7	41.5	10.9	2.8	12.1	45.6	5.1	3.0
Green Ext Time (p_c), s	0.0	14.8	0.1	0.0	0.1	8.5	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	8	32	1	10	19	82	49	1	47	17	52
Future Vol, veh/h	100	8	32	1	10	19	82	49	1	47	17	52
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	8	32	1	10	19	82	49	1	47	17	52
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.9	7.7	8.6	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	62%	100%	0%	100%	0%	41%
Vol Thru, %	37%	0%	20%	0%	34%	15%
Vol Right, %	1%	0%	80%	0%	66%	45%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	132	100	40	1	29	116
LT Vol	82	100	0	1	0	47
Through Vol	49	0	8	0	10	17
RT Vol	1	0	32	0	19	52
Lane Flow Rate	132	100	40	1	29	116
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.169	0.157	0.051	0.002	0.039	0.14
Departure Headway (Hd)	4.62	5.637	4.571	5.761	4.795	4.339
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	777	637	783	621	746	827
Service Time	2.643	3.366	2.299	3.495	2.528	2.362
HCM Lane V/C Ratio	0.17	0.157	0.051	0.002	0.039	0.14
HCM Control Delay	8.6	9.4	7.5	8.5	7.7	8.1
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.6	0.6	0.2	0	0.1	0.5

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	211	16	40	318	48	24	2	34	17	1	3
Future Vol, veh/h	4	211	16	40	318	48	24	2	34	17	1	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	211	16	40	318	48	24	2	34	17	1	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	376	0	0	237	0	0	671	693	239	687	677	362
Stage 1	-	-	-	-	-	-	237	237	-	432	432	-
Stage 2	-	-	-	-	-	-	434	456	-	255	245	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1182	-	-	1330	-	-	370	367	800	361	375	683
Stage 1	-	-	-	-	-	-	766	709	-	602	582	-
Stage 2	-	-	-	-	-	-	600	568	-	749	703	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1171	-	-	1317	-	-	352	348	785	329	356	670
Mov Cap-2 Maneuver	-	-	-	-	-	-	352	348	-	329	356	-
Stage 1	-	-	-	-	-	-	756	700	-	594	559	-
Stage 2	-	-	-	-	-	-	573	545	-	705	694	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.8	13	15.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	512	1171	-	-	1317	-	-	356
HCM Lane V/C Ratio	0.117	0.003	-	-	0.03	-	-	0.059
HCM Control Delay (s)	13	8.1	-	-	7.8	-	-	15.7
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	234	23	89	382	59	23	7	78	16	8	1
Future Vol, veh/h	3	234	23	89	382	59	23	7	78	16	8	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	234	23	89	382	59	23	7	78	16	8	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	451	0	0	267	0	0	866	891	266	904	873	432
Stage 1	-	-	-	-	-	-	262	262	-	600	600	-
Stage 2	-	-	-	-	-	-	604	629	-	304	273	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1109	-	-	1297	-	-	274	282	773	258	289	624
Stage 1	-	-	-	-	-	-	743	691	-	488	490	-
Stage 2	-	-	-	-	-	-	485	475	-	705	684	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1098	-	-	1285	-	-	248	257	758	210	263	612
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	257	-	210	263	-
Stage 1	-	-	-	-	-	-	734	682	-	482	452	-
Stage 2	-	-	-	-	-	-	438	438	-	618	675	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.3	14.5	22.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	485	1098	-	-	1285	-	-	231
HCM Lane V/C Ratio	0.223	0.003	-	-	0.069	-	-	0.108
HCM Control Delay (s)	14.5	8.3	-	-	8	-	-	22.5
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	0.4

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	268	26	67	472	118	24	33	62	43	33	34
Future Vol, veh/h	34	268	26	67	472	118	24	33	62	43	33	34
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	268	26	67	472	118	24	33	62	43	33	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	600	0	0	304	0	0	1068	1093	301	1082	1047	551
Stage 1	-	-	-	-	-	-	359	359	-	675	675	-
Stage 2	-	-	-	-	-	-	709	734	-	407	372	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	977	-	-	1257	-	-	199	214	739	195	228	534
Stage 1	-	-	-	-	-	-	659	627	-	444	453	-
Stage 2	-	-	-	-	-	-	425	426	-	621	619	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	968	-	-	1245	-	-	149	192	725	142	204	524
Mov Cap-2 Maneuver	-	-	-	-	-	-	149	192	-	142	204	-
Stage 1	-	-	-	-	-	-	630	599	-	424	424	-
Stage 2	-	-	-	-	-	-	343	399	-	513	591	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.8	26.5	40.2
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	284	968	-	-	1245	-	-	208
HCM Lane V/C Ratio	0.419	0.035	-	-	0.054	-	-	0.529
HCM Control Delay (s)	26.5	8.9	-	-	8.1	-	-	40.2
HCM Lane LOS	D	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	2	0.1	-	-	0.2	-	-	2.8

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	5	337	27	124	611	49	46	3	135	23	1	1
Future Vol, veh/h	5	337	27	124	611	49	46	3	135	23	1	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	185	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	337	27	124	611	49	46	3	135	23	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	670	0	0	374	0	0	1266	1289	371	1334	1278	656
Stage 1	-	-	-	-	-	-	371	371	-	894	894	-
Stage 2	-	-	-	-	-	-	895	918	-	440	384	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	920	-	-	1184	-	-	146	164	675	131	166	465
Stage 1	-	-	-	-	-	-	649	620	-	336	360	-
Stage 2	-	-	-	-	-	-	335	350	-	596	611	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	911	-	-	1173	-	-	130	143	662	92	145	456
Mov Cap-2 Maneuver	-	-	-	-	-	-	130	143	-	92	145	-
Stage 1	-	-	-	-	-	-	639	611	-	331	319	-
Stage 2	-	-	-	-	-	-	295	310	-	465	602	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.3	30.8	55.2
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	318	911	-	-	1173	-	-	96
HCM Lane V/C Ratio	0.579	0.005	-	-	0.106	-	-	0.26
HCM Control Delay (s)	30.8	9	-	-	8.4	-	-	55.2
HCM Lane LOS	D	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	3.4	0	-	-	0.4	-	-	1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	5	10	1	0	11	56	8	0	48	8
Future Vol, veh/h	2	1	5	10	1	0	11	56	8	0	48	8
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	5	10	1	0	11	56	8	0	48	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	155	158	72	157	158	80	66	0	0	74	0	0
Stage 1	62	62	-	92	92	-	-	-	-	-	-	-
Stage 2	93	96	-	65	66	-	-	-	-	-	-	-
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	812	734	990	809	734	980	1536	-	-	1526	-	-
Stage 1	949	843	-	915	819	-	-	-	-	-	-	-
Stage 2	914	815	-	946	840	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	791	713	971	784	713	961	1521	-	-	1511	-	-
Mov Cap-2 Maneuver	791	713	-	784	713	-	-	-	-	-	-	-
Stage 1	933	835	-	899	804	-	-	-	-	-	-	-
Stage 2	897	800	-	931	832	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.7	1.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1521	-	-	881	777	1511	-	-
HCM Lane V/C Ratio	0.007	-	-	0.009	0.014	-	-	-
HCM Control Delay (s)	7.4	0	-	9.1	9.7	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

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	4	8	11	10	10	24	13	73	4	26	76	8
Future Vol, veh/h	4	8	11	10	10	24	13	73	4	26	76	8
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	11	10	10	24	13	73	4	26	76	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	270	255	100	263	257	95	94	0	0	87	0	0
Stage 1	142	142	-	111	111	-	-	-	-	-	-	-
Stage 2	128	113	-	152	146	-	-	-	-	-	-	-
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	683	649	956	690	647	962	1500	-	-	1509	-	-
Stage 1	861	779	-	894	804	-	-	-	-	-	-	-
Stage 2	876	802	-	850	776	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	632	619	938	649	617	944	1486	-	-	1495	-	-
Mov Cap-2 Maneuver	632	619	-	649	617	-	-	-	-	-	-	-
Stage 1	846	757	-	878	789	-	-	-	-	-	-	-
Stage 2	827	787	-	808	754	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	10	1.1	1.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1486	-	-	742	771	1495	-	-
HCM Lane V/C Ratio	0.009	-	-	0.031	0.057	0.017	-	-
HCM Control Delay (s)	7.4	0	-	10	10	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	69	43	100	4	10	1	95	48	3	4	72	51
Future Vol, veh/h	69	43	100	4	10	1	95	48	3	4	72	51
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	69	43	100	4	10	1	95	48	3	4	72	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	371	367	118	437	391	70	133	0	0	61	0	0
Stage 1	116	116	-	250	250	-	-	-	-	-	-	-
Stage 2	255	251	-	187	141	-	-	-	-	-	-	-
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	586	562	934	530	545	993	1452	-	-	1542	-	-
Stage 1	889	800	-	754	700	-	-	-	-	-	-	-
Stage 2	749	699	-	815	780	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	535	512	916	410	496	974	1438	-	-	1527	-	-
Mov Cap-2 Maneuver	535	512	-	410	496	-	-	-	-	-	-	-
Stage 1	821	790	-	696	646	-	-	-	-	-	-	-
Stage 2	680	645	-	678	770	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	12.7	5	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	658	485	1527	-	-
HCM Lane V/C Ratio	0.066	-	-	0.322	0.031	0.003	-	-
HCM Control Delay (s)	7.7	0	-	13.1	12.7	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.4	0.1	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	2	50	10	1	0	28	183	3	0	151	0
Future Vol, veh/h	0	2	50	10	1	0	28	183	3	0	151	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	50	10	1	0	28	183	3	0	151	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	412	413	171	438	412	205	161	0	0	196	0	0
Stage 1	161	161	-	251	251	-	-	-	-	-	-	-
Stage 2	251	252	-	187	161	-	-	-	-	-	-	-
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	550	529	873	529	530	836	1418	-	-	1377	-	-
Stage 1	841	765	-	753	699	-	-	-	-	-	-	-
Stage 2	753	698	-	815	765	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	530	507	856	479	508	820	1404	-	-	1364	-	-
Mov Cap-2 Maneuver	530	507	-	479	508	-	-	-	-	-	-	-
Stage 1	815	757	-	730	677	-	-	-	-	-	-	-
Stage 2	728	676	-	758	757	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	12.7	1	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	834	481	1364	-	-
HCM Lane V/C Ratio	0.02	-	-	0.062	0.023	-	-	-
HCM Control Delay (s)	7.6	0	-	9.6	12.7	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	8	1	0	13	10	2	59	0	4	48	8
Future Vol, veh/h	2	8	1	0	13	10	2	59	0	4	48	8
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	8	1	0	13	10	2	59	0	4	48	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	175	163	92	168	167	99	76	0	0	79	0	0
Stage 1	80	80	-	83	83	-	-	-	-	-	-	-
Stage 2	95	83	-	85	84	-	-	-	-	-	-	-
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	788	729	965	796	726	957	1523	-	-	1519	-	-
Stage 1	929	828	-	925	826	-	-	-	-	-	-	-
Stage 2	912	826	-	923	825	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	737	699	929	756	696	921	1494	-	-	1490	-	-
Mov Cap-2 Maneuver	737	699	-	756	696	-	-	-	-	-	-	-
Stage 1	910	810	-	907	809	-	-	-	-	-	-	-
Stage 2	870	809	-	893	807	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.8	0.2	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1494	-	-	722	779	1490	-	-
HCM Lane V/C Ratio	0.001	-	-	0.015	0.03	0.003	-	-
HCM Control Delay (s)	7.4	0	-	10.1	9.8	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	19	48	50	66	30
Future Vol, veh/h	40	19	48	50	66	30
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	19	48	50	66	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	267	121	116	0	-	0
Stage 1	101	-	-	-	-	-
Stage 2	166	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	722	930	1473	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	671	895	1445	-	-	-
Mov Cap-2 Maneuver	671	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	847	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	3.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1445	-	730	-	-
HCM Lane V/C Ratio	0.033	-	0.081	-	-
HCM Control Delay (s)	7.6	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	86	61	2	85	91
Future Vol, veh/h	1	86	61	2	85	91
Conflicting Peds, #/hr	20	20	0	20	20	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	86	61	2	85	91

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	363	102	0	0	83	0
Stage 1	82	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	636	953	-	-	1514	-
Stage 1	941	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	576	917	-	-	1485	-
Mov Cap-2 Maneuver	576	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	707	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	3.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	911	1485	-
HCM Lane V/C Ratio	-	-	0.095	0.057	-
HCM Control Delay (s)	-	-	9.4	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

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	36	5	94	90	11	93	99	76	24	26	154	19
Future Vol, veh/h	36	5	94	90	11	93	99	76	24	26	154	19
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	5	94	90	11	93	99	76	24	26	154	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	594	554	204	591	551	128	193	0	0	120	0	0
Stage 1	236	236	-	306	306	-	-	-	-	-	-	-
Stage 2	358	318	-	285	245	-	-	-	-	-	-	-
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	417	440	837	419	442	922	1380	-	-	1468	-	-
Stage 1	767	710	-	704	662	-	-	-	-	-	-	-
Stage 2	660	654	-	722	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	326	383	805	326	385	887	1354	-	-	1440	-	-
Mov Cap-2 Maneuver	326	383	-	326	385	-	-	-	-	-	-	-
Stage 1	693	682	-	636	598	-	-	-	-	-	-	-
Stage 2	525	591	-	609	676	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	17.8	3.9	1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1354	-	-	562	474	1440	-	-
HCM Lane V/C Ratio	0.073	-	-	0.24	0.409	0.018	-	-
HCM Control Delay (s)	7.9	0	-	13.4	17.8	7.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	2	0.1	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	43	0	270	242	57
Future Vol, veh/h	0	43	0	270	242	57
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	43	0	270	242	57

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	311	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	729	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	701	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	701	-	-
HCM Lane V/C Ratio	-	0.061	-	-
HCM Control Delay (s)	-	10.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	42	0	215	279	14
Future Vol, veh/h	0	42	0	215	279	14
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	42	0	215	279	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	306	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	734	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	720	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	720	-	-
HCM Lane V/C Ratio	-	0.058	-	-
HCM Control Delay (s)	-	10.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	25	3	5	18	3	1	8	1	8	8	13
Future Vol, veh/h	7	25	3	5	18	3	1	8	1	8	8	13
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	25	3	5	18	3	1	8	1	8	8	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	41	0	0	48	0	0	121	112	67	115	112	60
Stage 1	-	-	-	-	-	-	61	61	-	50	50	-
Stage 2	-	-	-	-	-	-	60	51	-	65	62	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1568	-	-	1559	-	-	854	778	997	862	778	1005
Stage 1	-	-	-	-	-	-	950	844	-	963	853	-
Stage 2	-	-	-	-	-	-	951	852	-	946	843	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1538	-	-	1529	-	-	799	743	959	817	743	967
Mov Cap-2 Maneuver	-	-	-	-	-	-	799	743	-	817	743	-
Stage 1	-	-	-	-	-	-	927	824	-	940	834	-
Stage 2	-	-	-	-	-	-	909	833	-	913	823	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	1.4	9.8	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	766	1538	-	-	1529	-	-	853
HCM Lane V/C Ratio	0.013	0.005	-	-	0.003	-	-	0.034
HCM Control Delay (s)	9.8	7.4	0	-	7.4	0	-	9.4
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	42	21	8	17	33
Future Vol, veh/h	18	42	21	8	17	33
Conflicting Peds, #/hr	20	20	20	0	0	20
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	42	21	8	17	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	124	74	70	0	-	0
Stage 1	54	-	-	-	-	-
Stage 2	70	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	871	988	1531	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	953	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	827	951	1502	-	-	-
Mov Cap-2 Maneuver	827	-	-	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	935	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1502	-	910	-	-
HCM Lane V/C Ratio	0.014	-	0.066	-	-
HCM Control Delay (s)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	3	33	12	7	69
Future Vol, veh/h	10	3	33	12	7	69
Conflicting Peds, #/hr	20	20	0	20	20	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	3	33	12	7	69

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	162	79	0	0	65	0
Stage 1	59	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	829	981	-	-	1537	-
Stage 1	964	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	794	944	-	-	1508	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	899	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	824	1508	-
HCM Lane V/C Ratio	-	-	0.016	0.005	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	24	4	12	34	0	1	6	4	0	30	19
Future Vol, veh/h	4	24	4	12	34	0	1	6	4	0	30	19
Conflicting Peds, #/hr	20	0	20	20	0	20	20	0	20	20	0	20
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	24	4	12	34	0	1	6	4	0	30	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	48	0	0	157	132	66	137	134	74
Stage 1	-	-	-	-	-	-	54	54	-	78	78	-
Stage 2	-	-	-	-	-	-	103	78	-	59	56	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1551	-	-	1559	-	-	809	759	998	834	757	988
Stage 1	-	-	-	-	-	-	958	850	-	931	830	-
Stage 2	-	-	-	-	-	-	903	830	-	953	848	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1521	-	-	1529	-	-	732	723	960	787	721	951
Mov Cap-2 Maneuver	-	-	-	-	-	-	732	723	-	787	721	-
Stage 1	-	-	-	-	-	-	937	831	-	911	808	-
Stage 2	-	-	-	-	-	-	829	808	-	921	829	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	1.9	9.6	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	795	1521	-	-	1529	-	-	796
HCM Lane V/C Ratio	0.014	0.003	-	-	0.008	-	-	0.062
HCM Control Delay (s)	9.6	7.4	0	-	7.4	0	-	9.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	34	0	215	219	102
Future Vol, veh/h	0	34	0	215	219	102
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	0	215	219	102

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	290	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	749	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	735	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	735	-	-
HCM Lane V/C Ratio	-	0.046	-	-
HCM Control Delay (s)	-	10.1	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

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	2	1	1	2	1	1	5	6	3	1	6	7
Future Vol, veh/h	2	1	1	2	1	1	5	6	3	1	6	7
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	1	2	1	1	5	6	3	1	6	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	51	51	30	51	53	28	23	0	0	19	0	0
Stage 1	22	22	-	28	28	-	-	-	-	-	-	-
Stage 2	29	29	-	23	25	-	-	-	-	-	-	-
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	948	840	1044	948	838	1047	1592	-	-	1597	-	-
Stage 1	996	877	-	989	872	-	-	-	-	-	-	-
Stage 2	988	871	-	995	874	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	925	820	1024	925	818	1027	1577	-	-	1582	-	-
Mov Cap-2 Maneuver	925	820	-	925	818	-	-	-	-	-	-	-
Stage 1	984	867	-	977	861	-	-	-	-	-	-	-
Stage 2	974	860	-	982	864	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	8.9	2.6	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1577	-	-	918	918	1582	-	-
HCM Lane V/C Ratio	0.003	-	-	0.004	0.004	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.9	8.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	1	1	21	2	24	2	5	8	41	18	0
Future Vol, veh/h	0	1	1	21	2	24	2	5	8	41	18	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	21	2	24	2	5	8	41	18	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	36	0	0	12	0	0	87	90	22	84	78	34
Stage 1	-	-	-	-	-	-	12	12	-	66	66	-
Stage 2	-	-	-	-	-	-	75	78	-	18	12	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1575	-	-	1607	-	-	899	800	1055	903	812	1039
Stage 1	-	-	-	-	-	-	1009	886	-	945	840	-
Stage 2	-	-	-	-	-	-	934	830	-	1001	886	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1560	-	-	1592	-	-	858	774	1035	866	785	1019
Mov Cap-2 Maneuver	-	-	-	-	-	-	858	774	-	866	785	-
Stage 1	-	-	-	-	-	-	999	877	-	936	821	-
Stage 2	-	-	-	-	-	-	893	811	-	978	877	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.3	9	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	908	1560	-	-	1592	-	-	840
HCM Lane V/C Ratio	0.017	-	-	-	0.013	-	-	0.07
HCM Control Delay (s)	9	0	-	-	7.3	0	-	9.6
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	41	144	1	1	130	0	1	4	3	0	9	69
Future Vol, veh/h	41	144	1	1	130	0	1	4	3	0	9	69
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	144	1	1	130	0	1	4	3	0	9	69

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	140	0	0	155	0	0	418	379	165	382	379	150
Stage 1	-	-	-	-	-	-	237	237	-	142	142	-
Stage 2	-	-	-	-	-	-	181	142	-	240	237	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1443	-	-	1425	-	-	545	553	879	576	553	896
Stage 1	-	-	-	-	-	-	766	709	-	861	779	-
Stage 2	-	-	-	-	-	-	821	779	-	763	709	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1429	-	-	1411	-	-	474	525	862	546	525	879
Mov Cap-2 Maneuver	-	-	-	-	-	-	474	525	-	546	525	-
Stage 1	-	-	-	-	-	-	735	680	-	827	770	-
Stage 2	-	-	-	-	-	-	740	770	-	725	680	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.1	11	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	606	1429	-	-	1411	-	-	816
HCM Lane V/C Ratio	0.013	0.029	-	-	0.001	-	-	0.096
HCM Control Delay (s)	11	7.6	0	-	7.6	0	-	9.9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	152	1	0	154	0	1	9	0	0	40	1
Future Vol, veh/h	1	152	1	0	154	0	1	9	0	0	40	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	152	1	0	154	0	1	9	0	0	40	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	164	0	0	163	0	0	350	329	173	333	329	174
Stage 1	-	-	-	-	-	-	165	165	-	164	164	-
Stage 2	-	-	-	-	-	-	185	164	-	169	165	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1414	-	-	1416	-	-	605	590	871	620	590	869
Stage 1	-	-	-	-	-	-	837	762	-	838	762	-
Stage 2	-	-	-	-	-	-	817	762	-	833	762	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1401	-	-	1403	-	-	561	578	854	601	578	853
Mov Cap-2 Maneuver	-	-	-	-	-	-	561	578	-	601	578	-
Stage 1	-	-	-	-	-	-	828	754	-	829	754	-
Stage 2	-	-	-	-	-	-	765	754	-	814	754	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11.4	11.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	576	1401	-	-	1403	-	-	583
HCM Lane V/C Ratio	0.017	0.001	-	-	-	-	-	0.07
HCM Control Delay (s)	11.4	7.6	0	-	0	-	-	11.6
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	104	18	47	156	2	7	5	15	1	1	7
Future Vol, veh/h	8	104	18	47	156	2	7	5	15	1	1	7
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	104	18	47	156	2	7	5	15	1	1	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	168	0	0	132	0	0	404	401	133	410	409	177
Stage 1	-	-	-	-	-	-	139	139	-	261	261	-
Stage 2	-	-	-	-	-	-	265	262	-	149	148	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1410	-	-	1453	-	-	557	538	916	552	532	866
Stage 1	-	-	-	-	-	-	864	782	-	744	692	-
Stage 2	-	-	-	-	-	-	740	691	-	854	775	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1397	-	-	1439	-	-	524	505	899	512	500	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	524	505	-	512	500	-
Stage 1	-	-	-	-	-	-	851	769	-	733	660	-
Stage 2	-	-	-	-	-	-	700	659	-	821	763	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.7	10.5	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	676	1397	-	-	1439	-	-	738
HCM Lane V/C Ratio	0.04	0.006	-	-	0.033	-	-	0.012
HCM Control Delay (s)	10.5	7.6	0	-	7.6	0	-	9.9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	106	8	72	195	4	3	5	24	4	9	19
Future Vol, veh/h	6	106	8	72	195	4	3	5	24	4	9	19
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	106	8	72	195	4	3	5	24	4	9	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	209	0	0	124	0	0	497	485	130	498	487	217
Stage 1	-	-	-	-	-	-	132	132	-	351	351	-
Stage 2	-	-	-	-	-	-	365	353	-	147	136	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1362	-	-	1463	-	-	483	482	920	483	481	823
Stage 1	-	-	-	-	-	-	871	787	-	666	632	-
Stage 2	-	-	-	-	-	-	654	631	-	856	784	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1349	-	-	1449	-	-	434	444	903	436	443	807
Mov Cap-2 Maneuver	-	-	-	-	-	-	434	444	-	436	443	-
Stage 1	-	-	-	-	-	-	859	775	-	657	591	-
Stage 2	-	-	-	-	-	-	588	590	-	816	772	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	2	10.3	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	715	1349	-	-	1449	-	-	603
HCM Lane V/C Ratio	0.045	0.004	-	-	0.05	-	-	0.053
HCM Control Delay (s)	10.3	7.7	0	-	7.6	0	-	11.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.2	-	-	0.2

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	125	5	29	264	1	1	1	8	2	1	7
Future Vol, veh/h	5	125	5	29	264	1	1	1	8	2	1	7
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	125	5	29	264	1	1	1	8	2	1	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	275	0	0	140	0	0	485	481	148	485	483	285
Stage 1	-	-	-	-	-	-	148	148	-	333	333	-
Stage 2	-	-	-	-	-	-	337	333	-	152	150	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1288	-	-	1443	-	-	492	485	899	492	483	754
Stage 1	-	-	-	-	-	-	855	775	-	681	644	-
Stage 2	-	-	-	-	-	-	677	644	-	850	773	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1276	-	-	1429	-	-	467	462	882	467	460	740
Mov Cap-2 Maneuver	-	-	-	-	-	-	467	462	-	467	460	-
Stage 1	-	-	-	-	-	-	844	764	-	672	622	-
Stage 2	-	-	-	-	-	-	647	622	-	830	762	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	9.9	10.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	748	1276	-	-	1429	-	-	628
HCM Lane V/C Ratio	0.013	0.004	-	-	0.02	-	-	0.016
HCM Control Delay (s)	9.9	7.8	0	-	7.6	0	-	10.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	120	8	46	270	0	2	1	18	0	5	22
Future Vol, veh/h	6	120	8	46	270	0	2	1	18	0	5	22
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
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	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	120	8	46	270	0	2	1	18	0	5	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	280	0	0	138	0	0	532	518	144	528	522	290
Stage 1	-	-	-	-	-	-	146	146	-	372	372	-
Stage 2	-	-	-	-	-	-	386	372	-	156	150	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1283	-	-	1446	-	-	458	462	903	461	459	749
Stage 1	-	-	-	-	-	-	857	776	-	648	619	-
Stage 2	-	-	-	-	-	-	637	619	-	846	773	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1271	-	-	1432	-	-	418	433	886	428	431	735
Mov Cap-2 Maneuver	-	-	-	-	-	-	418	433	-	428	431	-
Stage 1	-	-	-	-	-	-	845	764	-	639	589	-
Stage 2	-	-	-	-	-	-	584	589	-	816	761	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.1	9.8	10.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	766	1271	-	-	1432	-	-	650
HCM Lane V/C Ratio	0.027	0.005	-	-	0.032	-	-	0.042
HCM Control Delay (s)	9.8	7.8	0	-	7.6	0	-	10.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	1	260	19	1	186
Future Vol, veh/h	7	1	260	19	1	186
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	1	260	19	1	186

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	478	290	0	0	289	0
Stage 1	280	-	-	-	-	-
Stage 2	198	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	546	749	-	-	1273	-
Stage 1	767	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	535	735	-	-	1261	-
Mov Cap-2 Maneuver	535	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	826	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	554	1261	-
HCM Lane V/C Ratio	-	-	0.014	0.001	-
HCM Control Delay (s)	-	-	11.6	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	33	61	0	0	19
Future Vol, veh/h	19	33	61	0	0	19
Conflicting Peds, #/hr	10	0	0	10	10	10
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	33	61	0	0	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	71	0	-	0	152	81
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	81	-
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	1529	-	-	-	840	979
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	942	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1514	-	-	-	812	960
Mov Cap-2 Maneuver	-	-	-	-	812	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1514	-	-	-	960
HCM Lane V/C Ratio	0.013	-	-	-	0.02
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	29	59	0	0	3
Future Vol, veh/h	5	29	59	0	0	3
Conflicting Peds, #/hr	10	0	0	10	10	10
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	29	59	0	0	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	69	0	-	0	118	79
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	49	-
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	1532	-	-	-	878	981
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	858	962
Mov Cap-2 Maneuver	-	-	-	-	858	-
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	963	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1517	-	-	-	962
HCM Lane V/C Ratio	0.003	-	-	-	0.003
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	16	309	30	35	164
Future Vol, veh/h	13	16	309	30	35	164
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	16	309	30	35	164

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	578	344	0	0	349	0
Stage 1	334	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	478	699	-	-	1210	-
Stage 1	725	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	454	686	-	-	1198	-
Mov Cap-2 Maneuver	454	-	-	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	764	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	558	1198	-
HCM Lane V/C Ratio	-	-	0.052	0.029	-
HCM Control Delay (s)	-	-	11.8	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	25	34	2	65	177
Future Vol, veh/h	7	25	34	2	65	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	25	34	2	65	177

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	342	35	0	0	36	0
Stage 1	35	-	-	-	-	-
Stage 2	307	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	654	1038	-	-	1575	-
Stage 1	987	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	624	1038	-	-	1575	-
Mov Cap-2 Maneuver	624	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	712	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	906	1575	-
HCM Lane V/C Ratio	-	-	0.035	0.041	-
HCM Control Delay (s)	-	-	9.1	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Intersection Delay, s/veh	23.8
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	456	139	107	297	110	157
Future Vol, veh/h	456	139	107	297	110	157
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	456	139	107	297	110	157
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	35	14.5	13
HCM LOS	D	B	B

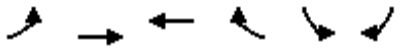
Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	107	297	456	139	110	157
LT Vol	0	0	456	0	110	0
Through Vol	107	0	0	0	0	157
RT Vol	0	297	0	139	0	0
Lane Flow Rate	107	297	456	139	110	157
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.207	0.515	0.883	0.222	0.233	0.311
Departure Headway (Hd)	6.955	6.238	6.974	5.759	7.636	7.122
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	513	573	520	620	468	501
Service Time	4.741	4.023	4.738	3.523	5.43	4.917
HCM Lane V/C Ratio	0.209	0.518	0.877	0.224	0.235	0.313
HCM Control Delay	11.6	15.5	42.5	10.2	12.8	13.1
HCM Lane LOS	B	C	E	B	B	B
HCM 95th-tile Q	0.8	2.9	9.8	0.8	0.9	1.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	88	95	192	137	5	188	924	243	5	657	270
Future Volume (veh/h)	224	88	95	192	137	5	188	924	243	5	657	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.97
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	88	95	192	137	5	188	924	117	5	657	270
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	139	150	225	273	10	224	2434	744	22	1266	509
Arrive On Green	0.15	0.17	0.17	0.13	0.15	0.15	0.13	0.48	0.48	0.01	0.36	0.36
Sat Flow, veh/h	1781	812	876	1781	1791	65	1781	5106	1560	3456	3542	1425
Grp Volume(v), veh/h	224	0	183	192	0	142	188	924	117	5	631	296
Grp Sat Flow(s),veh/h/ln	1781	0	1688	1781	0	1857	1781	1702	1560	1728	1702	1564
Q Serve(g_s), s	11.7	0.0	9.6	10.1	0.0	6.7	9.8	11.0	4.1	0.1	13.9	14.3
Cycle Q Clear(g_c), s	11.7	0.0	9.6	10.1	0.0	6.7	9.8	11.0	4.1	0.1	13.9	14.3
Prop In Lane	1.00		0.52	1.00		0.04	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	259	0	289	225	0	283	224	2434	744	22	1217	559
V/C Ratio(X)	0.87	0.00	0.63	0.85	0.00	0.50	0.84	0.38	0.16	0.22	0.52	0.53
Avail Cap(c_a), veh/h	310	0	799	250	0	817	345	2434	744	181	1217	559
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	0.0	36.8	40.8	0.0	37.1	40.8	16.0	14.1	47.2	24.2	24.3
Incr Delay (d2), s/veh	19.2	0.0	2.3	22.0	0.0	1.4	10.4	0.5	0.5	4.9	1.6	3.6
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	6.4	0.0	4.1	5.7	0.0	3.1	4.7	3.9	1.5	0.1	5.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	0.0	39.0	62.9	0.0	38.5	51.2	16.4	14.6	52.1	25.8	27.9
LnGrp LOS	E	A	D	E	A	D	D	B	B	D	C	C
Approach Vol, veh/h		407			334			1229			932	
Approach Delay, s/veh		50.0			52.5			21.6			26.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	51.0	17.6	20.8	17.5	39.6	19.4	18.9
Change Period (Y+Rc), s	5.5	5.5	5.5	4.4	5.5	5.5	5.5	4.4
Max Green Setting (Gmax), s	5.6	45.5	13.4	45.2	18.5	32.0	16.6	42.0
Max Q Clear Time (g_c+I1), s	2.1	13.0	12.1	11.6	11.8	16.3	13.7	8.7
Green Ext Time (p_c), s	0.0	7.0	0.1	1.2	0.2	5.0	0.2	0.8

Intersection Summary	
HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	133	491	527	471	717	236
Future Volume (veh/h)	133	491	527	471	717	236
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	491	527	412	717	107
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	165	793	504	1137	813	724
Arrive On Green	0.09	0.42	0.27	0.27	0.46	0.46
Sat Flow, veh/h	1781	1870	1870	1535	1781	1585
Grp Volume(v), veh/h	133	491	527	412	717	107
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1535	1781	1585
Q Serve(g_s), s	6.5	18.2	23.9	8.9	32.5	3.5
Cycle Q Clear(g_c), s	6.5	18.2	23.9	8.9	32.5	3.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	165	793	504	1137	813	724
V/C Ratio(X)	0.81	0.62	1.05	0.36	0.88	0.15
Avail Cap(c_a), veh/h	191	820	504	1137	813	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	20.0	32.4	4.6	21.9	14.0
Incr Delay (d2), s/veh	19.6	1.4	52.6	0.2	13.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	7.5	17.5	8.3	15.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.1	21.3	85.0	4.7	35.1	14.5
LnGrp LOS	E	C	F	A	D	B
Approach Vol, veh/h		624	939		824	
Approach Delay, s/veh		29.4	49.8		32.4	
Approach LOS		C	D		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			42.7		46.0	13.7	29.0
Change Period (Y+Rc), s			5.1		5.5	5.5	5.1
Max Green Setting (Gmax), s			38.9		40.5	9.5	23.9
Max Q Clear Time (g_c+I1), s			20.2		34.5	8.5	25.9
Green Ext Time (p_c), s			2.8		1.7	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		38.5
HCM 6th LOS		D

SimTraffic LOS Report

Cumulative No Project Conditions (AM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	52	52	99.0%	48.4	9.6	D
	Through	456	453	99.3%	37.8	2.6	D
	Right Turn	107	114	106.9%	11.8	2.6	B
	Subtotal	615	619	100.6%	33.9	2.8	C
SB	Left Turn	457	456	99.8%	66.1	18.3	E
	Through	509	509	99.9%	45.5	17.5	D
	Right Turn	14	16	113.6%	3.0	3.0	A
	Subtotal	980	981	100.1%	54.4	17.5	D
EB	Left Turn	5	6	116.0%	42.7	31.3	D
	Through	223	225	100.8%	37.2	3.5	D
	Right Turn	127	126	98.9%	13.2	3.9	B
	Subtotal	355	356	100.3%	29.4	3.3	C
WB	Left Turn	82	81	99.0%	44.5	8.6	D
	Through	69	70	101.3%	24.9	9.2	C
	Right Turn	276	270	97.9%	6.7	1.3	A
	Subtotal	427	421	98.7%	16.9	2.9	B
Total		2,377	2,377	100.0%	39.0	7.9	D

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	186	173	93.1%	102.8	53.8	F
	Through	7	7	97.1%	81.7	62.0	F
	Right Turn	425	379	89.2%	123.3	63.1	F
	Subtotal	618	559	90.5%	116.1	59.5	F
SB	Left Turn	51	45	88.2%	256.1	213.6	F
	Through	8	7	86.3%	34.3	40.3	C
	Right Turn	4	4	105.0%	7.1	11.2	A
	Subtotal	63	56	89.0%	233.9	215.9	F
EB	Left Turn						
	Through	633	628	99.1%	77.3	39.1	E
	Right Turn	154	145	94.2%	19.4	13.5	B
	Subtotal	787	773	98.2%	66.1	34.2	E
WB	Left Turn	176	172	97.4%	38.6	5.6	D
	Through	214	219	102.5%	15.6	4.5	B
	Right Turn	18	20	111.1%	3.1	1.1	A
	Subtotal	408	411	100.7%	24.3	3.6	C
Total		1,876	1,799	95.9%	71.5	7.1	E

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	90	93	103.8%	52.6	8.6	D
	Through	99	96	97.4%	28.2	7.1	C
	Right Turn	714	724	101.3%	20.3	4.4	C
	Subtotal	903	913	101.1%	24.1	4.0	C
SB	Left Turn	173	166	95.7%	53.0	8.0	D
	Through	158	166	104.7%	30.6	5.2	C
	Right Turn	83	85	101.8%	22.4	4.8	C
	Subtotal	414	416	100.4%	38.3	3.5	D
EB	Left Turn	113	105	92.8%	93.8	14.9	F
	Through	970	880	90.7%	99.3	4.6	F
	Right Turn	62	57	92.6%	57.6	8.8	E
	Subtotal	1,145	1,042	91.0%	96.4	5.1	F
WB	Left Turn	444	436	98.2%	69.4	15.2	E
	Through	235	233	99.2%	29.0	5.1	C
	Right Turn	131	132	100.8%	5.8	1.0	A
	Subtotal	810	801	98.9%	47.2	9.3	D
Total		3,272	3,173	97.0%	55.6	2.9	E

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	356	353	99.2%	19.0	2.9	B
	Through						
	Right Turn	88	86	97.7%	6.6	2.4	A
	Subtotal	444	439	98.9%	16.6	2.6	B
EB	Left Turn						
	Through	760	720	94.8%	9.7	0.9	A
	Right Turn	1,107	1,056	95.4%	10.7	2.8	B
	Subtotal	1,867	1,776	95.1%	10.3	1.9	B
WB	Left Turn						
	Through	722	718	99.4%	5.5	0.6	A
	Right Turn						
	Subtotal	722	718	99.4%	5.5	0.6	A
Total		3,033	2,933	96.7%	10.1	1.2	B

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	425	427	100.5%	11.7	1.6	B
	Through						
	Right Turn	1,101	1,118	101.5%	28.4	12.0	C
	Subtotal	1,526	1,545	101.3%	23.7	8.5	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	950	914	96.2%	29.5	14.3	C
	Right Turn						
	Subtotal	950	914	96.2%	29.5	14.3	C
WB	Left Turn						
	Through	748	742	99.2%	19.9	0.8	B
	Right Turn	152	158	104.0%	3.2	0.5	A
	Subtotal	900	900	100.0%	17.0	0.7	B
Total		3,376	3,359	99.5%	23.5	7.8	C

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	354	355	100.3%	113.6	66.1	F
	Through	210	208	99.2%	47.4	7.1	D
	Right Turn	120	122	101.7%	7.9	1.7	A
	Subtotal	684	686	100.2%	75.5	38.8	E
SB	Left Turn	309	310	100.2%	65.2	8.4	E
	Through	405	401	98.9%	49.3	4.5	D
	Right Turn	350	354	101.1%	3.7	0.5	A
	Subtotal	1,064	1,064	100.0%	38.7	2.2	D
EB	Left Turn	792	775	97.8%	60.5	13.2	E
	Through	566	570	100.7%	33.0	1.4	C
	Right Turn	693	663	95.6%	114.5	52.4	F
	Subtotal	2,051	2,007	97.9%	70.8	16.9	E
WB	Left Turn	550	530	96.3%	169.0	52.5	F
	Through	194	187	96.1%	46.4	10.5	D
	Right Turn	492	491	99.8%	19.5	9.6	B
	Subtotal	1,236	1,207	97.7%	88.9	26.4	F
Total		5,035	4,963	98.6%	69.2	6.4	E

SimTraffic LOS Report

Cumulative No Project Conditions (AM Peak Hour)

Del Paso Road (#12 to #13, #19 to #22)

Intersection 12 **El Centro Rd/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	187	189	100.8%	51.2	11.0	D
	Through	558	565	101.2%	52.3	4.7	D
	Right Turn	393	383	97.5%	5.6	2.4	A
	Subtotal	1,138	1,137	99.9%	36.7	4.1	D
SB	Left Turn	1,104	515	46.7%	189.6	22.6	F
	Through	411	194	47.3%	57.1	14.3	E
	Right Turn	12	6	50.0%	1.4	1.7	A
	Subtotal	1,527	716	46.9%	150.4	16.2	F
EB	Left Turn	4	3	77.5%	6.0	12.7	A
	Through	811	583	71.9%	92.6	5.7	F
	Right Turn	150	103	68.5%	46.4	8.6	D
	Subtotal	965	689	71.4%	85.4	6.5	F
WB	Left Turn	223	185	82.9%	59.9	7.0	E
	Through	665	564	84.8%	34.3	5.8	C
	Right Turn	154	130	84.3%	4.4	1.3	A
	Subtotal	1,042	879	84.3%	35.5	4.0	D
Total		4,672	3,420	73.2%	69.9	2.0	E

Intersection 13 **El Centro Rd/Duckhorn Dr** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,016	1,016	100.0%	1.9	0.4	A
	Right Turn	31	32	103.2%	0.6	0.3	A
	Subtotal	1,047	1,048	100.1%	1.9	0.4	A
SB	Left Turn	226	137	60.4%	12.7	3.5	B
	Through	560	347	62.0%	1.8	0.3	A
	Right Turn						
	Subtotal	786	484	61.6%	4.8	1.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	121	118	97.7%	9.4	3.6	A
	Subtotal	121	118	97.7%	9.4	3.6	A
Total		1,954	1,650	84.4%	3.4	0.8	A

Intersection 19 **Natomas Central Dr/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	153	156	101.8%	28.3	7.2	C
	Through	21	23	107.1%	25.1	9.4	C
	Right Turn	53	57	107.0%	42.0	13.5	D
	Subtotal	227	235	103.5%	31.8	6.5	C
SB	Left Turn	281	172	61.2%	337.5	69.0	F
	Through	12	7	60.8%	252.4	145.6	F
	Right Turn	22	13	60.0%	223.1	78.4	F
	Subtotal	315	193	61.1%	328.5	63.8	F
EB	Left Turn	9	6	64.4%	381.1	200.5	F
	Through	631	457	72.4%	497.7	32.4	F
	Right Turn	61	38	62.8%	599.3	56.9	F
	Subtotal	701	501	71.4%	503.4	32.0	F
WB	Left Turn	30	26	87.3%	38.9	7.9	D
	Through	752	646	85.9%	25.1	3.9	C
	Right Turn	42	35	83.1%	6.8	2.4	A
	Subtotal	824	707	85.8%	24.8	3.5	C
Total		2,067	1,635	79.1%	202.2	13.0	F

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	501	498	99.4%	26.7	2.4	C
	Through						
	Right Turn	211	216	102.6%	8.7	2.4	A
	Subtotal	712	715	100.4%	21.3	1.6	C
EB	Left Turn						
	Through	909	588	64.7%	4.6	0.9	A
	Right Turn						
	Subtotal	909	588	64.7%	4.6	0.9	A
WB	Left Turn						
	Through	831	654	78.7%	6.6	1.1	A
	Right Turn	1,035	815	78.8%	5.4	0.6	A
	Subtotal	1,866	1,469	78.7%	5.9	0.6	A
Total		3,487	2,772	79.5%	9.6	0.2	A

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	250	243	97.4%	32.6	3.4	C
	Through						
	Right Turn	951	947	99.6%	19.0	1.7	B
	Subtotal	1,201	1,190	99.1%	21.8	1.2	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,177	910	77.3%	10.3	2.2	B
	Right Turn						
	Subtotal	1,177	910	77.3%	10.3	2.2	B
WB	Left Turn						
	Through	1,616	1,228	76.0%	3.4	0.9	A
	Right Turn						
	Subtotal	1,616	1,228	76.0%	3.4	0.9	A
Total		3,994	3,329	83.3%	12.0	0.8	B

Intersection 22 **E Commerce Wy/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	146	147	100.6%	72.6	10.9	E
	Through	416	412	98.9%	53.5	4.9	D
	Right Turn	242	247	101.9%	14.6	3.4	B
	Subtotal	804	805	100.1%	44.6	3.6	D
SB	Left Turn	769	497	64.6%	225.5	3.6	F
	Through	644	412	64.0%	59.5	4.2	E
	Right Turn	787	487	61.9%	13.8	1.4	B
	Subtotal	2,200	1,396	63.4%	103.8	5.3	F
EB	Left Turn	639	567	88.7%	70.9	8.9	E
	Through	1,095	952	86.9%	34.8	1.9	C
	Right Turn	394	341	86.6%	11.4	2.6	B
	Subtotal	2,128	1,860	87.4%	41.4	3.2	D
WB	Left Turn	477	392	82.1%	70.4	8.6	E
	Through	1,202	995	82.7%	62.7	7.6	E
	Right Turn	919	740	80.5%	111.1	4.3	F
	Subtotal	2,598	2,126	81.8%	81.2	2.7	F
Total		7,730	6,187	80.0%	69.4	1.6	E

SimTraffic LOS Report

Cumulative No Project Conditions (AM Peak Hour)

W. El Camino Avenue (#17, #33 to #39)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	23	23	100.9%	36.3	8.1	D
	Right Turn	63	66	104.4%	13.4	4.0	B
	Subtotal	86	89	103.5%	19.3	4.8	B
SB	Left Turn	1,101	1,107	100.5%	97.4	4.4	F
	Through	28	30	106.1%	14.3	6.1	B
	Right Turn						
	Subtotal	1,129	1,137	100.7%	95.5	4.3	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	125	123	98.2%	25.3	2.5	C
	Through						
	Right Turn	933	932	99.9%	11.4	0.9	B
	Subtotal	1,058	1,055	99.7%	13.1	0.9	B
Total		2,273	2,280	100.3%	54.2	3.7	D

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	722	719	99.6%	20.7	2.8	C
	Through						
	Right Turn	110	111	100.5%	3.7	0.4	A
	Subtotal	832	830	99.7%	18.6	2.6	B
EB	Left Turn						
	Through	593	602	101.4%	9.3	1.3	A
	Right Turn	581	583	100.3%	4.0	0.5	A
	Subtotal	1,174	1,184	100.9%	6.7	0.9	A
WB	Left Turn						
	Through	948	939	99.1%	12.9	3.2	B
	Right Turn						
	Subtotal	948	939	99.1%	12.9	3.2	B
Total		2,954	2,953	100.0%	12.1	1.8	B

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	719	728	101.2%	22.0	3.2	C
	Through						
	Right Turn	413	431	104.4%	15.0	2.2	B
	Subtotal	1,132	1,159	102.4%	19.6	2.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,120	1,116	99.7%	8.6	1.8	A
	Right Turn						
	Subtotal	1,120	1,116	99.7%	8.6	1.8	A
WB	Left Turn						
	Through	529	516	97.6%	8.6	1.0	A
	Right Turn	635	630	99.2%	1.1	0.2	A
	Subtotal	1,164	1,146	98.5%	4.6	0.4	A
Total		3,416	3,421	100.1%	11.0	1.0	B

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	268	256	95.3%	213.3	59.2	F
	Through	11	11	98.2%	165.4	105.7	F
	Right Turn	107	101	94.2%	154.3	69.5	F
	Subtotal	386	367	95.1%	198.4	62.1	F
SB	Left Turn	160	156	97.3%	44.0	11.5	D
	Through	32	30	93.1%	54.7	8.2	D
	Right Turn	119	117	98.5%	18.1	5.1	B
	Subtotal	311	303	97.3%	35.9	7.5	D
EB	Left Turn	41	42	102.0%	53.7	9.7	D
	Through	1,383	1,407	101.7%	9.9	1.7	A
	Right Turn	89	95	106.5%	2.1	0.6	A
	Subtotal	1,513	1,543	102.0%	10.7	1.7	B
WB	Left Turn	54	57	104.8%	58.5	15.0	E
	Through	777	781	100.5%	18.0	5.5	B
	Right Turn	70	73	103.9%	10.2	5.1	B
	Subtotal	901	910	101.0%	19.9	5.1	B
Total		3,111	3,123	100.4%	38.3	5.6	D

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	9	91.0%	36.7	21.1	D
	Through	4	5	122.5%	24.9	25.4	C
	Right Turn	47	45	95.1%	21.9	8.3	C
	Subtotal	61	59	96.2%	27.2	4.8	C
SB	Left Turn	36	31	84.7%	39.6	8.0	D
	Through	8	10	121.3%	54.5	23.7	D
	Right Turn	20	19	94.0%	15.3	9.5	B
	Subtotal	64	59	92.2%	33.8	7.5	C
EB	Left Turn	13	12	95.4%	55.9	23.3	E
	Through	1,600	1,605	100.3%	21.5	6.1	C
	Right Turn	37	39	104.3%	19.6	8.1	B
	Subtotal	1,650	1,656	100.4%	21.8	6.2	C
WB	Left Turn	193	195	101.2%	42.8	8.7	D
	Through	871	875	100.4%	12.6	5.4	B
	Right Turn	24	25	105.4%	6.2	5.7	A
	Subtotal	1,088	1,095	100.7%	17.7	5.6	B
Total		2,863	2,869	100.2%	20.8	5.4	C

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	236	234	99.2%	46.9	12.2	D
	Through	83	80	96.5%	39.9	10.0	D
	Right Turn	136	134	98.2%	10.5	3.7	B
	Subtotal	455	448	98.4%	35.1	8.2	D
SB	Left Turn	95	93	97.9%	54.1	11.3	D
	Through	23	21	90.0%	49.1	11.8	D
	Right Turn	40	42	104.0%	3.0	1.1	A
	Subtotal	158	155	98.3%	41.9	9.0	D
EB	Left Turn	294	289	98.3%	49.6	6.6	D
	Through	797	795	99.8%	26.0	4.7	C
	Right Turn	496	501	101.0%	9.3	2.3	A
	Subtotal	1,587	1,585	99.9%	24.6	3.8	C
WB	Left Turn	327	325	99.4%	55.2	7.6	E
	Through	758	767	101.2%	29.5	14.3	C
	Right Turn	432	419	97.0%	8.6	5.1	A
	Subtotal	1,517	1,511	99.6%	28.7	9.9	C
Total		3,717	3,700	99.5%	28.3	5.5	C

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	537	543	101.1%	0.3	0.1	A
	Right Turn						
	Subtotal	537	543	101.1%	0.3	0.1	A
WB	Left Turn						
	Through	1,517	1,511	99.6%	3.7	0.7	A
	Right Turn	438	428	97.7%	5.3	1.4	A
	Subtotal	1,955	1,938	99.2%	4.0	0.9	A
Total		2,492	2,481	99.6%	3.2	0.7	A

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	522	515	98.7%	41.1	2.4	D
	Through						
	Right Turn	463	464	100.2%	3.4	0.3	A
	Subtotal	985	979	99.4%	24.0	1.7	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	537	543	101.1%	4.6	1.2	A
	Right Turn						
	Subtotal	537	543	101.1%	4.6	1.2	A
WB	Left Turn						
	Through	1,433	1,423	99.3%	10.5	1.5	B
	Right Turn						
	Subtotal	1,433	1,423	99.3%	10.5	1.5	B
Total		2,955	2,944	99.6%	14.0	1.0	B

SimTraffic LOS Report

Cumulative No Project Conditions (AM Peak Hour)

Garden Highway (#7 to #11)

Intersection 7 **Gateway Oaks Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2	2	75.0%	6.1	13.1	A
	Right Turn	5	5	100.0%	3.4	3.6	A
	Subtotal	7	7	92.9%	5.7	6.7	A
SB	Left Turn	367	364	99.1%	53.7	79.7	D
	Through	5	5	98.0%	32.6	44.5	C
	Right Turn	53	55	103.8%	6.9	9.4	A
	Subtotal	425	424	99.7%	48.7	74.1	D
EB	Left Turn	55	54	97.6%	51.7	83.6	D
	Through	420	400	95.3%	53.2	116.5	D
	Right Turn						
	Subtotal	475	454	95.5%	53.3	113.3	D
WB	Left Turn	27	23	86.3%	33.0	12.8	C
	Through	39	39	100.5%	12.5	5.1	B
	Right Turn	709	636	89.6%	20.6	3.9	C
	Subtotal	775	698	90.1%	20.5	3.7	C
Total		1,682	1,582	94.1%	32.1	36.1	C

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	621	438	70.5%	154.5	30.0	F
	Through						
	Right Turn	162	117	71.9%	71.2	19.5	E
	Subtotal	783	555	70.8%	135.2	27.7	F
EB	Left Turn	383	353	92.1%	151.6	131.7	F
	Through	410	377	92.0%	159.2	91.3	F
	Right Turn						
	Subtotal	793	730	92.0%	153.8	105.4	F
WB	Left Turn						
	Through	612	584	95.5%	31.0	10.3	C
	Right Turn	447	382	85.4%	11.1	8.8	B
	Subtotal	1,059	966	91.2%	23.5	7.6	C
Total		2,635	2,250	85.4%	85.1	28.6	F

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	341	332	97.4%	89.9	18.9	F
	Through						
	Right Turn	473	459	97.0%	11.9	4.5	B
	Subtotal	814	791	97.2%	46.2	11.9	D
EB	Left Turn	103	85	82.9%	230.0	18.7	F
	Through	928	675	72.7%	234.8	23.0	F
	Right Turn						
	Subtotal	1,031	760	73.8%	234.4	21.3	F
WB	Left Turn						
	Through	575	503	87.5%	23.8	3.1	C
	Right Turn	387	326	84.2%	13.3	0.9	B
	Subtotal	962	829	86.1%	19.6	1.8	B
Total		2,807	2,380	84.8%	91.2	6.0	F

Intersection 10 **Natomas Park Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	18	17	93.9%	44.1	16.2	D
	Through	3	2	76.7%	11.1	15.9	B
	Right Turn	14	15	105.0%	19.6	14.5	B
	Subtotal	35	34	96.9%	30.5	8.8	C
SB	Left Turn	42	41	97.1%	49.5	11.1	D
	Through	9	10	105.6%	31.3	22.3	C
	Right Turn	37	35	94.9%	12.1	3.6	B
	Subtotal	88	85	97.0%	33.9	8.7	C
EB	Left Turn	257	189	73.4%	235.3	22.3	F
	Through	996	752	75.5%	209.3	12.7	F
	Right Turn	16	16	96.9%	179.3	33.4	F
	Subtotal	1,269	956	75.3%	214.0	12.5	F
WB	Left Turn	22	19	84.5%	47.4	19.6	D
	Through	907	779	85.9%	21.0	5.4	C
	Right Turn	97	83	85.7%	16.0	5.1	B
	Subtotal	1,026	881	85.8%	21.1	5.2	C
Total		2,418	1,956	80.9%	116.8	6.7	F

Intersection 11 **Truxel Rd/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	184	168	91.3%	212.6	133.7	F
	Through	576	577	100.1%	52.1	13.8	D
	Right Turn	69	70	101.2%	36.4	9.7	D
	Subtotal	829	814	98.2%	84.0	36.3	F
SB	Left Turn	178	137	76.7%	160.4	14.3	F
	Through	1,231	960	78.0%	161.4	7.2	F
	Right Turn	190	147	77.5%	165.7	12.1	F
	Subtotal	1,599	1,243	77.8%	161.9	6.6	F
EB	Left Turn	90	65	71.9%	170.7	8.9	F
	Through	841	647	76.9%	131.6	3.3	F
	Right Turn	121	90	74.7%	15.9	3.8	B
	Subtotal	1,052	802	76.2%	121.6	2.8	F
WB	Left Turn	94	85	90.9%	235.6	23.6	F
	Through	652	569	87.2%	196.9	8.5	F
	Right Turn	188	162	86.3%	181.2	14.5	F
	Subtotal	934	816	87.4%	197.7	7.3	F
Total		4,414	3,676	83.3%	143.6	9.4	F

SimTraffic LOS Report

Cumulative No Project Conditions (AM Peak Hour)

San Juan Road (#16)

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative No Project**
Volume and Delay by Movement **AM Peak Hour**

Intersection 16 **El Centro Rd/San Juan Rd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	277	252	90.8%	214.4	18.4	F
	Through	359	335	93.2%	223.1	19.3	F
	Right Turn	221	183	82.9%	193.4	21.1	F
	Subtotal	857	769	89.8%	213.5	17.3	F
SB	Left Turn	153	83	54.3%	240.7	23.1	F
	Through	661	346	52.3%	301.9	23.5	F
	Right Turn	14	7	50.7%	194.5	91.0	F
	Subtotal	828	436	52.6%	289.9	21.1	F
EB	Left Turn	36	35	98.3%	9.8	2.2	A
	Through	23	27	116.1%	17.4	2.6	C
	Right Turn	115	116	100.6%	13.7	8.7	B
	Subtotal	174	178	102.2%	13.7	5.8	B
WB	Left Turn	389	321	82.6%	297.3	15.1	F
	Through	20	15	76.5%	299.2	99.3	F
	Right Turn	158	120	75.9%	254.4	16.8	F
	Subtotal	567	457	80.5%	287.5	14.5	F
Total		2,426	1,840	75.8%	230.1	9.4	F

SimTraffic LOS Report

Cumulative No Project Conditions (PM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	46	47	102.4%	46.3	9.9	D
	Through	549	541	98.6%	35.2	4.7	D
	Right Turn	222	216	97.3%	12.1	2.6	B
	Subtotal	817	805	98.5%	29.4	3.5	C
SB	Left Turn	345	343	99.4%	36.8	3.2	D
	Through	337	335	99.4%	19.8	2.2	B
	Right Turn	6	6	96.7%	2.5	3.3	A
	Subtotal	688	684	99.3%	28.4	2.8	C
EB	Left Turn	3	2	76.7%	18.8	25.0	B
	Through	91	93	102.0%	31.8	6.6	C
	Right Turn	19	19	101.6%	6.2	2.6	A
	Subtotal	113	114	101.2%	27.3	5.2	C
WB	Left Turn	93	88	94.7%	37.4	8.7	D
	Through	138	131	94.6%	20.1	4.1	C
	Right Turn	414	396	95.7%	11.7	4.2	B
	Subtotal	645	615	95.3%	17.1	3.5	B
Total		2,263	2,217	98.0%	25.8	2.3	C

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	179	178	99.7%	18.6	2.8	B
	Through	8	7	87.5%	18.0	14.1	B
	Right Turn	189	185	98.0%	5.9	2.5	A
	Subtotal	376	371	98.6%	12.5	2.6	B
SB	Left Turn	75	72	95.9%	24.9	8.6	C
	Through	3	2	70.0%	10.0	16.2	A
	Right Turn	1	2	160.0%	1.4	2.4	A
	Subtotal	79	76	95.7%	24.3	7.6	C
EB	Left Turn	21	18	87.6%	26.7	13.3	C
	Through	381	375	98.5%	15.1	4.3	B
	Right Turn	253	258	102.0%	5.5	1.0	A
	Subtotal	655	652	99.5%	11.8	2.9	B
WB	Left Turn	192	181	94.4%	21.7	3.1	C
	Through	475	445	93.7%	9.5	2.4	A
	Right Turn	58	58	99.1%	3.1	1.5	A
	Subtotal	725	684	94.3%	12.3	2.2	B
Total		1,835	1,782	97.1%	12.6	2.4	B

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	79	79	99.4%	40.8	7.6	D
	Through	62	67	108.2%	32.4	5.4	C
	Right Turn	453	458	101.1%	11.0	1.9	B
	Subtotal	594	604	101.6%	17.3	1.3	B
SB	Left Turn	497	494	99.4%	65.8	30.4	E
	Through	118	119	100.6%	47.6	20.4	D
	Right Turn	97	96	98.7%	30.5	19.0	C
	Subtotal	712	709	99.5%	57.8	27.0	E
EB	Left Turn	88	86	98.0%	55.2	16.1	E
	Through	536	515	96.2%	77.2	29.2	E
	Right Turn	63	60	95.4%	26.5	19.9	C
	Subtotal	687	662	96.3%	70.3	26.6	E
WB	Left Turn	690	656	95.0%	54.8	13.7	D
	Through	542	502	92.7%	28.1	3.3	C
	Right Turn	51	49	96.7%	2.6	1.1	A
	Subtotal	1,283	1,207	94.1%	41.4	8.1	D
Total		3,276	3,181	97.1%	46.5	9.1	D

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	213	204	96.0%	15.2	2.7	B
	Through						
	Right Turn	131	137	104.5%	10.8	3.6	B
	Subtotal	344	341	99.2%	13.4	2.3	B
EB	Left Turn						
	Through	591	570	96.5%	4.3	0.6	A
	Right Turn	898	904	100.7%	2.5	0.7	A
	Subtotal	1,489	1,474	99.0%	3.2	0.6	A
WB	Left Turn						
	Through	1,152	1,067	92.6%	6.4	0.9	A
	Right Turn						
	Subtotal	1,152	1,067	92.6%	6.4	0.9	A
Total		2,985	2,882	96.6%	5.6	0.5	A

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	664	652	98.2%	62.2	15.1	E
	Through						
	Right Turn	1,347	1,270	94.3%	136.6	12.3	F
	Subtotal	2,011	1,922	95.6%	111.2	13.5	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	682	657	96.3%	27.6	2.4	C
	Right Turn						
	Subtotal	682	657	96.3%	27.6	2.4	C
WB	Left Turn						
	Through	1,396	1,241	88.9%	51.9	11.9	D
	Right Turn	301	268	88.9%	6.9	0.9	A
	Subtotal	1,697	1,509	88.9%	43.8	9.6	D
Total		4,390	4,088	93.1%	73.0	7.1	E

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	920	726	78.9%	186.9	11.5	F
	Through	378	303	80.1%	61.6	5.6	E
	Right Turn	407	323	79.4%	35.3	3.4	D
	Subtotal	1,705	1,352	79.3%	120.8	7.7	F
SB	Left Turn	522	519	99.4%	67.4	18.0	E
	Through	176	178	101.4%	56.7	7.0	E
	Right Turn	433	438	101.1%	3.2	0.4	A
	Subtotal	1,131	1,135	100.4%	40.4	10.4	D
EB	Left Turn	799	736	92.2%	104.1	28.5	F
	Through	894	857	95.9%	37.9	3.3	D
	Right Turn	336	325	96.8%	8.5	1.4	A
	Subtotal	2,029	1,919	94.6%	59.2	13.6	E
WB	Left Turn	171	171	100.0%	62.0	7.0	E
	Through	341	344	100.8%	49.1	5.1	D
	Right Turn	312	319	102.3%	12.2	2.7	B
	Subtotal	824	834	101.2%	37.5	2.3	D
Total		5,689	5,240	92.1%	67.2	5.1	E

SimTraffic LOS Report

Cumulative No Project Conditions (PM Peak Hour)

Del Paso Road (#12 to #13, #19 to #22)

Intersection 12 **El Centro Rd/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	131	129	98.8%	53.2	6.2	D
	Through	684	686	100.2%	41.6	5.4	D
	Right Turn	360	357	99.3%	5.1	1.1	A
	Subtotal	1,175	1,172	99.8%	31.6	4.6	C
SB	Left Turn	890	680	76.4%	150.1	9.4	F
	Through	500	370	74.0%	40.3	5.3	D
	Right Turn	11	8	68.2%	5.2	4.3	A
	Subtotal	1,401	1,057	75.5%	110.7	8.0	F
EB	Left Turn	7	7	95.7%	52.1	28.8	D
	Through	254	255	100.6%	38.5	3.4	D
	Right Turn	84	83	98.6%	6.4	1.5	A
	Subtotal	345	345	100.0%	31.5	2.0	C
WB	Left Turn	342	280	82.0%	49.9	6.6	D
	Through	419	367	87.6%	31.3	4.9	C
	Right Turn	180	149	82.9%	6.8	1.7	A
	Subtotal	941	797	84.7%	33.9	4.0	C
Total		3,862	3,371	87.3%	56.0	1.7	E

Intersection 13 **El Centro Rd/Duckhorn Dr** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	917	918	100.1%	1.9	0.2	A
	Right Turn	32	31	96.9%	0.7	0.3	A
	Subtotal	949	949	99.9%	1.9	0.2	A
SB	Left Turn	162	125	77.1%	12.2	4.2	B
	Through	777	625	80.4%	2.2	0.2	A
	Right Turn						
	Subtotal	939	749	79.8%	3.8	0.7	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	256	253	98.8%	14.2	4.7	B
	Subtotal	256	253	98.8%	14.2	4.7	B
Total		2,144	1,951	91.0%	4.2	0.9	A

Intersection 19 **Natomas Central Dr/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	12	12	99.2%	23.1	12.0	C
	Through	19	21	108.9%	23.6	6.8	C
	Right Turn	56	53	95.4%	3.5	1.2	A
	Subtotal	87	86	98.9%	11.4	3.9	B
SB	Left Turn	66	66	99.8%	24.8	3.5	C
	Through	24	23	95.0%	21.9	11.8	C
	Right Turn	6	6	106.7%	4.2	4.9	A
	Subtotal	96	95	99.1%	23.3	3.2	C
EB	Left Turn	72	71	98.9%	25.5	6.1	C
	Through	223	223	99.9%	16.2	5.1	B
	Right Turn	84	87	103.2%	4.0	0.9	A
	Subtotal	379	381	100.4%	15.1	4.1	B
WB	Left Turn	93	85	91.2%	23.8	5.8	C
	Through	166	149	90.0%	15.2	7.6	B
	Right Turn	181	162	89.4%	5.1	1.2	A
	Subtotal	440	396	90.0%	12.9	3.4	B
Total		1,002	958	95.6%	14.8	3.2	B

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	752	557	74.0%	121.3	25.4	F
	Through						
	Right Turn	206	164	79.7%	19.2	4.9	B
	Subtotal	958	721	75.3%	97.3	17.8	F
EB	Left Turn						
	Through	609	496	81.4%	117.1	53.4	F
	Right Turn						
	Subtotal	609	496	81.4%	117.1	53.4	F
WB	Left Turn						
	Through	735	638	86.8%	7.3	2.0	A
	Right Turn	468	412	88.1%	2.7	0.3	A
	Subtotal	1,203	1,050	87.3%	5.5	1.3	A
Total		2,770	2,267	81.8%	57.6	14.6	E

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	270	232	86.0%	112.5	17.2	F
	Through						
	Right Turn	1,397	1,139	81.5%	202.2	14.9	F
	Subtotal	1,667	1,371	82.2%	188.4	12.8	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,201	860	71.6%	87.9	8.2	F
	Right Turn						
	Subtotal	1,201	860	71.6%	87.9	8.2	F
WB	Left Turn						
	Through	933	818	87.7%	1.9	0.3	A
	Right Turn						
	Subtotal	933	818	87.7%	1.9	0.3	A
Total		3,801	3,048	80.2%	108.1	4.5	F

Intersection 22 **E Commerce Wy/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	427	431	100.9%	131.0	55.7	F
	Through	947	946	99.8%	60.4	8.4	E
	Right Turn	456	462	101.2%	46.2	13.1	D
	Subtotal	1,830	1,838	100.4%	74.1	16.7	E
SB	Left Turn	975	546	55.9%	208.9	2.3	F
	Through	399	221	55.4%	49.9	5.6	D
	Right Turn	112	60	53.2%	2.2	1.0	A
	Subtotal	1,486	826	55.6%	151.1	6.2	F
EB	Left Turn	975	729	74.7%	219.0	6.2	F
	Through	1,340	1,022	76.2%	60.9	4.2	E
	Right Turn	283	216	76.2%	21.8	3.4	C
	Subtotal	2,598	1,966	75.7%	114.8	4.9	F
WB	Left Turn	373	334	89.5%	86.7	25.1	F
	Through	1,115	972	87.2%	83.1	7.2	F
	Right Turn	684	593	86.7%	143.5	7.7	F
	Subtotal	2,172	1,899	87.4%	102.5	3.4	F
Total		8,086	6,529	80.7%	104.5	5.3	F

SimTraffic LOS Report

Cumulative No Project Conditions (PM Peak Hour)

W. El Camino Avenue (#17, #33 to #39)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	46	48	104.6%	31.7	7.1	C
	Right Turn	144	142	98.8%	14.1	2.6	B
	Subtotal	190	190	100.2%	18.4	3.0	B
SB	Left Turn	939	955	101.7%	108.7	14.2	F
	Through	41	43	105.4%	10.2	5.4	B
	Right Turn						
	Subtotal	980	998	101.8%	104.7	13.3	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	115	115	100.3%	27.0	7.0	C
	Through						
	Right Turn	1,321	1,303	98.7%	22.7	4.3	C
	Subtotal	1,436	1,419	98.8%	23.0	4.0	C
Total		2,606	2,607	100.0%	53.8	5.4	D

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	396	391	98.8%	21.7	2.2	C
	Through						
	Right Turn	157	159	101.1%	3.8	0.5	A
	Subtotal	553	550	99.4%	16.6	1.6	B
EB	Left Turn						
	Through	379	386	101.9%	7.1	0.9	A
	Right Turn	718	725	100.9%	5.4	0.6	A
	Subtotal	1,097	1,111	101.3%	6.0	0.6	A
WB	Left Turn						
	Through	1,279	1,262	98.6%	8.0	1.6	A
	Right Turn						
	Subtotal	1,279	1,262	98.6%	8.0	1.6	A
Total		2,929	2,923	99.8%	8.8	0.9	A

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	951	940	98.8%	14.0	1.4	B
	Through						
	Right Turn	669	665	99.5%	15.8	5.6	B
	Subtotal	1,620	1,605	99.1%	14.9	2.6	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	616	618	100.2%	10.4	1.0	B
	Right Turn						
	Subtotal	616	618	100.2%	10.4	1.0	B
WB	Left Turn						
	Through	924	914	98.9%	15.5	3.1	B
	Right Turn	565	586	103.8%	1.2	0.2	A
	Subtotal	1,489	1,500	100.8%	10.0	2.1	B
Total		3,725	3,723	99.9%	12.2	1.4	B

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	190	197	103.7%	68.7	28.1	E
	Through	31	31	99.4%	62.7	17.6	E
	Right Turn	97	97	100.4%	23.8	8.0	C
	Subtotal	318	325	102.3%	55.4	20.7	E
SB	Left Turn	122	121	98.9%	47.2	9.6	D
	Through	12	10	85.0%	47.5	13.2	D
	Right Turn	79	81	102.3%	22.2	3.8	C
	Subtotal	213	212	99.4%	37.5	7.0	D
EB	Left Turn	124	119	96.0%	45.2	9.2	D
	Through	962	962	100.0%	11.6	1.4	B
	Right Turn	199	198	99.6%	2.7	1.0	A
	Subtotal	1,285	1,280	99.6%	13.5	1.6	B
WB	Left Turn	117	119	101.3%	49.5	6.3	D
	Through	1,220	1,213	99.4%	29.6	6.1	C
	Right Turn	201	200	99.5%	24.2	8.4	C
	Subtotal	1,538	1,531	99.6%	30.4	5.7	C
Total		3,354	3,348	99.8%	26.9	3.0	C

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	98.0%	31.3	15.2	C
	Through	11	13	118.2%	42.0	12.9	D
	Right Turn	32	33	101.9%	13.0	6.1	B
	Subtotal	53	55	104.5%	23.6	5.4	C
SB	Left Turn	37	33	89.2%	28.3	8.2	C
	Through	6	6	91.7%	31.6	16.7	C
	Right Turn	25	28	112.0%	16.6	7.1	B
	Subtotal	68	67	97.8%	25.2	5.2	C
EB	Left Turn	25	25	99.6%	38.3	11.1	D
	Through	1,129	1,137	100.7%	14.1	3.2	B
	Right Turn	27	27	98.9%	14.1	7.4	B
	Subtotal	1,181	1,188	100.6%	14.6	3.2	B
WB	Left Turn	59	58	97.8%	29.6	6.2	C
	Through	1,503	1,489	99.1%	12.4	2.6	B
	Right Turn	57	59	104.2%	7.9	2.8	A
	Subtotal	1,619	1,606	99.2%	12.9	2.5	B
Total		2,921	2,916	99.8%	14.2	2.2	B

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	474	470	99.1%	141.8	36.1	F
	Through	62	63	101.3%	77.2	18.2	E
	Right Turn	384	384	99.9%	20.1	9.0	C
	Subtotal	920	916	99.6%	85.6	23.7	F
SB	Left Turn	445	448	100.7%	111.5	8.8	F
	Through	115	113	98.4%	35.7	8.1	D
	Right Turn	320	322	100.7%	9.4	2.3	A
	Subtotal	880	883	100.4%	63.1	6.0	E
EB	Left Turn	98	95	97.0%	45.6	5.0	D
	Through	748	755	100.9%	34.1	6.5	C
	Right Turn	257	249	96.9%	8.7	1.7	A
	Subtotal	1,103	1,099	99.6%	29.5	4.9	C
WB	Left Turn	228	226	99.2%	57.9	6.8	E
	Through	774	769	99.3%	33.0	8.4	C
	Right Turn	90	93	103.4%	4.6	1.6	A
	Subtotal	1,092	1,088	99.6%	35.9	6.3	D
Total		3,995	3,986	99.8%	51.5	7.0	D

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	934	941	100.7%	0.3	0.1	A
	Right Turn						
	Subtotal	934	941	100.7%	0.3	0.1	A
WB	Left Turn						
	Through	1,092	1,088	99.6%	1.8	0.2	A
	Right Turn	193	194	100.6%	1.6	0.4	A
	Subtotal	1,285	1,282	99.7%	1.8	0.2	A
Total		2,219	2,222	100.1%	1.2	0.2	A

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	205	205	100.1%	42.0	4.8	D
	Through						
	Right Turn	730	740	101.3%	4.8	0.4	A
	Subtotal	935	945	101.1%	13.8	1.6	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	934	940	100.7%	3.7	0.8	A
	Right Turn						
	Subtotal	934	940	100.7%	3.7	0.8	A
WB	Left Turn						
	Through	1,080	1,078	99.8%	4.0	0.7	A
	Right Turn						
	Subtotal	1,080	1,078	99.8%	4.0	0.7	A
Total		2,949	2,963	100.5%	7.1	1.0	A

SimTraffic LOS Report

Cumulative No Project Conditions (PM Peak Hour)

Garden Highway (#7 to #11)

Intersection 7 **Gateway Oaks Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	4	4	92.5%	13.5	16.1	B
	Through	6	5	78.3%	17.6	20.9	B
	Right Turn	36	42	115.3%	13.0	7.3	B
	Subtotal	46	50	108.5%	15.3	7.7	B
SB	Left Turn	848	477	56.3%	197.9	68.8	F
	Through	1	0	40.0%	5.7	18.1	A
	Right Turn	46	28	60.2%	28.7	19.2	C
	Subtotal	895	505	56.4%	191.3	70.2	F
EB	Left Turn	28	28	100.0%	59.5	89.5	E
	Through	141	135	95.6%	93.9	94.9	F
	Right Turn	1	1	130.0%	19.3	38.3	B
	Subtotal	170	164	96.5%	87.7	93.5	F
WB	Left Turn	10	6	61.0%	34.8	31.5	C
	Through	192	127	66.1%	16.9	3.1	B
	Right Turn	297	190	64.1%	7.8	1.8	A
	Subtotal	499	323	64.8%	12.4	2.3	B
Total		1,610	1,042	64.7%	97.4	37.0	F

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	837	315	37.7%	169.3	40.5	F
	Through						
	Right Turn	114	45	39.3%	85.9	21.2	F
	Subtotal	951	360	37.9%	157.6	38.1	F
EB	Left Turn	423	239	56.5%	333.2	68.4	F
	Through	603	362	60.0%	291.8	67.9	F
	Right Turn						
	Subtotal	1,026	601	58.6%	308.2	67.9	F
WB	Left Turn						
	Through	382	275	72.0%	24.1	6.9	C
	Right Turn	339	276	81.3%	5.4	0.6	A
	Subtotal	721	551	76.4%	15.0	4.5	B
Total		2,698	1,512	56.0%	157.1	10.2	F

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	411	262	63.8%	168.2	27.7	F
	Through						
	Right Turn	241	157	65.3%	46.1	17.4	D
	Subtotal	652	419	64.3%	124.9	23.2	F
EB	Left Turn	326	173	53.2%	235.4	27.4	F
	Through	1,114	486	43.6%	249.0	32.5	F
	Right Turn						
	Subtotal	1,440	659	45.8%	245.4	29.4	F
WB	Left Turn						
	Through	474	391	82.5%	82.5	35.2	F
	Right Turn	778	626	80.5%	99.7	46.7	F
	Subtotal	1,252	1,017	81.2%	93.4	42.5	F
Total		3,344	2,095	62.7%	145.2	19.2	F

Intersection 10 **Natomas Park Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	20	21	104.5%	44.1	21.6	D
	Through	8	7	82.5%	51.7	52.7	D
	Right Turn	9	8	87.8%	30.7	39.0	C
	Subtotal	37	35	95.7%	43.7	22.7	D
SB	Left Turn	148	146	98.5%	67.9	29.0	E
	Through	10	12	118.0%	31.4	13.8	C
	Right Turn	330	328	99.5%	25.7	14.6	C
	Subtotal	488	486	99.5%	39.8	12.9	D
EB	Left Turn	36	18	49.4%	259.2	65.2	F
	Through	1,468	717	48.9%	270.3	12.9	F
	Right Turn	20	11	54.5%	264.1	46.2	F
	Subtotal	1,524	746	49.0%	269.6	12.7	F
WB	Left Turn	10	7	68.0%	29.9	24.7	C
	Through	902	681	75.5%	49.5	20.9	D
	Right Turn	44	36	80.7%	39.8	17.0	D
	Subtotal	956	723	75.6%	48.9	20.5	D
Total		3,005	1,990	66.2%	129.1	14.6	F

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative No Project**
Volume and Delay by Movement **PM Peak Hour**

Intersection 11 **Truxel Rd/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	204	163	79.7%	298.8	94.8	F
	Through	1,141	896	78.5%	187.2	11.9	F
	Right Turn	107	89	82.7%	178.9	21.3	F
	Subtotal	1,452	1,147	79.0%	200.6	15.7	F
SB	Left Turn	115	119	103.4%	74.8	13.6	E
	Through	919	917	99.8%	66.4	10.1	E
	Right Turn	9	10	107.8%	56.0	26.2	E
	Subtotal	1,043	1,046	100.2%	67.4	10.2	E
EB	Left Turn	220	112	50.8%	175.4	23.9	F
	Through	1,197	647	54.0%	125.7	8.3	F
	Right Turn	208	115	55.4%	16.1	5.1	B
	Subtotal	1,625	874	53.8%	117.5	9.6	F
WB	Left Turn	87	67	77.1%	237.8	31.4	F
	Through	743	572	76.9%	234.8	29.2	F
	Right Turn	134	101	75.2%	206.9	25.4	F
	Subtotal	964	740	76.7%	232.3	25.8	F
Total		5,084	3,806	74.9%	148.8	4.5	F

SimTraffic LOS Report

Cumulative No Project Conditions (PM Peak Hour)

San Juan Road (#16)

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative No Project**
Volume and Delay by Movement **PM Peak Hour**

Intersection 16 **El Centro Rd/San Juan Rd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	782	400	51.1%	277.1	14.2	F
	Right Turn	390	214	55.0%	255.4	15.1	F
	Subtotal	1,172	614	52.4%	269.6	11.7	F
SB	Left Turn	102	90	88.0%	154.6	79.9	F
	Through	389	352	90.6%	210.3	78.4	F
	Right Turn	17	18	107.6%	165.9	91.6	F
	Subtotal	508	461	90.6%	197.8	77.7	F
EB	Left Turn	11	11	96.4%	7.7	3.6	A
	Through	2	1	65.0%	5.4	8.7	A
	Right Turn	128	135	105.3%	11.3	3.2	B
	Subtotal	141	147	104.0%	11.2	2.9	B
WB	Left Turn	366	338	92.4%	251.5	71.3	F
	Through	20	18	90.0%	270.1	81.6	F
	Right Turn	92	87	94.8%	221.2	85.7	F
	Subtotal	478	443	92.7%	246.3	74.0	F
Total		2,299	1,665	72.4%	221.7	32.3	F

SimTraffic LOS Report

Cumulative Plus Project Conditions (AM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	52	46	89.0%	82.3	8.7	F
	Through	886	785	88.6%	75.7	6.4	E
	Right Turn	485	433	89.2%	55.1	10.8	E
	Subtotal	1,423	1,264	88.8%	69.0	7.3	E
SB	Left Turn	445	326	73.3%	225.9	23.8	F
	Through	994	736	74.0%	165.2	13.6	F
	Right Turn	14	10	73.6%	66.1	12.8	E
	Subtotal	1,453	1,073	73.8%	182.3	14.4	F
EB	Left Turn	5	5	100.0%	45.7	37.1	D
	Through	230	231	100.4%	47.4	21.8	D
	Right Turn	127	134	105.8%	28.4	9.8	C
	Subtotal	362	370	102.3%	40.8	18.3	D
WB	Left Turn	416	193	46.4%	415.9	16.5	F
	Through	69	33	48.4%	230.8	57.1	F
	Right Turn	264	126	47.6%	153.4	19.5	F
	Subtotal	749	352	47.0%	320.1	23.7	F
Total		3,987	3,059	76.7%	132.4	9.0	F

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	244	98	40.0%	455.3	240.7	F
	Through	7	4	50.0%	57.1	71.3	E
	Right Turn	397	189	47.5%	248.6	122.8	F
	Subtotal	648	290	44.7%	284.1	131.8	F
SB	Left Turn	51	53	102.9%	88.4	57.8	F
	Through	4	4	90.0%	60.5	42.8	E
	Right Turn	13	15	115.4%	127.5	125.5	F
	Subtotal	68	71	104.6%	102.4	52.4	F
EB	Left Turn	1	1	80.0%	18.7	40.0	B
	Through	996	846	85.0%	62.7	33.4	E
	Right Turn	163	136	83.4%	20.2	12.3	C
	Subtotal	1,160	983	84.8%	56.7	30.4	E
WB	Left Turn	214	112	52.3%	231.1	47.7	F
	Through	514	269	52.3%	322.1	77.5	F
	Right Turn	39	22	55.6%	180.9	49.0	F
	Subtotal	767	403	52.5%	293.1	68.9	F
Total		2,643	1,747	66.1%	127.1	21.8	F

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	129	63	48.5%	439.5	187.0	F
	Through	90	52	58.2%	122.8	125.0	F
	Right Turn	736	421	57.2%	48.9	23.5	D
	Subtotal	955	536	56.1%	110.8	39.5	F
SB	Left Turn	155	122	78.8%	225.1	49.6	F
	Through	143	113	79.2%	259.3	46.9	F
	Right Turn	180	141	78.2%	279.5	53.5	F
	Subtotal	478	376	78.7%	254.8	47.4	F
EB	Left Turn	242	188	77.7%	133.5	47.2	F
	Through	1,177	899	76.4%	50.2	19.4	D
	Right Turn	61	49	80.7%	17.7	12.0	B
	Subtotal	1,480	1,136	76.8%	63.7	22.5	E
WB	Left Turn	452	251	55.5%	295.0	53.2	F
	Through	458	258	56.4%	447.3	48.7	F
	Right Turn	151	113	74.9%	35.9	13.7	D
	Subtotal	1,061	623	58.7%	315.7	29.8	F
Total		3,974	2,671	67.2%	151.5	17.5	F

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	399	243	60.9%	527.9	193.7	F
	Through						
	Right Turn	105	62	58.9%	528.7	184.2	F
	Subtotal	504	305	60.5%	526.0	189.5	F
EB	Left Turn						
	Through	930	626	67.3%	165.4	85.5	F
	Right Turn	1,148	791	68.9%	35.3	28.7	D
	Subtotal	2,078	1,417	68.2%	94.2	53.3	F
WB	Left Turn						
	Through	956	627	65.6%	207.7	47.4	F
	Right Turn						
	Subtotal	956	627	65.6%	207.7	47.4	F
Total		3,538	2,350	66.4%	164.8	39.5	F

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	536	355	66.3%	239.2	88.5	F
	Through						
	Right Turn	1,345	904	67.2%	241.8	20.8	F
	Subtotal	1,881	1,260	67.0%	239.3	21.6	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,156	705	61.0%	137.9	15.5	F
	Right Turn						
	Subtotal	1,156	705	61.0%	137.9	15.5	F
WB	Left Turn						
	Through	1,062	854	80.4%	382.3	109.3	F
	Right Turn	36	32	88.9%	63.8	88.3	E
	Subtotal	1,098	886	80.7%	370.8	107.6	F
Total		4,135	2,850	68.9%	237.3	24.0	F

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	369	326	88.3%	306.8	192.4	F
	Through	311	302	97.1%	57.9	12.2	E
	Right Turn	118	119	100.6%	6.8	1.7	A
	Subtotal	798	747	93.6%	107.7	28.6	F
SB	Left Turn	314	308	98.1%	65.0	16.9	E
	Through	378	371	98.1%	52.8	6.1	D
	Right Turn	340	313	92.0%	100.3	120.4	F
	Subtotal	1,032	992	96.1%	64.1	25.7	E
EB	Left Turn	726	457	63.0%	52.0	6.6	D
	Through	714	463	64.8%	33.0	5.1	C
	Right Turn	1,061	687	64.8%	167.7	11.4	F
	Subtotal	2,501	1,608	64.3%	97.2	7.7	F
WB	Left Turn	583	525	90.0%	197.0	55.2	F
	Through	387	343	88.6%	180.2	151.2	F
	Right Turn	494	440	89.1%	114.2	168.5	F
	Subtotal	1,464	1,307	89.3%	153.0	57.9	F
Total		5,795	4,653	80.3%	102.4	13.8	F

SimTraffic LOS Report

Cumulative Plus Project Conditions (AM Peak Hour)

Del Paso Road (#12 to #13, #19 to #22)

Intersection 12 **El Centro Rd/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	195	179	91.8%	142.1	27.1	F
	Through	894	782	87.4%	179.9	23.9	F
	Right Turn	469	410	87.4%	118.7	22.1	F
	Subtotal	1,558	1,371	88.0%	157.0	23.2	F
SB	Left Turn	886	751	84.7%	122.9	6.2	F
	Through	635	525	82.6%	43.5	4.4	D
	Right Turn	10	9	86.0%	6.8	6.4	A
	Subtotal	1,531	1,284	83.9%	89.2	5.7	F
EB	Left Turn	41	28	69.0%	57.5	17.4	E
	Through	918	601	65.4%	89.8	3.6	F
	Right Turn	167	100	59.6%	47.9	11.9	D
	Subtotal	1,126	729	64.7%	82.1	3.7	F
WB	Left Turn	442	302	68.3%	333.6	31.5	F
	Through	737	583	79.1%	53.1	7.4	D
	Right Turn	169	134	79.4%	8.6	2.8	A
	Subtotal	1,348	1,019	75.6%	132.6	15.0	F
Total		5,563	4,402	79.1%	118.5	8.3	F

Intersection 13 **El Centro Rd/Duckhorn Dr** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,416	1,347	95.1%	83.4	18.5	F
	Right Turn	46	46	98.9%	85.3	22.5	F
	Subtotal	1,462	1,392	95.2%	83.4	18.5	F
SB	Left Turn	215	157	73.1%	33.3	14.3	D
	Through	1,031	770	74.6%	2.9	0.3	A
	Right Turn						
	Subtotal	1,246	927	74.4%	8.8	4.7	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	141	34	23.8%	500.6	41.1	F
	Subtotal	141	34	23.8%	500.6	41.1	F
Total		2,849	2,353	82.6%	54.8	11.5	F

Intersection 19 **Natomas Central Dr/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	147	146	99.5%	31.4	8.6	C
	Through	19	18	95.3%	21.8	13.4	C
	Right Turn	118	117	99.2%	48.7	16.2	D
	Subtotal	284	282	99.1%	39.2	9.2	D
SB	Left Turn	379	142	37.5%	371.8	25.1	F
	Through	15	6	42.7%	224.7	151.0	F
	Right Turn	22	7	33.6%	264.4	135.4	F
	Subtotal	416	156	37.5%	364.8	23.4	F
EB	Left Turn	8	6	80.0%	373.5	124.9	F
	Through	629	460	73.2%	477.0	58.7	F
	Right Turn	61	42	68.4%	556.1	70.7	F
	Subtotal	698	508	72.8%	482.3	53.9	F
WB	Left Turn	29	22	76.2%	46.0	14.1	D
	Through	830	677	81.6%	28.5	5.4	C
	Right Turn	42	33	79.5%	8.9	2.6	A
	Subtotal	901	733	81.3%	28.2	5.1	C
Total		2,299	1,679	73.0%	193.7	13.5	F

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	492	463	94.1%	32.9	15.2	C
	Through						
	Right Turn	397	370	93.3%	55.4	53.8	E
	Subtotal	889	834	93.8%	43.1	32.0	D
EB	Left Turn						
	Through	1,011	783	77.4%	7.8	1.8	A
	Right Turn						
	Subtotal	1,011	783	77.4%	7.8	1.8	A
WB	Left Turn						
	Through	951	679	71.4%	41.8	49.1	D
	Right Turn	1,082	797	73.7%	4.9	0.5	A
	Subtotal	2,033	1,476	72.6%	21.4	22.6	C
Total		3,933	3,093	78.6%	23.0	17.6	C

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	291	285	98.0%	36.4	7.6	D
	Through						
	Right Turn	1,029	1,053	102.3%	19.1	1.6	B
	Subtotal	1,320	1,338	101.3%	22.9	2.0	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,190	994	83.5%	14.3	2.3	B
	Right Turn						
	Subtotal	1,190	994	83.5%	14.3	2.3	B
WB	Left Turn						
	Through	1,742	1,196	68.6%	2.9	0.4	A
	Right Turn						
	Subtotal	1,742	1,196	68.6%	2.9	0.4	A
Total		4,252	3,528	83.0%	13.8	1.2	B

Intersection 22 **E Commerce Wy/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	261	237	90.8%	271.8	91.7	F
	Through	455	444	97.6%	65.4	6.3	E
	Right Turn	255	252	98.7%	17.2	3.4	B
	Subtotal	971	933	96.1%	104.0	25.2	F
SB	Left Turn	777	496	63.8%	223.5	4.3	F
	Through	612	391	63.9%	55.8	6.1	E
	Right Turn	853	548	64.2%	14.7	2.1	B
	Subtotal	2,242	1,435	64.0%	99.5	4.9	F
EB	Left Turn	745	696	93.4%	102.5	28.5	F
	Through	1,086	1,005	92.5%	34.8	3.5	C
	Right Turn	388	356	91.9%	10.9	0.9	B
	Subtotal	2,219	2,057	92.7%	54.7	10.2	D
WB	Left Turn	533	363	68.1%	61.1	6.8	E
	Through	1,323	890	67.3%	62.0	5.0	E
	Right Turn	1,040	708	68.1%	123.5	3.8	F
	Subtotal	2,896	1,961	67.7%	84.4	2.8	F
Total		8,328	6,386	76.7%	81.3	5.6	F

SimTraffic LOS Report

Cumulative Plus Project Conditions (AM Peak Hour)

W. El Camino Avenue (#17, #33 to #39, #61 to #63, #68 to #69, #74, #77 to #83, #89, #95, #101)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	8	9	110.0%	53.7	31.7	D
	Through	305	302	98.9%	50.7	10.7	D
	Right Turn	619	618	99.8%	38.5	8.2	D
	Subtotal	932	928	99.6%	42.5	6.8	D
SB	Left Turn	2,002	809	40.4%	347.7	9.2	F
	Through	214	85	39.6%	240.7	13.1	F
	Right Turn	65	24	36.3%	225.3	9.0	F
	Subtotal	2,281	917	40.2%	335.4	8.3	F
EB	Left Turn	71	65	91.4%	74.1	17.5	E
	Through	637	613	96.2%	47.7	7.0	D
	Right Turn	15	14	96.0%	11.8	9.4	B
	Subtotal	723	692	95.7%	49.5	6.9	D
WB	Left Turn	440	298	67.6%	278.3	89.0	F
	Through	750	582	77.6%	93.5	16.1	F
	Right Turn	1,877	1,559	83.1%	31.8	4.9	C
	Subtotal	3,067	2,439	79.5%	74.2	9.6	E
Total		7,003	4,976	71.0%	115.0	8.1	F

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	697	528	75.8%	698.0	232.4	F
	Through						
	Right Turn	856	562	65.6%	802.2	260.6	F
	Subtotal	1,553	1,090	70.2%	753.8	246.3	F
EB	Left Turn						
	Through	1,836	1,143	62.3%	18.9	1.8	B
	Right Turn	1,422	897	63.1%	9.7	0.9	A
	Subtotal	3,258	2,040	62.6%	14.8	1.1	B
WB	Left Turn						
	Through	2,211	1,872	84.6%	74.7	21.0	E
	Right Turn	187	175	93.4%	10.7	3.3	B
	Subtotal	2,398	2,046	85.3%	69.6	19.5	E
Total		7,209	5,176	71.8%	165.2	44.5	F

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,238	947	76.5%	638.0	208.4	F
	Through						
	Right Turn	177	151	85.5%	349.2	181.2	F
	Subtotal	1,415	1,098	77.6%	597.3	207.2	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,829	1,241	67.9%	23.7	12.3	C
	Right Turn						
	Subtotal	1,829	1,241	67.9%	23.7	12.3	C
WB	Left Turn						
	Through	1,160	1,128	97.2%	48.8	29.2	D
	Right Turn	616	591	96.0%	2.7	1.2	A
	Subtotal	1,776	1,719	96.8%	31.9	17.8	C
Total		5,020	4,058	80.8%	154.4	36.6	F

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	298	277	93.1%	131.8	32.2	F
	Through	11	12	109.1%	100.4	44.8	F
	Right Turn	107	107	99.8%	67.3	30.5	E
	Subtotal	416	396	95.2%	112.9	31.6	F
SB	Left Turn	160	160	99.8%	48.0	11.0	D
	Through	32	32	99.4%	41.1	11.5	D
	Right Turn	119	123	103.3%	29.2	5.7	C
	Subtotal	311	314	101.1%	39.9	6.9	D
EB	Left Turn	41	26	64.1%	49.4	12.6	D
	Through	1,851	1,305	70.5%	10.6	1.3	B
	Right Turn	118	85	71.6%	1.8	0.7	A
	Subtotal	2,010	1,416	70.5%	10.9	1.4	B
WB	Left Turn	46	39	85.0%	50.5	11.1	D
	Through	1,359	1,344	98.9%	27.5	5.4	C
	Right Turn	70	75	106.7%	18.1	4.9	B
	Subtotal	1,475	1,458	98.8%	27.7	5.1	C
Total		4,212	3,585	85.1%	31.8	4.6	C

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	100.0%	48.3	18.1	D
	Through	4	4	95.0%	9.0	17.9	A
	Right Turn	47	45	96.2%	23.8	9.2	C
	Subtotal	61	59	96.7%	28.4	8.8	C
SB	Left Turn	36	35	97.8%	41.6	12.0	D
	Through	8	9	116.3%	49.4	14.1	D
	Right Turn	20	21	107.0%	21.6	7.5	C
	Subtotal	64	66	103.0%	35.6	6.3	D
EB	Left Turn	13	9	68.5%	63.6	25.2	E
	Through	2,068	1,537	74.3%	26.1	4.6	C
	Right Turn	37	26	71.4%	27.2	9.0	C
	Subtotal	2,118	1,572	74.2%	26.3	4.6	C
WB	Left Turn	193	185	95.6%	52.5	7.5	D
	Through	1,445	1,425	98.6%	18.5	7.9	B
	Right Turn	24	24	100.8%	11.4	7.5	B
	Subtotal	1,662	1,633	98.3%	22.3	7.2	C
Total		3,905	3,330	85.3%	24.7	4.8	C

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	276	274	99.2%	66.1	12.8	E
	Through	84	88	104.4%	49.0	12.0	D
	Right Turn	140	138	98.5%	12.2	3.8	B
	Subtotal	500	499	99.9%	49.0	8.1	D
SB	Left Turn	93	94	101.0%	54.4	7.7	D
	Through	26	24	93.8%	58.7	11.8	E
	Right Turn	71	74	104.1%	3.9	1.3	A
	Subtotal	190	192	101.2%	33.7	5.2	C
EB	Left Turn	297	221	74.3%	51.4	7.0	D
	Through	1,258	952	75.7%	24.8	4.6	C
	Right Turn	500	377	75.3%	12.1	3.6	B
	Subtotal	2,055	1,549	75.4%	26.0	3.6	C
WB	Left Turn	316	308	97.5%	67.8	16.9	E
	Through	1,260	1,241	98.5%	60.7	21.3	E
	Right Turn	420	428	102.0%	30.0	16.5	C
	Subtotal	1,996	1,977	99.1%	55.5	19.1	E
Total		4,741	4,218	89.0%	42.4	9.1	D

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	859	686	79.9%	0.4	0.1	A
	Right Turn						
	Subtotal	859	686	79.9%	0.4	0.1	A
WB	Left Turn						
	Through	1,996	1,978	99.1%	13.9	15.2	B
	Right Turn	348	344	99.0%	15.7	16.0	C
	Subtotal	2,344	2,322	99.1%	14.2	15.3	B
Total		3,203	3,008	93.9%	11.2	12.1	B

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	788	775	98.4%	53.9	8.8	D
	Through						
	Right Turn	447	439	98.1%	6.7	0.7	A
	Subtotal	1,235	1,214	98.3%	37.4	6.4	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	859	686	79.9%	6.0	1.4	A
	Right Turn						
	Subtotal	859	686	79.9%	6.0	1.4	A
WB	Left Turn						
	Through	1,556	1,551	99.6%	16.4	7.5	B
	Right Turn						
	Subtotal	1,556	1,551	99.6%	16.4	7.5	B
Total		3,650	3,451	94.5%	22.5	5.2	C

Intersection 61 **El Centro Rd/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	355	299	84.3%	110.2	63.8	F
	Through	1,258	1,067	84.8%	31.4	12.2	C
	Right Turn	67	60	88.8%	13.0	14.0	B
	Subtotal	1,680	1,426	84.9%	48.4	21.4	D
SB	Left Turn	368	176	47.7%	638.2	24.7	F
	Through	1,200	558	46.5%	667.0	29.2	F
	Right Turn	176	83	47.1%	656.3	38.2	F
	Subtotal	1,744	816	46.8%	659.1	26.1	F
EB	Left Turn	159	64	39.9%	557.1	36.9	F
	Through	121	45	37.2%	580.7	76.2	F
	Right Turn	362	130	35.8%	592.5	60.3	F
	Subtotal	642	238	37.1%	578.3	44.9	F
WB	Left Turn	604	135	22.3%	1007.0	108.5	F
	Through	65	19	29.8%	514.2	103.2	F
	Right Turn	137	44	32.1%	503.6	130.2	F
	Subtotal	806	198	24.6%	878.8	108.6	F
Total		4,872	2,678	55.0%	345.6	12.2	F

Intersection 62 **MDR Access/Farm Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	2	1	45.0%	241.4	339.9	F
	Through						
	Right Turn	70	47	67.0%	470.1	156.8	F
	Subtotal	72	48	66.4%	474.8	155.3	F
EB	Left Turn	18	8	45.0%	62.1	97.1	F
	Through	538	268	49.7%	3.1	0.9	A
	Right Turn						
	Subtotal	556	276	49.6%	5.6	3.4	A
WB	Left Turn						
	Through	736	152	20.6%	426.2	60.4	F
	Right Turn	3	1	20.0%	30.5	95.5	D
	Subtotal	739	152	20.6%	425.6	59.4	F
Total		1,367	476	34.8%	191.7	25.5	F

Intersection 63 **Orchard Ln/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	652	130	19.9%	726.6	32.6	F
	Through						
	Right Turn	9	2	17.8%	625.4	331.5	F
	Subtotal	661	132	19.9%	721.2	26.5	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	11	5	40.9%	6.8	10.4	A
	Right Turn	529	266	50.2%	4.8	1.1	A
	Subtotal	540	270	50.0%	4.8	1.2	A
WB	Left Turn	9	6	68.9%	482.6	299.3	F
	Through	87	50	57.0%	530.4	165.8	F
	Right Turn						
	Subtotal	96	56	58.1%	528.5	168.3	F
Total		1,297	458	35.3%	247.4	38.7	F

Intersection 68 **El Centro Rd/Street 6** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,680	1,441	85.8%	3.0	5.7	A
	Right Turn						
	Subtotal	1,680	1,441	85.8%	3.0	5.7	A
SB	Left Turn						
	Through	2,214	861	38.9%	105.4	4.5	F
	Right Turn	2	1	45.0%	12.5	24.7	B
	Subtotal	2,216	862	38.9%	105.3	4.5	F
EB	Left Turn						
	Through						
	Right Turn	102	87	85.6%	276.2	131.5	F
	Subtotal	102	87	85.6%	276.2	131.5	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,998	2,390	59.8%	51.2	5.0	F

Intersection 69 **El Centro Rd/CMU/EMC Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,570	1,334	85.0%	1.9	4.8	A
	Right Turn	683	595	87.2%	1.2	0.2	A
	Subtotal	2,253	1,930	85.6%	1.7	3.4	A
SB	Left Turn						
	Through	2,316	950	41.0%	60.8	3.1	F
	Right Turn						
	Subtotal	2,316	950	41.0%	60.8	3.1	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	110	105	95.6%	11.2	12.3	B
	Subtotal	110	105	95.6%	11.2	12.3	B
Total		4,679	2,985	63.8%	22.1	2.6	C

Intersection 74 **El Centro Rd/Street 5** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,253	1,929	85.6%	1.9	1.7	A
	Right Turn						
	Subtotal	2,253	1,929	85.6%	1.9	1.7	A
SB	Left Turn						
	Through	2,234	917	41.0%	47.7	1.6	E
	Right Turn	82	34	41.6%	5.0	6.1	A
	Subtotal	2,316	951	41.1%	46.1	1.9	E
EB	Left Turn						
	Through						
	Right Turn	47	0	0.0%	900.0	0.0	F
	Subtotal	47	0	0.0%	0.0	0.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		4,616	2,880	62.4%	17.1	1.8	C

Intersection 77 **Street E/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	97	100	102.6%	7.4	0.8	A
	Through	2	2	95.0%	6.4	7.5	A
	Right Turn	1	1	120.0%	1.2	2.2	A
	Subtotal	100	103	102.6%	7.4	0.8	A
SB	Left Turn						
	Through	2	1	60.0%	1.9	4.3	A
	Right Turn	36	41	112.5%	4.0	0.7	A
	Subtotal	38	42	109.7%	4.1	0.7	A
EB	Left Turn	37	36	97.8%	2.6	0.6	A
	Through	114	114	99.8%	1.5	0.6	A
	Right Turn	52	52	100.0%	0.5	0.3	A
	Subtotal	203	202	99.5%	1.5	0.3	A
WB	Left Turn	2	1	35.0%	1.4	2.3	A
	Through	226	197	87.0%	3.4	0.3	A
	Right Turn	2	2	80.0%	0.8	1.2	A
	Subtotal	230	199	86.5%	3.4	0.3	A
Total		571	545	95.5%	3.6	0.3	A

Intersection 78 **Street D/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	18	18	97.2%	5.1	2.1	A
	Through	32	31	97.5%	6.9	1.0	A
	Right Turn	70	71	101.7%	3.5	0.3	A
	Subtotal	120	120	99.9%	4.6	0.7	A
SB	Left Turn	49	48	97.1%	4.9	0.5	A
	Through	8	10	127.5%	5.2	3.2	A
	Right Turn	4	6	145.0%	3.1	1.6	A
	Subtotal	61	64	104.3%	4.9	0.5	A
EB	Left Turn	5	4	86.0%	5.6	2.5	A
	Through	97	97	99.6%	9.6	1.0	A
	Right Turn	13	14	107.7%	3.6	0.9	A
	Subtotal	115	115	99.9%	8.8	1.2	A
WB	Left Turn	61	53	86.2%	8.8	0.6	A
	Through	208	175	84.0%	12.0	0.3	B
	Right Turn	82	68	82.7%	6.8	0.6	A
	Subtotal	351	295	84.1%	10.3	0.3	B
Total		647	594	91.7%	8.4	0.4	A

Intersection 79 **Street C/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	41	39	93.9%	7.2	1.1	A
	Right Turn	77	79	103.0%	4.0	0.6	A
	Subtotal	118	118	99.8%	5.0	0.9	A
SB	Left Turn	86	85	98.6%	6.1	0.8	A
	Through	36	33	92.5%	7.5	1.2	A
	Right Turn	1	2	160.0%	1.7	2.5	A
	Subtotal	123	120	97.3%	6.4	0.7	A
EB	Left Turn	2	2	85.0%	2.1	3.8	A
	Through	214	214	100.0%	10.3	0.7	B
	Right Turn						
	Subtotal	216	216	99.9%	10.3	0.7	B
WB	Left Turn	70	57	81.3%	11.9	1.5	B
	Through	350	293	83.8%	14.5	1.2	B
	Right Turn	102	81	79.8%	10.3	1.3	B
	Subtotal	522	432	82.7%	13.3	1.1	B
Total		979	885	90.4%	10.6	0.8	B

Intersection 80 **Street B/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	42	40	95.2%	5.9	0.8	A
	Through	47	49	105.1%	7.3	0.6	A
	Right Turn						
	Subtotal	89	89	100.4%	6.7	0.4	A
SB	Left Turn						
	Through	31	28	89.4%	6.8	0.3	A
	Right Turn	12	11	94.2%	3.6	1.2	A
	Subtotal	43	39	90.7%	5.8	0.5	A
EB	Left Turn	9	9	98.9%	9.3	2.1	A
	Through	363	365	100.4%	11.3	0.7	B
	Right Turn	5	6	128.0%	5.7	4.0	A
	Subtotal	377	380	100.8%	11.2	0.7	B
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		509	508	99.9%	10.0	0.7	B

Intersection 81 **Street A/W. El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	11	107.0%	20.5	10.6	C
	Through	40	37	92.5%	26.3	4.3	C
	Right Turn	153	149	97.1%	13.6	4.3	B
	Subtotal	203	196	96.7%	16.7	3.4	B
SB	Left Turn	125	124	99.3%	33.1	8.1	C
	Through	45	45	99.3%	35.0	10.1	C
	Right Turn	13	15	116.2%	24.4	13.5	C
	Subtotal	183	184	100.5%	32.7	7.1	C
EB	Left Turn	9	9	102.2%	42.5	25.8	D
	Through	345	345	100.1%	16.3	3.5	B
	Right Turn	9	8	93.3%	8.1	5.3	A
	Subtotal	363	363	100.0%	16.7	3.2	B
WB	Left Turn	168	122	72.9%	43.5	5.4	D
	Through	446	354	79.3%	12.5	2.8	B
	Right Turn	209	163	78.1%	8.5	1.5	A
	Subtotal	823	639	77.7%	17.4	2.6	B
Total		1,572	1,382	87.9%	19.3	2.6	B

Intersection 82 **Parking Garage/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	100	100	100.0%	6.9	2.7	A
	Subtotal	100	100	100.0%	6.9	2.7	A
EB	Left Turn						
	Through	723	693	95.8%	5.4	2.5	A
	Right Turn						
	Subtotal	723	693	95.8%	5.4	2.5	A
WB	Left Turn						
	Through	723	539	74.6%	5.7	0.7	A
	Right Turn	100	76	76.3%	3.6	0.4	A
	Subtotal	823	615	74.8%	5.5	0.6	A
Total		1,646	1,408	85.5%	5.5	1.4	A

Intersection 83 **El Centro Rd/Tomato Patch Ln North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	872	870	99.8%	1.3	1.1	A
	Right Turn	4	5	112.5%	0.7	1.7	A
	Subtotal	876	875	99.9%	1.3	1.1	A
SB	Left Turn						
	Through	669	396	59.2%	1.2	0.2	A
	Right Turn						
	Subtotal	669	396	59.2%	1.2	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	60	58	96.7%	20.2	10.6	C
	Subtotal	60	58	96.7%	20.2	10.6	C
Total		1,605	1,329	82.8%	2.2	1.3	A

Intersection 89 **El Centro Rd/Street 4** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	657	658	100.2%	2.0	0.7	A
	Right Turn						
	Subtotal	657	658	100.2%	2.0	0.7	A
SB	Left Turn						
	Through	554	324	58.5%	0.1	0.0	A
	Right Turn	115	72	62.2%	0.3	0.1	A
	Subtotal	669	396	59.2%	0.2	0.0	A
EB	Left Turn	219	216	98.7%	52.7	27.1	F
	Through						
	Right Turn	8	9	111.3%	3.8	3.7	A
	Subtotal	227	225	99.1%	51.6	27.2	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,553	1,279	82.4%	9.8	5.1	A

Intersection 95 **El Centro Rd/Street 3/Tomato Patch Ln South** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	1	65.0%	12.6	21.6	B
	Through	359	354	98.5%	14.8	2.0	B
	Right Turn	5	6	112.0%	7.5	8.8	A
	Subtotal	366	361	98.5%	14.8	2.0	B
SB	Left Turn	380	223	58.6%	24.9	8.1	C
	Through	46	29	62.4%	7.9	5.3	A
	Right Turn	136	82	60.3%	3.6	0.5	A
	Subtotal	562	333	59.3%	18.0	6.2	B
EB	Left Turn	193	192	99.4%	15.7	1.6	B
	Through	7	7	102.9%	13.5	10.5	B
	Right Turn						
	Subtotal	200	199	99.5%	15.7	1.8	B
WB	Left Turn	11	10	90.9%	12.3	9.4	B
	Through	3	3	106.7%	8.7	10.6	A
	Right Turn	105	113	107.4%	5.5	1.0	A
	Subtotal	119	126	105.9%	6.5	1.4	A
Total		1,247	1,019	81.7%	15.2	3.0	B

Intersection 101 **El Centro Rd/Street 2** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	64	64	100.2%	0.3	0.1	A
	Right Turn						
	Subtotal	64	64	100.2%	0.3	0.1	A
SB	Left Turn						
	Through	7	4	50.0%	1.3	2.0	A
	Right Turn	50	34	68.0%	1.1	0.4	A
	Subtotal	57	38	65.8%	1.2	0.7	A
EB	Left Turn	302	296	98.0%	6.4	0.5	A
	Through						
	Right Turn						
	Subtotal	302	296	98.0%	6.4	0.5	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		423	398	94.0%	5.0	0.6	A

SimTraffic LOS Report

Cumulative Plus Project Conditions (AM Peak Hour)

Garden Highway (#7 to #11)

Intersection 7 **Gateway Oaks Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2	2	80.0%	13.4	20.5	B
	Right Turn	5	7	142.0%	5.7	4.0	A
	Subtotal	7	9	124.3%	11.5	9.4	B
SB	Left Turn	366	359	98.1%	86.7	64.6	F
	Through	5	5	100.0%	37.8	58.1	D
	Right Turn	59	63	105.9%	9.0	10.7	A
	Subtotal	430	427	99.2%	74.3	54.7	E
EB	Left Turn	57	56	98.6%	129.6	101.6	F
	Through	623	597	95.8%	127.7	107.0	F
	Right Turn						
	Subtotal	680	653	96.0%	127.8	106.3	F
WB	Left Turn	27	23	83.3%	35.0	10.0	D
	Through	269	197	73.0%	15.8	2.7	B
	Right Turn	773	583	75.4%	13.0	5.0	B
	Subtotal	1,069	802	75.0%	14.6	4.3	B
Total		2,186	1,890	86.5%	69.2	46.9	E

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	627	598	95.4%	54.3	31.3	D
	Through						
	Right Turn	206	195	94.9%	20.3	19.0	C
	Subtotal	833	794	95.3%	45.7	27.0	D
EB	Left Turn	588	540	91.9%	207.6	39.5	F
	Through	407	389	95.7%	86.8	25.0	F
	Right Turn						
	Subtotal	995	930	93.4%	157.2	32.5	F
WB	Left Turn						
	Through	862	599	69.5%	135.8	33.0	F
	Right Turn	394	263	66.7%	214.0	89.2	F
	Subtotal	1,256	862	68.6%	167.0	24.7	F
Total		3,084	2,585	83.8%	122.9	18.8	F

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	296	190	64.3%	81.7	18.8	F
	Through						
	Right Turn	673	436	64.7%	101.2	66.5	F
	Subtotal	969	626	64.6%	96.9	51.6	F
EB	Left Turn	101	87	86.0%	115.1	73.5	F
	Through	933	875	93.8%	103.1	68.8	F
	Right Turn						
	Subtotal	1,034	962	93.0%	104.8	68.8	F
WB	Left Turn						
	Through	572	432	75.6%	186.0	80.8	F
	Right Turn	409	294	71.9%	196.1	101.5	F
	Subtotal	981	727	74.1%	189.3	87.1	F
Total		2,984	2,314	77.6%	114.2	21.7	F

Intersection 10 **Natomas Park Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	17	16	95.9%	64.9	61.1	E
	Through	3	4	126.7%	47.2	70.1	D
	Right Turn	16	14	90.0%	41.4	54.1	D
	Subtotal	36	35	95.8%	54.7	58.9	D
SB	Left Turn	53	53	99.8%	59.3	19.8	E
	Through	9	8	87.8%	38.4	28.6	D
	Right Turn	28	29	102.9%	19.0	9.2	B
	Subtotal	90	90	99.6%	41.2	10.6	D
EB	Left Turn	283	231	81.5%	226.7	25.6	F
	Through	932	767	82.3%	188.2	18.6	F
	Right Turn	14	12	85.7%	154.6	36.2	F
	Subtotal	1,229	1,010	82.2%	196.9	16.6	F
WB	Left Turn	23	17	72.6%	47.1	29.9	D
	Through	936	710	75.9%	73.7	41.9	E
	Right Turn	91	71	78.0%	69.0	47.2	E
	Subtotal	1,050	798	76.0%	72.7	41.5	E
Total		2,405	1,932	80.3%	139.9	20.0	F

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative Plus Project**
Volume and Delay by Movement **AM Peak Hour**

Intersection 11 **Truxel Rd/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	185	156	84.2%	419.4	160.9	F
	Through	697	673	96.5%	74.3	21.5	E
	Right Turn	42	41	97.9%	60.6	22.5	E
	Subtotal	924	869	94.1%	124.0	27.6	F
SB	Left Turn	212	158	74.3%	166.7	15.3	F
	Through	1,306	983	75.3%	167.2	11.9	F
	Right Turn	168	121	71.9%	168.3	17.7	F
	Subtotal	1,686	1,262	74.8%	167.5	11.6	F
EB	Left Turn	90	69	76.1%	165.0	12.9	F
	Through	778	652	83.7%	126.2	7.2	F
	Right Turn	133	112	84.1%	15.9	4.6	B
	Subtotal	1,001	832	83.1%	115.2	6.4	F
WB	Left Turn	94	73	78.0%	265.1	64.8	F
	Through	697	551	79.1%	281.0	118.6	F
	Right Turn	155	126	81.5%	252.4	90.1	F
	Subtotal	946	751	79.4%	272.8	104.9	F
Total		4,557	3,714	81.5%	158.0	10.8	F

SimTraffic LOS Report

Cumulative Plus Project Conditions (AM Peak Hour)

San Juan Road (#16)

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative Plus Project**
Volume and Delay by Movement **AM Peak Hour**

Intersection 16 **El Centro Rd/San Juan Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	229	220	96.0%	65.2	14.3	E
	Through	911	924	101.4%	45.0	7.8	D
	Right Turn	240	246	102.4%	16.0	3.9	B
	Subtotal	1,380	1,390	100.7%	43.1	6.3	D
SB	Left Turn	310	314	101.3%	68.2	9.4	E
	Through	1,133	1,133	100.0%	43.6	6.6	D
	Right Turn	68	68	99.9%	12.1	4.6	B
	Subtotal	1,511	1,515	100.3%	47.1	5.8	D
EB	Left Turn	167	171	102.5%	51.0	9.6	D
	Through	79	79	99.5%	46.2	7.3	D
	Right Turn	81	85	105.2%	14.0	3.1	B
	Subtotal	327	335	102.4%	41.2	4.9	D
WB	Left Turn	350	356	101.6%	64.1	17.1	E
	Through	87	86	99.2%	56.0	28.1	E
	Right Turn	281	289	102.9%	25.6	11.3	C
	Subtotal	718	731	101.8%	48.0	15.6	D
Total		3,936	3,971	100.9%	45.5	4.8	D

SimTraffic LOS Report

Cumulative Plus Project Conditions (PM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	85	73	86.1%	70.4	7.4	E
	Through	903	804	89.0%	61.1	5.5	E
	Right Turn	561	498	88.8%	41.4	2.0	D
	Subtotal	1,549	1,375	88.8%	54.6	3.5	D
SB	Left Turn	350	316	90.2%	198.5	38.3	F
	Through	843	776	92.1%	156.8	23.1	F
	Right Turn	6	7	110.0%	36.7	37.8	D
	Subtotal	1,199	1,098	91.6%	168.1	26.9	F
EB	Left Turn	3	3	96.7%	37.1	41.2	D
	Through	91	91	99.8%	34.0	6.7	C
	Right Turn	19	18	93.2%	19.7	6.9	B
	Subtotal	113	111	98.6%	32.4	6.7	C
WB	Left Turn	608	218	35.9%	374.0	26.2	F
	Through	138	50	36.3%	216.4	30.6	F
	Right Turn	381	133	34.8%	147.4	24.9	F
	Subtotal	1,127	401	35.6%	277.0	25.1	F
Total		3,988	2,986	74.9%	125.7	10.6	F

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	226	110	48.6%	393.2	52.7	F
	Through	9	6	67.8%	179.0	227.2	F
	Right Turn	203	105	51.8%	228.1	62.8	F
	Subtotal	438	221	50.5%	311.5	69.2	F
SB	Left Turn	81	80	99.0%	29.6	6.8	C
	Through	5	6	114.0%	52.0	46.4	D
	Right Turn	10	12	121.0%	51.5	37.2	D
	Subtotal	96	98	102.1%	35.8	9.1	D
EB	Left Turn	20	19	96.5%	42.3	32.0	D
	Through	721	651	90.3%	17.8	4.3	B
	Right Turn	258	235	90.9%	4.3	0.8	A
	Subtotal	999	905	90.6%	14.8	3.1	B
WB	Left Turn	245	83	33.8%	197.6	29.6	F
	Through	910	285	31.3%	272.7	30.0	F
	Right Turn	58	20	34.0%	136.4	31.4	F
	Subtotal	1,213	387	31.9%	250.6	29.1	F
Total		2,746	1,611	58.7%	111.2	5.5	F

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	85	53	62.7%	409.9	119.5	F
	Through	55	41	75.1%	99.0	50.4	F
	Right Turn	469	341	72.7%	52.9	24.3	D
	Subtotal	609	436	71.5%	107.0	33.4	F
SB	Left Turn	290	167	57.6%	211.1	65.5	F
	Through	166	93	55.7%	267.9	55.0	F
	Right Turn	254	136	53.5%	264.0	72.4	F
	Subtotal	710	396	55.7%	244.5	63.9	F
EB	Left Turn	225	191	84.8%	69.7	30.2	E
	Through	767	665	86.6%	34.5	5.1	C
	Right Turn	55	46	82.9%	8.4	3.1	A
	Subtotal	1,047	901	86.1%	41.0	6.7	D
WB	Left Turn	729	185	25.3%	183.7	71.8	F
	Through	872	214	24.5%	425.0	85.7	F
	Right Turn	141	47	33.5%	4.0	1.5	A
	Subtotal	1,742	446	25.6%	298.2	65.0	F
Total		4,108	2,178	53.0%	132.8	14.4	F

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	225	211	93.7%	174.9	79.8	F
	Through						
	Right Turn	116	89	76.4%	439.6	102.4	F
	Subtotal	341	300	87.8%	264.0	92.7	F
EB	Left Turn						
	Through	764	592	77.5%	5.1	1.5	A
	Right Turn	765	580	75.8%	1.2	0.2	A
	Subtotal	1,529	1,172	76.6%	3.2	0.8	A
WB	Left Turn						
	Through	1,626	411	25.3%	374.5	99.2	F
	Right Turn						
	Subtotal	1,626	411	25.3%	374.5	99.2	F
Total		3,496	1,883	53.9%	109.4	26.0	F

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	906	399	44.0%	605.2	59.4	F
	Through						
	Right Turn	1,378	721	52.3%	233.0	64.1	F
	Subtotal	2,284	1,120	49.0%	375.3	78.6	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	857	702	81.9%	26.6	4.8	C
	Right Turn						
	Subtotal	857	702	81.9%	26.6	4.8	C
WB	Left Turn						
	Through	1,897	577	30.4%	691.0	114.9	F
	Right Turn	288	98	34.2%	338.8	235.1	F
	Subtotal	2,185	676	30.9%	656.5	134.9	F
Total		5,326	2,497	46.9%	225.7	39.8	F

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,072	251	23.4%	806.5	79.6	F
	Through	373	99	26.5%	36.4	37.7	D
	Right Turn	410	107	26.0%	4.4	4.1	A
	Subtotal	1,855	457	24.6%	312.8	253.1	F
SB	Left Turn	512	266	52.0%	152.2	269.7	F
	Through	199	103	51.8%	140.9	268.6	F
	Right Turn	598	266	44.5%	682.0	202.6	F
	Subtotal	1,309	635	48.5%	191.8	134.9	F
EB	Left Turn	738	488	66.1%	51.4	12.5	D
	Through	1,097	707	64.4%	22.1	4.9	C
	Right Turn	400	252	63.0%	6.8	3.1	A
	Subtotal	2,235	1,446	64.7%	29.8	6.4	C
WB	Left Turn	173	82	47.4%	44.8	36.8	D
	Through	512	201	39.3%	754.0	140.9	F
	Right Turn	312	122	38.9%	813.6	107.8	F
	Subtotal	997	405	40.6%	496.6	293.5	F
Total		6,396	2,942	46.0%	90.7	67.6	F

SimTraffic LOS Report

Cumulative Plus Project Conditions (PM Peak Hour)

Del Paso Road (#12 to #13, #19 to #22)

Intersection 12 **El Centro Rd/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	130	123	94.5%	55.7	9.7	E
	Through	883	884	100.1%	68.6	12.0	E
	Right Turn	487	471	96.7%	19.6	8.0	B
	Subtotal	1,500	1,477	98.5%	52.1	10.5	D
SB	Left Turn	847	654	77.2%	146.8	14.7	F
	Through	763	584	76.5%	40.4	3.3	D
	Right Turn	29	23	79.7%	6.8	3.3	A
	Subtotal	1,639	1,261	76.9%	95.5	7.8	F
EB	Left Turn	7	6	82.9%	48.6	28.9	D
	Through	267	262	97.9%	39.3	5.1	D
	Right Turn	90	93	103.0%	10.7	4.2	B
	Subtotal	364	360	98.9%	32.2	3.9	C
WB	Left Turn	539	438	81.3%	214.8	42.5	F
	Through	446	381	85.5%	58.2	13.6	E
	Right Turn	168	144	85.5%	8.0	1.3	A
	Subtotal	1,153	963	83.5%	128.0	28.8	F
Total		4,656	4,061	87.2%	80.7	6.4	F

Intersection 13 **El Centro Rd/Duckhorn Dr** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,249	1,261	100.9%	7.5	3.0	A
	Right Turn	35	36	101.4%	5.8	3.4	A
	Subtotal	1,284	1,296	101.0%	7.4	2.9	A
SB	Left Turn	198	154	78.0%	25.6	7.9	D
	Through	1,207	970	80.3%	3.0	0.7	A
	Right Turn						
	Subtotal	1,405	1,124	80.0%	6.0	2.0	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	249	216	86.7%	265.6	119.9	F
	Subtotal	249	216	86.7%	265.6	119.9	F
Total		2,938	2,637	89.7%	27.3	9.9	D

Intersection 19 **Natomas Central Dr/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	14	14	96.4%	38.2	18.1	D
	Through	16	17	103.1%	27.2	12.2	C
	Right Turn	56	57	102.0%	4.2	1.7	A
	Subtotal	86	87	101.3%	14.3	4.5	B
SB	Left Turn	66	67	101.8%	25.4	6.0	C
	Through	21	20	93.8%	28.3	7.7	C
	Right Turn	6	7	110.0%	3.4	4.0	A
	Subtotal	93	94	100.5%	24.0	4.3	C
EB	Left Turn	74	80	108.2%	25.1	4.3	C
	Through	242	241	99.4%	14.9	4.1	B
	Right Turn	88	82	93.2%	4.7	0.9	A
	Subtotal	404	403	99.7%	14.5	2.6	B
WB	Left Turn	135	116	85.9%	26.4	9.7	C
	Through	168	146	87.1%	16.5	4.0	B
	Right Turn	181	157	86.7%	6.5	2.4	A
	Subtotal	484	419	86.6%	15.8	3.9	B
Total		1,067	1,002	93.9%	15.9	2.6	B

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	783	552	70.4%	113.9	25.1	F
	Through						
	Right Turn	351	263	74.8%	25.5	9.5	C
	Subtotal	1,134	814	71.8%	87.4	20.7	F
EB	Left Turn						
	Through	744	560	75.2%	185.1	24.8	F
	Right Turn						
	Subtotal	744	560	75.2%	185.1	24.8	F
WB	Left Turn						
	Through	802	710	88.6%	10.8	3.1	B
	Right Turn	448	385	85.9%	2.6	0.1	A
	Subtotal	1,250	1,095	87.6%	8.0	2.1	A
Total		3,128	2,469	78.9%	69.3	6.2	E

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	267	217	81.3%	107.9	9.1	F
	Through						
	Right Turn	1,442	1,113	77.2%	212.1	19.4	F
	Subtotal	1,709	1,330	77.8%	197.5	16.9	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,245	841	67.6%	88.4	10.0	F
	Right Turn						
	Subtotal	1,245	841	67.6%	88.4	10.0	F
WB	Left Turn						
	Through	983	877	89.2%	2.0	0.2	A
	Right Turn						
	Subtotal	983	877	89.2%	2.0	0.2	A
Total		3,937	3,048	77.4%	110.0	8.5	F

Intersection 22 **E Commerce Wy/Del Paso Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	427	419	98.1%	103.2	34.1	F
	Through	920	915	99.5%	59.5	9.4	E
	Right Turn	513	511	99.5%	124.9	55.9	F
	Subtotal	1,860	1,845	99.2%	88.5	20.4	F
SB	Left Turn	1,162	547	47.1%	207.5	3.8	F
	Through	517	234	45.3%	50.3	5.5	D
	Right Turn	125	59	47.2%	1.7	0.3	A
	Subtotal	1,804	840	46.6%	150.6	8.3	F
EB	Left Turn	1,026	727	70.9%	219.7	6.6	F
	Through	1,373	995	72.5%	57.0	4.7	E
	Right Turn	288	205	71.1%	18.2	4.9	B
	Subtotal	2,687	1,927	71.7%	117.0	6.0	F
WB	Left Turn	379	330	87.2%	100.0	18.3	F
	Through	1,172	1,058	90.2%	88.2	11.9	F
	Right Turn	667	589	88.2%	138.1	7.4	F
	Subtotal	2,218	1,977	89.1%	105.7	5.8	F
Total		8,569	6,589	76.9%	109.7	7.1	F

SimTraffic LOS Report

Cumulative Plus Project Conditions (PM Peak Hour)

W. El Camino Avenue (#17, #33 to #39, #61 to #63, #68 to #69, #74, #77 to #83, #89, #95, #101)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	20	18	90.0%	93.4	42.2	F
	Through	279	273	97.9%	97.1	74.0	F
	Right Turn	491	488	99.3%	40.1	17.6	D
	Subtotal	790	779	98.6%	60.5	37.3	E
SB	Left Turn	2,090	728	34.8%	375.3	23.6	F
	Through	232	81	34.8%	263.1	25.4	F
	Right Turn	20	9	45.5%	242.4	14.7	F
	Subtotal	2,342	818	34.9%	362.8	23.1	F
EB	Left Turn	41	40	97.1%	141.3	84.9	F
	Through	872	808	92.7%	70.1	10.7	E
	Right Turn	8	8	102.5%	38.6	21.2	D
	Subtotal	921	856	93.0%	72.6	11.3	E
WB	Left Turn	721	421	58.4%	215.0	70.1	F
	Through	759	490	64.5%	70.2	12.3	E
	Right Turn	2,241	1,543	68.8%	67.5	29.6	E
	Subtotal	3,721	2,454	66.0%	93.6	30.9	F
Total		7,774	4,907	63.1%	131.2	22.9	F

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	313	167	53.4%	907.2	157.6	F
	Through						
	Right Turn	1,038	495	47.7%	985.5	187.4	F
	Subtotal	1,351	662	49.0%	966.9	178.3	F
EB	Left Turn						
	Through	1,933	1,134	58.7%	18.9	0.9	B
	Right Turn	1,520	890	58.5%	11.5	1.1	B
	Subtotal	3,453	2,024	58.6%	15.7	0.8	B
WB	Left Turn						
	Through	2,683	1,942	72.4%	68.2	7.1	E
	Right Turn	506	379	74.8%	11.6	5.2	B
	Subtotal	3,189	2,320	72.8%	60.0	6.0	E
Total		7,993	5,006	62.6%	147.6	10.9	F

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,534	1,076	70.1%	790.3	73.5	F
	Through						
	Right Turn	339	249	73.5%	534.8	46.7	F
	Subtotal	1,873	1,325	70.7%	748.2	70.8	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,394	816	58.5%	28.2	1.9	C
	Right Turn						
	Subtotal	1,394	816	58.5%	28.2	1.9	C
WB	Left Turn						
	Through	1,655	1,266	76.5%	78.6	14.6	E
	Right Turn	439	326	74.3%	6.4	2.0	A
	Subtotal	2,094	1,592	76.0%	63.9	13.1	E
Total		5,361	3,733	69.6%	278.0	21.8	F

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	216	195	90.5%	234.4	170.5	F
	Through	31	30	97.7%	201.9	203.0	F
	Right Turn	95	94	98.6%	163.6	181.1	F
	Subtotal	342	319	93.4%	209.0	177.6	F
SB	Left Turn	122	116	95.0%	151.7	146.8	F
	Through	12	13	107.5%	152.9	108.5	F
	Right Turn	79	79	99.6%	91.6	88.4	F
	Subtotal	213	208	97.4%	129.6	122.4	F
EB	Left Turn	124	79	63.5%	59.4	19.1	E
	Through	1,388	854	61.6%	12.6	3.9	B
	Right Turn	221	132	59.7%	2.8	0.9	A
	Subtotal	1,733	1,065	61.5%	14.8	3.2	B
WB	Left Turn	113	87	76.8%	97.8	27.3	F
	Through	1,799	1,354	75.3%	102.0	41.0	F
	Right Turn	201	153	76.0%	87.5	29.5	F
	Subtotal	2,113	1,593	75.4%	100.4	38.7	F
Total		4,401	3,186	72.4%	79.0	28.4	E

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	101.0%	56.7	33.0	E
	Through	11	12	111.8%	36.2	12.9	D
	Right Turn	32	34	105.9%	17.1	7.9	B
	Subtotal	53	56	106.2%	26.7	8.2	C
SB	Left Turn	37	34	90.5%	34.3	9.9	C
	Through	6	7	121.7%	22.7	20.4	C
	Right Turn	25	28	113.2%	27.3	11.8	C
	Subtotal	68	69	101.6%	30.8	9.5	C
EB	Left Turn	25	16	63.6%	39.0	10.6	D
	Through	1,553	1,031	66.4%	21.3	18.5	C
	Right Turn	27	19	70.7%	17.9	24.5	B
	Subtotal	1,605	1,066	66.4%	21.5	18.5	C
WB	Left Turn	59	45	75.4%	74.7	31.1	E
	Through	2,078	1,579	76.0%	85.0	51.1	F
	Right Turn	57	45	78.1%	75.2	50.8	E
	Subtotal	2,194	1,668	76.0%	84.5	50.5	F
Total		3,920	2,860	73.0%	56.3	27.4	E

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	512	519	101.3%	99.8	46.9	F
	Through	64	65	101.9%	59.2	31.0	E
	Right Turn	401	404	100.8%	48.5	35.1	D
	Subtotal	977	988	101.2%	73.7	37.5	E
SB	Left Turn	427	293	68.5%	300.7	54.0	F
	Through	138	96	69.6%	163.6	34.3	F
	Right Turn	349	242	69.3%	126.4	29.3	F
	Subtotal	914	631	69.0%	208.3	43.6	F
EB	Left Turn	117	79	67.5%	86.3	28.5	F
	Through	1,145	746	65.2%	117.1	48.8	F
	Right Turn	265	164	61.8%	72.4	40.3	E
	Subtotal	1,527	989	64.8%	106.4	45.4	F
WB	Left Turn	220	167	76.0%	143.3	21.0	F
	Through	1,278	947	74.1%	151.0	24.6	F
	Right Turn	121	89	73.1%	89.1	15.8	F
	Subtotal	1,619	1,203	74.3%	144.9	23.4	F
Total		5,037	3,810	75.6%	126.1	22.6	F

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,019	765	75.1%	0.3	0.1	A
	Right Turn						
	Subtotal	1,019	765	75.1%	0.3	0.1	A
WB	Left Turn						
	Through	1,619	1,227	75.8%	132.8	11.2	F
	Right Turn	104	69	65.9%	125.1	10.1	F
	Subtotal	1,723	1,295	75.2%	132.6	11.0	F
Total		2,742	2,060	75.1%	82.7	5.1	F

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	558	521	93.4%	184.2	82.8	F
	Through						
	Right Turn	652	622	95.4%	30.0	45.4	C
	Subtotal	1,210	1,143	94.5%	104.1	63.1	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,019	764	74.9%	7.3	1.1	A
	Right Turn						
	Subtotal	1,019	764	74.9%	7.3	1.1	A
WB	Left Turn						
	Through	1,165	821	70.5%	360.4	45.8	F
	Right Turn						
	Subtotal	1,165	821	70.5%	360.4	45.8	F
Total		3,394	2,728	80.4%	148.2	29.2	F

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative Plus Project Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 61 **El Centro Rd/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	760	515	67.8%	261.3	66.4	F
	Through	1,219	881	72.3%	109.2	31.0	F
	Right Turn	123	90	73.2%	91.5	31.2	F
	Subtotal	2,102	1,487	70.7%	163.6	45.1	F
SB	Left Turn	387	175	45.2%	643.0	35.2	F
	Through	1,092	474	43.4%	692.2	16.3	F
	Right Turn	115	50	43.7%	653.8	28.1	F
	Subtotal	1,594	700	43.9%	673.7	19.7	F
EB	Left Turn	226	172	75.9%	476.4	73.5	F
	Through	87	62	71.1%	475.6	94.7	F
	Right Turn	183	128	69.9%	512.2	64.1	F
	Subtotal	496	361	72.9%	488.7	62.2	F
WB	Left Turn	978	171	17.5%	754.0	96.8	F
	Through	60	14	22.8%	332.1	68.4	F
	Right Turn	516	96	18.5%	319.4	81.2	F
	Subtotal	1,554	280	18.0%	609.1	92.6	F
Total		5,746	2,828	49.2%	375.4	42.3	F

Intersection 62 **MDR Access/Farm Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	15	14	90.7%	220.3	279.2	F
	Through						
	Right Turn	28	26	92.5%	240.6	302.8	F
	Subtotal	43	40	91.9%	145.5	195.7	F
EB	Left Turn	64	36	55.9%	65.2	85.4	F
	Through	533	290	54.4%	2.0	0.4	A
	Right Turn						
	Subtotal	597	326	54.5%	5.7	6.3	A
WB	Left Turn						
	Through	1,526	244	16.0%	446.3	85.8	F
	Right Turn	14	3	22.1%	251.7	193.0	F
	Subtotal	1,540	247	16.0%	444.0	85.4	F
Total		2,180	612	28.1%	148.4	18.1	F

Intersection 63 **Orchard Ln/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,477	189	12.8%	541.5	81.7	F
	Through						
	Right Turn	15	1	8.7%	162.6	296.2	F
	Subtotal	1,492	190	12.7%	540.8	80.2	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	126	70	55.6%	21.8	5.2	C
	Right Turn	422	234	55.4%	3.9	1.7	A
	Subtotal	548	304	55.4%	8.0	2.5	A
WB	Left Turn	3	3	93.3%	20.0	56.7	C
	Through	63	56	89.0%	223.2	65.6	F
	Right Turn						
	Subtotal	66	59	89.2%	218.8	66.4	F
Total		2,106	553	26.2%	241.7	26.8	F

Intersection 68 **El Centro Rd/Street 6** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,102	1,489	70.9%	32.0	10.4	D
	Right Turn						
	Subtotal	2,102	1,489	70.9%	32.0	10.4	D
SB	Left Turn						
	Through	2,333	833	35.7%	109.5	10.4	F
	Right Turn	20	5	27.0%	28.0	36.3	D
	Subtotal	2,353	838	35.6%	109.1	10.5	F
EB	Left Turn						
	Through						
	Right Turn	7	7	94.3%	71.4	68.5	F
	Subtotal	7	7	94.3%	71.4	68.5	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		4,462	2,334	52.3%	62.2	11.5	F

Intersection 69 **El Centro Rd/CMU/EMC Dwy** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,707	1,226	71.8%	29.0	11.3	D
	Right Turn	854	624	73.1%	1.2	0.2	A
	Subtotal	2,561	1,850	72.2%	19.2	7.1	C
SB	Left Turn						
	Through	2,340	840	35.9%	66.0	6.3	F
	Right Turn						
	Subtotal	2,340	840	35.9%	66.0	6.3	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	395	267	67.7%	406.2	75.9	F
	Subtotal	395	267	67.7%	406.2	75.9	F
Total		5,296	2,957	55.8%	64.2	7.8	F

Intersection 74 **El Centro Rd/Street 5** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,561	1,855	72.4%	25.5	12.0	D
	Right Turn						
	Subtotal	2,561	1,855	72.4%	25.5	12.0	D
SB	Left Turn						
	Through	2,277	815	35.8%	54.2	4.9	F
	Right Turn	63	25	39.4%	6.2	7.8	A
	Subtotal	2,340	840	35.9%	52.9	5.0	F
EB	Left Turn						
	Through						
	Right Turn	65	0	0.0%	900.0	0.0	F
	Subtotal	65	0	0.0%	0.0	0.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		4,966	2,694	54.3%	33.4	8.4	D

Intersection 77 **Street E/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	86	88	101.9%	5.7	1.0	A
	Through	3	2	80.0%	2.6	3.4	A
	Right Turn	1	2	170.0%	0.5	1.1	A
	Subtotal	90	92	101.9%	5.7	1.0	A
SB	Left Turn						
	Through	4	3	80.0%	2.5	4.0	A
	Right Turn	56	50	90.0%	3.7	1.0	A
	Subtotal	60	54	89.3%	3.7	1.1	A
EB	Left Turn	34	34	98.8%	2.4	0.6	A
	Through	71	75	105.2%	1.5	0.4	A
	Right Turn	82	83	101.0%	0.4	0.2	A
	Subtotal	187	191	102.2%	1.2	0.2	A
WB	Left Turn	1	0	30.0%	0.0	0.0	A
	Through	108	86	79.4%	2.7	0.4	A
	Right Turn	1	1	120.0%	0.0	0.1	A
	Subtotal	110	87	79.3%	2.7	0.4	A
Total		447	424	94.8%	2.8	0.4	A

Intersection 78 **Street D/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	17	18	107.1%	5.2	1.1	A
	Through	19	17	91.6%	6.5	0.7	A
	Right Turn	71	72	101.5%	3.2	0.3	A
	Subtotal	107	108	100.7%	4.1	0.4	A
SB	Left Turn	89	90	101.3%	5.4	0.5	A
	Through	24	23	97.5%	6.2	0.6	A
	Right Turn	10	11	105.0%	3.7	1.2	A
	Subtotal	123	124	100.9%	5.4	0.4	A
EB	Left Turn	1	0	30.0%	1.4	0.4	A
	Through	59	62	105.3%	9.1	0.6	A
	Right Turn	12	14	120.0%	3.2	1.0	A
	Subtotal	72	77	106.7%	8.2	0.8	A
WB	Left Turn	90	66	73.6%	7.7	0.7	A
	Through	83	59	71.2%	10.8	0.5	B
	Right Turn	48	36	74.2%	5.8	0.8	A
	Subtotal	221	161	72.8%	8.6	0.6	A
Total		523	470	89.8%	6.7	0.3	A

Intersection 79 **Street C/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	42	41	97.9%	8.7	1.4	A
	Right Turn	103	105	101.8%	5.0	0.5	A
	Subtotal	145	146	100.7%	5.8	0.3	A
SB	Left Turn	148	145	98.1%	7.4	1.1	A
	Through	59	59	99.2%	8.4	2.0	A
	Right Turn	4	5	132.5%	3.2	2.6	A
	Subtotal	211	209	99.1%	7.6	1.2	A
EB	Left Turn	1	0	20.0%	0.0	0.0	A
	Through	218	224	102.9%	10.5	0.7	B
	Right Turn						
	Subtotal	219	225	102.5%	10.5	0.7	B
WB	Left Turn	109	77	70.8%	11.9	1.1	B
	Through	217	156	71.9%	14.0	0.9	B
	Right Turn	134	102	76.0%	9.5	1.7	A
	Subtotal	460	335	72.9%	12.2	0.9	B
Total		1,035	915	88.4%	9.8	0.7	A

Intersection 80 **Street B/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	14	14	97.9%	6.2	1.5	A
	Through	45	47	104.2%	6.8	0.7	A
	Right Turn						
	Subtotal	59	61	102.7%	6.6	0.5	A
SB	Left Turn						
	Through	88	87	99.1%	7.3	0.6	A
	Right Turn	17	16	94.7%	3.4	0.7	A
	Subtotal	105	103	98.4%	6.6	0.6	A
EB	Left Turn	9	7	81.1%	7.9	4.6	A
	Through	446	451	101.1%	13.5	2.8	B
	Right Turn	14	14	100.7%	9.0	5.9	A
	Subtotal	469	472	100.7%	13.4	2.8	B
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		633	636	100.5%	11.6	2.0	B

Intersection 81 **Street A/W. El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	9	9	102.2%	21.0	13.5	C
	Through	74	70	94.9%	22.3	7.3	C
	Right Turn	69	69	100.1%	18.8	6.5	B
	Subtotal	152	149	97.7%	20.7	5.8	C
SB	Left Turn	327	298	91.1%	112.0	34.9	F
	Through	140	124	88.2%	108.0	28.1	F
	Right Turn	16	16	102.5%	93.3	53.1	F
	Subtotal	483	438	90.7%	110.9	33.2	F
EB	Left Turn	14	14	102.9%	62.8	21.6	E
	Through	425	425	100.0%	46.8	16.4	D
	Right Turn	7	8	115.7%	35.5	30.0	D
	Subtotal	446	447	100.3%	47.4	15.9	D
WB	Left Turn	178	119	66.9%	120.7	58.9	F
	Through	404	278	68.8%	20.5	3.2	C
	Right Turn	167	115	68.7%	8.7	2.2	A
	Subtotal	749	512	68.3%	40.4	12.9	D
Total		1,830	1,545	84.4%	58.4	13.9	E

Intersection 82 **Parking Garage/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	100	98	97.8%	28.5	24.6	D
	Subtotal	100	98	97.8%	28.5	24.6	D
EB	Left Turn						
	Through	921	858	93.2%	19.7	3.6	C
	Right Turn						
	Subtotal	921	858	93.2%	19.7	3.6	C
WB	Left Turn						
	Through	649	418	64.4%	5.2	1.6	A
	Right Turn	150	101	67.2%	2.9	1.0	A
	Subtotal	799	519	64.9%	4.8	1.4	A
Total		1,820	1,475	81.0%	14.9	3.2	B

Intersection 83 **El Centro Rd/Tomato Patch Ln North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	637	627	98.4%	3.0	7.3	A
	Right Turn	5	5	96.0%	0.0	0.0	A
	Subtotal	642	631	98.3%	3.0	7.3	A
SB	Left Turn						
	Through	961	511	53.2%	1.1	0.2	A
	Right Turn						
	Subtotal	961	511	53.2%	1.1	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	153	152	99.5%	36.7	60.9	E
	Subtotal	153	152	99.5%	36.7	60.9	E
Total		1,756	1,295	73.7%	5.9	9.1	A

Intersection 89 **El Centro Rd/Street 4** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	510	499	97.9%	2.1	2.4	A
	Right Turn						
	Subtotal	510	499	97.9%	2.1	2.4	A
SB	Left Turn						
	Through	795	421	53.0%	0.1	0.0	A
	Right Turn	166	90	54.2%	0.3	0.1	A
	Subtotal	961	511	53.2%	0.2	0.0	A
EB	Left Turn	132	132	99.8%	51.5	100.3	F
	Through						
	Right Turn	6	7	108.3%	13.8	35.3	B
	Subtotal	138	138	100.1%	50.0	98.5	E
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,609	1,148	71.4%	6.8	12.1	A

Intersection 95 **El Centro Rd/Street 3/Tomato Patch Ln South** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	8	6	73.8%	14.9	8.2	B
	Through	138	142	102.8%	15.8	7.1	B
	Right Turn	12	12	97.5%	5.5	3.3	A
	Subtotal	158	160	100.9%	15.1	6.8	B
SB	Left Turn	285	153	53.6%	17.6	2.7	B
	Through	344	183	53.1%	7.5	2.4	A
	Right Turn	172	92	53.6%	3.6	1.0	A
	Subtotal	801	428	53.4%	10.4	1.1	B
EB	Left Turn	159	152	95.7%	22.7	33.6	C
	Through	6	7	116.7%	31.8	73.4	C
	Right Turn						
	Subtotal	165	159	96.5%	22.6	33.7	C
WB	Left Turn	17	16	93.5%	12.8	5.6	B
	Through	10	13	125.0%	15.7	25.8	B
	Right Turn	213	206	96.7%	8.8	13.7	A
	Subtotal	240	234	97.7%	9.7	14.1	A
Total		1,364	981	71.9%	12.7	9.1	B

Intersection 101 **El Centro Rd/Street 2** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	29	29	98.3%	0.1	0.1	A
	Right Turn						
	Subtotal	29	29	98.3%	0.1	0.1	A
SB	Left Turn						
	Through	59	31	52.9%	5.2	1.4	A
	Right Turn	302	167	55.2%	4.1	1.1	A
	Subtotal	361	198	54.8%	4.3	1.0	A
EB	Left Turn	129	130	100.9%	5.1	0.5	A
	Through						
	Right Turn						
	Subtotal	129	130	100.9%	5.1	0.5	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		519	357	68.7%	4.3	0.6	A

SimTraffic LOS Report

Cumulative Plus Project Conditions (PM Peak Hour)

Garden Highway (#7 to #11)

Intersection 7 **Gateway Oaks Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	4	4	87.5%	24.8	22.8	C
	Through	6	6	98.3%	19.5	15.7	B
	Right Turn	36	38	105.3%	16.4	16.5	B
	Subtotal	46	47	102.8%	19.3	15.4	B
SB	Left Turn	856	312	36.5%	235.0	54.3	F
	Through	1	1	50.0%	37.7	83.5	D
	Right Turn	49	19	39.2%	32.1	17.7	C
	Subtotal	906	332	36.6%	222.7	50.4	F
EB	Left Turn	33	23	68.2%	491.5	203.8	F
	Through	453	306	67.5%	464.3	176.7	F
	Right Turn	1	1	130.0%	91.5	146.1	F
	Subtotal	487	330	67.7%	465.0	176.7	F
WB	Left Turn	10	5	54.0%	40.8	19.5	D
	Through	556	366	65.8%	19.7	3.6	B
	Right Turn	305	194	63.4%	8.1	1.0	A
	Subtotal	871	565	64.8%	16.2	2.7	B
Total		2,310	1,274	55.1%	174.5	42.2	F

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	846	353	41.7%	165.0	41.5	F
	Through						
	Right Turn	120	50	41.5%	84.8	18.2	F
	Subtotal	966	402	41.7%	154.5	35.2	F
EB	Left Turn	681	317	46.5%	321.3	105.2	F
	Through	665	307	46.1%	276.4	103.6	F
	Right Turn						
	Subtotal	1,346	624	46.3%	297.7	100.9	F
WB	Left Turn						
	Through	748	510	68.2%	28.4	10.6	C
	Right Turn	320	264	82.6%	6.0	0.9	A
	Subtotal	1,068	774	72.5%	21.0	7.7	C
Total		3,380	1,800	53.3%	132.0	7.6	F

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	411	263	63.9%	149.9	29.3	F
	Through						
	Right Turn	530	333	62.9%	26.1	7.0	C
	Subtotal	941	596	63.3%	78.6	20.5	E
EB	Left Turn	348	146	42.0%	221.1	19.9	F
	Through	1,163	495	42.5%	244.5	29.3	F
	Right Turn						
	Subtotal	1,511	641	42.4%	239.4	27.2	F
WB	Left Turn						
	Through	532	436	81.9%	45.2	32.5	D
	Right Turn	758	620	81.8%	52.0	49.7	D
	Subtotal	1,290	1,056	81.8%	49.4	42.6	D
Total		3,742	2,293	61.3%	111.0	23.2	F

Intersection 10 **Natomas Park Dr/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	19	18	96.3%	45.6	28.8	D
	Through	9	7	77.8%	38.5	33.7	D
	Right Turn	9	10	114.4%	14.6	28.1	B
	Subtotal	37	36	96.2%	38.8	23.1	D
SB	Left Turn	157	155	98.9%	55.9	11.2	E
	Through	9	9	94.4%	42.0	39.2	D
	Right Turn	314	304	96.8%	16.3	9.1	B
	Subtotal	480	468	97.4%	29.7	7.5	C
EB	Left Turn	36	16	43.9%	309.3	98.7	F
	Through	1,513	732	48.4%	261.3	18.7	F
	Right Turn	24	11	44.6%	207.7	85.2	F
	Subtotal	1,573	759	48.2%	262.0	18.7	F
WB	Left Turn	12	9	74.2%	43.0	28.9	D
	Through	957	731	76.4%	26.8	16.6	C
	Right Turn	42	33	77.9%	17.8	13.9	B
	Subtotal	1,011	773	76.4%	26.6	16.3	C
Total		3,101	2,035	65.6%	115.6	10.4	F

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative Plus Project**
Volume and Delay by Movement **PM Peak Hour**

Intersection 11 **Truxel Rd/Garden Hwy** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	223	163	72.9%	244.8	53.0	F
	Through	1,230	929	75.5%	188.3	10.1	F
	Right Turn	106	84	79.2%	185.6	14.3	F
	Subtotal	1,559	1,175	75.4%	196.0	6.2	F
SB	Left Turn	120	117	97.4%	181.5	27.2	F
	Through	1,045	997	95.4%	168.0	20.4	F
	Right Turn	8	9	107.5%	151.2	71.0	F
	Subtotal	1,173	1,123	95.7%	169.5	20.7	F
EB	Left Turn	220	114	52.0%	163.7	16.3	F
	Through	1,245	667	53.6%	116.8	6.1	F
	Right Turn	214	115	53.9%	15.9	2.8	B
	Subtotal	1,679	897	53.4%	109.8	5.2	F
WB	Left Turn	59	41	69.5%	226.5	25.3	F
	Through	780	607	77.8%	215.5	13.4	F
	Right Turn	136	102	74.9%	190.8	12.9	F
	Subtotal	975	750	76.9%	213.0	12.0	F
Total		5,386	3,945	73.2%	171.5	7.2	F

SimTraffic LOS Report

Cumulative Plus Project Conditions (PM Peak Hour)

San Juan Road (#16)

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative Plus Project**
Volume and Delay by Movement **PM Peak Hour**

Intersection 16 **El Centro Rd/San Juan Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	55	56	102.2%	60.8	15.1	E
	Through	1,212	1,205	99.4%	35.6	4.9	D
	Right Turn	396	392	99.0%	15.1	2.1	B
	Subtotal	1,663	1,653	99.4%	31.8	4.0	C
SB	Left Turn	172	167	97.1%	63.5	12.5	E
	Through	1,089	1,093	100.4%	20.3	2.7	C
	Right Turn	152	146	95.9%	4.8	0.9	A
	Subtotal	1,413	1,406	99.5%	23.9	3.2	C
EB	Left Turn	112	104	93.1%	44.4	6.4	D
	Through	44	46	105.5%	42.0	8.0	D
	Right Turn	142	137	96.4%	12.7	4.6	B
	Subtotal	298	288	96.5%	28.5	3.3	C
WB	Left Turn	311	312	100.2%	54.1	10.5	D
	Through	82	79	96.6%	44.0	5.8	D
	Right Turn	164	166	101.2%	20.1	4.0	C
	Subtotal	557	557	99.9%	42.4	6.7	D
Total		3,931	3,903	99.3%	30.2	3.1	C

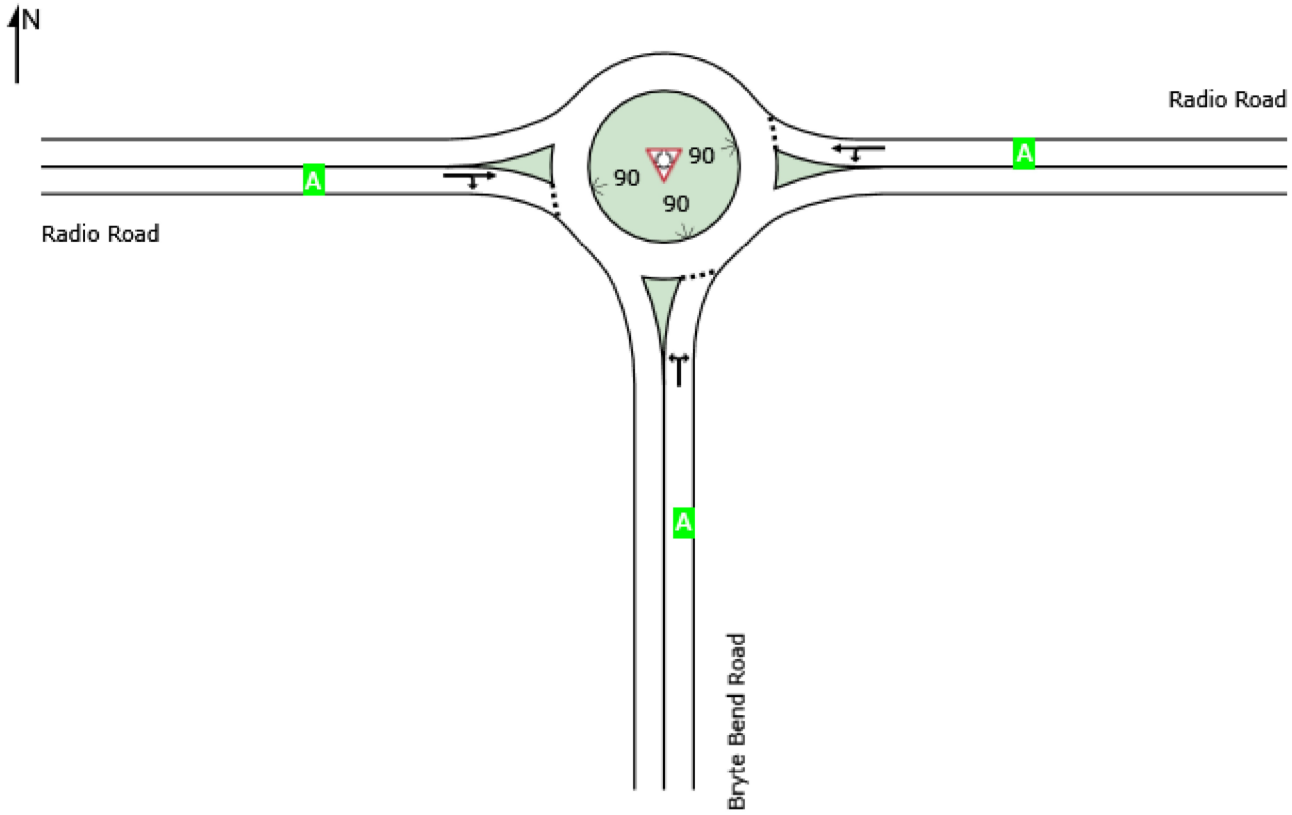
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 44 [44 Radio Road & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	West	
LOS	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 44 [44 Radio Road & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	4	2.0	0.350	6.3	LOS A	2.1	52.2	0.31	0.16	0.31	34.2
18	R2	425	2.0	0.350	6.3	LOS A	2.1	52.2	0.31	0.16	0.31	33.3
Approach		429	2.0	0.350	6.3	LOS A	2.1	52.2	0.31	0.16	0.31	33.3
East: Radio Road												
1	L2	230	2.0	0.224	4.6	LOS A	1.2	30.0	0.04	0.01	0.04	33.2
6	T1	72	2.0	0.224	4.6	LOS A	1.2	30.0	0.04	0.01	0.04	33.1
Approach		302	2.0	0.224	4.6	LOS A	1.2	30.0	0.04	0.01	0.04	33.1
West: Radio Road												
2	T1	93	2.0	0.109	4.3	LOS A	0.5	12.0	0.38	0.25	0.38	35.3
12	R2	23	2.0	0.109	4.3	LOS A	0.5	12.0	0.38	0.25	0.38	34.4
Approach		116	2.0	0.109	4.3	LOS A	0.5	12.0	0.38	0.25	0.38	35.1
All Vehicles		847	2.0	0.350	5.4	LOS A	2.1	52.2	0.22	0.12	0.22	33.5

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

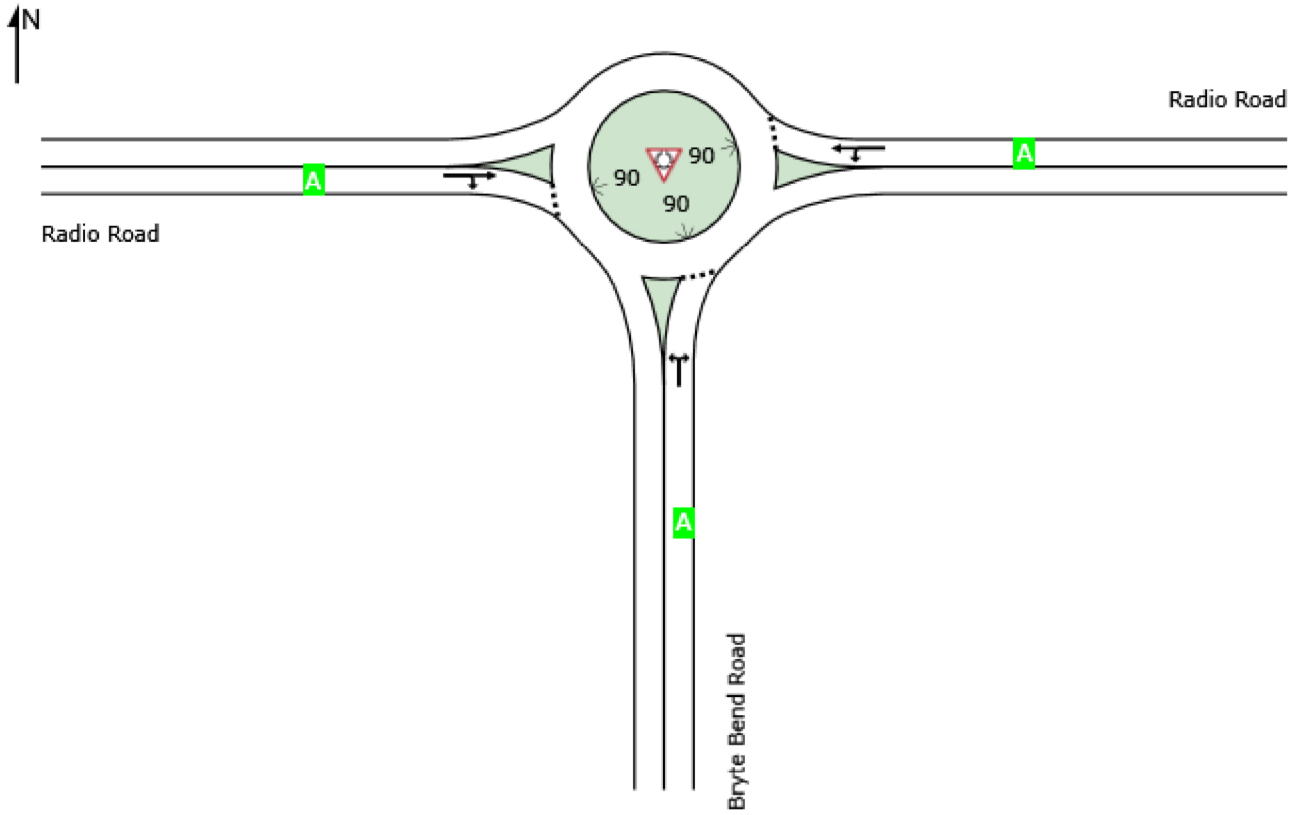
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 44 [44 Radio Road & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	West	
LOS	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 44 [44 Radio Road & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	6	2.0	0.103	3.7	LOS A	0.5	11.8	0.17	0.06	0.17	35.6
18	R2	126	2.0	0.103	3.7	LOS A	0.5	11.8	0.17	0.06	0.17	34.5
Approach		132	2.0	0.103	3.7	LOS A	0.5	11.8	0.17	0.06	0.17	34.6
East: Radio Road												
1	L2	162	2.0	0.181	4.2	LOS A	0.9	22.9	0.05	0.01	0.05	33.6
6	T1	81	2.0	0.181	4.2	LOS A	0.9	22.9	0.05	0.01	0.05	33.6
Approach		243	2.0	0.181	4.2	LOS A	0.9	22.9	0.05	0.01	0.05	33.6
West: Radio Road												
2	T1	53	2.0	0.053	3.6	LOS A	0.2	5.6	0.30	0.16	0.30	35.8
12	R2	7	2.0	0.053	3.6	LOS A	0.2	5.6	0.30	0.16	0.30	34.8
Approach		60	2.0	0.053	3.6	LOS A	0.2	5.6	0.30	0.16	0.30	35.6
All Vehicles		435	2.0	0.181	3.9	LOS A	0.9	22.9	0.12	0.05	0.12	34.1

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

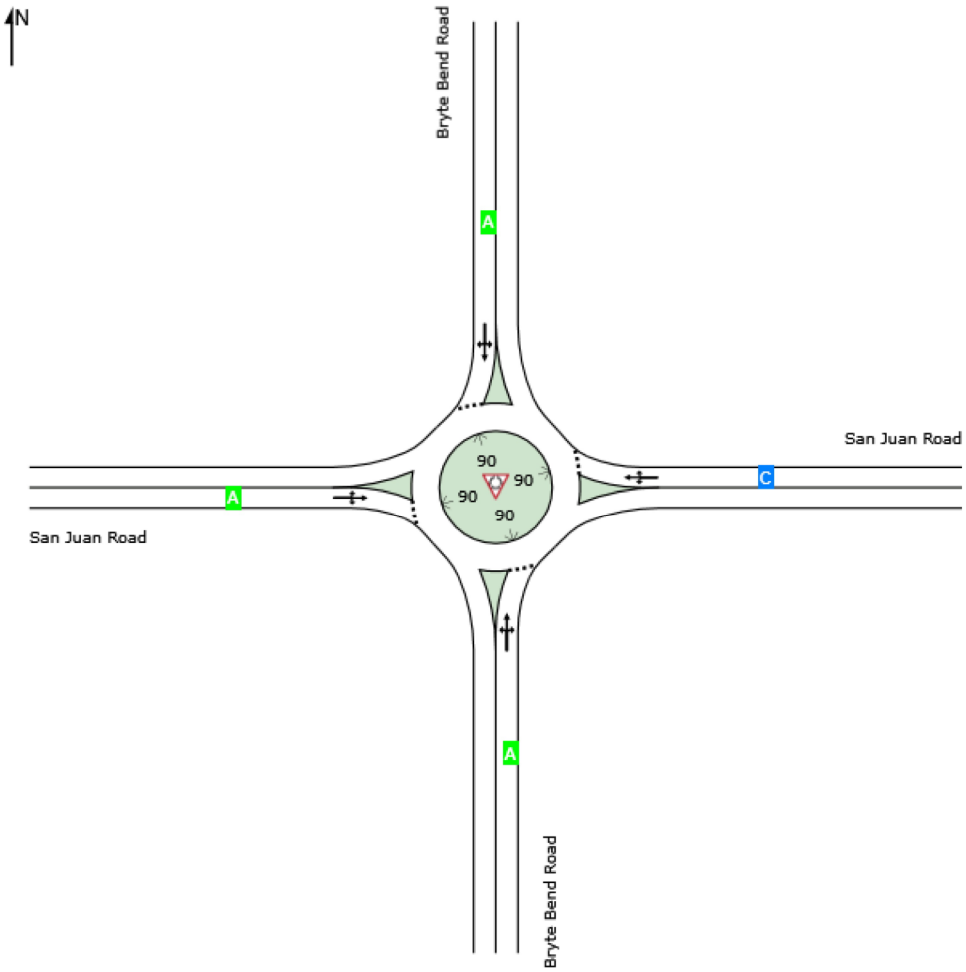
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 49 [49 San Juan Road & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	C	A	A	B



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 49 [49 San Juan Road & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	150	2.0	0.569	9.8	LOS A	4.5	114.4	0.49	0.30	0.49	32.0
8	T1	358	2.0	0.569	9.8	LOS A	4.5	114.4	0.49	0.30	0.49	32.0
18	R2	169	2.0	0.569	9.8	LOS A	4.5	114.4	0.49	0.30	0.49	31.2
Approach		677	2.0	0.569	9.8	LOS A	4.5	114.4	0.49	0.30	0.49	31.8
East: San Juan Road												
1	L2	93	2.0	0.707	18.2	LOS C	8.4	214.2	0.86	1.14	1.63	28.7
6	T1	104	2.0	0.707	18.2	LOS C	8.4	214.2	0.86	1.14	1.63	28.6
16	R2	365	2.0	0.707	18.2	LOS C	8.4	214.2	0.86	1.14	1.63	28.0
Approach		562	2.0	0.707	18.2	LOS C	8.4	214.2	0.86	1.14	1.63	28.2
North: Bryte Bend Road												
7	L2	34	2.0	0.108	4.8	LOS A	0.5	11.6	0.46	0.35	0.46	34.1
4	T1	67	2.0	0.108	4.8	LOS A	0.5	11.6	0.46	0.35	0.46	34.1
14	R2	1	2.0	0.108	4.8	LOS A	0.5	11.6	0.46	0.35	0.46	33.2
Approach		102	2.0	0.108	4.8	LOS A	0.5	11.6	0.46	0.35	0.46	34.1
West: San Juan Road												
5	L2	2	2.0	0.155	4.6	LOS A	0.7	17.9	0.36	0.23	0.36	35.1
2	T1	86	2.0	0.155	4.6	LOS A	0.7	17.9	0.36	0.23	0.36	35.1
12	R2	83	2.0	0.155	4.6	LOS A	0.7	17.9	0.36	0.23	0.36	34.2
Approach		171	2.0	0.155	4.6	LOS A	0.7	17.9	0.36	0.23	0.36	34.6
All Vehicles		1512	2.0	0.707	12.0	LOS B	8.4	214.2	0.61	0.61	0.90	30.8

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

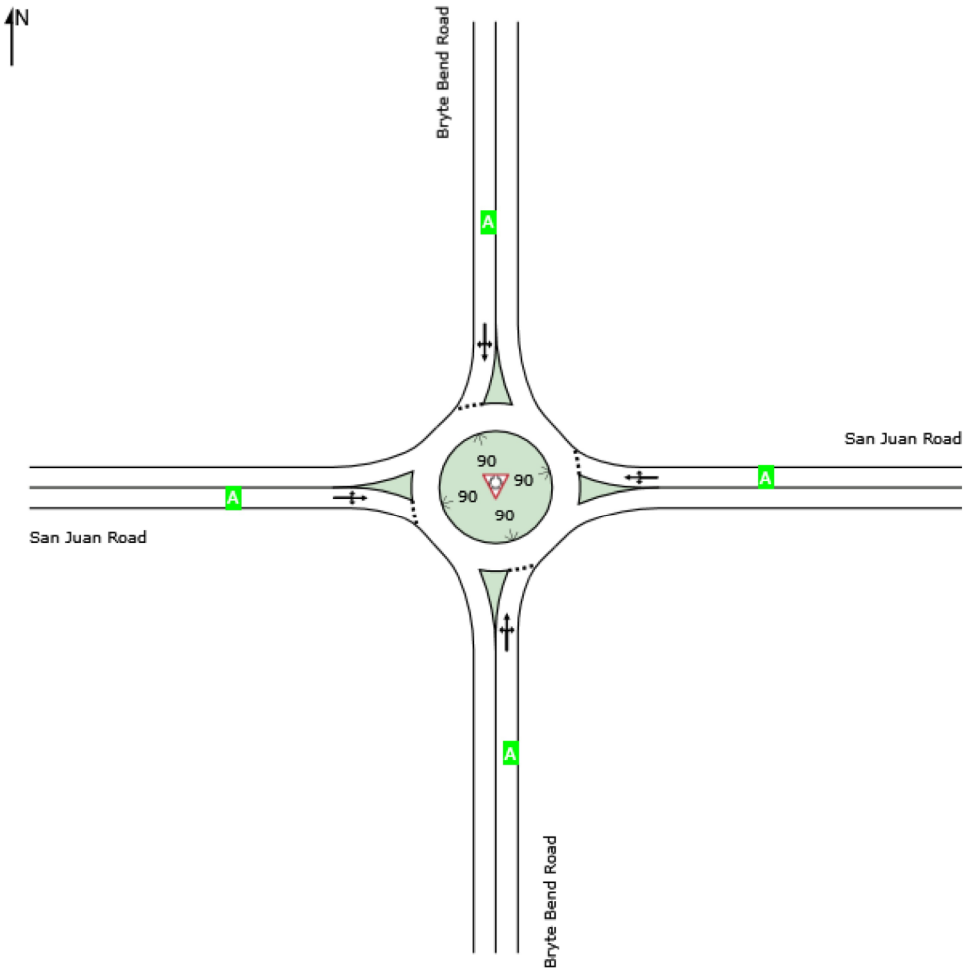
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 49 [49 San Juan Road & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 49 [49 San Juan Road & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	92	2.0	0.287	6.0	LOS A	1.5	37.8	0.41	0.28	0.41	33.6
8	T1	94	2.0	0.287	6.0	LOS A	1.5	37.8	0.41	0.28	0.41	33.6
18	R2	131	2.0	0.287	6.0	LOS A	1.5	37.8	0.41	0.28	0.41	32.7
Approach		317	2.0	0.287	6.0	LOS A	1.5	37.8	0.41	0.28	0.41	33.2
East: San Juan Road												
1	L2	190	2.0	0.301	6.1	LOS A	1.6	40.3	0.41	0.28	0.41	32.9
6	T1	114	2.0	0.301	6.1	LOS A	1.6	40.3	0.41	0.28	0.41	32.9
16	R2	31	2.0	0.301	6.1	LOS A	1.6	40.3	0.41	0.28	0.41	32.0
Approach		335	2.0	0.301	6.1	LOS A	1.6	40.3	0.41	0.28	0.41	32.8
North: Bryte Bend Road												
7	L2	89	2.0	0.241	6.5	LOS A	1.1	28.1	0.54	0.47	0.54	33.1
4	T1	126	2.0	0.241	6.5	LOS A	1.1	28.1	0.54	0.47	0.54	33.1
14	R2	1	2.0	0.241	6.5	LOS A	1.1	28.1	0.54	0.47	0.54	32.2
Approach		216	2.0	0.241	6.5	LOS A	1.1	28.1	0.54	0.47	0.54	33.1
West: San Juan Road												
5	L2	1	2.0	0.281	7.0	LOS A	1.3	33.6	0.56	0.50	0.56	33.9
2	T1	105	2.0	0.281	7.0	LOS A	1.3	33.6	0.56	0.50	0.56	33.9
12	R2	143	2.0	0.281	7.0	LOS A	1.3	33.6	0.56	0.50	0.56	33.0
Approach		249	2.0	0.281	7.0	LOS A	1.3	33.6	0.56	0.50	0.56	33.3
All Vehicles		1117	2.0	0.301	6.4	LOS A	1.6	40.3	0.47	0.36	0.47	33.1

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

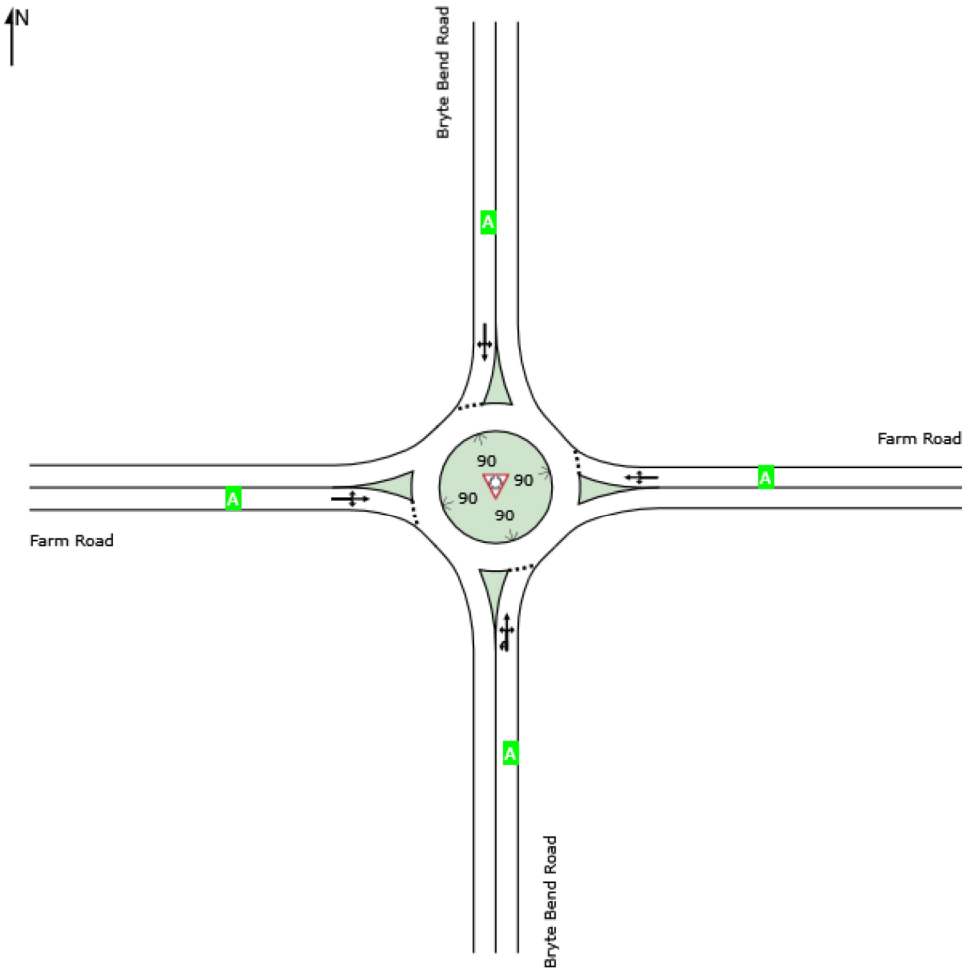
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 56 [56 Farm Road & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 56 [56 Farm Road & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3u	U	99	2.0	0.412	8.6	LOS A	2.2	56.5	0.60	0.52	0.60	32.9
3	L2	3	2.0	0.412	8.6	LOS A	2.2	56.5	0.60	0.52	0.60	32.3
8	T1	268	2.0	0.412	8.6	LOS A	2.2	56.5	0.60	0.52	0.60	32.3
18	R2	16	2.0	0.412	8.6	LOS A	2.2	56.5	0.60	0.52	0.60	31.5
Approach		386	2.0	0.412	8.6	LOS A	2.2	56.5	0.60	0.52	0.60	32.4
East: Farm Road												
1	L2	1	2.0	0.451	9.9	LOS A	2.8	71.4	0.66	0.69	0.80	32.4
6	T1	112	2.0	0.451	9.9	LOS A	2.8	71.4	0.66	0.69	0.80	32.4
16	R2	269	2.0	0.451	9.9	LOS A	2.8	71.4	0.66	0.69	0.80	31.6
Approach		382	2.0	0.451	9.9	LOS A	2.8	71.4	0.66	0.69	0.80	31.8
North: Bryte Bend Road												
7	L2	177	2.0	0.357	7.0	LOS A	2.0	50.1	0.47	0.34	0.47	32.7
4	T1	84	2.0	0.357	7.0	LOS A	2.0	50.1	0.47	0.34	0.47	32.7
14	R2	125	2.0	0.357	7.0	LOS A	2.0	50.1	0.47	0.34	0.47	31.9
Approach		386	2.0	0.357	7.0	LOS A	2.0	50.1	0.47	0.34	0.47	32.5
West: Farm Road												
5	L2	78	2.0	0.195	5.8	LOS A	0.9	22.1	0.50	0.41	0.50	33.4
2	T1	96	2.0	0.195	5.8	LOS A	0.9	22.1	0.50	0.41	0.50	33.4
12	R2	7	2.0	0.195	5.8	LOS A	0.9	22.1	0.50	0.41	0.50	32.5
Approach		181	2.0	0.195	5.8	LOS A	0.9	22.1	0.50	0.41	0.50	33.4
All Vehicles		1335	2.0	0.451	8.1	LOS A	2.8	71.4	0.57	0.50	0.60	32.4

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

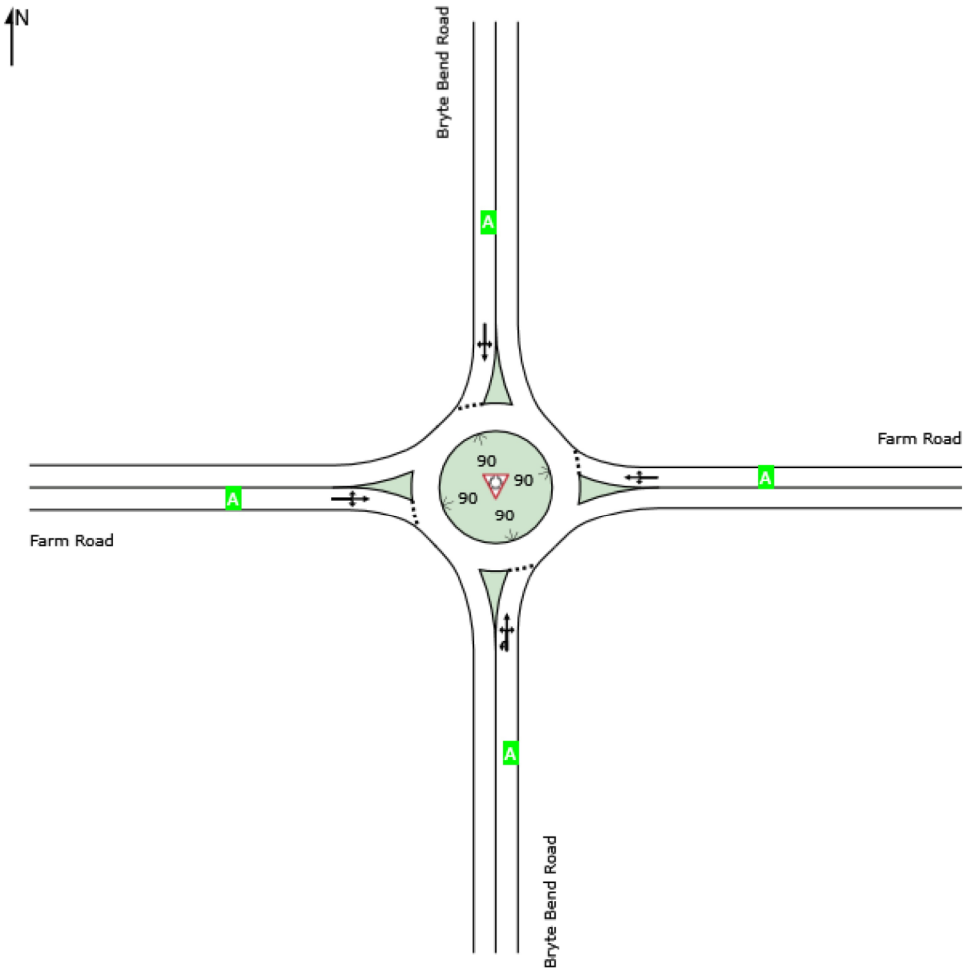
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 56 [56 Farm Road & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 56 [56 Farm Road & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3u	U	43	2.0	0.270	6.3	LOS A	1.3	33.5	0.49	0.38	0.49	34.2
3	L2	21	2.0	0.270	6.3	LOS A	1.3	33.5	0.49	0.38	0.49	33.5
8	T1	202	2.0	0.270	6.3	LOS A	1.3	33.5	0.49	0.38	0.49	33.5
18	R2	4	2.0	0.270	6.3	LOS A	1.3	33.5	0.49	0.38	0.49	32.6
Approach		270	2.0	0.270	6.3	LOS A	1.3	33.5	0.49	0.38	0.49	33.6
East: Farm Road												
1	L2	29	2.0	0.343	7.4	LOS A	1.8	44.8	0.54	0.45	0.54	33.5
6	T1	93	2.0	0.343	7.4	LOS A	1.8	44.8	0.54	0.45	0.54	33.5
16	R2	210	2.0	0.343	7.4	LOS A	1.8	44.8	0.54	0.45	0.54	32.6
Approach		332	2.0	0.343	7.4	LOS A	1.8	44.8	0.54	0.45	0.54	32.9
North: Bryte Bend Road												
7	L2	184	2.0	0.413	7.6	LOS A	2.5	62.9	0.47	0.32	0.47	32.6
4	T1	222	2.0	0.413	7.6	LOS A	2.5	62.9	0.47	0.32	0.47	32.6
14	R2	54	2.0	0.413	7.6	LOS A	2.5	62.9	0.47	0.32	0.47	31.8
Approach		460	2.0	0.413	7.6	LOS A	2.5	62.9	0.47	0.32	0.47	32.5
West: Farm Road												
5	L2	54	2.0	0.133	5.7	LOS A	0.5	13.9	0.54	0.47	0.54	33.3
2	T1	50	2.0	0.133	5.7	LOS A	0.5	13.9	0.54	0.47	0.54	33.3
12	R2	5	2.0	0.133	5.7	LOS A	0.5	13.9	0.54	0.47	0.54	32.4
Approach		109	2.0	0.133	5.7	LOS A	0.5	13.9	0.54	0.47	0.54	33.2
All Vehicles		1171	2.0	0.413	7.0	LOS A	2.5	62.9	0.50	0.39	0.50	32.9

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

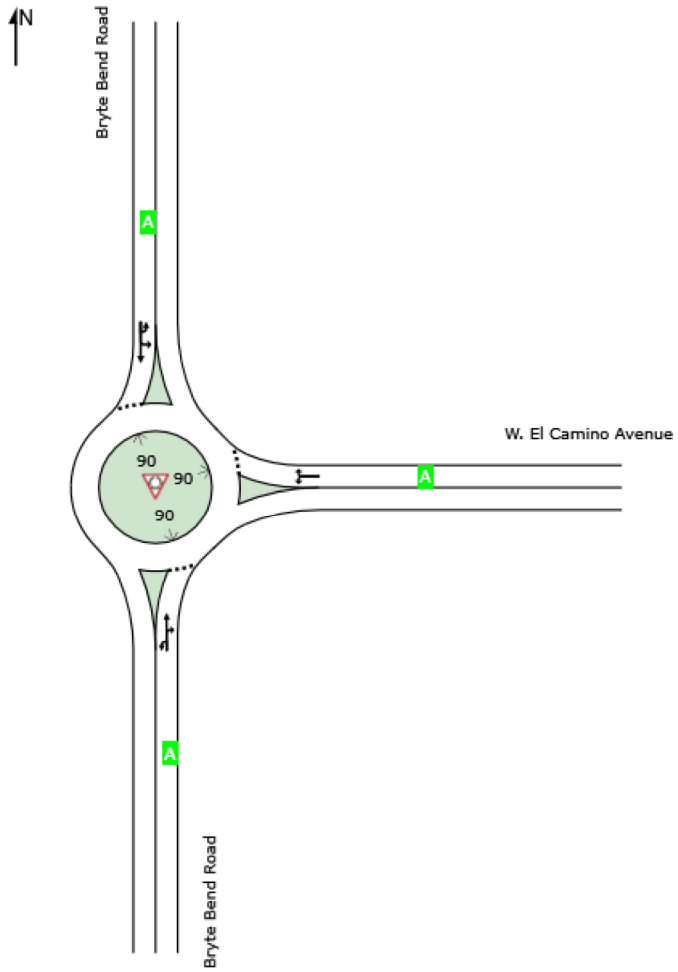
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 76 [76 W. El Camino Avenue & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	North	
LOS	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 76 [76 W. El Camino Avenue & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3u	U	27	2.0	0.234	5.2	LOS A	1.2	29.7	0.32	0.19	0.32	35.2
8	T1	161	2.0	0.234	5.2	LOS A	1.2	29.7	0.32	0.19	0.32	34.5
18	R2	86	2.0	0.234	5.2	LOS A	1.2	29.7	0.32	0.19	0.32	33.5
Approach		274	2.0	0.234	5.2	LOS A	1.2	29.7	0.32	0.19	0.32	34.2
East: W. El Camino Avenue												
1	L2	150	2.0	0.330	6.6	LOS A	1.8	44.9	0.44	0.31	0.44	33.0
16	R2	209	2.0	0.330	6.6	LOS A	1.8	44.9	0.44	0.31	0.44	32.1
Approach		359	2.0	0.330	6.6	LOS A	1.8	44.9	0.44	0.31	0.44	32.5
North: Bryte Bend Road												
7u	U	16	2.0	0.150	4.5	LOS A	0.7	17.3	0.35	0.21	0.35	33.7
7	L2	117	2.0	0.150	4.5	LOS A	0.7	17.3	0.35	0.21	0.35	33.0
4	T1	35	2.0	0.150	4.5	LOS A	0.7	17.3	0.35	0.21	0.35	33.0
Approach		168	2.0	0.150	4.5	LOS A	0.7	17.3	0.35	0.21	0.35	33.1
All Vehicles		801	2.0	0.330	5.7	LOS A	1.8	44.9	0.38	0.25	0.38	33.2

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

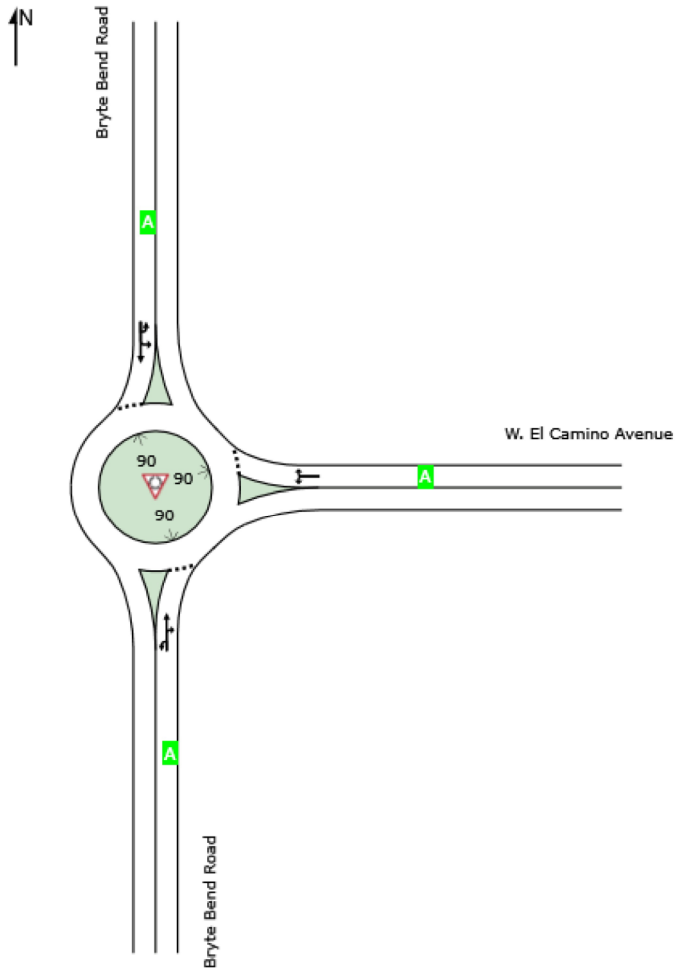
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 76 [76 W. El Camino Avenue & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	North	
LOS	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 76 [76 W. El Camino Avenue & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3u	U	45	2.0	0.181	4.6	LOS A	0.9	21.9	0.29	0.16	0.29	35.1
8	T1	96	2.0	0.181	4.6	LOS A	0.9	21.9	0.29	0.16	0.29	34.3
18	R2	74	2.0	0.181	4.6	LOS A	0.9	21.9	0.29	0.16	0.29	33.4
Approach		215	2.0	0.181	4.6	LOS A	0.9	21.9	0.29	0.16	0.29	34.2
East: W. El Camino Avenue												
1	L2	84	2.0	0.217	5.1	LOS A	1.1	26.9	0.34	0.20	0.34	34.0
16	R2	166	2.0	0.217	5.1	LOS A	1.1	26.9	0.34	0.20	0.34	33.0
Approach		250	2.0	0.217	5.1	LOS A	1.1	26.9	0.34	0.20	0.34	33.3
North: Bryte Bend Road												
7u	U	8	2.0	0.242	5.2	LOS A	1.2	31.1	0.32	0.18	0.32	34.4
7	L2	113	2.0	0.242	5.2	LOS A	1.2	31.1	0.32	0.18	0.32	33.7
4	T1	164	2.0	0.242	5.2	LOS A	1.2	31.1	0.32	0.18	0.32	33.6
Approach		285	2.0	0.242	5.2	LOS A	1.2	31.1	0.32	0.18	0.32	33.7
All Vehicles		750	2.0	0.242	5.0	LOS A	1.2	31.1	0.32	0.18	0.32	33.7

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

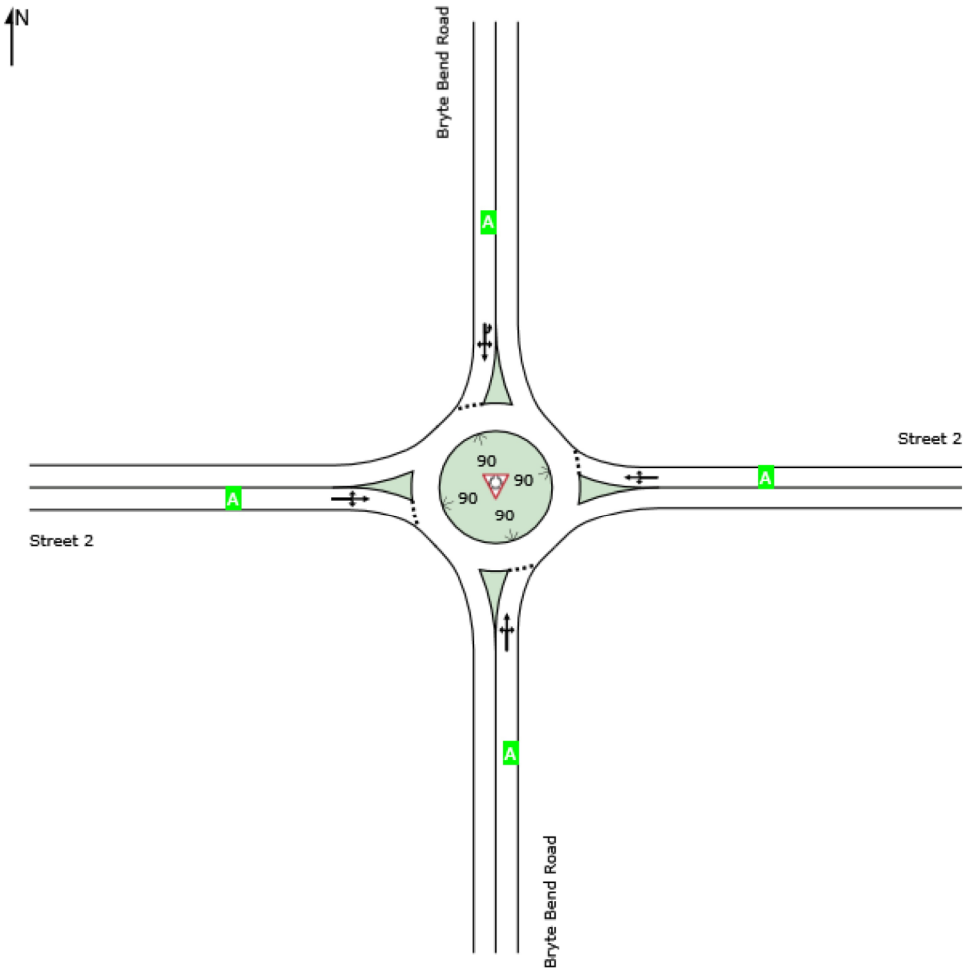
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 96 [96 Street 2 & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 96 [96 Street 2 & Bryte Bend Road - AM]

Cumulative Year Plus Project
AM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	77	2.0	0.248	5.6	LOS A	1.2	31.2	0.40	0.27	0.40	33.9
8	T1	114	2.0	0.248	5.6	LOS A	1.2	31.2	0.40	0.27	0.40	33.9
18	R2	81	2.0	0.248	5.6	LOS A	1.2	31.2	0.40	0.27	0.40	33.0
Approach		272	2.0	0.248	5.6	LOS A	1.2	31.2	0.40	0.27	0.40	33.6
East: Street 2												
1	L2	28	2.0	0.143	5.1	LOS A	0.6	15.7	0.46	0.35	0.46	34.4
6	T1	80	2.0	0.143	5.1	LOS A	0.6	15.7	0.46	0.35	0.46	34.4
16	R2	30	2.0	0.143	5.1	LOS A	0.6	15.7	0.46	0.35	0.46	33.4
Approach		138	2.0	0.143	5.1	LOS A	0.6	15.7	0.46	0.35	0.46	34.2
North: Bryte Bend Road												
7u	U	99	2.0	0.155	4.6	LOS A	0.7	18.0	0.36	0.22	0.36	33.4
7	L2	20	2.0	0.155	4.6	LOS A	0.7	18.0	0.36	0.22	0.36	32.8
4	T1	50	2.0	0.155	4.6	LOS A	0.7	18.0	0.36	0.22	0.36	32.8
14	R2	4	2.0	0.155	4.6	LOS A	0.7	18.0	0.36	0.22	0.36	31.9
Approach		173	2.0	0.155	4.6	LOS A	0.7	18.0	0.36	0.22	0.36	33.1
West: Street 2												
5	L2	31	2.0	0.102	4.1	LOS A	0.4	11.2	0.35	0.22	0.35	34.6
2	T1	50	2.0	0.102	4.1	LOS A	0.4	11.2	0.35	0.22	0.35	34.6
12	R2	31	2.0	0.102	4.1	LOS A	0.4	11.2	0.35	0.22	0.35	33.7
Approach		112	2.0	0.102	4.1	LOS A	0.4	11.2	0.35	0.22	0.35	34.4
All Vehicles		695	2.0	0.248	5.0	LOS A	1.2	31.2	0.39	0.27	0.39	33.7

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

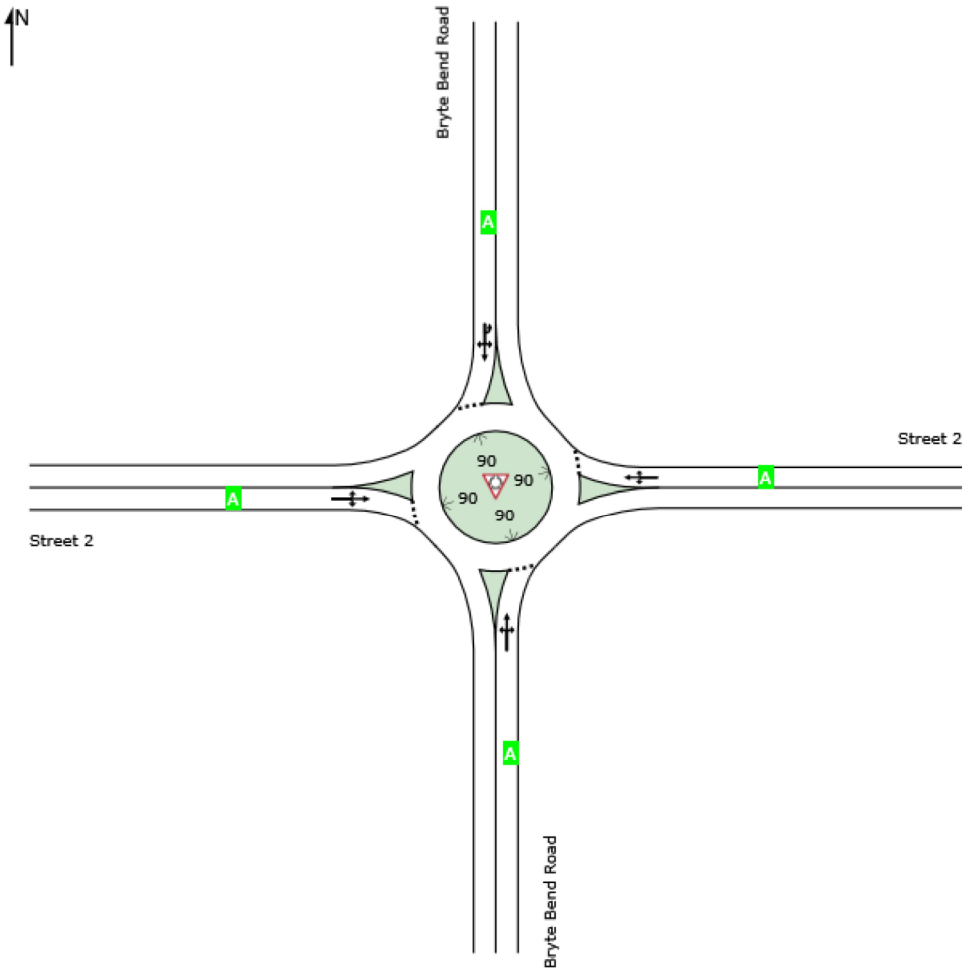
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 96 [96 Street 2 & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



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.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

MOVEMENT SUMMARY

Site: 96 [96 Street 2 & Bryte Bend Road - PM]

Cumulative Year Plus Project
PM Peak Hour
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Bryte Bend Road												
3	L2	51	2.0	0.220	5.0	LOS A	1.1	27.8	0.31	0.18	0.31	34.4
8	T1	135	2.0	0.220	5.0	LOS A	1.1	27.8	0.31	0.18	0.31	34.4
18	R2	74	2.0	0.220	5.0	LOS A	1.1	27.8	0.31	0.18	0.31	33.5
Approach		260	2.0	0.220	5.0	LOS A	1.1	27.8	0.31	0.18	0.31	34.1
East: Street 2												
1	L2	96	2.0	0.159	4.9	LOS A	0.7	18.2	0.41	0.29	0.41	33.5
6	T1	52	2.0	0.159	4.9	LOS A	0.7	18.2	0.41	0.29	0.41	33.4
16	R2	18	2.0	0.159	4.9	LOS A	0.7	18.2	0.41	0.29	0.41	32.6
Approach		166	2.0	0.159	4.9	LOS A	0.7	18.2	0.41	0.29	0.41	33.4
North: Bryte Bend Road												
7u	U	50	2.0	0.230	5.4	LOS A	1.1	28.6	0.40	0.27	0.40	34.6
7	L2	15	2.0	0.230	5.4	LOS A	1.1	28.6	0.40	0.27	0.40	33.8
4	T1	162	2.0	0.230	5.4	LOS A	1.1	28.6	0.40	0.27	0.40	33.8
14	R2	26	2.0	0.230	5.4	LOS A	1.1	28.6	0.40	0.27	0.40	32.9
Approach		253	2.0	0.230	5.4	LOS A	1.1	28.6	0.40	0.27	0.40	33.9
West: Street 2												
5	L2	12	2.0	0.110	4.7	LOS A	0.5	11.8	0.45	0.33	0.45	34.8
2	T1	52	2.0	0.110	4.7	LOS A	0.5	11.8	0.45	0.33	0.45	34.8
12	R2	42	2.0	0.110	4.7	LOS A	0.5	11.8	0.45	0.33	0.45	33.8
Approach		106	2.0	0.110	4.7	LOS A	0.5	11.8	0.45	0.33	0.45	34.4
All Vehicles		785	2.0	0.230	5.1	LOS A	1.1	28.6	0.38	0.25	0.38	33.9

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 irrespective of movement delay value (does not apply for approaches and intersection).
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.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com

FEHR PEERS

Major Street	Power Line Rd	Project	Upper Westside
Minor Street	Bayou Wy South	Scenario	Cumulative Year Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	140	10	0	1
Through	552	354	24	46
Right	21	0	106	0
Total	713	364	130	47

Major Street Direction

X	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	40.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	47

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**0.5**	**130**	**1,254**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Power Line Rd
Minor Street	Bayou Wy South

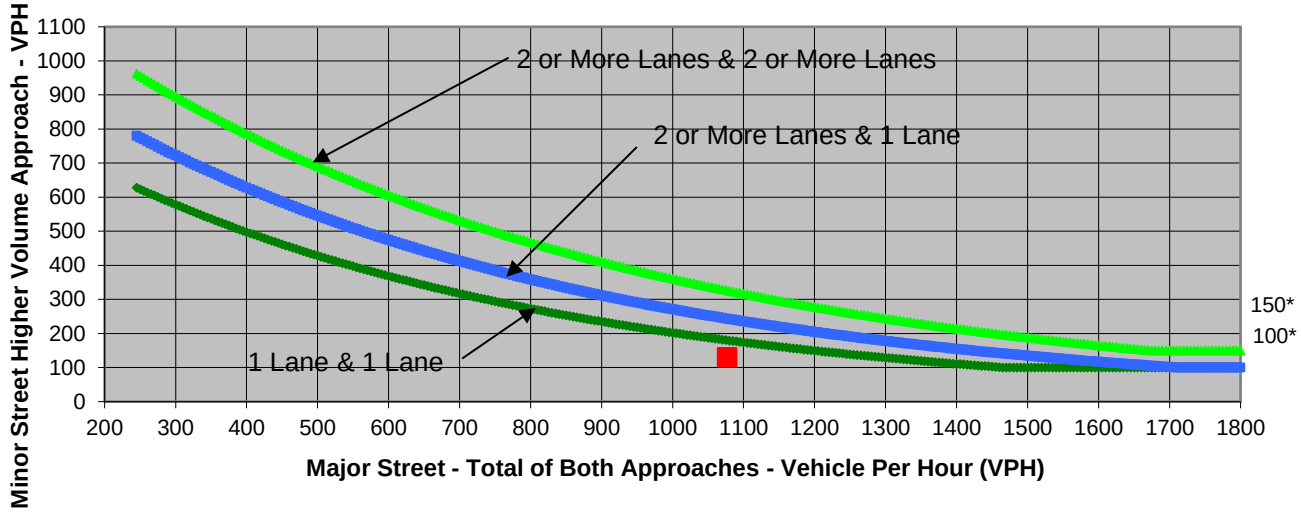
Project	Upper Westside
Scenario	Cumulative Year Plus Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	140	10	0	1
Through	552	354	24	46
Right	21	0	106	0
Total	713	364	130	47

Major Street Direction

X	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Power Line Rd	Bayou Wy South	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,077**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Power Line Rd	Project	Upper Westside
Minor Street	Bayou Wy South	Scenario	Cumulative Year Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	75	457	249	1
Through	155	357	27	11
Right	4	12	230	4
Total	234	826	506	16

Major Street Direction

X	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	2293.9
Approach with Worst Case Delay	EB
Total Vehicles on Approach	506

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**322.4**	**506**	**1,582**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

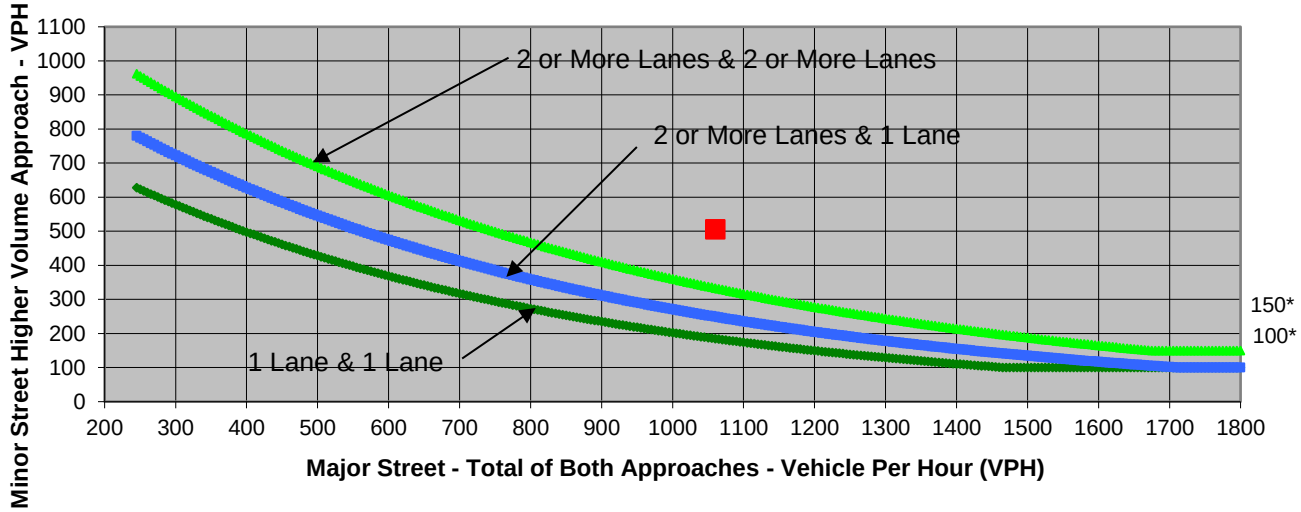
Major Street	Power Line Rd	Project	Upper Westside
Minor Street	Bayou Wy South	Scenario	Cumulative Year Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	75	457	249	1
Through	155	357	27	11
Right	4	12	230	4
Total	234	826	506	16

Major Street Direction

X	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Power Line Rd	Bayou Wy South	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,060**	**506**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Radio Rd	Project	Upper Westside
Minor Street	E Street 12	Scenario	Cumulative Year Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	205	120	0
Through	0	0	398	260
Right	0	42	0	191
Total	0	247	518	451

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	67.5
Approach with Worst Case Delay	SB
Total Vehicles on Approach	247

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**4.6**	**247**	**1,216**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Radio Rd
Minor Street	E Street 12

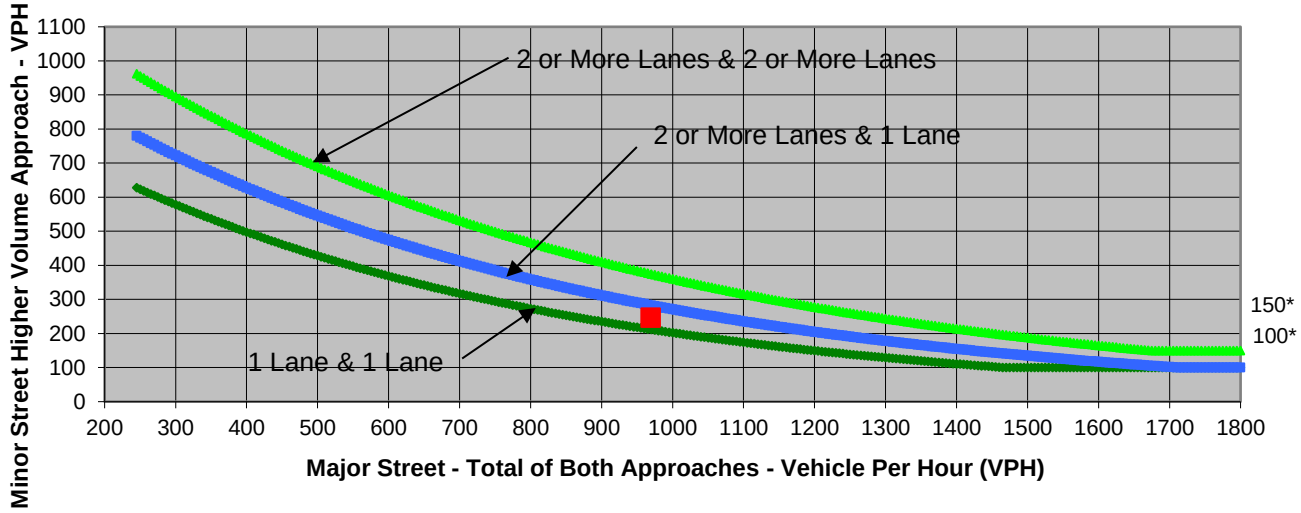
Project	Upper Westside
Scenario	Cumulative Year Plus Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	205	120	0
Through	0	0	398	260
Right	0	42	0	191
Total	0	247	518	451

Major Street Direction

	North/South
X	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Radio Rd	E Street 12	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**969**	**247**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Radio Rd	Project	Upper Westside
Minor Street	E Street 12	Scenario	Cumulative Year Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	313	40	0
Through	0	0	139	193
Right	0	50	0	297
Total	0	363	179	490

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	26.9
Approach with Worst Case Delay	SB
Total Vehicles on Approach	363

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**2.7**	**363**	**1,032**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

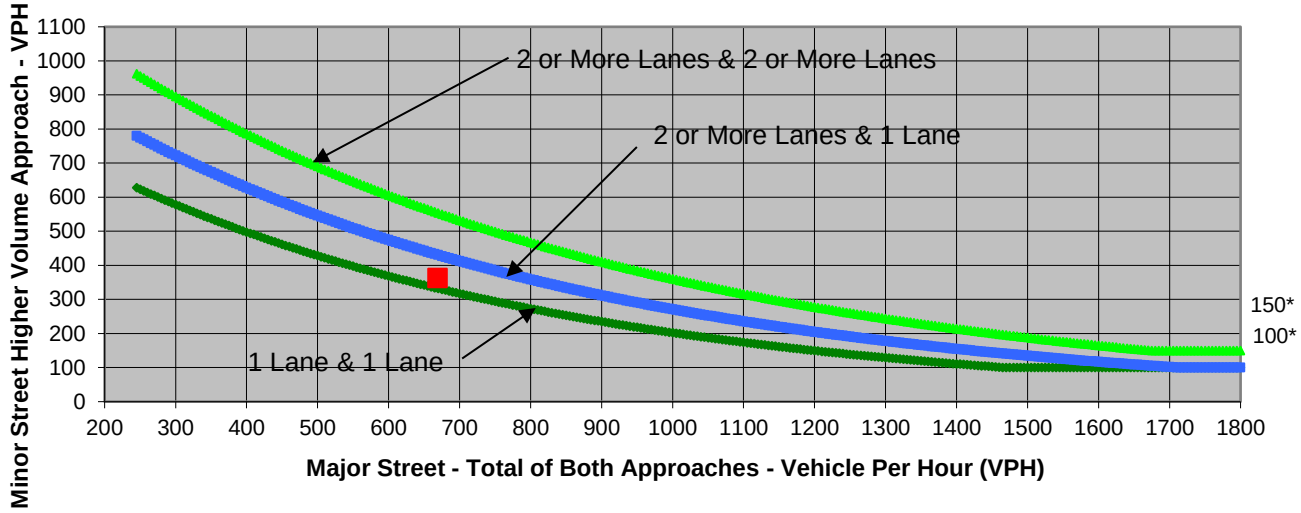
Major Street	Radio Rd	Project	Upper Westside
Minor Street	E Street 12	Scenario	Cumulative Year Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	313	40	0
Through	0	0	139	193
Right	0	50	0	297
Total	0	363	179	490

Major Street Direction

	North/South
X	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Radio Rd	E Street 12	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**669**	**363**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	San Juan Rd
Scenario	Cumulative Year Plus Project
Minor Street	Orchard Ln
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	84	0	0	74
Through	0	0	537	633
Right	56	0	110	0
Total	140	0	647	707

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	56
Approach with Worst Case Delay	NB
Total Vehicles on Approach	140

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**2.2**	**140**	**1,494**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

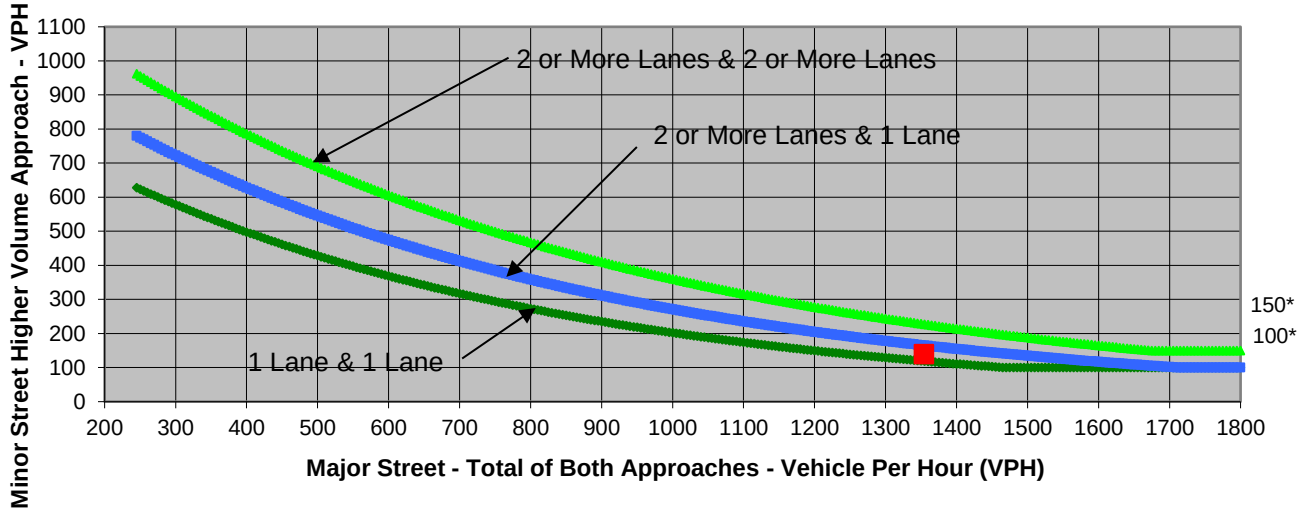
Major Street	San Juan Rd	Project	Upper Westside
Minor Street	Orchard Ln	Scenario	Cumulative Year Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	84	0	0	74
Through	0	0	537	633
Right	56	0	110	0
Total	140	0	647	707

Major Street Direction

	North/South
X	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	San Juan Rd	Orchard Ln	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,354**	**140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	San Juan Rd
Scenario	Cumulative Year Plus Project
Minor Street	Orchard Ln
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	0	0	63
Through	0	0	562	506
Right	39	0	55	0
Total	89	0	617	569

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	27
Approach with Worst Case Delay	NB
Total Vehicles on Approach	89

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**0.7**	**89**	**1,275**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	San Juan Rd
Minor Street	Orchard Ln

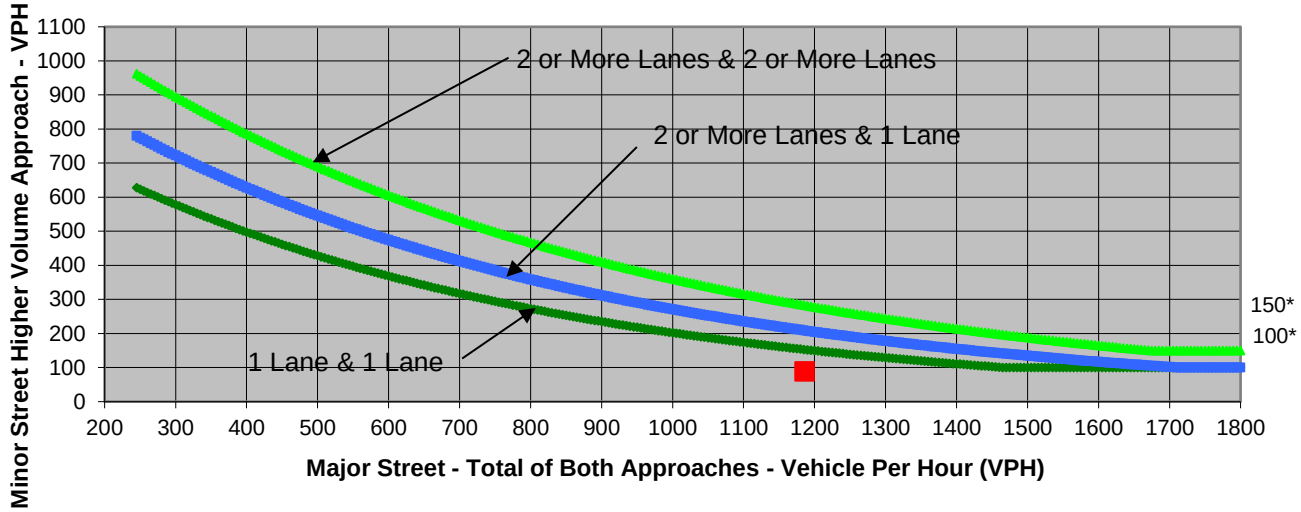
Project	Upper Westside
Scenario	Cumulative Year Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	0	0	63
Through	0	0	562	506
Right	39	0	55	0
Total	89	0	617	569

Major Street Direction

	North/South
X	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	San Juan Rd	Orchard Ln	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,186**	**89**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Farm Rd	Project	Upper Westside
Minor Street	Street B	Scenario	Cumulative Year Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	19	98	64	48
Through	33	6	371	377
Right	28	2	25	114
Total	80	106	460	539

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	74.6
Approach with Worst Case Delay	SB
Total Vehicles on Approach	106

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**2.2**	**106**	**1,185**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Farm Rd
Minor Street	Street B

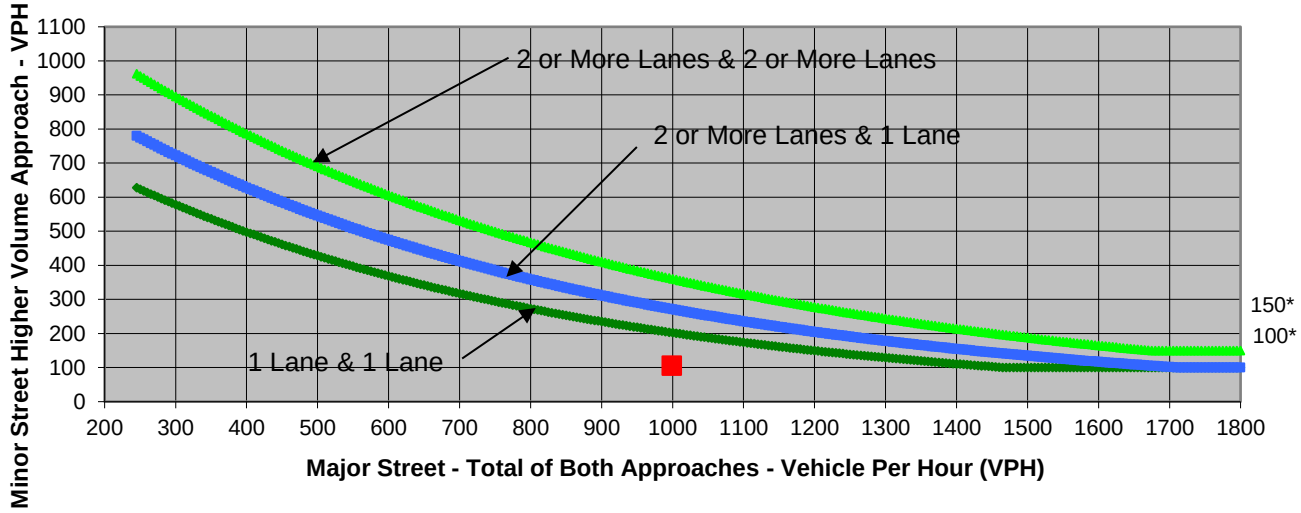
Project	Upper Westside
Scenario	Cumulative Year Plus Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	19	98	64	48
Through	33	6	371	377
Right	28	2	25	114
Total	80	106	460	539

Major Street Direction

	North/South
X	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Farm Rd	Street B	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**999**	**106**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Farm Rd	Project	Upper Westside
Minor Street	Street B	Scenario	Cumulative Year Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	43	34	67
Through	33	33	268	472
Right	62	34	26	118
Total	119	110	328	657

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	40.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	110

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**1.2**	**119**	**1,214**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Farm Rd
Minor Street	Street B

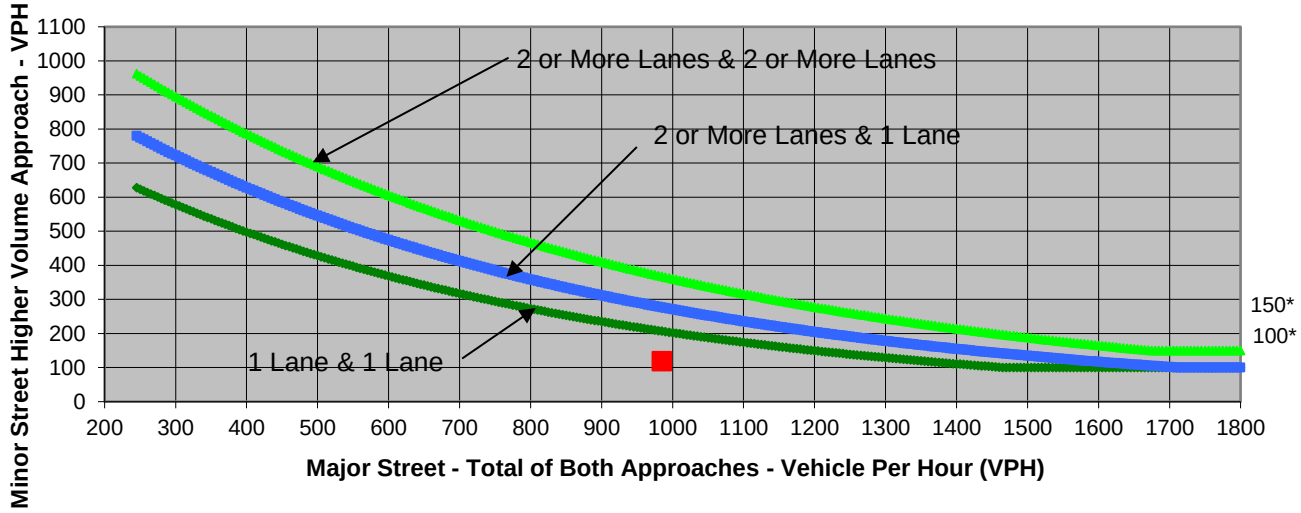
Project	Upper Westside
Scenario	Cumulative Year Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	43	34	67
Through	33	33	268	472
Right	62	34	26	118
Total	119	110	328	657

Major Street Direction

	North/South
X	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Farm Rd	Street B	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**985**	**119**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Farm Rd	Project	Upper Westside
Minor Street	Street A	Scenario	Cumulative Year Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	21	40	1	64
Through	5	5	480	511
Right	102	3	26	8
Total	128	48	507	583

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	48.6
Approach with Worst Case Delay	EB
Total Vehicles on Approach	507

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**6.8**	**128**	**1,266**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Farm Rd
Minor Street	Street A

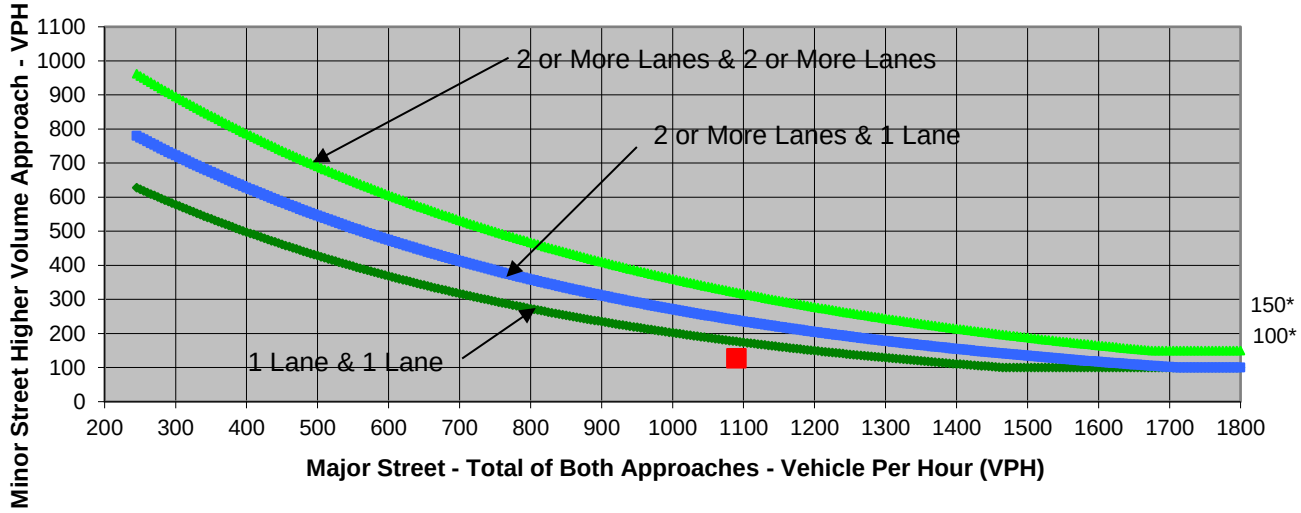
Project	Upper Westside
Scenario	Cumulative Year Plus Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	21	40	1	64
Through	5	5	480	511
Right	102	3	26	8
Total	128	48	507	583

Major Street Direction

	North/South
X	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Farm Rd	Street A	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,090**	**128**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Farm Rd	Project	Upper Westside
Minor Street	Street A	Scenario	Cumulative Year Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	46	23	5	124
Through	3	1	337	611
Right	135	1	27	49
Total	184	25	369	784

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	55.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	25

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Year Plus Project	**0.4**	**184**	**1,362**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Farm Rd
Minor Street	Street A

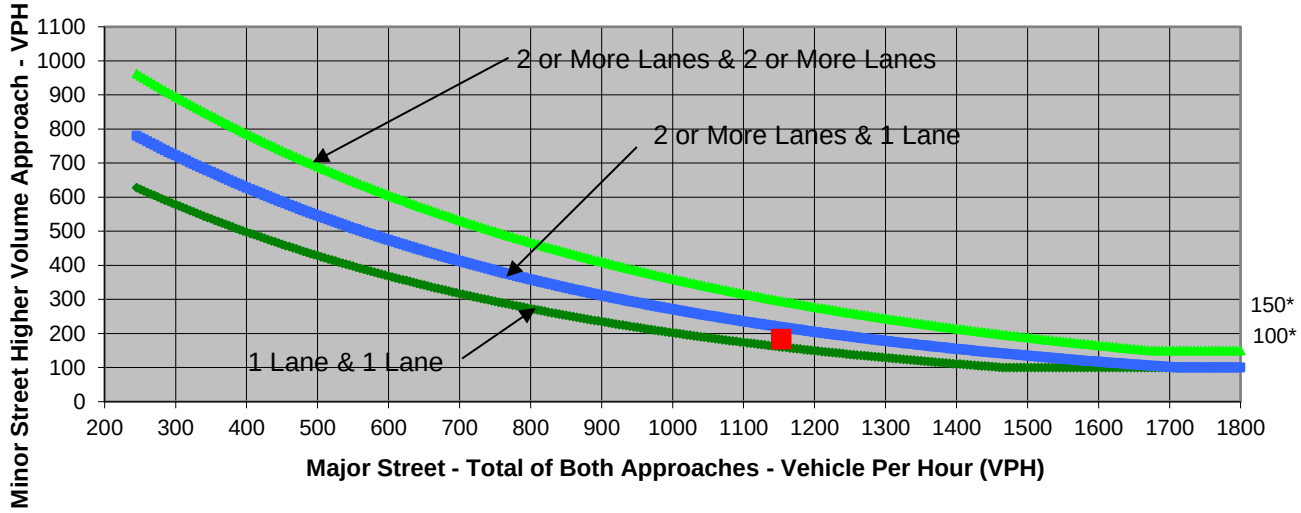
Project	Upper Westside
Scenario	Cumulative Year Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	46	23	5	124
Through	3	1	337	611
Right	135	1	27	49
Total	184	25	369	784

Major Street Direction

	North/South
X	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Farm Rd	Street A	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,153**	**184**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	Farm Rd
Scenario	Cumulative Plus Project
Minor Street	MDR Access
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	18	0
Through	0	0	538	736
Right	0	70	0	3
Total	0	72	556	739

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	470
Approach with Worst Case Delay	SB
Total Vehicles on Approach	72

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**9.4**	**72**	**1,367**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Farm Rd
Minor Street	MDR Access

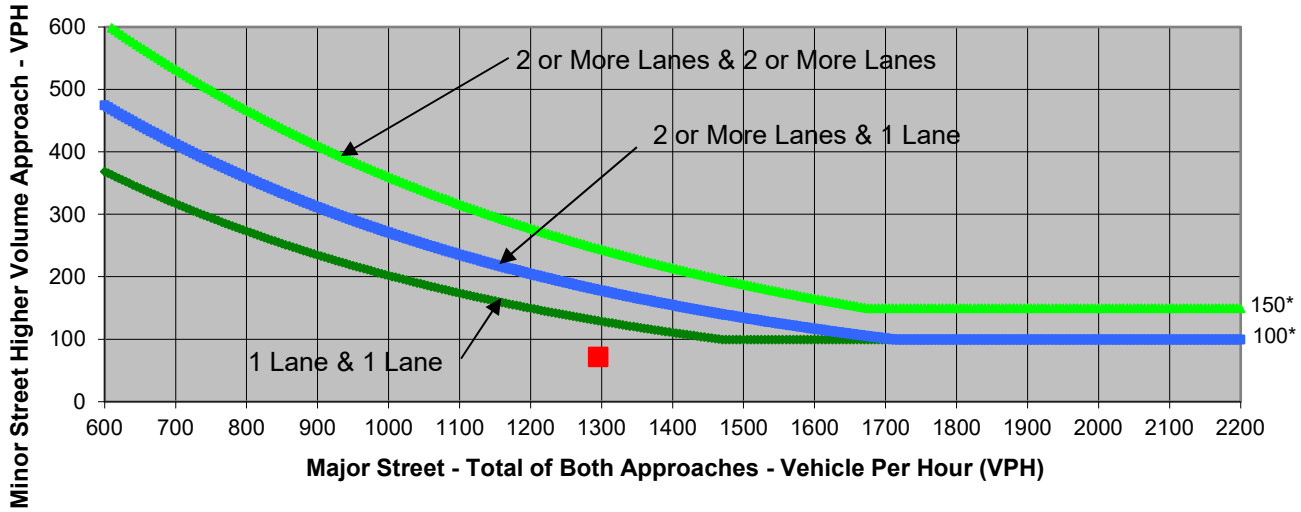
Project	Upper Westside
Scenario	Cumulative Plus Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	18	0
Through	0	0	538	736
Right	0	70	0	3
Total	0	72	556	739

Major Street Direction

	North/South
x	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Farm Rd	MDR Access	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,295**	**72**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Farm Rd
Minor Street	MDR Access

Project	Upper Westside
Scenario	Cumulative Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	64	0
Through	0	0	533	1,562
Right	0	28	0	14
Total	0	43	597	1,576

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	446
Approach with Worst Case Delay	SB
Total Vehicles on Approach	43

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**5.3**	**43**	**2,216**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Farm Rd
Minor Street	MDR Access

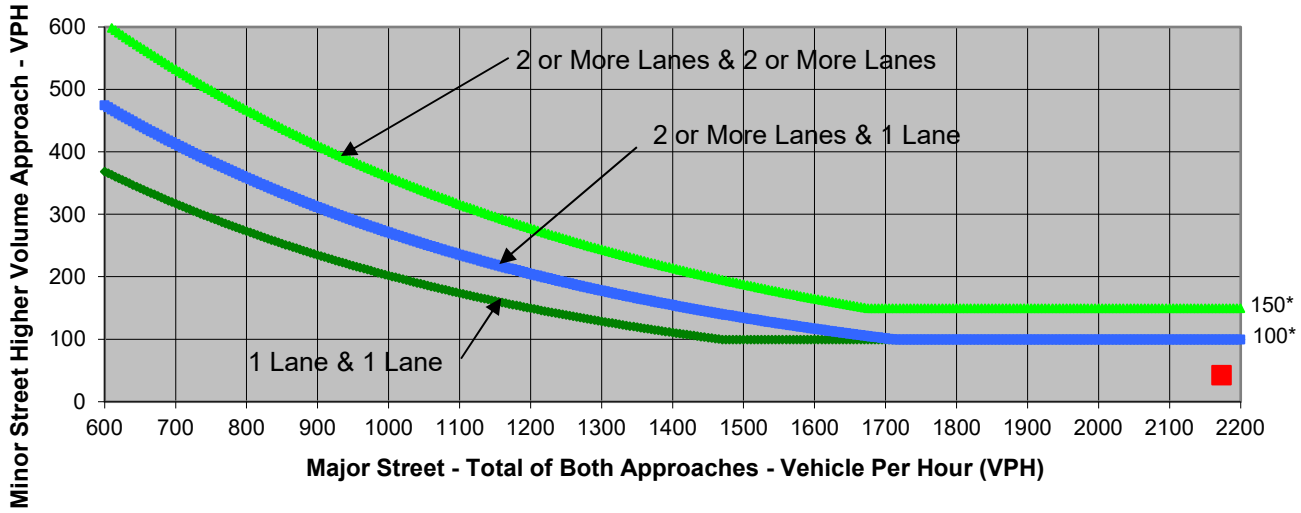
Project	Upper Westside
Scenario	Cumulative Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	64	0
Through	0	0	533	1,562
Right	0	28	0	14
Total	0	43	597	1,576

Major Street Direction

	North/South
x	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Farm Rd	MDR Access	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**2,173**	**43**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 6	Scenario	Cumulative Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,680	2,214	0	0
Right	0	2	102	0
Total	1,680	2,216	102	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	276
Approach with Worst Case Delay	EB
Total Vehicles on Approach	102

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**7.8**	**102**	**3,998**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

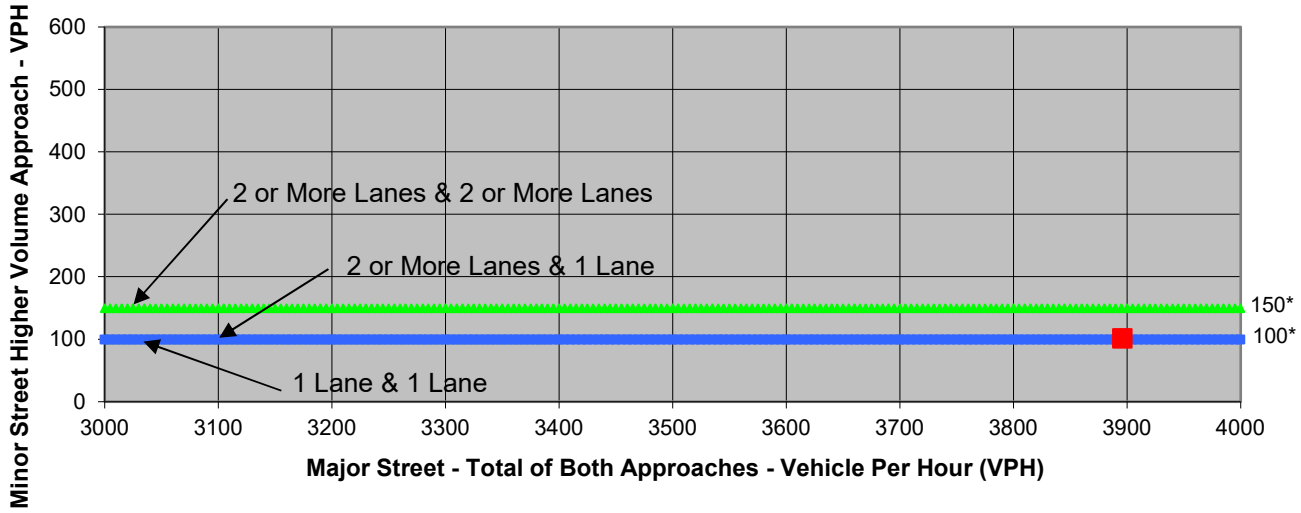
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 6	Scenario	Cumulative Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,680	2,214	0	0
Right	0	2	102	0
Total	1,680	2,216	102	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 6	
Number of Approach Lanes	**3**	**1**	**YES**
Traffic Volume (VPH) *	**3,896**	**102**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 6	Scenario	Cumulative Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	2,102	2,333	0	0
Right	0	20	7	0
Total	2,102	2,353	7	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	110
Approach with Worst Case Delay	EB
Total Vehicles on Approach	7

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**0.2**	**7**	**4,462**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	El Centro Rd
Minor Street	Street 6

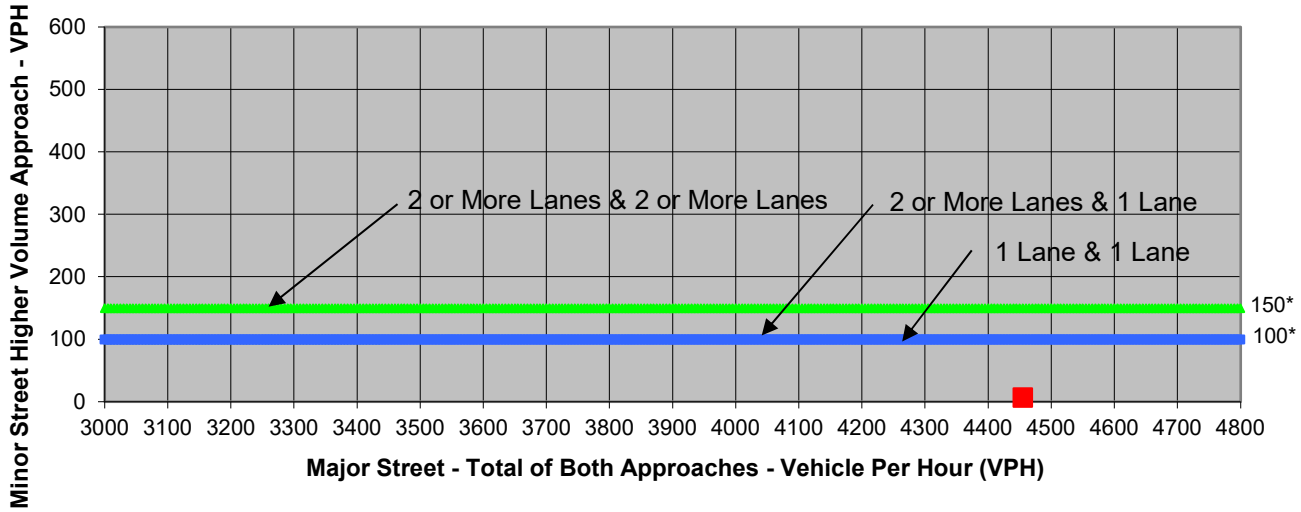
Project	Upper Westside
Scenario	Cumulative Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	2,102	2,333	0	0
Right	0	20	7	0
Total	2,102	2,353	7	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 6	
Number of Approach Lanes	**3**	**1**	**NO**
Traffic Volume (VPH) *	**4,455**	**7**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	El Centro Rd
Scenario	Cumulative Plus Project
Minor Street	CMU/EMC Dwy
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,570	2,316	0	0
Right	683	0	0	110
Total	2,253	2,316	0	110

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	61
Approach with Worst Case Delay	WB
Total Vehicles on Approach	110

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**1.9**	**110**	**4,679**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

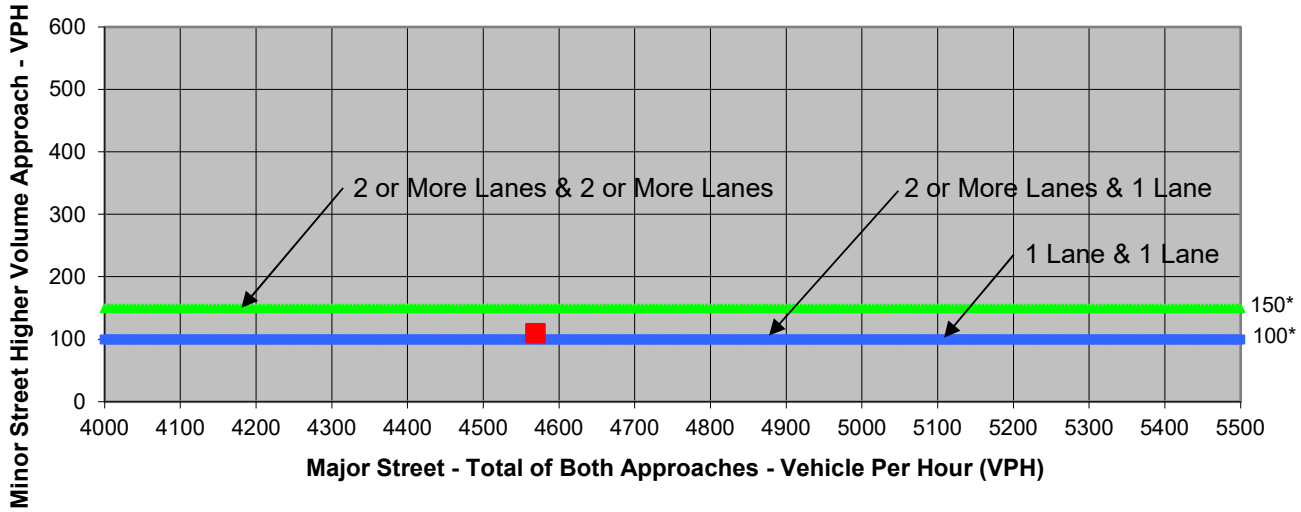
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	CMU/EMC Dwy	Scenario	Cumulative Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,570	2,316	0	0
Right	683	0	0	110
Total	2,253	2,316	0	110

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	CMU/EMC Dwy	
Number of Approach Lanes	**3**	**1**	**YES**
Traffic Volume (VPH) *	**4,569**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	El Centro Rd	Project	Upper Westside
Minor Street	CMU/EMC Dwy	Scenario	Cumulative Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,707	2,340	0	0
Right	854	0	0	395
Total	2,561	2,340	0	395

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	406
Approach with Worst Case Delay	WB
Total Vehicles on Approach	395

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**44.5**	**395**	**5,296**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

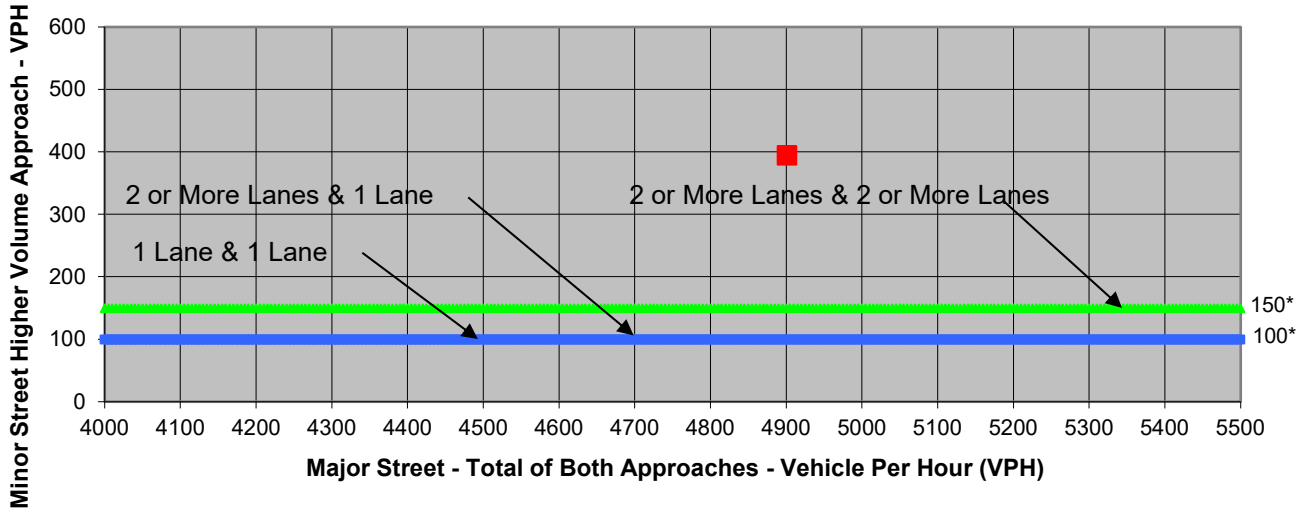
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	CMU/EMC Dwy	Scenario	Cumulative Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	1,707	2,340	0	0
Right	854	0	0	395
Total	2,561	2,340	0	395

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	CMU/EMC Dwy	
Number of Approach Lanes	**3**	**1**	**YES**
Traffic Volume (VPH) *	**4,901**	**395**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	El Centro Rd
Minor Street	Street 5

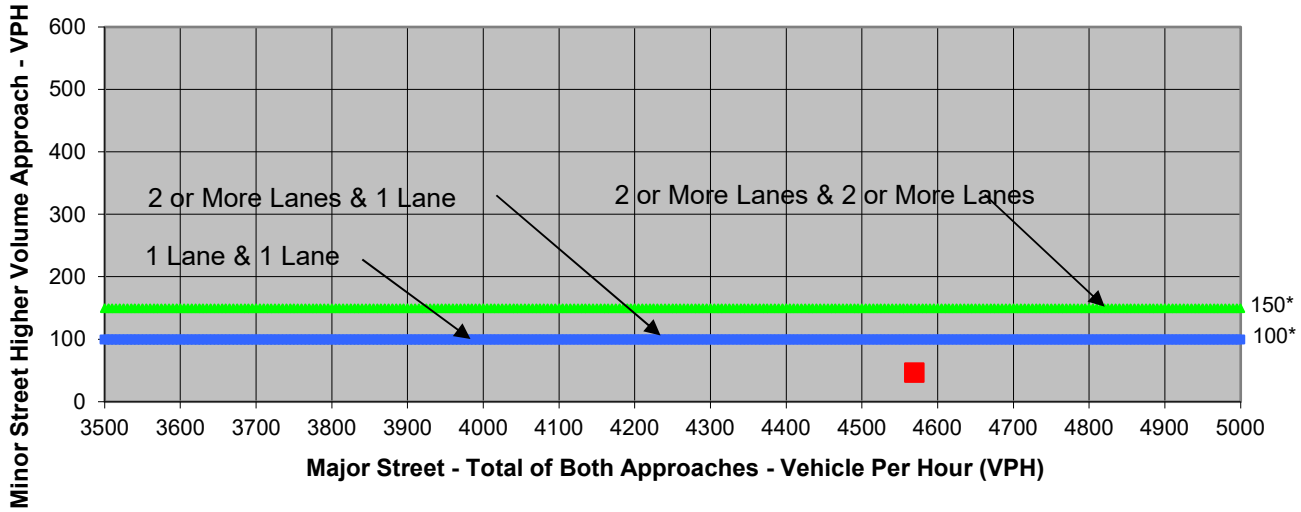
Project	Upper Westside
Scenario	Cumulative Plus Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	2,253	2,234	0	0
Right	0	82	47	0
Total	2,253	2,316	47	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 5	
Number of Approach Lanes	**3**	**1**	**NO**
Traffic Volume (VPH) *	**4,569**	**47**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 5	Scenario	Cumulative Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	2,253	2,234	0	0
Right	0	82	47	0
Total	2,253	2,316	47	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	900
Approach with Worst Case Delay	EB
Total Vehicles on Approach	47

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**11.8**	**47**	**4,616**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 5	Scenario	Cumulative Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	2,561	2,277	0	0
Right	0	63	65	0
Total	2,561	2,340	65	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	900
Approach with Worst Case Delay	EB
Total Vehicles on Approach	65

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**16.3**	**65**	**4,966**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

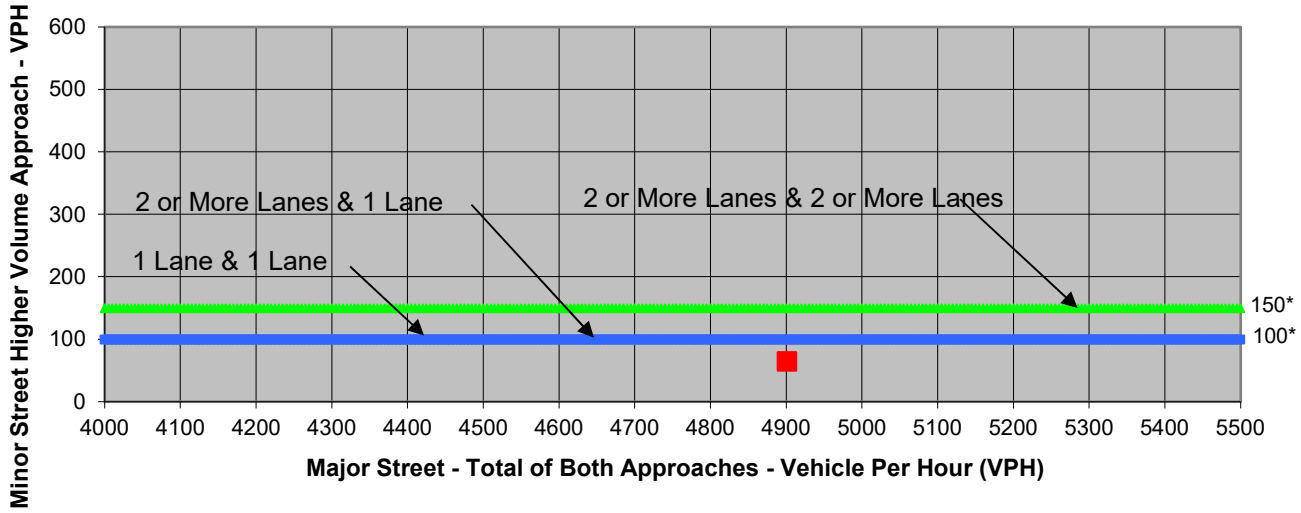
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 5	Scenario	Cumulative Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	2,561	2,277	0	0
Right	0	63	65	0
Total	2,561	2,340	65	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 5	
Number of Approach Lanes	**3**	**1**	**NO**
Traffic Volume (VPH) *	**4,901**	**65**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	Upper Westside
Major Street	El Centro Rd
Scenario	Cumulative Plus Project
Minor Street	Street 4
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	219	0
Through	657	554	0	0
Right	0	115	8	0
Total	657	669	227	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	53
Approach with Worst Case Delay	EB
Total Vehicles on Approach	227

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**3.3**	**227**	**1,553**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

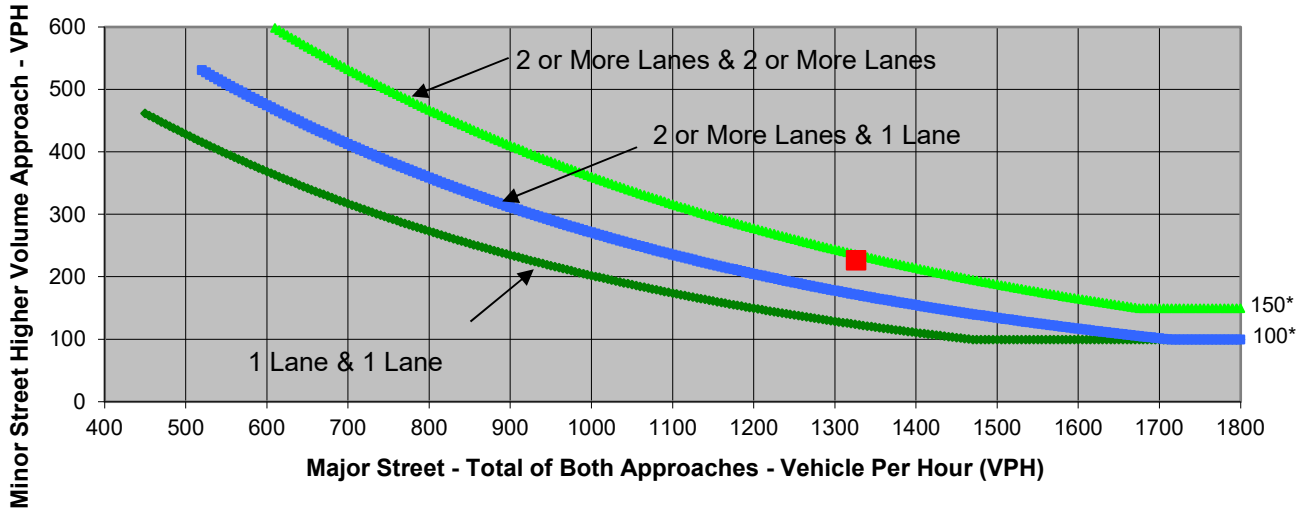
Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 4	Scenario	Cumulative Plus Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	219	0
Through	657	554	0	0
Right	0	115	8	0
Total	657	669	227	0

Major Street Direction

x	North/South
	East/West



* 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.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 4	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**1,326**	**227**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	El Centro Rd	Project	Upper Westside
Minor Street	Street 4	Scenario	Cumulative Plus Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	132	0
Through	510	795	0	0
Right	0	166	6	0
Total	510	961	138	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	52
Approach with Worst Case Delay	EB
Total Vehicles on Approach	138

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project	**2**	**138**	**1,609**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	El Centro Rd
Minor Street	Street 4

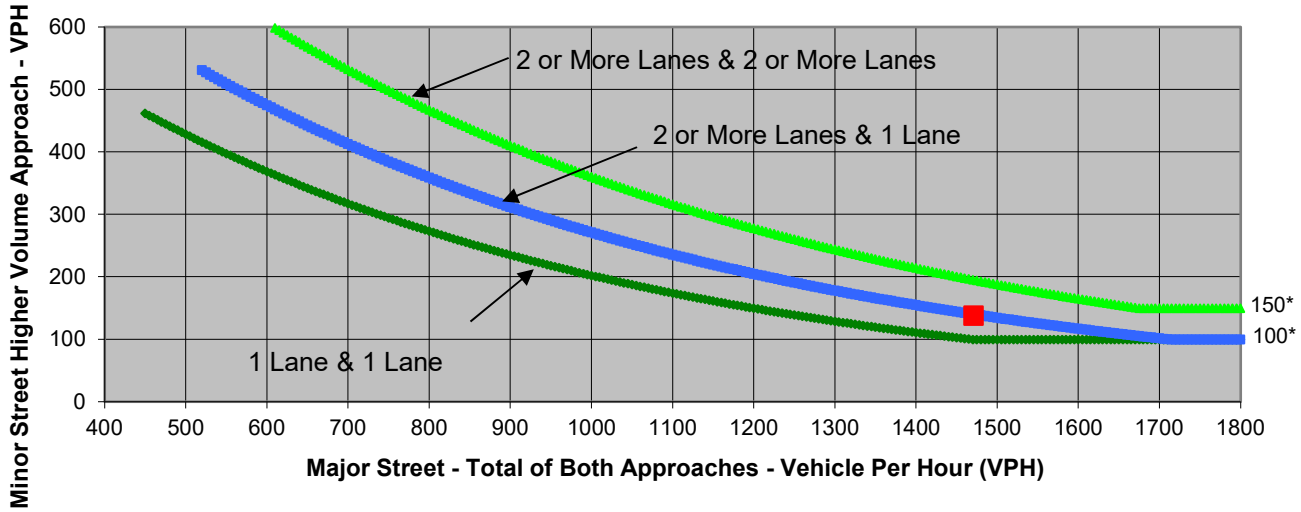
Project	Upper Westside
Scenario	Cumulative Plus Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	132	0
Through	510	795	0	0
Right	0	166	6	0
Total	510	961	138	0

Major Street Direction

x	North/South
	East/West



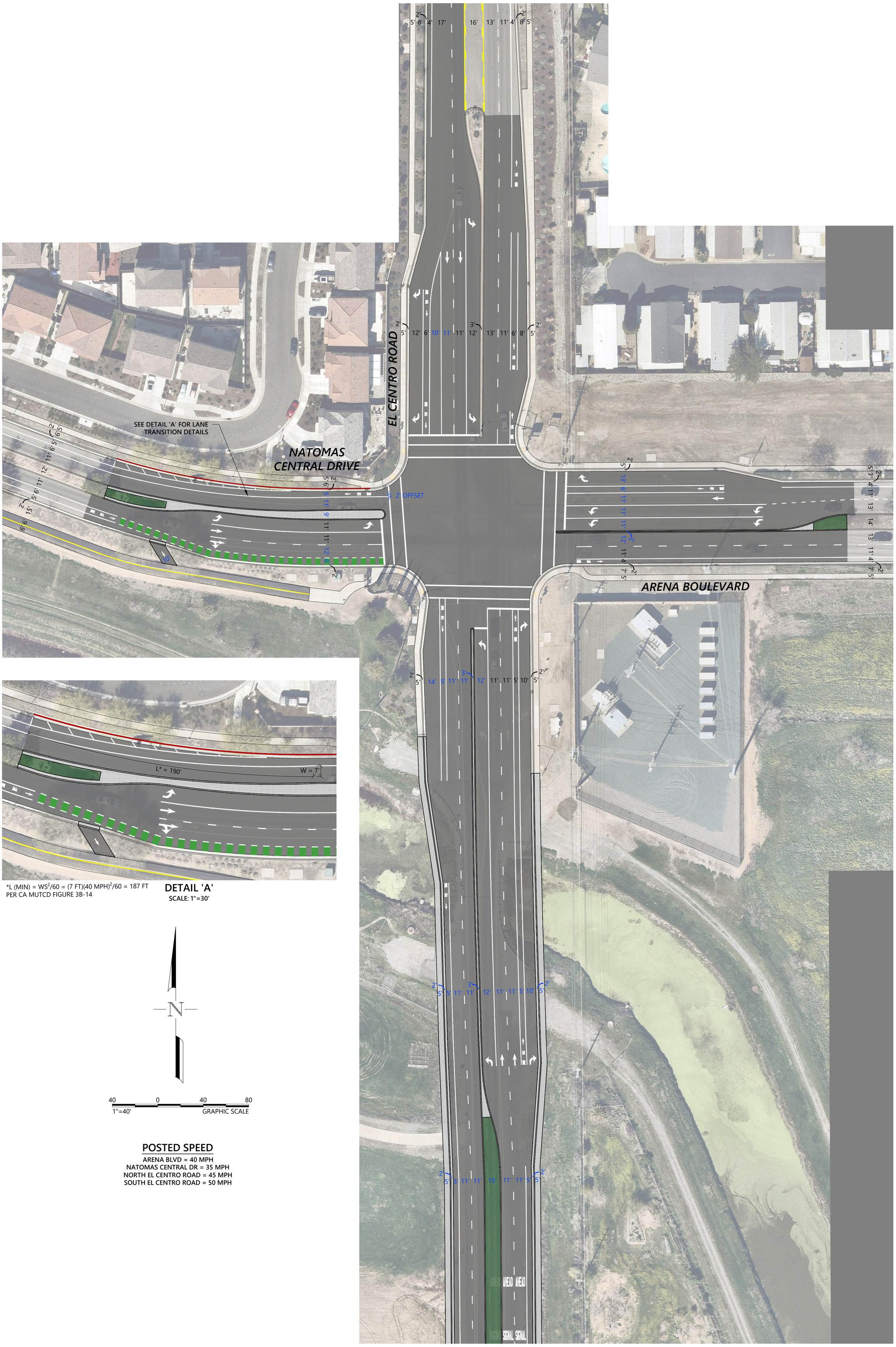
* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	El Centro Rd	Street 4	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**1,471**	**138**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

Appendix E: Other Supporting Information (Model Plots, Figures, and other Calculations including improvement operations and off-ramp queues)



*L (MIN) = $WS^2/60$ = (7 FT)(40 MPH)^2/60 = 187 FT
PER CA MUTCD FIGURE 3B-14

DETAIL 'A'
SCALE: 1"=30'

40 0 40 80
1"=40' GRAPHIC SCALE

POSTED SPEED

ARENA BLVD = 40 MPH
NATOMAS CENTRAL DR = 35 MPH
NORTH EL CENTRO ROAD = 45 MPH
SOUTH EL CENTRO ROAD = 50 MPH

Oct 19, 2021 CADD FILE: C:\Users\kbaumgartner\CAD\3945_Upper_Westside_Specific_Plan_EIR\CAD\ArenaBlvd\3945-Concept.dwg

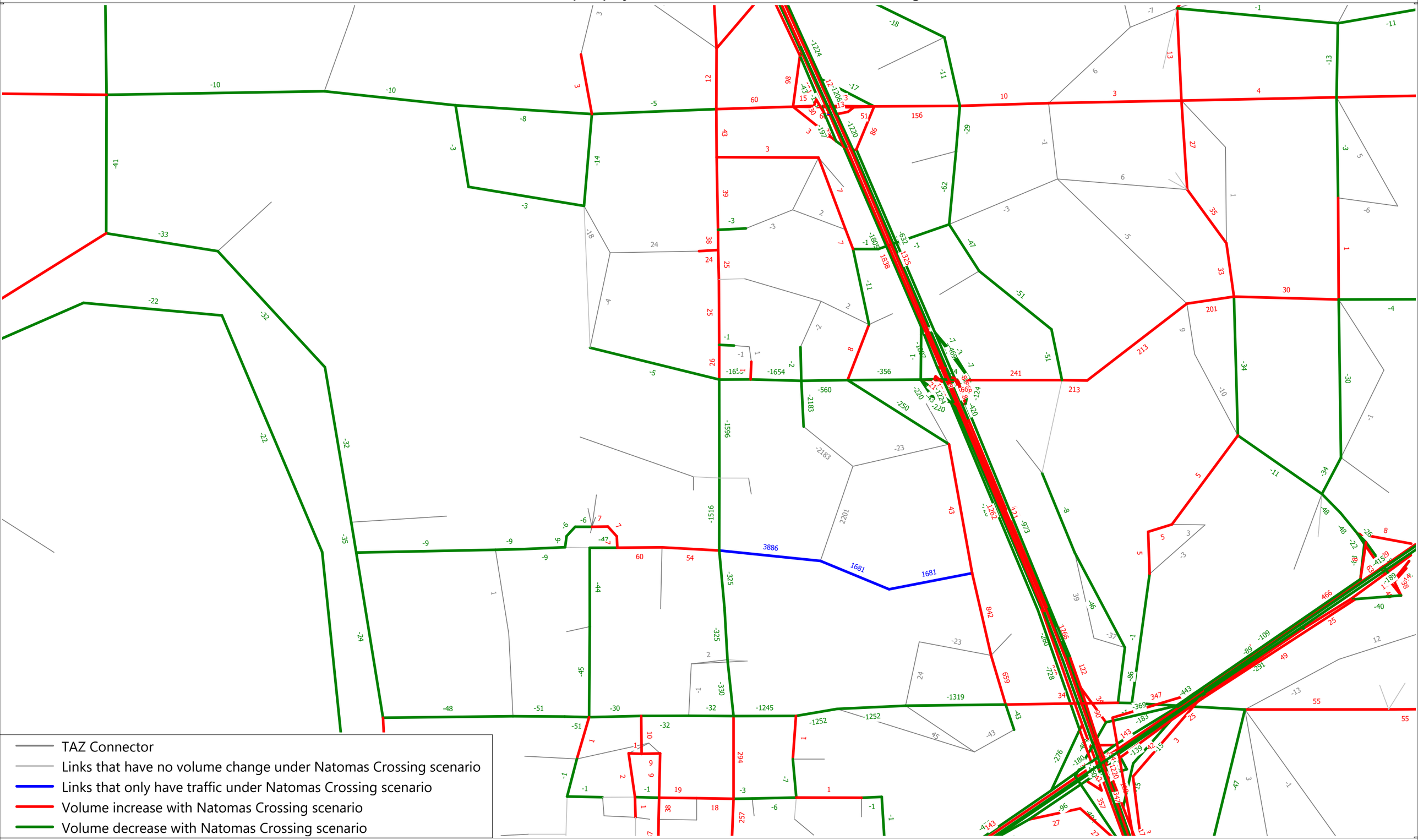
CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Figure 2

Proposed Geometrics

Natomas Central Dr - Arena Blvd & El Centro Blvd

Plot showing the Daily Volume Differences (Two way totals)
Cumulative plus project model with and without Natomas Crossing



Links that are turned off or only walk-bike are not shown.

cube
(Licensed to Fehr Peers)

Natomas Crossing Drive Fair Share Calculation

	ADT					
Segment	**Existing**	**Cum No Project**	**Cum Plus Project**	**Total Growth**	**Project Added Trips**	**Fair Share**
San Juan Road east of El Centro Rd	6600	7700	15600	9000	7900	
San Juan Road east of Duckhorn Dr	10100	14600	15500	5400	900	
Arena Blvd east of Duckhorn Drive	26900	35700	41700	14800	6000	
SUM	43600	58000	72800	29200	14800	51%

Note: This approach is derived from methodologies suggested by Caltrans and looks at how various planned land uses would benefit (either directly on indirectly) from the proposed improvement.

SimTraffic LOS Report

Existing Plus Project with Improvement Conditions

(AM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	100	100	99.5%	54.8	7.2	D
	Through	450	451	100.3%	29.9	6.6	C
	Right Turn	472	442	93.7%	67.5	63.5	E
	Subtotal	1,022	993	97.2%	48.3	30.3	D
SB	Left Turn	52	55	105.0%	71.3	29.8	E
	Through	825	839	101.7%	40.8	8.5	D
	Right Turn	16	15	93.8%	13.4	8.4	B
	Subtotal	893	908	101.7%	42.2	8.9	D
EB	Left Turn	6	6	98.3%	80.9	101.6	F
	Through	378	370	98.0%	120.3	73.3	F
	Right Turn	166	157	94.5%	119.3	91.4	F
	Subtotal	550	533	96.9%	120.1	78.8	F
WB	Left Turn	507	490	96.6%	46.8	6.3	D
	Through	157	155	98.7%	23.2	5.0	C
	Right Turn	18	19	104.4%	5.6	2.2	A
	Subtotal	682	664	97.3%	40.4	4.5	D
Total		3,147	3,098	98.4%	55.0	22.4	D

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	155	143	92.0%	116.7	50.2	F
	Through	7	6	90.0%	101.8	76.8	F
	Right Turn	344	309	89.9%	144.9	57.2	F
	Subtotal	506	458	90.6%	135.4	51.4	F
SB	Left Turn	51	40	78.2%	373.0	275.8	F
	Through	9	9	97.8%	38.5	35.4	D
	Right Turn	19	18	96.3%	14.7	18.5	B
	Subtotal	79	67	84.8%	107.5	88.1	F
EB	Left Turn	3	3	100.0%	81.9	76.4	F
	Through	763	664	87.0%	116.6	28.1	F
	Right Turn	136	124	90.8%	38.2	12.3	D
	Subtotal	902	790	87.6%	105.2	25.2	F
WB	Left Turn	170	170	100.2%	59.5	17.5	E
	Through	492	489	99.5%	33.9	10.6	C
	Right Turn	18	20	111.7%	7.7	4.0	A
	Subtotal	680	680	100.0%	39.3	11.0	D
Total		2,167	1,995	92.1%	86.7	12.5	F

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	47	48	102.8%	72.0	13.3	E
	Through	58	59	101.2%	44.2	10.0	D
	Right Turn	693	683	98.5%	29.9	5.0	C
	Subtotal	798	790	99.0%	33.2	4.9	C
SB	Left Turn	210	211	100.5%	65.2	9.4	E
	Through	89	90	101.2%	45.1	9.5	D
	Right Turn	75	77	102.5%	22.0	6.3	C
	Subtotal	374	378	101.1%	50.4	6.8	D
EB	Left Turn	36	31	84.7%	106.3	23.5	F
	Through	1,113	944	84.8%	97.4	9.0	F
	Right Turn	43	37	85.6%	68.9	14.0	E
	Subtotal	1,192	1,011	84.8%	96.9	8.5	F
WB	Left Turn	326	326	99.9%	63.5	10.2	E
	Through	558	559	100.2%	32.2	5.5	C
	Right Turn	123	124	100.7%	3.8	0.7	A
	Subtotal	1,007	1,009	100.1%	39.2	5.2	D
Total		3,371	3,187	94.6%	56.5	3.4	E

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	162	164	101.1%	14.4	2.6	B
	Through						
	Right Turn	70	68	97.7%	5.7	1.4	A
	Subtotal	232	232	100.1%	11.7	1.8	B
EB	Left Turn						
	Through	929	842	90.6%	6.7	0.9	A
	Right Turn	1,097	1,006	91.7%	6.8	1.0	A
	Subtotal	2,026	1,848	91.2%	6.8	0.4	A
WB	Left Turn						
	Through	937	941	100.4%	4.4	1.1	A
	Right Turn						
	Subtotal	937	941	100.4%	4.4	1.1	A
Total		3,195	3,021	94.5%	6.4	0.5	A

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	563	564	100.1%	12.3	1.4	B
	Through						
	Right Turn	428	429	100.2%	6.3	1.3	A
	Subtotal	991	993	100.2%	9.8	1.1	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	893	822	92.0%	11.4	1.8	B
	Right Turn						
	Subtotal	893	822	92.0%	11.4	1.8	B
WB	Left Turn						
	Through	863	873	101.2%	12.5	1.2	B
	Right Turn	105	107	101.5%	3.6	0.7	A
	Subtotal	968	980	101.2%	11.5	1.0	B
Total		2,852	2,795	98.0%	10.8	0.8	B

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	150	150	99.8%	33.2	5.8	C
	Through	46	49	107.2%	38.1	10.2	D
	Right Turn	27	25	94.1%	6.1	3.1	A
	Subtotal	223	224	100.6%	31.1	4.1	C
SB	Left Turn	195	192	98.5%	34.9	4.5	C
	Through	20	20	100.5%	46.9	23.4	D
	Right Turn	359	364	101.4%	2.4	0.2	A
	Subtotal	574	576	100.4%	14.7	2.3	B
EB	Left Turn	347	332	95.7%	35.9	3.4	D
	Through	935	880	94.1%	16.4	2.9	B
	Right Turn	39	38	98.5%	3.0	1.0	A
	Subtotal	1,321	1,250	94.6%	21.3	2.6	C
WB	Left Turn	12	12	100.0%	43.7	28.1	D
	Through	457	458	100.3%	23.9	4.5	C
	Right Turn	162	159	98.0%	4.6	0.5	A
	Subtotal	631	629	99.7%	19.2	3.4	B
Total		2,749	2,680	97.5%	20.2	2.0	C

SimTraffic LOS Report

Existing Plus Project with Improvement Conditions

(AM Peak Hour)

W. El Camino Avenue (#17, #33 to #39, #61 to #63, #68, #74, #77 to #83, #89, #95, #101)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	3	2	80.0%	64.8	51.1	E
	Through	282	246	87.1%	142.1	18.5	F
	Right Turn	745	662	88.8%	74.4	10.1	E
	Subtotal	1,030	910	88.3%	94.2	8.2	F
SB	Left Turn	1,947	1,421	73.0%	174.8	6.2	F
	Through	200	149	74.6%	127.6	7.9	F
	Right Turn	5	3	56.0%	119.7	13.6	F
	Subtotal	2,152	1,573	73.1%	170.4	6.2	F
EB	Left Turn	68	70	102.6%	86.8	36.4	F
	Through	626	603	96.3%	64.3	18.9	E
	Right Turn	11	12	112.7%	39.7	27.0	D
	Subtotal	705	685	97.2%	66.6	17.5	E
WB	Left Turn	477	459	96.2%	65.4	6.0	E
	Through	820	787	96.0%	72.1	24.7	E
	Right Turn	1,285	1,236	96.2%	4.7	0.3	A
	Subtotal	2,582	2,482	96.1%	36.2	9.1	D
Total		6,469	5,650	87.3%	88.7	4.4	F

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	691	687	99.4%	59.4	15.5	E
	Through						
	Right Turn	1,005	1,004	99.9%	31.5	20.9	C
	Subtotal	1,696	1,691	99.7%	43.2	18.3	D
EB	Left Turn						
	Through	1,762	1,423	80.8%	21.9	2.4	C
	Right Turn	1,556	1,261	81.0%	17.5	2.4	B
	Subtotal	3,318	2,684	80.9%	19.7	2.3	B
WB	Left Turn						
	Through	1,577	1,485	94.1%	21.9	2.5	C
	Right Turn	234	221	94.4%	2.1	0.1	A
	Subtotal	1,811	1,706	94.2%	19.4	2.2	B
Total		6,825	6,080	89.1%	26.5	6.1	C

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	887	867	97.7%	54.0	5.7	D
	Through						
	Right Turn	272	273	100.5%	30.4	6.1	C
	Subtotal	1,159	1,140	98.4%	48.7	4.6	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,628	1,450	89.1%	12.5	1.2	B
	Right Turn						
	Subtotal	1,628	1,450	89.1%	12.5	1.2	B
WB	Left Turn						
	Through	924	829	89.7%	10.1	1.4	B
	Right Turn	604	527	87.2%	1.3	0.3	A
	Subtotal	1,528	1,356	88.7%	6.7	1.0	A
Total		4,315	3,946	91.4%	21.3	2.4	C

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	487	324	66.5%	245.2	34.8	F
	Through						
	Right Turn	105	71	67.2%	211.9	29.6	F
	Subtotal	592	394	66.6%	239.4	32.6	F
SB	Left Turn	1	1	70.0%	8.5	26.9	A
	Through						
	Right Turn	3	4	130.0%	1.1	3.4	A
	Subtotal	4	5	115.0%	9.6	26.7	A
EB	Left Turn	3	3	100.0%	22.7	35.6	C
	Through	1,771	1,593	90.0%	6.5	1.6	A
	Right Turn	108	101	93.6%	1.3	0.5	A
	Subtotal	1,882	1,697	90.2%	6.2	1.6	A
WB	Left Turn	40	39	96.5%	44.2	13.6	D
	Through	1,038	1,022	98.5%	8.0	1.6	A
	Right Turn						
	Subtotal	1,078	1,061	98.4%	9.4	1.7	A
Total		3,556	3,157	88.8%	38.5	1.0	D

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	9	88.0%	33.7	18.0	C
	Through						
	Right Turn	35	35	99.7%	22.3	6.8	C
	Subtotal	45	44	97.1%	23.6	7.4	C
SB	Left Turn	5	4	76.0%	15.6	12.1	B
	Through						
	Right Turn	5	7	132.0%	8.4	11.5	A
	Subtotal	10	10	104.0%	11.4	7.9	B
EB	Left Turn	5	4	70.0%	47.2	38.3	D
	Through	1,835	1,635	89.1%	22.4	4.8	C
	Right Turn	37	36	97.8%	24.1	8.7	C
	Subtotal	1,877	1,675	89.2%	22.5	4.7	C
WB	Left Turn	195	184	94.4%	35.6	2.7	D
	Through	1,063	1,054	99.2%	10.8	4.0	B
	Right Turn	5	5	94.0%	5.3	2.1	A
	Subtotal	1,263	1,243	98.4%	14.3	3.7	B
Total		3,195	2,972	93.0%	19.1	3.9	B

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	281	267	95.1%	54.7	14.4	D
	Through	91	95	104.2%	38.2	6.2	D
	Right Turn	137	141	103.1%	14.3	2.3	B
	Subtotal	509	503	98.9%	40.0	8.4	D
SB	Left Turn	112	108	96.0%	48.8	15.5	D
	Through	28	31	110.7%	44.9	5.8	D
	Right Turn	67	65	97.0%	4.6	1.9	A
	Subtotal	207	204	98.3%	35.0	10.4	C
EB	Left Turn	329	304	92.5%	54.3	9.4	D
	Through	1,051	931	88.6%	36.2	10.4	D
	Right Turn	490	441	90.0%	19.8	8.6	B
	Subtotal	1,870	1,676	89.6%	35.3	9.3	D
WB	Left Turn	271	271	99.9%	52.5	5.7	D
	Through	888	871	98.1%	40.6	18.2	D
	Right Turn	489	492	100.6%	12.3	8.0	B
	Subtotal	1,648	1,634	99.1%	33.9	12.5	C
Total		4,234	4,017	94.9%	35.4	7.5	D

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	594	530	89.2%	0.3	0.1	A
	Right Turn						
	Subtotal	594	530	89.2%	0.3	0.1	A
WB	Left Turn						
	Through	1,648	1,644	99.8%	7.3	0.7	A
	Right Turn	795	787	99.0%	11.7	0.7	B
	Subtotal	2,443	2,431	99.5%	8.8	0.8	A
Total		3,037	2,961	97.5%	7.2	0.6	A

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	631	631	100.0%	37.9	3.3	D
	Through						
	Right Turn	356	365	102.5%	2.9	0.3	A
	Subtotal	987	996	100.9%	24.6	2.0	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	594	530	89.2%	7.6	1.7	A
	Right Turn						
	Subtotal	594	530	89.2%	7.6	1.7	A
WB	Left Turn						
	Through	1,812	1,800	99.3%	55.8	22.6	E
	Right Turn						
	Subtotal	1,812	1,800	99.3%	55.8	22.6	E
Total		3,393	3,326	98.0%	39.3	12.5	D

Intersection 61 **El Centro Rd/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	122	115	94.4%	73.2	24.0	E
	Through	867	837	96.5%	32.3	3.0	C
	Right Turn	67	66	98.7%	13.0	1.4	B
	Subtotal	1,056	1,018	96.4%	36.1	3.1	D
SB	Left Turn	369	339	91.9%	248.8	63.0	F
	Through	1,061	967	91.2%	224.4	51.7	F
	Right Turn	185	184	99.4%	124.2	66.3	F
	Subtotal	1,615	1,490	92.3%	218.0	55.2	F
EB	Left Turn	160	115	72.1%	416.1	47.3	F
	Through	116	92	79.4%	409.5	54.2	F
	Right Turn	350	252	71.9%	436.5	57.0	F
	Subtotal	626	459	73.3%	426.8	49.7	F
WB	Left Turn	606	295	48.6%	857.8	118.3	F
	Through	70	45	64.9%	497.4	123.4	F
	Right Turn	134	77	57.7%	475.5	107.3	F
	Subtotal	810	418	51.5%	770.2	125.2	F
Total		4,107	3,385	82.4%	248.7	25.8	F

Intersection 62 **MDR Access/Farm Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	2	1	45.0%	191.2	354.7	F
	Through						
	Right Turn	70	58	83.4%	355.2	263.4	F
	Subtotal	72	59	82.4%	282.8	249.9	F
EB	Left Turn	18	16	87.2%	9.7	16.3	A
	Through	534	484	90.7%	4.3	0.7	A
	Right Turn						
	Subtotal	552	500	90.6%	4.4	0.8	A
WB	Left Turn						
	Through	740	401	54.2%	414.6	80.2	F
	Right Turn	3	2	66.7%	61.1	134.6	F
	Subtotal	743	403	54.3%	414.4	80.4	F
Total		1,367	963	70.4%	167.6	21.4	F

Intersection 63 **Orchard Ln/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	652	388	59.5%	622.2	76.5	F
	Through						
	Right Turn	2	1	55.0%	164.5	260.1	F
	Subtotal	654	389	59.5%	621.4	76.5	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	11	11	97.3%	25.4	20.9	C
	Right Turn	525	473	90.2%	7.0	1.1	A
	Subtotal	536	484	90.3%	7.3	1.1	A
WB	Left Turn	17	17	101.8%	69.4	118.3	E
	Through	91	82	89.6%	183.8	114.2	F
	Right Turn						
	Subtotal	108	99	91.5%	169.4	114.9	F
Total		1,298	972	74.9%	202.5	23.5	F

Intersection 68 **El Centro Rd/Street 6** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,004	962	95.8%	0.4	0.1	A
	Right Turn	381	361	94.8%	1.2	0.2	A
	Subtotal	1,385	1,323	95.5%	0.6	0.1	A
SB	Left Turn						
	Through	2,065	1,557	75.4%	55.1	3.2	F
	Right Turn	2	1	70.0%	2.0	5.1	A
	Subtotal	2,067	1,559	75.4%	55.1	3.2	F
EB	Left Turn						
	Through						
	Right Turn	107	99	92.7%	165.8	97.5	F
	Subtotal	107	99	92.7%	165.8	97.5	F
WB	Left Turn						
	Through						
	Right Turn	52	54	103.5%	8.1	1.8	A
	Subtotal	52	54	103.5%	8.1	1.8	A
Total		3,611	3,035	84.0%	34.2	3.4	D

Intersection 74 **El Centro Rd/Street 5** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,335	1,269	95.1%	5.6	0.6	A
	Right Turn	300	284	94.6%	7.1	0.9	A
	Subtotal	1,635	1,553	95.0%	5.8	0.4	A
SB	Left Turn						
	Through	2,105	1,598	75.9%	60.6	3.8	F
	Right Turn	67	51	76.0%	19.6	7.2	C
	Subtotal	2,172	1,649	75.9%	59.2	3.8	F
EB	Left Turn						
	Through						
	Right Turn	47	1	1.1%	880.4	44.0	F
	Subtotal	47	1	1.1%	160.4	338.6	F
WB	Left Turn						
	Through						
	Right Turn	50	52	103.2%	22.4	8.2	C
	Subtotal	50	52	103.2%	22.4	8.2	C
Total		3,904	3,254	83.3%	32.2	1.9	D

Intersection 77 **Street E/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	67	63	93.9%	6.6	0.8	A
	Through	3	3	110.0%	3.4	3.9	A
	Right Turn						
	Subtotal	70	66	94.6%	6.6	0.8	A
SB	Left Turn						
	Through	1	1	60.0%	1.8	4.1	A
	Right Turn	25	25	100.8%	3.6	0.7	A
	Subtotal	26	26	99.2%	3.7	0.8	A
EB	Left Turn	28	29	102.5%	2.4	0.6	A
	Through	145	140	96.6%	1.2	0.4	A
	Right Turn	41	44	108.0%	0.3	0.4	A
	Subtotal	214	213	99.5%	1.2	0.2	A
WB	Left Turn						
	Through	220	211	95.7%	3.2	0.2	A
	Right Turn						
	Subtotal	220	211	95.7%	3.2	0.2	A
Total		530	516	97.3%	2.8	0.2	A

Intersection 78 **Street D/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	23	22	94.8%	5.7	0.9	A
	Through	24	22	90.0%	7.4	1.7	A
	Right Turn	100	106	105.5%	3.8	0.4	A
	Subtotal	147	149	101.3%	4.5	0.2	A
SB	Left Turn	46	43	93.7%	5.2	0.5	A
	Through	33	33	100.9%	6.8	1.0	A
	Right Turn	4	4	97.5%	1.8	2.1	A
	Subtotal	83	80	96.7%	5.9	0.4	A
EB	Left Turn	7	5	77.1%	4.5	2.8	A
	Through	121	117	96.5%	9.4	0.7	A
	Right Turn	17	18	106.5%	4.3	1.3	A
	Subtotal	145	140	96.8%	8.6	0.9	A
WB	Left Turn	61	60	98.5%	9.0	0.7	A
	Through	193	185	95.6%	12.0	0.5	B
	Right Turn	86	84	97.8%	7.2	0.5	A
	Subtotal	340	329	96.7%	10.2	0.5	B
Total		715	698	97.7%	8.2	0.3	A

Intersection 79 **Street C/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	34	32	92.6%	7.2	1.0	A
	Right Turn	90	86	95.9%	4.1	0.6	A
	Subtotal	124	118	95.0%	4.9	0.6	A
SB	Left Turn	88	88	100.3%	6.2	0.6	A
	Through	33	33	98.8%	7.9	1.4	A
	Right Turn						
	Subtotal	121	121	99.9%	6.7	0.5	A
EB	Left Turn	2	2	75.0%	0.8	2.5	A
	Through	265	263	99.2%	10.6	0.6	B
	Right Turn						
	Subtotal	267	264	99.0%	10.6	0.6	B
WB	Left Turn	70	66	93.7%	12.1	1.4	B
	Through	340	329	96.9%	14.6	1.2	B
	Right Turn	102	94	92.4%	10.3	1.1	B
	Subtotal	512	489	95.5%	13.4	1.1	B
Total		1,024	992	96.9%	10.9	0.7	B

Intersection 80 **Street B/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	24	22	92.1%	6.1	1.6	A
	Through	32	32	98.8%	7.0	0.7	A
	Right Turn	1	1	110.0%	0.0	0.0	A
	Subtotal	57	55	96.1%	6.7	0.6	A
SB	Left Turn						
	Through	28	30	106.1%	7.3	1.0	A
	Right Turn	17	17	101.2%	3.7	1.0	A
	Subtotal	45	47	104.2%	6.3	1.2	A
EB	Left Turn	10	11	112.0%	8.1	3.9	A
	Through	421	415	98.6%	11.6	0.7	B
	Right Turn	12	12	100.0%	9.0	2.6	A
	Subtotal	443	439	99.0%	11.5	0.7	B
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		545	540	99.1%	10.6	0.5	B

Intersection 81 **Street A/W. El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	16	16	101.9%	29.3	8.0	C
	Through	31	33	106.1%	29.1	8.5	C
	Right Turn	147	147	99.9%	12.5	1.9	B
	Subtotal	194	196	101.0%	16.9	2.5	B
SB	Left Turn	56	57	100.9%	28.1	4.7	C
	Through	62	63	102.1%	23.5	5.5	C
	Right Turn	10	11	113.0%	13.3	10.3	B
	Subtotal	128	131	102.4%	24.9	3.3	C
EB	Left Turn	12	13	104.2%	25.7	16.4	C
	Through	402	399	99.2%	13.2	1.8	B
	Right Turn	8	8	101.3%	7.1	3.9	A
	Subtotal	422	419	99.4%	13.6	1.7	B
WB	Left Turn	176	155	87.8%	40.1	4.8	D
	Through	446	424	95.0%	19.3	1.9	B
	Right Turn	206	209	101.5%	14.0	2.2	B
	Subtotal	828	787	95.1%	22.1	1.4	C
Total		1,572	1,534	97.6%	19.3	0.9	B

Intersection 82 **Parking Garage/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	100	101	101.2%	12.3	4.3	B
	Subtotal	100	101	101.2%	12.3	4.3	B
EB	Left Turn						
	Through	705	684	97.0%	3.9	3.6	A
	Right Turn						
	Subtotal	705	684	97.0%	3.9	3.6	A
WB	Left Turn						
	Through	728	687	94.3%	8.5	0.8	A
	Right Turn	100	95	94.8%	5.3	0.8	A
	Subtotal	828	782	94.4%	8.2	0.8	A
Total		1,633	1,566	95.9%	6.6	1.6	A

Intersection 83 **El Centro Rd/Tomato Patch Ln North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	970	867	89.4%	8.6	2.0	A
	Right Turn	5	6	114.0%	1.1	2.4	A
	Subtotal	975	873	89.5%	8.6	2.0	A
SB	Left Turn						
	Through	688	621	90.2%	2.9	0.3	A
	Right Turn						
	Subtotal	688	621	90.2%	2.9	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	60	37	62.2%	532.3	234.8	F
	Subtotal	60	37	62.2%	532.3	234.8	F
Total		1,723	1,531	88.9%	17.4	6.1	C

Intersection 89 **El Centro Rd/Street 4** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	772	767	99.3%	10.7	3.4	B
	Right Turn						
	Subtotal	772	767	99.3%	10.7	3.4	B
SB	Left Turn						
	Through	560	510	91.1%	0.4	0.3	A
	Right Turn	128	111	86.8%	0.4	0.1	A
	Subtotal	688	621	90.3%	0.4	0.2	A
EB	Left Turn	203	105	51.9%	453.9	157.2	F
	Through						
	Right Turn	10	6	64.0%	285.7	222.0	F
	Subtotal	213	112	52.5%	445.0	159.4	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,673	1,500	89.7%	32.6	7.3	D

Intersection 95 **El Centro Rd/Street 3/Tomato Patch Ln South** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	9	10	105.6%	28.3	11.9	C
	Through	429	421	98.2%	20.3	4.8	C
	Right Turn	9	9	95.6%	19.4	22.3	B
	Subtotal	447	439	98.3%	20.4	4.6	C
SB	Left Turn	377	335	88.7%	31.5	7.7	C
	Through	63	57	91.1%	10.3	3.3	B
	Right Turn	130	123	94.5%	6.9	1.9	A
	Subtotal	570	515	90.3%	23.2	5.6	C
EB	Left Turn	236	233	98.6%	25.1	6.9	C
	Through	7	9	124.3%	31.3	21.6	C
	Right Turn						
	Subtotal	243	241	99.3%	25.2	7.0	C
WB	Left Turn	6	6	100.0%	14.8	14.8	B
	Through	1	1	60.0%	2.3	7.2	A
	Right Turn	107	109	101.9%	5.8	0.7	A
	Subtotal	114	116	101.4%	6.3	1.0	A
Total		1,374	1,311	95.4%	21.3	4.5	C

Intersection 101 **El Centro Rd/Street 2** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1	0	30.0%	0.3	0.6	A
	Through	71	70	99.0%	0.4	0.2	A
	Right Turn						
	Subtotal	72	71	98.1%	0.4	0.2	A
SB	Left Turn						
	Through	9	7	77.8%	0.1	0.4	A
	Right Turn	60	53	88.7%	0.3	0.2	A
	Subtotal	69	60	87.2%	0.2	0.2	A
EB	Left Turn	376	371	98.6%	7.9	1.6	A
	Through						
	Right Turn	1	1	130.0%	2.7	5.3	A
	Subtotal	377	372	98.7%	7.9	1.6	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		518	503	97.1%	6.0	1.1	A

SimTraffic LOS Report

Existing Plus Project with Improvement Conditions

(PM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	80	79	99.3%	55.0	6.5	E
	Through	907	916	101.0%	32.1	3.6	C
	Right Turn	566	574	101.4%	8.5	1.6	A
	Subtotal	1,553	1,570	101.1%	24.5	2.6	C
SB	Left Turn	34	37	108.5%	39.8	8.6	D
	Through	446	446	99.9%	25.4	2.2	C
	Right Turn	7	7	101.4%	5.5	4.8	A
	Subtotal	487	490	100.6%	26.2	2.3	C
EB	Left Turn	5	4	84.0%	42.1	35.0	D
	Through	177	180	101.6%	33.7	3.7	C
	Right Turn	21	23	108.6%	17.0	7.1	B
	Subtotal	203	207	101.9%	32.4	3.3	C
WB	Left Turn	593	608	102.5%	37.3	6.5	D
	Through	297	294	99.1%	21.1	3.8	C
	Right Turn						
	Subtotal	890	902	101.4%	31.7	4.2	C
Total		3,133	3,169	101.1%	27.4	1.8	C

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	147	147	99.9%	22.3	4.1	C
	Through	9	9	101.1%	23.5	11.0	C
	Right Turn	150	152	101.3%	7.5	1.1	A
	Subtotal	306	308	100.6%	14.7	2.2	B
SB	Left Turn	22	23	105.0%	25.8	10.2	C
	Through	2	2	80.0%	33.4	35.6	C
	Right Turn	10	10	95.0%	7.9	6.8	A
	Subtotal	34	34	100.6%	23.1	7.9	C
EB	Left Turn	22	22	100.9%	26.3	7.9	C
	Through	625	634	101.4%	15.6	1.4	B
	Right Turn	127	132	104.3%	4.5	1.2	A
	Subtotal	774	788	101.8%	14.1	1.2	B
WB	Left Turn	192	182	95.0%	31.8	6.0	C
	Through	716	729	101.7%	9.8	2.6	A
	Right Turn	58	59	101.7%	4.2	0.8	A
	Subtotal	966	970	100.4%	13.8	2.5	B
Total		2,080	2,100	101.0%	14.2	1.3	B

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	17	17	101.8%	49.1	14.7	D
	Through	25	31	125.2%	40.9	11.6	D
	Right Turn	311	312	100.3%	18.9	4.0	B
	Subtotal	353	361	102.1%	22.8	4.1	C
SB	Left Turn	220	219	99.4%	46.2	5.2	D
	Through	76	81	106.4%	37.3	9.7	D
	Right Turn	46	44	95.7%	20.7	6.6	C
	Subtotal	342	344	100.5%	40.7	5.5	D
EB	Left Turn	38	34	89.7%	66.2	15.9	E
	Through	764	769	100.7%	37.8	5.6	D
	Right Turn	38	37	96.8%	15.1	5.6	B
	Subtotal	840	840	100.0%	38.1	5.8	D
WB	Left Turn	611	591	96.7%	76.5	29.8	E
	Through	895	898	100.3%	22.5	5.3	C
	Right Turn	203	200	98.3%	2.8	0.6	A
	Subtotal	1,709	1,688	98.8%	39.1	12.1	D
Total		3,244	3,232	99.6%	37.2	7.8	D

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	178	175	98.1%	16.4	3.8	B
	Through						
	Right Turn	141	139	98.2%	11.8	5.6	B
	Subtotal	319	313	98.2%	14.4	4.1	B
EB	Left Turn						
	Through	678	699	103.1%	4.9	0.9	A
	Right Turn	620	607	97.9%	0.8	0.1	A
	Subtotal	1,298	1,306	100.6%	3.0	0.5	A
WB	Left Turn						
	Through	1,568	1,555	99.2%	7.4	3.9	A
	Right Turn						
	Subtotal	1,568	1,555	99.2%	7.4	3.9	A
Total		3,185	3,174	99.7%	6.3	2.3	A

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	960	957	99.7%	14.6	1.7	B
	Through						
	Right Turn	883	881	99.8%	16.8	2.9	B
	Subtotal	1,843	1,839	99.8%	15.7	2.0	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	755	770	102.0%	22.4	3.0	C
	Right Turn						
	Subtotal	755	770	102.0%	22.4	3.0	C
WB	Left Turn						
	Through	898	885	98.6%	22.7	3.4	C
	Right Turn	193	203	105.4%	4.5	0.8	A
	Subtotal	1,091	1,089	99.8%	19.3	2.9	B
Total		3,689	3,698	100.2%	18.1	1.5	B

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	72	70	96.8%	36.3	8.7	D
	Through	39	38	97.2%	38.2	11.2	D
	Right Turn	21	22	103.8%	10.4	5.8	B
	Subtotal	132	129	98.0%	33.4	6.6	C
SB	Left Turn	178	181	101.9%	43.5	6.7	D
	Through	12	12	97.5%	40.4	10.5	D
	Right Turn	235	240	102.0%	1.7	0.2	A
	Subtotal	425	433	101.8%	19.9	3.4	B
EB	Left Turn	476	477	100.2%	40.0	3.5	D
	Through	1,078	1,092	101.3%	15.3	3.0	B
	Right Turn	84	81	96.9%	2.9	0.5	A
	Subtotal	1,638	1,650	100.7%	22.0	2.9	C
WB	Left Turn	12	11	94.2%	48.2	17.9	D
	Through	781	778	99.6%	25.5	2.7	C
	Right Turn	151	150	99.3%	5.7	0.7	A
	Subtotal	944	939	99.5%	22.6	2.1	C
Total		3,139	3,152	100.4%	22.4	1.5	C

SimTraffic LOS Report

Existing Plus Project with Improvement Conditions

(PM Peak Hour)

W. El Camino Avenue (#17, #33 to #39, #61 to #63, #68, #74, #77 to #83, #89, #95, #101)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	15	11	71.3%	85.5	23.8	F
	Through	255	220	86.2%	139.0	23.2	F
	Right Turn	582	514	88.3%	49.2	4.3	D
	Subtotal	852	744	87.3%	76.0	9.4	E
SB	Left Turn	1,652	1,357	82.1%	178.5	39.0	F
	Through	180	147	81.9%	124.2	32.5	F
	Right Turn	17	15	87.1%	105.7	25.3	F
	Subtotal	1,849	1,519	82.1%	172.8	37.8	F
EB	Left Turn	78	75	95.8%	128.4	35.4	F
	Through	730	707	96.9%	121.9	32.4	F
	Right Turn	1	1	100.0%	61.4	59.7	E
	Subtotal	809	783	96.8%	122.4	31.7	F
WB	Left Turn	831	793	95.4%	124.5	59.0	F
	Through	822	803	97.7%	55.0	12.0	D
	Right Turn	2,126	2,085	98.1%	10.1	1.5	B
	Subtotal	3,779	3,681	97.4%	43.8	12.0	D
Total		7,289	6,727	92.3%	86.0	11.6	F

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	287	284	99.0%	71.3	53.9	E
	Through						
	Right Turn	1,066	1,042	97.7%	67.8	63.9	E
	Subtotal	1,353	1,326	98.0%	68.5	61.6	E
EB	Left Turn						
	Through	1,835	1,598	87.1%	21.0	2.6	C
	Right Turn	1,129	977	86.5%	13.0	2.0	B
	Subtotal	2,964	2,575	86.9%	18.0	2.2	B
WB	Left Turn						
	Through	2,713	2,650	97.7%	29.1	5.4	C
	Right Turn	337	337	99.9%	4.2	1.1	A
	Subtotal	3,050	2,987	97.9%	26.4	5.0	C
Total		7,367	6,888	93.5%	30.5	11.8	C

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,615	1,622	100.4%	73.8	11.1	E
	Through						
	Right Turn	264	264	99.8%	35.1	5.2	D
	Subtotal	1,879	1,885	100.3%	68.5	10.1	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,363	1,216	89.2%	24.8	2.4	C
	Right Turn						
	Subtotal	1,363	1,216	89.2%	24.8	2.4	C
WB	Left Turn						
	Through	1,435	1,360	94.8%	23.6	3.3	C
	Right Turn	462	430	93.1%	4.0	1.0	A
	Subtotal	1,897	1,790	94.4%	19.0	3.0	B
Total		5,139	4,892	95.2%	39.8	4.4	D

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	247	239	96.8%	67.8	22.3	E
	Through						
	Right Turn	93	94	101.4%	21.4	9.3	C
	Subtotal	340	334	98.1%	55.5	20.6	E
SB	Left Turn	3	3	96.7%	15.3	23.2	B
	Through						
	Right Turn	1	2	160.0%	16.4	31.0	B
	Subtotal	4	5	112.5%	25.6	32.5	C
EB	Left Turn	2	2	85.0%	20.7	35.6	C
	Through	1,333	1,241	93.1%	8.9	2.3	A
	Right Turn	292	260	89.1%	3.5	1.3	A
	Subtotal	1,627	1,502	92.3%	8.0	2.0	A
WB	Left Turn	111	98	88.3%	42.9	4.5	D
	Through	1,649	1,560	94.6%	13.2	4.1	B
	Right Turn	1	1	100.0%	1.7	3.6	A
	Subtotal	1,761	1,659	94.2%	15.0	4.1	B
Total		3,732	3,500	93.8%	15.9	3.8	B

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	8	81.0%	21.1	15.3	C
	Through						
	Right Turn	35	39	110.0%	14.5	6.1	B
	Subtotal	45	47	103.6%	16.4	5.2	B
SB	Left Turn	5	4	82.0%	16.6	16.6	B
	Through						
	Right Turn	5	7	134.0%	14.5	12.3	B
	Subtotal	10	11	108.0%	20.9	11.2	C
EB	Left Turn	5	4	80.0%	19.3	16.7	B
	Through	1,396	1,303	93.4%	12.3	3.6	B
	Right Turn	28	30	106.4%	13.8	5.2	B
	Subtotal	1,429	1,337	93.6%	12.3	3.6	B
WB	Left Turn	53	49	92.6%	26.6	6.9	C
	Through	1,746	1,647	94.4%	11.6	3.8	B
	Right Turn	5	6	114.0%	6.0	1.1	A
	Subtotal	1,804	1,702	94.4%	12.0	3.7	B
Total		3,288	3,097	94.2%	12.3	3.3	B

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	459	461	100.5%	93.7	29.9	F
	Through	80	83	104.1%	54.4	18.0	D
	Right Turn	366	361	98.7%	33.5	5.8	C
	Subtotal	905	906	100.1%	65.0	17.3	E
SB	Left Turn	464	321	69.2%	287.4	26.3	F
	Through	120	84	70.3%	167.2	28.9	F
	Right Turn	319	210	65.8%	128.9	18.6	F
	Subtotal	903	615	68.1%	216.7	28.1	F
EB	Left Turn	72	62	86.7%	78.0	17.2	E
	Through	1,147	1,025	89.3%	88.0	19.7	F
	Right Turn	214	190	88.8%	62.2	19.1	E
	Subtotal	1,433	1,277	89.1%	83.6	19.6	F
WB	Left Turn	209	216	103.4%	66.8	15.2	E
	Through	1,072	1,069	99.7%	57.0	20.9	E
	Right Turn	112	110	98.3%	18.5	14.4	B
	Subtotal	1,393	1,395	100.1%	55.6	19.3	E
Total		4,634	4,193	90.5%	89.6	9.8	F

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	898	794	88.4%	0.3	0.0	A
	Right Turn						
	Subtotal	898	794	88.4%	0.3	0.0	A
WB	Left Turn						
	Through	1,393	1,407	101.0%	3.5	2.0	A
	Right Turn	329	330	100.2%	3.7	1.1	A
	Subtotal	1,722	1,737	100.9%	3.5	1.8	A
Total		2,620	2,531	96.6%	2.5	1.3	A

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	582	589	101.1%	36.6	5.4	D
	Through						
	Right Turn	618	632	102.3%	3.7	0.2	A
	Subtotal	1,200	1,221	101.7%	20.0	2.4	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	898	798	88.9%	13.6	2.0	B
	Right Turn						
	Subtotal	898	798	88.9%	13.6	2.0	B
WB	Left Turn						
	Through	1,140	1,153	101.2%	11.1	0.7	B
	Right Turn						
	Subtotal	1,140	1,153	101.2%	11.1	0.7	B
Total		3,238	3,172	98.0%	15.2	0.7	B

Intersection 61 **El Centro Rd/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	754	689	91.3%	107.3	33.3	F
	Through	1,112	1,064	95.7%	47.4	20.0	D
	Right Turn	132	126	95.5%	24.8	15.7	C
	Subtotal	1,998	1,878	94.0%	68.7	26.4	E
SB	Left Turn	337	322	95.7%	54.8	13.3	D
	Through	523	513	98.0%	44.2	7.1	D
	Right Turn	81	89	110.1%	9.3	2.2	A
	Subtotal	941	924	98.2%	45.0	7.1	D
EB	Left Turn	217	208	95.7%	95.6	22.4	F
	Through	97	95	97.6%	52.5	19.8	D
	Right Turn	148	146	98.7%	18.3	10.0	B
	Subtotal	462	449	97.1%	61.2	14.3	E
WB	Left Turn	978	744	76.0%	391.9	57.0	F
	Through	56	42	75.0%	245.3	24.2	F
	Right Turn	556	439	78.9%	228.8	18.1	F
	Subtotal	1,590	1,225	77.0%	332.0	39.2	F
Total		4,991	4,476	89.7%	130.7	10.2	F

Intersection 62 **MDR Access/Farm Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	15	15	99.3%	146.8	271.8	F
	Through						
	Right Turn	28	26	91.4%	126.8	275.3	F
	Subtotal	43	41	94.2%	43.9	53.0	E
EB	Left Turn	64	60	94.4%	12.6	9.5	B
	Through	502	487	97.1%	2.6	0.4	A
	Right Turn						
	Subtotal	566	548	96.7%	3.7	1.1	A
WB	Left Turn						
	Through	1,562	1,225	78.4%	154.5	27.9	F
	Right Turn	14	12	86.4%	117.4	42.0	F
	Subtotal	1,576	1,237	78.5%	154.2	27.8	F
Total		2,185	1,825	83.5%	102.0	12.2	F

Intersection 63 **Orchard Ln/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,535	1,247	81.2%	258.3	36.1	F
	Through						
	Right Turn	26	21	80.4%	356.6	77.3	F
	Subtotal	1,561	1,267	81.2%	259.9	35.7	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	97	95	98.2%	24.9	3.9	C
	Right Turn	420	406	96.7%	4.6	0.7	A
	Subtotal	517	501	97.0%	8.5	1.2	A
WB	Left Turn	9	10	108.9%	31.9	15.8	C
	Through	41	42	102.4%	48.2	26.8	D
	Right Turn						
	Subtotal	50	52	103.6%	43.1	18.0	D
Total		2,128	1,821	85.5%	175.8	16.9	F

Intersection 68 **El Centro Rd/Street 6** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,798	1,688	93.9%	7.1	10.7	A
	Right Turn	454	431	94.9%	1.4	0.2	A
	Subtotal	2,252	2,118	94.1%	6.0	8.6	A
SB	Left Turn						
	Through	1,737	1,459	84.0%	37.8	14.1	E
	Right Turn	12	12	98.3%	8.9	5.6	A
	Subtotal	1,749	1,471	84.1%	37.6	14.0	E
EB	Left Turn						
	Through						
	Right Turn	124	123	99.4%	46.7	27.0	E
	Subtotal	124	123	99.4%	46.7	27.0	E
WB	Left Turn						
	Through						
	Right Turn	200	193	96.3%	50.3	44.2	F
	Subtotal	200	193	96.3%	50.3	44.2	F
Total		4,325	3,905	90.3%	20.5	6.6	C

Intersection 74 **El Centro Rd/Street 5** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,059	1,998	97.0%	8.4	4.9	A
	Right Turn	400	389	97.3%	7.6	1.1	A
	Subtotal	2,459	2,387	97.1%	8.3	4.1	A
SB	Left Turn						
	Through	1,789	1,504	84.1%	61.1	11.2	F
	Right Turn	72	59	81.7%	11.7	4.1	B
	Subtotal	1,861	1,563	84.0%	59.2	10.9	F
EB	Left Turn						
	Through						
	Right Turn	60	5	7.5%	853.6	81.9	F
	Subtotal	60	5	7.5%	223.6	361.7	F
WB	Left Turn						
	Through						
	Right Turn	193	127	65.8%	282.5	42.5	F
	Subtotal	193	127	65.8%	282.5	42.5	F
Total		4,573	4,081	89.2%	36.0	3.8	E

Intersection 77 **Street E/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	55	51	93.3%	5.9	0.7	A
	Through	1	2	180.0%	1.2	2.2	A
	Right Turn	1	1	90.0%	1.1	1.5	A
	Subtotal	57	54	94.7%	5.7	0.5	A
SB	Left Turn						
	Through	1	0	40.0%	0.7	2.1	A
	Right Turn	37	36	96.2%	2.9	0.4	A
	Subtotal	38	36	94.7%	2.9	0.4	A
EB	Left Turn	13	11	86.2%	2.2	0.9	A
	Through	111	113	101.9%	1.1	0.5	A
	Right Turn	58	58	100.5%	0.2	0.2	A
	Subtotal	182	183	100.3%	0.9	0.3	A
WB	Left Turn						
	Through	118	114	96.4%	2.6	0.4	A
	Right Turn	1	2	180.0%	0.6	1.1	A
	Subtotal	119	116	97.1%	2.6	0.3	A
Total		396	388	98.0%	2.3	0.3	A

Intersection 78 **Street D/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	21	24	112.4%	5.4	1.0	A
	Through	21	18	87.1%	6.9	1.2	A
	Right Turn	99	99	100.3%	3.9	0.4	A
	Subtotal	141	141	100.1%	4.6	0.6	A
SB	Left Turn	98	99	101.0%	5.5	0.4	A
	Through	38	42	110.3%	7.0	0.6	A
	Right Turn	11	13	114.5%	3.7	0.7	A
	Subtotal	147	154	104.4%	5.8	0.3	A
EB	Left Turn	7	7	100.0%	5.2	1.3	A
	Through	82	86	105.2%	9.4	0.7	A
	Right Turn	23	21	89.1%	3.5	1.6	A
	Subtotal	112	114	101.6%	8.3	0.7	A
WB	Left Turn	108	111	102.4%	8.6	0.5	A
	Through	87	79	90.7%	11.9	0.6	B
	Right Turn	59	61	102.9%	6.6	0.8	A
	Subtotal	254	250	98.5%	9.3	0.4	A
Total		654	659	100.7%	7.3	0.3	A

Intersection 79 **Street C/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	34	33	97.6%	8.9	2.5	A
	Right Turn	119	117	98.1%	5.5	1.2	A
	Subtotal	153	150	98.0%	6.3	1.4	A
SB	Left Turn	149	148	99.0%	8.1	1.2	A
	Through	52	50	96.3%	9.0	1.2	A
	Right Turn	5	6	118.0%	5.1	4.5	A
	Subtotal	206	204	98.8%	8.2	1.1	A
EB	Left Turn	1	1	100.0%	1.6	5.0	A
	Through	278	284	102.2%	12.1	1.2	B
	Right Turn						
	Subtotal	279	285	102.2%	12.1	1.2	B
WB	Left Turn	108	100	93.0%	14.8	3.1	B
	Through	249	246	98.7%	17.3	3.2	C
	Right Turn	113	114	100.4%	12.6	3.0	B
	Subtotal	470	460	97.8%	15.6	3.0	C
Total		1,108	1,098	99.1%	12.2	1.6	B

Intersection 80 **Street B/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	29	30	103.4%	5.8	0.8	A
	Through	32	32	101.3%	6.8	0.7	A
	Right Turn						
	Subtotal	61	62	102.3%	6.3	0.5	A
SB	Left Turn						
	Through	56	54	96.4%	7.2	0.6	A
	Right Turn	9	9	104.4%	4.0	1.4	A
	Subtotal	65	63	97.5%	6.6	0.5	A
EB	Left Turn	11	13	118.2%	9.5	4.3	A
	Through	518	519	100.1%	13.5	1.5	B
	Right Turn	17	18	104.7%	9.6	3.4	A
	Subtotal	546	550	100.6%	13.3	1.5	B
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		672	675	100.5%	12.0	1.2	B

Intersection 81 **Street A/W. El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	16	17	103.8%	40.3	50.1	D
	Through	41	43	105.6%	39.0	37.7	D
	Right Turn	104	105	100.9%	25.0	29.4	C
	Subtotal	161	165	102.4%	31.9	36.9	C
SB	Left Turn	124	118	95.0%	59.8	53.7	E
	Through	90	90	100.3%	62.3	66.0	E
	Right Turn	19	17	88.4%	61.8	75.4	E
	Subtotal	233	225	96.5%	62.1	61.6	E
EB	Left Turn	26	26	98.5%	43.7	10.2	D
	Through	481	477	99.3%	32.9	22.7	C
	Right Turn	11	9	80.9%	32.5	40.0	C
	Subtotal	518	512	98.8%	33.5	22.0	C
WB	Left Turn	206	185	89.8%	55.2	38.4	E
	Through	398	392	98.6%	15.7	8.3	B
	Right Turn	200	196	98.2%	11.2	6.0	B
	Subtotal	804	774	96.2%	24.1	15.9	C
Total		1,716	1,675	97.6%	33.1	23.3	C

Intersection 82 **Parking Garage/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	100	98	98.1%	36.7	74.5	E
	Subtotal	100	98	98.1%	36.7	74.5	E
EB	Left Turn						
	Through	809	779	96.3%	28.6	17.8	D
	Right Turn						
	Subtotal	809	779	96.3%	28.6	17.8	D
WB	Left Turn						
	Through	704	683	97.1%	6.8	6.3	A
	Right Turn	150	145	96.9%	3.5	0.3	A
	Subtotal	854	829	97.0%	6.2	4.9	A
Total		1,763	1,706	96.8%	17.8	11.7	C

Intersection 83 **El Centro Rd/Tomato Patch Ln North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	688	684	99.3%	6.1	2.6	A
	Right Turn	5	5	106.0%	0.1	0.2	A
	Subtotal	693	689	99.4%	6.1	2.6	A
SB	Left Turn						
	Through	1,012	942	93.1%	3.2	0.4	A
	Right Turn						
	Subtotal	1,012	942	93.1%	3.2	0.4	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	164	72	44.0%	468.5	219.1	F
	Subtotal	164	72	44.0%	378.5	206.6	F
Total		1,869	1,703	91.1%	19.8	7.1	C

Intersection 89 **El Centro Rd/Street 4** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	553	553	99.9%	2.9	1.6	A
	Right Turn						
	Subtotal	553	553	99.9%	2.9	1.6	A
SB	Left Turn						
	Through	854	793	92.9%	0.4	0.1	A
	Right Turn	158	148	93.4%	0.5	0.1	A
	Subtotal	1,012	941	93.0%	0.4	0.1	A
EB	Left Turn	140	137	97.6%	159.5	106.1	F
	Through						
	Right Turn	7	9	125.7%	73.0	85.7	F
	Subtotal	147	145	98.9%	153.7	104.6	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,712	1,639	95.7%	14.3	9.3	B

Intersection 95 **El Centro Rd/Street 3/Tomato Patch Ln South** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	14	16	114.3%	30.6	16.7	C
	Through	161	162	100.4%	15.2	2.1	B
	Right Turn	2	3	125.0%	3.8	7.0	A
	Subtotal	177	180	101.8%	16.1	2.5	B
SB	Left Turn	270	250	92.6%	29.4	6.9	C
	Through	390	369	94.5%	11.4	2.3	B
	Right Turn	201	183	90.8%	7.5	1.1	A
	Subtotal	861	801	93.0%	16.3	2.0	B
EB	Left Turn	177	174	98.5%	16.7	2.8	B
	Through	4	4	102.5%	6.3	9.6	A
	Right Turn						
	Subtotal	181	179	98.6%	16.6	2.7	B
WB	Left Turn	21	23	107.1%	9.2	5.0	A
	Through	13	12	95.4%	14.1	5.1	B
	Right Turn	215	219	101.6%	5.8	1.0	A
	Subtotal	249	253	101.8%	6.6	1.1	A
Total		1,468	1,413	96.3%	14.6	1.3	B

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Existing Plus Project With Improvements Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 101 **El Centro Rd/Street 2** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	26	26	99.6%	0.3	0.5	A
	Right Turn						
	Subtotal	26	26	99.6%	0.3	0.5	A
SB	Left Turn						
	Through	61	57	92.6%	6.4	1.1	A
	Right Turn	350	333	95.1%	4.1	0.6	A
	Subtotal	411	389	94.7%	4.5	0.5	A
EB	Left Turn	151	154	102.1%	6.9	1.4	A
	Through						
	Right Turn						
	Subtotal	151	154	102.1%	6.9	1.4	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		588	569	96.8%	4.8	0.6	A

SimTraffic LOS Report

Cumulative Plus Project with Improvements Conditions

(AM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	52	53	101.0%	119.2	34.3	F
	Through	886	833	94.0%	118.4	39.9	F
	Right Turn	490	491	100.1%	42.5	21.1	D
	Subtotal	1,428	1,376	96.4%	91.2	33.0	F
SB	Left Turn	445	421	94.7%	217.1	78.2	F
	Through	994	970	97.6%	49.1	5.1	D
	Right Turn	14	15	108.6%	18.4	7.6	B
	Subtotal	1,453	1,407	96.8%	96.6	21.8	F
EB	Left Turn	5	5	90.0%	42.5	51.0	D
	Through	230	233	101.3%	42.9	6.2	D
	Right Turn	127	136	106.9%	30.6	8.3	C
	Subtotal	362	373	103.1%	38.6	5.3	D
WB	Left Turn	416	408	98.1%	98.7	33.1	F
	Through	69	66	96.1%	34.6	12.8	C
	Right Turn	264	255	96.5%	16.4	4.5	B
	Subtotal	749	729	97.3%	63.0	20.7	E
Total		3,992	3,885	97.3%	82.8	15.9	F

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	244	244	100.0%	49.6	6.2	D
	Through	7	7	105.7%	47.1	33.9	D
	Right Turn	402	403	100.2%	33.3	6.0	C
	Subtotal	653	654	100.2%	38.9	4.6	D
SB	Left Turn	51	51	99.0%	66.2	11.1	E
	Through	4	5	117.5%	48.8	48.4	D
	Right Turn	13	16	120.8%	12.2	9.9	B
	Subtotal	68	71	104.3%	52.5	14.2	D
EB	Left Turn	1	1	50.0%	16.6	28.4	B
	Through	996	912	91.6%	83.4	4.5	F
	Right Turn	163	156	95.5%	28.4	4.4	C
	Subtotal	1,160	1,069	92.1%	75.6	4.1	E
WB	Left Turn	214	217	101.5%	56.5	10.9	E
	Through	514	490	95.3%	21.1	3.4	C
	Right Turn	39	39	100.0%	3.3	1.1	A
	Subtotal	767	746	97.3%	30.8	5.0	C
Total		2,648	2,540	95.9%	51.1	1.9	D

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	129	115	89.0%	122.3	35.0	F
	Through	90	78	86.4%	56.6	7.0	E
	Right Turn	746	662	88.7%	41.8	4.5	D
	Subtotal	965	854	88.5%	56.4	8.8	E
SB	Left Turn	155	152	97.9%	76.6	14.8	E
	Through	143	139	97.0%	66.8	19.4	E
	Right Turn	180	177	98.3%	50.8	18.8	D
	Subtotal	478	467	97.8%	64.3	16.4	E
EB	Left Turn	242	217	89.7%	111.9	5.0	F
	Through	1,177	1,073	91.1%	77.1	1.4	E
	Right Turn	61	59	96.9%	42.8	13.3	D
	Subtotal	1,480	1,349	91.1%	81.0	1.6	F
WB	Left Turn	452	437	96.7%	52.7	5.7	D
	Through	458	456	99.7%	27.2	3.6	C
	Right Turn	151	149	98.7%	6.7	1.4	A
	Subtotal	1,061	1,043	98.3%	34.9	2.7	C
Total		3,984	3,713	93.2%	59.9	3.7	E

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	399	407	101.9%	21.4	5.2	C
	Through						
	Right Turn	105	106	101.1%	7.7	1.6	A
	Subtotal	504	513	101.8%	18.7	3.9	B
EB	Left Turn						
	Through	930	854	91.9%	9.0	0.6	A
	Right Turn	1,148	1,054	91.8%	10.5	4.8	B
	Subtotal	2,078	1,908	91.8%	9.9	2.7	A
WB	Left Turn						
	Through	956	937	98.0%	5.7	0.8	A
	Right Turn						
	Subtotal	956	937	98.0%	5.7	0.8	A
Total		3,538	3,358	94.9%	10.1	2.1	B

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	536	520	97.0%	14.2	1.7	B
	Through						
	Right Turn	1,345	1,332	99.0%	30.8	9.8	C
	Subtotal	1,881	1,852	98.5%	26.2	7.3	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,156	1,083	93.6%	27.3	4.4	C
	Right Turn						
	Subtotal	1,156	1,083	93.6%	27.3	4.4	C
WB	Left Turn						
	Through	1,062	1,055	99.3%	23.2	2.1	C
	Right Turn	36	37	101.4%	4.7	1.7	A
	Subtotal	1,098	1,091	99.4%	22.6	2.0	C
Total		4,135	4,026	97.4%	25.6	4.5	C

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	368	360	97.9%	59.3	9.3	E
	Through	311	306	98.5%	44.4	4.2	D
	Right Turn	118	121	102.3%	10.5	3.3	B
	Subtotal	797	787	98.8%	45.7	5.2	D
SB	Left Turn	314	320	101.9%	53.7	5.3	D
	Through	378	379	100.1%	47.5	3.7	D
	Right Turn	340	341	100.4%	3.6	0.2	A
	Subtotal	1,032	1,040	100.7%	35.0	3.1	C
EB	Left Turn	726	700	96.4%	49.0	3.6	D
	Through	714	687	96.2%	38.3	4.1	D
	Right Turn	1,061	1,030	97.1%	8.3	0.7	A
	Subtotal	2,501	2,417	96.7%	28.6	1.8	C
WB	Left Turn	583	577	99.0%	57.2	8.1	E
	Through	387	391	100.9%	40.1	4.4	D
	Right Turn	494	495	100.2%	15.0	4.1	B
	Subtotal	1,464	1,463	99.9%	38.5	4.2	D
Total		5,794	5,707	98.5%	34.7	1.7	C

SimTraffic LOS Report

Cumulative Plus Project with Improvements Conditions

(AM Peak Hour)

W. El Camino Avenue (#17, #33 to #39, #61 to #63, #68, #74, #77 to #83, #89, #95, #101)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	8	7	82.5%	98.4	46.3	F
	Through	305	264	86.5%	172.0	38.7	F
	Right Turn	619	541	87.4%	71.0	13.4	E
	Subtotal	932	812	87.1%	100.0	17.4	F
SB	Left Turn	2,002	1,462	73.0%	174.2	6.4	F
	Through	214	170	79.3%	124.7	6.6	F
	Right Turn	65	54	82.3%	118.3	6.1	F
	Subtotal	2,281	1,685	73.9%	167.6	6.4	F
EB	Left Turn	71	66	92.7%	149.2	103.0	F
	Through	637	625	98.2%	73.0	17.2	E
	Right Turn	15	16	106.0%	42.9	19.3	D
	Subtotal	723	707	97.8%	79.1	23.0	E
WB	Left Turn	440	431	97.9%	75.2	13.5	E
	Through	750	745	99.3%	84.7	33.2	F
	Right Turn	1,877	1,799	95.9%	17.6	10.5	B
	Subtotal	3,067	2,975	97.0%	45.0	13.6	D
Total		7,003	6,179	88.2%	88.5	9.0	F

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	697	702	100.8%	69.8	11.5	E
	Through						
	Right Turn	856	857	100.2%	38.4	4.9	D
	Subtotal	1,553	1,560	100.4%	52.7	7.8	D
EB	Left Turn						
	Through	1,836	1,494	81.4%	19.0	0.8	B
	Right Turn	1,422	1,141	80.3%	12.5	1.1	B
	Subtotal	3,258	2,635	80.9%	16.2	0.6	B
WB	Left Turn						
	Through	2,211	2,134	96.5%	10.2	1.0	B
	Right Turn	187	184	98.3%	1.8	0.2	A
	Subtotal	2,398	2,318	96.7%	9.5	0.9	A
Total		7,209	6,513	90.3%	23.4	2.2	C

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,238	1,232	99.5%	84.2	15.4	F
	Through						
	Right Turn	177	177	100.0%	32.2	6.1	C
	Subtotal	1,415	1,409	99.6%	77.9	13.8	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,829	1,609	88.0%	26.8	2.3	C
	Right Turn						
	Subtotal	1,829	1,609	88.0%	26.8	2.3	C
WB	Left Turn						
	Through	1,160	1,104	95.1%	13.3	1.5	B
	Right Turn	616	578	93.9%	2.1	0.3	A
	Subtotal	1,776	1,682	94.7%	9.4	1.2	A
Total		5,020	4,700	93.6%	37.7	4.9	D

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	298	280	94.0%	206.9	37.4	F
	Through	11	9	85.5%	177.9	76.3	F
	Right Turn	107	100	93.7%	145.7	30.2	F
	Subtotal	416	390	93.7%	190.6	34.7	F
SB	Left Turn	160	165	102.9%	47.1	11.4	D
	Through	32	31	96.6%	43.5	10.6	D
	Right Turn	119	114	95.5%	30.9	4.7	C
	Subtotal	311	309	99.4%	40.9	6.5	D
EB	Left Turn	41	34	82.9%	51.0	7.5	D
	Through	1,851	1,673	90.4%	14.1	3.4	B
	Right Turn	118	109	92.0%	1.8	0.7	A
	Subtotal	2,010	1,816	90.3%	14.0	3.2	B
WB	Left Turn	46	39	85.0%	55.4	7.6	E
	Through	1,359	1,302	95.8%	39.7	14.7	D
	Right Turn	70	69	98.6%	37.9	18.0	D
	Subtotal	1,475	1,410	95.6%	40.1	14.3	D
Total		4,212	3,924	93.2%	42.9	7.8	D

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	99.0%	51.6	23.7	D
	Through	4	4	87.5%	40.2	28.3	D
	Right Turn	47	49	104.0%	25.0	11.2	C
	Subtotal	61	62	102.1%	32.7	8.7	C
SB	Left Turn	36	37	103.3%	51.5	11.1	D
	Through	8	9	106.3%	41.6	28.3	D
	Right Turn	20	19	93.5%	25.8	10.2	C
	Subtotal	64	64	100.6%	44.1	8.4	D
EB	Left Turn	13	11	87.7%	63.0	35.2	E
	Through	2,068	1,877	90.8%	40.3	13.0	D
	Right Turn	37	32	86.2%	33.2	12.9	C
	Subtotal	2,118	1,921	90.7%	40.4	13.0	D
WB	Left Turn	193	183	94.7%	54.6	5.7	D
	Through	1,445	1,373	95.0%	24.5	10.8	C
	Right Turn	24	24	100.4%	19.4	13.9	B
	Subtotal	1,662	1,580	95.1%	27.8	9.9	C
Total		3,905	3,627	92.9%	34.8	9.7	C

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	276	269	97.6%	87.1	29.9	F
	Through	84	87	103.7%	65.2	20.2	E
	Right Turn	140	140	100.0%	18.1	3.2	B
	Subtotal	500	496	99.3%	63.8	19.7	E
SB	Left Turn	93	90	97.0%	56.8	17.7	E
	Through	26	27	103.5%	66.3	25.4	E
	Right Turn	71	75	105.5%	3.4	0.8	A
	Subtotal	190	192	101.1%	36.1	9.0	D
EB	Left Turn	297	260	87.6%	113.7	61.9	F
	Through	1,258	1,140	90.6%	35.4	11.3	D
	Right Turn	500	465	93.0%	22.0	8.3	C
	Subtotal	2,055	1,865	90.8%	43.7	17.2	D
WB	Left Turn	316	304	96.1%	139.0	52.7	F
	Through	1,260	1,187	94.2%	84.3	21.8	F
	Right Turn	420	397	94.6%	45.0	12.8	D
	Subtotal	1,996	1,888	94.6%	84.3	20.6	F
Total		4,741	4,442	93.7%	61.6	15.4	E

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	859	773	90.0%	0.4	0.1	A
	Right Turn						
	Subtotal	859	773	90.0%	0.4	0.1	A
WB	Left Turn						
	Through	1,996	1,924	96.4%	52.0	21.9	F
	Right Turn	348	343	98.5%	53.7	19.3	F
	Subtotal	2,344	2,266	96.7%	52.2	21.4	F
Total		3,203	3,039	94.9%	38.6	15.5	E

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	788	743	94.3%	142.5	83.8	F
	Through						
	Right Turn	447	429	96.0%	32.6	41.1	C
	Subtotal	1,235	1,172	94.9%	103.8	69.5	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	859	772	89.8%	5.1	2.0	A
	Right Turn						
	Subtotal	859	772	89.8%	5.1	2.0	A
WB	Left Turn						
	Through	1,556	1,543	99.2%	55.2	32.2	E
	Right Turn						
	Subtotal	1,556	1,543	99.2%	55.2	32.2	E
Total		3,650	3,487	95.5%	59.0	32.0	E

Intersection 61 **El Centro Rd/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	355	283	79.7%	356.4	39.6	F
	Through	1,258	1,141	90.7%	95.7	21.7	F
	Right Turn	67	64	94.8%	77.3	22.7	E
	Subtotal	1,680	1,487	88.5%	143.4	24.0	F
SB	Left Turn	368	307	83.4%	398.9	28.1	F
	Through	1,200	1,041	86.7%	304.1	48.7	F
	Right Turn	176	156	88.6%	236.8	58.9	F
	Subtotal	1,744	1,504	86.2%	316.0	44.9	F
EB	Left Turn	159	120	75.5%	433.6	66.9	F
	Through	121	90	74.0%	396.9	53.9	F
	Right Turn	362	272	75.2%	415.3	54.4	F
	Subtotal	642	482	75.0%	415.9	50.8	F
WB	Left Turn	604	339	56.1%	859.4	92.9	F
	Through	65	46	70.5%	486.2	74.4	F
	Right Turn	137	91	66.3%	445.4	62.2	F
	Subtotal	806	475	59.0%	754.7	83.1	F
Total		4,872	3,948	81.0%	304.7	13.1	F

Intersection 62 **MDR Access/Farm Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	2	1	35.0%	80.5	254.6	F
	Through						
	Right Turn	70	36	51.4%	706.5	159.8	F
	Subtotal	72	37	51.0%	436.5	313.7	F
EB	Left Turn	18	15	80.6%	4.5	3.6	A
	Through	538	445	82.8%	4.5	0.6	A
	Right Turn						
	Subtotal	556	460	82.7%	4.4	0.6	A
WB	Left Turn						
	Through	736	462	62.8%	396.4	49.0	F
	Right Turn	3	3	86.7%	184.7	223.2	F
	Subtotal	739	465	62.9%	396.2	48.0	F
Total		1,367	961	70.3%	188.2	18.1	F

Intersection 63 **Orchard Ln/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	652	438	67.1%	561.4	58.8	F
	Through						
	Right Turn	9	7	80.0%	431.6	340.8	F
	Subtotal	661	445	67.3%	559.7	58.8	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	11	8	70.9%	11.1	10.9	B
	Right Turn	529	435	82.2%	6.8	1.0	A
	Subtotal	540	443	81.9%	6.9	1.0	A
WB	Left Turn	9	8	91.1%	33.8	21.8	C
	Through	87	82	94.6%	137.6	52.7	F
	Right Turn						
	Subtotal	96	91	94.3%	128.5	47.6	F
Total		1,297	978	75.4%	214.7	26.4	F

Intersection 68 **El Centro Rd/Street 6** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,620	1,493	92.2%	40.3	10.0	E
	Right Turn	383	359	93.8%	1.9	0.6	A
	Subtotal	2,003	1,852	92.5%	32.5	7.9	D
SB	Left Turn						
	Through	2,214	1,687	76.2%	49.5	3.4	E
	Right Turn	2	3	140.0%	7.6	16.1	A
	Subtotal	2,216	1,689	76.2%	49.4	3.4	E
EB	Left Turn						
	Through						
	Right Turn	102	86	83.8%	260.6	89.6	F
	Subtotal	102	86	83.8%	260.6	89.6	F
WB	Left Turn						
	Through						
	Right Turn	60	27	45.7%	696.1	271.5	F
	Subtotal	60	27	45.7%	3.8	12.0	A
Total		4,381	3,654	83.4%	45.1	5.9	E

Intersection 74 **El Centro Rd/Street 5** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,953	1,835	94.0%	26.5	13.5	D
	Right Turn	300	284	94.6%	10.5	2.8	B
	Subtotal	2,253	2,119	94.1%	24.5	12.0	C
SB	Left Turn						
	Through	2,234	1,696	75.9%	54.3	2.8	F
	Right Turn	82	65	79.4%	15.4	3.2	C
	Subtotal	2,316	1,761	76.0%	53.0	2.9	F
EB	Left Turn						
	Through						
	Right Turn	47	3	6.4%	886.9	27.6	F
	Subtotal	47	3	6.4%	166.9	351.9	F
WB	Left Turn						
	Through						
	Right Turn	50	34	68.0%	466.5	317.1	F
	Subtotal	50	34	68.0%	113.3	209.2	F
Total		4,666	3,917	83.9%	37.2	7.0	E

Intersection 77 **Street E/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	97	91	93.3%	7.2	0.9	A
	Through	2	2	100.0%	4.4	4.8	A
	Right Turn	1	2	150.0%	1.2	2.9	A
	Subtotal	100	94	94.0%	7.2	0.9	A
SB	Left Turn						
	Through	2	2	120.0%	3.4	3.9	A
	Right Turn	36	36	98.6%	3.9	0.9	A
	Subtotal	38	38	99.7%	4.1	0.9	A
EB	Left Turn	37	35	94.9%	2.4	0.7	A
	Through	114	107	94.1%	1.4	0.6	A
	Right Turn	52	56	108.3%	0.3	0.3	A
	Subtotal	203	199	97.9%	1.2	0.4	A
WB	Left Turn	2	2	105.0%	2.9	2.8	A
	Through	226	224	99.3%	3.3	0.2	A
	Right Turn	2	2	100.0%	0.4	0.9	A
	Subtotal	230	229	99.3%	3.3	0.2	A
Total		571	559	97.9%	3.3	0.4	A

Intersection 78 **Street D/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	18	18	98.3%	5.9	1.6	A
	Through	32	32	99.4%	6.5	0.5	A
	Right Turn	70	72	103.4%	3.6	0.5	A
	Subtotal	120	122	101.6%	4.7	0.5	A
SB	Left Turn	49	46	93.7%	5.0	0.4	A
	Through	8	8	95.0%	3.7	3.3	A
	Right Turn	4	5	127.5%	2.9	2.2	A
	Subtotal	61	59	96.1%	5.0	0.3	A
EB	Left Turn	5	4	88.0%	4.6	3.2	A
	Through	97	92	94.8%	9.7	0.7	A
	Right Turn	13	13	97.7%	3.5	1.0	A
	Subtotal	115	109	94.9%	9.0	0.9	A
WB	Left Turn	61	60	98.0%	8.9	0.9	A
	Through	208	205	98.4%	11.6	0.4	B
	Right Turn	82	80	97.8%	7.3	0.6	A
	Subtotal	351	345	98.2%	10.2	0.4	B
Total		647	634	98.0%	8.4	0.2	A

Intersection 79 **Street C/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	41	42	102.9%	7.5	0.7	A
	Right Turn	77	82	106.9%	4.4	0.8	A
	Subtotal	118	125	105.5%	5.4	0.8	A
SB	Left Turn	86	82	95.6%	6.2	0.6	A
	Through	36	35	97.2%	8.0	1.0	A
	Right Turn	1	1	120.0%	1.2	1.9	A
	Subtotal	123	118	96.3%	6.7	0.6	A
EB	Left Turn	2	1	65.0%	3.3	5.6	A
	Through	214	209	97.7%	10.2	0.6	B
	Right Turn						
	Subtotal	216	210	97.4%	10.2	0.6	B
WB	Left Turn	70	64	91.0%	12.2	1.6	B
	Through	350	342	97.6%	15.1	1.4	C
	Right Turn	102	101	98.5%	10.3	1.6	B
	Subtotal	522	506	96.9%	13.8	1.4	B
Total		979	959	98.0%	11.0	0.8	B

Intersection 80 **Street B/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	42	42	99.3%	6.0	1.2	A
	Through	47	50	106.4%	7.3	0.5	A
	Right Turn						
	Subtotal	89	92	103.0%	6.8	0.8	A
SB	Left Turn						
	Through	31	30	96.5%	6.9	0.5	A
	Right Turn	12	11	90.8%	3.2	1.8	A
	Subtotal	43	41	94.9%	6.2	0.5	A
EB	Left Turn	9	9	94.4%	5.8	4.2	A
	Through	363	358	98.7%	11.2	0.4	B
	Right Turn	5	7	138.0%	3.2	3.6	A
	Subtotal	377	374	99.1%	11.1	0.4	B
WB	Left Turn						
	Through	468	455	97.2%	17.4	1.1	C
	Right Turn	1	1	100.0%	3.3	6.6	A
	Subtotal	469	456	97.2%	17.4	1.0	C
Total		978	962	98.4%	13.6	0.6	B

Intersection 81 **Street A/W. El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	12	121.0%	22.6	20.6	C
	Through	40	38	94.8%	20.8	7.6	C
	Right Turn	153	160	104.7%	10.5	4.1	B
	Subtotal	203	210	103.5%	13.2	4.8	B
SB	Left Turn	125	120	96.2%	28.0	4.6	C
	Through	45	44	98.7%	27.9	5.9	C
	Right Turn	13	12	88.5%	15.2	10.0	B
	Subtotal	183	176	96.3%	27.1	3.9	C
EB	Left Turn	9	6	68.9%	22.2	19.0	C
	Through	345	342	99.2%	13.9	1.8	B
	Right Turn	9	8	87.8%	11.7	8.0	B
	Subtotal	363	357	98.2%	14.2	1.8	B
WB	Left Turn	168	148	88.3%	41.2	6.4	D
	Through	446	432	96.8%	21.7	3.4	C
	Right Turn	209	215	102.7%	15.0	2.3	B
	Subtotal	823	795	96.5%	23.6	2.3	C
Total		1,572	1,538	97.8%	20.5	1.5	C

Intersection 82 **Parking Garage/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	100	104	103.5%	12.3	3.6	B
	Subtotal	100	104	103.5%	12.3	3.6	B
EB	Left Turn						
	Through	723	708	98.0%	8.4	5.9	A
	Right Turn						
	Subtotal	723	708	98.0%	8.4	5.9	A
WB	Left Turn						
	Through	723	701	97.0%	8.3	0.9	A
	Right Turn	100	99	98.6%	5.0	0.8	A
	Subtotal	823	800	97.2%	7.9	0.8	A
Total		1,646	1,612	97.9%	8.5	2.4	A

Intersection 83 **El Centro Rd/Tomato Patch Ln North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	872	772	88.5%	11.3	3.6	B
	Right Turn	4	4	90.0%	0.1	0.2	A
	Subtotal	876	775	88.5%	11.3	3.5	B
SB	Left Turn						
	Through	669	613	91.7%	2.7	0.6	A
	Right Turn						
	Subtotal	669	613	91.7%	2.7	0.6	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	60	35	57.5%	545.9	182.7	F
	Subtotal	60	35	57.5%	477.4	243.2	F
Total		1,605	1,423	88.6%	18.5	5.8	C

Intersection 89 **El Centro Rd/Street 4** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	657	650	98.9%	6.9	3.0	A
	Right Turn						
	Subtotal	657	650	98.9%	6.9	3.0	A
SB	Left Turn						
	Through	554	508	91.7%	0.7	0.8	A
	Right Turn	115	105	91.3%	0.3	0.1	A
	Subtotal	669	613	91.6%	0.7	0.7	A
EB	Left Turn	219	125	57.2%	411.0	128.3	F
	Through						
	Right Turn	8	5	63.8%	229.2	237.3	F
	Subtotal	227	130	57.4%	406.0	134.7	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,553	1,393	89.7%	35.5	6.4	E

Intersection 95 **El Centro Rd/Street 3/Tomato Patch Ln South** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	90.0%	5.5	9.4	A
	Through	359	354	98.7%	17.1	3.3	B
	Right Turn	5	7	134.0%	7.5	9.3	A
	Subtotal	366	363	99.1%	17.0	3.2	B
SB	Left Turn	380	346	90.9%	29.7	3.1	C
	Through	46	43	94.1%	9.1	3.9	A
	Right Turn	136	123	90.6%	6.2	1.2	A
	Subtotal	562	512	91.1%	22.4	2.3	C
EB	Left Turn	193	194	100.4%	20.9	3.7	C
	Through	7	7	97.1%	12.8	14.4	B
	Right Turn						
	Subtotal	200	201	100.3%	21.0	3.6	C
WB	Left Turn	11	11	103.6%	17.8	7.7	B
	Through	3	2	70.0%	14.0	22.5	B
	Right Turn	105	103	97.8%	6.4	1.8	A
	Subtotal	119	116	97.6%	8.1	2.6	A
Total		1,247	1,192	95.6%	19.1	2.2	B

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative Plus Project Conditions With Improvements**
Volume and Delay by Movement **AM Peak Hour**

Intersection 101 **El Centro Rd/Street 2** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	64	62	96.1%	0.3	0.1	A
	Right Turn						
	Subtotal	64	62	96.1%	0.3	0.1	A
SB	Left Turn						
	Through	7	7	94.3%	0.6	0.8	A
	Right Turn	50	46	92.2%	0.4	0.2	A
	Subtotal	57	53	92.5%	0.4	0.2	A
EB	Left Turn	302	304	100.5%	6.8	0.7	A
	Through						
	Right Turn						
	Subtotal	302	304	100.5%	6.8	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		423	418	98.7%	4.9	0.5	A

SimTraffic LOS Report

Cumulative Plus Project with Improvements Conditions

(PM Peak Hour)

Arena Boulevard (#15, #24 to #28)

Intersection 15 **El Centro Rd/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	85	81	95.6%	179.3	20.0	F
	Through	903	798	88.4%	164.9	7.8	F
	Right Turn	561	502	89.5%	64.4	3.1	E
	Subtotal	1,549	1,382	89.2%	129.3	7.7	F
SB	Left Turn	350	337	96.4%	217.0	85.1	F
	Through	843	840	99.6%	49.2	9.3	D
	Right Turn	6	5	80.0%	9.0	8.1	A
	Subtotal	1,199	1,182	98.5%	100.0	32.0	F
EB	Left Turn	3	3	103.3%	38.3	48.0	D
	Through	91	89	97.7%	28.6	5.6	C
	Right Turn	19	21	110.5%	13.2	6.2	B
	Subtotal	113	113	100.0%	26.9	5.9	C
WB	Left Turn	608	557	91.6%	61.7	19.9	E
	Through	138	126	90.9%	28.1	7.9	C
	Right Turn	381	355	93.2%	18.5	5.3	B
	Subtotal	1,127	1,037	92.0%	41.9	12.4	D
Total		3,988	3,714	93.1%	92.7	11.4	F

Intersection 24 **Stemmler Drive/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	226	225	99.4%	45.2	6.0	D
	Through	9	9	103.3%	29.6	19.0	C
	Right Turn	215	203	94.3%	10.3	3.4	B
	Subtotal	450	437	97.0%	28.6	3.6	C
SB	Left Turn	81	77	94.4%	49.8	7.5	D
	Through	5	5	96.0%	47.2	39.4	D
	Right Turn	10	10	100.0%	10.7	7.3	B
	Subtotal	96	91	95.1%	45.5	7.9	D
EB	Left Turn	20	18	88.5%	56.9	16.7	E
	Through	721	663	91.9%	13.1	3.6	B
	Right Turn	258	243	94.3%	4.4	1.6	A
	Subtotal	999	924	92.5%	11.6	2.8	B
WB	Left Turn	245	209	85.2%	42.3	4.5	D
	Through	910	819	90.0%	22.8	4.0	C
	Right Turn	58	52	90.0%	6.5	2.0	A
	Subtotal	1,213	1,080	89.0%	25.8	3.6	C
Total		2,758	2,532	91.8%	21.9	2.6	C

Intersection 25 **Duckhorn Dr/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	85	76	89.6%	59.5	16.7	E
	Through	55	57	103.6%	32.5	9.1	C
	Right Turn	472	464	98.3%	10.4	2.2	B
	Subtotal	612	597	97.6%	18.9	3.4	B
SB	Left Turn	290	270	93.1%	154.5	33.0	F
	Through	166	157	94.3%	127.3	28.0	F
	Right Turn	254	245	96.5%	121.2	32.3	F
	Subtotal	710	672	94.6%	136.0	29.8	F
EB	Left Turn	225	210	93.2%	84.5	23.0	F
	Through	767	720	93.9%	62.7	11.4	E
	Right Turn	55	50	90.4%	29.7	12.9	C
	Subtotal	1,047	980	93.6%	65.8	12.3	E
WB	Left Turn	729	651	89.4%	74.4	22.7	E
	Through	872	765	87.7%	36.5	4.7	D
	Right Turn	141	124	87.9%	5.7	2.0	A
	Subtotal	1,742	1,540	88.4%	50.0	11.8	D
Total		4,111	3,788	92.2%	65.6	8.1	E

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	225	224	99.6%	18.0	3.0	B
	Through						
	Right Turn	116	123	106.4%	12.1	3.9	B
	Subtotal	341	348	101.9%	15.8	2.9	B
EB	Left Turn						
	Through	764	723	94.6%	4.5	0.7	A
	Right Turn	765	732	95.7%	1.5	0.2	A
	Subtotal	1,529	1,455	95.2%	3.0	0.4	A
WB	Left Turn						
	Through	1,626	1,413	86.9%	6.1	0.7	A
	Right Turn						
	Subtotal	1,626	1,413	86.9%	6.1	0.7	A
Total		3,496	3,216	92.0%	5.7	0.3	A

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	906	892	98.4%	14.3	1.1	B
	Through						
	Right Turn	1,378	1,359	98.6%	27.0	10.9	C
	Subtotal	2,284	2,251	98.5%	22.0	6.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	857	805	93.9%	56.9	34.0	E
	Right Turn						
	Subtotal	857	805	93.9%	56.9	34.0	E
WB	Left Turn						
	Through	1,897	1,463	77.1%	167.7	14.7	F
	Right Turn	288	208	72.4%	157.9	16.7	F
	Subtotal	2,185	1,671	76.5%	166.6	14.6	F
Total		5,326	4,727	88.7%	76.8	7.9	E

Intersection 28 **E Commerce Wy/Arena Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,072	646	60.3%	252.1	33.2	F
	Through	373	229	61.5%	58.4	9.9	E
	Right Turn	410	250	61.1%	28.7	5.0	C
	Subtotal	1,855	1,126	60.7%	162.2	20.9	F
SB	Left Turn	512	517	100.9%	59.3	8.4	E
	Through	199	201	101.2%	55.2	5.4	E
	Right Turn	598	587	98.1%	15.8	12.8	B
	Subtotal	1,309	1,305	99.7%	39.3	7.7	D
EB	Left Turn	738	668	90.5%	188.9	33.1	F
	Through	1,097	1,076	98.1%	40.9	2.9	D
	Right Turn	400	386	96.5%	4.0	0.3	A
	Subtotal	2,235	2,130	95.3%	82.0	10.4	F
WB	Left Turn	173	168	97.3%	59.3	7.8	E
	Through	512	494	96.4%	106.8	54.7	F
	Right Turn	312	295	94.6%	99.0	102.1	F
	Subtotal	997	957	96.0%	93.9	56.8	F
Total		6,396	5,518	86.3%	86.2	10.2	F

SimTraffic LOS Report

Cumulative Plus Project with Improvements Conditions

(PM Peak Hour)

W. El Camino Avenue (#17, #33 to #39, #61 to #63, #68, #74, #77 to #83, #89, #95, #101)

Intersection 17 **El Centro Rd/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	20	14	70.0%	141.6	55.6	F
	Through	279	214	76.6%	171.5	41.0	F
	Right Turn	491	375	76.3%	67.6	19.5	E
	Subtotal	790	603	76.3%	107.8	28.5	F
SB	Left Turn	2,090	1,273	60.9%	238.7	114.4	F
	Through	232	145	62.7%	169.0	84.1	F
	Right Turn	20	15	73.0%	152.9	74.1	F
	Subtotal	2,342	1,433	61.2%	231.4	111.6	F
EB	Left Turn	41	30	72.2%	158.1	32.1	F
	Through	872	743	85.2%	162.0	19.3	F
	Right Turn	8	8	96.3%	115.7	43.6	F
	Subtotal	921	781	84.7%	161.7	18.5	F
WB	Left Turn	721	640	88.8%	189.7	49.9	F
	Through	759	705	92.9%	59.0	9.2	E
	Right Turn	2,241	2,122	94.7%	23.1	17.1	C
	Subtotal	3,721	3,467	93.2%	63.1	17.4	E
Total		7,774	6,283	80.8%	108.5	13.2	F

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	313	303	96.9%	105.8	79.3	F
	Through						
	Right Turn	1,038	968	93.2%	126.3	98.3	F
	Subtotal	1,351	1,271	94.1%	121.4	93.6	F
EB	Left Turn						
	Through	1,933	1,336	69.1%	23.1	1.6	C
	Right Turn	1,520	1,065	70.1%	15.3	1.5	B
	Subtotal	3,453	2,401	69.5%	19.6	1.3	B
WB	Left Turn						
	Through	2,683	2,527	94.2%	28.8	23.1	C
	Right Turn	506	482	95.3%	6.0	7.6	A
	Subtotal	3,189	3,009	94.4%	25.2	20.8	C
Total		7,993	6,681	83.6%	37.8	21.9	D

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,534	1,513	98.6%	76.8	44.6	E
	Through						
	Right Turn	339	337	99.4%	36.7	20.2	D
	Subtotal	1,873	1,850	98.8%	69.2	39.3	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,394	1,049	75.2%	21.0	2.9	C
	Right Turn						
	Subtotal	1,394	1,049	75.2%	21.0	2.9	C
WB	Left Turn						
	Through	1,655	1,498	90.5%	24.2	1.3	C
	Right Turn	439	384	87.5%	4.2	0.4	A
	Subtotal	2,094	1,883	89.9%	20.1	1.2	C
Total		5,361	4,781	89.2%	39.3	17.2	D

Intersection 35 **Orchard Ln/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	216	216	99.9%	49.5	9.2	D
	Through	31	30	96.8%	52.8	15.2	D
	Right Turn	95	105	110.2%	27.7	7.8	C
	Subtotal	342	351	102.5%	43.2	6.5	D
SB	Left Turn	122	121	99.3%	85.4	45.5	F
	Through	12	13	108.3%	86.3	81.3	F
	Right Turn	79	76	96.3%	38.3	25.3	D
	Subtotal	213	210	98.7%	70.1	39.9	E
EB	Left Turn	124	96	77.1%	65.4	20.3	E
	Through	1,388	1,099	79.2%	9.4	1.7	A
	Right Turn	221	184	83.1%	2.0	0.6	A
	Subtotal	1,733	1,378	79.5%	12.5	2.7	B
WB	Left Turn	113	104	92.2%	75.7	12.4	E
	Through	1,799	1,601	89.0%	54.2	8.6	D
	Right Turn	201	180	89.4%	48.3	9.8	D
	Subtotal	2,113	1,885	89.2%	54.8	8.6	D
Total		4,401	3,824	86.9%	39.0	5.8	D

Intersection 36 **West River Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	96.0%	46.1	9.6	D
	Through	11	13	114.5%	38.7	18.9	D
	Right Turn	32	31	98.1%	20.4	9.0	C
	Subtotal	53	54	101.1%	30.1	7.4	C
SB	Left Turn	37	35	95.1%	41.3	10.9	D
	Through	6	6	106.7%	37.9	21.3	D
	Right Turn	25	26	102.8%	28.4	7.7	C
	Subtotal	68	67	99.0%	36.2	6.4	D
EB	Left Turn	25	21	82.8%	57.2	12.7	E
	Through	1,553	1,282	82.6%	22.9	6.1	C
	Right Turn	27	24	87.4%	24.0	11.8	C
	Subtotal	1,605	1,327	82.7%	23.6	6.2	C
WB	Left Turn	59	52	88.3%	62.7	22.5	E
	Through	2,078	1,853	89.2%	47.4	16.3	D
	Right Turn	57	52	91.1%	43.6	15.4	D
	Subtotal	2,194	1,957	89.2%	47.6	16.2	D
Total		3,920	3,405	86.9%	37.8	10.7	D

Intersection 37 **Gateway Oaks Dr/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	512	438	85.6%	255.4	60.6	F
	Through	64	53	82.2%	139.5	38.2	F
	Right Turn	401	352	87.8%	102.8	58.0	F
	Subtotal	977	843	86.3%	188.2	49.6	F
SB	Left Turn	427	308	72.2%	323.4	59.7	F
	Through	138	101	73.3%	185.8	24.3	F
	Right Turn	349	249	71.3%	139.3	29.5	F
	Subtotal	914	658	72.0%	242.5	45.9	F
EB	Left Turn	117	93	79.7%	93.8	28.4	F
	Through	1,145	961	83.9%	32.1	11.3	C
	Right Turn	265	216	81.5%	16.5	9.0	B
	Subtotal	1,527	1,270	83.2%	33.6	11.1	C
WB	Left Turn	220	214	97.1%	151.0	38.1	F
	Through	1,278	1,260	98.6%	53.8	21.1	D
	Right Turn	121	118	97.4%	24.0	15.2	C
	Subtotal	1,619	1,592	98.3%	65.3	19.7	E
Total		5,037	4,363	86.6%	103.8	4.3	F

Intersection 38 **I-5 SB Ramps/W El Camino Ave** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,019	843	82.7%	0.3	0.1	A
	Right Turn						
	Subtotal	1,019	843	82.7%	0.3	0.1	A
WB	Left Turn						
	Through	1,619	1,599	98.7%	13.3	28.4	B
	Right Turn	104	104	99.8%	12.5	28.8	B
	Subtotal	1,723	1,702	98.8%	13.3	28.4	B
Total		2,742	2,545	92.8%	8.6	17.9	A

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	558	551	98.8%	44.5	10.4	D
	Through						
	Right Turn	652	648	99.3%	4.2	0.2	A
	Subtotal	1,210	1,199	99.1%	23.3	5.2	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,019	844	82.8%	5.7	1.1	A
	Right Turn						
	Subtotal	1,019	844	82.8%	5.7	1.1	A
WB	Left Turn						
	Through	1,165	1,155	99.1%	22.1	41.0	C
	Right Turn						
	Subtotal	1,165	1,155	99.1%	22.1	41.0	C
Total		3,394	3,197	94.2%	17.8	14.8	B

Intersection 61 **El Centro Rd/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	760	669	88.0%	144.2	39.0	F
	Through	1,219	1,102	90.4%	54.4	20.2	D
	Right Turn	123	112	91.2%	36.9	21.5	D
	Subtotal	2,102	1,883	89.6%	84.4	25.2	F
SB	Left Turn	387	277	71.5%	492.6	86.0	F
	Through	1,092	829	75.9%	432.0	105.0	F
	Right Turn	115	95	82.7%	366.7	122.8	F
	Subtotal	1,594	1,201	75.3%	439.1	101.2	F
EB	Left Turn	226	221	97.8%	127.7	73.4	F
	Through	87	89	101.8%	119.5	76.5	F
	Right Turn	183	181	98.9%	143.2	79.2	F
	Subtotal	496	491	98.9%	132.5	76.0	F
WB	Left Turn	978	380	38.8%	636.0	51.0	F
	Through	60	29	48.8%	420.1	93.0	F
	Right Turn	516	222	43.0%	362.7	57.2	F
	Subtotal	1,554	631	40.6%	544.5	52.0	F
Total		5,746	4,205	73.2%	250.9	22.2	F

Intersection 62 **MDR Access/Farm Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	15	13	85.3%	177.6	210.3	F
	Through						
	Right Turn	28	24	85.7%	209.1	241.4	F
	Subtotal	43	37	85.6%	152.1	216.7	F
EB	Left Turn	64	49	75.8%	7.5	9.1	A
	Through	533	429	80.4%	2.5	0.6	A
	Right Turn						
	Subtotal	597	477	79.9%	3.0	0.8	A
WB	Left Turn						
	Through	1,526	609	39.9%	317.5	99.2	F
	Right Turn	14	6	40.7%	163.4	138.6	F
	Subtotal	1,540	615	39.9%	317.0	98.6	F
Total		2,180	1,129	51.8%	161.6	32.7	F

Intersection 63 **Orchard Ln/Farm Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	1,477	579	39.2%	451.9	125.6	F
	Through						
	Right Turn	15	5	34.0%	483.5	261.0	F
	Subtotal	1,492	584	39.1%	452.0	126.1	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	126	103	81.4%	19.9	4.6	B
	Right Turn	422	340	80.5%	4.2	1.0	A
	Subtotal	548	442	80.7%	8.1	1.6	A
WB	Left Turn	3	1	43.3%	11.2	24.9	B
	Through	63	56	89.5%	174.3	125.6	F
	Right Turn						
	Subtotal	66	58	87.4%	171.3	126.9	F
Total		2,106	1,084	51.5%	221.9	36.4	F

Intersection 68 **El Centro Rd/Street 6** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,900	1,701	89.5%	20.5	14.2	C
	Right Turn	454	408	89.9%	2.8	1.5	A
	Subtotal	2,354	2,109	89.6%	17.0	11.7	C
SB	Left Turn						
	Through	2,333	1,455	62.4%	62.6	30.5	F
	Right Turn	20	14	67.5%	35.1	68.5	E
	Subtotal	2,353	1,469	62.4%	62.5	30.9	F
EB	Left Turn						
	Through						
	Right Turn	7	7	97.1%	27.8	51.0	D
	Subtotal	7	7	97.1%	27.8	51.0	D
WB	Left Turn						
	Through						
	Right Turn	202	192	95.0%	128.0	69.5	F
	Subtotal	202	192	95.0%	128.0	69.5	F
Total		4,916	3,776	76.8%	37.4	10.6	E

Intersection 74 **El Centro Rd/Street 5** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	2,161	2,009	92.9%	15.4	10.9	C
	Right Turn	400	363	90.8%	9.0	1.5	A
	Subtotal	2,561	2,372	92.6%	14.4	9.4	B
SB	Left Turn						
	Through	2,277	1,414	62.1%	75.6	35.7	F
	Right Turn	63	39	62.2%	13.0	10.8	B
	Subtotal	2,340	1,453	62.1%	73.7	34.3	F
EB	Left Turn						
	Through						
	Right Turn	65	4	5.5%	867.1	56.2	F
	Subtotal	65	4	5.5%	237.1	382.2	F
WB	Left Turn						
	Through						
	Right Turn	193	109	56.5%	331.5	70.7	F
	Subtotal	193	109	56.5%	331.5	70.7	F
Total		5,159	3,937	76.3%	40.6	7.1	E

Intersection 77 **Street E/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	86	91	105.8%	6.0	0.6	A
	Through	3	3	103.3%	4.4	2.4	A
	Right Turn	1	2	170.0%	0.2	0.7	A
	Subtotal	90	96	106.4%	6.0	0.6	A
SB	Left Turn						
	Through	4	3	80.0%	4.0	3.8	A
	Right Turn	56	56	99.5%	3.4	0.5	A
	Subtotal	60	59	98.2%	3.6	0.5	A
EB	Left Turn	34	32	93.8%	2.0	0.3	A
	Through	71	67	94.4%	1.4	0.4	A
	Right Turn	82	78	94.6%	0.3	0.1	A
	Subtotal	187	177	94.4%	1.0	0.2	A
WB	Left Turn	1	1	60.0%	1.0	2.3	A
	Through	108	102	94.5%	2.8	0.4	A
	Right Turn	1	2	190.0%	0.5	1.1	A
	Subtotal	110	105	95.1%	2.8	0.4	A
Total		447	436	97.5%	3.0	0.3	A

Intersection 78 **Street D/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	17	17	97.6%	5.2	0.6	A
	Through	19	20	105.8%	6.1	2.5	A
	Right Turn	71	70	98.5%	3.5	0.5	A
	Subtotal	107	107	99.6%	4.3	0.6	A
SB	Left Turn	89	93	104.0%	5.5	0.6	A
	Through	24	25	102.5%	6.6	0.8	A
	Right Turn	10	10	98.0%	3.2	1.7	A
	Subtotal	123	127	103.3%	5.6	0.6	A
EB	Left Turn	1	0	30.0%	1.4	0.3	A
	Through	59	58	97.6%	9.2	0.5	A
	Right Turn	12	11	95.0%	3.0	1.0	A
	Subtotal	72	69	96.3%	8.5	0.6	A
WB	Left Turn	90	81	89.9%	7.9	0.5	A
	Through	83	80	96.3%	10.9	0.6	B
	Right Turn	48	44	91.3%	6.2	0.6	A
	Subtotal	221	205	92.6%	8.7	0.5	A
Total		523	508	97.0%	7.0	0.4	A

Intersection 79 **Street C/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	42	39	92.1%	8.7	1.2	A
	Right Turn	103	107	103.6%	5.0	0.9	A
	Subtotal	145	145	100.3%	6.0	0.9	A
SB	Left Turn	148	152	102.5%	8.0	1.6	A
	Through	59	62	104.7%	8.9	1.3	A
	Right Turn	4	5	112.5%	3.5	2.3	A
	Subtotal	211	218	103.3%	8.2	1.4	A
EB	Left Turn	1	1	90.0%	0.0	0.0	A
	Through	218	219	100.5%	10.8	0.8	B
	Right Turn						
	Subtotal	219	220	100.4%	10.8	0.8	B
WB	Left Turn	109	98	89.5%	14.1	3.0	B
	Through	217	199	91.9%	16.7	2.5	C
	Right Turn	134	119	89.0%	12.4	4.0	B
	Subtotal	460	416	90.5%	14.9	3.0	B
Total		1,035	1,000	96.6%	11.3	1.5	B

Intersection 80 **Street B/W. El Camino Ave** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	14	12	85.7%	5.7	1.5	A
	Through	45	45	100.4%	7.2	0.3	A
	Right Turn						
	Subtotal	59	57	96.9%	6.9	0.4	A
SB	Left Turn						
	Through	88	86	97.7%	7.6	0.5	A
	Right Turn	17	16	95.3%	3.5	0.9	A
	Subtotal	105	102	97.3%	7.0	0.6	A
EB	Left Turn	9	10	115.6%	18.9	17.6	C
	Through	446	452	101.3%	16.5	11.3	C
	Right Turn	14	15	107.9%	12.6	12.6	B
	Subtotal	469	477	101.8%	16.5	11.4	C
WB	Left Turn						
	Through	429	390	90.8%	17.6	1.8	C
	Right Turn						
	Subtotal	429	390	90.8%	17.6	1.8	C
Total		1,062	1,027	96.7%	15.4	5.5	C

Intersection 81 **Street A/W. El Camino Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	9	7	75.6%	25.3	24.3	C
	Through	74	75	101.5%	35.0	14.9	D
	Right Turn	69	72	103.6%	28.1	11.7	C
	Subtotal	152	153	100.9%	32.0	12.5	C
SB	Left Turn	327	211	64.5%	183.4	58.5	F
	Through	140	87	62.3%	182.6	59.1	F
	Right Turn	16	9	56.9%	172.1	78.7	F
	Subtotal	483	307	63.6%	182.6	58.2	F
EB	Left Turn	14	14	100.7%	36.8	13.9	D
	Through	425	420	98.8%	61.1	31.7	E
	Right Turn	7	8	111.4%	52.7	57.6	D
	Subtotal	446	442	99.1%	60.5	30.8	E
WB	Left Turn	178	148	83.2%	145.1	70.3	F
	Through	404	374	92.5%	24.6	13.9	C
	Right Turn	167	163	97.4%	16.8	11.0	B
	Subtotal	749	685	91.4%	46.8	22.2	D
Total		1,830	1,587	86.7%	71.2	17.6	E

Intersection 82 **Parking Garage/W. El Camino Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	100	94	93.9%	112.6	125.5	F
	Subtotal	100	94	93.9%	112.6	125.5	F
EB	Left Turn						
	Through	921	783	85.0%	51.3	12.2	F
	Right Turn						
	Subtotal	921	783	85.0%	51.3	12.2	F
WB	Left Turn						
	Through	649	594	91.5%	13.5	11.1	B
	Right Turn	150	136	90.8%	3.3	0.5	A
	Subtotal	799	730	91.4%	11.7	9.0	B
Total		1,820	1,607	88.3%	34.3	11.1	D

Intersection 83 **El Centro Rd/Tomato Patch Ln North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	637	586	91.9%	14.7	6.9	B
	Right Turn	5	5	98.0%	0.0	0.1	A
	Subtotal	642	591	92.0%	14.6	6.9	B
SB	Left Turn						
	Through	961	797	82.9%	2.8	0.3	A
	Right Turn						
	Subtotal	961	797	82.9%	2.8	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	153	27	17.3%	709.1	221.2	F
	Subtotal	153	27	17.3%	439.1	351.3	F
Total		1,756	1,414	80.5%	15.5	7.5	C

Intersection 89 **El Centro Rd/Street 4** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	510	501	98.2%	11.6	13.3	B
	Right Turn						
	Subtotal	510	501	98.2%	11.6	13.3	B
SB	Left Turn						
	Through	795	661	83.1%	0.4	0.1	A
	Right Turn	166	136	82.0%	0.4	0.1	A
	Subtotal	961	797	82.9%	0.4	0.1	A
EB	Left Turn	132	92	69.6%	413.1	232.8	F
	Through						
	Right Turn	6	5	86.7%	267.1	345.8	F
	Subtotal	138	97	70.4%	321.0	196.7	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,609	1,395	86.7%	27.7	8.3	D

Intersection 95 **El Centro Rd/Street 3/Tomato Patch Ln South** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	8	7	81.3%	17.7	10.5	B
	Through	138	137	99.0%	16.5	7.1	B
	Right Turn	12	13	104.2%	8.0	6.8	A
	Subtotal	158	156	98.5%	15.9	6.8	B
SB	Left Turn	285	237	83.3%	21.6	3.2	C
	Through	344	284	82.6%	10.2	3.2	B
	Right Turn	172	144	84.0%	6.7	1.4	A
	Subtotal	801	666	83.1%	13.5	1.5	B
EB	Left Turn	159	156	97.8%	16.9	12.9	B
	Through	6	7	113.3%	10.5	18.2	B
	Right Turn						
	Subtotal	165	162	98.4%	16.8	13.1	B
WB	Left Turn	17	18	107.1%	12.5	8.1	B
	Through	10	9	94.0%	11.3	5.6	B
	Right Turn	213	211	99.2%	10.5	17.9	B
	Subtotal	240	239	99.5%	10.6	16.2	B
Total		1,364	1,223	89.6%	13.7	6.3	B

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Cumulative Plus Project Conditions With Improvements**
Volume and Delay by Movement **PM Peak Hour**

Intersection 101 **El Centro Rd/Street 2** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	29	29	98.6%	0.2	0.1	A
	Right Turn						
	Subtotal	29	29	98.6%	0.2	0.1	A
SB	Left Turn						
	Through	59	51	87.1%	4.7	1.5	A
	Right Turn	302	250	82.9%	3.1	0.7	A
	Subtotal	361	302	83.6%	3.4	0.7	A
EB	Left Turn	129	125	97.0%	5.9	0.6	A
	Through						
	Right Turn						
	Subtotal	129	125	97.0%	5.9	0.6	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		519	456	87.8%	3.9	0.5	A

SimTraffic Off-Ramp Queue Report

Existing Conditions (AM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	975	25	6	75	17	100	48	0%	0%
SB	Left Diagonal	1,425	50	3	75	7	100	11	0%	0%
	Left Diagonal	1,425	50	3	75	7	100	11	0%	0%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
WB	Through	250	25	0	25	0	25	0	0%	0%
SB										

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	250	50	7	100	16	150	30	0%	0%
NB	Left Diagonal	1,475	25	3	75	10	100	20	0%	0%
	Left Diagonal	1,475	25	3	75	10	100	20	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%
NB										

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	225	100	11	175	15	225	29	0%	0%
SB	Left Turn	1,150	100	7	150	12	175	17	0%	0%
	Right Turn	1,150	100	8	150	15	175	24	0%	0%
WB	Through	750	100	8	175	13	200	35	0%	0%
0										

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	950	250	17	275	23	350	21	0%	0%
NB	Left Turn	1,300	125	18	200	50	300	92	6%	0%
	Right Turn	1,300	150	23	275	59	375	135	0%	0%
WB	Through	600	150	13	250	24	300	40	0%	0%
0										

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	575	150	12	225	32	275	57	0%	0%
	Right Turn	575	25	4	25	39	50	114	0%	0%
SB	Left Turn	1,500	375	75	600	164	700	198	1%	0%
	Right Turn	1,500	25	11	50	106	100	310	0%	0%
WB	Through	650	125	26	225	88	300	140	0%	1%
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	675	350	55	525	96	575	69	0%	1%
NB	Left Turn	1,500	75	6	125	12	175	23	0%	0%
	Right Turn	1,500	125	7	200	16	250	26	0%	0%
WB	Through	775	75	12	175	33	250	103	0%	0%
0										

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	75	6	125	14	150	34	0%	0%
NB	Left Turn	1,000	200	11	300	27	325	45	0%	0%
WB	Through	1,625	550	138	950	251	1,075	269	0%	0%
0										

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	225	175	10	275	13	300	3	3%	0%
	Through	1,625	75	16	175	49	325	77	0%	0%
EB										
	Left Turn	1,425	75	3	125	10	175	37	0%	0%
	Shared	1,425	75	7	125	14	175	43	0%	0%
SB										
	Through	800	150	10	250	43	300	137	0%	0%
	Right Turn	800	50	33	200	139	350	235	0%	0%
WB										
0										

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	200	75	6	100	13	150	24	0%	0%
	Through	800	75	4	125	10	150	26	0%	0%
EB										
	Left Turn	1,275	150	8	200	18	275	41	0%	0%
	Shared	1,275	100	8	150	32	225	75	0%	0%
SB										
	Through	1,150	175	20	275	46	350	75	13%	0%
	Right Turn	125	50	18	175	38	200	0	0%	0%
WB										
0										

SimTraffic Off-Ramp Queue Report

Existing Conditions (PM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	400	25	5	50	11	75	19	0%	0%
SB	Left Turn	1,425	50	4	75	8	100	19	0%	0%
	Right Turn	1,425	50	4	100	14	125	21	0%	0%
WB	Through	275	100	11	175	18	225	38	0%	0%
0										

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	275	100	7	150	16	200	42	0%	0%
NB	Left Diagonal	1,475	100	10	150	15	200	33	0%	0%
	Left Diagonal	1,475	100	10	150	15	200	33	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%
NB										

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	225	75	4	100	9	150	20	0%	0%
SB	Left Turn	1,150	100	6	150	10	175	23	0%	0%
	Right Turn	1,150	75	4	100	7	100	17	0%	0%
WB	Through	750	75	8	150	18	200	25	0%	0%
0										

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	200	125	11	200	24	250	50	0%	2%
NB	Left Turn	1,300	125	17	250	72	375	225	7%	0%
	Right Turn	1,300	200	32	350	109	500	217	1%	0%
WB	Through	200	100	14	175	21	200	36	0%	0%
0										

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	575	50	5	100	10	125	27	0%	0%
SB	Left Turn	1,500	150	12	225	26	250	48	0%	0%
WB	Through	650	250	17	400	30	475	49	0%	0%
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	425	75	7	150	16	200	42	0%	0%
NB	Left Turn	1,500	275	38	425	82	500	132	0%	0%
	Right Turn	1,500	200	29	325	58	425	89	0%	0%
WB	Through	925	250	47	425	81	525	101	0%	0%
0										

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	50	6	100	12	125	28	0%	0%
NB	Left Turn	1,000	125	9	200	15	225	18	0%	0%
WB	Through	1,625	75	11	150	28	200	51	0%	0%
0										

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	225	150	8	250	17	275	25	2%	0%
	Through	1,625	75	6	175	23	250	71	0%	0%
EB										
	Left Turn	1,425	100	7	150	14	175	31	0%	0%
	Shared	1,425	100	3	150	9	200	24	0%	0%
SB										
	Through	800	325	140	775	293	750	305	0%	2%
	Right Turn	800	400	202	825	289	800	164	0%	3%
WB										
0										

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	200	175	22	250	32	275	17	9%	0%
	Through	800	75	33	200	110	275	149	0%	0%
EB										
	U/Left Turns	1,275	125	18	175	36	200	30	1%	0%
	Shared	1,275	125	21	225	48	325	50	4%	2%
SB										
	Through	1,150	400	110	825	250	975	288	35%	1%
	Right Turn	125	125	29	275	22	200	0	4%	0%
WB										
0										

SimTraffic Off-Ramp Queue Report

Existing Plus Project Conditions (AM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	975	50	12	125	35	200	57	0%	0%
SB	Left Diagonal	1,425	50	5	100	36	125	100	0%	0%
	Left Diagonal	1,425	50	5	100	36	125	100	0%	0%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
WB	Through	650	200	47	550	71	575	31	0%	0%
SB										

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	650	125	34	250	84	325	92	0%	1%
NB	Left Diagonal	1,475	100	31	275	120	450	223	0%	0%
	Left Diagonal	1,475	100	31	275	120	450	223	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%
NB										

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	1,125	275	24	475	52	875	87	0%	0%
SB	Left Turn	1,150	250	56	375	38	350	15	3%	29%
	Right Turn	1,150	675	256	1,050	315	1,025	240	44%	17%
WB	Through	950	325	62	575	160	700	135	0%	0%
0										

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	950	275	21	375	35	475	40	0%	0%
NB	Left Turn	1,300	100	11	175	30	225	89	3%	0%
	Right Turn	1,300	150	27	300	107	425	266	0%	0%
WB	Through	550	175	10	250	22	275	38	0%	0%
0										

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	700	300	51	575	168	675	261	10%	0%
	Right Turn	225	150	25	325	35	300	63	0%	0%
SB	Left Turn	1,500	200	20	325	19	300	11	0%	12%
	Right Turn	1,500	3,075	377	3,700	456	4,400	391	0%	35%
WB	Through	825	675	135	900	170	850	138	0%	12%
	Right Turn	325	25	4	25	42	50	122	0%	0%
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
B116	Through									
B6020	Through									
EB	Through	825	325	23	400	57	425	161	0%	0%
NB	Left Turn	1,500	375	107	625	310	700	394	2%	0%
	Right Turn	1,500	75	4	100	6	150	24	0%	0%

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **AM Peak Hour**

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	75	9	150	15	175	36	0%	0%
NB	Left Turn	1,000	250	17	375	31	425	77	0%	0%
WB	Through	1,625	900	311	1,275	376	1,350	332	0%	2%
0										

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	225	200	13	275	19	300	6	7%	0%
	Through	1,625	75	19	225	67	375	83	0%	0%
EB										
	Left Turn	1,425	75	7	125	21	175	34	0%	0%
	Shared	1,425	75	8	125	22	175	52	0%	0%
SB										
	Through	800	175	29	325	127	475	243	0%	0%
	Right Turn	800	125	91	350	246	500	290	0%	0%
WB										
0										

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	200	75	8	125	16	125	15	0%	0%
	Through	800	75	8	125	18	150	38	0%	0%
EB										
	Left Turn	1,275	100	7	250	16	275	23	0%	0%
	Shared	1,275	75	5	125	13	150	30	0%	0%
SB										
	Through	1,150	150	10	250	21	325	37	12%	0%
	Right Turn	125	50	15	175	34	200	0	0%	0%
WB										
0										

SimTraffic Off-Ramp Queue Report

Existing Plus Project Conditions (PM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	400	50	10	100	28	175	35	0%	0%
SB	Left Turn	1,425	75	19	175	75	300	139	2%	0%
	Right Turn	1,425	100	16	175	36	225	35	5%	0%
WB	Through	675	550	34	975	52	825	52	0%	44%
0										

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
B94	Through								#N/A	#N/A
EB	Through	675	175	20	275	44	325	63	0%	0%
NB	Left Diagonal	1,475	400	37	975	67	950	1	21%	0%
	Left Diagonal	1,475	400	37	975	67	950	1	21%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	1,125	150	14	250	39	375	67	0%	0%
SB	Left Turn	1,150	100	4	150	7	200	20	0%	0%
	Right Turn	1,150	100	8	150	15	200	20	0%	0%
WB	Through	750	100	9	175	17	225	35	0%	0%
	Right Turn	750	25	1	25	5	25	13	0%	0%
0										

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
B76	Through								#N/A	#N/A
EB	Through	950	250	17	300	31	375	33	0%	0%
NB	Left Turn	1,300	125	15	200	33	275	70	6%	0%
	Right Turn	1,300	200	56	375	189	525	326	1%	0%
WB	Through	200	100	15	200	19	225	35	0%	0%

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	700	175	34	325	106	500	203	4%	0%
	Right Turn	225	75	17	200	59	275	77	0%	0%
SB	Left Turn	1,500	75	11	150	19	175	31	0%	0%
	Right Turn	1,500	3,950	192	4,825	166	5,500	46	0%	13%
WB	Through	825	800	45	975	52	900	21	28%	11%
	Right Turn	325	200	55	525	52	400	0	0%	0%
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
B116	Through									
B6020	Through									
EB	Through	325	300	18	400	53	450	127	0%	4%
NB	Left Turn	1,500	3,475	124	5,000	163	5,625	9	90%	82%
	Right Turn	1,500	100	49	425	265	800	486	0%	0%

SimTraffic Post-Processor **Upper Westside Specific Plan**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **PM Peak Hour**
Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	125	13	225	23	250	37	0%	0%
NB	Left Turn	1,000	275	17	400	38	450	31	0%	0%
WB	Through	1,625	150	16	275	30	350	52	0%	0%
0										

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	225	275	18	350	17	300	0	53%	0%
	Through	1,625	875	328	1,775	504	1,600	479	0%	6%
EB										
	Left Turn	1,425	200	11	300	17	325	17	4%	0%
	Shared	1,425	200	25	350	52	375	57	12%	5%
SB										
	Through	800	350	125	775	254	750	221	0%	3%
	Right Turn	800	325	176	875	373	825	290	0%	18%
WB										
0										

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	200	200	41	300	43	275	14	21%	0%
	Through	800	150	111	375	222	450	223	0%	0%
EB										
	Left Turn	1,275	100	22	200	51	225	23	0%	0%
	Shared	1,275	275	163	675	283	875	279	12%	7%
SB										
	Through	1,150	425	199	875	389	950	325	36%	1%
	Right Turn	125	150	35	275	22	200	0	9%	0%
WB										
0										

SimTraffic Off-Ramp Queue Report

Cumulative No Project Conditions (AM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	975	25	11	100	78	225	236	0%	0%
	Right Turn	975	25	10	50	58	75	123	0%	0%
SB	Left Diagonal	1,425	75	7	150	18	200	26	0%	0%
	Left Diagonal	1,425	75	7	150	18	200	26	0%	0%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
WB	Through	650	50	10	75	25	100	34	0%	0%
SB										

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	650	200	69	325	113	350	104	0%	0%
NB	Left Diagonal	1,475	250	4	300	10	475	40	0%	0%
	Left Diagonal	1,475	250	4	300	10	475	40	0%	0%
	Right Turn	1,475	50	1	50	2	50	4	0%	0%
	Right Turn	1,475	50	1	50	2	50	4	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%
NB										

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	1,125	950	47	1,275	68	1,150	37	0%	0%
SB	Left Turn	1,150	175	6	250	17	275	45	1%	0%
	Right Turn	1,150	75	9	125	22	175	46	0%	0%
WB	Through	950	150	9	225	15	250	26	0%	0%
0										

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	200	125	15	225	28	250	38	0%	2%
NB	Left Turn	1,300	125	10	175	19	225	38	5%	0%
	Right Turn	1,300	150	9	225	16	250	31	0%	0%
WB	Through	550	125	10	225	24	250	45	0%	0%
0										

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	550	100	8	175	22	200	38	0%	0%
	Right Turn	325	25	3	25	22	50	62	0%	0%
SB	Left Turn	1,500	150	8	225	20	250	34	0%	0%
WB	Through	350	200	16	300	46	375	105	0%	1%
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	375	100	16	175	29	225	47	0%	0%
NB	Left Turn	1,500	200	16	325	29	375	41	0%	0%
	Right Turn	1,500	150	19	225	36	275	58	0%	0%
WB	Through	775	50	7	125	12	175	39	0%	0%
0										

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	75	7	125	13	150	25	0%	0%
NB	Left Turn	1,000	225	10	325	17	350	38	0%	0%
WB	Through	1,625	200	19	325	46	425	65	0%	0%
0										

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	225	225	18	325	29	300	0	11%	0%
	Through	1,625	350	218	925	582	1,125	532	29%	3%
EB										
	Left Turn	1,425	1,700	171	3,675	200	3,525	46	44%	14%
	Shared	1,425	300	18	475	11	400	16	47%	48%
SB										
	Through	800	175	11	300	47	375	146	0%	0%
	Right Turn	800	50	46	175	184	250	283	0%	0%
WB										
0										

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	200	200	9	400	7	300	0	1%	0%
	Through	800	650	49	1,100	22	825	16	77%	38%
EB										
	Left Turn	1,275	625	179	1,550	301	1,775	301	34%	0%
	Shared	1,275	200	14	350	18	300	16	20%	24%
SB										
	Through	1,150	175	15	325	26	425	61	19%	0%
	Right Turn	125	75	19	200	29	200	0	0%	0%
WB										
0										

SimTraffic Off-Ramp Queue Report

Cumulative No Project Conditions (PM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
B1005	Through									
EB	Through	400	25	5	75	14	100	29	0%	0%
	Right Turn	400	25	1	25	6	25	18	0%	0%
SB	Left Turn	1,425	50	3	100	11	125	34	0%	0%
	Right Turn	1,425	75	6	100	14	125	25	0%	0%
WB	Through	275	125	8	200	14	250	33	0%	0%

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	275	125	13	200	20	250	42	0%	0%
NB	Left Diagonal	1,475	1,425	196	2,025	295	2,525	0	0%	0%
	Left Diagonal	1,475	1,425	196	2,025	295	2,525	0	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%
NB										

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	1,125	300	76	400	144	450	145	0%	0%
SB	Left Turn	1,150	2,175	115	4,400	140	4,500	42	51%	22%
	Right Turn	1,150	175	21	325	20	250	0	0%	1%
WB	Through	750	75	9	150	17	175	24	0%	0%
0										

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	950	775	51	1,275	37	975	29	0%	26%
NB	Left Turn	1,300	950	109	1,850	39	1,400	51	13%	43%
	Right Turn	1,300	2,000	258	3,825	367	4,200	328	50%	1%
WB	Through	575	75	7	150	17	175	31	0%	0%
0										

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	550	50	7	100	45	175	151	0%	0%
	Right Turn	325	25	1	25	7	25	16	0%	0%
SB	Left Turn	1,500	125	5	175	12	175	25	0%	0%
	Right Turn	1,500	25	3	25	25	75	66	0%	0%
WB	Through	600	175	8	275	22	325	71	0%	0%
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	375	100	8	150	13	200	36	0%	0%
NB	Left Turn	1,500	150	6	200	13	225	25	0%	0%
	Right Turn	1,500	175	14	275	50	325	110	0%	0%
WB	Through	775	125	9	200	27	250	58	0%	0%
0										

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	75	8	125	17	150	51	0%	0%
NB	Left Turn	1,000	150	9	200	16	250	35	0%	0%
WB	Through	1,625	75	9	150	14	200	28	0%	0%
0										

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	225	275	14	375	25	300	0	16%	0%
	Through	1,625	1,475	88	2,100	89	1,650	14	88%	39%
EB										
	Left Turn	1,425	3,175	52	4,300	66	3,525	16	75%	21%
	Shared	1,425	375	4	400	26	400	8	87%	81%
SB										
	Through	800	100	21	150	29	175	32	0%	0%
WB										
0										

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	200	275	14	350	34	300	0	17%	0%
	Through	800	800	7	850	26	850	20	99%	59%
EB										
	U/Left Turns	1,275	3,225	5	4,250	8	4,400	0	77%	26%
	Shared	1,275	3,275	3	4,300	10	4,450	13	70%	74%
SB										
	Through	1,150	825	320	1,225	432	1,100	351	24%	5%
	Right Turn	125	175	33	250	40	200	0	63%	0%
WB										
0										

SimTraffic Off-Ramp Queue Report

Cumulative Plus Project Conditions (AM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	975	375	158	800	290	850	197	0%	1%
	Right Turn	975	275	202	800	349	875	173	0%	3%
SB	Left Diagonal	1,425	825	315	1,600	529	2,525	338	0%	24%
	Left Diagonal	1,425	825	315	1,600	529	2,525	338	0%	24%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
WB	Through	925	475	104	825	116	800	88	0%	0%
SB										

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	925	900	83	1,050	94	1,025	84	0%	42%
NB	Left Diagonal	1,475	650	88	1,275	55	950	0	1%	0%
	Left Diagonal	1,475	650	88	1,275	55	950	0	1%	0%
	Right Turn	1,475	3,200	320	4,625	307	5,425	55	0%	0%
	Right Turn	1,475	3,200	320	4,625	307	5,425	55	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%
	Right Turn	575	25	0	25	0	25	0	0%	0%
NB										

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	1,125	175	21	375	57	625	94	0%	0%
SB	Left Turn	1,150	525	266	1,250	499	1,600	547	2%	1%
	Right Turn	1,150	150	34	250	55	250	20	15%	5%
WB	Through	950	225	95	400	247	450	254	0%	0%
0										

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	950	225	14	250	23	275	27	0%	0%
NB	Left Turn	1,300	125	12	200	34	250	70	8%	0%
	Right Turn	1,300	175	8	225	15	275	24	0%	0%
WB	Through	200	75	6	150	13	175	40	0%	0%
0										

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	Through	700	175	27	350	69	575	172	4%	0%
	Right Turn	225	100	9	200	27	300	71	0%	0%
EB										
	Left Turn	1,500	200	29	325	24	325	14	0%	12%
	Right Turn	1,500	3,200	792	6,400	1,053	5,950	898	0%	17%
SB										
	Through	825	750	141	875	177	825	154	21%	29%
	Right Turn	325	100	26	375	56	400	0	0%	0%
WB										
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	Through									
B6020										
	Through	825	400	44	450	108	500	179	0%	0%
EB										
	Left Turn	1,500	1,775	600	3,950	987	4,850	1,003	51%	1%
	Right Turn	1,500	400	207	1,150	308	1,100	0	0%	0%
NB										
	Through	425	350	149	425	175	425	163	3%	9%
	Right Turn	275	50	24	175	83	250	85	0%	0%
WB										

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	100	8	150	13	200	33	0%	0%
NB	Left Turn	1,000	350	29	475	68	525	91	0%	0%
WB	Through	1,625	275	44	425	96	500	150	0%	0%
0										

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	225	300	1	300	4	300	0	68%	0%
	Through	1,625	1,300	230	1,875	294	1,625	162	1%	9%
EB										
	Left Turn	1,425	600	306	1,425	547	1,575	559	19%	3%
	Shared	1,425	250	51	400	66	375	14	23%	18%
SB										
	Through	800	700	132	950	136	825	20	0%	26%
	Right Turn	800	725	95	1,175	47	925	16	0%	54%
WB										
0										

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	200	150	45	325	70	300	1	1%	0%
	Through	800	400	183	775	339	700	223	48%	8%
EB										
	Left Turn	1,275	1,800	406	4,225	622	3,950	521	3%	1%
	Shared	1,275	200	27	375	12	300	17	47%	50%
SB										
	Through	1,150	475	129	1,150	301	1,125	316	49%	7%
	Right Turn	125	125	22	275	21	200	0	0%	0%
WB										
0										

SimTraffic Off-Ramp Queue Report

Cumulative Plus Project Conditions (PM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
B1005	Through									
EB	Through	400	50	8	100	20	125	34	0%	0%
SB	Left Turn	1,425	525	207	1,275	370	1,475	265	11%	2%
	Right Turn	1,425	250	24	375	31	325	41	63%	0%
WB	Through	975	950	42	1,125	46	1,075	30	0%	78%

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	675	200	21	325	51	350	79	0%	0%
NB	Left Diagonal	1,475	4,725	65	5,225	32	5,950	0	26%	0%
	Left Diagonal	1,475	4,725	65	5,225	32	5,950	0	26%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%
	Right Turn	575	25	0	25	0	25	0	0%	0%
NB										

Intersection 20 **I-5 SB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	1,125	375	92	775	158	1,075	163	0%	3%
SB	Left Turn	1,150	2,775	114	5,450	103	4,525	38	53%	41%
	Right Turn	1,150	225	8	325	6	250	0	3%	3%
WB	Through	750	125	23	250	58	325	107	0%	0%
0										

Intersection 21 **I-5 NB Ramps/Del Paso Rd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	950	800	30	1,275	26	1,000	23	0%	26%
NB	Left Turn	1,300	1,050	55	1,925	22	1,400	41	4%	54%
	Right Turn	1,300	2,675	148	5,000	188	5,025	49	57%	13%
WB	Through	550	75	7	150	16	175	26	0%	0%
0										

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	700	200	34	400	90	625	170	5%	0%
	Right Turn	225	100	16	225	38	300	49	0%	0%
SB	Left Turn	1,500	75	13	150	25	175	33	0%	0%
	Right Turn	1,500	4,625	341	8,125	299	6,800	61	0%	13%
WB	Through	825	825	47	1,000	40	925	23	30%	25%
	Right Turn	325	275	50	575	19	400	0	0%	0%
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
B6020	Through									
EB	Through	825	325	16	400	50	425	143	0%	0%
NB	Left Turn	1,500	3,450	448	7,275	532	6,875	65	69%	19%
	Right Turn	1,500	525	194	1,325	256	1,100	0	0%	0%
WB	Through	425	400	35	550	39	550	16	20%	20%
	Right Turn	275	150	25	350	32	275	0	1%	1%

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	100	10	175	18	225	46	0%	0%
NB	Left Turn	1,000	525	139	900	293	1,200	328	13%	0%
	Right Turn	1,000	100	114	325	321	375	310	0%	0%
WB	Through	1,625	1,225	168	2,150	95	1,675	15	0%	55%
0										

Intersection 8 **I-5 SB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	225	300	17	350	45	300	0	29%	0%
	Through	1,625	1,575	118	2,150	116	1,650	16	81%	43%
EB										
	Left Turn	1,425	3,200	58	3,475	75	3,625	23	74%	18%
	Shared	1,425	375	3	400	17	400	8	83%	79%
SB										
	Through	800	150	26	250	40	325	132	0%	0%
WB										
0										

Intersection 9 **I-5 NB Ramps/Garden Hwy** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	U/Left Turns	200	250	15	375	22	300	0	14%	0%
	Through	800	800	12	850	41	850	14	99%	58%
EB										
	U/Left Turns	1,275	3,225	4	4,250	7	4,900	0	62%	13%
	Shared	1,275	3,275	3	4,300	20	4,950	10	61%	65%
SB										
	Through	1,150	400	273	825	486	850	432	15%	1%
	Right Turn	125	125	62	225	60	200	0	31%	0%
WB										
0										

SimTraffic Off-Ramp Queue Report

Cumulative Plus Project with Improvements Conditions

(AM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	975	50	5	100	21	150	66	0%	0%
	Right Turn	975	25	29	75	111	150	208	0%	0%
SB	Left Diagonal	1,425	100	6	175	13	200	23	0%	0%
	Left Diagonal	1,425	100	6	175	13	200	23	0%	0%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
	Right Turn	1,425	25	0	25	0	25	0	0%	0%
WB	Through	250	25	0	25	0	25	0	0%	0%
SB										

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	650	275	26	325	42	375	59	0%	0%
NB	Left Diagonal	1,475	75	8	125	17	150	25	0%	0%
	Left Diagonal	1,475	75	8	125	17	150	25	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%
NB										

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	700	175	13	325	21	375	40	0%	0%
	Through/Right	700	325	15	450	28	475	52	0%	0%
	Right Turn	700	150	21	275	47	350	51	0%	0%
SB	Left Turn	1,500	275	12	325	10	300	15	0%	51%
	Right Turn	1,500	350	62	475	86	525	97	0%	0%
WB	Through	850	225	16	325	26	375	84	1%	0%
	Right Turn	325	25	6	50	56	100	164	0%	0%
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
B6020	Through									
EB	Through	850	425	27	475	37	525	33	0%	0%
NB	Left Turn	1,500	650	74	875	94	950	127	0%	0%
	Right Turn	1,500	100	17	200	62	275	177	0%	0%
WB	Through	275	175	12	325	26	350	40	1%	1%
	Right Turn	275	50	18	200	44	275	0	0%	0%

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	75	7	150	31	200	69	0%	0%
NB	Left Turn	1,000	475	123	750	320	775	287	12%	8%
	Right Turn	1,000	100	101	300	305	375	310	0%	0%
WB	Through	1,625	375	86	700	222	850	337	0%	0%
0										

SimTraffic Off-Ramp Queue Report

Cumulative Plus Project with Improvements Conditions

(PM Peak Hour)

Intersection 26 **I-5 SB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	400	50	6	75	14	100	34	0%	0%
SB	Left Turn	1,425	75	4	100	8	150	26	0%	0%
	Right Turn	1,425	75	3	100	12	125	34	0%	0%
WB	Through	275	125	9	200	17	225	37	0%	0%
0										

Intersection 27 **I-5 NB Ramps/Arena Blvd** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	675	250	49	350	87	425	90	0%	1%
NB	Left Diagonal	1,475	100	5	175	9	275	145	0%	0%
	Left Diagonal	1,475	100	5	175	9	275	145	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
	Right Turn	1,475	25	0	25	0	25	0	0%	0%
WB	Through	1,200	25	0	25	0	25	0	0%	0%
	Right Turn	575	25	0	25	0	25	0	0%	0%
NB										

Intersection 33 **I-80 WB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	700	200	19	425	39	475	51	0%	0%
	Through/Right	700	400	23	575	40	650	52	0%	0%
	Right Turn	700	225	45	400	67	500	103	0%	0%
SB	Left Turn	1,500	125	13	200	32	225	29	0%	2%
	Right Turn	1,500	400	201	775	344	1,025	346	0%	2%
WB	Through	850	325	104	600	190	650	164	6%	0%
	Right Turn	325	50	62	100	187	100	164	0%	0%
0										

Intersection 34 **I-80 EB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
B6020	Through									
EB	Through	850	300	20	400	26	425	48	0%	0%
NB	Left Turn	1,500	650	145	925	366	975	331	3%	0%
	Right Turn	1,500	175	111	350	317	375	258	0%	0%
WB	Through	275	250	17	400	18	375	34	9%	8%
	Right Turn	275	125	18	350	19	275	0	1%	1%

Intersection 39 **I-5 NB Ramps/W El Camino Ave** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	800	100	11	175	16	200	39	0%	0%
NB	Left Turn	1,000	275	15	375	21	425	35	0%	0%
WB	Through	1,625	200	95	350	272	425	420	0%	0%
0										

