ARUP

Memorandum

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Date	December 18, 2023
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Introduction

The North Ventura Coordinated Area Plan (NVCAP) is an opportunity in the City of Palo Alto to plan for a transit-oriented, mixed-use, mixed income, and walkable neighborhood. Aligned with the goals of the City of Palo Alto 2030 Comprehensive Plan, the NVCAP seeks to build communities and neighborhoods, reduce reliance on automobiles, and sustain the natural environment.

The purpose of this document is to provide preliminary traffic analysis results to help guide the roadway configuration and infrastructure needs while also providing insight on potential transportation issues to support the project planning, design, and entitlement process. This document is intended to provide a preliminary assessment of the traffic conditions. A VMT analysis has also been completed and documented in a separate technical memo to support overall Environmental documentation.

Project Description

The NVCAP study area is located at the northeast corner of El Camino Real & Page Mill Road intersection as shown on **Figure 1**. The study area is bound by the Caltrain Corridor, El Camino Real, Page Mill Road, and Lambert Avenue.

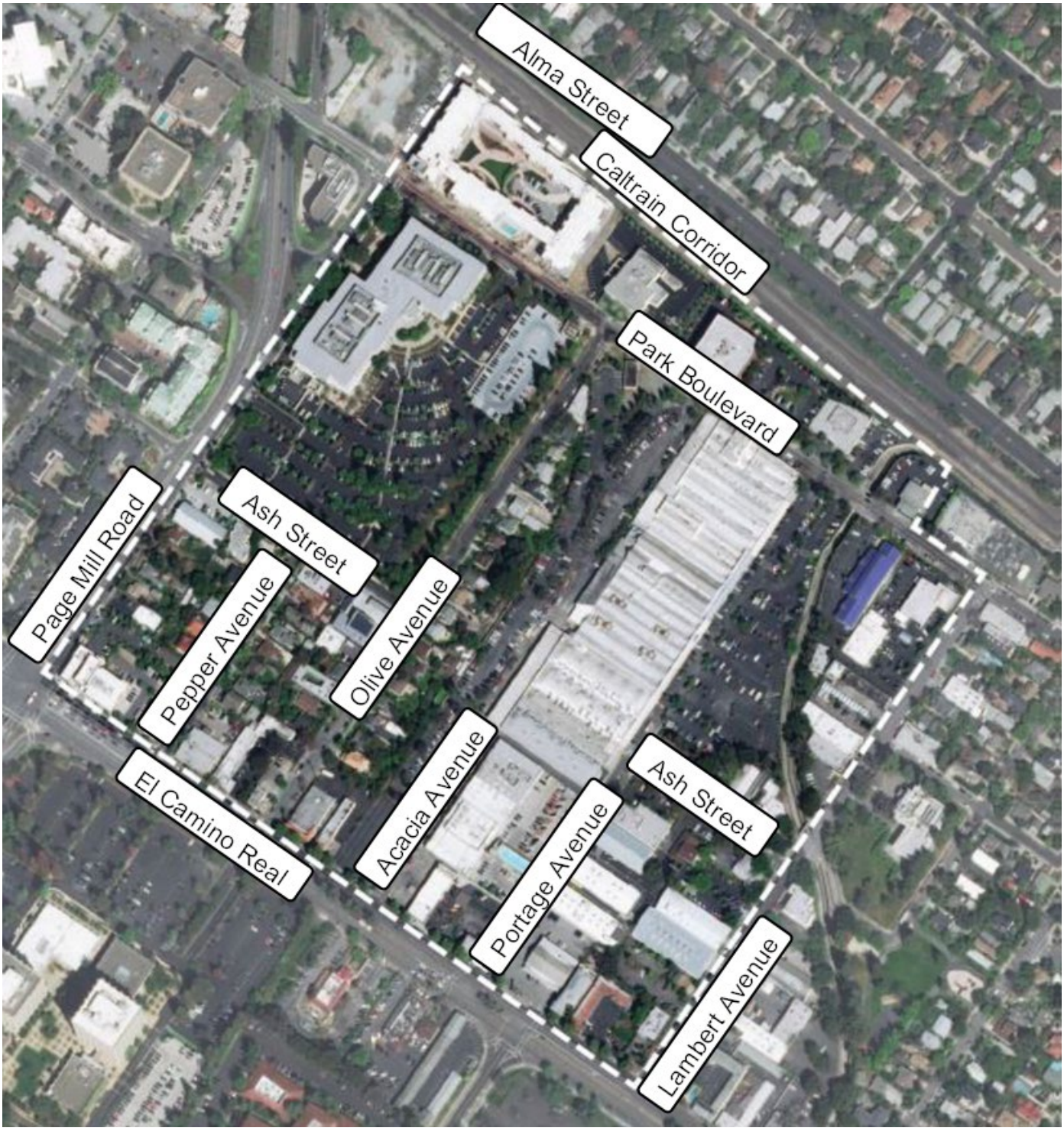


Figure 1: NVCAP Site Location.

A conceptual site plan of the proposed development program is shown in **Figure 2**.

Figure 2: Conceptual Site Plan

Note: Figure 2 provides illustrative roadway concepts but does not represent the project's proposed improvements.

The development land use program is proposed to consist of the following primary land uses:

Land Use	Quantity
Residential Units (Mid-Rise, Single-Family Homes, Attached Housing)	672 dwelling units
Commercial:	569,700 square feet

Table 1: Future Land Use Program

The project recommends improvements to the public realm within the site. This includes intersection improvements along El Camino Real, Page Mill Road and high-quality pedestrian & bike facilities included within the NVCAP circulation network as defined in Section 7: Implementation of the North Ventura Coordinated Area Draft Plan. Caltrans and Santa Clara County has jurisdiction over the implementation of intersection improvements for intersections that are not under the city's jurisdiction.

Intersection improvements would not be completed as a part of NVCAP except for intersections that are under city jurisdiction.

Study Area Intersections

Critical intersections identified for the study area are shown in **Table 2**.

#	Intersection	Control Type	Jurisdiction
1	Page Mill Road & Park Boulevard	Signal	City of Palo Alto
2	Page Mill Road & Ash Street	Side-Street Stop Control	City of Palo Alto
3	El Camino Real & Page Mill Road	Signal	Caltrans
4	El Camino Real & Pepper Avenue	Side-Street Stop Control	Caltrans
5	El Camino Real & Olive Avenue	Side-Street Stop Control	Caltrans
6	El Camino Real & Portage Avenue	Signal	Caltrans
7	El Camino Real & Hansen Way	Signal	Caltrans
8	El Camino Real & Lambert Avenue	Side-Street Stop Control	Caltrans
9	Ash Street & Olive Avenue	All-Way Stop Control	City of Palo Alto
10	Ash Street & Pepper Avenue	Side-Street Stop Control	City of Palo Alto
11	Ash Street & Portage Avenue	All-Way Stop Control	City of Palo Alto
12	Ash Street & Lambert Avenue	Side-Street Stop Control	City of Palo Alto
13	Acacia Avenue & Portage Avenue	Side-Street Stop Control	City of Palo Alto
14	Park Boulevard & Olive Avenue	Side-Street Stop Control	City of Palo Alto
15	Park Boulevard & Lambert Avenue	All-Way Stop Control	City of Palo Alto
16	Lambert Avenue & Birch Street	Side-Street Stop Control	City of Palo Alto

Table 2: NVCAP Study Intersections

Existing Traffic

In October of 2018, intersection turning movement counts were collected during the weekday morning (7:00am. – 9:00am.) and weekday evening (4:00pm. – 6:00pm,.) peak periods at each of the 16 study intersections.

Based on the traffic counts, the weekday morning peak hour was identified to be between 7:45am. to 8:45am. and the weekday evening peak hour was identified to be between 4:30pm. to 5:30pm.

Intersection geometries, posted speed limits, and intersection timings were all observed on site during the peak hours, with additional signal timings provided by City of Palo Alto and Santa Clara County.

Baseline year (2018) turning movement counts are included in Appendix A.

Traffic Forecast – Horizon Year (2040)

In consultation with the City of Palo Alto, a horizon year of 2040 was selected for assessment of traffic operations. The year 2040 was selected as the time when significant, operational completion of the project is to be expected.

The Palo Alto Travel Demand Forecast Model indicates that an annual growth rate of 1.62 percent for AM. and 1.58 percent for PM peak hours is appropriate to estimate the growth in background demand. The annual growth rates were applied to existing turning movements to develop year 2040 traffic volumes.

Additionally, future development at 200 Portage Avenue is included in the horizon year traffic volumes due to its proximity to the project.

The horizon year (2040) turning movement counts are included in Appendix A.

Trip Generation

To address any potential future traffic impacts within the study area, it is necessary to identify the traffic expected to be generated by the proposed development. The expected traffic volumes generated by the NVCAP project are based on the size and type of proposed land uses, and on trip data published in the Institute of Transportation Engineer's (ITE's) *Trip Generation, 11th Edition (2021)*.

Table 3 summarizes the traffic expected to be generated by the proposed development. A detailed trip generation breakdown with ITE trip rates is shown in Appendix B.

Existing Development Plan											
	Quantity	Daily Rate*	Daily Trips	AM Rate*	AM in	AM out	AM total	PM Rate*	PM in	PM out	PM total
Residential Total:	142 units	5.73	814	0.44	15	48	63	0.52	46	28	74
Commercial Total:	855,200 sf	13.01	11,130	1.21	855	184	1,039	1.45	360	882	1,242
Total:			**11,944**		**870**	**232**	**1,102**		**406**	**910**	**1,316**
Future Development Plan											
	Quantity	Daily Rate*	Daily Trips	AM Rate*	AM in	AM out	AM total	PM Rate*	PM in	PM out	PM total
Residential Total:	672 units	4.79	3,220	0.39	60	199	259	0.42	172	109	281
Commercial Total:	569,700 sf	17.87	10,183	1.47	683	153	836	1.92	333	762	1,095
Total:			**13,403**		**743**	**352**	**1,095**		**505**	**871**	**1,376**
Trip Generation Summary											
	Quantity	Daily Rate*	Daily Trips	AM Rate*	AM in	AM out	AM total	PM Rate*	PM in	PM out	PM total
Residential Change:	+ 530 units		2,406		45	151	196		126	81	207
Commercial Total:	-285,500 sf		-947		-172	-31	-203		-27	-120	-147
Net Change:			**1,459**		**-127**	**120**	**-7**		**99**	**-39**	**60**

Table 3: Trip Generation Summary

*Summary residential rate is a blend of single family and multi-family ITE rates. Summary commercial rate is a blend of office and retail ITE rates.

As shown in **Table 3**, during the AM peak hour, there is a minor decrease in total traffic with a decrease in trips going into the project area and an increase of trips leaving the project area. During the PM peak hour, there is an increase in total traffic with an increase of trips going into the NVCAP area with a decrease in traffic going leaving the NVCAP area.

The change in vehicle trip patterns align with the land use changes identified in the NVCAP program, where office use is replaced with residential use resulting in fewer trips traveling to the NVCAP area in the morning and more trips leaving the NVCAP area in the morning. A reverse of this travel pattern can also be observed during the PM peak hour, with more trips arriving to the NVCAP area, and fewer trips leaving the NVCAP area.

Trip Distribution and Assignment

Trip distribution patterns for the proposed development are estimated based on the existing AM and PM turning movement counts at adjacent intersections. Trips are not assumed to be distributed on Alma Street since it is largely separated from the NVCAP area by Caltrain tracks. The regional trip distribution patterns used are based on the possible location of new driveways for the future NVCAP development. They are summarized below:

The trip distribution patterns used during the morning peak hour are as follows:

- 25 percent from the north on Oregon Expressway
- 31 percent from the south on Page Mill Road
- 16 percent from the west on El Camino Real
- 28 percent from the east on El Camino Real
- 30 percent to the north on Oregon Expressway
- 17 percent to the south on Page Mill Road
- 36 percent to the west on El Camino Real
- 16 percent to the east on El Camino Real

The trip distribution patterns used during the evening peak hour are as follows:

- 20 percent from the north on Oregon Expressway
- 20 percent from the south on Page Mill Road
- 37 percent from the west on El Camino Real
- 23 percent from the east on El Camino Real
- 20 percent to the north on Oregon Expressway
- 30 percent to the south on Page Mill Road
- 20 percent to the west on El Camino Real
- 30 percent to the east on El Camino Real

Horizon year (2040) plus Project

The vehicle trips generated by the new land use program were added to the horizon year (2040) traffic volumes based on existing trip distribution patterns as discussed in the previous section. The traffic assessment then used these traffic volumes to assess the performance for the future horizon year (2040) plus project traffic volumes.

The horizon year plus project turning movement count information is provided in Appendix A. The NVCAP turning movement counts for future driveways are also provided in Appendix A.

Traffic Operational Analysis

The study area intersections were analyzed using Synchro Version 11 software following procedures set forth in the *2016 Highway Capacity Manual* (HCM). Intersection operation is defined by "level of service". Level of Service (LOS) is a quantitative measure that refers to the overall performance at an intersection. LOS uses a scorecard system to evaluate the performance of the intersection and ranges from very good, represented by LOS A, which indicates free-flowing traffic conditions to LOS F where traffic demand exceeds the capacity of the intersection. For signalized intersections, the performance is based on the average intersection control delay, whereas uncontrolled intersection delay is measured based on the average delay of the worst approach.

A Congestion Management Program (CMP) intersection must adhere to standards set by the Congestion Management Agency (currently LOS E), as set forth in the VTA Transportation Impact Analysis Guidelines. Any transportation impact triggered by VTA's standard for CMP intersections would need to be addressed following guidelines established by VTA.

The City of Palo Alto LOS standard for all intersections is LOS D or better, which is more conservative than the CMP LOS standard of E to determine local level impacts. If the analysis shows that a project is anticipated to cause an intersection to degrade below LOS D, then the project is deemed to be inconsistent with this policy.

For an intersection determined to have been LOS at background conditions without the project, a project is said to have significant local impact if the analysis shows that:

i. Addition of project traffic increases average delay for critical movements by four or more seconds and increase the critical volume/capacity (v/c) value by 0.01 or more, or

ii. Affects a freeway segment or ramp to operate at LOS F or project traffic increases freeway capacity by one or more percent.

Descriptions of the various levels of service are summarized in **Table 4**.

Level of Service (LOS)	Description	Traffic Signals Average Delay per Vehicle (sec/veh)	Stop Controlled Average Delay per Vehicle (sec/veh)
A	Highest level of operation. Turning movements are easily made. Nearly all drivers find freedom of operation.	<10.0	<10.0
B	Stable operation with low delay.	10.1 – 20.0	10.1 – 15.0
C	Stable operation with periodic backups. Drivers begin to feel restricted.	20.1 – 35.0	15.1 – 25.0
D	**Intersection operation approaches instability. Delays may become substantial during short peaks within peak periods.**	**35.1 – 55.0**	**25.1 – 35.0**
E	Intersection operates at capacity. Drivers frequently experience high delay values.	55.1 – 80.0	35.1 – 50.0
F	Intersection is over capacity and experiences jammed conditions.	>80.0	>50.0

Table 4: Intersection Level of Service (LOS) Designations

Note: LOS D is the acceptable performance threshold.

Baseline year, horizon year, and horizon year plus project intersection operations analysis results are provided in **Table 5**. Full Synchro output results is shown in Appendix C. Intersections that NVCAP has a significant impact on per the Palo Alto LOS policy are highlighted.

#	Intersection	Peak	Baseline Year (2018)			Horizon Year (2040)			Horizon plus Project Alternative 1 (2040)		
			LOS	V/C	Average Delay	LOS	V/C	Average Delay	LOS	V/C	Average Delay
1	Page Mill Road & Park Boulevard *Signal*	AM	B	0.35	11.4s	B	0.59	14.0s	B	0.63	14.6s
		PM	B	0.55	13.7s	B	0.72	18.1s	C	0.78	20.5s
2	Page Mill Road & Ash Street *Side-Street Stop Control*	AM	C	0.44	19.8s	**F**	**0.94**	**78.0s**	**F**	**0.96**	**79.8s**
		PM	**E**	**0.58**	**38.2s**	**F**	**1.55**	**>180.0s**	**F**	**2.05**	**>180.0s**
3	El Camino Real & Page Mill Road *Signal*	AM	**E**	**1.23**	**65.1s**	**F**	**1.76**	**150.9s**	**F**	**1.79**	**150.7s**
		PM	**E**	**1.40**	**79.7s**	**F**	**2.02**	**166.3s**	**F**	**2.04**	**161.3s**
4	El Camino Real & Pepper Avenue *Side-Street Stop Control*	AM	C	0.02	17.2s	D	0.03	25.7s	D	0.25	30.2s
		PM	C	0.01	15.1s	C	0.01	20.3s	D	0.56	34.9s
5	El Camino Real & Olive Avenue *Side-Street Stop Control*	AM	**F**	**0.21**	**68.8s**	**F**	**1.67**	**>180.0s**	**F**	**2.57**	**>180.0s**
		PM	**F**	**1.23**	**>180.0s**	**F**	**9.17**	**>180.0s**	**F**	**8.67**	**>180.0s**
6	El Camino Real & Portage Avenue *Signal*	AM	C	0.79	24.2s	D	1.22	38.3s	C	0.92	31.2s
		PM	C	0.73	23.4s	C	0.80	25.1s	D	1.15	36.8s
7	El Camino Real & Hansen Way *Signal*	AM	A	0.82	8.6s	B	1.05	14.8s	B	1.05	14.9s
		PM	B	0.87	16.3s	D	1.07	36.0s	D	1.07	35.9s
8	El Camino Real & Lambert Avenue *Side-Street Stop Control*	AM	**E**	**0.23**	**48.6s**	**F**	**1.09**	**>180.0s**	**F**	**1.15**	**>180.0s**
		PM	**E**	**0.40**	**44.1s**	**F**	**1.56**	**>180.0s**	**F**	**1.36**	**>180.0s**
9	Ash Street & Olive Avenue *All-Way Stop Control*	AM	A	0.22	8.3s	A	0.31	9.1s	B	0.43	10.5s
		PM	A	0.17	8.0s	A	0.24	8.5s	A	0.29	9.1s
10	Ash Street & Pepper Avenue *Side-Street Stop Control*	AM	A	0.05	9.6s	B	0.08	10.1s	C	0.14	15.1s
		PM	A	0.03	9.0s	A	0.04	9.2s	C	0.44	15.2s
11	Ash Street & Portage Avenue *All-Way Stop Control*	AM	A	0.07	7.1s	A	0.10	7.3s	A	0.03	7.2s
		PM	A	0.10	7.5s	A	0.14	7.7s	A	0.07	7.3s
12	Ash Street & Lambert Avenue *Side-Street Stop Control*	AM	A	0.02	9.4s	A	0.03	9.9s	A	0.03	10.0s
		PM	A	0.02	8.9s	A	0.03	9.1s	A	0.03	9.1s
13	Acacia Avenue & Portage Avenue *Side-Street Stop Control*	AM	A	0.03	8.8s	A	0.06	9.0s	A	0.05	9.1s
		PM	A	0.04	9.1s	A	0.07	9.7s	A	0.05	9.5s
14	Park Boulevard & Olive Avenue *Side-Street Stop Control*	AM	B	0.05	10.2s	B	0.08	11.6s	B	0.09	11.9s
		PM	B	0.06	10.3s	A	0.10	11.5s	B	0.09	11.4s
15	Park Boulevard & Lambert Avenue *All-Way Stop Control*	AM	A	0.19	8.4s	A	0.28	9.3s	A	0.27	9.2s
		PM	A	0.16	7.8s	A	0.23	8.2s	A	0.23	8.1s
16	Lambert Avenue & Birch Street *Side-Street Stop Control*	AM	A	0.05	9.1s	A	0.07	9.5s	A	0.07	9.5s
		PM	A	0.07	9.0s	A	0.10	9.2s	A	0.10	9.2s

Table 5: Traffic Operation Analysis

Note: LOS D is the acceptable performance threshold. V/C shown is for critical movement of each intersection.
*High V/C's are found for side street movements.

Horizon Year (2040)

The traffic analysis without the proposed project, indicates the following intersections operate at a LOS E or F:

- Page Mill Road & Ash Street
- El Camino Real & Page Mill Road
- El Camino Real & Olive Avenue
- El Camino Real & Lambert Avenue

Horizon Year (2040) plus Project Alternative 1

In Alternative 1, Acacia Avenue and Portage Avenue are extended to intersect with Park Boulevard. The street configuration for Alternative 1 is shown in **Figure 3.**

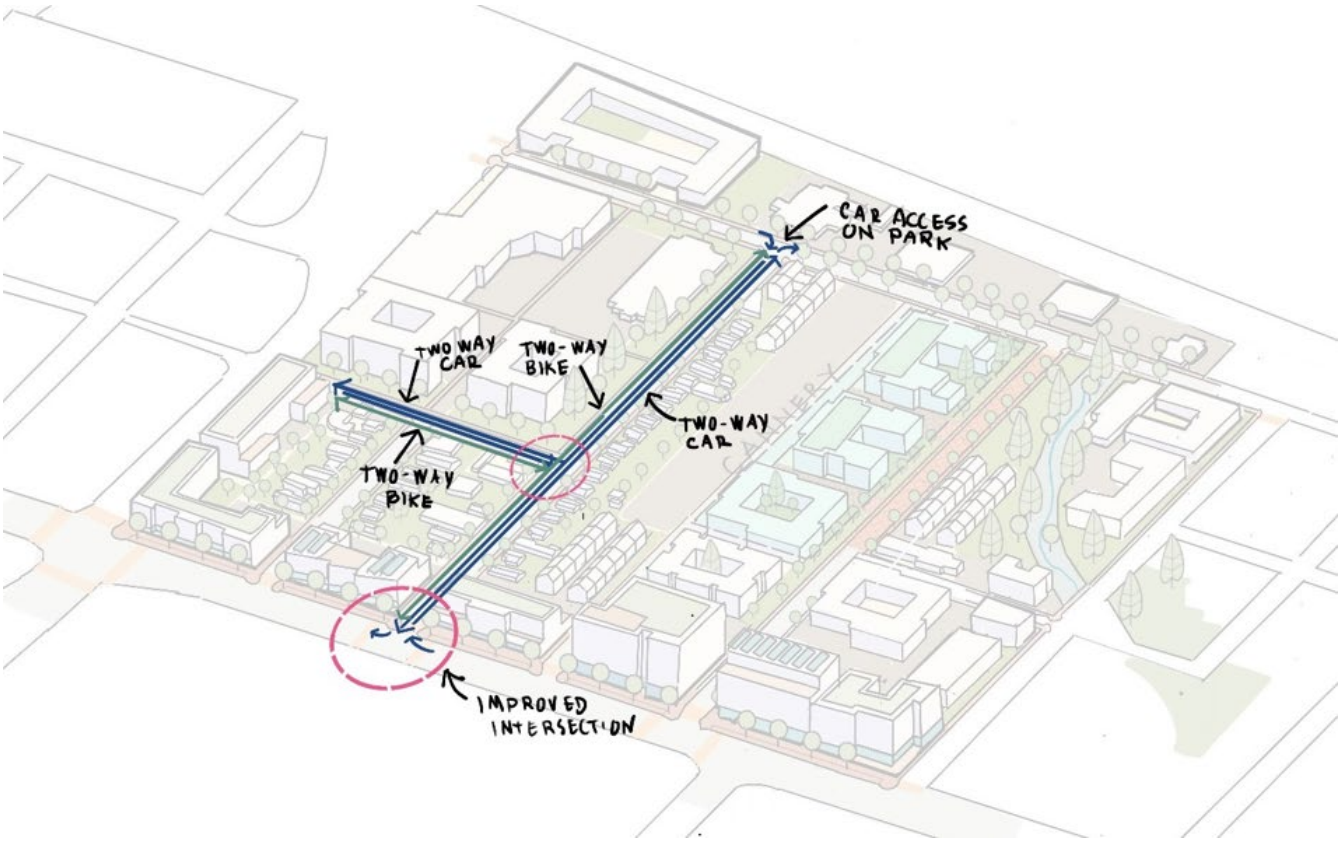


Figure 3: NVCAP Alternative 1

The performance of the intersections for Alternative 1 are comparable to baseline horizon year conditions.

The following intersections are LOS F in baseline horizon year conditions and Alternative 1, but do not meet the City of Palo Alto LOS standards due to having an increase in V/C greater than 0.01 and increase in average delay greater than 4 seconds:

- Page Mill Road & Ash Street
- El Camino Real & Olive Avenue
- El Camino Real & Lambert Avenue

Horizon Year (2040) plus Project Alternative 2

The new street configuration (Alternative 2) proposed Acacia Avenue and Portage Avenue to be extended to intersect with Park Boulevard. The main change is Ash Street from Page Mill Road to Olive Avenue is converted to one-way in the south-eastbound direction. The street configuration for Alternative 2 is shown in **Figure 4**.

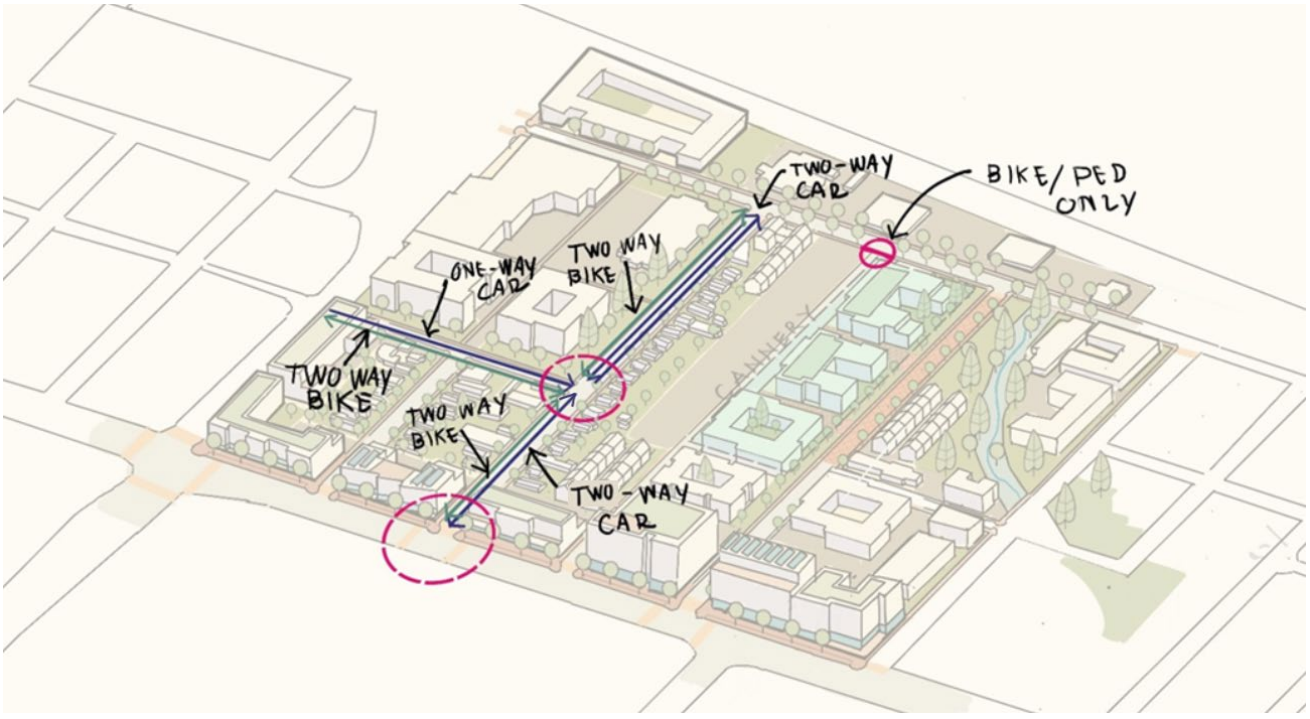
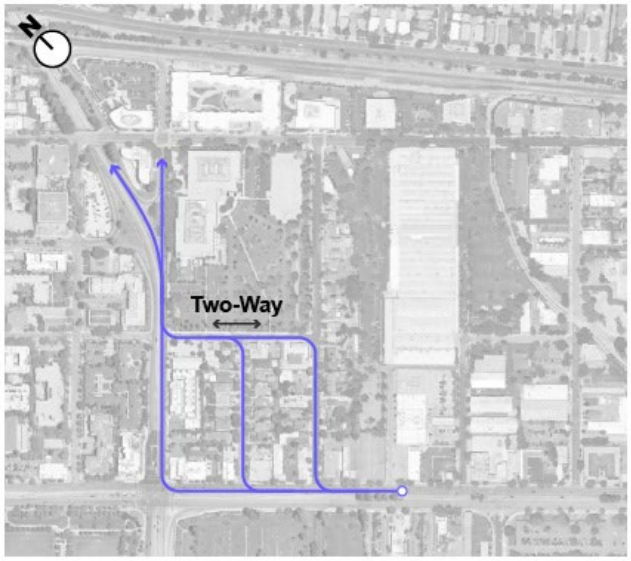


Figure 4: NVCAP Alternative 2

One of the primary benefits of restricting traffic flow to the south-eastbound direction on Ash, is that it eliminates the potential for cut-thru traffic within the NVCAP from drivers looking to avoid delays at the El Camino Real and Page Mill Road signalized intersection.

With the street configuration change drivers are still allowed to access NVCAP from El Camino Real via Olive, but as drivers are not allowed to turn left onto Ash, thru traffic would be forced northbound and turn left onto Park and turning left at the Page Mill Road and Park signalized intersection to then access the northbound on-ramp to the Oregon Expressway. Figure 5 shows the travel patterns that are changed due to having Ash Street being one-way.



Auto circulation patterns with Ash Street as two-way

Auto circulation patterns with Ash Street one-way in the south-eastbound direction

Figure 5: Changes to Traffic Circulation Patterns

The route from El Camino Real to Oregon Expressway with Ash Street one-way, is most likely to be via the El Camino Real / Page Mill Road intersection. A possible alternative route would be through the NVCAP site and via the Park Boulevard / Page Mill Road, however this would essentially trade the right turn movement (with generally higher capacity) with the left turn movement, which may result in an overall increase in time, making this option less attractive for vehicles as an alternative route.

An impact of converting Ash Street to one-way, is that traffic that was able to leave the NVCAP site area by turning right from Ash Street onto Page Mill Road / Oregon Expressway is now required to stay on El Camino Real and turn right at the signal at El Camino Real and Page Mill Road.

With Ash Street one-way, during the AM peak hour there could be approximately 294 additional right turning vehicles from El Camino Real onto Page Mill Road and 268 additional right turning vehicles during the PM peak hour.

Table 6 compares the overall intersection performance of the El Camino Real and Page Mill Road intersection with Ash Street in two-way configuration (as per Alternative 1) and one-way configuration (as per Alternative 2). Synchro output result for Alternative 2 is shown in Appendix D.

Only El Camino Real and Page Mill Road was analyzed. Among the impacted intersections in Alternative 1, Page Mill Road & Ash Street and El Camino Real & Olive Avenue are likely to perform better in

Alternative 2. For Page Mill Road & Ash Street, there is no longer any northwest-bound right turns. For El Camino Real & Olive Avenue, northwest-bound right turning traffic would use the same shared-right lane to pass through the intersection.

#	Intersection	Peak	Baseline Year (2018)			Horizon Year (2040) Plus Project Alternative 1 (Ash Street Two-Way)			Horizon Year (2040) Plus Project Alternative 2 (Ash Street One-Way)		
			LOS	V/C	Average Delay	LOS	V/C	Average Delay	LOS	V/C	Average Delay
3	El Camino Real & Page Mill Road *Signal*	AM	**E**	**1.23**	**65.1s**	F	1.79	150.7s	**F**	**1.84**	174.8s
		PM	**E**	**1.40**	**79.7s**	F	2.04	161.3s	**F**	**2.04**	178.9s

Table 6: Alternative 2 Traffic Operation Analysis

By restricting the opportunity for traffic exiting the NVCAP at Ash Street by making this one-way, traffic will need to stay on El Camino Real to make the right-turn on Page Mill Road and north towards the Oregon Expressway. This additional traffic increases the overall average intersection delay from 150.7s to 174.8s during the AM peak hour and 161.3s to 178.9s during the PM peak hour. While the critical movement for this approach are the two left turn lanes, the right turn lane is shared with the thru movement, and with the additional right turning traffic, the thru movement is penalized, resulting in a decrease of the overall intersection performance.

Signal Warrant Analysis

Traffic signal warrant analysis was conducted for the non-signalized intersections that do not satisfy Palo Alto's LOS policy in Alternative 1. These intersections are:

- Page Mill Road & Ash Street
- El Camino Real & Olive Avenue
- El Camino Real & Lambert Avenue
- El Camino Real & Pepper Avenue*

*El Camino Real & Pepper Avenue is a LOS D in Alternative 1, satisfying Palo Alto's LOS policy. However, since average delays are close to the threshold of LOS E, a signal warrant has been performed.

The signal warrant analysis is conducted in accordance with the California Manual on Uniform Traffic Control Devices (MUTCD) 2014 Edition Revision 6 to determine if a traffic signal is warranted.

These traffic signal warrants should be viewed as guidelines to help decide whether a traffic signal may be installed. Meeting traffic signal warrants does not translate to a legal requirement for their installation.

Chapter 4C of the California MUTCD outlines the standards for determining the need for traffic signals. For a traffic signal to be installed, at least one of the following warrants must be satisfied:

- Warrant 1, Eight-Hour Vehicular Volume
- Warrant 2, Four-Hour Vehicular Volume

- Warrant 3, Peak Hour
- Warrant 4, Pedestrian Hour
- Warrant 5, School Crossing
- Warrant 6, Coordinated Signal Systems
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network
- Warrant 9, Intersection Near a Grade Crossing

For this study, horizon year plus project volumes were used, and only warrant 3 and 5 were evaluated. Warrant 3 and 5 is described below:

Warrant 3, Peak Hour Volume is satisfied if during any hour of an average day the major street and higher volume minor street approach fall above 100% peak hour curve as shown in the Appendix E.

Warrant 5, School Crossing is satisfied if there is a minimum of 20 school children during highest crossing hour, there are fewer adequate gaps during the period when school children are using the crossing than the number of minutes in the same period, and the nearest traffic signal is located more than 300 ft away.

The warrant analysis concludes the following:

- Page Mill Road & Ash Street meets Signal Warrant 3
- El Camino Real & Olive Avenue meets Signal Warrant 3
- El Camino Real & Lambert Avenue does not meet signal warrants
- El Camino Real & Pepper Avenue meets Signal Warrant 3

The signal warrants for Page Mill Road & Ash Street and El Camino Real & Pepper Avenue are based on a right-turn scenario in which signalization may not reduce delay. Further evaluation and consideration of alternative mitigation measures is needed before recommending intersection improvements under the jurisdiction of Caltrans and Santa Clara County. The full outputs of the signal analysis are found in Appendix E.

Pedestrian, Bicycle, and Transit Assessment

As shown in the future development plan, NVCAP converts existing commercial land uses to residential land uses in the NVCAP area, resulting in fewer work-based trips and more residential trips. No parking minimums are set due to proximity to major transit stops, and future residential developments will rely on transit and active transportation modes (walking, bicycling, and other micromobility devices).

There are no impacts to existing pedestrian, bicycle, and transit facilities, and NVCAP seeks to create new facilities and enhance existing ones.

Pedestrian Network

A well-designed, integrated pedestrian network is a central feature of the NVCAP mobility network.

Existing Pedestrian Facilities

The existing pedestrian facilities surrounding the NVCAP area include the following:

On El Camino Real, there are:

- Eight feet wide sidewalks on both sides of the street between Page Mill Road to Pepper Avenue.
- Five feet wide sidewalks between Pepper Avenue to Olive Avenue.
- Eight feet wide sidewalks between Olive Avenue to Lambert Avenue.
- Signal-controlled pedestrian crossings are provided at Page Mill Road, Portage Avenue, or Hansen Way.

On Page Mill Road, there are:

- Eight feet wide sidewalks between El Camino Real to Ash Street.
- Six feet wide sidewalks between Ash Street to Park Boulevard.
- Signal-controlled pedestrian crossings are provided at El Camino Real and Park Boulevard.

On Park Boulevard there are five-foot sidewalks, and crossings are either signal or stop-controlled. Within the NVCAP area, five feet wide sidewalks are provided on every street, and intersections are stop-controlled.

Proposed Pedestrian Facilities

In the future, NVCAP will include a fully connected, ADA-accessible sidewalk network.

New sidewalks will be a minimum of eight feet wide plus a five-foot landscaping strip where feasible. A shared street, or woonerf, is to be implemented along Portage Avenue from Ash Street to Park Boulevard. This curbless space is shared by pedestrians, bicyclists, and low-speed vehicles.

Gateway intersections are intersections surrounding NVCAP that serve as the entry/egress point of the NVCAP area. These intersections will be enhanced with crossing treatments for pedestrian safety.

Gateway intersections include:

- El Camino Real & Page Mill Road
- El Camino Real & Olive Avenue
- El Camino Real & Portage Avenue & Hansen Avenue
- Lambert Avenue & Ash Street
- Park Boulevard & Portage Avenue
- Park Boulevard & Olive Avenue
- Page Mill Road & Park Boulevard
- Page Mill Road & Ash Street.

Site-recommendations for these intersections are provided in Section 7.1: Transportation infrastructure of the Implementation Chapter of the planning application. Intersection enhancements include:

- High visibility crosswalks
- Raised crosswalks
- Advance stop bars and yield lines
- Removing parking adjacent to intersections to provide better sightlines between drivers and pedestrians
- ADA-accessible, bi-directional curb ramps
- Curb extensions
- Accessible pedestrian signals with markings, audio, and braille messaging
- Leading pedestrian intervals at signalized intersections

Bicycle Network

Existing Bike Facilities

Currently, the NVCAP area is connected to the citywide bicycle network via Park Boulevard, which has six-foot bicycle lanes. Olive Avenue, Ash Street, Pepper Avenue, Portage Avenue, Lambert Avenue, and Acacia Avenue do not have dedicated bicycle facilities and bicyclists travel in shared low-speed lanes.

On Park Boulevard, bicycle racks are provided at the frontage of office building and residential developments. There are public bicycle racks on El Camino Real near Pepper Avenue and Page Mill Road north of El Camino Real.

Proposed Bike Facilities

In the future, the NVCAP area will feature low-stress bicycle facilities that will be accessible by all persons of all abilities and will be integrated into the citywide bicycle network.

Intersection improvements along El Camino Real will allow bicycles to safely access existing bicycle routes on Page Mill Road and Hansen Way.

Proposed bicycle facilities include:

- Shared-use paths
- Separated bicycle lanes
- Buffered bicycle lanes
- Bicycle boulevards.

Additionally, facilities that support bicycle travel shall be incorporated at various locations throughout the NVCAP area. This includes wayfinding signage, bicycle parking, and shower facilities at places of employment.

Transit Service

Within proximity of the NVCAP area, there are multiple rail and bus transit options. The primary transit providers are Caltrain providing commuter rail services at the nearby California Avenue Station and VTA operating local and regional bus services which bypass the area.

Caltrain

Caltrain operates regional rail services at the California Avenue Station, connecting Palo Alto to San Francisco and San Jose. Weekday train service is provided at this station from 8:00am to 11:00pm at 1-hour headways in both northbound and southbound directions. There are 12 local and seven limited trains that service California Avenue Station daily.

Valley Transportation Authority (VTA)

VTA local and regional bus service is provided adjacent to the NVCAP site. Bus stops are located near the NVCAP area at the following locations:

- Page Mill Road & El Camino Real
- El Camino Real & Portage Avenue & Hansen Way
- Page Mill Road south of El Camino Real
- Hansen Way south of El Camino Real

VTA Route 22 is a rapid bus service, serving Palo Alto Transit Center and Eastridge Transit Center and is accessed from the NVCAP area via stops at El Camino Real & Page Mill Road or El Camino Real & Portage Avenue & Hansen Way. The route operates on 15-minute headways during peak service hours.

VTA Route 89 is a local bus service, servicing between Palo Alto Veterans Hospital and California Avenue Caltrain Station and is accessed from the NVCAP area via stops at El Camino Real & California Avenue or the Caltrain station. This route is operates on 20-minute headways during peak service hours.

VTA Route 104 is an express bus service, servicing between Stanford Research Park and Milpitas Transit Center and is access from the NVCAP area via the stops at Page Mill Road & El Camino Real. During the weekday, at Page Mill Road & El Camino Real, this route is serviced once westbound at 6:45am and twice eastbound at 4:22pm and 4:50pm.

VTA Route 101 is an express bus service, servicing between Stanford Research Park and Camden & Hwy 85 and is access from the NVCAP area via stops on Page Mill Road, south of El Camino Real and stops on Hansen Way, south of El Camino Real. During the weekday. At these stops, this route is serviced twice northbound at 7:19am and 8:18am and once southbound at 4:10pm.

VTA Route 102 is an express bus service, servicing between South San Jose and Stanford Research Park and is access from the NVCAP area via stops on Page Mill Road, south of El Camino Real and stops on Hansen Way, south of El Camino Real. This route is serviced four times in the morning in 40-minute headways and serviced five times in the evening with 40-minute headways.

VTA Route 103 is an express bus service, servicing between Eastridge and Stanford Research Park and is access from the NVCAP area via stops on Page Mill Road, south of El Camino Real and stops on Hansen Way, south of El Camino Real. This route is serviced three times in the morning in 1-hr headways and serviced three times in the evening with 1-hour headways.

The Valley Transportation Plan 2050 is currently under development and is to be adopted in winter 2023. A Map of VTA routes near the NVCAP area is shown in **Figure 6**.

Figure 6: VTA Bus Routes

Map courtesy of vta.org

AC Transit

AC Transit operates the Dumbarton Express service. The Dumbarton Express operates between Union City BART Station in the East Bay and the Stanford Oval and is accessed from the NVCAP area via stops at El Camino Real & Page Mill Road. This route is serviced during the weekday at 30-minute headways.

Currently, this route is undergoing the AC Transit Dumbarton Corridor Improvement Project which aims to improve reliability and reduce travel times for transit service. This project includes the installation of

a Transit Signal Priority (TSP) system, bus queue-jumps, and bus stop improvements. The completion of this project is anticipated to be in Spring 2023.

First/Last Mile Transit Access

Accessible walking and biking routes to the California Caltrain Station and nearby bus stops are key to providing alternatives to driving. Walking and bicycle routes to the Caltrain station are along El Camino Real and Park Boulevard. The proposed pedestrian and bicycle facility improvements will provide improved connections to transit.

Additionally, a mobility hub is proposed along Portage Avenue between El Camino Real and the intersection of Portage Avenue and Ash Street to accommodate a range of active transportation and shared mobility options, fully connecting the NVCAP area to local/regional transit options.

School Walking and Bicycle Routes

As the NVCAP area is converted into a residential-heavy area, school walking and bicycle routes have been considered from the NVCAP area to the following nearby schools:

- Barron Park Elementary School
- El Carmelo Elementary School
- Greene Middle School
- Palo Alto High School

Consistent with the Palo Alto "Walk and Roll Suggested School Route Maps", possible walking/biking paths are:

- To/from Barron Park Elementary School, students will travel south on Park Boulevard or Birch Street until they arrive on Margarita Avenue. Then, students will travel west on Margarita Avenue, through the signalized intersection of El Camino Real & Margarita Avenue and continue west until they reach Barron Park Elementary School.
    - Bicycle/Pedestrian improvements are currently proposed along El Camino Real. El Camino Real may be a path for pedestrians/bicyclists traveling to school in the future.
- To/from El Carmelo Elementary School, students will travel north on Park Boulevard until California Avenue. Students will take the tunnel underneath the Caltrain tracks to go east on N California Avenue until they Arrive at Bryant Avenue. Then, students will travel south on Bryant, through the signalized intersection of Oregon Expressway & Bryant Avenue until they reach El Carmelo Elementary School. Alternatively, students may choose to travel south on Park Boulevard and cross the Caltrain tracks using W Meadow Drive.
    - El Carmelo Elementary School requires the most circuitous route compared to other schools. A future pedestrian/bicycle crossing should be considered in the future.

- To/from Green Middle School, students will travel north on Park Boulevard until California Avenue. Students will then take the tunnel underneath the Caltrain tracks to go east on N California Avenue until they reach Green Middle School.

- To/from Palo Alto High School, students will travel north on Park Boulevard and continue north on Castilleja Avenue until they reach Palo Alto High school.

    - To reach El Carmelo Elementary School, Green Middle School, and Palo Alto High School, an intersection should be considered at Page Mill Road & Ash Street.

These possible walking/biking routes are shown in **Figure 7**.

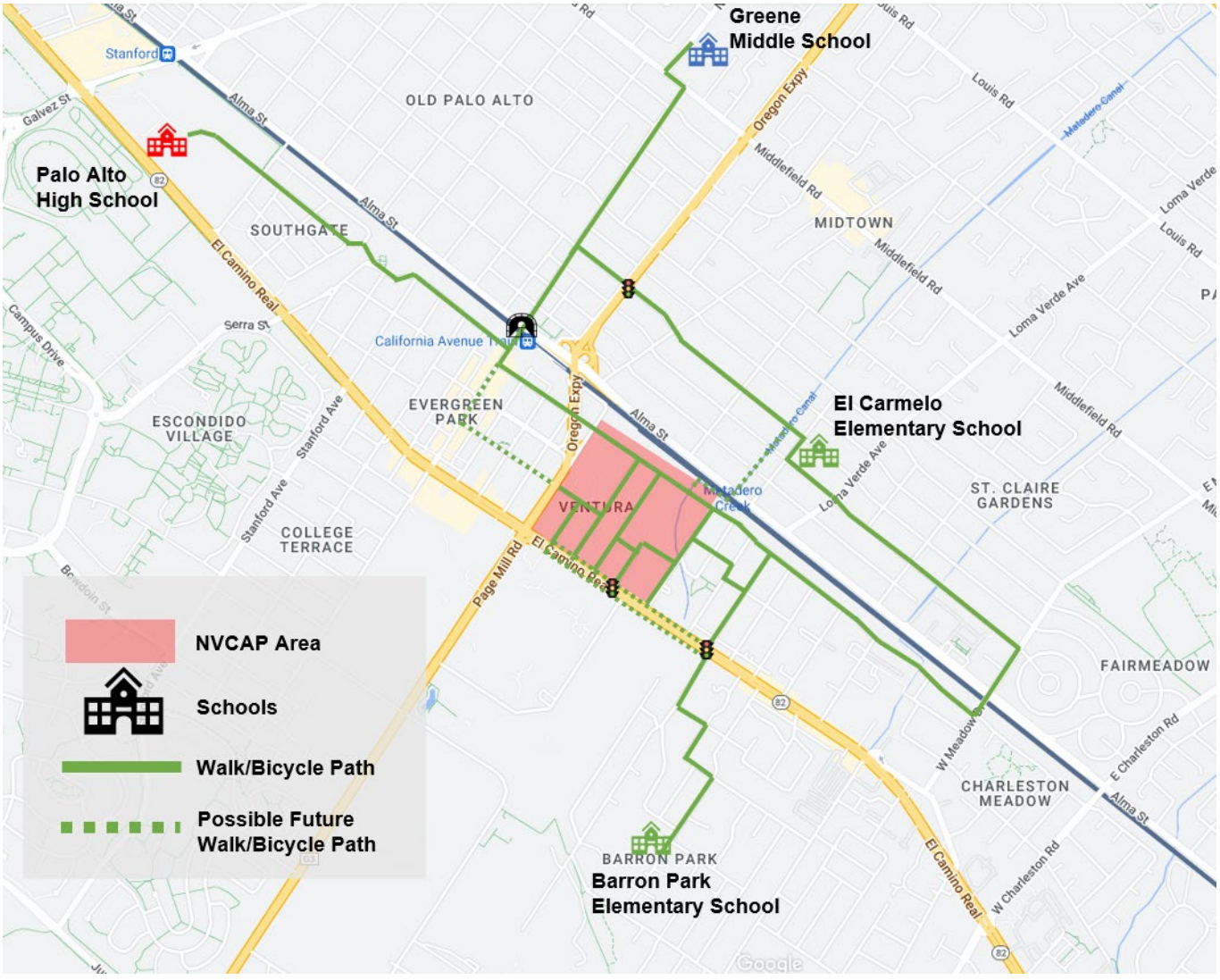


Figure 7: NVCAP School Walking/Biking Routes

Summary

NVCAP is proposing a vibrant transit-orientated, mixed-use, mixed income, walkable, bikeable neighborhood in Palo Alto, CA. There are no impacts to existing pedestrian, bicycle, and transit facilities; NVCAP seeks to create new facilities and enhance existing ones.

With the proposed NVCAP project, traffic operations are not expected to significantly change when compared to horizon year conditions.

Since the NVCAP transforms the area from a commercial-heavy area to be more residential:

- In the morning, there are more trips leaving the area and less trips entering the area.
- In the evening, there are less trips leaving the area, and more trips entering the area.

Intersections operating at LOS E or F are:

- Page Mill Road & Ash Street (Side-Street Stop Control)
- El Camino Real & Page Mill Road (Signal)
- El Camino Real & Olive Avenue (Side-Street Stop Control)
- El Camino Real & Lambert Avenue (Side-Street Stop Control)

These intersections are at a LOS F in both horizon and horizon plus project conditions.

A signal warrant analysis was conducted for each unsignalized intersection that operate at or close to a LOS E or F in horizon plus project conditions. While the analysis indicates that some intersections meet signal warrant requirements, alternative strategies to signalization should be considered. This includes implementation of a transportation demand management plan, increase active transportation use, and parking management to reduce the number of peak-hour trips. Further evaluation is needed before recommending intersection improvements under the jurisdiction of Caltrans and Santa Clara County. The signal warrant analysis finds that the following intersections meets signal warrant requirements:

- Page Mill Road & Ash Street
- El Camino Real & Olive Avenue
- El Camino Real & Pepper Avenue

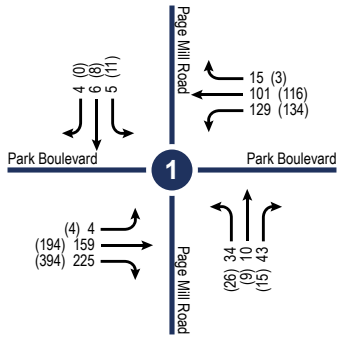
The following intersections do not meet signal warrant requirements:

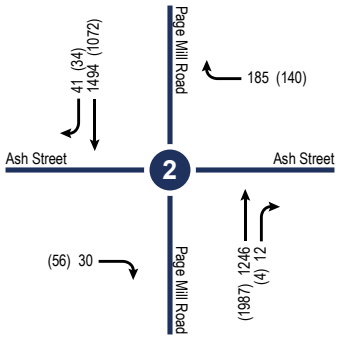
- El Camino Real & Lambert Avenue

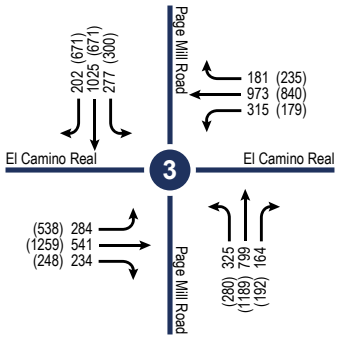
Traffic operations for Alternative 2 are comparable to Alternative 1. However, in Alternative 2, there is a significant improvement to traffic operations for Page Mill Road & Ash Street. Alternative 2 is recommended to mitigate cut-through traffic and improve operations at Page Mill Road & Ash Street.

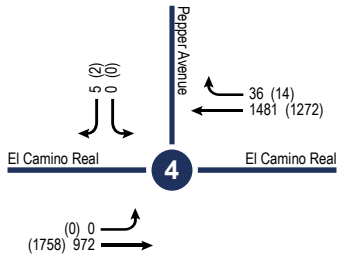
Appendix A: Turning Movement Counts

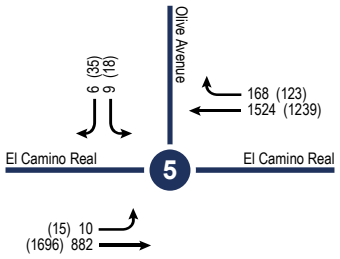
A.1 Baseline Year (2018)

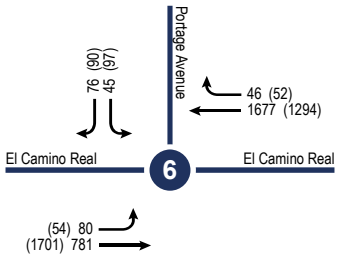


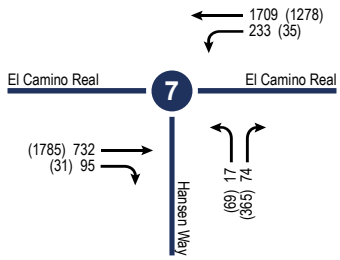


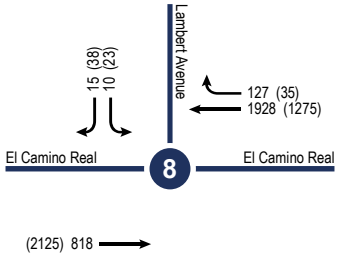


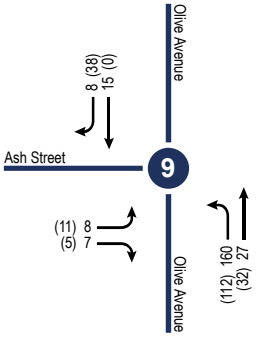












Legend

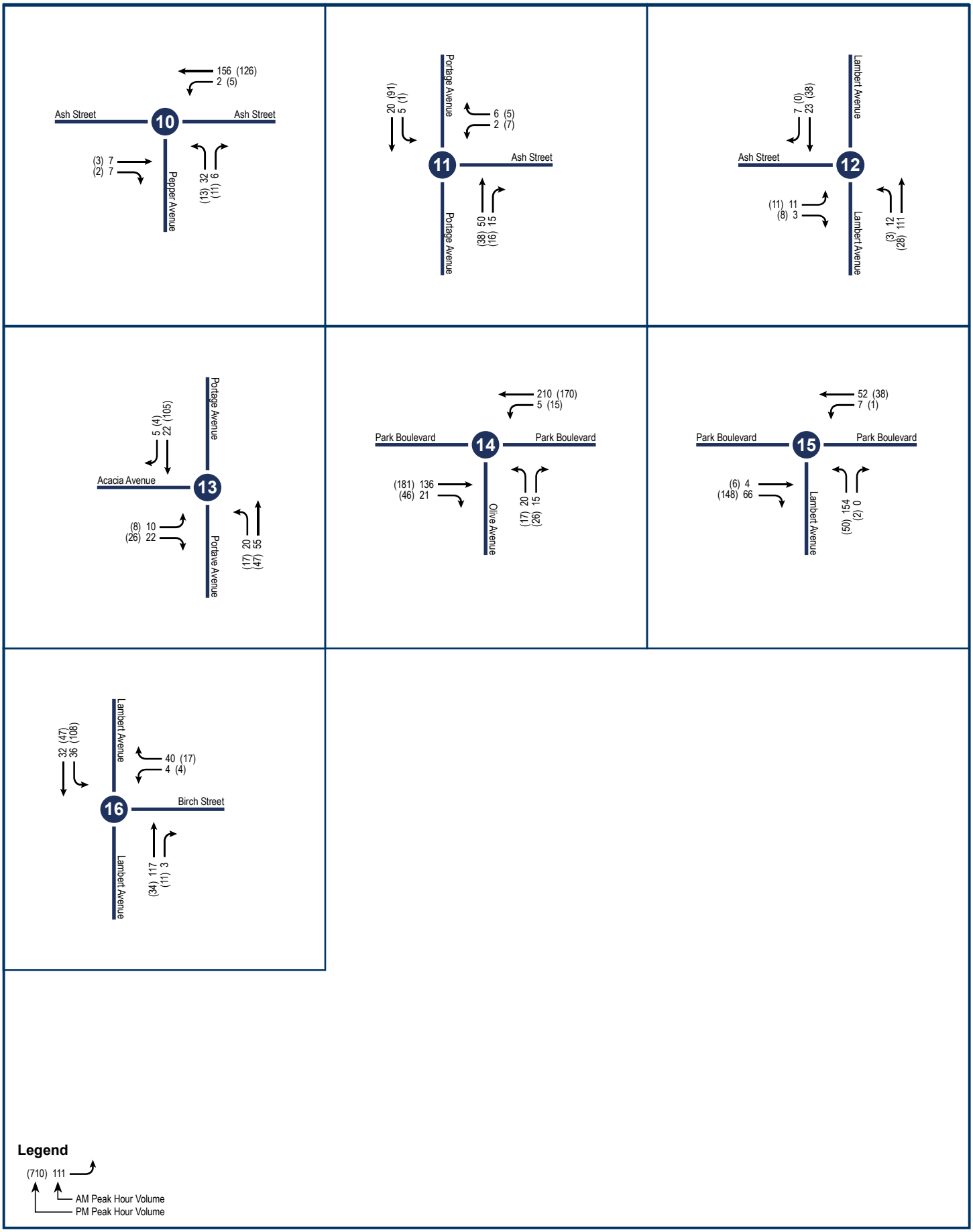
(710) 111

AM Peak Hour Volume

PM Peak Hour Volume

ARUP

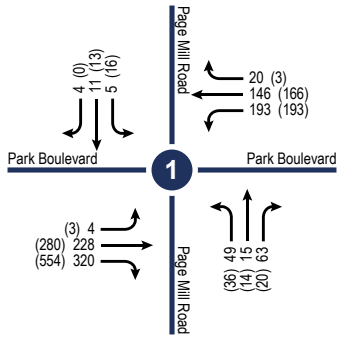
Appendix A.1 Baseline Year (2018)
Intersection Turning Movement Counts
North Ventura Coordinated Area Plan (NVCAP), Palo Alto

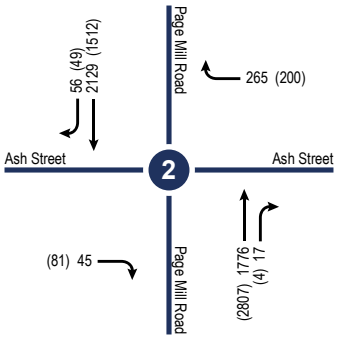


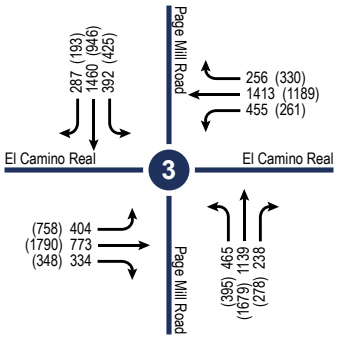
ARUP

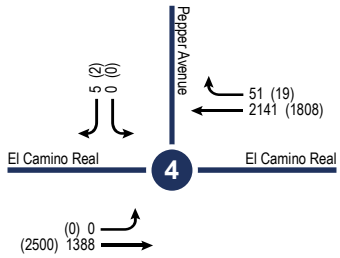
Appendix A.1 Baseline Year (2018)
Intersection Turning Movement Counts
North Ventura Coordinated Area Plan (NVCAP), Palo Alto

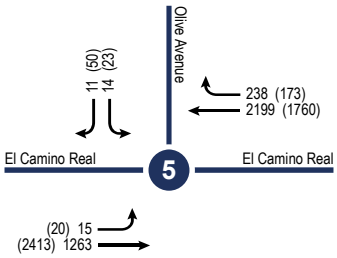
A.2 Horizon Year (2040)

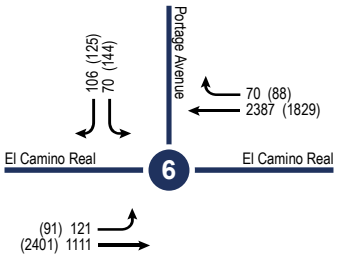


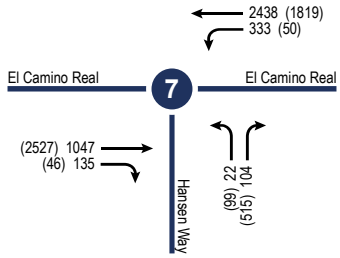


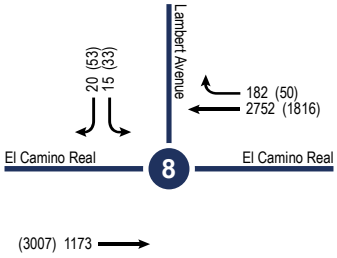


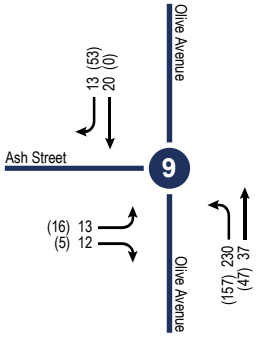












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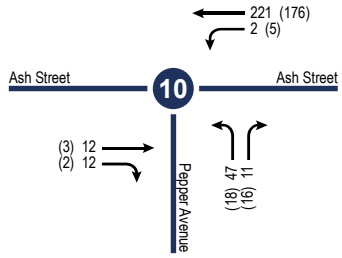
(710) 111

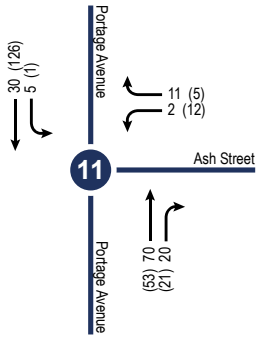
AM Peak Hour Volume

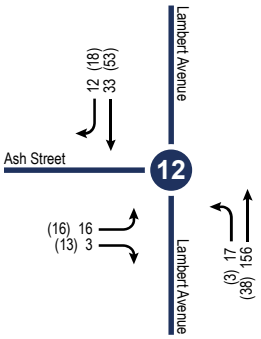
PM Peak Hour Volume

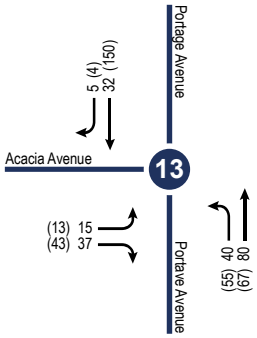
ARUP

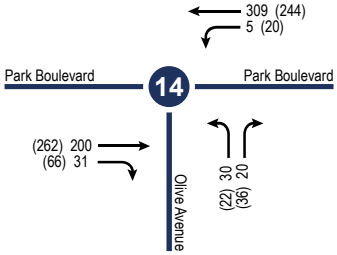
Appendix A.2 Horizon Year (2040)
Intersection Turning Movement Counts
North Ventura Coordinated Area Plan (NVCAP), Palo Alto

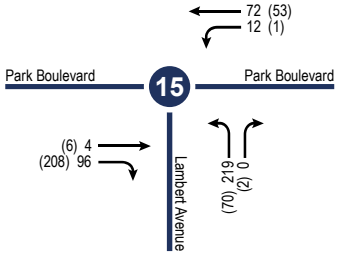


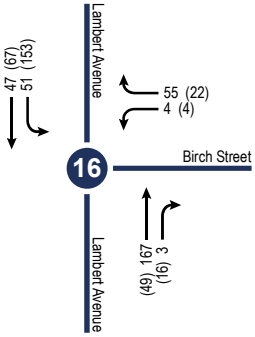












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(710) 111

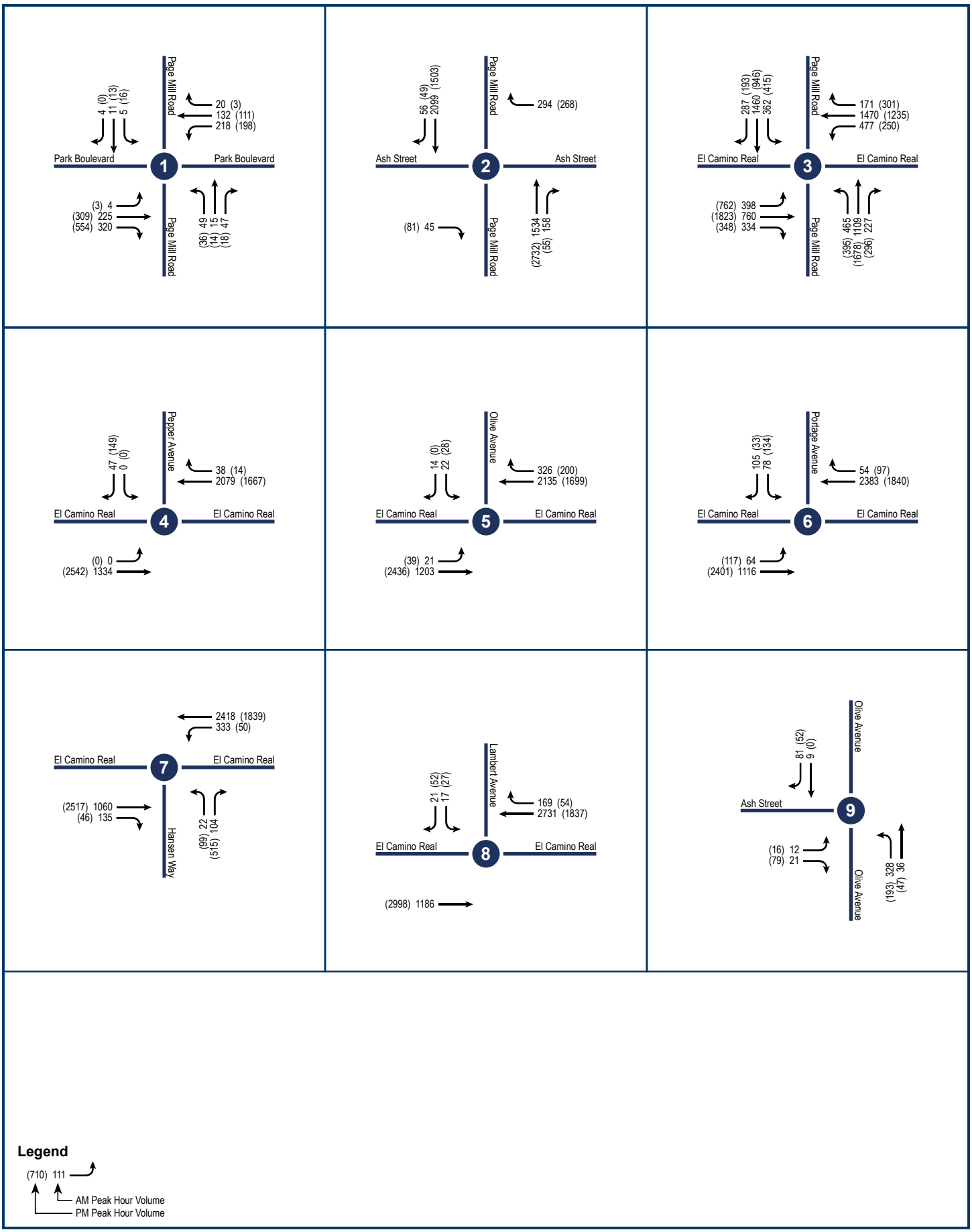
AM Peak Hour Volume

PM Peak Hour Volume

ARUP

Appendix A.2 Horizon Year (2040)
Intersection Turning Movement Counts
North Ventura Coordinated Area Plan (NVCAP), Palo Alto

A.3 Horizon Year (2040) plus Project Alt. 1



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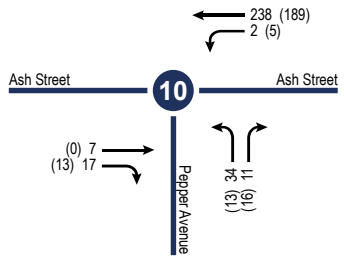
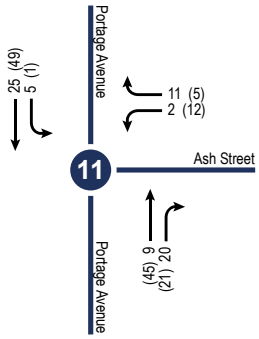
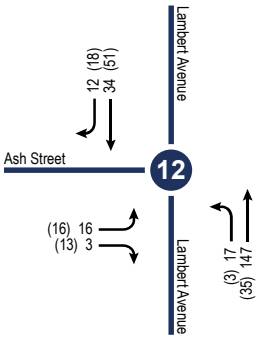
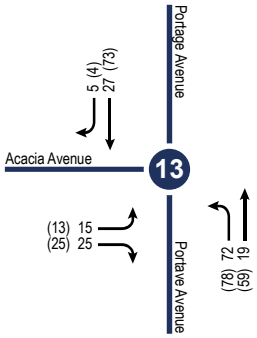
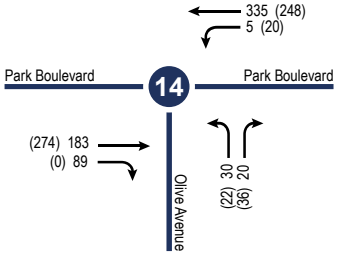
Appendix A.3 Horizon Year (2040) plus Project Alt. 1
Intersection Turning Movement Counts
North Ventura Coordinated Area Plan (NVCAP), Palo Alto

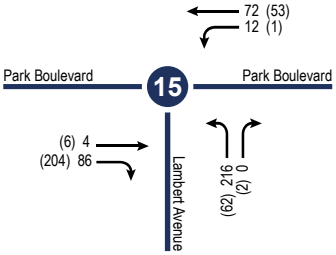


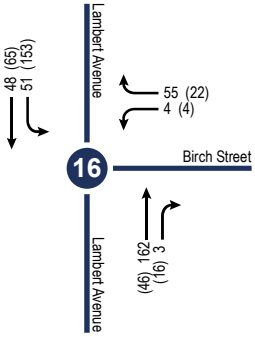












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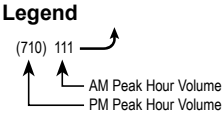

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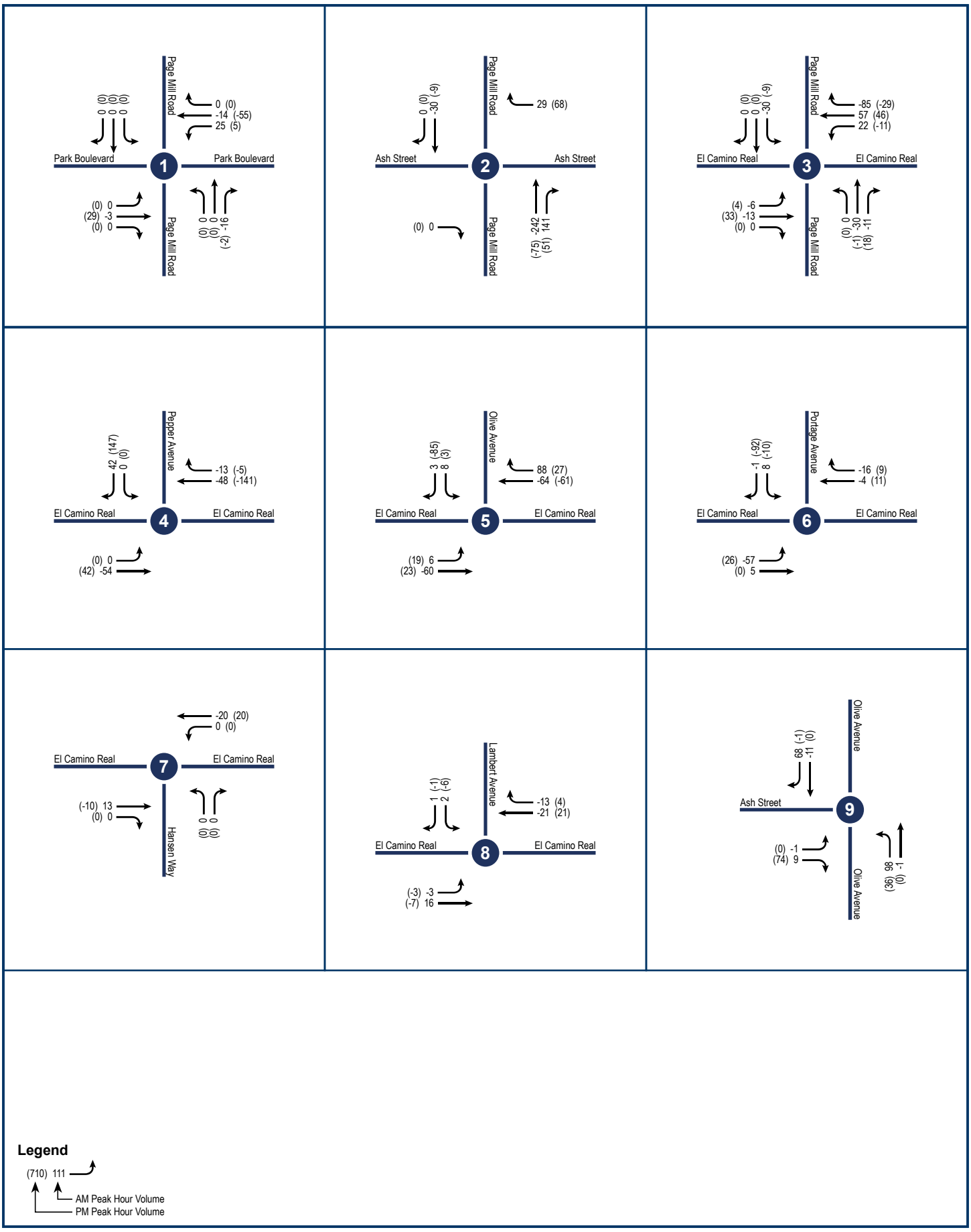
Appendix A.3 Horizon Year (2040) plus Project Alt. 1
Intersection Turning Movement Counts
North Ventura Coordinated Area Plan (NVCAP), Palo Alto

A.4 Project Alt. 1



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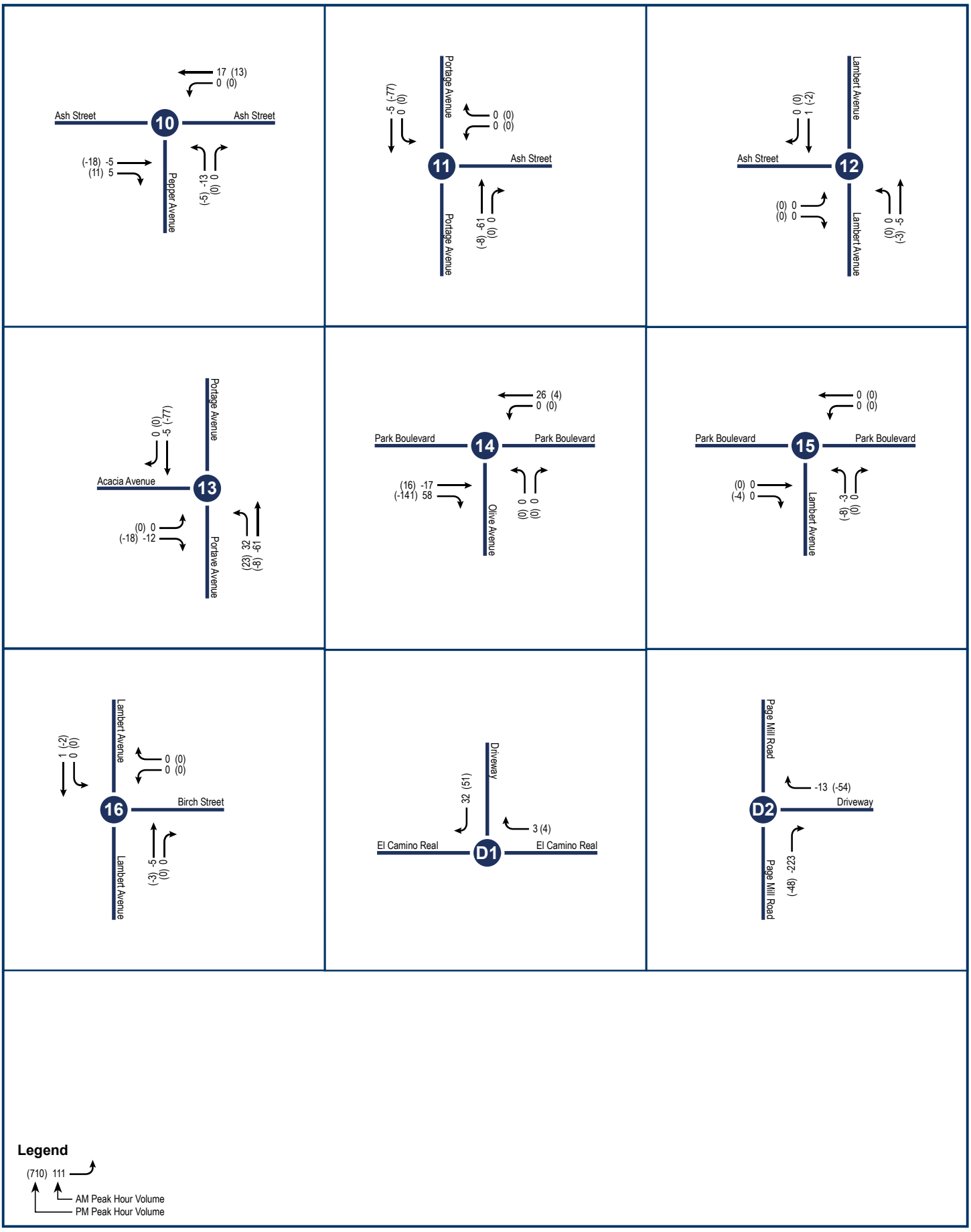
Appendix A.4 Project Alt. 1
Intersection Turning Movement Counts
North Ventura Coordinated Area Plan (NVCAP), Palo Alto



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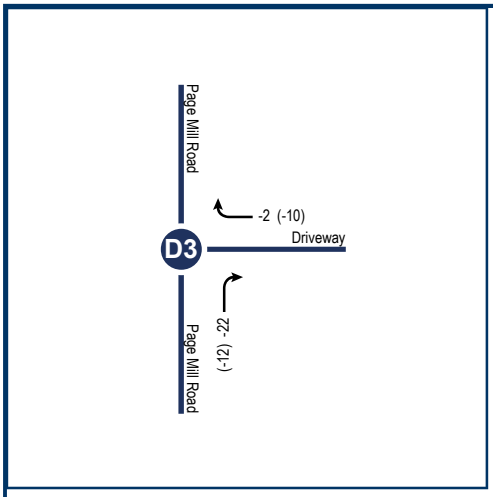
Appendix A.4 Project Alt. 1
Intersection Turning Movement Counts
North Ventura Coordinated Area Plan (NVCAP), Palo Alto



Legend

(710) 111

AM Peak Hour Volume
PM Peak Hour Volume

ARUP

Appendix A.4 Project Alt. 1
Intersection Turning Movement Counts
North Ventura Coordinated Area Plan (NVCAP), Palo Alto

Appendix B: Trip Generation

Trip Generation - ITE Rates - Existing Program													
				Weekday		AM Peak				PM Peak			
ITE Code	ITE Land Use		Quantity	Rate	Daily Trips	Rate	In	Out	Total	Rate	In	Out	Total
221	Multi-Family Housing (Mid-Rise)	Units	106	4.54	481	0.37	9	30	39	0.39	25	16	41
210	Single-Family Detached Housing	Units	33	9.43	311	0.7	6	17	23	0.94	20	11	31
215	Single-Family Attached Housing	Units	3	7.2	22	0.48	0	1	1	0.57	1	1	2
840	Automobile Sales (NEW)	Square Feet	52676	27.84	1466	1.86	72	26	98	2.42	51	76	127
863	Electronics Superstore	Square Feet	3900	41.05	160	0.34	1	0	1	4.25	8	8	17
110	General Light Industrial	Square Feet	8379	4.87	41	0.74	5	1	6	0.65	1	5	5
710	General Office Building*	Square Feet	627565	10.48	4891	1.52	624	85	710	1.44	115	558	672
820	Shopping Center (>150k)	Square Feet	63698	37.01	2357	0.84	33	20	54	3.4	104	113	217
720	Medical-Dental Office Building	Square Feet	25097	36	903	3.1	61	16	78	3.94	30	69	99
151	Mini-Warehouse	Square Feet	4407	1.45	6	0.05	0	0	0	0.15	0	0	1
215	Motel	Units	3	3.35	10	0.35	0	1	1	0.36	1	0	1
495	Recreational Community Center	Square Feet	31765	28.82	915	1.91	40	21	61	2.5	37	42	79
932	High-Turnover (Sit-Down) Restaurant	Square Feet	3130	107.2	336	9.57	16	13	30	6.18	12	8	19
150	Warehousing	Square Feet	26320	1.71	45	0.17	3	1	4	0.18	1	3	5
411	Public Park	Acres	0	0.78	0	0.02	0	0	0	0.11	0	0	0
	Residential Total:	Units	**142**		**814**		**15**	**48**	**63**		**46**	**28**	**74**
	Non-Residential Total:	Square Feet	**855200**		**11130**		**855**	**184**	**1039**		**360**	**882**	**1242**
	All Existing Total:				**11944**		**870**	**232**	**1102**		**406**	**910**	**1316**

**340 Portage (Fry's) is assumed to be generating 1/3 of the trips in 2018 existing conditions*

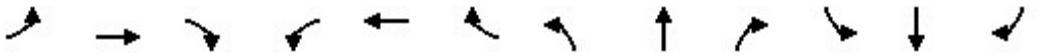
Note: small discrepancies due to rounding

Trip Generation - ITE Rates - Future Program													
				Weekday		AM Peak				PM Peak			
ITE Code	**ITE Land Use**		**Quantity**	**Rate**	**Daily Trips**	**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
221	Multi-Family Housing (Mid-Rise)	Units	636	4.54	2887	0.37	54	181	235	0.39	151	97	248
210	Single-Family Detached Housing	Units	33	9.43	311	0.7	6	17	23	0.94	20	11	31
215	Single-Family Attached Housing	Units	3	7.2	22	0.48	0	1	1	0.57	1	1	2
840	Automobile Sales (NEW)	Square Feet	39076	27.84	1088	1.86	53	20	73	2.42	38	57	95
863	Electronics Superstore	Square Feet	3900	41.05	160	0.34	1	0	1	4.25	8	8	17
710	General Office Building	Square Feet	315734	10.48	3309	1.52	422	58	480	1.44	77	377	455
820	Shopping Center (>150k)	Square Feet	82777	37.01	3064	0.84	43	26	70	3.4	135	146	281
720	Medical-Dental Office Building	Square Feet	31515	36	1135	3.1	77	21	98	3.94	37	87	124
151	Mini-Warehouse	Square Feet	4407	1.45	6	0.05	0	0	0	0.15	0	0	1
760	Research and Development Center	Square Feet	70100	11.08	777	1.03	59	13	72	0.98	11	58	69
215	Motel	Units	3	3.35	10	0.35	0	1	1	0.36	1	0	1
495	Recreational Community Center	Square Feet	21916	28.82	632	1.91	28	14	42	2.5	26	29	55
411	Public Park	Acres	2	0.78	2	0.02	0	0	0	0.11	0	0	0
	Residential Total:	Units	**672**		**3220**		**60**	**199**	**259**		**172**	**109**	**281**
	Non-Residential Total:	Square Feet	**569700**		**10183**		**683**	**153**	**836**		**333**	**762**	**1095**
	All Future Total:				**13403**		**743**	**352**	**1095**		**505**	**871**	**1376**
Note: small discrepancies due to rounding													

Trip Generation - ITE Rates - Summary													
				Weekday		AM Peak				PM Peak			
			Quantity	Rate	Daily Trips	Rate	In	Out	Total	Rate	In	Out	Total
	Residential Change:	Units	**+ 530**		**2406**		**45**	**151**	**196**		**126**	**81**	**207**
	Non-Residential Change:	Square Feet	**-285,500**		**-947**		**-172**	**-31**	**-203**		**-27**	**-120**	**-147**
	Net Change:				**1459**		**-127**	**120**	**-7**		**99**	**-39**	**60**

Appendix C: Traffic Analysis Model Output

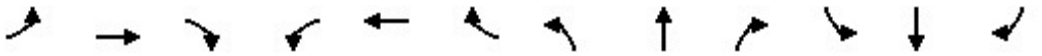
C.1: Baseline Year (2018)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	159	225	129	101	15	34	10	43	5	6	4
Future Volume (veh/h)	4	159	225	129	101	15	34	10	43	5	6	4
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	4	159	225	129	101	15	34	10	43	5	6	4
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	62	900	768	377	277	37	612	111	476	569	376	251
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	9	1858	1585	602	572	77	1405	308	1324	1351	1047	698
Grp Volume(v), veh/h	163	0	225	245	0	0	34	0	53	5	0	10
Grp Sat Flow(s),veh/h/ln	1866	0	1585	1250	0	0	1405	0	1632	1351	0	1745
Q Serve(g_s), s	0.0	0.0	5.5	5.4	0.0	0.0	1.0	0.0	1.4	0.2	0.0	0.2
Cycle Q Clear(g_c), s	3.2	0.0	5.5	8.5	0.0	0.0	1.3	0.0	1.4	1.5	0.0	0.2
Prop In Lane	0.02		1.00	0.53		0.06	1.00		0.81	1.00		0.40
Lane Grp Cap(c), veh/h	962	0	768	692	0	0	612	0	587	569	0	627
V/C Ratio(X)	0.17	0.00	0.29	0.35	0.00	0.00	0.06	0.00	0.09	0.01	0.00	0.02
Avail Cap(c_a), veh/h	962	0	768	692	0	0	612	0	587	569	0	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.3	0.0	9.9	10.7	0.0	0.0	13.6	0.0	13.6	14.1	0.0	13.2
Incr Delay (d2), s/veh	0.4	0.0	1.0	1.4	0.0	0.0	0.2	0.0	0.3	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	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	1.9	2.3	0.0	0.0	0.3	0.0	0.5	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.7	0.0	10.9	12.1	0.0	0.0	13.8	0.0	13.9	14.1	0.0	13.3
LnGrp LOS	A	A	B	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		388			245			87			15	
Approach Delay, s/veh		10.4			12.1			13.8			13.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		28.0		36.0		28.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		31.0		23.0		31.0		23.0				
Max Q Clear Time (g_c+I1), s		7.5		3.5		10.5		3.4				
Green Ext Time (p_c), s		1.7		0.0		1.7		0.3				

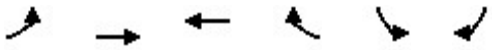
Intersection Summary												
HCM 6th Ctrl Delay			11.4									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	541	234	315	973	181	325	799	164	277	1025	202
Future Volume (veh/h)	284	541	234	315	973	181	325	799	164	277	1025	202
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	284	541	234	315	973	181	325	799	164	277	1025	202
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	235	1288	400	264	1129	209	264	1434	761	338	1258	247
Arrive On Green	0.07	0.25	0.25	0.08	0.26	0.26	0.08	0.40	0.40	0.10	0.42	0.42
Sat Flow, veh/h	3456	5106	1585	3456	4327	803	3456	3554	1585	3456	2960	582
Grp Volume(v), veh/h	284	541	234	315	765	389	325	799	164	277	614	613
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1726	1728	1777	1585	1728	1777	1766
Q Serve(g_s), s	8.0	10.4	15.2	9.0	25.2	25.3	9.0	20.4	7.1	9.3	35.8	36.0
Cycle Q Clear(g_c), s	8.0	10.4	15.2	9.0	25.2	25.3	9.0	20.4	7.1	9.3	35.8	36.0
Prop In Lane	1.00		1.00	1.00		0.47	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	235	1288	400	264	888	450	264	1434	761	338	755	750
V/C Ratio(X)	1.21	0.42	0.59	1.19	0.86	0.86	1.23	0.56	0.22	0.82	0.81	0.82
Avail Cap(c_a), veh/h	235	1388	431	264	954	484	264	1434	761	411	755	750
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	54.9	36.8	38.6	54.4	41.5	41.5	54.4	27.0	17.8	52.1	29.8	29.8
Incr Delay (d2), s/veh	126.9	0.2	1.8	117.5	7.7	14.3	132.0	1.6	0.6	10.5	9.4	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	7.6	4.3	6.1	8.2	11.3	12.4	8.7	8.8	2.7	4.5	16.7	16.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	181.8	37.0	40.4	171.9	49.2	55.8	186.4	28.6	18.4	62.6	39.1	39.4
LnGrp LOS	F	D	D	F	D	E	F	C	B	E	D	D
Approach Vol, veh/h		1059			1469			1288			1504	
Approach Delay, s/veh		76.6			77.3			67.1			43.6	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	52.5	14.0	34.7	14.0	55.0	13.0	35.7
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	45.0	9.0	32.0	9.0	50.0	8.0	33.0
Max Q Clear Time (g_c+I1), s	11.3	22.4	11.0	17.2	11.0	38.0	10.0	27.3
Green Ext Time (p_c), s	0.3	6.2	0.0	3.8	0.0	6.2	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	65.1
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	80	781	1677	46	45	76
Future Volume (veh/h)	80	781	1677	46	45	76
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	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	80	781	1677	46	45	76
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	102	2782	2227	61	214	362
Arrive On Green	0.06	0.54	0.44	0.44	0.35	0.35
Sat Flow, veh/h	1781	5274	5277	140	610	1031
Grp Volume(v), veh/h	80	781	1117	606	122	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1845	1654	0
Q Serve(g_s), s	4.7	8.7	29.2	29.3	5.5	0.0
Cycle Q Clear(g_c), s	4.7	8.7	29.2	29.3	5.5	0.0
Prop In Lane	1.00			0.08	0.37	0.62
Lane Grp Cap(c), veh/h	102	2782	1484	804	581	0
V/C Ratio(X)	0.79	0.28	0.75	0.75	0.21	0.00
Avail Cap(c_a), veh/h	112	3498	1940	1052	581	0
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	0.00
Uniform Delay (d), s/veh	49.4	13.0	25.1	25.1	24.1	0.0
Incr Delay (d2), s/veh	27.5	0.1	1.2	2.2	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.2	11.5	12.7	2.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	76.9	13.0	26.4	27.4	24.9	0.0
LnGrp LOS	E	B	C	C	C	A
Approach Vol, veh/h		861	1723		122	
Approach Delay, s/veh		19.0	26.7		24.9	
Approach LOS		B	C		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			63.3		42.8	11.6	51.8
Change Period (Y+Rc), s			5.5		5.5	5.5	5.5
Max Green Setting (Gmax), s			72.7		37.3	6.7	60.5
Max Q Clear Time (g_c+I1), s			10.7		7.5	6.7	31.3
Green Ext Time (p_c), s			6.3		0.4	0.0	15.0

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	732	95	233	1709	17	74
Future Volume (veh/h)	732	95	233	1709	17	74
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		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	732	0	233	1709	17	74
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	2533		283	3820	117	104
Arrive On Green	0.50	0.00	0.16	0.75	0.07	0.07
Sat Flow, veh/h	5274	1585	1781	5274	1781	1585
Grp Volume(v), veh/h	732	0	233	1709	17	74
Grp Sat Flow(s),veh/h/ln	1702	1585	1781	1702	1781	1585
Q Serve(g_s), s	5.0	0.0	7.5	7.5	0.5	2.7
Cycle Q Clear(g_c), s	5.0	0.0	7.5	7.5	0.5	2.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2533		283	3820	117	104
V/C Ratio(X)	0.29		0.82	0.45	0.15	0.71
Avail Cap(c_a), veh/h	2533		338	3820	1025	912
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	8.8	0.0	24.0	2.8	26.0	27.0
Incr Delay (d2), s/veh	0.3	0.0	13.1	0.4	0.6	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	3.9	1.0	0.2	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.0	0.0	37.1	3.2	26.6	35.7
LnGrp LOS	A		D	A	C	D
Approach Vol, veh/h	732			1942	91	
Approach Delay, s/veh	9.0			7.3	34.0	
Approach LOS	A			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.9	34.8		9.4		49.7
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	11.2	29.3		34.0		29.3
Max Q Clear Time (g_c+I1), s	9.5	7.0		4.7		9.5
Green Ext Time (p_c), s	0.1	5.0		0.3		12.3

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	7	160	27	15	8
Future Vol, veh/h	8	7	160	27	15	8
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	8	7	160	27	15	8
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.3	8.3	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	86%	53%	0%
Vol Thru, %	14%	0%	65%
Vol Right, %	0%	47%	35%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	187	15	23
LT Vol	160	8	0
Through Vol	27	0	15
RT Vol	0	7	8
Lane Flow Rate	187	15	23
Geometry Grp	1	1	1
Degree of Util (X)	0.215	0.018	0.025
Departure Headway (Hd)	4.148	4.225	3.89
Convergence, Y/N	Yes	Yes	Yes
Cap	868	852	914
Service Time	2.162	2.225	1.941
HCM Lane V/C Ratio	0.215	0.018	0.025
HCM Control Delay	8.3	7.3	7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.1	0.1

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	6	50	15	5	20
Future Vol, veh/h	2	6	50	15	5	20
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	2	6	50	15	5	20
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	6.8	7.1	7.2
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	20%
Vol Thru, %	77%	0%	80%
Vol Right, %	23%	75%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	65	8	25
LT Vol	0	2	5
Through Vol	50	0	20
RT Vol	15	6	0
Lane Flow Rate	65	8	25
Geometry Grp	1	1	1
Degree of Util (X)	0.069	0.008	0.028
Departure Headway (Hd)	3.828	3.689	4.036
Convergence, Y/N	Yes	Yes	Yes
Cap	940	967	890
Service Time	1.835	1.722	2.047
HCM Lane V/C Ratio	0.069	0.008	0.028
HCM Control Delay	7.1	6.8	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0	0.1

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	66	7	52	154	0
Future Vol, veh/h	4	66	7	52	154	0
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	4	66	7	52	154	0
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.3	7.9	8.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	100%	0%	0%	12%
Vol Thru, %	0%	100%	0%	88%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	154	4	66	59
LT Vol	154	0	0	7
Through Vol	0	4	0	52
RT Vol	0	0	66	0
Lane Flow Rate	154	4	66	59
Geometry Grp	2	7	7	5
Degree of Util (X)	0.186	0.006	0.078	0.074
Departure Headway (Hd)	4.354	4.952	4.249	4.501
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	815	727	848	801
Service Time	2.434	2.653	1.95	2.503
HCM Lane V/C Ratio	0.189	0.006	0.078	0.074
HCM Control Delay	8.4	7.7	7.3	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0	0.3	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	30	0	0	185	0	1246	12	0	1494	41
Future Vol, veh/h	0	0	30	0	0	185	0	1246	12	0	1494	41
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	-	-	0	-	-	0	-	-	-	-	-	-
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	30	0	0	185	0	1246	12	0	1494	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	768	-	-	629	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	344	0	0	425	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	344	-	-	425	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.5	19.8	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	344	425	-	-
HCM Lane V/C Ratio	-	-	0.087	0.435	-	-
HCM Control Delay (s)	-	-	16.5	19.8	-	-
HCM Lane LOS	-	-	C	C	-	-
HCM 95th %tile Q(veh)	-	-	0.3	2.2	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	972	1481	36	0	5
Future Vol, veh/h	0	972	1481	36	0	5
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	972	1481	36	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	759
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	300
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	300
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	300
HCM Lane V/C Ratio	-	-	-	0.017
HCM Control Delay (s)	-	-	-	17.2
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	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	10	882	58	56	1524	168	5	0	6	9	0	6
Future Vol, veh/h	10	882	58	56	1524	168	5	0	6	9	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	0	-	-	-	-	-	-	-	-
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	882	58	56	1524	168	5	0	6	9	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1692	0	0	940	0	0	1653	2735	470	2093	2680	846
Stage 1	-	-	-	-	-	-	931	931	-	1720	1720	-
Stage 2	-	-	-	-	-	-	722	1804	-	373	960	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	179	-	-	418	-	-	104	20	462	56	22	262
Stage 1	-	-	-	-	-	-	222	344	-	61	143	-
Stage 2	-	-	-	-	-	-	349	130	-	568	333	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	179	-	-	418	-	-	87	16	462	48	18	262
Mov Cap-2 Maneuver	-	-	-	-	-	-	87	16	-	48	18	-
Stage 1	-	-	-	-	-	-	210	325	-	58	124	-
Stage 2	-	-	-	-	-	-	295	113	-	529	314	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.5	29.8	68.8
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	156	179	-	-	418	-	-	71
HCM Lane V/C Ratio	0.071	0.056	-	-	0.134	-	-	0.211
HCM Control Delay (s)	29.8	26.3	-	-	14.9	-	-	68.8
HCM Lane LOS	D	D	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.5	-	-	0.7

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	818	1928	127	10	15
Future Vol, veh/h	0	818	1928	127	10	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	0	818	1928	127	10	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	2319	1028
Stage 1	-	-	-	-	1992	-
Stage 2	-	-	-	-	327	-
Critical Hdwy	-	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	0	-	-	-	63	199
Stage 1	0	-	-	-	57	-
Stage 2	0	-	-	-	644	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	63	199
Mov Cap-2 Maneuver	-	-	-	-	63	-
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	644	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	48.6
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	107
HCM Lane V/C Ratio	-	-	-	0.234
HCM Control Delay (s)	-	-	-	48.6
HCM Lane LOS	-	-	-	E
HCM 95th %tile Q(veh)	-	-	-	0.8

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	0	7	7	2	156	0	32	0	6	0	0	0
Future Vol, veh/h	0	7	7	2	156	0	32	0	6	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	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	7	7	2	156	0	32	0	6	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	156	0	0	14	0	0	171	171	11	174	174	156
Stage 1	-	-	-	-	-	-	11	11	-	160	160	-
Stage 2	-	-	-	-	-	-	160	160	-	14	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	1424	-	-	1604	-	-	792	722	1070	789	719	890
Stage 1	-	-	-	-	-	-	1010	886	-	842	766	-
Stage 2	-	-	-	-	-	-	842	766	-	1006	884	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1424	-	-	1604	-	-	791	721	1070	784	718	890
Mov Cap-2 Maneuver	-	-	-	-	-	-	791	721	-	784	718	-
Stage 1	-	-	-	-	-	-	1010	886	-	842	765	-
Stage 2	-	-	-	-	-	-	841	765	-	1000	884	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	9.6	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	825	1424	-	-	1604	-	-	-
HCM Lane V/C Ratio	0.046	-	-	-	0.001	-	-	-
HCM Control Delay (s)	9.6	0	-	-	7.2	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	0	3	0	0	0	12	111	2	2	23	7
Future Vol, veh/h	11	0	3	0	0	0	12	111	2	2	23	7
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	11	0	3	0	0	0	12	111	2	2	23	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	167	168	27	168	170	112	30	0	0	113	0	0
Stage 1	31	31	-	136	136	-	-	-	-	-	-	-
Stage 2	136	137	-	32	34	-	-	-	-	-	-	-
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	797	725	1048	796	723	941	1583	-	-	1476	-	-
Stage 1	986	869	-	867	784	-	-	-	-	-	-	-
Stage 2	867	783	-	984	867	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	791	718	1048	788	716	941	1583	-	-	1476	-	-
Mov Cap-2 Maneuver	791	718	-	788	716	-	-	-	-	-	-	-
Stage 1	978	868	-	860	778	-	-	-	-	-	-	-
Stage 2	860	777	-	980	866	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	0	0.7	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1583	-	-	835	-	1476	-	-
HCM Lane V/C Ratio	0.008	-	-	0.017	-	0.001	-	-
HCM Control Delay (s)	7.3	0	-	9.4	0	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	22	20	55	22	5
Future Vol, veh/h	10	22	20	55	22	5
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	10	22	20	55	22	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	120	25	27	0	-	0
Stage 1	25	-	-	-	-	-
Stage 2	95	-	-	-	-	-
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	876	1051	1587	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	929	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	865	1051	1587	-	-	-
Mov Cap-2 Maneuver	865	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1587	-	985	-	-
HCM Lane V/C Ratio	0.013	-	0.032	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	136	21	5	210	20	15
Future Vol, veh/h	136	21	5	210	20	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	136	21	5	210	20	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	157	0	367	147
Stage 1	-	-	-	-	147	-
Stage 2	-	-	-	-	220	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1423	-	633	900
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	817	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1423	-	630	900
Mov Cap-2 Maneuver	-	-	-	-	630	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	814	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	723	-	-	1423	-
HCM Lane V/C Ratio	0.048	-	-	0.004	-
HCM Control Delay (s)	10.2	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

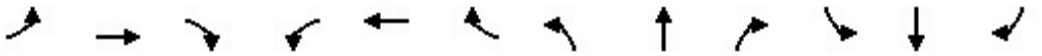
Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	40	117	3	36	32
Future Vol, veh/h	4	40	117	3	36	32
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	4	40	117	3	36	32

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	223	119	0	0	120	0
Stage 1	119	-	-	-	-	-
Stage 2	104	-	-	-	-	-
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	765	933	-	-	1468	-
Stage 1	906	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	746	933	-	-	1468	-
Mov Cap-2 Maneuver	746	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	897	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	4
HCM LOS	A		

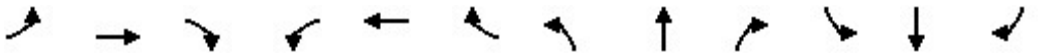
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	912	1468	-
HCM Lane V/C Ratio	-	-	0.048	0.025	-
HCM Control Delay (s)	-	-	9.1	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	194	394	134	116	3	26	9	15	11	8	0
Future Volume (veh/h)	4	194	394	134	116	3	26	9	15	11	8	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	194	394	134	116	3	26	9	15	11	8	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	64	837	713	320	252	6	656	242	403	639	717	0
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.38	0.38	0.38	0.38	0.38	0.00
Sat Flow, veh/h	7	1860	1585	508	561	13	1407	630	1051	1387	1870	0
Grp Volume(v), veh/h	198	0	394	253	0	0	26	0	24	11	8	0
Grp Sat Flow(s),veh/h/ln	1867	0	1585	1081	0	0	1407	0	1681	1387	1870	0
Q Serve(g_s), s	0.0	0.0	10.9	6.9	0.0	0.0	0.7	0.0	0.5	0.3	0.2	0.0
Cycle Q Clear(g_c), s	3.9	0.0	10.9	10.8	0.0	0.0	0.9	0.0	0.5	0.8	0.2	0.0
Prop In Lane	0.02		1.00	0.53		0.01	1.00		0.63	1.00		0.00
Lane Grp Cap(c), veh/h	901	0	713	578	0	0	656	0	644	639	717	0
V/C Ratio(X)	0.22	0.00	0.55	0.44	0.00	0.00	0.04	0.00	0.04	0.02	0.01	0.00
Avail Cap(c_a), veh/h	901	0	713	578	0	0	656	0	644	639	717	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.1	0.0	12.1	12.1	0.0	0.0	11.7	0.0	11.6	11.8	11.5	0.0
Incr Delay (d2), s/veh	0.6	0.0	3.1	2.4	0.0	0.0	0.1	0.0	0.1	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	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	4.0	2.6	0.0	0.0	0.2	0.0	0.2	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	0.0	15.1	14.5	0.0	0.0	11.8	0.0	11.7	11.9	11.5	0.0
LnGrp LOS	B	A	B	B	A	A	B	A	B	B	B	A
Approach Vol, veh/h		592			253			50			19	
Approach Delay, s/veh		13.7			14.5			11.8			11.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.0		28.0		32.0		28.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		27.0		23.0		27.0		23.0				
Max Q Clear Time (g_c+I1), s		12.9		2.8		12.8		2.9				
Green Ext Time (p_c), s		2.3		0.0		1.7		0.1				

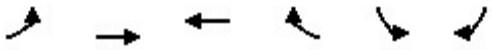
Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	538	1259	248	179	840	235	280	1189	192	300	671	671
Future Volume (veh/h)	538	1259	248	179	840	235	280	1189	192	300	671	671
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	538	1259	248	179	840	235	280	1189	192	300	671	671
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	383	1578	490	177	990	275	324	1425	717	236	667	595
Arrive On Green	0.11	0.31	0.31	0.05	0.25	0.25	0.09	0.40	0.40	0.07	0.38	0.38
Sat Flow, veh/h	3456	5106	1585	3456	3972	1104	3456	3554	1585	3456	1777	1585
Grp Volume(v), veh/h	538	1259	248	179	719	356	280	1189	192	300	671	671
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1672	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	13.0	26.5	15.0	6.0	23.6	23.8	9.4	35.3	8.9	8.0	44.0	44.0
Cycle Q Clear(g_c), s	13.0	26.5	15.0	6.0	23.6	23.8	9.4	35.3	8.9	8.0	44.0	44.0
Prop In Lane	1.00		1.00	1.00		0.66	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	383	1578	490	177	849	417	324	1425	717	236	667	595
V/C Ratio(X)	1.40	0.80	0.51	1.01	0.85	0.85	0.86	0.83	0.27	1.27	1.01	1.13
Avail Cap(c_a), veh/h	383	1699	527	177	929	456	324	1425	717	236	667	595
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	52.1	37.1	33.2	55.6	41.9	42.0	52.4	31.6	20.0	54.6	36.6	36.6
Incr Delay (d2), s/veh	196.8	2.6	0.8	70.8	6.9	13.7	20.7	5.9	0.9	151.3	36.4	77.4
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	16.0	11.2	5.8	4.3	10.5	11.2	5.0	15.8	3.4	8.4	25.2	29.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	248.9	39.7	34.0	126.5	48.8	55.6	73.0	37.5	20.9	205.9	73.0	114.0
LnGrp LOS	F	D	C	F	D	E	E	D	C	F	F	F
Approach Vol, veh/h		2045			1254			1661			1642	
Approach Delay, s/veh		94.1			61.8			41.6			114.0	
Approach LOS		F			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	52.0	11.0	41.2	16.0	49.0	18.0	34.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	47.0	6.0	39.0	11.0	44.0	13.0	32.0
Max Q Clear Time (g_c+I1), s	10.0	37.3	8.0	28.5	11.4	46.0	15.0	25.8
Green Ext Time (p_c), s	0.0	5.9	0.0	6.5	0.0	0.0	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	79.7
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	54	1701	1294	52	97	90
Future Volume (veh/h)	54	1701	1294	52	97	90
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	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	54	1701	1294	52	97	90
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	74	2331	1778	71	364	338
Arrive On Green	0.04	0.46	0.35	0.35	0.42	0.42
Sat Flow, veh/h	1781	5274	5204	202	868	805
Grp Volume(v), veh/h	54	1701	875	471	188	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1834	1682	0
Q Serve(g_s), s	2.7	24.1	19.9	19.9	6.5	0.0
Cycle Q Clear(g_c), s	2.7	24.1	19.9	19.9	6.5	0.0
Prop In Lane	1.00			0.11	0.52	0.48
Lane Grp Cap(c), veh/h	74	2331	1202	648	706	0
V/C Ratio(X)	0.73	0.73	0.73	0.73	0.27	0.00
Avail Cap(c_a), veh/h	114	2971	1551	836	706	0
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	0.00
Uniform Delay (d), s/veh	42.1	19.7	25.0	25.0	16.8	0.0
Incr Delay (d2), s/veh	13.0	0.7	1.3	2.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	8.9	7.8	8.6	2.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	55.1	20.4	26.3	27.3	17.8	0.0
LnGrp LOS	E	C	C	C	B	A
Approach Vol, veh/h		1755	1346		188	
Approach Delay, s/veh		21.4	26.6		17.8	
Approach LOS		C	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	46.1	42.8	9.2	36.9
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	51.7	37.3	5.7	40.5
Max Q Clear Time (g_c+I1), s	26.1	8.5	4.7	21.9
Green Ext Time (p_c), s	14.4	0.6	0.0	8.8

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1785	31	35	1278	69	365
Future Volume (veh/h)	1785	31	35	1278	69	365
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		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	1785	0	35	1278	69	365
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	2475		61	3020	470	419
Arrive On Green	0.48	0.00	0.03	0.59	0.26	0.26
Sat Flow, veh/h	5274	1585	1781	5274	1781	1585
Grp Volume(v), veh/h	1785	0	35	1278	69	365
Grp Sat Flow(s),veh/h/ln	1702	1585	1781	1702	1781	1585
Q Serve(g_s), s	21.1	0.0	1.5	10.4	2.3	16.8
Cycle Q Clear(g_c), s	21.1	0.0	1.5	10.4	2.3	16.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2475		61	3020	470	419
V/C Ratio(X)	0.72		0.57	0.42	0.15	0.87
Avail Cap(c_a), veh/h	2475		117	3020	796	708
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	15.5	0.0	36.2	8.5	21.4	26.8
Incr Delay (d2), s/veh	1.9	0.0	8.1	0.4	0.1	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	0.8	3.3	0.9	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.4	0.0	44.3	8.9	21.6	33.1
LnGrp LOS	B		D	A	C	C
Approach Vol, veh/h	1785			1313	434	
Approach Delay, s/veh	17.4			9.9	31.3	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.1	42.4		25.6		50.5
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	5.0	34.5		34.0		45.0
Max Q Clear Time (g_c+I1), s	3.5	23.1		18.8		12.4
Green Ext Time (p_c), s	0.0	8.5		1.3		11.2

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	5	112	32	43	16
Future Vol, veh/h	11	5	112	32	43	16
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	11	5	112	32	43	16
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.4	8	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	78%	69%	0%
Vol Thru, %	22%	0%	73%
Vol Right, %	0%	31%	27%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	144	16	59
LT Vol	112	11	0
Through Vol	32	0	43
RT Vol	0	5	16
Lane Flow Rate	144	16	59
Geometry Grp	1	1	1
Degree of Util (X)	0.166	0.019	0.064
Departure Headway (Hd)	4.161	4.231	3.906
Convergence, Y/N	Yes	Yes	Yes
Cap	863	832	913
Service Time	2.181	2.326	1.948
HCM Lane V/C Ratio	0.167	0.019	0.065
HCM Control Delay	8	7.4	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	5	38	16	1	91
Future Vol, veh/h	7	5	38	16	1	91
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	7	5	38	16	1	91
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.2	7.1	7.5
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	58%	1%
Vol Thru, %	70%	0%	99%
Vol Right, %	30%	42%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	54	12	92
LT Vol	0	7	1
Through Vol	38	0	91
RT Vol	16	5	0
Lane Flow Rate	54	12	92
Geometry Grp	1	1	1
Degree of Util (X)	0.058	0.014	0.102
Departure Headway (Hd)	3.846	4.052	3.998
Convergence, Y/N	Yes	Yes	Yes
Cap	931	876	899
Service Time	1.869	2.109	2.012
HCM Lane V/C Ratio	0.058	0.014	0.102
HCM Control Delay	7.1	7.2	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0	0.3

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	148	1	38	50	2
Future Vol, veh/h	6	148	1	38	50	2
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	6	148	1	38	50	2
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.5	7.5	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	96%	0%	0%	3%
Vol Thru, %	0%	100%	0%	97%
Vol Right, %	4%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	6	148	39
LT Vol	50	0	0	1
Through Vol	0	6	0	38
RT Vol	2	0	148	0
Lane Flow Rate	52	6	148	39
Geometry Grp	2	7	7	5
Degree of Util (X)	0.064	0.008	0.162	0.046
Departure Headway (Hd)	4.431	4.645	3.944	4.245
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	799	768	906	836
Service Time	2.513	2.388	1.687	2.31
HCM Lane V/C Ratio	0.065	0.008	0.163	0.047
HCM Control Delay	7.8	7.4	7.5	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.6	0.1

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	0	0	56	0	0	140	0	1987	4	0	1072	34
Future Vol, veh/h	0	0	56	0	0	140	0	1987	4	0	1072	34
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	-	-	0	-	-	0	-	-	-	-	-	-
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	56	0	0	140	0	1987	4	0	1072	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	553	-	-	996	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	477	0	0	243	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	477	-	-	243	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	38.2	0	0
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	477	243	-	-
HCM Lane V/C Ratio	-	-	0.117	0.576	-	-
HCM Control Delay (s)	-	-	13.5	38.2	-	-
HCM Lane LOS	-	-	B	E	-	-
HCM 95th %tile Q(veh)	-	-	0.4	3.3	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1758	1272	14	0	2
Future Vol, veh/h	0	1758	1272	14	0	2
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	1758	1272	14	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	643
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	357
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	357
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	357
HCM Lane V/C Ratio	-	-	-	0.006
HCM Control Delay (s)	-	-	-	15.1
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	13.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	1696	38	16	1239	123	10	5	96	18	0	35
Future Vol, veh/h	15	1696	38	16	1239	123	10	5	96	18	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	0	-	-	-	-	-	-	-	-
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	1696	38	16	1239	123	10	5	96	18	0	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1362	0	0	1734	0	0	2273	3139	867	2044	3097	681
Stage 1	-	-	-	-	-	-	1745	1745	-	1333	1333	-
Stage 2	-	-	-	-	-	-	528	1394	-	711	1764	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	261	-	-	170	-	-	43	11	254	60	12	337
Stage 1	-	-	-	-	-	-	59	139	-	116	221	-
Stage 2	-	-	-	-	-	-	458	207	-	355	136	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	261	-	-	170	-	-	34	9	254	19	10	337
Mov Cap-2 Maneuver	-	-	-	-	-	-	34	9	-	19	10	-
Stage 1	-	-	-	-	-	-	56	131	-	109	200	-
Stage 2	-	-	-	-	-	-	372	188	-	200	128	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	255.5	276.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	90	261	-	-	170	-	-	50
HCM Lane V/C Ratio	1.233	0.057	-	-	0.094	-	-	1.06
HCM Control Delay (s)	255.5	19.6	-	-	28.4	-	-	276.3
HCM Lane LOS	F	C	-	-	D	-	-	F
HCM 95th %tile Q(veh)	7.9	0.2	-	-	0.3	-	-	4.7

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2125	1275	35	23	38
Future Vol, veh/h	0	2125	1275	35	23	38
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	2125	1275	35	23	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	2143	655
Stage 1	-	-	-	-	1293	-
Stage 2	-	-	-	-	850	-
Critical Hdwy	-	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	0	-	-	-	78	350
Stage 1	0	-	-	-	160	-
Stage 2	0	-	-	-	344	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	78	350
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	160	-
Stage 2	-	-	-	-	344	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	44.1
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	151
HCM Lane V/C Ratio	-	-	-	0.404
HCM Control Delay (s)	-	-	-	44.1
HCM Lane LOS	-	-	-	E
HCM 95th %tile Q(veh)	-	-	-	1.8

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	0	3	2	5	126	0	13	0	11	0	0	0
Future Vol, veh/h	0	3	2	5	126	0	13	0	11	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	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	2	5	126	0	13	0	11	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	126	0	0	5	0	0	140	140	4	146	141	126
Stage 1	-	-	-	-	-	-	4	4	-	136	136	-
Stage 2	-	-	-	-	-	-	136	136	-	10	5	-
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	1460	-	-	1616	-	-	830	751	1080	823	750	924
Stage 1	-	-	-	-	-	-	1018	892	-	867	784	-
Stage 2	-	-	-	-	-	-	867	784	-	1011	892	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1460	-	-	1616	-	-	828	749	1080	813	748	924
Mov Cap-2 Maneuver	-	-	-	-	-	-	828	749	-	813	748	-
Stage 1	-	-	-	-	-	-	1018	892	-	867	782	-
Stage 2	-	-	-	-	-	-	864	782	-	1001	892	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	9	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	927	1460	-	-	1616	-	-	-
HCM Lane V/C Ratio	0.026	-	-	-	0.003	-	-	-
HCM Control Delay (s)	9	0	-	-	7.2	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	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	11	1	8	0	0	1	3	28	3	4	38	0
Future Vol, veh/h	11	1	8	0	0	1	3	28	3	4	38	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	11	1	8	0	0	1	3	28	3	4	38	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	82	83	38	87	82	30	38	0	0	31	0	0
Stage 1	46	46	-	36	36	-	-	-	-	-	-	-
Stage 2	36	37	-	51	46	-	-	-	-	-	-	-
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	905	807	1034	899	808	1044	1572	-	-	1582	-	-
Stage 1	968	857	-	980	865	-	-	-	-	-	-	-
Stage 2	980	864	-	962	857	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	900	803	1034	888	804	1044	1572	-	-	1582	-	-
Mov Cap-2 Maneuver	900	803	-	888	804	-	-	-	-	-	-	-
Stage 1	966	854	-	978	863	-	-	-	-	-	-	-
Stage 2	977	862	-	951	854	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	8.5	0.6	0.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1572	-	-	943	1044	1582	-	-
HCM Lane V/C Ratio	0.002	-	-	0.021	0.001	0.003	-	-
HCM Control Delay (s)	7.3	0	-	8.9	8.5	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	26	17	47	105	4
Future Vol, veh/h	8	26	17	47	105	4
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	8	26	17	47	105	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	188	107	109	0	-	0
Stage 1	107	-	-	-	-	-
Stage 2	81	-	-	-	-	-
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	801	947	1481	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	791	947	1481	-	-	-
Mov Cap-2 Maneuver	791	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	942	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1481	-	905	-	-
HCM Lane V/C Ratio	0.011	-	0.038	-	-
HCM Control Delay (s)	7.5	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	181	46	15	170	17	26
Future Vol, veh/h	181	46	15	170	17	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	181	46	15	170	17	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	227	0	404	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	200	-
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	-	-	1341	-	603	837
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	834	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1341	-	596	837
Mov Cap-2 Maneuver	-	-	-	-	596	-
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	824	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	722	-	-	1341	-
HCM Lane V/C Ratio	0.06	-	-	0.011	-
HCM Control Delay (s)	10.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	17	34	11	108	47
Future Vol, veh/h	4	17	34	11	108	47
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	4	17	34	11	108	47

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	303	40	0	0	45	0
Stage 1	40	-	-	-	-	-
Stage 2	263	-	-	-	-	-
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	689	1031	-	-	1563	-
Stage 1	982	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	640	1031	-	-	1563	-
Mov Cap-2 Maneuver	640	-	-	-	-	-
Stage 1	982	-	-	-	-	-
Stage 2	726	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	5.2
HCM LOS	A		

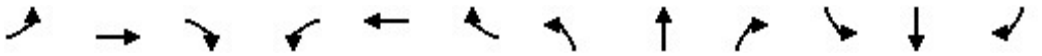
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	924	1563	-
HCM Lane V/C Ratio	-	-	0.023	0.069	-
HCM Control Delay (s)	-	-	9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-

C.2: Horizon Year (2040)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	228	320	193	146	20	49	15	63	5	11	4
Future Volume (veh/h)	4	228	320	193	146	20	49	15	63	5	11	4
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	4	228	320	193	146	20	49	15	63	5	11	4
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	60	901	768	338	237	29	607	113	474	545	470	171
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	6	1861	1585	520	490	60	1398	314	1319	1321	1309	476
Grp Volume(v), veh/h	232	0	320	359	0	0	49	0	78	5	0	15
Grp Sat Flow(s),veh/h/ln	1867	0	1585	1070	0	0	1398	0	1633	1321	0	1785
Q Serve(g_s), s	0.0	0.0	8.3	13.3	0.0	0.0	1.5	0.0	2.1	0.2	0.0	0.3
Cycle Q Clear(g_c), s	4.7	0.0	8.3	17.9	0.0	0.0	1.8	0.0	2.1	2.2	0.0	0.3
Prop In Lane	0.02		1.00	0.54		0.06	1.00		0.81	1.00		0.27
Lane Grp Cap(c), veh/h	962	0	768	605	0	0	607	0	587	545	0	641
V/C Ratio(X)	0.24	0.00	0.42	0.59	0.00	0.00	0.08	0.00	0.13	0.01	0.00	0.02
Avail Cap(c_a), veh/h	962	0	768	605	0	0	607	0	587	545	0	641
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	10.7	13.5	0.0	0.0	13.8	0.0	13.8	14.5	0.0	13.2
Incr Delay (d2), s/veh	0.6	0.0	1.7	4.3	0.0	0.0	0.3	0.0	0.5	0.0	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	1.9	0.0	3.0	4.4	0.0	0.0	0.5	0.0	0.8	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.3	0.0	12.3	17.8	0.0	0.0	14.1	0.0	14.3	14.6	0.0	13.3
LnGrp LOS	B	A	B	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		552			359			127			20	
Approach Delay, s/veh		11.5			17.8			14.2			13.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		28.0		36.0		28.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		31.0		23.0		31.0		23.0				
Max Q Clear Time (g_c+I1), s		10.3		4.2		19.9		4.1				
Green Ext Time (p_c), s		2.5		0.0		2.2		0.5				

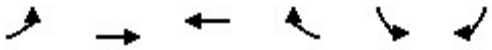
Intersection Summary												
HCM 6th Ctrl Delay			14.0									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	773	334	455	1413	256	465	1139	238	392	1460	287
Future Volume (veh/h)	404	773	334	455	1413	256	465	1139	238	392	1460	287
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	404	773	334	455	1413	256	465	1139	238	392	1460	287
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	230	1362	423	259	1195	216	259	1333	713	403	1238	238
Arrive On Green	0.07	0.27	0.27	0.08	0.28	0.28	0.08	0.38	0.38	0.12	0.42	0.42
Sat Flow, veh/h	3456	5106	1585	3456	4346	786	3456	3554	1585	3456	2972	572
Grp Volume(v), veh/h	404	773	334	455	1106	563	465	1139	238	392	860	887
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1729	1728	1777	1585	1728	1777	1767
Q Serve(g_s), s	8.0	15.7	23.5	9.0	33.0	33.0	9.0	35.4	11.7	13.6	50.0	50.0
Cycle Q Clear(g_c), s	8.0	15.7	23.5	9.0	33.0	33.0	9.0	35.4	11.7	13.6	50.0	50.0
Prop In Lane	1.00		1.00	1.00		0.45	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	230	1362	423	259	936	475	259	1333	713	403	740	736
V/C Ratio(X)	1.75	0.57	0.79	1.76	1.18	1.18	1.79	0.85	0.33	0.97	1.16	1.20
Avail Cap(c_a), veh/h	230	1362	423	259	936	475	259	1333	713	403	740	736
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	56.0	38.0	40.9	55.5	43.5	43.5	55.5	34.5	21.4	52.8	35.0	35.0
Incr Delay (d2), s/veh	356.4	0.6	9.8	355.4	92.8	102.3	372.4	7.2	1.3	37.4	87.5	104.5
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	14.9	6.5	10.2	16.7	25.7	27.3	17.3	16.2	4.5	7.9	38.7	42.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	412.4	38.6	50.6	410.9	136.3	145.8	427.9	41.7	22.6	90.2	122.5	139.5
LnGrp LOS	F	D	D	F	F	F	F	D	C	F	F	F
Approach Vol, veh/h		1511			2124			1842			2139	
Approach Delay, s/veh		141.2			197.7			136.7			123.6	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	50.0	14.0	37.0	14.0	55.0	13.0	38.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	45.0	9.0	32.0	9.0	50.0	8.0	33.0
Max Q Clear Time (g_c+I1), s	15.6	37.4	11.0	25.5	11.0	52.0	10.0	35.0
Green Ext Time (p_c), s	0.0	4.8	0.0	3.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	150.9
HCM 6th LOS	F



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	1111	2387	70	70	106
Future Volume (veh/h)	121	1111	2387	70	70	106
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	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	121	1111	2387	70	70	106
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	99	3062	2542	74	203	307
Arrive On Green	0.06	0.60	0.50	0.50	0.31	0.31
Sat Flow, veh/h	1781	5274	5267	149	656	993
Grp Volume(v), veh/h	121	1111	1590	867	177	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1844	1659	0
Q Serve(g_s), s	6.7	13.4	53.0	53.7	10.0	0.0
Cycle Q Clear(g_c), s	6.7	13.4	53.0	53.7	10.0	0.0
Prop In Lane	1.00			0.08	0.40	0.60
Lane Grp Cap(c), veh/h	99	3062	1697	919	513	0
V/C Ratio(X)	1.22	0.36	0.94	0.94	0.35	0.00
Avail Cap(c_a), veh/h	99	3076	1707	924	513	0
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	0.00
Uniform Delay (d), s/veh	57.0	12.4	28.5	28.6	32.2	0.0
Incr Delay (d2), s/veh	162.3	0.1	10.3	17.4	1.8	0.0
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	4.9	22.9	26.8	4.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	219.2	12.4	38.8	46.1	34.1	0.0
LnGrp LOS	F	B	D	D	C	A
Approach Vol, veh/h		1232	2457		177	
Approach Delay, s/veh		32.7	41.3		34.1	
Approach LOS		C	D		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	77.9	42.8	12.2	65.7
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	72.7	37.3	6.7	60.5
Max Q Clear Time (g_c+I1), s	15.4	12.0	8.7	55.7
Green Ext Time (p_c), s	10.2	0.5	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1047	135	333	2438	22	104
Future Volume (veh/h)	1047	135	333	2438	22	104
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		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	1047	0	333	2438	22	104
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	2388		318	3748	161	143
Arrive On Green	0.47	0.00	0.18	0.73	0.09	0.09
Sat Flow, veh/h	5274	1585	1781	5274	1781	1585
Grp Volume(v), veh/h	1047	0	333	2438	22	104
Grp Sat Flow(s),veh/h/ln	1702	1585	1781	1702	1781	1585
Q Serve(g_s), s	8.6	0.0	11.2	15.2	0.7	4.0
Cycle Q Clear(g_c), s	8.6	0.0	11.2	15.2	0.7	4.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2388		318	3748	161	143
V/C Ratio(X)	0.44		1.05	0.65	0.14	0.73
Avail Cap(c_a), veh/h	2388		318	3748	967	860
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	11.2	0.0	25.7	4.2	26.2	27.7
Incr Delay (d2), s/veh	0.6	0.0	62.9	0.9	0.4	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	9.9	2.7	0.3	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	0.0	88.7	5.1	26.6	34.6
LnGrp LOS	B		F	A	C	C
Approach Vol, veh/h	1047			2771	126	
Approach Delay, s/veh	11.8			15.2	33.2	
Approach LOS	B			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.7	34.8		11.2		51.5
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	11.2	29.3		34.0		29.3
Max Q Clear Time (g_c+I1), s	13.2	10.6		6.0		17.2
Green Ext Time (p_c), s	0.0	7.0		0.4		10.8

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

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	12	230	37	20	13
Future Vol, veh/h	13	12	230	37	20	13
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	13	12	230	37	20	13
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.6	9.1	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	86%	52%	0%
Vol Thru, %	14%	0%	61%
Vol Right, %	0%	48%	39%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	267	25	33
LT Vol	230	13	0
Through Vol	37	0	20
RT Vol	0	12	13
Lane Flow Rate	267	25	33
Geometry Grp	1	1	1
Degree of Util (X)	0.31	0.031	0.036
Departure Headway (Hd)	4.174	4.417	3.94
Convergence, Y/N	Yes	Yes	Yes
Cap	862	816	896
Service Time	2.198	2.417	2.02
HCM Lane V/C Ratio	0.31	0.031	0.037
HCM Control Delay	9.1	7.6	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.3	0.1	0.1

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	11	70	20	5	30
Future Vol, veh/h	2	11	70	20	5	30
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	2	11	70	20	5	30
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	6.8	7.3	7.2
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	15%	14%
Vol Thru, %	78%	0%	86%
Vol Right, %	22%	85%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	90	13	35
LT Vol	0	2	5
Through Vol	70	0	30
RT Vol	20	11	0
Lane Flow Rate	90	13	35
Geometry Grp	1	1	1
Degree of Util (X)	0.096	0.013	0.039
Departure Headway (Hd)	3.85	3.671	4.053
Convergence, Y/N	Yes	Yes	Yes
Cap	934	969	885
Service Time	1.859	1.717	2.069
HCM Lane V/C Ratio	0.096	0.013	0.04
HCM Control Delay	7.3	6.8	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0	0.1

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	96	12	72	219	0
Future Vol, veh/h	4	96	12	72	219	0
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	4	96	12	72	219	0
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	8.3	9.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	100%	0%	0%	14%
Vol Thru, %	0%	100%	0%	86%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	219	4	96	84
LT Vol	219	0	0	12
Through Vol	0	4	0	72
RT Vol	0	0	96	0
Lane Flow Rate	219	4	96	84
Geometry Grp	2	7	7	5
Degree of Util (X)	0.277	0.006	0.118	0.11
Departure Headway (Hd)	4.561	5.148	4.443	4.712
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	791	697	808	763
Service Time	2.576	2.865	2.161	2.73
HCM Lane V/C Ratio	0.277	0.006	0.119	0.11
HCM Control Delay	9.3	7.9	7.8	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0	0.4	0.4

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	0	0	45	0	0	265	0	1776	17	0	2129	56
Future Vol, veh/h	0	0	45	0	0	265	0	1776	17	0	2129	56
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	-	-	0	-	-	0	-	-	-	-	-	-
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	45	0	0	265	0	1776	17	0	2129	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1093	-	-	897	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	209	0	0	283	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	209	-	-	283	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.9	78	0	0
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	209	283	-	-
HCM Lane V/C Ratio	-	-	0.215	0.936	-	-
HCM Control Delay (s)	-	-	26.9	78	-	-
HCM Lane LOS	-	-	D	F	-	-
HCM 95th %tile Q(veh)	-	-	0.8	8.9	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1388	2141	51	0	5
Future Vol, veh/h	0	1388	2141	51	0	5
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	1388	2141	51	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1096
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	179
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	179
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	179
HCM Lane V/C Ratio	-	-	-	0.028
HCM Control Delay (s)	-	-	-	25.7
HCM Lane LOS	-	-	-	D
HCM 95th %tile Q(veh)	-	-	-	0.1

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	1263	83	81	2199	238	5	0	11	14	0	11
Future Vol, veh/h	15	1263	83	81	2199	238	5	0	11	14	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	0	-	-	-	-	-	-	-	-
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	1263	83	81	2199	238	5	0	11	14	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2437	0	0	1346	0	0	2377	3934	673	3015	3856	1219
Stage 1	-	-	-	-	-	-	1335	1335	-	2480	2480	-
Stage 2	-	-	-	-	-	-	1042	2599	-	535	1376	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	75	-	-	265	-	-	37	3	341	14	4	148
Stage 1	-	-	-	-	-	-	116	221	-	17	58	-
Stage 2	-	-	-	-	-	-	221	50	-	454	211	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	75	-	-	265	-	-	22	2	341	~ 9	2	148
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	2	-	~ 9	2	-
Stage 1	-	-	-	-	-	-	93	177	-	14	40	-
Stage 2	-	-	-	-	-	-	142	35	-	351	169	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.8	82.2	$ 845
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	62	75	-	-	265	-	-	15
HCM Lane V/C Ratio	0.258	0.2	-	-	0.306	-	-	1.667
HCM Control Delay (s)	82.2	64.6	-	-	24.5	-	-	$ 845
HCM Lane LOS	F	F	-	-	C	-	-	F
HCM 95th %tile Q(veh)	0.9	0.7	-	-	1.3	-	-	3.8

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

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1173	2752	182	15	20
Future Vol, veh/h	0	1173	2752	182	15	20
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	1173	2752	182	15	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	3312	1467
Stage 1	-	-	-	-	2843	-
Stage 2	-	-	-	-	469	-
Critical Hdwy	-	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	0	-	-	-	17	100
Stage 1	0	-	-	-	16	-
Stage 2	0	-	-	-	545	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	17	100
Mov Cap-2 Maneuver	-	-	-	-	17	-
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	545	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 374.8
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	32
HCM Lane V/C Ratio	-	-	-	1.094
HCM Control Delay (s)	-	-	-	$ 374.8
HCM Lane LOS	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	3.8

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

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	12	12	2	221	0	47	0	11	0	0	0
Future Vol, veh/h	0	12	12	2	221	0	47	0	11	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	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	12	12	2	221	0	47	0	11	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	221	0	0	24	0	0	243	243	18	249	249	221
Stage 1	-	-	-	-	-	-	18	18	-	225	225	-
Stage 2	-	-	-	-	-	-	225	225	-	24	24	-
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	1348	-	-	1591	-	-	711	659	1061	705	654	819
Stage 1	-	-	-	-	-	-	1001	880	-	778	718	-
Stage 2	-	-	-	-	-	-	778	718	-	994	875	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1348	-	-	1591	-	-	710	658	1061	697	653	819
Mov Cap-2 Maneuver	-	-	-	-	-	-	710	658	-	697	653	-
Stage 1	-	-	-	-	-	-	1001	880	-	778	717	-
Stage 2	-	-	-	-	-	-	777	717	-	984	875	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	10.1	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	758	1348	-	-	1591	-	-	-
HCM Lane V/C Ratio	0.077	-	-	-	0.001	-	-	-
HCM Control Delay (s)	10.1	0	-	-	7.3	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	-

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	16	0	3	0	0	0	17	156	2	2	33	12
Future Vol, veh/h	16	0	3	0	0	0	17	156	2	2	33	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	16	0	3	0	0	0	17	156	2	2	33	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	234	235	39	236	240	157	45	0	0	158	0	0
Stage 1	43	43	-	191	191	-	-	-	-	-	-	-
Stage 2	191	192	-	45	49	-	-	-	-	-	-	-
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	721	666	1033	718	661	889	1563	-	-	1422	-	-
Stage 1	971	859	-	811	742	-	-	-	-	-	-	-
Stage 2	811	742	-	969	854	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	714	657	1033	709	652	889	1563	-	-	1422	-	-
Mov Cap-2 Maneuver	714	657	-	709	652	-	-	-	-	-	-	-
Stage 1	959	858	-	801	733	-	-	-	-	-	-	-
Stage 2	801	733	-	965	853	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	0	0.7	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1563	-	-	751	-	1422	-	-
HCM Lane V/C Ratio	0.011	-	-	0.025	-	0.001	-	-
HCM Control Delay (s)	7.3	0	-	9.9	0	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	37	40	80	32	5
Future Vol, veh/h	15	37	40	80	32	5
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	15	37	40	80	32	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	195	35	37	0	-	0
Stage 1	35	-	-	-	-	-
Stage 2	160	-	-	-	-	-
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	794	1038	1574	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	869	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	773	1038	1574	-	-	-
Mov Cap-2 Maneuver	773	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	869	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	2.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1574	-	945	-	-
HCM Lane V/C Ratio	0.025	-	0.055	-	-
HCM Control Delay (s)	7.3	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	31	5	309	30	20
Future Vol, veh/h	200	31	5	309	30	20
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	200	31	5	309	30	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	231	0	535	216
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	319	-
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	-	-	1337	-	506	824
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	737	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1337	-	503	824
Mov Cap-2 Maneuver	-	-	-	-	503	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	596	-	-	1337	-
HCM Lane V/C Ratio	0.084	-	-	0.004	-
HCM Control Delay (s)	11.6	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	55	167	3	51	47
Future Vol, veh/h	4	55	167	3	51	47
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	4	55	167	3	51	47

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	318	169	0	0	170	0
Stage 1	169	-	-	-	-	-
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	675	875	-	-	1407	-
Stage 1	861	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	650	875	-	-	1407	-
Mov Cap-2 Maneuver	650	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	855	1407	-
HCM Lane V/C Ratio	-	-	0.069	0.036	-
HCM Control Delay (s)	-	-	9.5	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

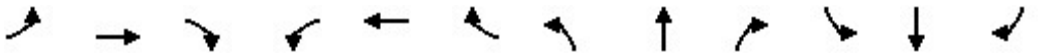
HCM 6th Signalized Intersection Summary
1: Park Boulevard (E-W) & Page Mill Road (N-S)

05/25/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	280	554	193	166	3	36	14	20	16	13	0
Future Volume (veh/h)	3	280	554	193	166	3	36	14	20	16	13	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	280	554	193	166	3	36	14	20	16	13	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	58	904	768	284	220	3	610	250	358	588	672	0
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.36	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	3	1865	1585	407	455	7	1401	696	995	1375	1870	0
Grp Volume(v), veh/h	283	0	554	362	0	0	36	0	34	16	13	0
Grp Sat Flow(s),veh/h/ln	1869	0	1585	870	0	0	1401	0	1691	1375	1870	0
Q Serve(g_s), s	0.0	0.0	17.7	18.6	0.0	0.0	1.1	0.0	0.8	0.5	0.3	0.0
Cycle Q Clear(g_c), s	5.9	0.0	17.7	24.5	0.0	0.0	1.4	0.0	0.8	1.3	0.3	0.0
Prop In Lane	0.01		1.00	0.53		0.01	1.00		0.59	1.00		0.00
Lane Grp Cap(c), veh/h	962	0	768	508	0	0	610	0	608	588	672	0
V/C Ratio(X)	0.29	0.00	0.72	0.71	0.00	0.00	0.06	0.00	0.06	0.03	0.02	0.00
Avail Cap(c_a), veh/h	962	0	768	508	0	0	610	0	608	588	672	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.0	0.0	13.1	15.4	0.0	0.0	13.7	0.0	13.4	13.8	13.2	0.0
Incr Delay (d2), s/veh	0.8	0.0	5.8	8.3	0.0	0.0	0.2	0.0	0.2	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	2.4	0.0	6.8	5.4	0.0	0.0	0.4	0.0	0.3	0.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.8	0.0	18.9	23.7	0.0	0.0	13.9	0.0	13.6	13.9	13.3	0.0
LnGrp LOS	B	A	B	C	A	A	B	A	B	B	B	A
Approach Vol, veh/h		837			362			70			29	
Approach Delay, s/veh		16.2			23.7			13.7			13.6	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		28.0		36.0		28.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		31.0		23.0		31.0		23.0				
Max Q Clear Time (g_c+I1), s		19.7		3.3		26.5		3.4				
Green Ext Time (p_c), s		3.2		0.1		1.3		0.2				

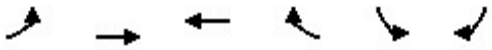
Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	758	1790	348	261	1189	330	395	1679	278	425	946	193
Future Volume (veh/h)	758	1790	348	261	1189	330	395	1679	278	425	946	193
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	758	1790	348	261	1189	330	395	1679	278	425	946	193
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	374	1659	515	173	1060	294	259	1392	700	230	1127	230
Arrive On Green	0.11	0.32	0.32	0.05	0.27	0.27	0.08	0.39	0.39	0.07	0.38	0.38
Sat Flow, veh/h	3456	5106	1585	3456	3973	1103	3456	3554	1585	3456	2940	599
Grp Volume(v), veh/h	758	1790	348	261	1019	500	395	1679	278	425	571	568
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1672	1728	1777	1585	1728	1777	1762
Q Serve(g_s), s	13.0	39.0	22.8	6.0	32.0	32.0	9.0	47.0	14.3	8.0	35.1	35.2
Cycle Q Clear(g_c), s	13.0	39.0	22.8	6.0	32.0	32.0	9.0	47.0	14.3	8.0	35.1	35.2
Prop In Lane	1.00		1.00	1.00		0.66	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	374	1659	515	173	908	446	259	1392	700	230	681	676
V/C Ratio(X)	2.02	1.08	0.68	1.51	1.12	1.12	1.52	1.21	0.40	1.84	0.84	0.84
Avail Cap(c_a), veh/h	374	1659	515	173	908	446	259	1392	700	230	681	676
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	53.5	40.5	35.0	57.0	44.0	44.0	55.5	36.5	22.7	56.0	33.6	33.7
Incr Delay (d2), s/veh	470.4	46.7	3.5	257.3	69.4	80.4	254.5	99.9	1.7	396.5	11.8	12.0
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	30.0	23.1	9.1	8.8	21.9	22.9	13.0	38.9	5.5	16.1	16.9	16.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	523.9	87.2	38.5	314.3	113.4	124.4	310.0	136.4	24.4	452.5	45.5	45.7
LnGrp LOS	F	F	D	F	F	F	F	F	C	F	D	D
Approach Vol, veh/h		2896			1780			2352			1564	
Approach Delay, s/veh		195.6			145.9			152.3			156.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	52.0	11.0	44.0	14.0	51.0	18.0	37.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	47.0	6.0	39.0	9.0	46.0	13.0	32.0
Max Q Clear Time (g_c+I1), s	10.0	49.0	8.0	41.0	11.0	37.2	15.0	34.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	166.3
HCM 6th LOS	F



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	91	2401	1829	88	144	125
Future Volume (veh/h)	91	2401	1829	88	144	125
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	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	91	2401	1829	88	144	125
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	115	2990	2360	113	286	248
Arrive On Green	0.06	0.59	0.47	0.47	0.32	0.32
Sat Flow, veh/h	1781	5274	5160	240	899	780
Grp Volume(v), veh/h	91	2401	1246	671	270	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1827	1685	0
Q Serve(g_s), s	5.8	42.2	34.9	35.0	14.9	0.0
Cycle Q Clear(g_c), s	5.8	42.2	34.9	35.0	14.9	0.0
Prop In Lane	1.00			0.13	0.53	0.46
Lane Grp Cap(c), veh/h	115	2990	1610	864	537	0
V/C Ratio(X)	0.79	0.80	0.77	0.78	0.50	0.00
Avail Cap(c_a), veh/h	194	3275	1649	885	537	0
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	0.00
Uniform Delay (d), s/veh	52.8	18.6	25.1	25.2	31.7	0.0
Incr Delay (d2), s/veh	11.4	1.4	2.3	4.3	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	15.6	14.0	15.5	6.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	64.2	20.0	27.4	29.4	35.0	0.0
LnGrp LOS	E	B	C	C	D	A
Approach Vol, veh/h		2492	1917		270	
Approach Delay, s/veh		21.6	28.1		35.0	
Approach LOS		C	C		D	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	72.6	42.0	12.9	59.7
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	73.5	36.5	12.5	55.5
Max Q Clear Time (g_c+I1), s	44.2	16.9	7.8	37.0
Green Ext Time (p_c), s	22.9	0.8	0.1	12.7

Intersection Summary	
HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2527	46	50	1819	99	515
Future Volume (veh/h)	2527	46	50	1819	99	515
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		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	2527	0	50	1819	99	515
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	2722		64	3123	541	482
Arrive On Green	0.53	0.00	0.04	0.61	0.30	0.30
Sat Flow, veh/h	5274	1585	1781	5274	1781	1585
Grp Volume(v), veh/h	2527	0	50	1819	99	515
Grp Sat Flow(s),veh/h/ln	1702	1585	1781	1702	1781	1585
Q Serve(g_s), s	59.5	0.0	3.6	27.9	5.3	39.5
Cycle Q Clear(g_c), s	59.5	0.0	3.6	27.9	5.3	39.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2722		64	3123	541	482
V/C Ratio(X)	0.93		0.78	0.58	0.18	1.07
Avail Cap(c_a), veh/h	2722		75	3123	541	482
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	28.1	0.0	62.1	15.2	33.4	45.3
Incr Delay (d2), s/veh	7.0	0.0	34.3	0.8	0.2	60.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.7	0.0	2.2	10.5	2.4	23.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.1	0.0	96.5	16.0	33.5	106.0
LnGrp LOS	D		F	B	C	F
Approach Vol, veh/h	2527			1869	614	
Approach Delay, s/veh	35.1			18.2	94.3	
Approach LOS	D			B	F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.2	74.8		45.0		85.0
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	5.5	68.5		39.5		79.5
Max Q Clear Time (g_c+I1), s	5.6	61.5		41.5		29.9
Green Ext Time (p_c), s	0.0	6.6		0.0		22.0

Intersection Summary		
HCM 6th Ctrl Delay		36.0
HCM 6th LOS		D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	5	157	47	63	21
Future Vol, veh/h	16	5	157	47	63	21
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	16	5	157	47	63	21
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	8.5	7.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	77%	76%	0%
Vol Thru, %	23%	0%	75%
Vol Right, %	0%	24%	25%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	204	21	84
LT Vol	157	16	0
Through Vol	47	0	63
RT Vol	0	5	21
Lane Flow Rate	204	21	84
Geometry Grp	1	1	1
Degree of Util (X)	0.237	0.027	0.093
Departure Headway (Hd)	4.189	4.573	3.973
Convergence, Y/N	Yes	Yes	Yes
Cap	857	788	893
Service Time	2.22	2.573	2.037
HCM Lane V/C Ratio	0.238	0.027	0.094
HCM Control Delay	8.5	7.7	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.1	0.3

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	5	53	21	1	126
Future Vol, veh/h	12	5	53	21	1	126
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	12	5	53	21	1	126
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.4	7.3	7.7
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	71%	1%
Vol Thru, %	72%	0%	99%
Vol Right, %	28%	29%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	74	17	127
LT Vol	0	12	1
Through Vol	53	0	126
RT Vol	21	5	0
Lane Flow Rate	74	17	127
Geometry Grp	1	1	1
Degree of Util (X)	0.08	0.02	0.142
Departure Headway (Hd)	3.888	4.243	4.021
Convergence, Y/N	Yes	Yes	Yes
Cap	919	833	893
Service Time	1.922	2.325	2.042
HCM Lane V/C Ratio	0.081	0.02	0.142
HCM Control Delay	7.3	7.4	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.1	0.5

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	208	1	53	70	2
Future Vol, veh/h	6	208	1	53	70	2
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	6	208	1	53	70	2
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8	7.7	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	97%	0%	0%	2%
Vol Thru, %	0%	100%	0%	98%
Vol Right, %	3%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	6	208	54
LT Vol	70	0	0	1
Through Vol	0	6	0	53
RT Vol	2	0	208	0
Lane Flow Rate	72	6	208	54
Geometry Grp	2	7	7	5
Degree of Util (X)	0.094	0.008	0.23	0.066
Departure Headway (Hd)	4.684	4.689	3.988	4.428
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	770	756	890	814
Service Time	2.685	2.461	1.759	2.428
HCM Lane V/C Ratio	0.094	0.008	0.234	0.066
HCM Control Delay	8.2	7.5	8	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0	0.9	0.2

Intersection	
Int Delay, s/veh	15.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	81	0	0	200	0	2807	4	0	1512	49
Future Vol, veh/h	0	0	81	0	0	200	0	2807	4	0	1512	49
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	-	-	0	-	-	0	-	-	-	-	-	-
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	81	0	0	200	0	2807	4	0	1512	49

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	781	-	-	1406	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	338	0	0	~ 129	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	338	-	-	~ 129	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	$ 343.3	0	0
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	338	129	-	-
HCM Lane V/C Ratio	-	-	0.24	1.55	-	-
HCM Control Delay (s)	-	-	19	$ 343.3	-	-
HCM Lane LOS	-	-	C	F	-	-
HCM 95th %tile Q(veh)	-	-	0.9	14.2	-	-

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2500	1808	19	0	2
Future Vol, veh/h	0	2500	1808	19	0	2
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	2500	1808	19	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	914
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	237
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	237
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	237
HCM Lane V/C Ratio	-	-	-	0.008
HCM Control Delay (s)	-	-	-	20.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	138.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	2413	53	21	1760	173	15	5	136	23	0	50
Future Vol, veh/h	20	2413	53	21	1760	173	15	5	136	23	0	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	0	-	-	-	-	-	-	-	-
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	20	2413	53	21	1760	173	15	5	136	23	0	50

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1933	0	0	2466	0	0	3226	4455	1233	2897	4395	967
Stage 1	-	-	-	-	-	-	2480	2480	-	1889	1889	-
Stage 2	-	-	-	-	-	-	746	1975	-	1008	2506	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	135	-	-	72	-	-	~ 10	~ 1	145	~ 17	2	218
Stage 1	-	-	-	-	-	-	17	58	-	46	117	-
Stage 2	-	-	-	-	-	-	338	106	-	232	56	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	135	-	-	72	-	-	~ 5	~ 1	145	-	1	218
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 5	~ 1	-	-	1	-
Stage 1	-	-	-	-	-	-	~ 14	49	-	39	83	-
Stage 2	-	-	-	-	-	-	185	75	-	~ 11	48	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.8	$ 4120.2	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	17	135	-	-	72	-	-	-
HCM Lane V/C Ratio	9.176	0.148	-	-	0.292	-	-	-
HCM Control Delay (s)	$ 4120.2	36.2	-	-	74.4	-	-	-
HCM Lane LOS	F	E	-	-	F	-	-	-
HCM 95th %tile Q(veh)	20.3	0.5	-	-	1.1	-	-	-

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

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3007	1816	50	33	53
Future Vol, veh/h	0	3007	1816	50	33	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3007	1816	50	33	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	3044	933
Stage 1	-	-	-	-	1841	-
Stage 2	-	-	-	-	1203	-
Critical Hdwy	-	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	0	-	-	-	~ 25	230
Stage 1	0	-	-	-	72	-
Stage 2	0	-	-	-	222	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	~ 25	230
Mov Cap-2 Maneuver	-	-	-	-	~ 25	-
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	222	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 446.6
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	55
HCM Lane V/C Ratio	-	-	-	1.564
HCM Control Delay (s)	-	-	-	$ 446.6
HCM Lane LOS	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	7.9

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

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	0	3	2	5	176	0	18	0	16	0	0	0
Future Vol, veh/h	0	3	2	5	176	0	18	0	16	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	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	2	5	176	0	18	0	16	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	176	0	0	5	0	0	190	190	4	198	191	176
Stage 1	-	-	-	-	-	-	4	4	-	186	186	-
Stage 2	-	-	-	-	-	-	186	186	-	12	5	-
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	1400	-	-	1616	-	-	770	705	1080	761	704	867
Stage 1	-	-	-	-	-	-	1018	892	-	816	746	-
Stage 2	-	-	-	-	-	-	816	746	-	1009	892	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1400	-	-	1616	-	-	768	703	1080	748	702	867
Mov Cap-2 Maneuver	-	-	-	-	-	-	768	703	-	748	702	-
Stage 1	-	-	-	-	-	-	1018	892	-	816	744	-
Stage 2	-	-	-	-	-	-	814	744	-	994	892	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	9.2	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	889	1400	-	-	1616	-	-	-
HCM Lane V/C Ratio	0.038	-	-	-	0.003	-	-	-
HCM Control Delay (s)	9.2	0	-	-	7.2	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	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	16	1	13	0	0	1	3	38	3	4	53	18
Future Vol, veh/h	16	1	13	0	0	1	3	38	3	4	53	18
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	16	1	13	0	0	1	3	38	3	4	53	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	116	117	62	123	125	40	71	0	0	41	0	0
Stage 1	70	70	-	46	46	-	-	-	-	-	-	-
Stage 2	46	47	-	77	79	-	-	-	-	-	-	-
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	861	773	1003	852	765	1031	1529	-	-	1568	-	-
Stage 1	940	837	-	968	857	-	-	-	-	-	-	-
Stage 2	968	856	-	932	829	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	857	769	1003	837	761	1031	1529	-	-	1568	-	-
Mov Cap-2 Maneuver	857	769	-	837	761	-	-	-	-	-	-	-
Stage 1	938	834	-	966	855	-	-	-	-	-	-	-
Stage 2	965	854	-	916	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.5	0.5	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1529	-	-	911	1031	1568	-	-
HCM Lane V/C Ratio	0.002	-	-	0.033	0.001	0.003	-	-
HCM Control Delay (s)	7.4	0	-	9.1	8.5	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	43	55	67	150	4
Future Vol, veh/h	13	43	55	67	150	4
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	13	43	55	67	150	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	329	152	154	0	-	0
Stage 1	152	-	-	-	-	-
Stage 2	177	-	-	-	-	-
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	665	894	1426	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	854	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	638	894	1426	-	-	-
Mov Cap-2 Maneuver	638	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	854	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	3.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1426	-	818	-	-
HCM Lane V/C Ratio	0.039	-	0.068	-	-
HCM Control Delay (s)	7.6	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	262	66	20	244	22	36
Future Vol, veh/h	262	66	20	244	22	36
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	262	66	20	244	22	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	328	0	579	295
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	284	-
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	-	-	1232	-	477	744
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	764	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1232	-	468	744
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	749	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	608	-	-	1232	-
HCM Lane V/C Ratio	0.095	-	-	0.016	-
HCM Control Delay (s)	11.5	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	4.5

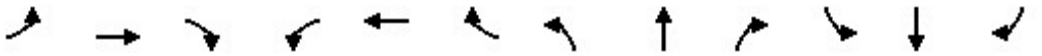
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	22	49	16	153	67
Future Vol, veh/h	4	22	49	16	153	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	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	4	22	49	16	153	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	430	57	0	0	65	0
Stage 1	57	-	-	-	-	-
Stage 2	373	-	-	-	-	-
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	582	1009	-	-	1537	-
Stage 1	966	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	522	1009	-	-	1537	-
Mov Cap-2 Maneuver	522	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	624	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	5.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	882	1537	-
HCM Lane V/C Ratio	-	-	0.029	0.1	-
HCM Control Delay (s)	-	-	9.2	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.3	-

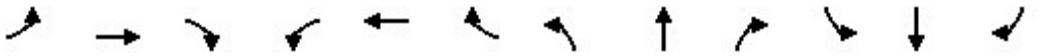
C.3: Horizon Year (2040) plus Project Alt. 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	225	320	218	132	20	49	15	47	5	11	4
Future Volume (veh/h)	4	225	320	218	132	20	49	15	47	5	11	4
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	4	225	320	218	132	20	49	15	47	5	11	4
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	60	901	768	357	200	27	607	143	448	561	470	171
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	6	1861	1585	552	413	55	1398	398	1248	1340	1309	476
Grp Volume(v), veh/h	229	0	320	370	0	0	49	0	62	5	0	15
Grp Sat Flow(s),veh/h/ln	1867	0	1585	1020	0	0	1398	0	1646	1340	0	1785
Q Serve(g_s), s	0.0	0.0	8.3	15.5	0.0	0.0	1.5	0.0	1.6	0.2	0.0	0.3
Cycle Q Clear(g_c), s	4.6	0.0	8.3	20.1	0.0	0.0	1.8	0.0	1.6	1.8	0.0	0.3
Prop In Lane	0.02		1.00	0.59		0.05	1.00		0.76	1.00		0.27
Lane Grp Cap(c), veh/h	962	0	768	584	0	0	607	0	591	561	0	641
V/C Ratio(X)	0.24	0.00	0.42	0.63	0.00	0.00	0.08	0.00	0.10	0.01	0.00	0.02
Avail Cap(c_a), veh/h	962	0	768	584	0	0	607	0	591	561	0	641
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	10.7	14.3	0.0	0.0	13.8	0.0	13.6	14.2	0.0	13.2
Incr Delay (d2), s/veh	0.6	0.0	1.7	5.2	0.0	0.0	0.3	0.0	0.4	0.0	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	1.8	0.0	3.0	4.8	0.0	0.0	0.5	0.0	0.6	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.3	0.0	12.3	19.5	0.0	0.0	14.1	0.0	14.0	14.3	0.0	13.3
LnGrp LOS	B	A	B	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		549			370			111			20	
Approach Delay, s/veh		11.5			19.5			14.0			13.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		28.0		36.0		28.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		31.0		23.0		31.0		23.0				
Max Q Clear Time (g_c+I1), s		10.3		3.8		22.1		3.8				
Green Ext Time (p_c), s		2.5		0.0		2.0		0.4				

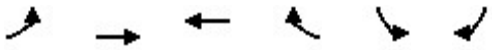
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	760	334	477	1470	171	465	1109	227	362	1460	287
Future Volume (veh/h)	398	760	334	477	1470	171	465	1109	227	362	1460	287
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	398	760	334	477	1470	171	465	1109	227	362	1460	287
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	230	1362	423	259	1275	148	259	1333	713	403	1238	238
Arrive On Green	0.07	0.27	0.27	0.08	0.28	0.28	0.08	0.38	0.38	0.12	0.42	0.42
Sat Flow, veh/h	3456	5106	1585	3456	4638	539	3456	3554	1585	3456	2972	572
Grp Volume(v), veh/h	398	760	334	477	1079	562	465	1109	227	362	860	887
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1773	1728	1777	1585	1728	1777	1767
Q Serve(g_s), s	8.0	15.4	23.5	9.0	33.0	33.0	9.0	34.0	11.0	12.4	50.0	50.0
Cycle Q Clear(g_c), s	8.0	15.4	23.5	9.0	33.0	33.0	9.0	34.0	11.0	12.4	50.0	50.0
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	230	1362	423	259	936	488	259	1333	713	403	740	736
V/C Ratio(X)	1.73	0.56	0.79	1.84	1.15	1.15	1.79	0.83	0.32	0.90	1.16	1.20
Avail Cap(c_a), veh/h	230	1362	423	259	936	488	259	1333	713	403	740	736
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	56.0	37.9	40.9	55.5	43.5	43.5	55.5	34.1	21.2	52.3	35.0	35.0
Incr Delay (d2), s/veh	345.0	0.5	9.8	392.8	80.8	90.2	372.4	6.2	1.2	22.2	87.5	104.5
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	14.5	6.4	10.2	18.0	24.1	26.4	17.3	15.4	4.3	6.6	38.7	42.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	401.0	38.4	50.6	448.3	124.3	133.7	427.9	40.3	22.4	74.5	122.5	139.5
LnGrp LOS	F	D	D	F	F	F	F	D	C	E	F	F
Approach Vol, veh/h		1492			2118			1801			2109	
Approach Delay, s/veh		137.9			199.8			138.1			121.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	50.0	14.0	37.0	14.0	55.0	13.0	38.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	45.0	9.0	32.0	9.0	50.0	8.0	33.0
Max Q Clear Time (g_c+I1), s	14.4	36.0	11.0	25.5	11.0	52.0	10.0	35.0
Green Ext Time (p_c), s	0.0	5.3	0.0	3.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	150.7
HCM 6th LOS	F



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	1116	2383	54	78	105
Future Volume (veh/h)	64	1116	2383	54	78	105
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	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	64	1116	2383	54	78	105
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	82	3037	2582	58	221	297
Arrive On Green	0.05	0.59	0.50	0.50	0.31	0.31
Sat Flow, veh/h	1781	5274	5306	116	705	950
Grp Volume(v), veh/h	64	1116	1576	861	184	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1849	1664	0
Q Serve(g_s), s	4.2	13.5	51.1	51.6	10.2	0.0
Cycle Q Clear(g_c), s	4.2	13.5	51.1	51.6	10.2	0.0
Prop In Lane	1.00			0.06	0.42	0.57
Lane Grp Cap(c), veh/h	82	3037	1711	929	521	0
V/C Ratio(X)	0.78	0.37	0.92	0.93	0.35	0.00
Avail Cap(c_a), veh/h	100	3115	1728	939	521	0
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	0.00
Uniform Delay (d), s/veh	56.2	12.5	27.5	27.6	31.6	0.0
Incr Delay (d2), s/veh	26.6	0.1	8.6	14.6	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.9	21.6	25.3	4.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	82.8	12.6	36.0	42.2	33.5	0.0
LnGrp LOS	F	B	D	D	C	A
Approach Vol, veh/h		1180	2437		184	
Approach Delay, s/veh		16.4	38.2		33.5	
Approach LOS		B	D		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	76.4	42.8	11.0	65.4
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	72.7	37.3	6.7	60.5
Max Q Clear Time (g_c+I1), s	15.5	12.2	6.2	53.6
Green Ext Time (p_c), s	10.3	0.5	0.0	6.3

Intersection Summary	
HCM 6th Ctrl Delay	31.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1060	135	333	2418	22	104
Future Volume (veh/h)	1060	135	333	2418	22	104
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		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	1060	0	333	2418	22	104
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	2388		318	3748	161	143
Arrive On Green	0.47	0.00	0.18	0.73	0.09	0.09
Sat Flow, veh/h	5274	1585	1781	5274	1781	1585
Grp Volume(v), veh/h	1060	0	333	2418	22	104
Grp Sat Flow(s),veh/h/ln	1702	1585	1781	1702	1781	1585
Q Serve(g_s), s	8.7	0.0	11.2	15.0	0.7	4.0
Cycle Q Clear(g_c), s	8.7	0.0	11.2	15.0	0.7	4.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2388		318	3748	161	143
V/C Ratio(X)	0.44		1.05	0.65	0.14	0.73
Avail Cap(c_a), veh/h	2388		318	3748	967	860
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	11.2	0.0	25.7	4.2	26.2	27.7
Incr Delay (d2), s/veh	0.6	0.0	62.9	0.9	0.4	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	9.9	2.6	0.3	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	0.0	88.7	5.1	26.6	34.6
LnGrp LOS	B		F	A	C	C
Approach Vol, veh/h	1060			2751	126	
Approach Delay, s/veh	11.8			15.2	33.2	
Approach LOS	B			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.7	34.8		11.2		51.5
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	11.2	29.3		34.0		29.3
Max Q Clear Time (g_c+I1), s	13.2	10.7		6.0		17.0
Green Ext Time (p_c), s	0.0	7.1		0.4		10.9

Intersection Summary	
HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	21	328	36	9	81
Future Vol, veh/h	12	21	328	36	9	81
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	12	21	328	36	9	81
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	10.5	7.2
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	90%	36%	0%
Vol Thru, %	10%	0%	10%
Vol Right, %	0%	64%	90%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	364	33	90
LT Vol	328	12	0
Through Vol	36	0	9
RT Vol	0	21	81
Lane Flow Rate	364	33	90
Geometry Grp	1	1	1
Degree of Util (X)	0.429	0.042	0.096
Departure Headway (Hd)	4.239	4.615	3.835
Convergence, Y/N	Yes	Yes	Yes
Cap	848	780	939
Service Time	2.279	2.62	1.839
HCM Lane V/C Ratio	0.429	0.042	0.096
HCM Control Delay	10.5	7.8	7.2
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2.2	0.1	0.3

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	11	9	20	5	25
Future Vol, veh/h	2	11	9	20	5	25
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	2	11	9	20	5	25
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	6.6	6.7	7.2
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	15%	17%
Vol Thru, %	31%	0%	83%
Vol Right, %	69%	85%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	29	13	30
LT Vol	0	2	5
Through Vol	9	0	25
RT Vol	20	11	0
Lane Flow Rate	29	13	30
Geometry Grp	1	1	1
Degree of Util (X)	0.029	0.013	0.033
Departure Headway (Hd)	3.566	3.56	4.013
Convergence, Y/N	Yes	Yes	Yes
Cap	1008	1007	897
Service Time	1.573	1.577	2.017
HCM Lane V/C Ratio	0.029	0.013	0.033
HCM Control Delay	6.7	6.6	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.1

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	86	12	72	216	0
Future Vol, veh/h	4	86	12	72	216	0
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	4	86	12	72	216	0
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	8.3	9.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	100%	0%	0%	14%
Vol Thru, %	0%	100%	0%	86%
Vol Right, %	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	216	4	86	84
LT Vol	216	0	0	12
Through Vol	0	4	0	72
RT Vol	0	0	86	0
Lane Flow Rate	216	4	86	84
Geometry Grp	2	7	7	5
Degree of Util (X)	0.272	0.006	0.106	0.11
Departure Headway (Hd)	4.537	5.139	4.434	4.693
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	793	698	810	766
Service Time	2.554	2.855	2.15	2.709
HCM Lane V/C Ratio	0.272	0.006	0.106	0.11
HCM Control Delay	9.2	7.9	7.7	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0	0.4	0.4

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	0	0	45	0	0	294	0	1534	158	0	2099	56
Future Vol, veh/h	0	0	45	0	0	294	0	1534	158	0	2099	56
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	-	-	0	-	-	0	-	-	-	-	-	-
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	45	0	0	294	0	1534	158	0	2099	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1078	-	-	846	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	214	0	0	306	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	214	-	-	306	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.2	79.8	0	0
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	214	306	-	-
HCM Lane V/C Ratio	-	-	0.21	0.961	-	-
HCM Control Delay (s)	-	-	26.2	79.8	-	-
HCM Lane LOS	-	-	D	F	-	-
HCM 95th %tile Q(veh)	-	-	0.8	9.8	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1334	2079	38	0	47
Future Vol, veh/h	0	1334	2079	38	0	47
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	1334	2079	38	0	47

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1059
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	189
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	189
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	30.2
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	189
HCM Lane V/C Ratio	-	-	-	0.249
HCM Control Delay (s)	-	-	-	30.2
HCM Lane LOS	-	-	-	D
HCM 95th %tile Q(veh)	-	-	-	0.9

Intersection	
Int Delay, s/veh	12.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	1203	83	81	2135	326	5	0	11	22	0	14
Future Vol, veh/h	21	1203	83	81	2135	326	5	0	11	22	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	0	-	-	-	-	-	-	-	-
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	21	1203	83	81	2135	326	5	0	11	22	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2461	0	0	1286	0	0	2303	3910	643	2983	3788	1231
Stage 1	-	-	-	-	-	-	1287	1287	-	2460	2460	-
Stage 2	-	-	-	-	-	-	1016	2623	-	523	1328	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	73	-	-	284	-	-	41	3	357	~ 15	4	145
Stage 1	-	-	-	-	-	-	125	233	-	~ 18	60	-
Stage 2	-	-	-	-	-	-	230	49	-	461	223	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	73	-	-	284	-	-	23	2	357	~ 9	2	145
Mov Cap-2 Maneuver	-	-	-	-	-	-	23	2	-	~ 9	2	-
Stage 1	-	-	-	-	-	-	89	166	-	~ 13	43	-
Stage 2	-	-	-	-	-	-	149	35	-	318	159	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.7	79.1	$ 1265.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	64	73	-	-	284	-	-	14
HCM Lane V/C Ratio	0.25	0.288	-	-	0.285	-	-	2.571
HCM Control Delay (s)	79.1	73.1	-	-	22.7	-	-	$ 1265.8
HCM Lane LOS	F	F	-	-	C	-	-	F
HCM 95th %tile Q(veh)	0.9	1	-	-	1.1	-	-	5.3

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

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1186	2731	169	17	21
Future Vol, veh/h	0	1186	2731	169	17	21
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	1186	2731	169	17	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	3290	1450
Stage 1	-	-	-	-	2816	-
Stage 2	-	-	-	-	474	-
Critical Hdwy	-	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	0	-	-	-	18	103
Stage 1	0	-	-	-	~ 16	-
Stage 2	0	-	-	-	541	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	18	103
Mov Cap-2 Maneuver	-	-	-	-	18	-
Stage 1	-	-	-	-	~ 16	-
Stage 2	-	-	-	-	541	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 388.4
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	33
HCM Lane V/C Ratio	-	-	-	1.152
HCM Control Delay (s)	-	-	-	$ 388.4
HCM Lane LOS	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	4.1

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

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	130	7	17	2	238	147	34	0	11	9	32	18
Future Vol, veh/h	130	7	17	2	238	147	34	0	11	9	32	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	130	7	17	2	238	147	34	0	11	9	32	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	385	0	0	24	0	0	617	665	16	597	600	312
Stage 1	-	-	-	-	-	-	276	276	-	316	316	-
Stage 2	-	-	-	-	-	-	341	389	-	281	284	-
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	1173	-	-	1591	-	-	402	381	1063	415	415	728
Stage 1	-	-	-	-	-	-	730	682	-	695	655	-
Stage 2	-	-	-	-	-	-	674	608	-	726	676	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1173	-	-	1591	-	-	334	337	1063	375	367	728
Mov Cap-2 Maneuver	-	-	-	-	-	-	334	337	-	375	367	-
Stage 1	-	-	-	-	-	-	648	605	-	616	654	-
Stage 2	-	-	-	-	-	-	624	607	-	637	600	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.1	0	15.1	14.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	401	1173	-	-	1591	-	-	434
HCM Lane V/C Ratio	0.112	0.111	-	-	0.001	-	-	0.136
HCM Control Delay (s)	15.1	8.5	0	-	7.3	0	-	14.6
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.4	-	-	0	-	-	0.5

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	16	0	3	2	0	0	17	147	2	2	34	12
Future Vol, veh/h	16	0	3	2	0	0	17	147	2	2	34	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	16	0	3	2	0	0	17	147	2	2	34	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	226	227	40	228	232	148	46	0	0	149	0	0
Stage 1	44	44	-	182	182	-	-	-	-	-	-	-
Stage 2	182	183	-	46	50	-	-	-	-	-	-	-
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	729	672	1031	727	668	899	1562	-	-	1432	-	-
Stage 1	970	858	-	820	749	-	-	-	-	-	-	-
Stage 2	820	748	-	968	853	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	722	663	1031	718	659	899	1562	-	-	1432	-	-
Mov Cap-2 Maneuver	722	663	-	718	659	-	-	-	-	-	-	-
Stage 1	958	857	-	810	740	-	-	-	-	-	-	-
Stage 2	810	739	-	964	852	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	10	0.8	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1562	-	-	758	718	1432	-	-
HCM Lane V/C Ratio	0.011	-	-	0.025	0.003	0.001	-	-
HCM Control Delay (s)	7.3	0	-	9.9	10	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	25	72	19	27	5
Future Vol, veh/h	15	25	72	19	27	5
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	15	25	72	19	27	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	193	30	32	0	-	0
Stage 1	30	-	-	-	-	-
Stage 2	163	-	-	-	-	-
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	796	1044	1580	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	759	1044	1580	-	-	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	5.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1580	-	915	-	-
HCM Lane V/C Ratio	0.046	-	0.044	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	183	89	5	335	30	20
Future Vol, veh/h	183	89	5	335	30	20
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	183	89	5	335	30	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	272	0	573	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	345	-
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	-	-	1291	-	481	811
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	717	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1291	-	479	811
Mov Cap-2 Maneuver	-	-	-	-	479	-
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	573	-	-	1291	-
HCM Lane V/C Ratio	0.087	-	-	0.004	-
HCM Control Delay (s)	11.9	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

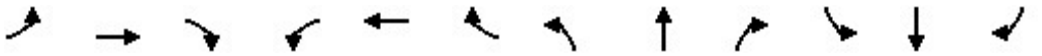
Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	55	162	3	51	48
Future Vol, veh/h	4	55	162	3	51	48
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	4	55	162	3	51	48

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	314	164	0	0	165	0
Stage 1	164	-	-	-	-	-
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	679	881	-	-	1413	-
Stage 1	865	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	654	881	-	-	1413	-
Mov Cap-2 Maneuver	654	-	-	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	3.9
HCM LOS	A		

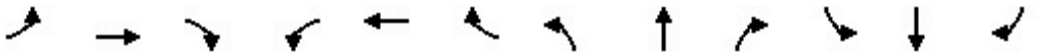
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	861	1413	-
HCM Lane V/C Ratio	-	-	0.069	0.036	-
HCM Control Delay (s)	-	-	9.5	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	309	554	198	111	3	36	14	18	16	13	0
Future Volume (veh/h)	3	309	554	198	111	3	36	14	18	16	13	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	309	554	198	111	3	36	14	18	16	13	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	62	840	713	280	137	3	651	285	366	632	717	0
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.38	0.38	0.38	0.38	0.38	0.00
Sat Flow, veh/h	3	1867	1585	404	305	7	1401	743	955	1377	1870	0
Grp Volume(v), veh/h	312	0	554	312	0	0	36	0	32	16	13	0
Grp Sat Flow(s),veh/h/ln	1870	0	1585	716	0	0	1401	0	1698	1377	1870	0
Q Serve(g_s), s	0.0	0.0	17.7	19.2	0.0	0.0	1.0	0.0	0.7	0.4	0.3	0.0
Cycle Q Clear(g_c), s	6.6	0.0	17.7	25.8	0.0	0.0	1.2	0.0	0.7	1.2	0.3	0.0
Prop In Lane	0.01		1.00	0.63		0.01	1.00		0.56	1.00		0.00
Lane Grp Cap(c), veh/h	902	0	713	420	0	0	651	0	651	632	717	0
V/C Ratio(X)	0.35	0.00	0.78	0.74	0.00	0.00	0.06	0.00	0.05	0.03	0.02	0.00
Avail Cap(c_a), veh/h	902	0	713	420	0	0	651	0	651	632	717	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.9	0.0	14.0	17.6	0.0	0.0	11.9	0.0	11.6	12.0	11.5	0.0
Incr Delay (d2), s/veh	1.1	0.0	8.1	11.2	0.0	0.0	0.2	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	2.7	0.0	7.1	5.1	0.0	0.0	0.3	0.0	0.3	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	0.0	22.1	28.9	0.0	0.0	12.0	0.0	11.8	12.1	11.5	0.0
LnGrp LOS	B	A	C	C	A	A	B	A	B	B	B	A
Approach Vol, veh/h		866			312			68			29	
Approach Delay, s/veh		18.4			28.9			11.9			11.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.0		28.0		32.0		28.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		27.0		23.0		27.0		23.0				
Max Q Clear Time (g_c+I1), s		19.7		3.2		27.8		3.2				
Green Ext Time (p_c), s		2.6		0.1		0.0		0.2				

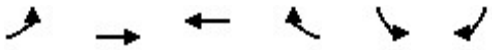
Intersection Summary												
HCM 6th Ctrl Delay			20.5									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	762	1823	348	250	1235	301	395	1678	296	415	946	193
Future Volume (veh/h)	762	1823	348	250	1235	301	395	1678	296	415	946	193
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	762	1823	348	250	1235	301	395	1678	296	415	946	193
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	374	1659	515	173	1092	266	317	1392	700	230	1078	220
Arrive On Green	0.11	0.32	0.32	0.05	0.27	0.27	0.09	0.39	0.39	0.07	0.37	0.37
Sat Flow, veh/h	3456	5106	1585	3456	4097	998	3456	3554	1585	3456	2940	599
Grp Volume(v), veh/h	762	1823	348	250	1026	510	395	1678	296	415	571	568
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1691	1728	1777	1585	1728	1777	1762
Q Serve(g_s), s	13.0	39.0	22.8	6.0	32.0	32.0	11.0	47.0	15.4	8.0	36.0	36.1
Cycle Q Clear(g_c), s	13.0	39.0	22.8	6.0	32.0	32.0	11.0	47.0	15.4	8.0	36.0	36.1
Prop In Lane	1.00		1.00	1.00		0.59	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	374	1659	515	173	908	451	317	1392	700	230	652	646
V/C Ratio(X)	2.04	1.10	0.68	1.45	1.13	1.13	1.25	1.21	0.42	1.80	0.88	0.88
Avail Cap(c_a), veh/h	374	1659	515	173	908	451	317	1392	700	230	652	646
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	53.5	40.5	35.0	57.0	44.0	44.0	54.5	36.5	23.0	56.0	35.5	35.5
Incr Delay (d2), s/veh	475.2	54.2	3.5	230.5	72.6	83.3	134.8	99.6	1.9	377.4	15.4	15.6
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	30.3	24.2	9.1	8.1	22.4	23.5	10.7	38.9	6.0	15.5	17.9	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	528.7	94.7	38.5	287.5	116.6	127.3	189.3	136.1	24.9	433.4	50.9	51.1
LnGrp LOS	F	F	D	F	F	F	F	F	C	F	D	D
Approach Vol, veh/h		2933			1786			2369			1554	
Approach Delay, s/veh		200.8			143.6			131.0			153.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	52.0	11.0	44.0	16.0	49.0	18.0	37.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	47.0	6.0	39.0	11.0	44.0	13.0	32.0
Max Q Clear Time (g_c+I1), s	10.0	49.0	8.0	41.0	13.0	38.1	15.0	34.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	161.3
HCM 6th LOS	F



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	117	2401	1840	97	134	33
Future Volume (veh/h)	117	2401	1840	97	134	33
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	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	117	2401	1840	97	134	33
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	102	2629	1998	105	520	128
Arrive On Green	0.06	0.51	0.40	0.40	0.37	0.37
Sat Flow, veh/h	1781	5274	5134	261	1387	342
Grp Volume(v), veh/h	117	2401	1260	677	168	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1823	1739	0
Q Serve(g_s), s	5.7	42.9	35.0	35.1	6.7	0.0
Cycle Q Clear(g_c), s	5.7	42.9	35.0	35.1	6.7	0.0
Prop In Lane	1.00			0.14	0.80	0.20
Lane Grp Cap(c), veh/h	102	2629	1370	734	652	0
V/C Ratio(X)	1.15	0.91	0.92	0.92	0.26	0.00
Avail Cap(c_a), veh/h	102	2652	1385	742	652	0
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	0.00
Uniform Delay (d), s/veh	46.9	22.1	28.2	28.3	21.5	0.0
Incr Delay (d2), s/veh	134.2	5.4	10.1	17.0	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	16.9	15.3	17.9	2.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	181.1	27.5	38.4	45.2	22.5	0.0
LnGrp LOS	F	C	D	D	C	A
Approach Vol, veh/h		2518	1937		168	
Approach Delay, s/veh		34.7	40.8		22.5	
Approach LOS		C	D		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	56.8	42.8	11.2	45.6
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	51.7	37.3	5.7	40.5
Max Q Clear Time (g_c+I1), s	44.9	8.7	7.7	37.1
Green Ext Time (p_c), s	6.3	0.5	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2517	46	50	1839	99	515
Future Volume (veh/h)	2517	46	50	1839	99	515
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		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	2517	0	50	1839	99	515
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	2722		64	3123	541	482
Arrive On Green	0.53	0.00	0.04	0.61	0.30	0.30
Sat Flow, veh/h	5274	1585	1781	5274	1781	1585
Grp Volume(v), veh/h	2517	0	50	1839	99	515
Grp Sat Flow(s),veh/h/ln	1702	1585	1781	1702	1781	1585
Q Serve(g_s), s	59.0	0.0	3.6	28.4	5.3	39.5
Cycle Q Clear(g_c), s	59.0	0.0	3.6	28.4	5.3	39.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2722		64	3123	541	482
V/C Ratio(X)	0.92		0.78	0.59	0.18	1.07
Avail Cap(c_a), veh/h	2722		70	3123	541	482
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	27.9	0.0	62.1	15.3	33.4	45.3
Incr Delay (d2), s/veh	6.8	0.0	38.9	0.8	0.2	60.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.5	0.0	2.3	10.7	2.4	23.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.7	0.0	101.1	16.2	33.5	106.0
LnGrp LOS	C		F	B	C	F
Approach Vol, veh/h	2517			1889	614	
Approach Delay, s/veh	34.7			18.4	94.3	
Approach LOS	C			B	F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.2	74.8		45.0		85.0
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	5.1	68.9		39.5		79.5
Max Q Clear Time (g_c+I1), s	5.6	61.0		41.5		30.4
Green Ext Time (p_c), s	0.0	7.3		0.0		22.3

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	79	193	47	0	40
Future Vol, veh/h	16	79	193	47	0	40
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	16	79	193	47	0	40
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.6	9.1	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	80%	17%	0%
Vol Thru, %	20%	0%	0%
Vol Right, %	0%	83%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	240	95	40
LT Vol	193	16	0
Through Vol	47	0	0
RT Vol	0	79	40
Lane Flow Rate	240	95	40
Geometry Grp	1	1	1
Degree of Util (X)	0.286	0.108	0.042
Departure Headway (Hd)	4.292	4.097	3.787
Convergence, Y/N	Yes	Yes	Yes
Cap	833	880	949
Service Time	2.345	2.099	1.796
HCM Lane V/C Ratio	0.288	0.108	0.042
HCM Control Delay	9.1	7.6	7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	0.4	0.1

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	5	45	21	1	49
Future Vol, veh/h	12	5	45	21	1	49
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	12	5	45	21	1	49
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.2	7.1	7.3
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	71%	2%
Vol Thru, %	68%	0%	98%
Vol Right, %	32%	29%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	66	17	50
LT Vol	0	12	1
Through Vol	45	0	49
RT Vol	21	5	0
Lane Flow Rate	66	17	50
Geometry Grp	1	1	1
Degree of Util (X)	0.07	0.019	0.056
Departure Headway (Hd)	3.809	4.098	4.017
Convergence, Y/N	Yes	Yes	Yes
Cap	942	869	893
Service Time	1.827	2.142	2.034
HCM Lane V/C Ratio	0.07	0.02	0.056
HCM Control Delay	7.1	7.2	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	204	1	53	62	2
Future Vol, veh/h	6	204	1	53	62	2
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	6	204	1	53	62	2
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.9	7.7	8.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	97%	0%	0%	2%
Vol Thru, %	0%	100%	0%	98%
Vol Right, %	3%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	6	204	54
LT Vol	62	0	0	1
Through Vol	0	6	0	53
RT Vol	2	0	204	0
Lane Flow Rate	64	6	204	54
Geometry Grp	2	7	7	5
Degree of Util (X)	0.083	0.008	0.225	0.065
Departure Headway (Hd)	4.671	4.675	3.974	4.308
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	772	760	896	819
Service Time	2.671	2.438	1.736	2.401
HCM Lane V/C Ratio	0.083	0.008	0.228	0.066
HCM Control Delay	8.1	7.5	7.9	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0	0.9	0.2

Intersection	
Int Delay, s/veh	31.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	81	0	0	268	0	2732	55	0	1503	49
Future Vol, veh/h	0	0	81	0	0	268	0	2732	55	0	1503	49
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	-	-	0	-	-	0	-	-	-	-	-	-
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	81	0	0	268	0	2732	55	0	1503	49

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	776	-	-	1394	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	340	0	0	~ 131	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	340	-	-	~ 131	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	$ 551.8	0	0
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	340	131	-	-
HCM Lane V/C Ratio	-	-	0.238	2.046	-	-
HCM Control Delay (s)	-	-	18.9	$ 551.8	-	-
HCM Lane LOS	-	-	C	F	-	-
HCM 95th %tile Q(veh)	-	-	0.9	21.7	-	-

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

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2542	1667	14	0	149
Future Vol, veh/h	0	2542	1667	14	0	149
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	2542	1667	14	0	149

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	841
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	264
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	264
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	34.9
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	264
HCM Lane V/C Ratio	-	-	-	0.564
HCM Control Delay (s)	-	-	-	34.9
HCM Lane LOS	-	-	-	D
HCM 95th %tile Q(veh)	-	-	-	3.2

Intersection	
Int Delay, s/veh	130.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	2436	53	21	1699	200	15	5	136	28	0	0
Future Vol, veh/h	39	2436	53	21	1699	200	15	5	136	28	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	0	-	-	-	-	-	-	-	-
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	39	2436	53	21	1699	200	15	5	136	28	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1899	0	0	2489	0	0	3263	4482	1245	2896	4408	950
Stage 1	-	-	-	-	-	-	2541	2541	-	1841	1841	-
Stage 2	-	-	-	-	-	-	722	1941	-	1055	2567	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	141	-	-	70	-	-	~ 10	~ 1	142	~ 17	1	224
Stage 1	-	-	-	-	-	-	15	54	-	50	124	-
Stage 2	-	-	-	-	-	-	349	111	-	217	52	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	141	-	-	70	-	-	~ 6	~ 1	142	-	1	224
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 6	~ 1	-	-	1	-
Stage 1	-	-	-	-	-	-	~ 11	39	-	36	87	-
Stage 2	-	-	-	-	-	-	244	78	-	~ 6	38	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.8	$ 3867.9	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	18	141	-	-	70	-	-	-
HCM Lane V/C Ratio	8.667	0.277	-	-	0.3	-	-	-
HCM Control Delay (s)	$ 3867.9	40	-	-	77.1	-	-	-
HCM Lane LOS	F	E	-	-	F	-	-	-
HCM 95th %tile Q(veh)	20.2	1.1	-	-	1.1	-	-	-

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

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2998	1837	54	27	52
Future Vol, veh/h	0	2998	1837	54	27	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	-
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	2998	1837	54	27	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	3063	946
Stage 1	-	-	-	-	1864	-
Stage 2	-	-	-	-	1199	-
Critical Hdwy	-	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	0	-	-	-	~ 24	225
Stage 1	0	-	-	-	70	-
Stage 2	0	-	-	-	223	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	~ 24	225
Mov Cap-2 Maneuver	-	-	-	-	~ 24	-
Stage 1	-	-	-	-	70	-
Stage 2	-	-	-	-	223	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 359.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	58
HCM Lane V/C Ratio	-	-	-	1.362
HCM Control Delay (s)	-	-	-	$ 359.9
HCM Lane LOS	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	6.9

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

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	44	0	13	5	189	34	13	0	16	82	138	55
Future Vol, veh/h	44	0	13	5	189	34	13	0	16	82	138	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	44	0	13	5	189	34	13	0	16	82	138	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	13	0	0	408	328	7	319	317	206
Stage 1	-	-	-	-	-	-	95	95	-	216	216	-
Stage 2	-	-	-	-	-	-	313	233	-	103	101	-
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	1346	-	-	1606	-	-	554	591	1075	634	599	835
Stage 1	-	-	-	-	-	-	912	816	-	786	724	-
Stage 2	-	-	-	-	-	-	698	712	-	903	811	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1346	-	-	1606	-	-	411	569	1075	607	577	835
Mov Cap-2 Maneuver	-	-	-	-	-	-	411	569	-	607	577	-
Stage 1	-	-	-	-	-	-	882	789	-	760	721	-
Stage 2	-	-	-	-	-	-	525	709	-	860	784	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6	0.2	11.1	15.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	623	1346	-	-	1606	-	-	625
HCM Lane V/C Ratio	0.047	0.033	-	-	0.003	-	-	0.44
HCM Control Delay (s)	11.1	7.8	0	-	7.2	0	-	15.2
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	2.2

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	16	1	13	0	0	1	3	35	3	4	51	18
Future Vol, veh/h	16	1	13	0	0	1	3	35	3	4	51	18
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	16	1	13	0	0	1	3	35	3	4	51	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	111	112	60	118	120	37	69	0	0	38	0	0
Stage 1	68	68	-	43	43	-	-	-	-	-	-	-
Stage 2	43	44	-	75	77	-	-	-	-	-	-	-
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	867	778	1005	858	770	1035	1532	-	-	1572	-	-
Stage 1	942	838	-	971	859	-	-	-	-	-	-	-
Stage 2	971	858	-	934	831	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	863	774	1005	843	766	1035	1532	-	-	1572	-	-
Mov Cap-2 Maneuver	863	774	-	843	766	-	-	-	-	-	-	-
Stage 1	940	835	-	969	857	-	-	-	-	-	-	-
Stage 2	968	856	-	918	829	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.5	0.5	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1532	-	-	916	1035	1572	-	-
HCM Lane V/C Ratio	0.002	-	-	0.033	0.001	0.003	-	-
HCM Control Delay (s)	7.4	0	-	9.1	8.5	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	25	78	59	73	4
Future Vol, veh/h	13	25	78	59	73	4
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	13	25	78	59	73	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	290	75	77	0	-	0
Stage 1	75	-	-	-	-	-
Stage 2	215	-	-	-	-	-
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	701	986	1522	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	664	986	1522	-	-	-
Mov Cap-2 Maneuver	664	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	821	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	4.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1522	-	846	-	-
HCM Lane V/C Ratio	0.051	-	0.045	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	274	0	20	248	22	36
Future Vol, veh/h	274	0	20	248	22	36
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	274	0	20	248	22	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	274	0	562	274
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	288	-
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	-	-	1289	-	488	765
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	761	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1289	-	479	765
Mov Cap-2 Maneuver	-	-	-	-	479	-
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	747	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	624	-	-	1289	-
HCM Lane V/C Ratio	0.093	-	-	0.016	-
HCM Control Delay (s)	11.4	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	4.6

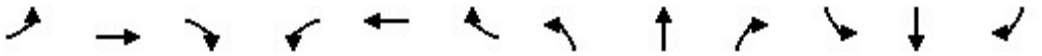
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	22	46	16	153	65
Future Vol, veh/h	4	22	46	16	153	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	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	4	22	46	16	153	65

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	425	54	0	0	62	0
Stage 1	54	-	-	-	-	-
Stage 2	371	-	-	-	-	-
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	586	1013	-	-	1541	-
Stage 1	969	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	526	1013	-	-	1541	-
Mov Cap-2 Maneuver	526	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	626	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	5.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	887	1541	-
HCM Lane V/C Ratio	-	-	0.029	0.099	-
HCM Control Delay (s)	-	-	9.2	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.3	-

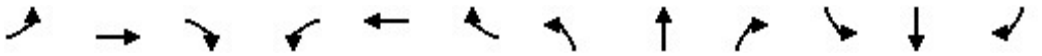
Appendix D: Horizon Year (2040) plus Project Alt. 2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	760	334	477	1470	465	465	1109	227	362	1460	287
Future Volume (veh/h)	398	760	334	477	1470	465	465	1109	227	362	1460	287
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	398	760	334	477	1470	465	465	1109	227	362	1460	287
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	230	1362	423	259	1059	331	259	1333	713	403	1238	238
Arrive On Green	0.07	0.27	0.27	0.08	0.28	0.28	0.08	0.38	0.38	0.12	0.42	0.42
Sat Flow, veh/h	3456	5106	1585	3456	3852	1205	3456	3554	1585	3456	2972	572
Grp Volume(v), veh/h	398	760	334	477	1297	638	465	1109	227	362	860	887
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1653	1728	1777	1585	1728	1777	1767
Q Serve(g_s), s	8.0	15.4	23.5	9.0	33.0	33.0	9.0	34.0	11.0	12.4	50.0	50.0
Cycle Q Clear(g_c), s	8.0	15.4	23.5	9.0	33.0	33.0	9.0	34.0	11.0	12.4	50.0	50.0
Prop In Lane	1.00		1.00	1.00		0.73	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	230	1362	423	259	936	455	259	1333	713	403	740	736
V/C Ratio(X)	1.73	0.56	0.79	1.84	1.39	1.40	1.79	0.83	0.32	0.90	1.16	1.20
Avail Cap(c_a), veh/h	230	1362	423	259	936	455	259	1333	713	403	740	736
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	56.0	37.9	40.9	55.5	43.5	43.5	55.5	34.1	21.2	52.3	35.0	35.0
Incr Delay (d2), s/veh	345.0	0.5	9.8	392.8	180.2	194.2	372.4	6.2	1.2	22.2	87.5	104.5
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	14.5	6.4	10.2	18.0	37.0	37.7	17.3	15.4	4.3	6.6	38.7	42.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	401.0	38.4	50.6	448.3	223.7	237.7	427.9	40.3	22.4	74.5	122.5	139.5
LnGrp LOS	F	D	D	F	F	F	F	D	C	E	F	F
Approach Vol, veh/h		1492			2412			1801			2109	
Approach Delay, s/veh		137.9			271.8			138.1			121.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	50.0	14.0	37.0	14.0	55.0	13.0	38.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	45.0	9.0	32.0	9.0	50.0	8.0	33.0
Max Q Clear Time (g_c+I1), s	14.4	36.0	11.0	25.5	11.0	52.0	10.0	35.0
Green Ext Time (p_c), s	0.0	5.3	0.0	3.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	174.8
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	762	1823	348	250	1235	569	395	1678	296	415	946	193
Future Volume (veh/h)	762	1823	348	250	1235	569	395	1678	296	415	946	193
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	762	1823	348	250	1235	569	395	1678	296	415	946	193
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	374	1659	515	173	914	418	317	1392	700	230	1078	220
Arrive On Green	0.11	0.32	0.32	0.05	0.27	0.27	0.09	0.39	0.39	0.07	0.37	0.37
Sat Flow, veh/h	3456	5106	1585	3456	3427	1566	3456	3554	1585	3456	2940	599
Grp Volume(v), veh/h	762	1823	348	250	1227	577	395	1678	296	415	571	568
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1589	1728	1777	1585	1728	1777	1762
Q Serve(g_s), s	13.0	39.0	22.8	6.0	32.0	32.0	11.0	47.0	15.4	8.0	36.0	36.1
Cycle Q Clear(g_c), s	13.0	39.0	22.8	6.0	32.0	32.0	11.0	47.0	15.4	8.0	36.0	36.1
Prop In Lane	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	374	1659	515	173	908	424	317	1392	700	230	652	646
V/C Ratio(X)	2.04	1.10	0.68	1.45	1.35	1.36	1.25	1.21	0.42	1.80	0.88	0.88
Avail Cap(c_a), veh/h	374	1659	515	173	908	424	317	1392	700	230	652	646
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	53.5	40.5	35.0	57.0	44.0	44.0	54.5	36.5	23.0	56.0	35.5	35.5
Incr Delay (d2), s/veh	475.2	54.2	3.5	230.5	165.4	177.9	134.8	99.6	1.9	377.4	15.4	15.6
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	30.3	24.2	9.1	8.1	34.1	33.3	10.7	38.9	6.0	15.5	17.9	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	528.7	94.7	38.5	287.5	209.4	221.9	189.3	136.1	24.9	433.4	50.9	51.1
LnGrp LOS	F	F	D	F	F	F	F	F	C	F	D	D
Approach Vol, veh/h		2933			2054			2369			1554	
Approach Delay, s/veh		200.8			222.4			131.0			153.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	52.0	11.0	44.0	16.0	49.0	18.0	37.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	47.0	6.0	39.0	11.0	44.0	13.0	32.0
Max Q Clear Time (g_c+I1), s	10.0	49.0	8.0	41.0	13.0	38.1	15.0	34.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	178.9
HCM 6th LOS	F

Appendix E: Signal Warrant Analysis

North Ventura Coordinated Area Plan (NVCAP) Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Page Mill Road & Ash Street
County: Santa Clara County
City: Palo Alto

Major Street: Page Mill Road
Critical Approach Speed: 35 mph
Lanes: 2 or more lanes

Minor Street: Ash Street
Critical Approach Speed: 25 mph
Lanes: 1 lane

% Right Turns Included
From North (SB) 50%
From East (WB) 100%
From South (NB) 50%
From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2040	Yes				

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**N/A**
Condition A: Minimum Vehicular Volume	
Condition B: Interruption of Continuous Traffic	
Condition C: Combination: 80% of A and B	
Warrant 2: Four-Hour Volume	**N/A**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	**No**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: Jason Wang
Agency: Arup
Date:

Warrant 1: Eight - Hour Vehicular Volume 100%

Warrant Evaluated? No **Warrant Satisfied?** N/A **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	2	2
Satisfied?		

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	2	2
Satisfied?		

Condition C: Combination of A & B at 80%
Satisfied?

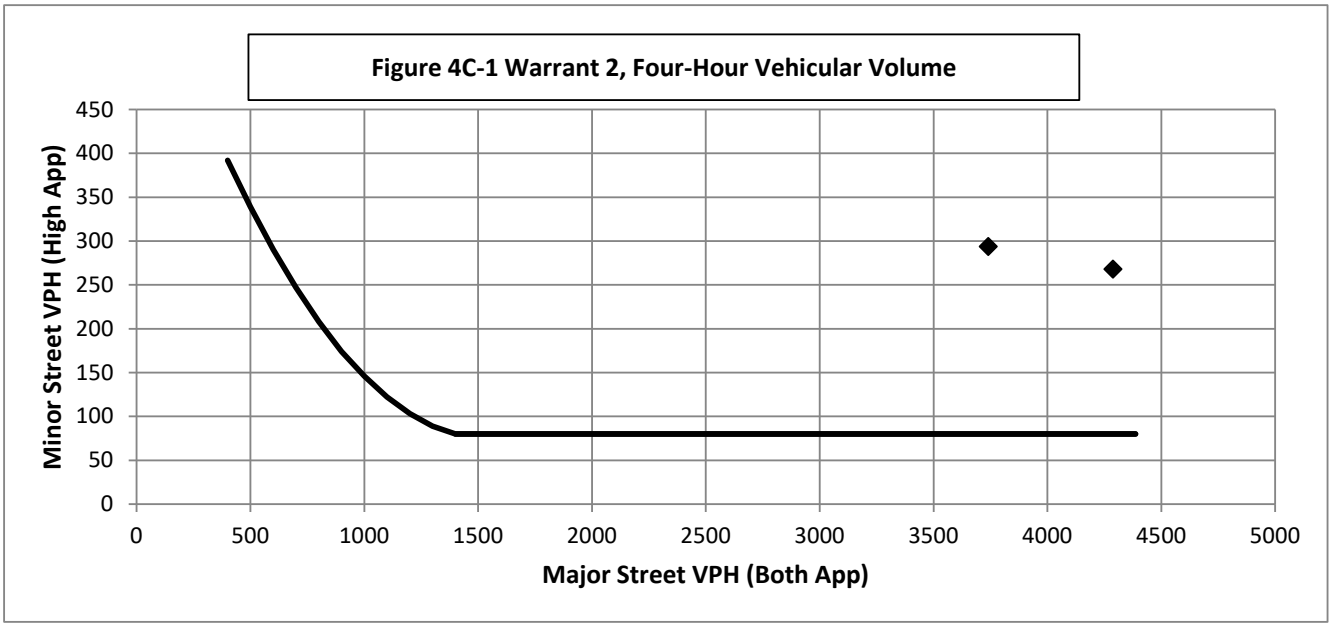
6:00 AM Enter Start Time (Military Time) (HH:MM)

Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	Total
1	6:00	7:00	0	0	0
2	7:00	8:00	0	0	0
3	8:00	9:00	3740	294	4034
4	9:00	10:00	0	0	0
5	10:00	11:00	0	0	0
6	11:00	12:00	0	0	0
7	12:00	13:00	0	0	0
8	13:00	14:00	0	0	0
9	14:00	15:00	0	0	0
10	15:00	16:00	0	0	0
11	16:00	17:00	0	0	0
12	17:00	18:00	4287	268	4555
13	18:00	19:00	0	0	0
14	19:00	20:00	0	0	0
15	20:00	21:00	0	0	0
16	21:00	22:00	0	0	0

Warrant 2: Four-Hour Volume 100%

Warrant Evaluated? No
Warrant Satisfied? N/A
Manually Set To:

Hour Start	17:00	8:00	#N/A	#N/A
Major Road Vol.	4287	3740	#N/A	#N/A
Minor Road Vol.	268	294	#N/A	#N/A



Warrant 3: Peak Hour Volume 100%

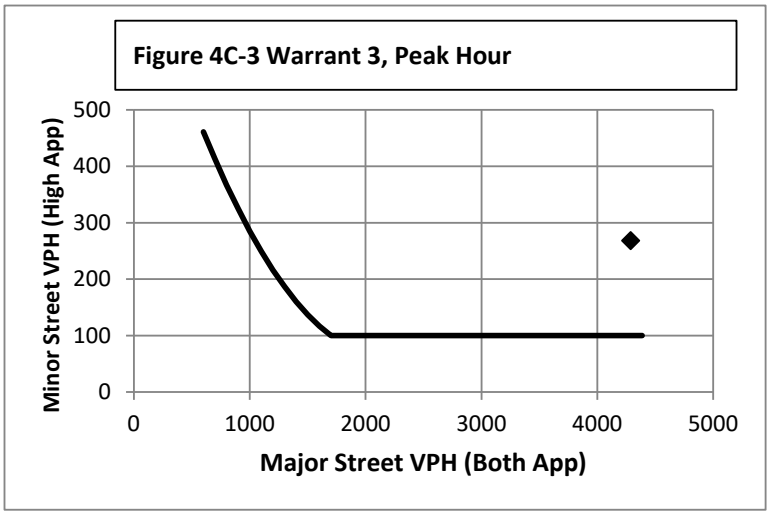
Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	
Volume on Minor Approach	100	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	4287	268



Crite
1
2
3

Crite
1
2
3

Warrant 4: Pedestrian Volume 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

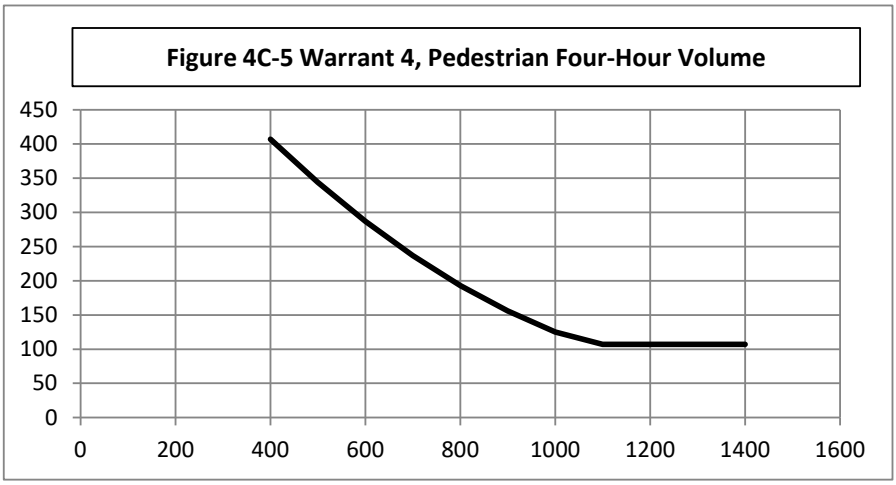
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

Criterion A Satisfied?

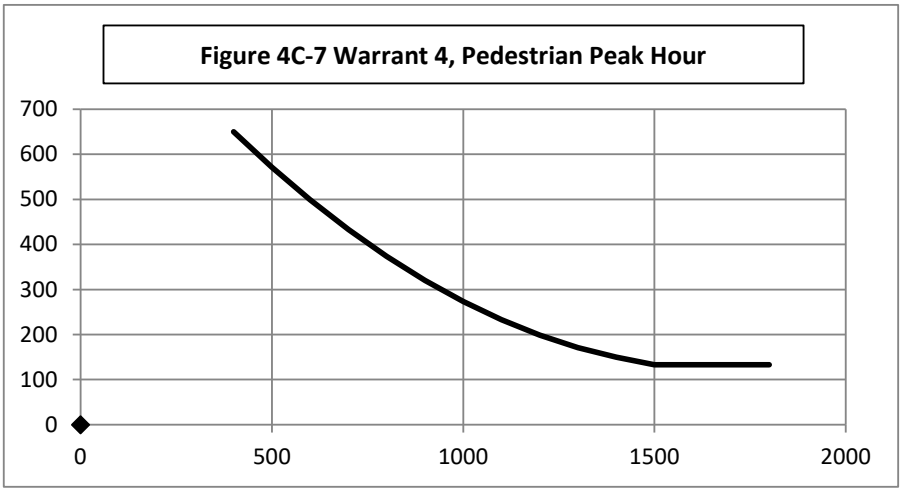


Crite
1
2
3

Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Crite
1
2

Char
1
2
3

Warrant 5: School Crossing 100%

Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To:**

eria	Fulfilled?
There are a MINIMUM of 20 school children during the highest crossing hour.	No
There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	No
The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	Yes

Warrant 6: Coordinated Signal System 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

eria	Fulfilled?
Signal spacing > 1000 ft	Yes
On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	No
On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	Yes

Warrant 7: Crash Experience 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

eria	Met?	Fulfilled?
Adequate trial of other remedial measures has failed to reduce crash frequency.		
Measures Tried:		
Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months	
Warrant 1, Condition A (80%)	No	Yes
Warrant 1, Condition B (80%)	No	
Warrant 4, Criterion A (80%)	No	
Warrant 4, Criterion B (80%)	Yes	

Warrant 8: Roadway Network 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

eria			Met?	Fulfilled?
Total entering volume of at least 1,000 veh/h during typical weekday peak hour		4555	Yes	Yes
Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		2, 3	Yes	
Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)				

Hour						
Volume						

acteristics of Major Routes - Select yes if all intersecting routes have characteristic	Fulfilled?
Part of the road or highway system that serves as the principal roadway network for through traffic flow	Yes
Rural or suburban highway outside of, entering, or traversing a city	Yes
Appears as a major route on an official plan	Yes

Warrant 9: Intersection Near a Grade Crossing 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
				17:00	4287	268	268

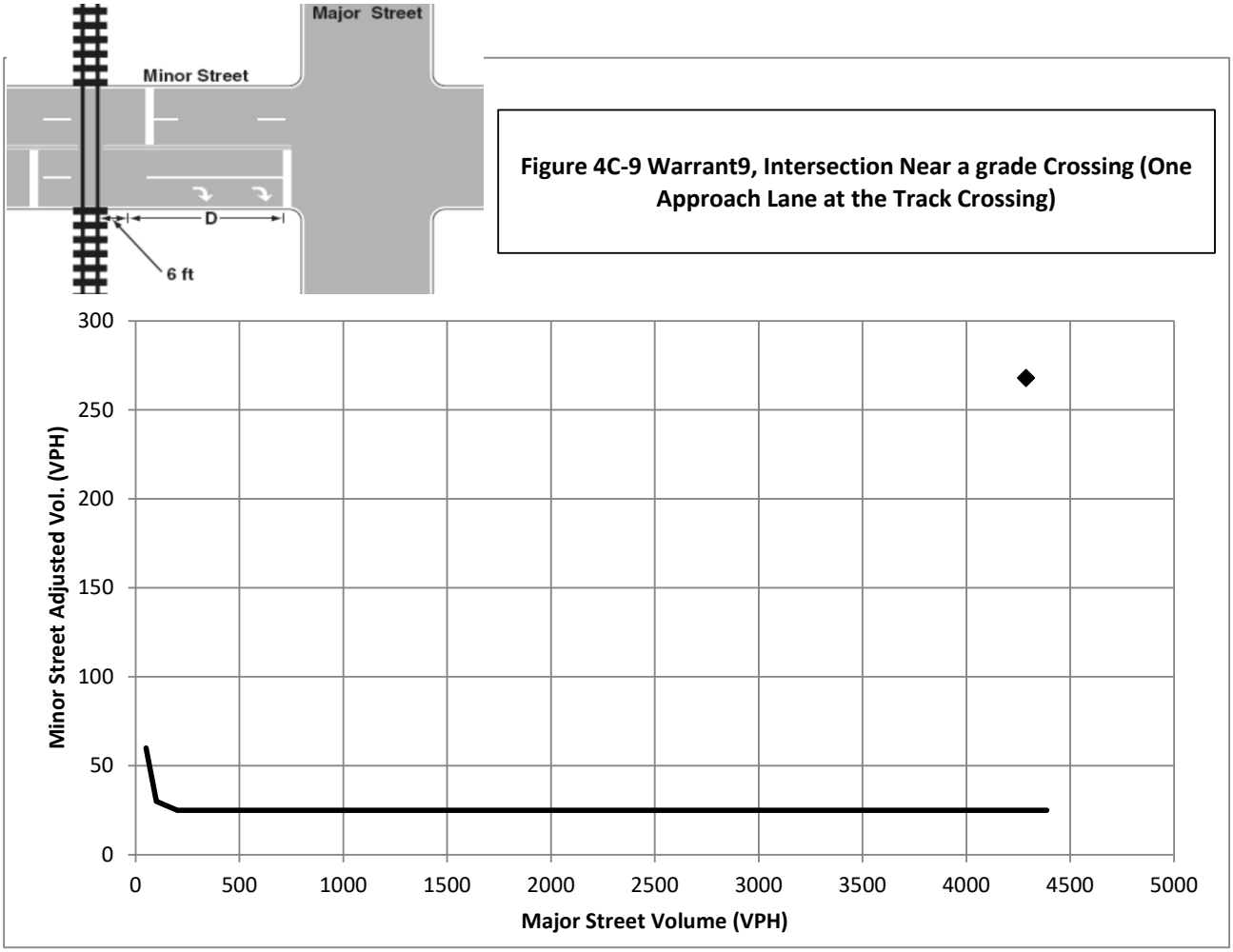


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)

Conclusions/Comments:

Updated: 6/26/2023

Hourly Volume Data

One Hour Time Period Start Time		From North (SB) ↓					From East (WB) ←					From South (NB) ↑					From West (EB) →					Total Vehicle Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	6:00																					0
	7:00																					0
	8:00	56	2099	0			294	0	0			158	1534	0			45	0	0			4186
	9:00																					0
MD	10:00																					0
	11:00																					0
	12:00																					0
	13:00																					0
PM	14:00																					0
	15:00																					0
	16:00																					0
	17:00	49	1503	0			268	0	0			55	2732	0			81	0	0			4688
	18:00																					0
	19:00																					0
	20:00																					0
	21:00																					0
Totals		105	3602	0	0	3707	562	0	0	0	562	213	4266	0	0	4479	126	0	0	0	126	8874

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road: **N/S**

Major Road Left Turn as Minor Approach? **No**

% Right Turns Included (Default 100%)

From North (SB)	**50%**
From East (WB)	**100%**
From South (NB)	**50%**
From West (EB)	**100%**

Major Road Volume Totals: North/South				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	0	0	0
107	3633	0	3633	3740
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
52	4235	0	4235	4287
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
159	7868	0	7868	8027

Minor Road Highest Volume: East/West				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	0	0	0
294	0	0	0	294
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
268	0	0	0	268
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
562	0	0	0	562

North Ventura Coordinated Area Plan (NVCAP) Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: El Camino Real & Olive Avenue
County: Santa Clara County
City: Palo Alto

Major Street:	El Camino Real	Minor Street:	Olive Avenue
Critical Approach Speed:	35 mph	Critical Approach Speed:	25 mph
Lanes:	2 or more lanes	Lanes:	1 lane

% Right Turns Included		In built-up area of isolated community of < 10,000 population?	No
From North (SB)	100%	Total number of approaches at intersection?	4 or more
From East (WB)	50%	If it is a "T" intersection, inflate minor threshold to 150%?	No
From South (NB)	100%	Manually set volume level?	No
From West (EB)	50%		

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2040	Yes				

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**N/A**
Condition A: Minimum Vehicular Volume	
Condition B: Interruption of Continuous Traffic	
Condition C: Combination: 80% of A and B	
Warrant 2: Four-Hour Volume	**N/A**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	**No**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:
Name: Jason Wang
Agency: Arup
Date:

Warrant 1: Eight - Hour Vehicular Volume 100%

Warrant Evaluated? No **Warrant Satisfied?** N/A **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	1	1
Satisfied?		

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	1	1
Satisfied?		

Condition C: Combination of A & B at 80%
Satisfied?

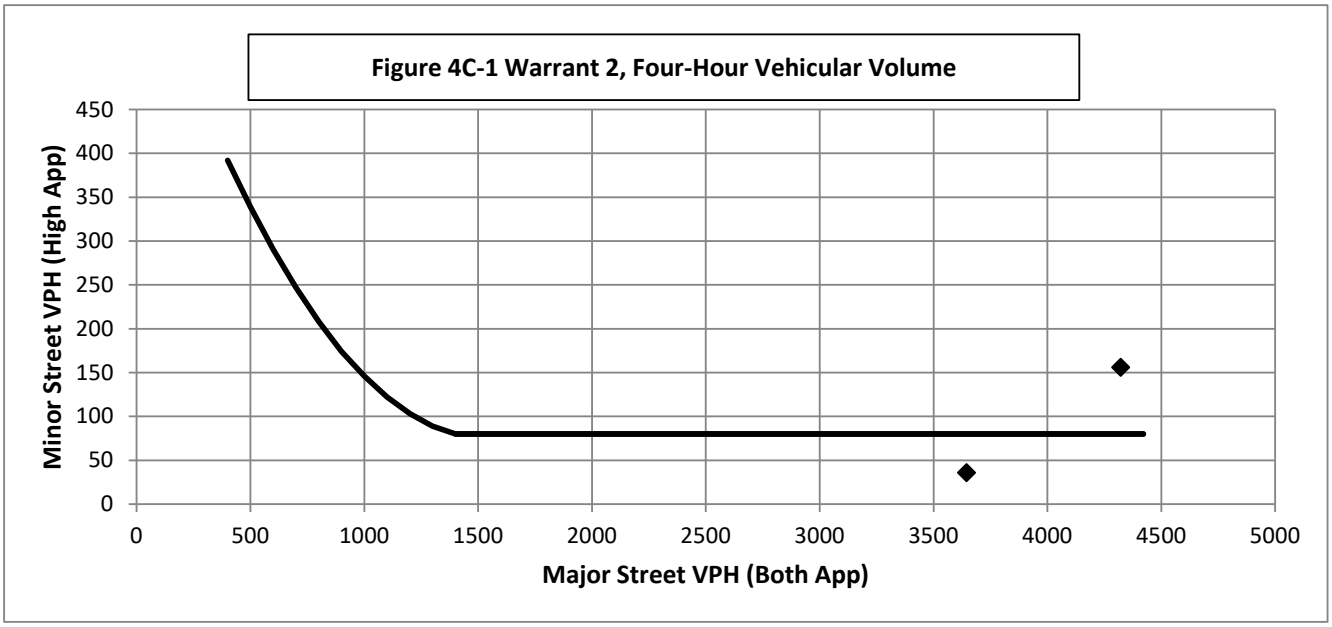
6:00 AM Enter Start Time (Military Time) (HH:MM)

Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	Total
1	6:00	7:00	0	0	0
2	7:00	8:00	0	0	0
3	8:00	9:00	3645	36	3680.5
4	9:00	10:00	0	0	0
5	10:00	11:00	0	0	0
6	11:00	12:00	0	0	0
7	12:00	13:00	0	0	0
8	13:00	14:00	0	0	0
9	14:00	15:00	0	0	0
10	15:00	16:00	0	0	0
11	16:00	17:00	0	0	0
12	17:00	18:00	4322	156	4477.5
13	18:00	19:00	0	0	0
14	19:00	20:00	0	0	0
15	20:00	21:00	0	0	0
16	21:00	22:00	0	0	0

Warrant 2: Four-Hour Volume 100%

Warrant Evaluated? No
Warrant Satisfied? N/A
Manually Set To:

Hour Start	17:00	8:00	#N/A	#N/A
Major Road Vol.	4321.5	3644.5	#N/A	#N/A
Minor Road Vol.	156	36	#N/A	#N/A



Warrant 3: Peak Hour Volume 100%

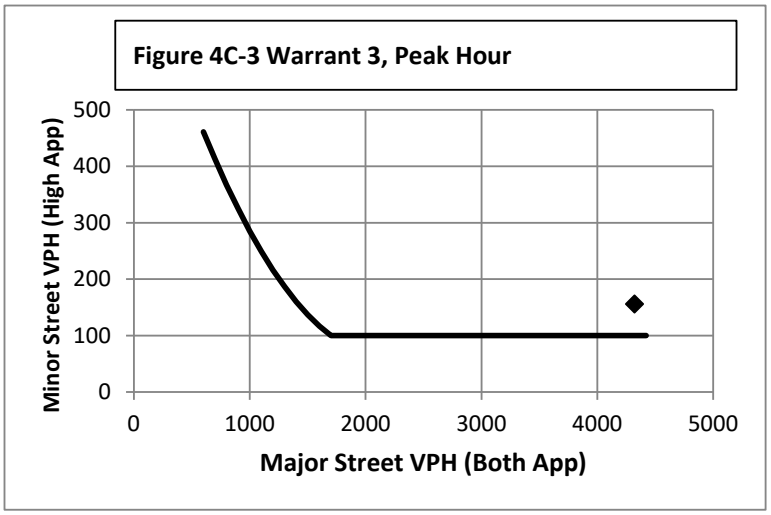
Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To: Yes**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	
Volume on Minor Approach	100	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	4321.5	156



Crite
1
2
3

Crite
1
2
3

Warrant 4: Pedestrian Volume 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

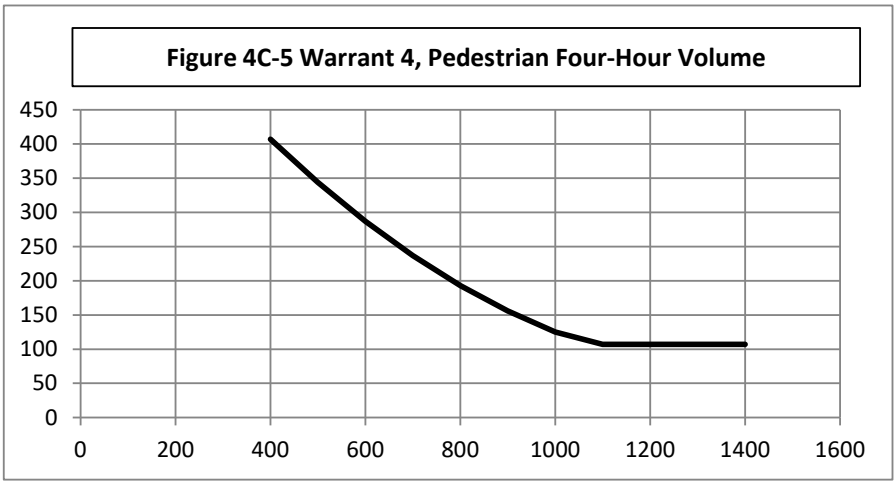
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

Criterion A Satisfied?



Crite
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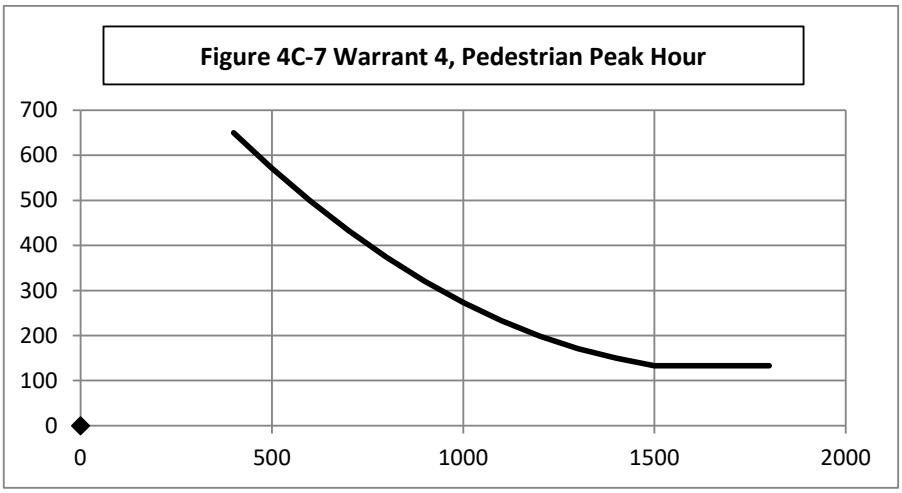
Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Crite
1
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Char
1
2
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Warrant 5: School Crossing 100%

Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To:**

ria	Fulfilled?
There are a MINIMUM of 20 school children during the highest crossing hour.	No
There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	No
The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	Yes

Warrant 6: Coordinated Signal System 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

ria	Fulfilled?
Signal spacing > 1000 ft	Yes
On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	No
On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	Yes

Warrant 7: Crash Experience 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

ria		Met?	Fulfilled?
Adequate trial of other remedial measures has failed to reduce crash frequency.			
Measures Tried:			
Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months		
Warrant 1, Condition A (80%)		No	Yes
Warrant 1, Condition B (80%)		No	
Warrant 4, Criterion A (80%)		No	
Warrant 4, Criterion B (80%)		Yes	

Warrant 8: Roadway Network 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

ria					Met?	Fulfilled?
Total entering volume of at least 1,000 veh/h during typical weekday peak hour				4477.5	Yes	Yes
Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.				2, 3	Yes	
Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)						
	Hour					
	Volume					

acteristics of Major Routes - Select yes if all intersecting routes have characteristic	Fulfilled?
Part of the road or highway system that serves as the principal roadway network for through traffic flow	Yes
Rural or suburban highway outside of, entering, or traversing a city	Yes
Appears as a major route on an official plan	Yes

Warrant 9: Intersection Near a Grade Crossing 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
				17:00	4321.5	156	156

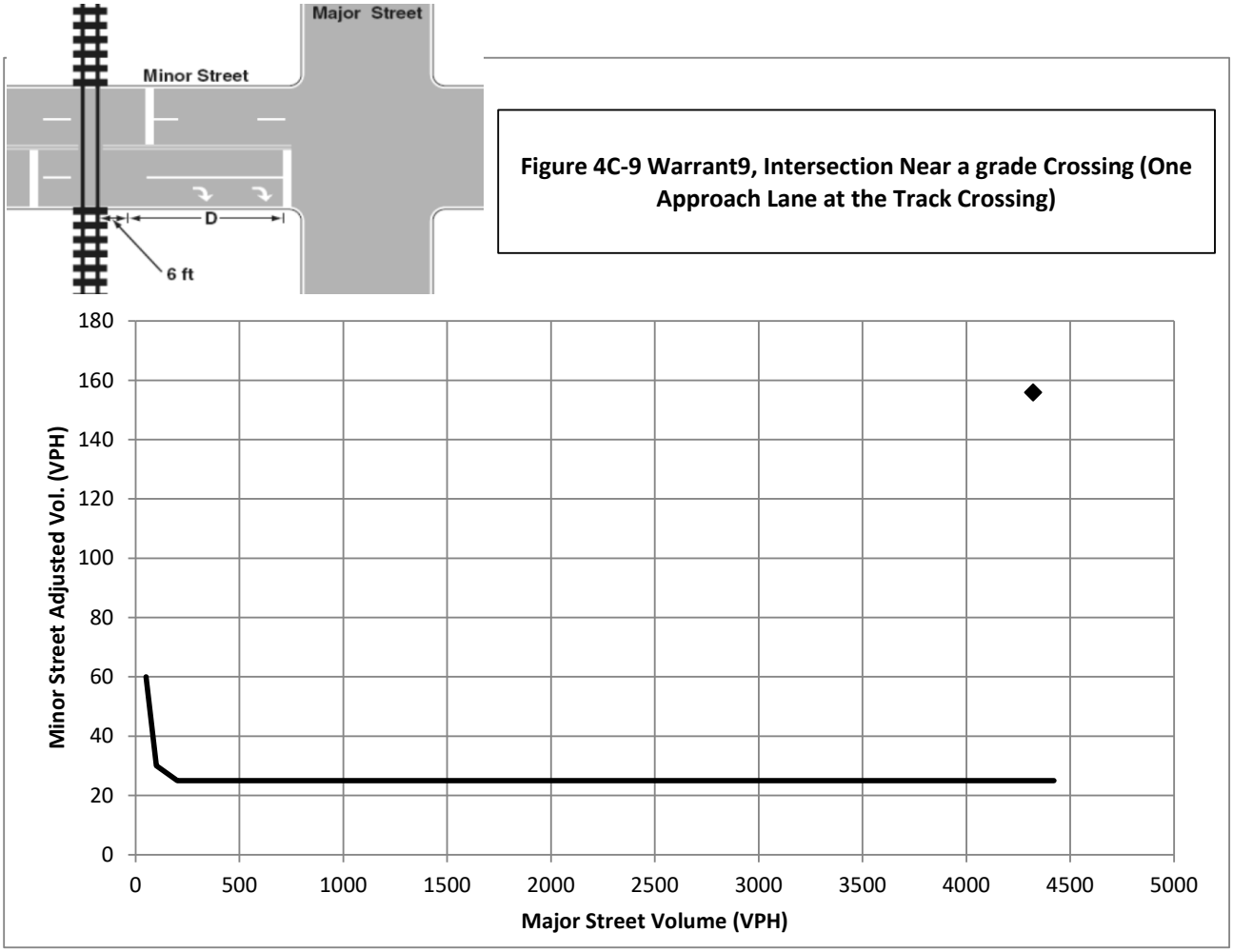


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)

Conclusions/Comments:

Updated: 6/26/2023

Hourly Volume Data

One Hour Time Period Start Time		From North (SB) ↓					From East (WB) ←					From South (NB) ↑					From West (EB) →					Total Vehicle Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	6:00																					0
	7:00																					0
	8:00	14	0	22			326	2135	81			11	0	5			83	1203	21			3901
	9:00																					0
MD	10:00																					0
	11:00																					0
	12:00																					0
	13:00																					0
PM	14:00																					0
	15:00																					0
	16:00																					0
	17:00	0	0	26			200	1699	21			136	5	15			53	2436	39			4630
	18:00																					0
	19:00																					0
	20:00																					0
	21:00																					0
Totals		14	0	48	0	62	526	3834	102	0	4462	147	5	20	0	172	136	3639	60	0	3835	8531

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road: **E/W**

Major Road Left Turn as Minor Approach? **No**

% Right Turns Included (Default 100%)

From North (SB)	**100%**
From East (WB)	**50%**
From South (NB)	**100%**
From West (EB)	**50%**

Major Road Volume Totals: East/West				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	0	0	0
205	3338	102	3440	3645
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
127	4135	60	4195	4322
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
331	7473	162	7635	7966

Minor Road Highest Volume: North/South				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	0	0	0
14	0	22	22	36
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
136	5	15	20	156
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
150	5	37	42	192

North Ventura Coordinated Area Plan (NVCAP) Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: El Camino Real & Lambert Avenue
County: Santa Clara County
City: Palo Alto

Major Street: El Camino Real
Critical Approach Speed: 35 mph
Lanes: 2 or more lanes

Minor Street: Lambert Avenue
Critical Approach Speed: 25 mph
Lanes: 1 lane

% Right Turns Included
From North (SB) 100%
From East (WB) 50%
From South (NB) 100%
From West (EB) 50%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2040	Yes				

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**N/A**
Condition A: Minimum Vehicular Volume	
Condition B: Interruption of Continuous Traffic	
Condition C: Combination: 80% of A and B	
Warrant 2: Four-Hour Volume	**N/A**
Warrant 3: Peak Hour Volume	**No**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	**No**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: Jason Wang
Agency: Arup
Date:

Warrant 1: Eight - Hour Vehicular Volume 100%

Warrant Evaluated? No **Warrant Satisfied?** N/A **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	0	0
Satisfied?		

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	1	1
Satisfied?		

Condition C: Combination of A & B at 80%
Satisfied?

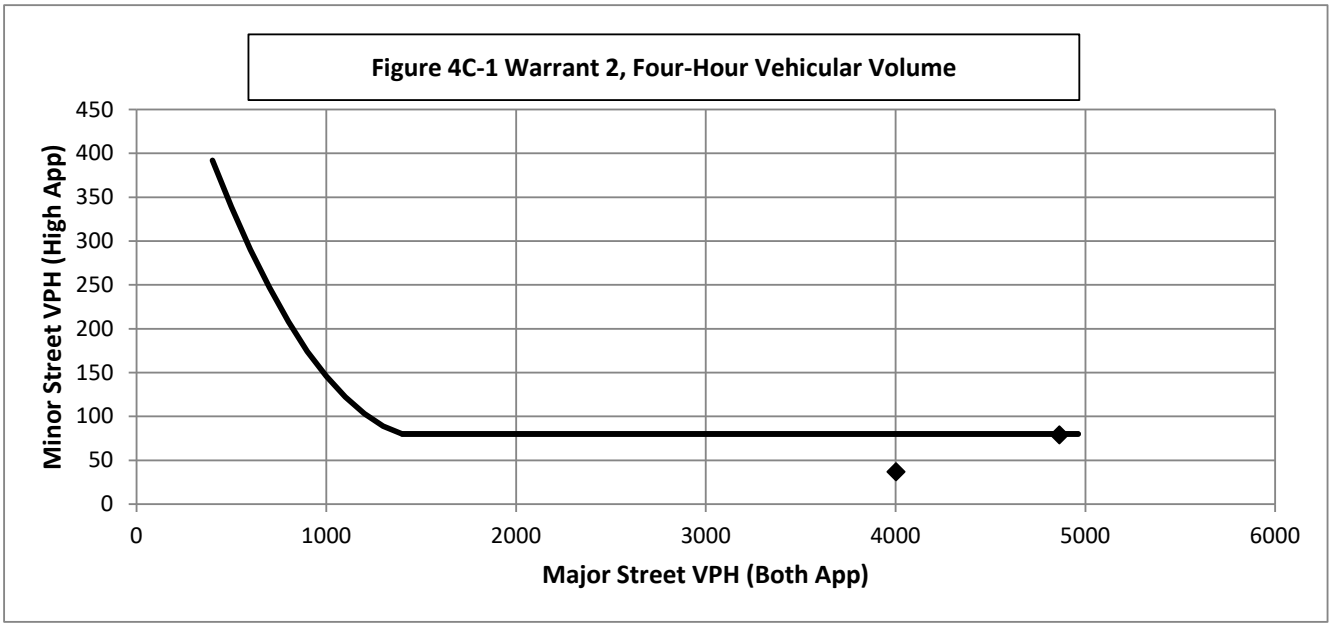
6:00 AM Enter Start Time (Military Time) (HH:MM)

Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	Total
1	6:00	7:00	0	0	0
2	7:00	8:00	0	0	0
3	8:00	9:00	4002	37	4038.5
4	9:00	10:00	0	0	0
5	10:00	11:00	0	0	0
6	11:00	12:00	0	0	0
7	12:00	13:00	0	0	0
8	13:00	14:00	0	0	0
9	14:00	15:00	0	0	0
10	15:00	16:00	0	0	0
11	16:00	17:00	0	0	0
12	17:00	18:00	4862	79	4941
13	18:00	19:00	0	0	0
14	19:00	20:00	0	0	0
15	20:00	21:00	0	0	0
16	21:00	22:00	0	0	0

Warrant 2: Four-Hour Volume 100%

Warrant Evaluated? No
Warrant Satisfied? N/A
Manually Set To:

Hour Start	17:00	8:00	#N/A	#N/A
Major Road Vol.	4862	4001.5	#N/A	#N/A
Minor Road Vol.	79	37	#N/A	#N/A



Warrant 3: Peak Hour Volume 100%

Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To:**

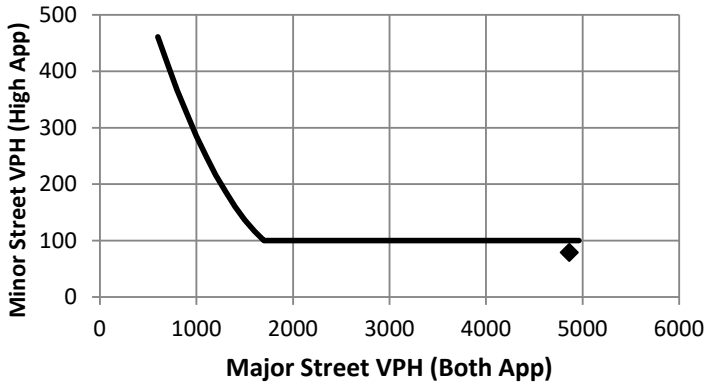
Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	
Volume on Minor Approach	100	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	4862	79

Figure 4C-3 Warrant 3, Peak Hour



Crite
1
2
3

Crite
1
2
3

Warrant 4: Pedestrian Volume 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

Criterion A: Four Hour

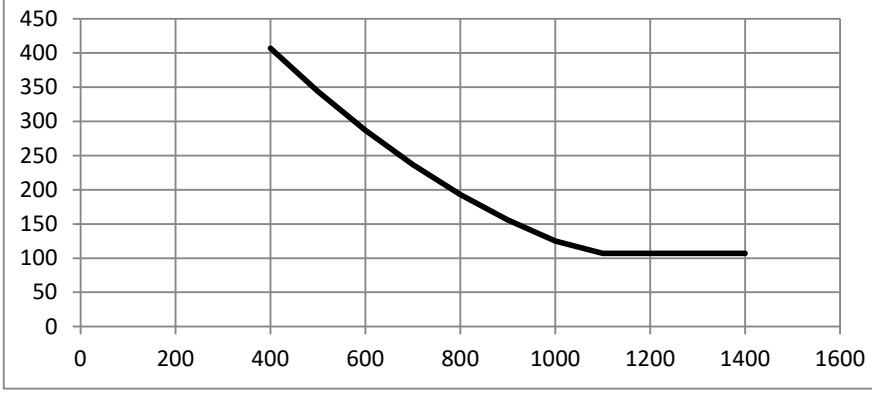
Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

Criterion A Satisfied?

Figure 4C-5 Warrant 4, Pedestrian Four-Hour Volume



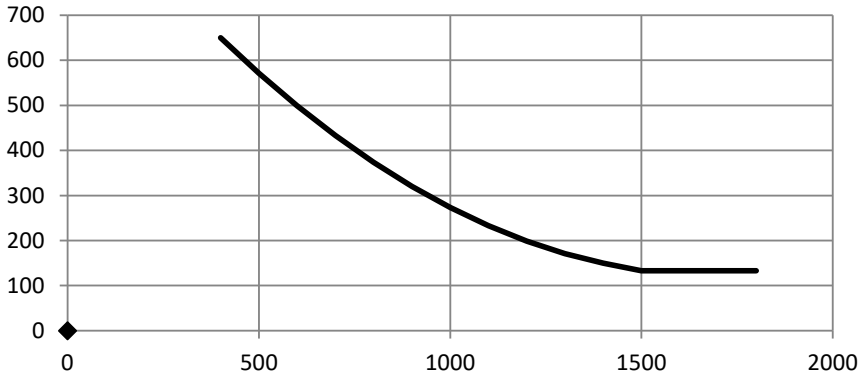
Crite
1
2
3

Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?

Figure 4C-7 Warrant 4, Pedestrian Peak Hour



Crite
1
2

Char
1
2
3

Warrant 5: School Crossing 100%

Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To:**

eria	Fulfilled?
There are a MINIMUM of 20 school children during the highest crossing hour.	No
There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	No
The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	Yes

Warrant 6: Coordinated Signal System 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

eria	Fulfilled?
Signal spacing > 1000 ft	Yes
On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	No
On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	Yes

Warrant 7: Crash Experience 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

eria	Met?	Fulfilled?
Adequate trial of other remedial measures has failed to reduce crash frequency.		
Measures Tried:		
Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months	
Warrant 1, Condition A (80%)	No	Yes
Warrant 1, Condition B (80%)	No	
Warrant 4, Criterion A (80%)	No	
Warrant 4, Criterion B (80%)	Yes	

Warrant 8: Roadway Network 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

eria			Met?	Fulfilled?
Total entering volume of at least 1,000 veh/h during typical weekday peak hour		4941	Yes	Yes
Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		2, 3	Yes	
Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)				

Hour						
Volume						

acteristics of Major Routes - Select yes if all intersecting routes have characteristic	Fulfilled?
Part of the road or highway system that serves as the principal roadway network for through traffic flow	Yes
Rural or suburban highway outside of, entering, or traversing a city	Yes
Appears as a major route on an official plan	Yes

Warrant 9: Intersection Near a Grade Crossing 100%

Warrant Evaluated? No **Warrant Satisfied?** N/A **Manually Set To:**

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
				17:00	4862	79	79

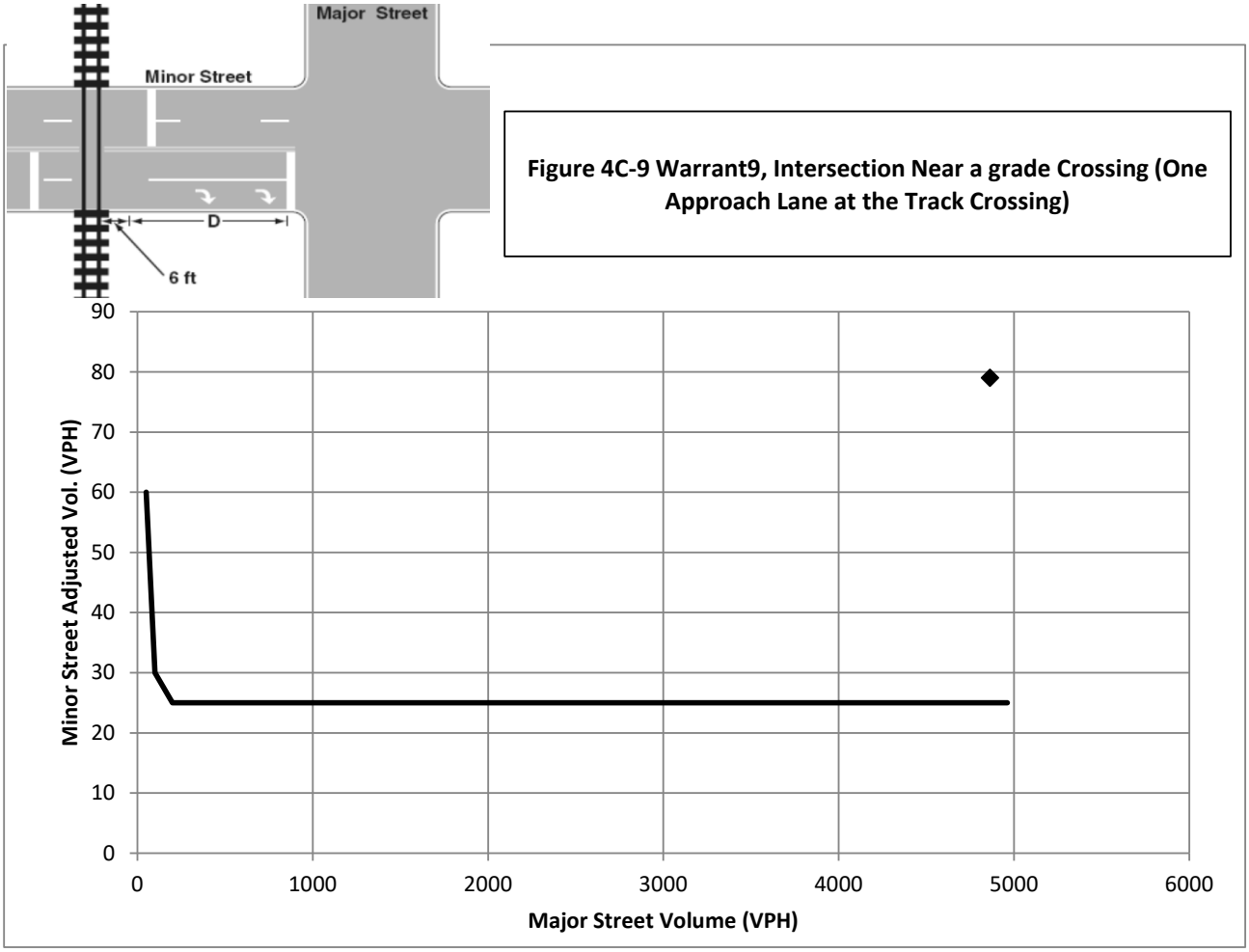


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)

Conclusions/Comments:

Updated: 6/26/2023

Hourly Volume Data

One Hour Time Period Start Time		From North (SB) ↓					From East (WB) ←					From South (NB) ↑					From West (EB) →					Total Vehicle Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	6:00																					0
	7:00																					0
	8:00	17	0	20			169	2731	0			0	0	0			0	1186	0			4123
	9:00																					0
MD	10:00																					0
	11:00																					0
	12:00																					0
	13:00																					0
PM	14:00																					0
	15:00																					0
	16:00																					0
	17:00	52	0	27			54	1837	0			0	0	0			0	2998	0			4968
	18:00																					0
	19:00																					0
	20:00																					0
	21:00																					0
Totals		69	0	47	0	116	223	4568	0	0	4791	0	0	0	0	0	0	4184	0	0	4184	9091

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road: E/W

Major Road Left Turn as Minor Approach? No

% Right Turns Included (Default 100%)

From North (SB)	100%
From East (WB)	50%
From South (NB)	100%
From West (EB)	50%

Major Road Volume Totals: East/West				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	0	0	0
85	3917	0	3917	4002
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
27	4835	0	4835	4862
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
112	8752	0	8752	8864

Minor Road Highest Volume: North/South				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	0	0	0
17	0	20	20	37
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
52	0	27	27	79
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
69	0	47	47	116

North Ventura Coordinated Area Plan (NVCAP) Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: El Camino Real & Pepper Avenue
County: Santa Clara County
City: Palo Alto

Major Street:	El Camino Real	Minor Street:	Pepper Avenue
Critical Approach Speed:	35 mph	Critical Approach Speed:	25 mph
Lanes:	2 or more lanes	Lanes:	1 lane

% Right Turns Included
From North (SB) 100%
From East (WB) 50%
From South (NB) 100%
From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2040	Yes				

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**N/A**
Condition A: Minimum Vehicular Volume	
Condition B: Interruption of Continuous Traffic	
Condition C: Combination: 80% of A and B	
Warrant 2: Four-Hour Volume	**N/A**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	**No**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:
Name: Jason Wang
Agency: Arup
Date:

Warrant 1: Eight - Hour Vehicular Volume 100%

Warrant Evaluated? No **Warrant Satisfied?** N/A **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	0	1
		Satisfied?

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	1	1
		Satisfied?

Condition C: Combination of A & B at 80%
Satisfied?

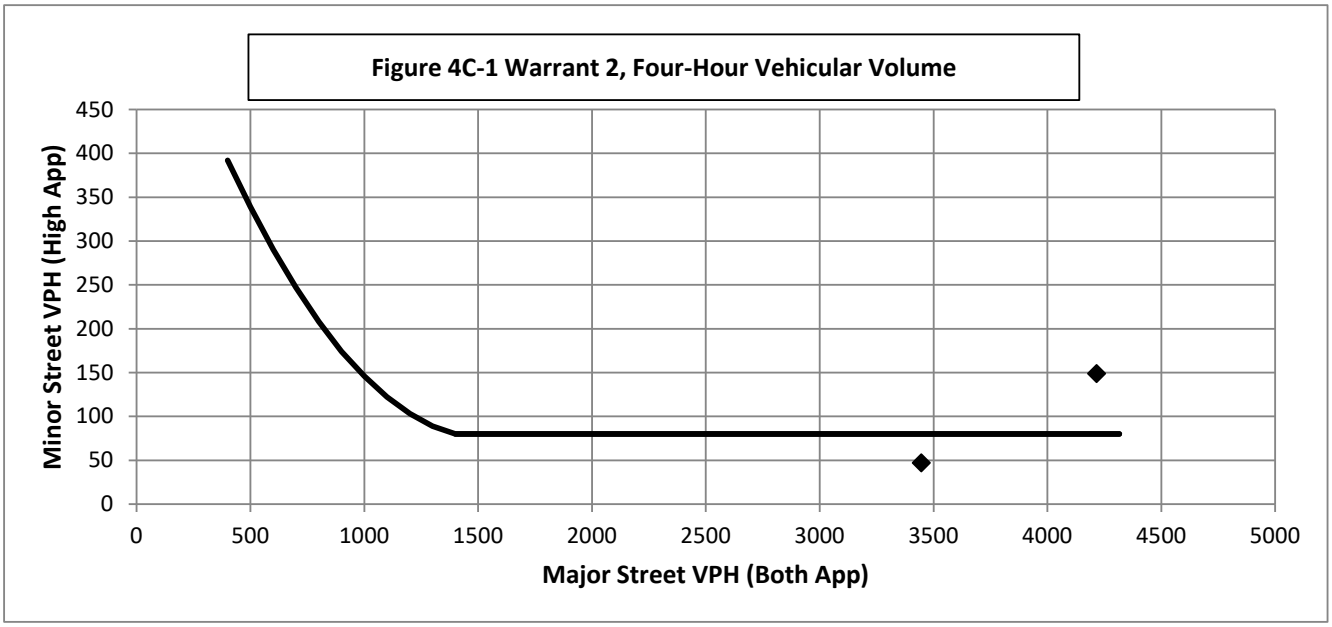
6:00 AM Enter Start Time (Military Time) (HH:MM)

Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	Total
1	6:00	7:00	0	0	0
2	7:00	8:00	0	0	0
3	8:00	9:00	3446	47	3493
4	9:00	10:00	0	0	0
5	10:00	11:00	0	0	0
6	11:00	12:00	0	0	0
7	12:00	13:00	0	0	0
8	13:00	14:00	0	0	0
9	14:00	15:00	0	0	0
10	15:00	16:00	0	0	0
11	16:00	17:00	0	0	0
12	17:00	18:00	4216	149	4365
13	18:00	19:00	0	0	0
14	19:00	20:00	0	0	0
15	20:00	21:00	0	0	0
16	21:00	22:00	0	0	0

Warrant 2: Four-Hour Volume 100%

Warrant Evaluated? No
Warrant Satisfied? N/A
Manually Set To:

Hour Start	17:00	8:00	#N/A	#N/A
Major Road Vol.	4216	3446	#N/A	#N/A
Minor Road Vol.	149	47	#N/A	#N/A



Warrant 3: Peak Hour Volume 100%

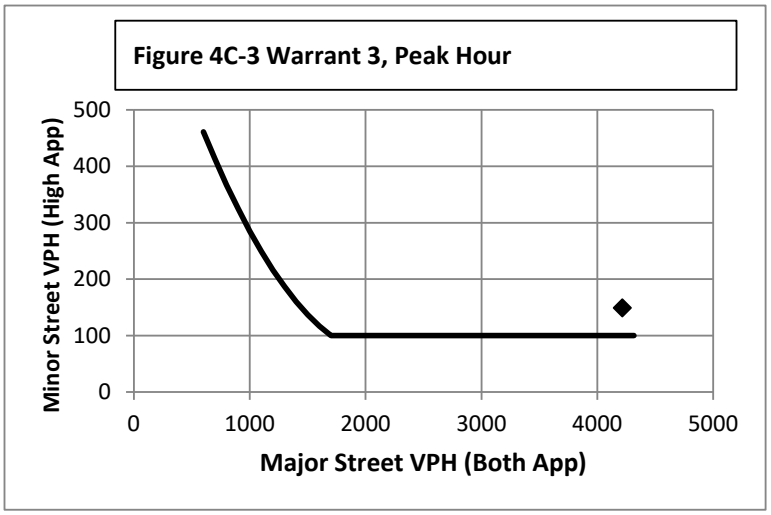
Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	
Volume on Minor Approach	100	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	4216	149



Crite
1
2
3

Crite
1
2
3

Warrant 4: Pedestrian Volume 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

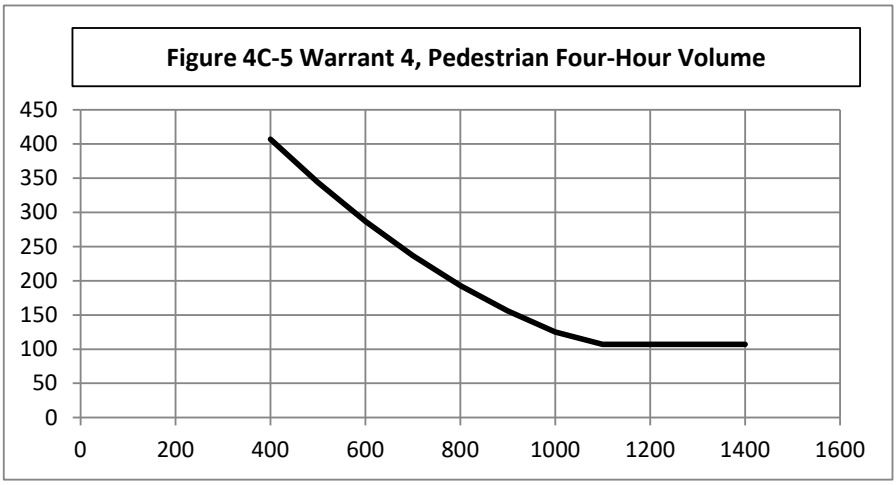
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

Criterion A Satisfied?

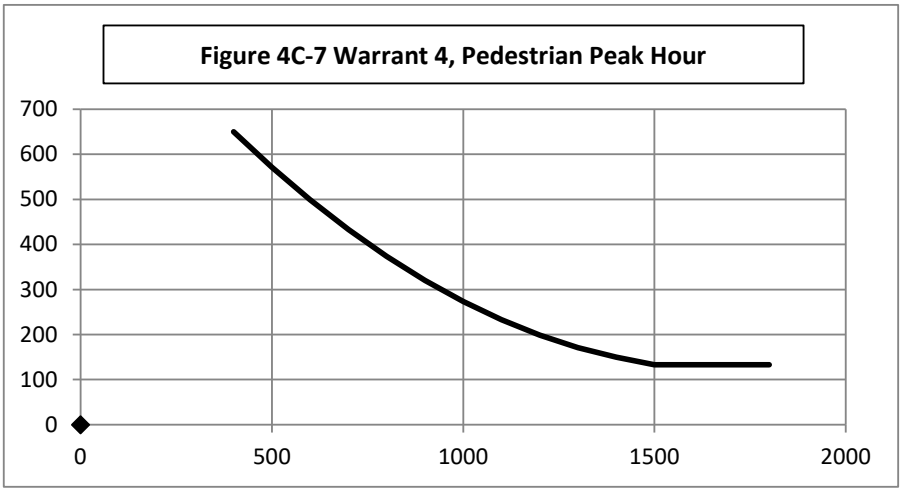


Crite
1
2
3

Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Crite
1
2

Char
1
2
3

Warrant 5: School Crossing 100%

Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To:**

eria	Fulfilled?
There are a MINIMUM of 20 school children during the highest crossing hour.	No
There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	No
The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	Yes

Warrant 6: Coordinated Signal System 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

eria	Fulfilled?
Signal spacing > 1000 ft	Yes
On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	No
On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	Yes

Warrant 7: Crash Experience 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

eria	Met?	Fulfilled?
Adequate trial of other remedial measures has failed to reduce crash frequency.		
Measures Tried:		
Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months	
Warrant 1, Condition A (80%)	No	Yes
Warrant 1, Condition B (80%)	No	
Warrant 4, Criterion A (80%)	No	
Warrant 4, Criterion B (80%)	Yes	

Warrant 8: Roadway Network 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

eria			Met?	Fulfilled?
Total entering volume of at least 1,000 veh/h during typical weekday peak hour		4365	Yes	Yes
Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		2, 3	Yes	
Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)				

Hour						
Volume						

acteristics of Major Routes - Select yes if all intersecting routes have characteristic	Fulfilled?
Part of the road or highway system that serves as the principal roadway network for through traffic flow	Yes
Rural or suburban highway outside of, entering, or traversing a city	Yes
Appears as a major route on an official plan	Yes

Warrant 9: Intersection Near a Grade Crossing 100%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
				17:00	4216	149	149

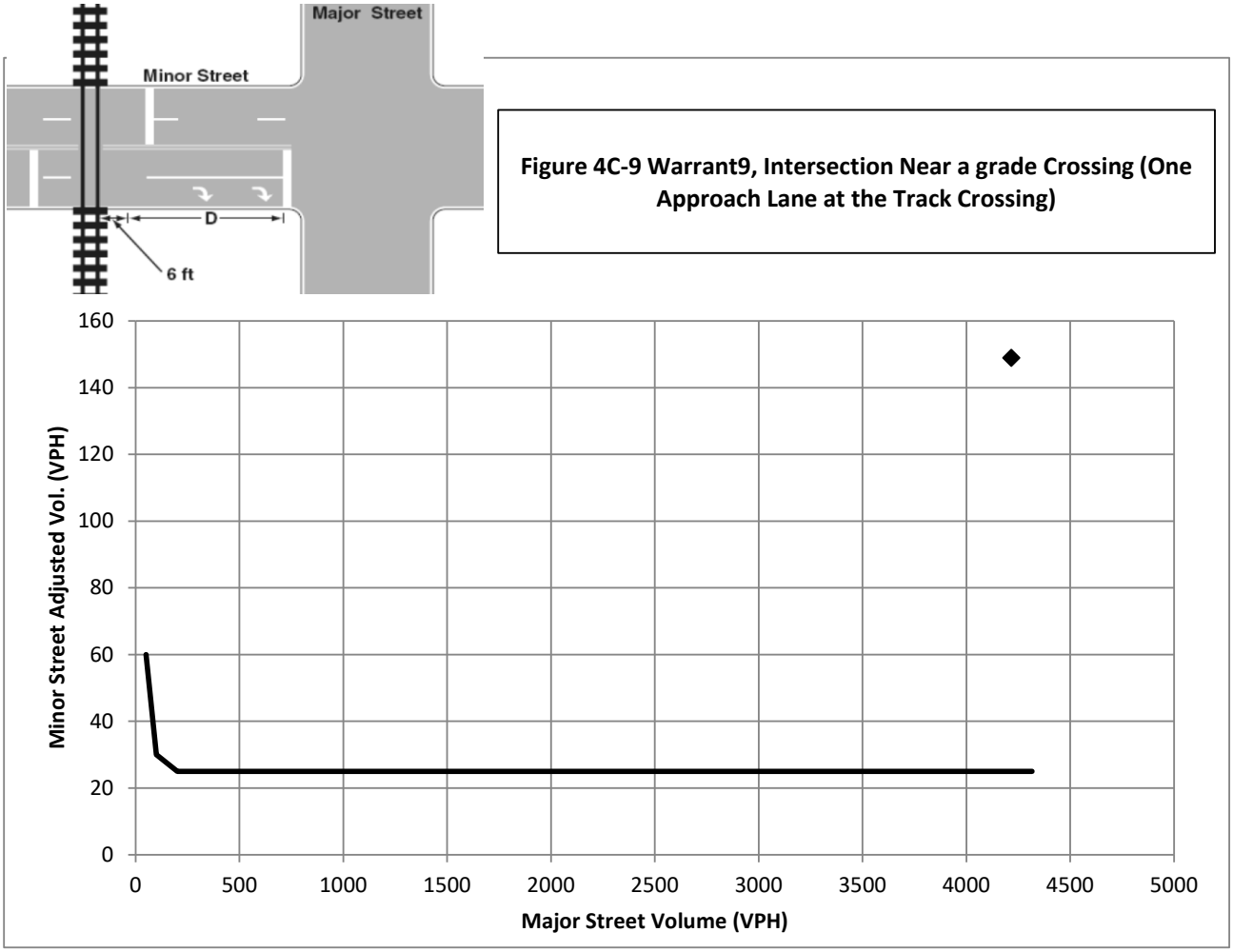


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)

Conclusions/Comments:

Updated: 6/26/2023

Hourly Volume Data

One Hour Time Period Start Time		From North (SB) ↓					From East (WB) ←					From South (NB) ↑					From West (EB) →					Total Vehicle Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	6:00																					0
	7:00																					0
	8:00	47	0	0			38	2093	0			0	0	0			0	1334	0			3512
	9:00																					0
MD	10:00																					0
	11:00																					0
	12:00																					0
	13:00																					0
PM	14:00																					0
	15:00																					0
	16:00																					0
	17:00	149	0	0			14	1667	0			0	0	0			0	2542	0			4372
	18:00																					0
	19:00																					0
	20:00																					0
	21:00																					0
Totals		196	0	0	0	196	52	3760	0	0	3812	0	0	0	0	0	0	3876	0	0	3876	7884

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road: **E/W**

Major Road Left Turn as Minor Approach? **No**

% Right Turns Included (Default 100%)

From North (SB)	**100%**
From East (WB)	**50%**
From South (NB)	**100%**
From West (EB)	**100%**

Major Road Volume Totals: East/West				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	0	0	0
19	3427	0	3427	3446
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
7	4209	0	4209	4216
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
26	7636	0	7636	7662

Minor Road Highest Volume: North/South				
Right	Thru	Left	T+LT	Total
0	0	0	0	0
0	0	0	0	0
47	0	0	0	47
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
149	0	0	0	149
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
196	0	0	0	196