

APPENDIX D

TRANSPORTATION ANALYSIS



Memorandum

Date: April 18, 2025
To: City of Fremont
From: Brett Walinski, T.E.
Subject: Transportation Analysis for the High Cube Fulfillment Center at 43800 Osgood Road in Fremont, California

Hexagon Transportation Consultants, Inc. has completed this transportation analysis for the proposed High Cube Fulfillment Center Warehouse at 43800 Osgood Road in Fremont, California. The project, as proposed, would convert an existing vacant 143,815 square foot retail building and add a 6,000-square-foot mezzanine level. Access to the site would be provided via two existing driveways on Osgood Road. The site location is shown on Figure 1. The site plan is shown on Figure 2.

Scope of Study

The transportation analysis was conducted in accordance with the standards and methodologies prescribed by the City of Fremont, the California Environmental Quality Act (CEQA), and the Alameda County Transportation Commission (ACTC).

In accordance with City of Fremont VMT policy, as detailed in the City's Transportation Impact Analysis Handbook, a VMT analysis was performed for the project. The VMT analysis is documented in a memorandum report prepared by Hexagon, dated March 7, 2025. The VMT report will be submitted to the City as part of the project's CEQA documentation.

The City's Transportation Analysis policy states that, in addition to a VMT analysis, land use and transportation projects may be required to conduct a Local Transportation Analysis (LTA). An LTA was conducted to evaluate the project's potential adverse effects on the transportation system and identify any operational deficiencies caused or exacerbated by the project. To that end, this study includes an analysis of weekday peak hour traffic conditions at three signalized intersections and the two site driveways. The locations of the study intersections are shown on Figure 1. The study intersections are identified below.

- Auto Mall Parkway and Osgood Road (signalized)
- Auto Mall Parkway and SB I-680 Ramps (signalized)
- Auto Mall Parkway and NB I-680 Ramps (signalized)
- Osgood Road and Osgood Court/North Site Driveway (unsignalized)
- Osgood Road and South Site Driveway (unsignalized)

The effects of the project were evaluated during the weekday AM and PM peak hours. The AM peak hour of traffic is typically between 7:00 AM and 9:00 AM and the PM peak hour is typically between 4:00 PM and 6:00 PM.

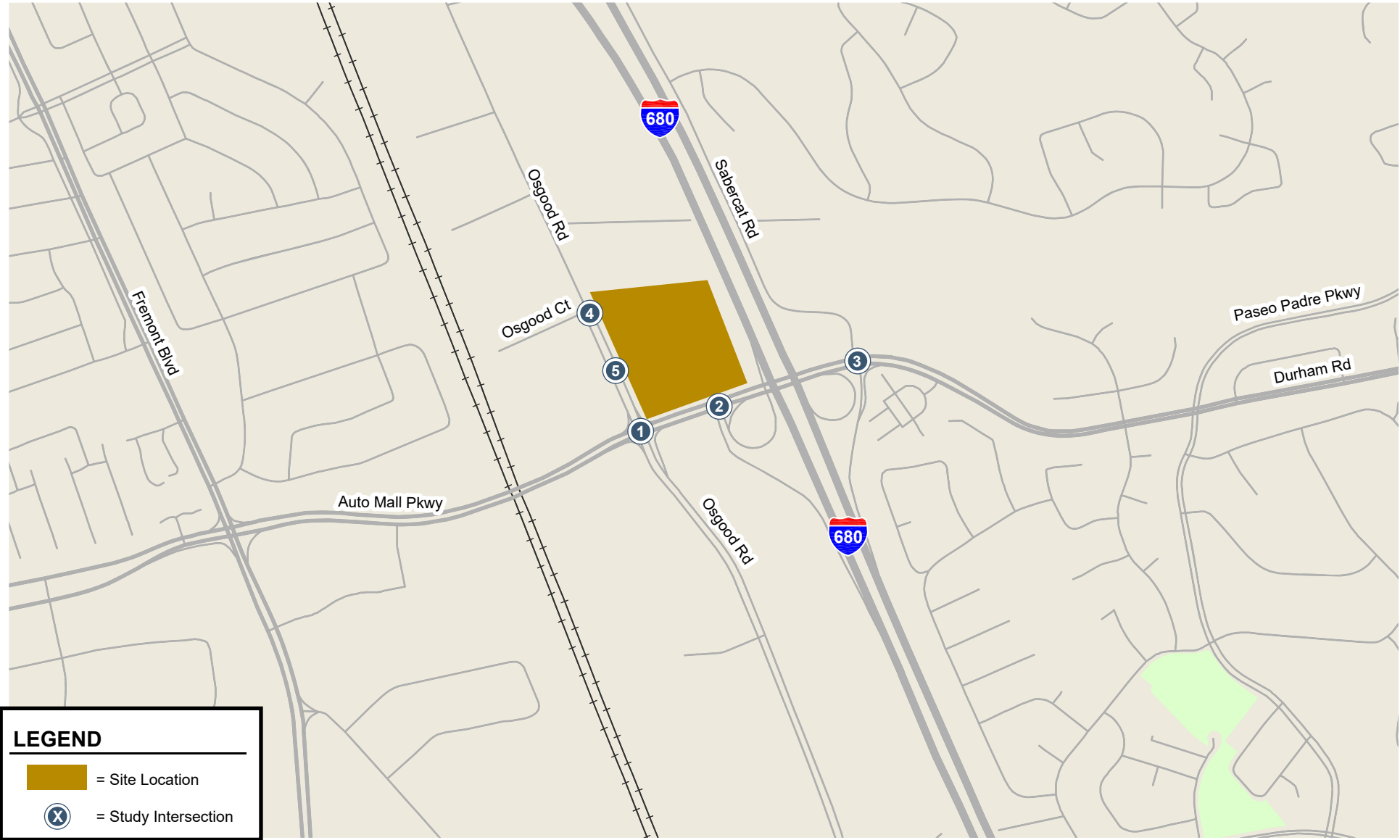


Figure 1
Site Location and Study Intersections

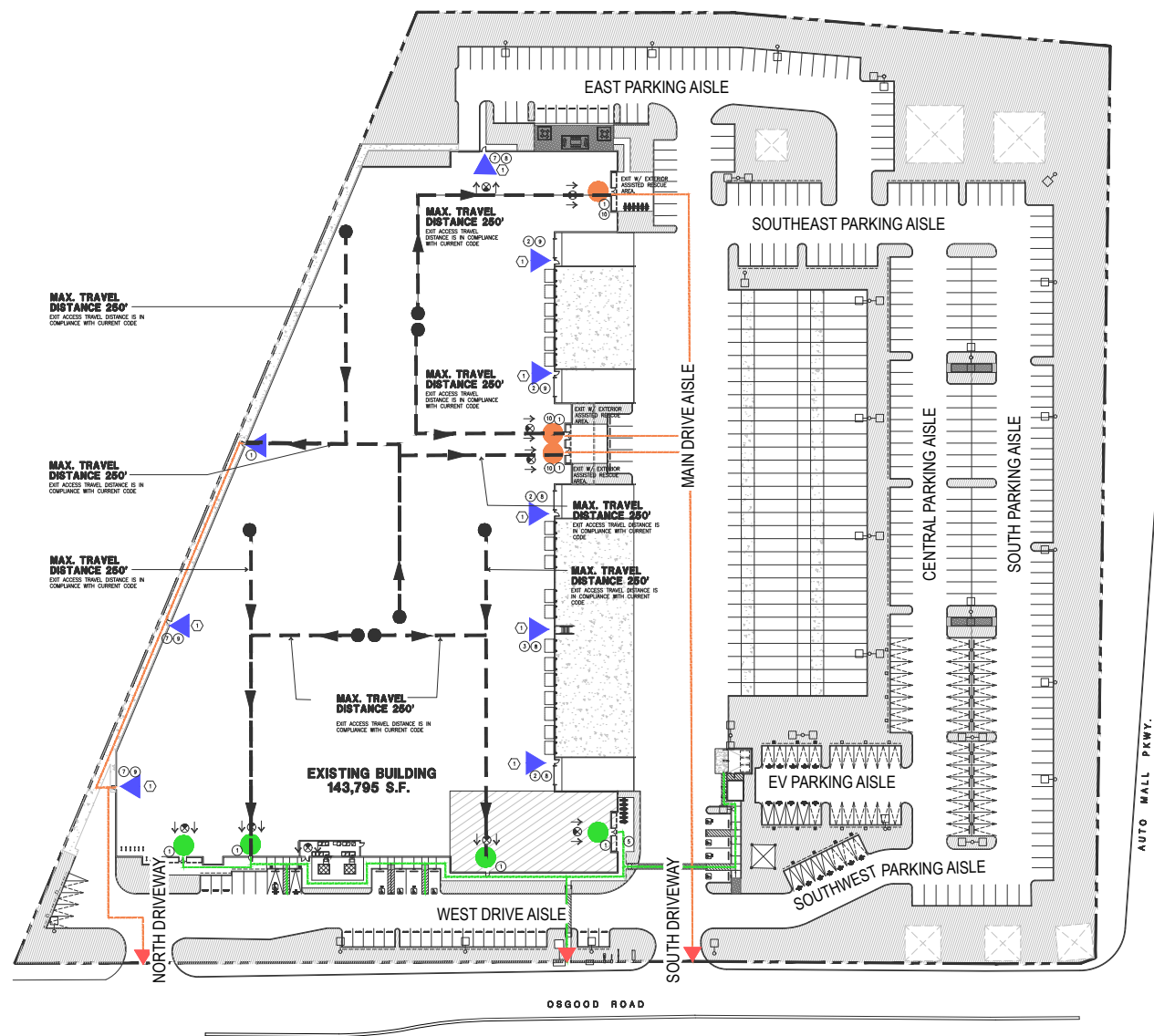


Figure 2
Site Plan

Traffic conditions were evaluated for the following scenarios:

- Scenario 1: *Existing Conditions*. Existing conditions are represented by existing peak hour traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent traffic counts conducted in March 2025.
- Scenario 2: *Background Conditions*. Background traffic volumes were estimated by adding to existing volumes the traffic generated by approved developments located in the vicinity of the project site. Background conditions were represented by background traffic on the existing network.
- Scenario 3: *Background Plus Project Conditions*. Project traffic volumes were added to background traffic volumes to estimate background plus project traffic volumes. Background plus project conditions were represented by background plus project traffic on the existing network and evaluated relative to background conditions in order to determine potential project effects.

Intersection operations were evaluated using SYNCHRO traffic analysis software, based on the Highway Capacity Manual (HCM) level of service methodology for signalized and unsignalized intersections during peak hours. In addition to the LTA analysis, this report also includes an evaluation of project site access and circulation, as well as impacts to bikes, pedestrians, and transit.

Existing Transportation Setting

Regional access to the project site is provided via Interstate 880 (I-880) and Interstate 680 (I-680). Local access to the site is provided via Auto Mall Parkway and Osgood Road. These roadways are described below.

I-680 is a north-south freeway which extends from I-280 in San Jose in the south and ends at I-80 near Cordelia in the north. Within the project vicinity, I-680 primarily has three mixed flow lanes plus an HOV lane in each of the northbound and southbound directions. The closest access to the project site is provided by the interchange at Auto Mall Parkway.

I-880 is a north-south freeway providing regional access from East Bay cities to San Jose, where it becomes SR 17 and extends into Santa Cruz. I-880 varies in width from six lanes through San Jose south of U.S. 101 to as many as twelve lanes plus HOV lanes in each direction through north San Jose, Milpitas and Fremont. Access to the site is provided by an interchange at I-880 and Auto Mall Parkway.

Auto Mall Parkway is a two- to six-lane east-west arterial that extends from west of Boyce Road in Newark to I-680 at the east, where it turns into Durham Road. East of I-880 Auto Mall Parkway is four lanes wide with Class II bike lanes on both sides, including in the immediate vicinity of the site. It provides access to and from the site via Osgood Road.

Osgood Road is a four-lane north-south arterial that extends north to Washington Boulevard, where it turns into Driscoll Road. Osgood Road extends south to S. Grimmer Boulevard where it turns into Warm Springs Boulevard. From Washington Boulevard southward, Osgood Road has, at varying locations, either Class III, Class II or Class II buffered bike lanes both northbound and southbound. South of Auto Mall Parkway, Osgood Road had Class II buffered bike lanes. Osgood Road provides direct access to the site via two driveways.

Pedestrian Facilities

Both Osgood Road and Auto Mall Parkway have sidewalks in the vicinity of the site, with the following exceptions. There is no sidewalk on the north side of Auto Mall Parkway between Osgood Road and the I-680 overcrossing, and no sidewalk on the south side of Auto Mall Parkway between Fremont Boulevard and Hugo Terrace. There is no sidewalk on the south side of Auto Mall Parkway between the southbound loop off-ramp and the I-680 overcrossing. However, there are sidewalks on both sides of the I-680 overcrossing. At the signalized intersection of Auto Mall Parkway and Osgood Road there are crosswalks on all approaches except the east approach. The northeast corner of the intersection has no ADA ramp or pedestrian-actuated signal phase for the east approach.

There are no crosswalks, ADA curb ramps or pedestrian actuated signal phases at the signalized intersection of Auto Mall Parkway and the southbound I-680 loop off ramp.

The planned East Bay Greenway Trail passes through the study area. According to the Warm Springs Community Plan, the multi-use trail (also called a Class I shared-use path) would follow the UPRR alignment from north of Auto Mall Parkway to the Warm Springs BART station south of Grimmer Boulevard.

Bicycle Facilities

The bicycle facilities in the City of Fremont are identified and described in the *Fremont Bicycle Master Plan*, 2018. The bicycle facilities in the immediate project study area are described as follows.

Osgood Road has existing Class II bike lanes intermittent with Class II buffered bike lanes north of Auto Mall Parkway. Along the site frontage are existing Class II buffered bike lanes northbound and a Class III bike route southbound. There are existing Class II buffered bike lanes on southbound Osgood Road north of Osgood Court. The city's master bike plan shows Osgood Road to have Class II buffered bike lanes north of Auto Mall Parkway. South of Auto Mall Parkway, Osgood Road has existing Class II buffered bike lanes in both directions.

Auto Mall Parkway has existing Class II bike lanes west of Osgood Road, but is to be upgraded to a Class IV separated bikeway from west of Osgood Road to the I-680 overcrossing east of Osgood Road.

The East Bay Greenway Trail, described previously, is a north-south multi-use path that passes through the study area approximately 0.16 miles west of the site. The trail/path would follow the UPRR alignment from north of Auto Mall Parkway to the Warm Springs BART station south of Grimmer Boulevard.

Transit Service

Transit service to the area is provided by AC Transit and BART. The bus routes nearest the site are AC Transit Lines 215 and 623.

AC Transit Line 215 connects the Fremont BART station to the intersection at Warren Avenue and Kato Road, via Osgood Road. The nearest bus stops are located directly fronting the site (northbound bus) and directly across the street from the site (southbound bus).

AC Transit Line 623 provides service between Irvington High School/Horner Middle School (both near Grimmer Boulevard and Blacow Road) and the intersection of Warm Springs Boulevard and Dixon Landing Road, via Auto Mall Parkway. Since Line 623 provides school service only, the line is not expected to serve the site.

Rail service is provided by BART. The BART station nearest the site is the Warm Springs/South Fremont station located south of the project site approximately 0.85 miles. It is accessible via Line 215. Trains run every 15 minutes on weekdays and every 20 minutes on weekends and holidays. BART has plans to construct a new infill station—the Irvington Station—located southwest of the Washington Boulevard & Osgood Road intersection approximately one and one-quarter miles north of the project site. The station is scheduled to open in 2026.

Existing Traffic Observations

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to intersection level of service (LOS), and (2) to identify any locations where the level of service calculation does not accurately reflect level of service in the field.

Auto Mall Parkway. During both the AM and PM peak hours, vehicles in the right-most lane of eastbound Auto Mall Parkway back up from the I-680 southbound ramps, past Osgood Road, and across and over the railroad grade separation. Vehicle queues in the adjacent eastbound lanes generally do not extend over the railroad overcrossing. Because queues in the right-most lane are so long, and usually don't clear in a single cycle, many eastbound vehicles bypass the right lane and cut back into that lane on the highly-congested section between Osgood Road and the I-680 ramps. Also during both the AM and PM peak hours, westbound vehicles back up from Osgood Road to and slightly past the intersection at the northbound ramps. In the PM peak hour, the westbound vehicle queues extend back from Osgood Road and block the intersections at both ramps. Vehicles turning left from the off-ramps to westbound Auto Mall Parkway cannot enter the intersection during much of the left-turn green phase. Similarly, westbound traffic often does not clear in a single cycle the intersection at Osgood Road or the intersection at the southbound ramps.

Osgood Road. During the AM peak hour, southbound vehicle queues in the right-most lane (bound for westbound Auto Mall Parkway) sometimes back up to Osgood Court, and occasionally do not clear the intersection at Osgood Road in a single cycle. During the PM peak hour, northbound vehicle queues on Osgood Road sometimes extend back to the signalized intersection at the exit from Walmart. Occasionally the queue does not clear in a single cycle.

Southbound I-680 ramps. The two-lane, 830-foot-long southbound on ramp is metered in the AM peak hour. Despite the high volume of cars, the vehicle queues were not observed to extend back to Auto Mall Parkway in either peak hour (the ramp was not metered in the PM peak hour).

Project Traffic Estimates

The magnitude of traffic produced by a new development, and the locations where that traffic would appear, are typically estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site was estimated for the weekday AM and PM peak hours. As part of the project trip distribution step, an estimate was made of the directions to and from which the project trips would travel. In the project trip assignment step, the project trips were assigned to specific streets and intersections in the study area. These procedures are described further in the following sections.

Through empirical research, data have been collected that correlate common land uses to their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development. Project trip generation was estimated by applying to the size and use of the development the appropriate trip generation rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation, 11th Edition*.

Because truck trips have a greater impact to traffic operations than passenger vehicles, for the calculation of project trips, each project truck trip was assumed to have a passenger-car equivalence (PCE) of two. That is, adding one truck trip is similar, operationally, to adding two passenger vehicles to the roadway network.

Based on ITE's trip generation rates and estimated percentage of trucks, the project would generate 993 daily vehicle trips (passenger-car equivalent trips, hereafter simplified as "trips"), with 134 trips occurring during the AM peak hour and 183 trips occurring during the PM peak hour. The project trip generation is shown in Table 1.

The project site is currently occupied by a vacant commercial use (formerly Fry's Electronics) that will be adaptively reused, maintaining the existing structure and adding a 6,000-square-foot mezzanine in its conversion to a 149,800 square-foot high-cube fulfillment center warehouse. Because the existing use on site is currently generating no traffic, this analysis assumed no trip credits.

The project trips were assigned to the roadways in accordance with the project's estimated trip distribution pattern. The project trip distribution was developed based on existing counts at the study intersections and prior studies in the project vicinity. The project trip distribution and assignment are shown on Figure 3.

Table 1
Project Trip Generation

	Size	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
High Cube Fulfillment Center Warehouse-Sort ¹	149,815 sf	6.44	965	0.87	106	25	131	1.20	70	110	180
Passenger vehicles (A)		6.25	936	0.85	104	24	128	1.18	69	108	177
Trucks ²		0.19	28	0.02	2	1	3	0.02	1	2	3
Truck PCE ³ (B)			57		4	2	6		2	4	6
Total Proposed PCE Trips = (A)+(B)			993		108	26	134		71	112	183
¹ Trip generation based on average rates contained in the <i>ITE Trip Generation Manual, 11th Edition</i> , for High Cube Fulfillment Center Warehouse-Sort (Land Use Code 155). ² Truck trip generation based on truck data plots in the <i>ITE Trip Generation Manual, 11th Edition</i> , for High Cube Fulfillment Center Warehouse-Sort (Land Use Code 155). ³ A PCE (Passenger Car Equivalent) of 2.0 was assumed to convert the number of truck trips to the equivalent number of passenger vehicle trips. Note: numbers may not add due to rounding.											

Signalized Intersection Level of Service Analysis

Traffic conditions at the signalized study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The City of Fremont utilizes Synchro software and the Highway Capacity Manual (HCM) methodology to evaluate intersection operations. The HCM methodology evaluates intersection operations based on average delay time for all vehicles at the intersection.

At signalized study intersections in Fremont, an acceptable level of service is LOS D or better. According to the City of Fremont, significant project effects at signalized intersections occur when:

1. The level of service at an intersection drops below its LOS standard when project traffic is added; or
2. An intersection that is operating worse than its level of service standard under no project conditions has an increase in delay of more than ten seconds when project traffic is added.

A significant effect at a signalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection levels of service to an acceptable LOS or restore the intersection to operating levels that are better than conditions without the project.

43800 Osgood Rd Transportation Analysis

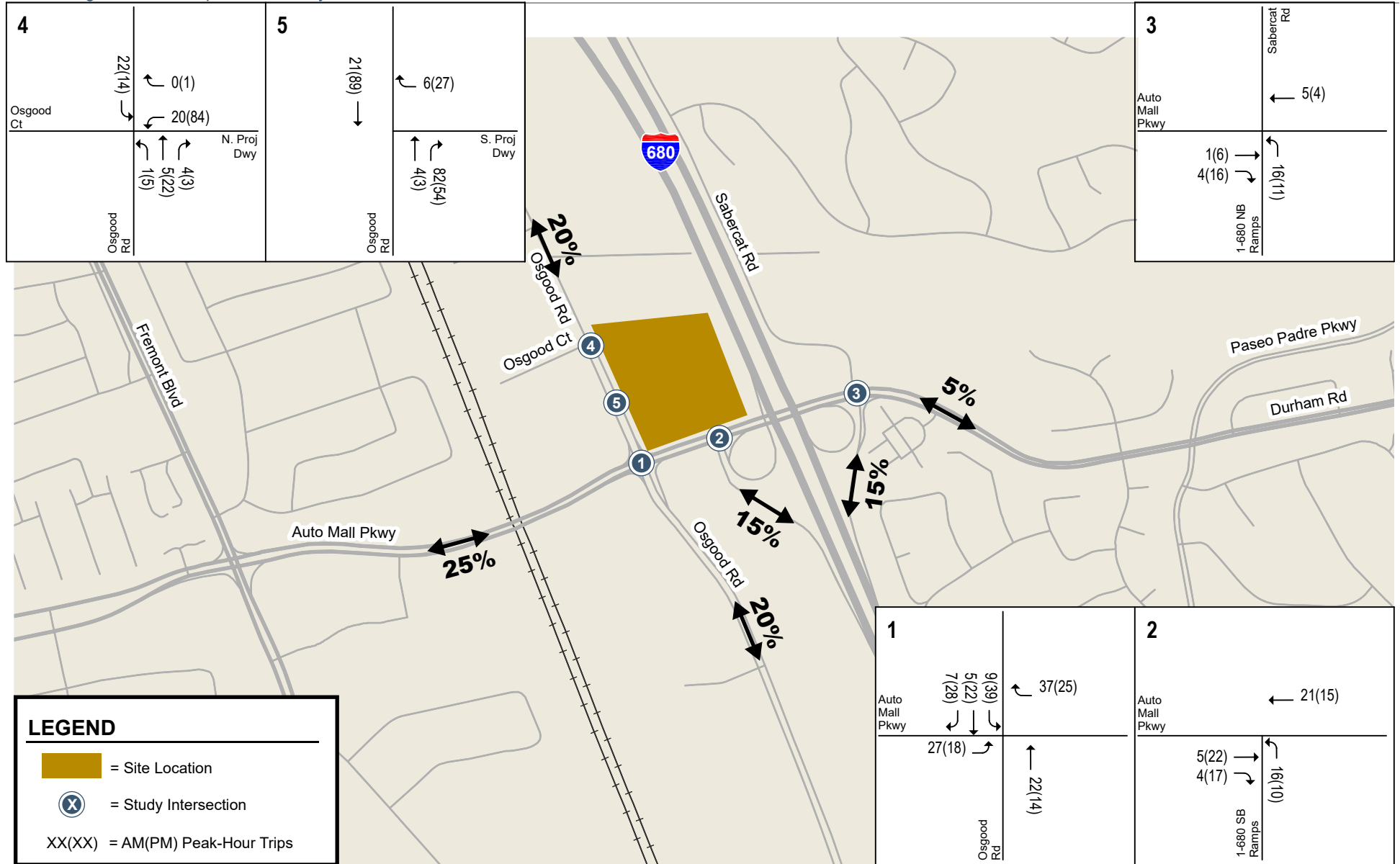


Figure 3
Project Trip Distribution and Assignment

Traffic volumes for existing conditions were determined from existing traffic counts conducted in March 2025. The existing volumes are shown on Figure 4. The count data are included in Appendix A. The results of the signalized intersection level of service analysis under existing conditions show that all signalized study intersections operate at an acceptable LOS D or better, except the intersection of the I-680 southbound ramps and Auto Mall Parkway, which operates at LOS E in the PM peak hour. The results are shown in Table 2. The level of service calculation sheets are included in Appendix B. As noted in the Existing Traffic Observations section of this report, some movements through these intersections operate at considerably higher delays than the overall average delay for the intersection. The overall average delay reflects all intersection movements.

Table 2
Existing Signalized Intersection Levels of Service

Intersection	Hour	Count Date	Delay	LOS
Osgood Road & Auto Mall Pkwy	AM	3/11/25	50.7	D
	PM	3/11/25	49.9	D
I-680 SB ramps & Auto Mall Pkwy	AM	3/11/25	43.3	D
	PM	3/11/25	57.5	E
I-680 NB ramps & Auto Mall Pkwy	AM	3/11/25	27.2	C
	PM	3/11/25	28.7	C
Note 1: levels of service are based on the Highway Capacity Manual (HCM) methodology. Signalized intersection levels of service and delays are reported for average control delay per vehicle. Note 2: the City of Fremont LOS standard for signalized intersections is LOS D.				

Approved projects consist of those developments near the project site that are either already approved for construction or in the development pipeline per the city's development activity table. The developments applicable to this study were identified by the city and are shown in Appendix C.

Approved trips are the sum total of all trips generated by the selected approved developments that pass through a study intersection. Background volumes were estimated by adding approved trips to existing volumes at the study intersections. Background volumes are shown on Figure 5.

43800 Osgood Rd Transportation Analysis

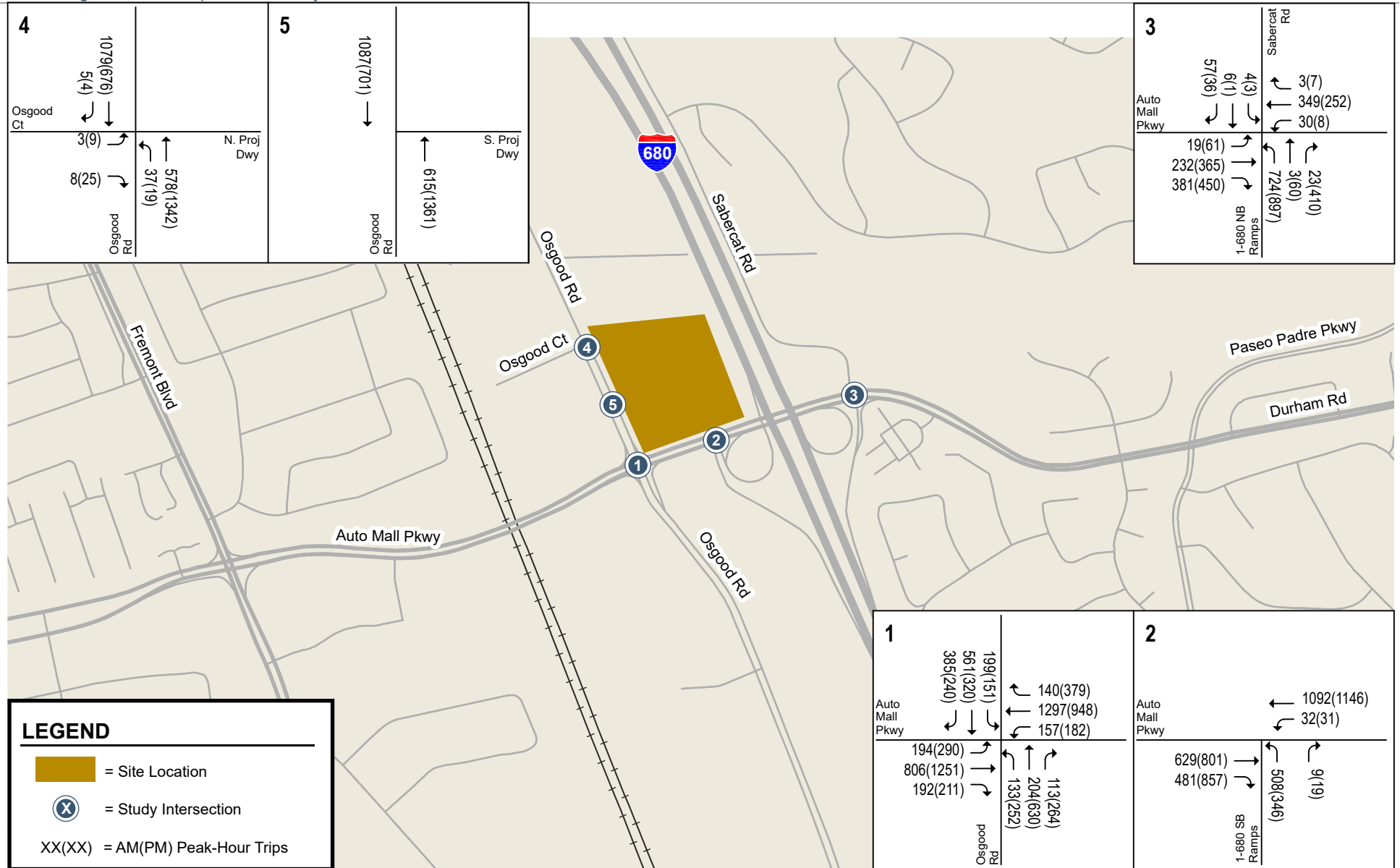


Figure 4
Existing Volumes

43800 Osgood Rd Transportation Analysis

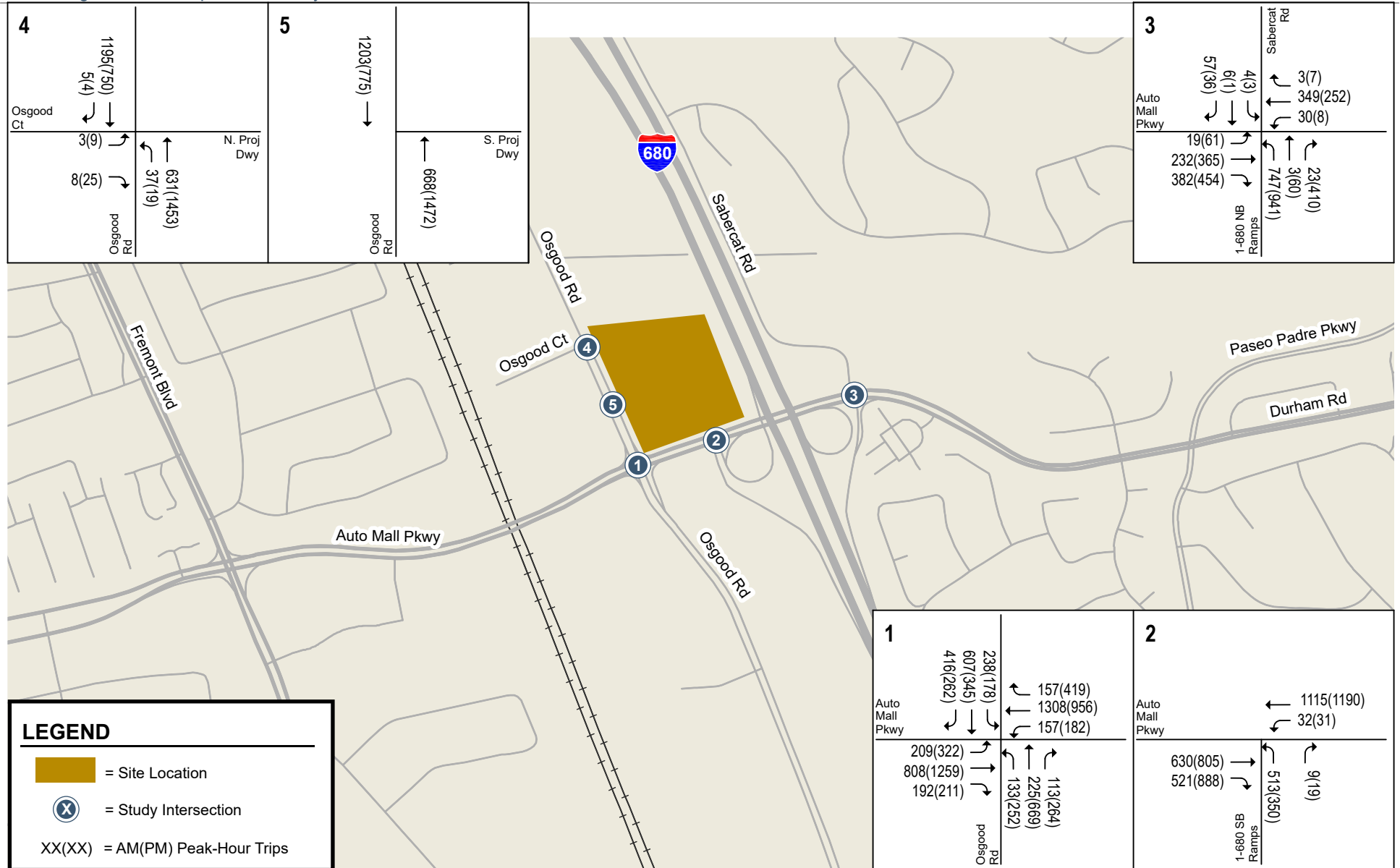


Figure 5
Background Volumes

The results of the signalized intersection level of service analysis under background conditions showed levels of service at the intersection of Osgood Road and Auto Mall Parkway would degrade from LOS D to LOS E during both the AM and PM peak hours. Although delays would increase at the other signalized study intersections, levels of service would remain as reported under existing conditions (see Table 3). The level of service calculation sheets are included in Appendix B.

Background plus Project traffic volumes were estimated by adding project trips to background traffic volumes. Background plus project volumes are shown on Figure 6. The results of the signalized intersection level of service analysis under background plus project conditions showed levels of service at the signalized study intersections would remain unchanged from background conditions. The vehicle delays would increase at the intersection of Osgood Road and Auto Mall Parkway, which was previously reported to operate at LOS E under background conditions. Per the City of Fremont level of service goals described previously, an increase in delay of ten or more seconds (at an LOS E or LOS F intersection) would constitute a significant adverse effect on operations. As shown in Table 3, the increase in delay would be under five seconds during each peak hour.

Evaluation of level of service at the intersection of the I-680 southbound ramps and Auto Mall Parkway showed similar results in the PM peak hour—continued LOS E operations with an increase in delay of less than two seconds. The project would therefore have no significant adverse effect on traffic conditions at the signalized study intersections. The results are shown in Table 3. The level of service calculation sheets are included in Appendix B.

Table 3
Signalized Intersection Level of Service Summary

		Existing		Background		Background + Project		
Intersection	Hour	Delay	LOS	Delay	LOS	Delay	LOS	Change in Delay
Osgood Road & Auto Mall Pkwy	AM	50.7	D	56.9	E	60.5	E	3.6
	PM	49.9	D	56.2	E	60.3	E	4.1
I-680 SB ramps & Auto Mall Pkwy	AM	43.3	D	45.5	D	46.6	D	1.1
	PM	57.5	E	61.1	E	63.0	E	1.9
I-680 NB ramps & Auto Mall Pkwy	AM	27.2	C	27.2	C	27.3	C	0.1
	PM	28.7	C	29.3	C	29.4	C	0.1

Note 1: levels of service are based on the Highway Capacity Manual (HCM) methodology. Signalized intersection levels of service and delays are reported for average control delay per vehicle.

Note 2: the City of Fremont LOS standard for signalized intersections is LOS D.

43800 Osgood Rd Transportation Analysis

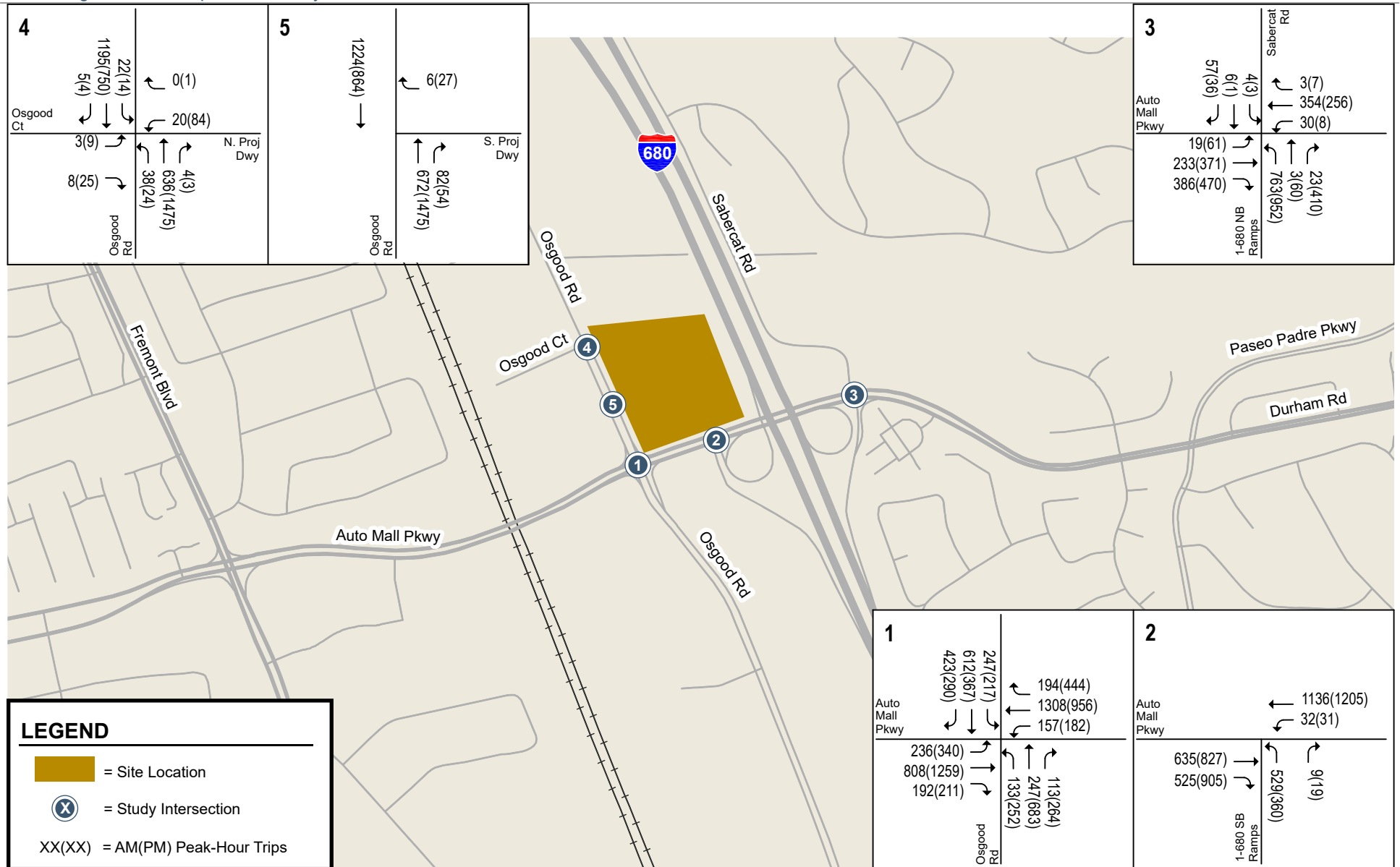


Figure 6
Background Plus Project Volumes

Unsignalized Intersection Analysis

The two site driveway intersections on Osgood Road are unsignalized side-street-stop-controlled (SSSC) intersections. The site driveways currently have no traffic, as the site is vacant. However, at the intersection of Osgood Road and the North Site Driveway, Osgood Court forms the fourth leg of this intersection, directly opposite the North Site Driveway. Osgood Court serves existing traffic. The unsignalized North Site Driveway intersection was therefore evaluated for level of service. The South Site Driveway is right-turn in/out only. Operations at the South Site Driveway are evaluated in a later section on site access.

Synchro software was used to apply the HCM operations method for evaluation of conditions at the unsignalized side-street-stop-controlled (SSSC) intersection at Osgood Road and Osgood Court/North Site Driveway. For SSSC intersections, levels of service and delays are calculated for both the overall average delay for the intersection and for the approach with the highest delay. The City of Fremont does not apply LOS significance thresholds to unsignalized intersections.

Unlike signalized intersections, which typically represent constraint points for the roadway network, unsignalized intersections rarely limit the potential capacity of a roadway. The determination of appropriate improvements to unsignalized intersections typically includes a qualitative and quantitative analysis of movement delay, traffic signal warrants, movement traffic volumes, availability of alternate routes, and intersection safety. For this reason, improvements to unsignalized intersections are frequently determined on the basis of professional engineering judgment.

The unsignalized intersection level of service summary is shown in Table 4. The level of service calculation sheets are included in Appendix B. The results show that the intersection of Osgood Road & Osgood Court/North Site Driveway as a whole operates/would operate at LOS A under all scenarios during both peak hours. However, under project conditions, the intersection approach with the highest delay (the North Site Driveway) would operate at LOS F during both the AM and PM peak hours. During the PM peak hour specifically, this approach would be oversaturated, resulting in delays that exceed the threshold for reliable forecasts of delays, queues and level of service.

Table 4
Unsignalized Intersection Levels of Service

Intersection	Hour	Existing		Background		Background + Project		
		Delay	LOS	Delay	LOS	Delay	LOS	Change in Delay
Unsignalized (existing)								
Osgood Road & Osgood Court / N. Site Drwy	AM	0.4 / 26.0	A / D	0.4 / 31.6	A / D	1.3 / 67.0	A / F	0.9 / 35.4
	PM	0.5 / 24.1	A / C	0.5 / 29.1	A / D	oversat	n/a	n/a
Signalized (option)								
Osgood Road & Osgood Court / N. Site Drwy	AM	n/a	n/a	n/a	n/a	7.0	A	n/a
	PM	n/a	n/a	n/a	n/a	8.4	A	n/a
Note 1: traffic count data were collected on 3/11/25.								
Note 2: levels of service are based on the Highway Capacity Manual (HCM) methodology. Signalized intersection levels of service and delays are reported for average control delay per vehicle. Intersection levels of service and delay for the unsignalized two-way-stop-controlled intersection are reported for both the overall average delay / the approach with highest delay.								
Note 3: City of Fremont has no LOS standard for unsignalized intersections. For unsignalized intersections, operational standards are based on various criteria, among them signal warrants and engineering judgment.								
Note 4: oversat = intersection is oversaturated; volumes are too high to provide reliable results.								

The level of service analysis at the unsignalized intersection of Osgood Road & Osgood Court/North Site Driveway was supplemented with an assessment of the need for signalization. For this study, the need for signalization is assessed, in part, on the basis of the operating conditions at the intersections (i.e., level of service) and on the peak hour volume signal warrant – warrant #3 – described in the *California Manual on Uniform Traffic Control Devices* (MUTCD). This method provides an indication of whether traffic conditions and peak hour traffic levels are, or would be, sufficient to justify installation of a traffic signal.

The *Peak Hour* signal warrant is intended for use at locations where traffic conditions are such that for a minimum of one hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. Accordingly, in the peak-hour signal warrant for SSSC intersections, the side street represents the ‘minor’ street.

The signal warrant analysis was conducted for the existing full-access unsignalized intersection at Osgood Road and Osgood Court/North Site Driveway. The results of the signal warrant analysis indicate that the intersection would meet the peak-hour warrant criteria under background plus project conditions during the PM peak hour. The signal warrant analysis is summarized in Appendix D.

The North Site Driveway would serve approximately 85 vehicles under background plus project conditions in the PM peak hour. This exceeds the 75-vehicle lower threshold for volumes on the minor street (North Site Driveway). The warrant is only a guideline—it is just one of many factors to consider when determining whether a signal should be installed. However, given that the warrant would be met as well as the very high delays during the PM peak hour, it is recommended that the city consider a traffic signal at this location. It was determined that, were

a traffic signal to be installed, the intersection would operate at an acceptable LOS A in both the AM and PM peak hours (see Table 4).

Recommendation 1: The project should install a traffic signal at the intersection of Osgood Road and Osgood Court/North Site Driveway. This traffic signal should be interconnected with the existing traffic signal at Osgood Road/Auto Mall Parkway, which is approximately 700 feet to the south.

Vehicle Queuing

A quantitative vehicle queuing analysis was conducted for the following vehicular movements:

- Southbound left turn from Osgood Road into the North Site Driveway,
- Westbound shared left/right turns from the North Site Driveway onto Osgood Road,
- Northbound left/U-turns from Osgood Road to southbound Osgood Road (at Osgood Court),
- Southbound left turns from Osgood Road onto eastbound Auto Mall Parkway, and
- Eastbound left turns from Auto Mall Parkway to northbound Osgood Road.

The queuing analysis was conducted for both background and background plus project conditions in the AM and PM peak hours. Similar to the LOS analysis described previously, trucks were assumed to have a passenger car equivalence (PCE) of 2.0 for these calculations. The queuing analysis results are shown in Table 5. There are no queue estimates for the North Site Driveway intersection under background conditions because there would be no traffic at the North Site Driveway under no project conditions. Under background plus project conditions at the North Site Driveway, the calculated delays exceed the threshold for reliable results if the intersection were to remain unsignalized. The table therefore shows what the queuing would be if the North Site Driveway intersection were signalized.

The results of the queuing analysis show that the 95th-percentile maximum vehicle queues at the eastbound left-turn pocket from Auto Mall Parkway to northbound Osgood Road would exceed the existing left-turn storage capacity of 400 feet. The maximum queue would be 500 feet under background conditions in the PM peak hour and 525 feet under background plus project conditions in the PM peak hour. Therefore, the project would add one car (25 feet) to a queue that would already exceed the existing storage by 100 feet under background conditions. When a project's contribution to maximum queues is one vehicle or fewer, turn pocket lengthening is not always required. By definition, the 95th percentile queue occurs only one of every 20 traffic signal cycles. In addition, the calculations show that the average vehicular queue during the PM peak would be accommodated, and field observations did not indicate that the existing left turn storage was inadequate. However, City staff will make the final determination as to whether the turn pocket should be lengthened by the project.

Table 5
Vehicle Queues

Measurement	Osgood Road & Auto Mall Parkway		Osgood Road & Osgood Court / N. Site Driveway ³		
	SB Left-Turn	EB Left-Turn	SB Left-Turn ⁴	WB Left-Turn ⁵	NB Left-Turn
<u>Background</u>					
<i>AM Peak Hour</i>					
Cycle/Delay (sec) ¹	150	150	n/a	n/a	n/a
Volume (vph)	238	209	n/a	n/a	n/a
Avg. Queue (veh)	9.9	8.7	n/a	n/a	n/a
Avg. Queue (ft.) ²	248	218	n/a	n/a	n/a
95th %. Queue (veh)	15	14	n/a	n/a	n/a
95th %. Queue (ft.) ²	375	350	n/a	n/a	n/a
Storage	700	400	n/a	n/a	n/a
Adequate (Y/N)	Y	Y	n/a	n/a	n/a
<i>PM Peak Hour</i>					
Cycle/Delay (sec) ¹	150	150	n/a	n/a	n/a
Volume (vph)	178	322	0	0	0
Avg. Queue (veh)	7.4	13.4	n/a	n/a	n/a
Avg. Queue (ft.) ²	185	335	n/a	n/a	n/a
95th %. Queue (veh)	12	20	n/a	n/a	n/a
95th %. Queue (ft.) ²	300	500	n/a	n/a	n/a
Storage	700	400	n/a	n/a	n/a
Adequate (Y/N)	Y	N	n/a	n/a	n/a
<u>Background + Project</u>					
<i>AM Peak Hour</i>					
Cycle/Delay (sec) ¹	150	150	60	60	60
Volume (vph)	247	236	22	20	38
Avg. Queue (veh)	10.3	9.8	0.4	0.3	1.0
Avg. Queue (ft.) ²	257	246	9	8	25
95th %. Queue (veh)	16	15	2	1	1
95th %. Queue (ft.) ²	400	375	50	25	25
Storage	700	400	100	300	100
Adequate (Y/N)	Y	Y	Y	Y	Y
<i>PM Peak Hour</i>					
Cycle/Delay (sec) ¹	150	150	60	60	60
Volume (vph)	217	340	14	84	24
Avg. Queue (veh)	9.0	14.2	0.2	1.4	0.4
Avg. Queue (ft.) ²	226	354	6	35	10
95th %. Queue (veh)	14	21	1	4	2
95th %. Queue (ft.) ²	350	525	25	100	50
Storage	700	400	100	300	100
Adequate (Y/N)	Y	N	Y	Y	Y
¹ Vehicle queue calculations are based on cycle length for signalized intersections. ² Assumes 25 feet per vehicle queued. ³ Queuing analysis based on traffic signal at N. Site Driveway intersection. Under unsignalized conditions the delays exceed the threshold for reliable results. ⁴ SB left-turn storage is measured back to the first driveway north of Osgood Court/North Site Driveway. Beyond (north of) the first driveway the lane continues northward as a two-way-center-left-turn lane. ⁵ Storage is based on distance from Osgood Road at the North Site Driveway back to the main drive aisle that connects to the South Site Driveway within the site.					

Site Access & Circulation

This section describes the site access and on-site circulation for the proposed project. This review is based on the project site plan provided by HPA Architecture dated February 19, 2025 (see Figure 2).

Access to the project site would be provided via two driveways on Osgood Road at the same locations as the existing southernmost and northernmost driveways to the site. The main site driveway—the North Site Driveway, is located approximately 700 feet north of Auto Mall Parkway. The main site driveway provides full access to and from Osgood Road via an unsignalized four-leg, side-street-controlled intersection. The North Site Driveway constitutes the east approach of this intersection and Osgood Court represents the west approach.

There is an existing southbound left-turn pocket on Osgood Road that provides access to the North Site Driveway. The southbound left-turn channelization is of unlimited length, as it forms a continuation of a two-way center left-turn lane with no taper to delineate a left-turn pocket. The North Site Driveway extends back from Osgood Road, into the site, and turns southward along the west drive aisle parallel to Osgood Road. Though the throat depth of the North Site Driveway (distance from Osgood Road to the west drive aisle) is only 30 feet, the west drive aisle adds another 270 feet of storage for outbound vehicle queues at the North Site Driveway.

The South Site Driveway is located approximately 300 feet north of Auto Mall Parkway and provides right-turn-in-out only access, as there is a raised median island on Osgood Road opposite the driveway. There is an existing 100-foot northbound left-turn pocket on Osgood Road at Osgood Court/North Site Driveway that would serve U-turns by vehicles exiting the South Site Driveway going to Auto Mall Parkway.

The site plan shows the South Site Driveway to be 34 feet wide and the North Site Driveway to be 35 feet wide. The site plan does not explicitly show the lane channelization at the driveways, but it is assumed that each driveway is one-lane in and one lane out. Note that the existing channelization at the north driveway shows two lanes outbound. However, a two-lane outbound driveway would likely not be feasible because of (1) the short throat depth of the north driveway (30 feet) and (2) the tight turning radius between the North Site Driveway and the west drive aisle for trucks.

The project trips coming inbound from the north would use the southbound left-turn lane into the North Site Driveway. Nearly all project trips coming from the south would use the right-turn-in-out-only South Site Driveway. Project trips exiting the site would mostly use the North Site Driveway, with those going south using the single westbound shared-movement lane. Some outbound project trips—mostly those heading north of the site, would use the South Site Driveway. Some of the outbound project trips heading south toward Auto Mall Parkway would use the South Site Driveway, make a U-turn via the northbound left-turn pocket at Osgood Court/North Site Driveway.

For the North Site Driveway, vehicular operations as well as a recommendation for a traffic signal were previously described in the *Unsignalized Intersection Analysis* and *Vehicle Queuing* sections of this report.

At the South Site Driveway, which is right turn in/out only, vehicles would be subject only to brief delays and relatively short queues. Inbound right turns would have no vehicle conflicts, and outbound right turns would only conflict with northbound traffic on Osgood Road, which is controlled upstream by a traffic signal at Auto Mall Parkway, providing gaps in traffic. Note that the throat depth at the South Site Driveway is shown on the site plan to be only 30 feet (from

the curb on Osgood Road to the west edge of the west drive aisle). Consequently, a vehicle queue of just two vehicles would temporarily block the west drive aisle. However, given the relatively low traffic volume for this movement (27 vehicles during the highest peak hour), and the brief driveway delays, queues exceeding one vehicle would be relatively infrequent.

Sight distance at the site driveways was reviewed in the field and determined to be adequate. There are no vertical or horizontal curves, no on-street parking, and no existing landscaping that would limit sight distance. Sight distance should be adequate with the project, provided the landscaping setback is maintained and no monument signs or other permanent fixtures are constructed that would limit sight distance.

Recommendation 2: Prior to final design, landscaping shall be reviewed by City staff to ensure that adequate sight distance triangles are maintained at both project driveways.

The on-site circulation was reviewed in accordance with generally accepted traffic engineering standards. Circulation on site is provided by several drive aisles, as labeled on Figure 2. The drive and parking aisles are shown to vary in width between 26 feet and 34 feet, with the exception of the east-west main drive aisle which, at 72 feet wide, serves the tractor-trailer trucks at the 18 loading docks on the north side (directly fronting the building) and 31 tandem (62 total) parking spaces (10' x 53' each) for tractor-trailer truck parking on the south side of the main drive aisle. Note that the main drive aisle narrows to 50 feet wide where it intersects the west drive aisle. All drive and parking aisles onsite have 90-degree perpendicular parking on at least one side.

Two dead-end aisles are shown on the site plan. The dead end at the north end of the EV parking aisle is set back several feet to allow vehicles in the end spaces room to maneuver out. Should a vehicle enter the EV parking aisle and find it full, the vehicle would be forced to back out of the aisle. While this is not ideal, given the low volume of traffic on site and the short length of the aisle (approximately 100 feet), the design would be acceptable. The dead end at the north end of the east parking aisle has a driveway/turnout oriented 90 degrees to the parking aisle. There is no parking on this section. The driveway/turnout is about 40 feet long, which would permit vehicles enough room to turn around.

Emergency, Garbage, and Truck Access

The fire truck access plan shows the fire access route to run from the North Site Driveway, south along the west drive aisle, across the main drive aisle to the southwest drive aisle, east along the central parking aisle, then jogs north along the southeast parking aisle, eastward and northward along the east parking aisle, back to the main drive aisle westward along the building frontage and back to Osgood Road.

The fire access plan shows a scaled turn-template overlay for fire trucks. It's not clear whether the template also applies to the intended building purpose, which would involve heavy use by tractor trailer trucks. The site plan should make clear, via truck turning templates, that the on site circulation system and site driveways will adequately accommodate semi tractor trailer trucks.

Recommendation 3: The project applicant should coordinate with city staff to ensure the on-site drive aisles and driveways conform to city standards for tractor trailer trucks. Truck turning templates should be used to confirm adequacy.

The site plan shows trash enclosures on the south side of the main drive aisle approximately 100 feet east of the west drive aisle. The trash enclosures are relatively well located given their

close proximity to the South Site Driveway and the fact that the aisle width at that location is more than 50 feet.

Parking Layout

According to the site plan, the project proposes to supply 373 parking spaces. According to the City of Fremont Municipal Code 18.183.030, the project is required to provide, at a minimum, five spaces per 1,000 s.f. (ksf) of office plus 1.25 spaces per ksf of warehouse plus 3.3 spaces per ksf of manufacturing. Accordingly, based on the breakdown of project uses, the project is to provide 373 parking spaces on site—the number the project proposes to provide.

The plan shows the project will provide 8 handicap accessible spaces and 75 EV-capable spaces, two of which would be accessible EV spaces. Within that total, as mentioned previously, the project would provide 31 tandem parking spaces (62 parking spaces) for tractor-trailer trucks.

The handicap-accessible parking is located along the west drive aisle, facing the building, and on the south side of the main drive aisle directly opposite the building's main entrance (the southwest corner of the building). EV parking is generally located in the southwest quadrant of the site, along the southwest drive aisle, the EV parking aisle and the west end of central and south parking aisles.

Pedestrian & Bicycle Access

Pedestrian facilities on site include the accessibility path of travel between the handicap parking and the building entrance, one path of which crosses the main drive aisle at the building entrance. The other accessibility path of travel is located along the west side of the building, between it and the west drive aisle. The plan also shows a pedestrian path and crosswalk, between the building and the sidewalk on Osgood Road, just north of the South Driveway. The plan otherwise does not show on-site pedestrian paths or pedestrian connections to the sidewalk on Osgood Road.

Per the City of Fremont Municipal Code 18.183.135, the required type and number of bicycle parking spaces is one long-term bicycle parking space plus five percent of the required automobile parking for tenants/occupants. The required number of short-term bicycle parking spaces is four short-term spaces plus five percent of the required automobile parking for visitors. For this calculation it is assumed that "tenant/occupant" applies to all whose purpose at the site is work. There are no "visitor" parking spaces designated for the site. Therefore, the required bicycle parking on site is 20 long-term bicycle parking spaces and four short-term bicycle parking spaces. The site plan does not include a tabulation of the number of bicycle parking spaces to be provided. The plan does show short-term bicycle parking (bike racks) to be located at the building entrance and at the southeast corner of the building. Long-term bicycle parking would be located at the northwest corner of the building, near the North Site Driveway.

Recommendation 4: The project shall specify the number and type of bicycle parking spaces proposed and required on site. These should comply with City requirements which, given the development size, require four short term parking spaces and 20 long term parking spaces.

Pedestrian & Bicycle Impacts

Existing observations at the study intersections showed very light bike and pedestrian activity. The data showed that there were fewer than ten total pedestrian crossings at all study intersections combined, in each of the peak hours. In addition, the total volume of bicycle traffic was fewer than ten total bicycles at all study intersections combined, in each of the peak hours. The project would likely generate a small number of bikes and pedestrians from employees traveling to and from the site, including to and from transit facilities.

As described previously, there are currently no sidewalks along sections of Auto Mall Parkway near the site. However, the City of Fremont Pedestrian Master Plan identifies citywide roadway projects designed to address the major sidewalk gaps in the city. Excerpts are provided below:

- Citywide Roadway Project #13: Auto Mall Parkway Projects. This project would evaluate sidewalk and crossing improvements along the Auto Mall Parkway Corridor. The I-680 interchange has missing sidewalks and high-speed ramps. The project should involve Caltrans as well as Warm Springs stakeholders and commercial property owners.
- Citywide Roadway Project #18: Freeway Interchanges. Several highway interchanges in Fremont, including the I-680 / Auto Mall Parkway interchange, were designed with ramp geometries optimized for high vehicular speeds, and crosswalks are often missing. Consistent with federal and state policy, any major interchange renewal work would include improved provisions for walking and cycling. Some of the proposed improvements include fencing along overbridges, ramp crosswalks with high visibility ladder-style striping, warning signage, audible pedestrian signals, tighter corner radii, signal modifications, striping, and signing modifications.

In addition, the City's General Plan policy on sidewalks for new developments is described below.

- Policy 3-1.7: Sidewalks. Require the provision of sidewalks in all new development, including infill development and redevelopment, in order to eventually complete the City's sidewalk network. Sidewalks shall be required on both sides of all public streets, except in hillside areas where a single sidewalk may be adequate. Sidewalks and direct pedestrian connections between uses should also be provided in parking lots. This is an existing City standard, and it will remain relevant and appropriate over the lifetime of this Plan. The specific design details are dependent on the adjacent land use.
- Implementation 3-1.7.A: Sidewalk Installation. Continue to require developers to finance and install sidewalks, pedestrian walkways, and other pedestrian-oriented features in new development.

As stated previously, Osgood Road has intermittent existing Class II buffered bike lanes north of Auto Mall Parkway. Along the site frontage are existing Class II buffered bike lanes northbound and a Class III bike route southbound. The city's master bike plan shows Osgood Road to have Class II buffered bike lanes north of Auto Mall Parkway. Auto Mall Parkway has existing Class II bike lanes west of Osgood Road, but is to be upgraded to a Class IV

separated bikeway from west of Osgood Road to the I-680 overcrossing east of Osgood Road.

There is currently no sidewalk, bike lane, or bike path along the project frontage on Auto Mall Parkway between Osgood Road and the I-680 southbound ramps, as is identified for future installation in the City's planning documents. In addition, there is currently no crosswalk on the east leg of the Auto Mall Parkway and Osgood Road intersection, and there are no ADA-compliant wheelchair ramps at the northeast corner of this intersection (adjacent to the project site). Usually, the installation of sidewalks, bike facilities, crosswalks and ADA compliant ramps along a project frontage are City requirements. However, installation of these improvements would be complicated by several factors, including the presence of industrial power lines and towers at the northeast corner of Auto Mall Parkway and Osgood Road, as well as a significant elevation difference between the north side of Auto Mall Parkway and the project site (resulting in a steep grade).

Given that the City has already identified the need for both pedestrian and bike improvements in the area, it may be prudent to develop a more comprehensive plan to address the specific bike and pedestrian challenges in the area, as opposed to implementing "piecemeal" improvements (by a development) that may ultimately require removal when final plans are prepared. To upgrade the subject segment of Auto Mall Parkway to include the desired bike and pedestrian facilities, major reconstruction would likely be required along Auto Mall Parkway and through the interchange with I-680.

Recommendation 5: The City shall determine whether it's desirable for the project to construct additional bike and pedestrian facilities along the project frontage on Auto Mall Parkway or whether a fair share monetary contribution toward future bike and pedestrian improvements would be appropriate.

According to the Alameda County Congestion Management Program (CMP) Transportation Impact Analysis Technical Guidelines, a project would create an impact on pedestrian and bike circulation if: (1) its vehicle trips would present a barrier to bikes/ pedestrians safely crossing roadways, or (2) it would reduce or sever existing or planned bike/pedestrian circulation in the area. Construction of the proposed project would not cause either of these criteria to be met, as the project would not preclude any planned improvements in the area and its traffic would not materially change conditions for pedestrians and bikes in the area. Therefore, the proposed project would not create an adverse impact to bicycle or pedestrian circulation in the area. However, with the implementation of recommendation #5 above, the project could ultimately improve conditions for bikes and pedestrians in the area.

Transit Impacts

The project could generate a small number of transit trips from employees traveling to and from the site. However, the volume of transit trips generated by the project would not exceed the available transit capacity, and the increase in trips would not be sufficient to justify changes in the transit network serving the project area. AC Transit line 215 has a stop directly along the project site frontage, but the stop has no amenities. In order to encourage transit use, it is recommended that a bench or covered seating be provided at the bus stop in front of the site.

Recommendation 6: The project should consider installing a bench or covered seating at the bus stop in front of the site.

According to the Alameda County (CMP) Transportation Impact Analysis Technical Guidelines, a project would create an impact on transit service if it: (1) causes vehicular congestion that would significantly degrade transit operations, (2) causes a ridership increase that would exceed existing transit capacity, or (3) conflicts with existing transit service plans or preclude future transit service to the project area. The proposed project would not cause any of these criteria to be met. The project would generate very few transit trips, with most transit demand likely occurring to and from BART. The number of vehicle trips generated by the proposed project would be low relative to existing traffic levels, resulting in negligible additional delays for bus service in the area. In addition, the project would not remove any existing transit facilities nor conflict with any adopted plans. Therefore, the proposed project would not cause a significant impact to transit operations in the study area.

Conclusions

The effects of the proposed project were evaluated in accordance with the procedures and guidelines specified by the City of Fremont. The study produced the following conclusions:

- Although traffic conditions at the study intersections are congested, based on the City's level of service criteria, the project would not result in any significant effects to signalized study intersections.
- At the unsignalized intersection of Osgood Road & Osgood Court/North Site Driveway, under project conditions, the worst approach (project North Site Driveway) would operate at LOS F during both the AM and PM peak hours. In addition, this location would meet the peak hour traffic signal warrant with the addition of project traffic.
- The results of the queuing analysis show that the 95th-percentile maximum vehicle queues at the eastbound left-turn pocket from Auto Mall Parkway to northbound Osgood Road would exceed the existing left-turn storage capacity under project conditions. The project would add one car (25 feet) to the queue. City staff will make the final determination as to whether the turn pocket should be lengthened by the project.
- The proposed project would not create any adverse effects to pedestrian, bike, or transit facilities. However, the City has identified bike and pedestrian improvements along the project's frontage on Auto Mall Parkway.

In addition, the analysis also produced the following recommendations:

1. The project should install a traffic signal at the intersection of Osgood Road and Osgood Court/North Site Driveway. This traffic signal should be interconnected with the existing traffic signal at Osgood Road/Auto Mall Parkway, which is approximately 700 feet to the south.
2. Prior to final design, landscaping shall be reviewed by City staff to ensure that adequate sight distance triangles are maintained at both project driveways.
3. The project applicant should coordinate with city staff to ensure the on-site drive aisles and driveways conform to city standards for tractor trailer trucks. Truck turning templates should be used to confirm adequacy.

4. The project shall specify the number and type of bicycle parking spaces proposed and required on site. These should comply with City requirements which, given the development size, require four short term parking spaces and 20 long term parking spaces.
5. The City shall determine whether it's desirable for the project to construct additional bike and pedestrian facilities along the project frontage on Auto Mall Parkway or whether a fair share monetary contribution toward future bike and pedestrian improvements would be appropriate.
6. The project should consider installing a bench or covered seating at the bus stop in front of the site.

Appendices

Appendix A

Traffic Counts



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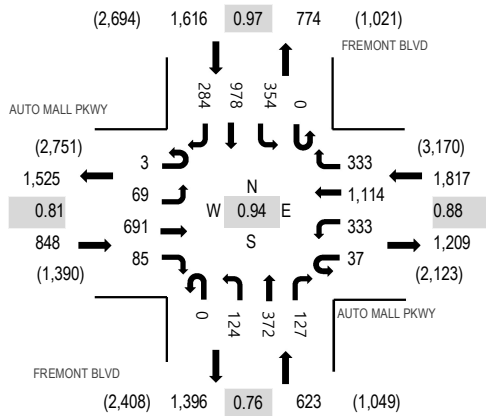
Location: 1 FREMONT BLVD & AUTO MALL PKWY AM

Date: Tuesday, March 11, 2025

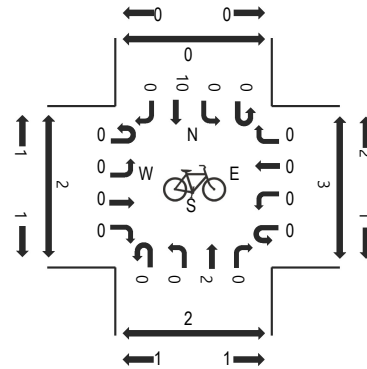
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Peak 15-Minutes: 08:15 AM - 08:30 AM

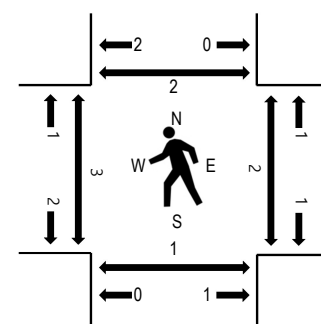
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	AUTO MALL PKWY Eastbound				AUTO MALL PKWY Westbound				FREMONT BLVD Northbound				FREMONT BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	7	84	14	6	65	223	8	0	16	28	65	0	38	94	35	683	3,467	1	0	0	0
7:15 AM	0	7	99	13	7	59	226	16	0	15	24	79	0	35	127	47	754	4,026	0	0	0	0
7:30 AM	0	13	108	15	9	51	236	34	0	20	38	38	0	64	191	47	864	4,579	0	0	0	0
7:45 AM	0	16	166	15	6	67	288	94	0	24	89	35	0	69	234	63	1,166	4,904	0	2	0	1
8:00 AM	1	20	145	29	6	81	234	109	0	35	136	34	0	89	264	59	1,242	4,836	1	0	0	0
8:15 AM	0	13	169	13	7	94	312	104	0	35	102	33	0	92	249	84	1,307		0	0	1	0
8:30 AM	2	20	211	28	18	91	280	26	0	30	45	25	0	104	231	78	1,189		2	0	0	1
8:45 AM	1	6	153	22	11	90	285	27	0	23	39	41	0	77	271	52	1,098		1	0	1	2

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	13	0	0	1	18	0	0	3	0	4	0	0	0	1	41
Lights	2	66	653	81	37	324	1,060	332	0	109	369	117	0	352	968	279	4,749
Mediums	1	2	25	4	0	8	36	1	0	12	3	6	0	2	10	4	114
Total	3	69	691	85	37	333	1,114	333	0	124	372	127	0	354	978	284	4,904



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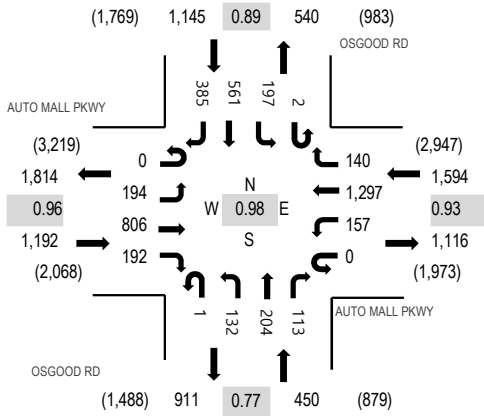
Location: 2 OSGOOD RD & AUTO MALL PKWY AM

Date: Tuesday, March 11, 2025

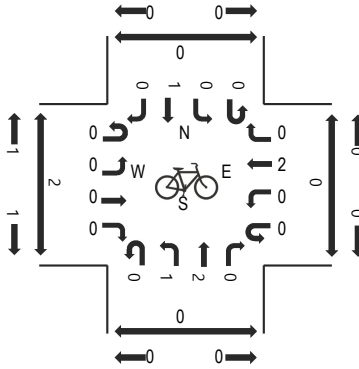
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM

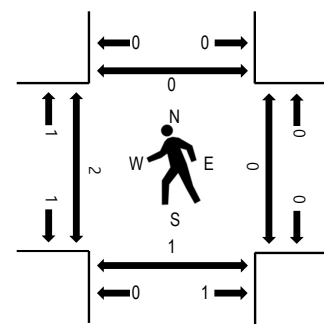
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	AUTO MALL PKWY				AUTO MALL PKWY				OSGOOD RD				OSGOOD RD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	30	132	26	0	32	255	31	0	22	23	47	0	19	63	37	717	3,282	0	0	0	0
7:15 AM	0	21	151	23	0	24	238	18	0	21	38	56	0	17	97	40	744	3,670	1	0	0	0
7:30 AM	1	37	165	30	0	36	284	31	0	30	42	24	0	16	78	38	812	4,041	0	0	0	0
7:45 AM	0	62	169	29	0	46	309	49	0	42	61	23	0	38	93	88	1,009	4,308	0	0	0	0
8:00 AM	0	64	160	40	0	34	317	45	1	49	77	34	1	53	133	97	1,105	4,381	0	0	1	0
8:15 AM	0	46	202	59	0	36	340	34	0	33	46	32	1	43	140	103	1,115		1	0	0	0
8:30 AM	0	50	212	49	0	42	290	28	0	18	47	23	0	56	163	101	1,079		1	0	0	0
8:45 AM	0	34	232	44	0	45	350	33	0	32	34	24	0	45	125	84	1,082		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	16	2	0	1	20	2	0	2	2	3	0	3	1	2	55
Lights	0	190	763	188	0	151	1,248	135	1	125	195	103	2	190	549	374	4,214
Mediums	0	3	27	2	0	5	29	3	0	5	7	7	0	4	11	9	112
Total	0	194	806	192	0	157	1,297	140	1	132	204	113	2	197	561	385	4,381



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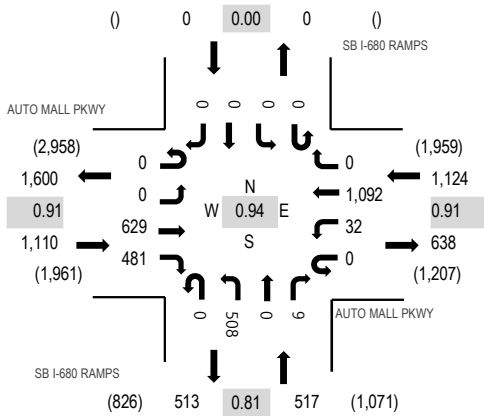
Location: 3 SB I-680 RAMPs & AUTO MALL PKWY AM

Date: Tuesday, March 11, 2025

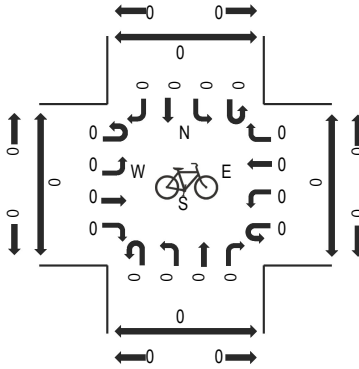
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:45 AM - 09:00 AM

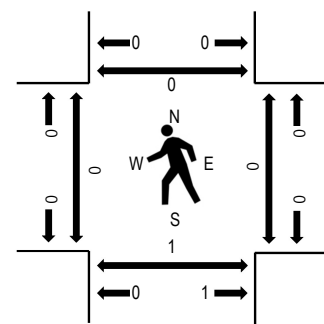
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	AUTO MALL PKWY				AUTO MALL PKWY				SB I-680 RAMPs				SB I-680 RAMPs				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	0	138	57	0	1	147	0	0	164	0	6	0	0	0	0	513	2,240	0	0	0	0
7:15 AM	0	0	164	62	0	5	154	0	0	138	0	2	0	0	0	0	525	2,371	0	0	0	0
7:30 AM	0	0	119	79	0	7	209	0	0	137	0	1	0	0	0	0	552	2,561	0	0	0	0
7:45 AM	0	0	138	94	0	8	304	0	0	105	0	1	0	0	0	0	650	2,673	0	0	0	0
8:00 AM	0	0	134	92	0	5	305	0	0	105	0	3	0	0	0	0	644	2,751	0	0	0	0
8:15 AM	0	0	189	103	0	9	280	0	0	131	0	3	0	0	0	0	715		0	0	1	0
8:30 AM	0	0	145	143	0	5	215	0	0	154	0	2	0	0	0	0	664		0	0	0	0
8:45 AM	0	0	161	143	0	13	292	0	0	118	0	1	0	0	0	0	728		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	18	4	0	0	6	0	0	17	0	0	0	0	0	0	45
Lights	0	0	590	459	0	32	1,064	0	0	475	0	9	0	0	0	0	2,629
Mediums	0	0	21	18	0	0	22	0	0	16	0	0	0	0	0	0	77
Total	0	0	629	481	0	32	1,092	0	0	508	0	9	0	0	0	0	2,751



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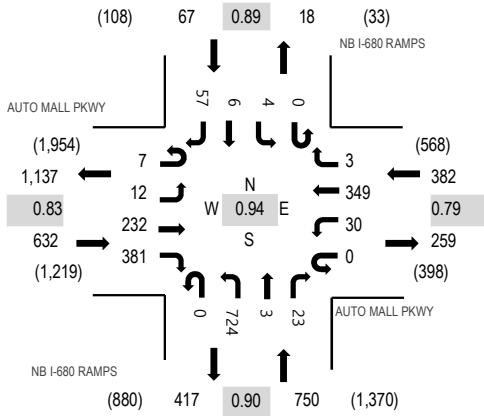
Location: 4 NB I-680 RAMPs & AUTO MALL PKWY AM

Date: Tuesday, March 11, 2025

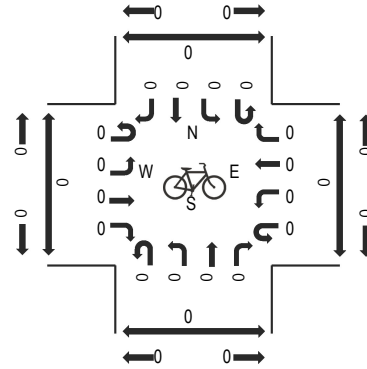
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:00 AM - 08:15 AM

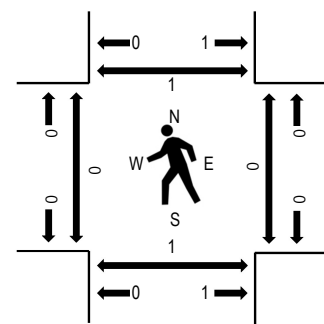
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	AUTO MALL PKWY				AUTO MALL PKWY				NB I-680 RAMPs				NB I-680 RAMPs				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	1	2	21	112	0	3	20	0	0	119	0	1	0	0	1	7	287	1,455	0	0	0	0
7:15 AM	0	2	18	161	0	2	30	1	0	126	3	5	0	0	0	3	351	1,654	0	0	0	0
7:30 AM	1	3	22	85	0	2	64	0	0	153	1	3	0	0	0	11	345	1,769	0	0	0	0
7:45 AM	2	3	40	107	0	13	99	0	0	186	0	4	0	1	1	16	472	1,831	0	0	0	0
8:00 AM	2	3	49	81	0	7	117	0	0	203	1	10	0	2	1	10	486	1,810	0	0	0	1
8:15 AM	1	3	75	114	0	5	82	1	0	161	1	5	0	1	2	15	466		0	0	1	0
8:30 AM	2	3	68	79	0	5	51	2	0	174	1	4	0	0	2	16	407		0	0	0	0
8:45 AM	0	3	65	91	0	6	58	0	0	206	0	3	0	1	0	18	451		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	17	0	0	0	0	0	7	0	0	0	0	0	0	24
Lights	7	11	231	338	0	30	347	3	0	698	3	22	0	4	6	57	1,757
Mediums	0	1	1	26	0	0	2	0	0	19	0	1	0	0	0	0	50
Total	7	12	232	381	0	30	349	3	0	724	3	23	0	4	6	57	1,831



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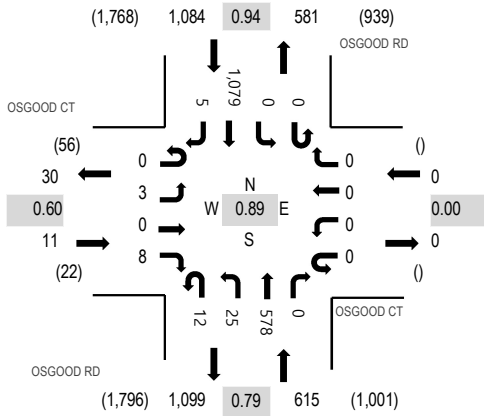
Location: 5 OSGOOD RD & OSGOOD CT AM

Date: Tuesday, March 11, 2025

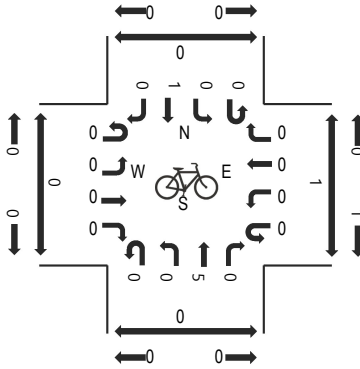
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:00 AM - 08:15 AM

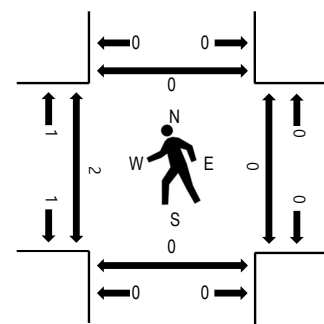
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OSGOOD CT Eastbound				OSGOOD CT Westbound				OSGOOD RD Northbound				OSGOOD RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	2	0	5	0	0	0	0	5	4	78	0	1	0	109	2	206	1,097	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	0	3	3	72	0	0	0	149	1	229	1,369	1	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	3	8	101	0	0	0	153	2	267	1,567	0	0	0	0
7:45 AM	0	1	0	1	0	0	0	0	2	6	164	0	0	0	221	0	395	1,710	0	0	0	0
8:00 AM	0	0	0	2	0	0	0	0	4	9	181	0	0	0	280	2	478	1,694	1	0	0	0
8:15 AM	0	1	0	1	0	0	0	0	4	6	116	0	0	0	298	1	427		1	0	0	0
8:30 AM	0	1	0	4	0	0	0	0	2	4	117	0	0	0	280	2	410		0	0	0	0
8:45 AM	0	0	0	3	0	0	0	0	2	3	104	0	0	0	264	3	379		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0	8
Lights	0	2	0	5	0	0	0	0	12	24	559	0	0	0	1,052	5	1,659
Mediums	0	1	0	3	0	0	0	0	0	1	16	0	0	0	22	0	43
Total	0	3	0	8	0	0	0	0	12	25	578	0	0	0	1,079	5	1,710



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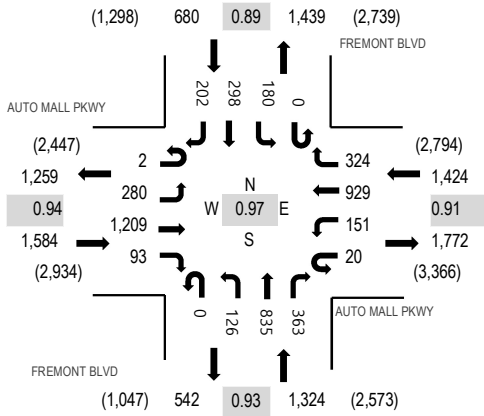
Location: 1 FREMONT BLVD & AUTO MALL PKWY PM

Date: Tuesday, March 11, 2025

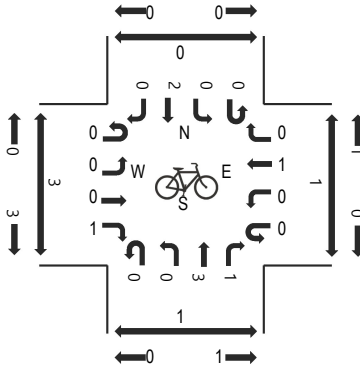
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM

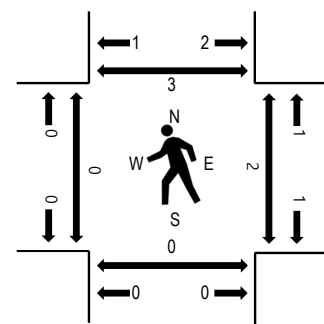
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	AUTO MALL PKWY Eastbound				AUTO MALL PKWY Westbound				FREMONT BLVD Northbound				FREMONT BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	49	287	15	10	38	252	68	0	25	179	95	0	39	50	33	1,140	4,731	1	1	1	1
4:15 PM	0	50	274	22	5	46	221	50	0	26	197	68	0	52	67	37	1,115	4,833	1	0	0	2
4:30 PM	1	59	325	16	5	55	227	67	0	32	200	94	0	41	71	41	1,234	5,012	0	0	0	0
4:45 PM	0	65	327	28	3	26	241	84	0	31	204	76	0	38	74	45	1,242	4,935	0	0	0	1
5:00 PM	1	78	245	29	7	28	211	80	0	37	233	93	0	54	89	57	1,242	4,868	0	1	0	0
5:15 PM	0	78	312	20	5	42	250	93	0	26	198	100	0	47	64	59	1,294		0	1	0	2
5:30 PM	1	58	261	15	6	38	197	79	0	33	217	88	0	48	83	33	1,157		1	1	1	0
5:45 PM	0	54	236	28	9	22	237	92	0	42	207	72	0	44	81	51	1,175		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	6	1	0	0	10	0	0	0	1	7	0	0	0	0	25
Lights	2	277	1,184	91	20	145	906	323	0	126	830	353	0	179	297	197	4,930
Mediums	0	3	19	1	0	6	13	1	0	0	4	3	0	1	1	5	57
Total	2	280	1,209	93	20	151	929	324	0	126	835	363	0	180	298	202	5,012



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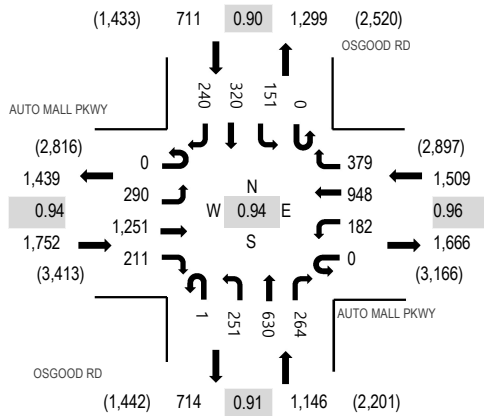
Location: 2 OSGOOD RD & AUTO MALL PKWY PM

Date: Tuesday, March 11, 2025

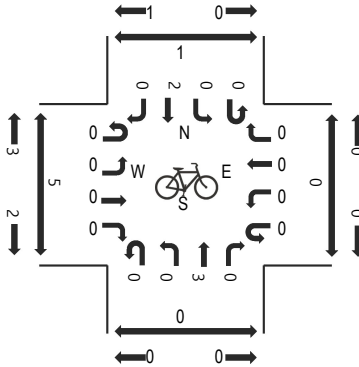
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

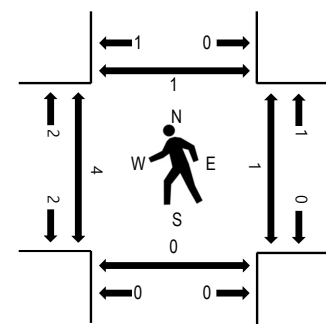
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	AUTO MALL PKWY Eastbound				AUTO MALL PKWY Westbound				OSGOOD RD Northbound				OSGOOD RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	65	308	43	0	49	216	60	0	48	142	47	0	36	105	59	1,178	4,877	1	0	1	0
4:15 PM	0	65	298	64	0	47	250	62	1	45	139	42	0	39	82	61	1,195	5,061	1	0	0	0
4:30 PM	0	70	346	56	0	41	245	85	1	67	144	45	0	39	80	52	1,271	5,118	1	0	0	0
4:45 PM	0	76	316	55	0	40	239	89	0	50	167	35	0	37	74	55	1,233	5,115	1	1	0	0
5:00 PM	0	71	316	44	0	51	243	100	0	70	155	113	0	43	83	73	1,362	5,067	2	0	0	1
5:15 PM	0	73	273	56	0	50	221	105	0	64	164	71	0	32	83	60	1,252		0	0	0	0
5:30 PM	0	82	323	58	0	29	235	98	1	60	168	54	3	33	72	52	1,268		1	0	0	0
5:45 PM	0	70	245	40	1	40	223	78	2	69	189	48	0	26	95	59	1,185		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	12	0	0	0	9	0	0	0	2	4	0	0	0	1	29
Lights	0	282	1,227	210	0	179	924	373	1	248	618	257	0	151	316	236	5,022
Mediums	0	7	12	1	0	3	15	6	0	3	10	3	0	0	4	3	67
Total	0	290	1,251	211	0	182	948	379	1	251	630	264	0	151	320	240	5,118



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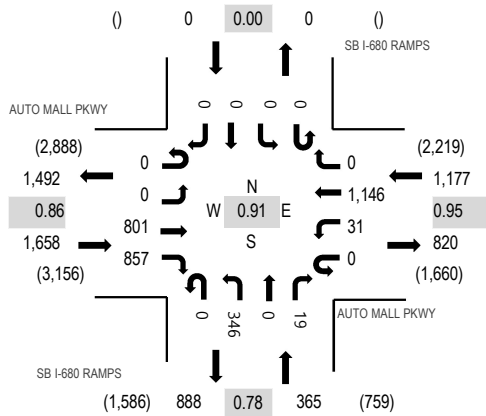
Location: 3 SB I-680 RAMPS & AUTO MALL PKWY PM

Date: Tuesday, March 11, 2025

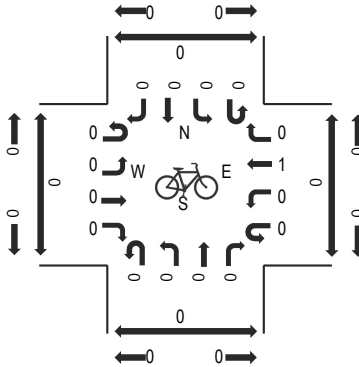
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

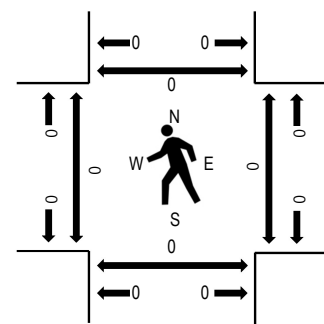
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	AUTO MALL PKWY Eastbound				AUTO MALL PKWY Westbound				SB I-680 RAMPS Northbound				SB I-680 RAMPS Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	204	189	0	2	216	0	0	113	0	6	0	0	0	0	730	3,028	0	0	0	0
4:15 PM	0	0	195	184	0	5	227	0	0	127	0	6	0	0	0	0	744	3,175	0	0	0	0
4:30 PM	0	0	179	225	0	7	277	0	0	95	0	3	0	0	0	0	786	3,200	0	0	0	0
4:45 PM	0	0	179	211	0	11	300	0	0	63	0	4	0	0	0	0	768	3,195	0	0	0	0
5:00 PM	0	0	226	259	0	11	282	0	0	94	0	5	0	0	0	0	877	3,106	0	0	0	0
5:15 PM	0	0	217	162	0	2	287	0	0	94	0	7	0	0	0	0	769		0	0	0	0
5:30 PM	0	0	240	173	0	3	287	0	0	72	0	6	0	0	0	0	781		0	0	0	0
5:45 PM	0	0	177	136	0	6	296	0	0	58	0	6	0	0	0	0	679		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	14	2	0	0	2	0	0	8	0	0	0	0	0	0	26
Lights	0	0	780	847	0	31	1,127	0	0	333	0	19	0	0	0	0	3,137
Mediums	0	0	7	8	0	0	17	0	0	5	0	0	0	0	0	0	37
Total	0	0	801	857	0	31	1,146	0	0	346	0	19	0	0	0	0	3,200



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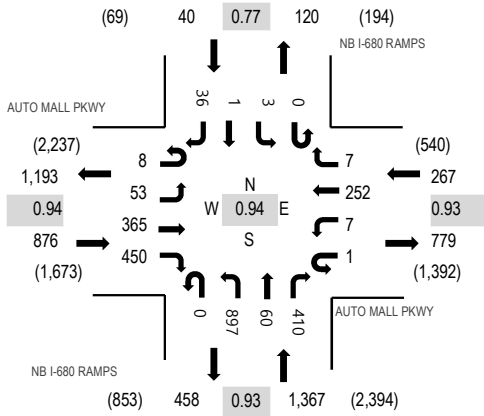
Location: 4 NB I-680 RAMPs & AUTO MALL PKWY PM

Date: Tuesday, March 11, 2025

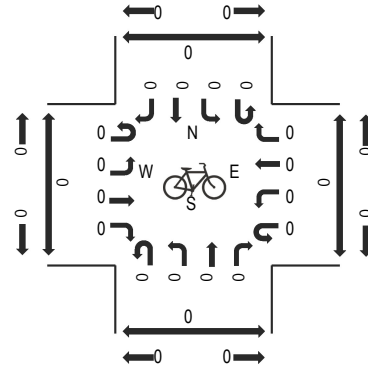
Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

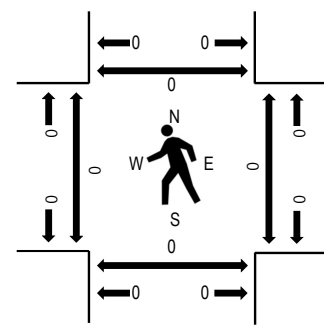
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	AUTO MALL PKWY Eastbound				AUTO MALL PKWY Westbound				NB I-680 RAMPs Northbound				NB I-680 RAMPs Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	8	88	121	0	2	74	1	0	146	3	21	0	0	0	5	470	2,183	0	0	0	0
4:15 PM	1	6	90	100	0	0	67	1	0	153	6	60	0	0	0	6	490	2,394	0	0	0	0
4:30 PM	3	12	89	85	0	0	66	1	0	222	10	87	0	0	0	6	581	2,540	0	0	0	0
4:45 PM	3	5	74	97	0	2	72	0	0	246	6	124	0	0	1	12	642	2,550	0	0	0	0
5:00 PM	2	15	98	121	1	1	60	3	0	197	19	153	0	0	0	11	681	2,493	0	0	0	0
5:15 PM	2	14	94	117	0	2	59	3	0	249	20	70	0	2	0	4	636		0	0	0	0
5:30 PM	1	19	99	115	0	2	61	1	0	205	15	63	0	1	0	9	591		0	0	0	0
5:45 PM	1	10	96	86	2	0	59	0	0	223	16	80	0	0	1	11	585		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	13
Lights	8	53	364	430	1	7	250	7	0	878	60	410	0	3	1	36	2,508
Mediums	0	0	1	7	0	0	2	0	0	19	0	0	0	0	0	0	29
Total	8	53	365	450	1	7	252	7	0	897	60	410	0	3	1	36	2,550



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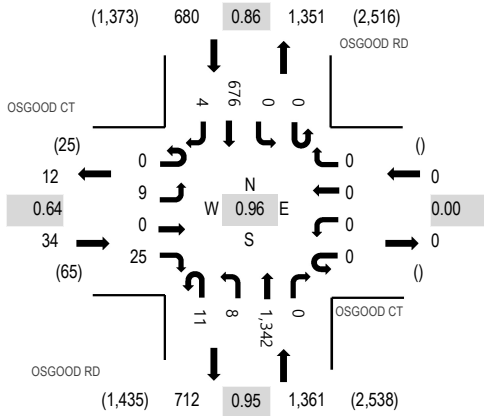
Location: 5 OSGOOD RD & OSGOOD CT PM

Date: Tuesday, March 11, 2025

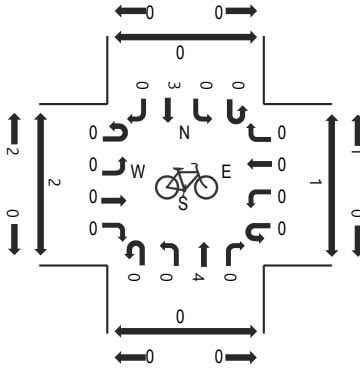
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

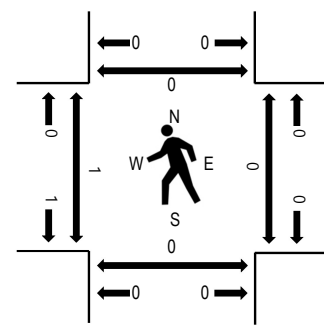
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OSGOOD CT Eastbound				OSGOOD CT Westbound				OSGOOD RD Northbound				OSGOOD RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	1	0	7	0	0	0	0	3	2	261	0	0	0	187	2	463	1,901	0	0	0	0
4:15 PM	0	0	0	8	0	0	0	0	0	5	281	0	0	0	178	1	473	1,976	1	0	0	0
4:30 PM	0	1	0	11	0	0	0	0	1	3	296	0	0	0	169	0	481	2,010	1	0	0	0
4:45 PM	0	0	0	3	0	0	0	0	1	0	324	0	1	0	155	0	484	2,044	1	0	0	0
5:00 PM	0	4	0	3	0	0	0	0	4	0	319	0	0	0	208	0	538	2,075	0	0	0	0
5:15 PM	0	1	0	13	0	0	0	0	0	3	347	0	0	0	143	0	507		1	0	0	0
5:30 PM	0	0	0	7	0	0	0	0	3	4	350	0	0	0	149	2	515		0	0	0	0
5:45 PM	0	4	0	2	0	0	0	0	4	1	326	0	0	0	176	2	515		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
Lights	0	9	0	24	0	0	0	0	9	8	1,318	0	0	0	667	4	2,039
Mediums	0	0	0	1	0	0	0	0	2	0	20	0	0	0	9	0	32
Total	0	9	0	25	0	0	0	0	11	8	1,342	0	0	0	676	4	2,075

Appendix B

Intersection Level of Service

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	 		 	 	 	 	 	 
Traffic Volume (veh/h)	194	806	192	157	1297	140	133	204	113	199	561	385
Future Volume (veh/h)	194	806	192	157	1297	140	133	204	113	199	561	385
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	211	876	209	171	1410	152	145	222	123	216	610	418
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	2011	477	221	1544	165	192	871	862	268	949	423
Arrive On Green	0.07	0.49	0.49	0.06	0.48	0.48	0.06	0.25	0.25	0.08	0.27	0.27
Sat Flow, veh/h	3456	4120	978	3456	3238	347	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	211	723	362	171	769	793	145	222	123	216	610	418
Grp Sat Flow(s),veh/h/ln	1728	1702	1694	1728	1777	1808	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	8.6	19.8	20.0	7.0	57.3	58.6	5.9	7.2	4.6	8.8	21.8	37.6
Cycle Q Clear(g_c), s	8.6	19.8	20.0	7.0	57.3	58.6	5.9	7.2	4.6	8.8	21.8	37.6
Prop In Lane	1.00		0.58	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1661	827	221	847	862	192	871	862	268	949	423
V/C Ratio(X)	0.81	0.44	0.44	0.77	0.91	0.92	0.76	0.25	0.14	0.81	0.64	0.99
Avail Cap(c_a), veh/h	301	1698	845	311	891	907	224	871	862	378	949	423
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(l)	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	65.3	23.9	23.9	66.1	34.6	34.9	66.8	43.6	35.8	65.1	46.5	52.3
Incr Delay (d2), s/veh	13.9	0.2	0.4	7.7	12.6	13.8	11.7	0.7	0.3	8.3	3.3	40.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	8.1	8.2	3.3	27.4	28.7	2.9	3.3	1.6	4.2	10.1	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	79.2	24.0	24.3	73.8	47.2	48.8	78.5	44.3	36.2	73.4	49.8	93.0
LnGrp LOS	E	C	C	E	D	D	E	D	D	E	D	F
Approach Vol, veh/h		1296			1733			490			1244	
Approach Delay, s/veh		33.1			50.6			52.4			68.4	
Approach LOS		C			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	39.6	13.7	74.5	12.5	42.8	15.2	72.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	55.7	31.9	12.9	71.5	9.3	38.3	12.5	71.9				
Max Q Clear Time (g_c+I1), s	10.8	9.2	9.0	22.0	7.9	39.6	10.6	60.6				
Green Ext Time (p_c), s	0.3	1.9	0.2	9.7	0.1	0.0	0.1	7.8				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			50.7									
HCM 6th LOS			D									

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↙	↑↑	↙↖	↗
Traffic Volume (veh/h)	629	481	32	1092	508	9
Future Volume (veh/h)	629	481	32	1092	508	9
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	865	402	35	1187	552	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1056	820	680	1358	812	
Arrive On Green	0.28	0.28	0.38	0.38	0.24	0.00
Sat Flow, veh/h	3741	1585	1781	3647	3456	1585
Grp Volume(v), veh/h	865	402	35	1187	552	0
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1777	1728	1585
Q Serve(g_s), s	28.9	22.0	1.7	41.5	19.5	0.0
Cycle Q Clear(g_c), s	28.9	22.0	1.7	41.5	19.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1056	820	680	1358	812	
V/C Ratio(X)	0.82	0.49	0.05	0.87	0.68	
Avail Cap(c_a), veh/h	1298	923	778	1551	812	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.9	20.9	26.1	38.4	46.7	0.0
Incr Delay (d2), s/veh	3.5	0.5	0.0	5.3	4.6	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	13.9	12.9	0.7	18.9	8.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	48.4	21.4	26.1	43.8	51.2	0.0
LnGrp LOS	D	C	C	D	D	
Approach Vol, veh/h	1267			1222	552	
Approach Delay, s/veh	39.9			43.3	51.2	
Approach LOS	D			D	D	
Timer - Assigned Phs	2		4		8	
Phs Duration (G+Y+Rc), s	36.0		42.3		55.7	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	31.5		46.5		58.5	
Max Q Clear Time (g_c+l1), s	21.5		30.9		43.5	
Green Ext Time (p_c), s	1.6		6.9		7.7	
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			43.3			
HCM 6th LOS			D			
Notes						
User approved volume balancing among the lanes for turning movement.						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	232	381	30	349	3	724	3	23	4	6	57
Future Volume (veh/h)	19	232	381	30	349	3	724	3	23	4	6	57
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	21	252	0	33	379	3	787	3	0	4	7	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	497		39	536	4	956	1008		4	495	420
Arrive On Green	0.01	0.14	0.00	0.02	0.15	0.15	0.28	0.54	0.00	0.00	0.26	0.26
Sat Flow, veh/h	1781	3554	1585	1781	3613	29	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	21	252	0	33	186	196	787	3	0	4	7	62
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.7	4.0	0.0	1.1	6.0	6.1	12.9	0.0	0.0	0.1	0.2	1.8
Cycle Q Clear(g_c), s	0.7	4.0	0.0	1.1	6.0	6.1	12.9	0.0	0.0	0.1	0.2	1.8
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	24	497		39	264	277	956	1008		4	495	420
V/C Ratio(X)	0.88	0.51		0.84	0.71	0.71	0.82	0.00		0.98	0.01	0.15
Avail Cap(c_a), veh/h	103	762		103	381	400	1225	1008		82	495	420
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(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	24.1	0.0	29.6	24.6	24.6	20.5	6.5	0.0	30.3	16.5	17.1
Incr Delay (d2), s/veh	58.7	0.8	0.0	35.7	3.5	3.3	3.7	0.0	0.0	199.8	0.1	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.6	0.0	0.8	2.6	2.8	5.2	0.0	0.0	0.3	0.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	88.5	25.0	0.0	65.3	28.0	27.9	24.2	6.5	0.0	230.0	16.5	17.8
LnGrp LOS	F	C		E	C	C	C	A		F	B	B
Approach Vol, veh/h	273			415			790			73		
Approach Delay, s/veh	29.8			30.9			24.1			29.3		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	37.2	5.8	13.0	21.3	20.6	5.3	13.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax),s	28	32.7	3.5	13.0	21.5	14.0	3.5	13.0				
Max Q Clear Time (g_c+l1),s	1	2.0	3.1	6.0	14.9	3.8	2.7	8.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	1.8	0.1	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay, s/veh	27.2
HCM 6th LOS	C

Notes

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

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	3	0	8	0	0	0	37	578	0	0	1079	5
Future Vol, veh/h	3	0	8	0	0	0	37	578	0	0	1079	5
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	-	-	-	-	-	-	100	-	-	150	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	9	0	0	0	40	628	0	0	1173	5

Major/Minor	Minor2	Minor1				Major1			Major2			
Conflicting Flow All	1570	1884	589	1295	1886	314	1178	0	0	628	0	0
Stage 1	1176	1176	-	708	708	-	-	-	-	-	-	-
Stage 2	394	708	-	587	1178	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	75	70	452	120	70	682	589	-	-	950	-	-
Stage 1	203	263	-	392	436	-	-	-	-	-	-	-
Stage 2	602	436	-	463	263	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	71	65	452	112	65	682	589	-	-	950	-	-
Mov Cap-2 Maneuver	71	65	-	112	65	-	-	-	-	-	-	-
Stage 1	189	263	-	365	406	-	-	-	-	-	-	-
Stage 2	561	406	-	454	263	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	26	0	0.7	0
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	589	-	-	183	-	950	-	-
HCM Lane V/C Ratio	0.068	-	-	0.065	-	-	-	-
HCM Ctrl Dly (s/v)	11.6	-	-	26	0	0	-	-
HCM Lane LOS	B	-	-	D	A	A	-	-
HCM 95th %tile Q (veh)	0.2	-	-	0.2	-	0	-	-

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	808	192	157	1308	157	133	225	113	238	607	416
Future Volume (veh/h)	209	808	192	157	1308	157	133	225	113	238	607	416
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	227	878	209	171	1422	171	145	245	123	259	660	452
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	1989	471	219	1495	178	183	867	857	310	998	445
Arrive On Green	0.08	0.48	0.48	0.06	0.47	0.47	0.05	0.24	0.24	0.09	0.28	0.28
Sat Flow, veh/h	3456	4122	976	3456	3197	381	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	227	724	363	171	785	808	145	245	123	259	660	452
Grp Sat Flow(s),veh/h/ln	1728	1702	1695	1728	1777	1802	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	9.7	20.9	21.0	7.3	62.9	64.6	6.2	8.4	4.8	11.0	24.5	41.9
Cycle Q Clear(g_c), s	9.7	20.9	21.0	7.3	62.9	64.6	6.2	8.4	4.8	11.0	24.5	41.9
Prop In Lane	1.00		0.58	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	1642	818	219	831	842	183	867	857	310	998	445
V/C Ratio(X)	0.84	0.44	0.44	0.78	0.95	0.96	0.79	0.28	0.14	0.83	0.66	1.02
Avail Cap(c_a), veh/h	271	1642	818	299	839	851	183	867	857	419	998	445
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(l)	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	67.9	25.4	25.4	68.9	37.9	38.4	69.9	45.8	37.5	66.8	47.4	53.7
Incr Delay (d2), s/veh	20.3	0.2	0.4	8.9	19.0	21.4	20.8	0.8	0.4	10.3	3.4	46.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.6	8.7	3.5	31.3	33.1	3.3	3.8	1.7	5.3	11.4	22.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	88.2	25.6	25.8	77.8	56.9	59.8	90.6	46.6	37.8	77.1	50.8	100.3
LnGrp LOS	F	C	C	E	E	E	F	D	D	E	D	F
Approach Vol, veh/h	1314		1764				513		1371			
Approach Delay, s/veh	36.5		60.2				56.9		72.1			
Approach LOS	D		E				E		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.9	40.9	13.9	76.5	12.4	46.4	16.2	74.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	31.7	31.7	12.9	69.3	7.9	41.9	11.7	70.5				
Max Q Clear Time (g_c+I1), s	10.4	10.4	9.3	23.0	8.2	43.9	11.7	66.6				
Green Ext Time (p_c), s	0.4	2.0	0.2	9.7	0.0	0.0	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			56.9									
HCM 6th LOS			E									

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	630	521	32	1115	513	9
Future Volume (veh/h)	630	521	32	1115	513	9
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	909	417	35	1212	558	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1084	821	684	1364	789	
Arrive On Green	0.29	0.29	0.38	0.38	0.23	0.00
Sat Flow, veh/h	3741	1585	1781	3647	3456	1585
Grp Volume(v), veh/h	909	417	35	1212	558	0
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1777	1728	1585
Q Serve(g_s), s	31.4	23.7	1.7	44.0	20.5	0.0
Cycle Q Clear(g_c), s	31.4	23.7	1.7	44.0	20.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1084	821	684	1364	789	
V/C Ratio(X)	0.84	0.51	0.05	0.89	0.71	
Avail Cap(c_a), veh/h	1261	896	756	1507	789	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.9	21.7	26.7	39.7	49.0	0.0
Incr Delay (d2), s/veh	4.6	0.5	0.0	6.5	5.3	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	15.3	13.9	0.7	20.3	9.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	50.5	22.2	26.7	46.2	54.2	0.0
LnGrp LOS	D	C	C	D	D	
Approach Vol, veh/h	1326			1247	558	
Approach Delay, s/veh	41.6			45.6	54.2	
Approach LOS	D			D	D	
Timer - Assigned Phs	2		4		8	
Phs Duration (G+Y+Rc), s	36.0		44.5		57.4	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	31.5		46.5		58.5	
Max Q Clear Time (g_c+l1), s	22.5		33.4		46.0	
Green Ext Time (p_c), s	1.5		6.5		7.0	
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			45.5			
HCM 6th LOS			D			
Notes						
User approved volume balancing among the lanes for turning movement.						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	232	382	30	349	3	747	3	23	4	6	57
Future Volume (veh/h)	19	232	382	30	349	3	747	3	23	4	6	57
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	21	252	0	33	379	3	812	3	0	4	7	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	497		39	536	4	979	1008		4	483	409
Arrive On Green	0.01	0.14	0.00	0.02	0.15	0.15	0.28	0.54	0.00	0.00	0.26	0.26
Sat Flow, veh/h	1781	3554	1585	1781	3613	29	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	21	252	0	33	186	196	812	3	0	4	7	62
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.7	4.0	0.0	1.1	6.0	6.1	13.4	0.0	0.0	0.1	0.2	1.8
Cycle Q Clear(g_c), s	0.7	4.0	0.0	1.1	6.0	6.1	13.4	0.0	0.0	0.1	0.2	1.8
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	24	497		39	264	277	979	1008		4	483	409
V/C Ratio(X)	0.88	0.51		0.84	0.71	0.71	0.83	0.00		0.98	0.01	0.15
Avail Cap(c_a), veh/h	103	762		103	381	400	1225	1008		82	483	409
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(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	24.1	0.0	29.6	24.6	24.6	20.4	6.5	0.0	30.3	16.8	17.4
Incr Delay (d2), s/veh	58.7	0.8	0.0	35.7	3.5	3.3	4.0	0.0	0.0	199.8	0.1	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.6	0.0	0.8	2.6	2.8	5.4	0.0	0.0	0.3	0.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	88.5	25.0	0.0	65.3	28.0	27.9	24.4	6.5	0.0	230.0	16.8	18.2
LnGrp LOS	F	C		E	C	C	C	A		F	B	B
Approach Vol, veh/h	273		415				815			73		
Approach Delay, s/veh	29.8		30.9				24.3			29.6		
Approach LOS	C		C				C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	37.2	5.8	13.0	21.7	20.2	5.3	13.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax),s	28	32.7	3.5	13.0	21.5	14.0	3.5	13.0				
Max Q Clear Time (g_c+l1),s	2.0	2.0	3.1	6.0	15.4	3.8	2.7	8.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	1.8	0.1	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	27.2											
HCM 6th LOS	C											

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	3	0	8	0	0	0	37	631	0	0	1195	5
Future Vol, veh/h	3	0	8	0	0	0	37	631	0	0	1195	5
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	-	-	-	-	-	-	100	-	-	150	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	9	0	0	0	40	686	0	0	1299	5

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1725	2068	652	1416
Stage 1	1302	1302	-	766
Stage 2	423	766	-	650
Critical Hdwy	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	6.54	5.54	-	6.54
Critical Hdwy Stg 2	6.54	5.54	-	6.54
Follow-up Hdwy	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	57	54	411	97
Stage 1	170	229	-	361
Stage 2	579	410	-	424
Platoon blocked, %				
Mov Cap-1 Maneuver	54	50	411	89
Mov Cap-2 Maneuver	54	50	-	89
Stage 1	157	229	-	334
Stage 2	535	379	-	415

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	31.6	0	0.7	0
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	527	-	-	147	-	904	-	-
HCM Lane V/C Ratio	0.076	-	-	0.081	-	-	-	-
HCM Ctrl Dly (s/v)	12.4	-	-	31.6	0	0	-	-
HCM Lane LOS	B	-	-	D	A	A	-	-
HCM 95th %tile Q (veh)	0.2	-	-	0.3	-	0	-	-

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	808	192	157	1308	194	133	247	113	247	612	423
Future Volume (veh/h)	236	808	192	157	1308	194	133	247	113	247	612	423
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	257	878	209	171	1422	211	145	268	123	268	665	460
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	2056	487	218	1479	217	178	801	805	319	947	422
Arrive On Green	0.09	0.50	0.50	0.06	0.48	0.48	0.05	0.23	0.23	0.09	0.27	0.27
Sat Flow, veh/h	3456	4122	976	3456	3109	456	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	257	724	363	171	806	827	145	268	123	268	665	460
Grp Sat Flow(s),veh/h/ln	1728	1702	1695	1728	1777	1788	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	11.0	20.3	20.4	7.3	65.1	67.6	6.2	9.5	4.9	11.4	25.3	39.9
Cycle Q Clear(g_c), s	11.0	20.3	20.4	7.3	65.1	67.6	6.2	9.5	4.9	11.4	25.3	39.9
Prop In Lane	1.00		0.58	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	298	1697	845	218	845	851	178	801	805	319	947	422
V/C Ratio(X)	0.86	0.43	0.43	0.78	0.95	0.97	0.82	0.33	0.15	0.84	0.70	1.09
Avail Cap(c_a), veh/h	298	1697	845	298	849	854	178	801	805	427	947	422
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(l)	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	67.5	23.9	23.9	69.1	37.6	38.3	70.3	48.6	39.6	66.8	49.5	54.9
Incr Delay (d2), s/veh	22.1	0.2	0.3	9.1	20.3	24.2	24.6	1.1	0.4	10.7	4.3	69.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	8.3	8.4	3.5	32.6	34.8	3.4	4.4	1.8	5.5	11.9	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	89.6	24.1	24.3	78.2	57.9	62.5	94.9	49.7	40.0	77.5	53.9	124.8
LnGrp LOS	F	C	C	E	E	E	F	D	D	E	D	F
Approach Vol, veh/h		1344			1804			536			1393	
Approach Delay, s/veh		36.7			61.9			59.7			81.9	
Approach LOS		D			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.3	38.3	14.0	79.2	12.2	44.4	17.4	75.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	35	29.1	12.9	71.5	7.7	39.9	12.9	71.5				
Max Q Clear Time (g_c+I1), s	13.4	11.5	9.3	22.4	8.2	41.9	13.0	69.6				
Green Ext Time (p_c), s	0.4	2.0	0.2	9.8	0.0	0.0	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			60.5									
HCM 6th LOS			E									

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↙	↑↑	↙↗	↗
Traffic Volume (veh/h)	635	525	32	1136	529	9
Future Volume (veh/h)	635	525	32	1136	529	9
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	916	420	35	1235	575	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1078	815	693	1383	780	
Arrive On Green	0.29	0.29	0.39	0.39	0.23	0.00
Sat Flow, veh/h	3741	1585	1781	3647	3456	1585
Grp Volume(v), veh/h	916	420	35	1235	575	0
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1777	1728	1585
Q Serve(g_s), s	32.2	24.4	1.7	45.4	21.6	0.0
Cycle Q Clear(g_c), s	32.2	24.4	1.7	45.4	21.6	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1078	815	693	1383	780	
V/C Ratio(X)	0.85	0.52	0.05	0.89	0.74	
Avail Cap(c_a), veh/h	1220	875	760	1516	780	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.8	22.4	26.5	39.9	50.2	0.0
Incr Delay (d2), s/veh	5.3	0.5	0.0	6.7	6.1	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	15.8	14.2	0.7	21.0	10.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	52.1	22.9	26.6	46.6	56.3	0.0
LnGrp LOS	D	C	C	D	E	
Approach Vol, veh/h	1336			1270	575	
Approach Delay, s/veh	43.0			46.1	56.3	
Approach LOS	D			D	E	
Timer - Assigned Phs	2		4		8	
Phs Duration (G+Y+Rc), s	36.0		44.7		58.8	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	31.5		45.5		59.5	
Max Q Clear Time (g_c+l1), s	23.6		34.2		47.4	
Green Ext Time (p_c), s	1.4		6.0		6.9	
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			46.6			
HCM 6th LOS			D			
Notes						
User approved volume balancing among the lanes for turning movement.						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	233	386	30	354	3	763	3	23	4	6	57
Future Volume (veh/h)	19	233	386	30	354	3	763	3	23	4	6	57
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	21	253	0	33	385	3	829	3	0	4	7	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	510		39	549	4	993	1004		4	471	399
Arrive On Green	0.01	0.14	0.00	0.02	0.15	0.15	0.29	0.54	0.00	0.00	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3614	28	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	21	253	0	33	189	199	829	3	0	4	7	62
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.7	4.0	0.0	1.1	6.2	6.2	13.7	0.0	0.0	0.1	0.2	1.9
Cycle Q Clear(g_c), s	0.7	4.0	0.0	1.1	6.2	6.2	13.7	0.0	0.0	0.1	0.2	1.9
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	24	510		39	270	284	993	1004		4	471	399
V/C Ratio(X)	0.88	0.50		0.84	0.70	0.70	0.83	0.00		0.98	0.01	0.16
Avail Cap(c_a), veh/h	73	758		102	408	429	1220	1004		82	471	399
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(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	24.1	0.0	29.7	24.5	24.5	20.3	6.5	0.0	30.4	17.1	17.7
Incr Delay (d2), s/veh	58.7	0.8	0.0	35.6	3.3	3.1	4.3	0.0	0.0	199.7	0.1	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.6	0.0	0.8	2.7	2.8	5.6	0.0	0.0	0.3	0.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	88.7	24.8	0.0	65.3	27.8	27.7	24.7	6.5	0.0	230.1	17.2	18.6
LnGrp LOS	F	C		E	C	C	C	A		F	B	B
Approach Vol, veh/h	274			421			832			73		
Approach Delay, s/veh	29.7			30.7			24.6			30.0		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	37.2	5.8	13.2	22.0	19.8	5.3	13.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax),s	28	32.7	3.5	13.0	21.5	14.0	2.5	14.0				
Max Q Clear Time (g_c+l1),s	2.0	2.0	3.1	6.0	15.7	3.9	2.7	8.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	1.8	0.1	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay, s/veh	27.3
HCM 6th LOS	C

Notes

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

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	3	0	8	20	0	0	38	636	4	22	1195	5	
Future Vol, veh/h	3	0	8	20	0	0	38	636	4	22	1195	5	
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	-	-	-	-	-	-	100	-	-	150	-	-	
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	3	0	9	22	0	0	41	691	4	24	1299	5	
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1778	2127	652	1473	2127	348	1304	0	0	695	0	0	
Stage 1	1350	1350	-	775	775	-	-	-	-	-	-	-	
Stage 2	428	777	-	698	1352	-	-	-	-	-	-	-	
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-	
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-	
Pot Cap-1 Maneuver	52	49	411	88	49	648	527	-	-	897	-	-	
Stage 1	159	217	-	357	406	-	-	-	-	-	-	-	
Stage 2	575	405	-	397	217	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	48	44	411	79	44	648	527	-	-	897	-	-	
Mov Cap-2 Maneuver	48	44	-	79	44	-	-	-	-	-	-	-	
Stage 1	147	211	-	329	374	-	-	-	-	-	-	-	
Stage 2	530	373	-	378	211	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HCM Ctrl Dly, s/v	34.5			67			0.7			0.2			
HCM LOS	D			F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	527	-	-	134	79	897	-	-					
HCM Lane V/C Ratio	0.078	-	-	0.089	0.275	0.027	-	-					
HCM Ctrl Dly (s/v)	12.4	-	-	34.5	67	9.1	-	-					
HCM Lane LOS	B	-	-	D	F	A	-	-					
HCM 95th %tile Q (veh)	0.3	-	-	0.3	1	0.1	-	-					

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	8	20	0	0	38	636	4	22	1195	5
Future Volume (veh/h)	3	0	8	20	0	0	38	636	4	22	1195	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	0	9	22	0	0	41	691	4	24	1299	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	0	50	267	0	0	84	1954	11	53	1896	7
Arrive On Green	0.04	0.00	0.04	0.04	0.00	0.00	0.05	0.54	0.54	0.03	0.52	0.52
Sat Flow, veh/h	411	0	1232	1465	0	0	1781	3622	21	1781	3631	14
Grp Volume(v), veh/h	12	0	0	22	0	0	41	339	356	24	636	668
Grp Sat Flow(s),veh/h/ln	1643	0	0	1465	0	0	1781	1777	1867	1781	1777	1868
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	0.8	3.8	3.8	0.5	9.2	9.2
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.5	0.0	0.0	0.8	3.8	3.8	0.5	9.2	9.2
Prop In Lane	0.25		0.75	1.00		0.00	1.00		0.01	1.00		0.01
Lane Grp Cap(c), veh/h	196	0	0	267	0	0	84	959	1007	53	928	975
V/C Ratio(X)	0.06	0.00	0.00	0.08	0.00	0.00	0.49	0.35	0.35	0.45	0.69	0.69
Avail Cap(c_a), veh/h	936	0	0	943	0	0	263	1202	1263	263	1202	1264
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(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	0.0	16.1	0.0	0.0	16.1	4.5	4.5	16.5	6.1	6.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	4.4	0.2	0.2	5.9	1.1	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.2	0.0	0.0	0.4	0.7	0.7	0.2	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.2	0.0	0.0	16.3	0.0	0.0	20.4	4.8	4.7	22.4	7.2	7.2
LnGrp LOS	B			B			C	A	A	C	A	A
Approach Vol, veh/h	12			22			736			1328		
Approach Delay, s/veh	16.2			16.3			5.6			7.5		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	23.2		5.9	6.1	22.6		5.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	23.4			18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+l1),s	5.8			2.2	2.8	11.2		2.5				
Green Ext Time (p_c), s	0.0	4.1		0.0	0.0	6.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				7.0								
HCM 6th LOS				A								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	1251	211	182	948	379	252	630	264	151	320	240
Future Volume (veh/h)	290	1251	211	182	948	379	252	630	264	151	320	240
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	315	1360	229	198	1030	412	274	685	287	164	348	261
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	2135	359	249	1124	443	323	912	917	211	797	355
Arrive On Green	0.11	0.49	0.49	0.07	0.45	0.45	0.09	0.26	0.26	0.06	0.22	0.22
Sat Flow, veh/h	3456	4400	741	3456	2490	981	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	315	1052	537	198	730	712	274	685	287	164	348	261
Grp Sat Flow(s),veh/h/ln	1728	1702	1737	1728	1777	1694	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	12.9	33.1	33.1	8.1	55.0	57.2	11.2	25.5	11.1	6.7	12.1	22.0
Cycle Q Clear(g_c), s	12.9	33.1	33.1	8.1	55.0	57.2	11.2	25.5	11.1	6.7	12.1	22.0
Prop In Lane	1.00		0.43	1.00		0.58	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	1652	843	249	802	765	323	912	917	211	797	355
V/C Ratio(X)	0.86	0.64	0.64	0.80	0.91	0.93	0.85	0.75	0.31	0.78	0.44	0.73
Avail Cap(c_a), veh/h	421	1669	852	348	834	795	372	912	917	243	797	355
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(l)	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	63.3	27.6	27.6	65.7	36.7	37.3	64.2	49.2	36.1	66.6	48.0	51.8
Incr Delay (d2), s/veh	15.1	0.8	1.6	8.4	13.7	17.1	14.9	5.7	0.9	13.0	1.7	12.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	13.6	14.1	3.9	26.6	27.0	5.6	12.1	3.9	3.4	5.6	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	78.4	28.4	29.1	74.1	50.4	54.4	79.1	54.9	37.0	79.5	49.7	64.5
LnGrp LOS	E	C	C	E	D	D	E	D	D	E	D	E
Approach Vol, veh/h	1904		1640			1246			773			
Approach Delay, s/veh	36.9		55.0			56.1			61.0			
Approach LOS	D		D			E			E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	41.4	14.9	74.3	17.9	36.7	19.7	69.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.1	36.9	14.5	70.5	15.5	31.5	17.5	67.5				
Max Q Clear Time (g_c+l1), s	7.7	27.5	10.1	35.1	13.2	24.0	14.9	59.2				
Green Ext Time (p_c), s	0.1	4.0	0.2	15.6	0.2	2.0	0.3	5.8				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	49.9											
HCM 6th LOS	D											

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (veh/h)	801	857	31	1146	346	19
Future Volume (veh/h)	801	857	31	1146	346	19
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	767	1002	34	1246	376	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	743	1735	646	1288	519	
Arrive On Green	0.40	0.40	0.36	0.36	0.15	0.00
Sat Flow, veh/h	1870	3170	1781	3647	3456	1585
Grp Volume(v), veh/h	767	1002	34	1246	376	0
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1777	1728	1585
Q Serve(g_s), s	59.5	31.3	1.9	51.6	15.5	0.0
Cycle Q Clear(g_c), s	59.5	31.3	1.9	51.6	15.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	743	1735	646	1288	519	
V/C Ratio(X)	1.03	0.58	0.05	0.97	0.72	
Avail Cap(c_a), veh/h	743	1735	648	1293	519	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.1	22.4	31.0	46.9	60.7	0.0
Incr Delay (d2), s/veh	41.6	0.5	0.0	17.7	8.5	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	35.9	16.4	0.8	25.8	7.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	86.7	22.9	31.1	64.6	69.2	0.0
LnGrp LOS	F	C	C	E	E	
Approach Vol, veh/h	1769			1280	376	
Approach Delay, s/veh	50.6			63.7	69.2	
Approach LOS	D			E	E	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		27.0		64.0		58.8
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		22.5		59.5		54.5
Max Q Clear Time (g_c+l1), s		17.5		61.5		53.6
Green Ext Time (p_c), s		0.6		0.0		0.7
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			57.5			
HCM 6th LOS			E			
Notes						
User approved volume balancing among the lanes for turning movement.						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	365	450	8	252	7	897	60	410	3	1	36
Future Volume (veh/h)	61	365	450	8	252	7	897	60	410	3	1	36
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	66	397	0	9	274	8	975	65	0	3	1	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	571		10	421	12	1105	1014		3	419	355
Arrive On Green	0.05	0.16	0.00	0.01	0.12	0.12	0.32	0.54	0.00	0.00	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	1781	3526	103	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	66	397	0	9	138	144	975	65	0	3	1	39
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1852	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.3	6.6	0.0	0.3	4.6	4.6	16.6	1.0	0.0	0.1	0.0	1.2
Cycle Q Clear(g_c), s	2.3	6.6	0.0	0.3	4.6	4.6	16.6	1.0	0.0	0.1	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.06	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	83	571		10	212	221	1105	1014		3	419	355
V/C Ratio(X)	0.79	0.69		0.94	0.65	0.65	0.88	0.06		0.99	0.00	0.11
Avail Cap(c_a), veh/h	103	779		86	372	388	1197	1014		77	419	355
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(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	24.6	0.0	30.9	26.1	26.1	20.0	6.7	0.0	31.0	18.7	19.2
Incr Delay (d2), s/veh	27.5	1.6	0.0	119.3	3.3	3.2	7.6	0.1	0.0	234.7	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.7	0.0	0.4	2.0	2.1	7.2	0.4	0.0	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.8	26.2	0.0	150.2	29.4	29.3	27.6	6.9	0.0	265.7	18.7	19.8
LnGrp LOS	E	C		F	C	C	C	A		F	B	B
Approach Vol, veh/h	463			291			1040			43		
Approach Delay, s/veh	30.6			33.1			26.3			36.9		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	38.2	4.8	14.5	24.4	18.4	7.4	11.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax)2s7	32.7	3.0	13.6	21.5	13.9	3.6	13.0					
Max Q Clear Time (g_c+I1)2s1	3.0	2.3	8.6	18.6	3.2	4.3	6.6					
Green Ext Time (p_c), s	0.0	0.3	0.0	1.1	1.3	0.0	0.8					

Intersection Summary

HCM 6th Ctrl Delay, s/veh

28.7

HCM 6th LOS

C

Notes

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

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙ ↘	↕		↙ ↘	↕	
Traffic Vol, veh/h	9	0	25	0	0	0	19	1342	0	0	676	4
Future Vol, veh/h	9	0	25	0	0	0	19	1342	0	0	676	4
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	-	-	-	-	-	-	100	-	-	150	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	27	0	0	0	21	1459	0	0	735	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1509	2238	370	1869	2240	730	739	0	0	1459	0	0
Stage 1	737	737	-	1501	1501	-	-	-	-	-	-	-
Stage 2	772	1501	-	368	739	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	83	42	627	44	42	365	863	-	-	459	-	-
Stage 1	376	423	-	128	183	-	-	-	-	-	-	-
Stage 2	358	183	-	624	422	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	81	41	627	41	41	365	863	-	-	459	-	-
Mov Cap-2 Maneuver	81	41	-	41	41	-	-	-	-	-	-	-
Stage 1	367	423	-	125	179	-	-	-	-	-	-	-
Stage 2	349	179	-	597	422	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	24.1		0		0.1		0	
HCM LOS	C		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	863	-	-	225	-	459	-	-
HCM Lane V/C Ratio	0.024	-	-	0.164	-	-	-	-
HCM Ctrl Dly (s/v)	9.3	-	-	24.1	0	0	-	-
HCM Lane LOS	A	-	-	C	A	A	-	-
HCM 95th %tile Q (veh)	0.1	-	-	0.6	-	0	-	-

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	322	1259	211	182	956	419	252	669	264	178	345	262
Future Volume (veh/h)	322	1259	211	182	956	419	252	669	264	178	345	262
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	350	1368	229	198	1039	455	274	727	287	193	375	285
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	2150	360	247	1079	463	320	893	900	237	807	360
Arrive On Green	0.11	0.49	0.49	0.07	0.45	0.45	0.09	0.25	0.25	0.07	0.23	0.23
Sat Flow, veh/h	3456	4405	737	3456	2422	1038	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	350	1057	540	198	756	738	274	727	287	193	375	285
Grp Sat Flow(s),veh/h/ln	1728	1702	1738	1728	1777	1683	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	14.9	34.4	34.4	8.4	61.3	64.5	11.7	28.7	11.6	8.2	13.6	25.3
Cycle Q Clear(g_c), s	14.9	34.4	34.4	8.4	61.3	64.5	11.7	28.7	11.6	8.2	13.6	25.3
Prop In Lane	1.00		0.42	1.00		0.62	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	1662	848	247	792	750	320	893	900	237	807	360
V/C Ratio(X)	0.89	0.64	0.64	0.80	0.96	0.98	0.86	0.81	0.32	0.81	0.46	0.79
Avail Cap(c_a), veh/h	405	1662	848	336	792	750	357	893	900	243	807	360
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(l)	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	65.2	28.4	28.4	68.3	39.9	40.8	66.7	52.6	38.2	68.6	49.8	54.3
Incr Delay (d2), s/veh	20.5	0.8	1.6	9.6	21.7	28.6	16.8	8.1	0.9	18.4	1.9	16.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	14.2	14.7	4.1	31.2	32.4	5.9	13.9	4.1	4.3	6.3	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	85.7	29.2	29.9	77.8	61.6	69.4	83.5	60.6	39.1	87.0	51.7	70.5
LnGrp LOS	F	C	C	E	E	E	F	E	D	F	D	E
Approach Vol, veh/h		1947			1692			1288			853	
Approach Delay, s/veh		39.5			66.9			60.7			66.0	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	42.0	15.1	77.3	18.3	38.4	21.5	71.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	37.5	14.5	69.5	15.4	32.6	17.5	66.5				
Max Q Clear Time (g_c+I1), s	10.2	30.7	10.4	36.4	13.7	27.3	16.9	66.5				
Green Ext Time (p_c), s	0.0	3.3	0.2	15.2	0.2	1.7	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			56.2									
HCM 6th LOS			E									

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (veh/h)	805	888	31	1190	350	19
Future Volume (veh/h)	805	888	31	1190	350	19
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	789	1022	34	1293	380	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	744	1708	661	1320	486	
Arrive On Green	0.40	0.40	0.37	0.37	0.14	0.00
Sat Flow, veh/h	1870	3170	1781	3647	3456	1585
Grp Volume(v), veh/h	789	1022	34	1293	380	0
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1777	1728	1585
Q Serve(g_s), s	59.7	32.9	1.8	53.9	15.9	0.0
Cycle Q Clear(g_c), s	59.7	32.9	1.8	53.9	15.9	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	744	1708	661	1320	486	
V/C Ratio(X)	1.06	0.60	0.05	0.98	0.78	
Avail Cap(c_a), veh/h	744	1708	661	1320	486	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.1	23.6	30.2	46.6	62.2	0.0
Incr Delay (d2), s/veh	50.0	0.6	0.0	20.0	11.8	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	37.8	16.9	0.8	27.3	7.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	95.2	24.1	30.3	66.6	74.1	0.0
LnGrp LOS	F	C	C	E	E	
Approach Vol, veh/h	1811			1327	380	
Approach Delay, s/veh	55.1			65.7	74.1	
Approach LOS	E			E	E	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		25.6		64.2		60.2
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		21.1		59.7		55.7
Max Q Clear Time (g_c+l1), s		17.9		61.7		55.9
Green Ext Time (p_c), s		0.5		0.0		0.0
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			61.1			
HCM 6th LOS			E			
Notes						
User approved volume balancing among the lanes for turning movement.						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	365	454	8	252	7	941	60	410	3	1	36
Future Volume (veh/h)	61	365	454	8	252	7	941	60	410	3	1	36
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	66	397	0	9	274	8	1023	65	0	3	1	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	570		10	420	12	1143	1019		3	404	342
Arrive On Green	0.05	0.16	0.00	0.01	0.12	0.12	0.33	0.54	0.00	0.00	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	1781	3526	103	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	66	397	0	9	138	144	1023	65	0	3	1	39
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1852	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.3	6.6	0.0	0.3	4.6	4.7	17.6	1.0	0.0	0.1	0.0	1.2
Cycle Q Clear(g_c), s	2.3	6.6	0.0	0.3	4.6	4.7	17.6	1.0	0.0	0.1	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.06	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	83	570		10	211	220	1143	1019		3	404	342
V/C Ratio(X)	0.79	0.70		0.94	0.65	0.65	0.90	0.06		0.99	0.00	0.11
Avail Cap(c_a), veh/h	102	772		85	369	385	1210	1019		77	404	342
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(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	24.8	0.0	31.1	26.3	26.3	19.9	6.7	0.0	31.2	19.2	19.7
Incr Delay (d2), s/veh	27.8	1.7	0.0	119.1	3.4	3.3	8.6	0.1	0.0	234.6	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.8	0.0	0.4	2.1	2.1	7.7	0.4	0.0	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.3	26.5	0.0	150.2	29.7	29.6	28.5	6.8	0.0	265.8	19.3	20.4
LnGrp LOS	E	C		F	C	C	C	A		F	B	C
Approach Vol, veh/h	463			291			1088			43		
Approach Delay, s/veh	30.9			33.4			27.2			37.5		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	38.6	4.8	14.5	25.2	18.0	7.4	11.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax)2s7	32.7	32.7	3.0	13.6	21.9	13.5	3.6	13.0				
Max Q Clear Time (g_c+l1)2s1	3.0	3.0	2.3	8.6	19.6	3.2	4.3	6.7				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.1	1.1	0.0	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay, s/veh 29.3

HCM 6th LOS C

Notes

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

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	9	0	25	0	0	0	19	1453	0	0	750	4
Future Vol, veh/h	9	0	25	0	0	0	19	1453	0	0	750	4
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	-	-	-	-	-	-	100	-	-	150	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	27	0	0	0	21	1579	0	0	815	4
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1649	2438	410	2029	2440	790	819	0	0	1579	0	0
Stage 1	817	817	-	1621	1621	-	-	-	-	-	-	-
Stage 2	832	1621	-	408	819	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	65	31	591	34	31	333	805	-	-	413	-	-
Stage 1	337	388	-	107	160	-	-	-	-	-	-	-
Stage 2	330	160	-	591	388	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	64	30	591	32	30	333	805	-	-	413	-	-
Mov Cap-2 Maneuver	64	30	-	32	30	-	-	-	-	-	-	-
Stage 1	328	388	-	104	156	-	-	-	-	-	-	-
Stage 2	321	156	-	564	388	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Ctrl Dly, s/v	29.1		0		0.1		0					
HCM LOS	D		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	805	-	-	186	-	413	-	-				
HCM Lane V/C Ratio	0.026	-	-	0.199	-	-	-	-				
HCM Ctrl Dly (s/v)	9.6	-	-	29.1	0	0	-	-				
HCM Lane LOS	A	-	-	D	A	A	-	-				
HCM 95th %tile Q (veh)	0.1	-	-	0.7	-	0	-	-				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	 		 	 	 	 		
Traffic Volume (veh/h)	340	1259	211	182	956	444	252	683	264	217	367	290
Future Volume (veh/h)	340	1259	211	182	956	444	252	683	264	217	367	290
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	370	1368	229	198	1039	483	274	742	287	236	399	315
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	2159	361	246	1053	478	320	855	870	270	804	358
Arrive On Green	0.12	0.49	0.49	0.07	0.44	0.44	0.09	0.24	0.24	0.08	0.23	0.23
Sat Flow, veh/h	3456	4405	737	3456	2376	1077	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	370	1057	540	198	770	752	274	742	287	236	399	315
Grp Sat Flow(s),veh/h/ln	1728	1702	1738	1728	1777	1676	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	15.9	34.5	34.5	8.5	63.9	66.5	11.7	30.1	11.8	10.1	14.7	28.8
Cycle Q Clear(g_c), s	15.9	34.5	34.5	8.5	63.9	66.5	11.7	30.1	11.8	10.1	14.7	28.8
Prop In Lane	1.00		0.42	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	1668	852	246	788	743	320	855	870	270	804	358
V/C Ratio(X)	0.91	0.63	0.63	0.80	0.98	1.01	0.86	0.87	0.33	0.88	0.50	0.88
Avail Cap(c_a), veh/h	408	1668	852	334	788	743	352	855	870	270	804	358
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(l)	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	65.3	28.3	28.3	68.6	41.0	41.8	67.1	54.7	39.6	68.4	50.6	56.1
Incr Delay (d2), s/veh	23.6	0.8	1.5	9.7	26.6	35.8	17.3	11.6	1.0	25.9	2.2	25.0
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	8.4	14.2	14.7	4.1	33.4	34.5	6.0	14.9	4.2	5.5	6.8	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	88.9	29.1	29.8	78.4	67.6	77.6	84.4	66.2	40.6	94.3	52.8	81.0
LnGrp LOS	F	C	C	E	E	F	F	E	D	F	D	F
Approach Vol, veh/h	1967		1720				1303				950	
Approach Delay, s/veh	40.5		73.2				64.4				72.5	
Approach LOS	D		E				E				E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	40.6	15.2	78.0	18.4	38.4	22.2	71.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax),s	16.7	36.1	14.5	69.7	15.3	32.5	17.7	66.5				
Max Q Clear Time (g_c+I1),s	12.1	32.1	10.5	36.5	13.7	30.8	17.9	68.5				
Green Ext Time (p_c), s	0.0	2.2	0.2	15.3	0.2	0.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	60.3											
HCM 6th LOS	E											

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (veh/h)	827	905	31	1205	360	19
Future Volume (veh/h)	827	905	31	1205	360	19
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	806	1046	34	1310	391	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	757	1701	665	1327	456	
Arrive On Green	0.40	0.40	0.37	0.37	0.13	0.00
Sat Flow, veh/h	1870	3170	1781	3647	3456	1585
Grp Volume(v), veh/h	806	1046	34	1310	391	0
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1777	1728	1585
Q Serve(g_s), s	60.7	34.2	1.8	54.9	16.6	0.0
Cycle Q Clear(g_c), s	60.7	34.2	1.8	54.9	16.6	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	757	1701	665	1327	456	
V/C Ratio(X)	1.06	0.61	0.05	0.99	0.86	
Avail Cap(c_a), veh/h	757	1701	665	1327	456	
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	44.6	24.0	30.0	46.6	63.7	0.0
Incr Delay (d2), s/veh	51.4	0.7	0.0	21.6	18.4	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	38.7	17.3	0.8	28.1	8.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	96.0	24.7	30.1	68.3	82.1	0.0
LnGrp LOS	F	C	C	E	F	
Approach Vol, veh/h	1852			1344	391	
Approach Delay, s/veh	55.7			67.3	82.1	
Approach LOS	E			E	F	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		24.3		65.2		60.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.8		60.7		56.0
Max Q Clear Time (g_c+I1), s		18.6		62.7		56.9
Green Ext Time (p_c), s		0.2		0.0		0.0
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			63.0			
HCM 6th LOS			E			
Notes						
User approved volume balancing among the lanes for turning movement.						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	371	470	8	256	7	952	60	410	3	1	36
Future Volume (veh/h)	61	371	470	8	256	7	952	60	410	3	1	36
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	66	403	0	9	278	8	1035	65	0	3	1	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	574		10	423	12	1154	1018		3	397	336
Arrive On Green	0.05	0.16	0.00	0.01	0.12	0.12	0.33	0.54	0.00	0.00	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3528	101	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	66	403	0	9	140	146	1035	65	0	3	1	39
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1852	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.3	6.7	0.0	0.3	4.7	4.7	17.9	1.0	0.0	0.1	0.0	1.2
Cycle Q Clear(g_c), s	2.3	6.7	0.0	0.3	4.7	4.7	17.9	1.0	0.0	0.1	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	83	574		10	213	222	1154	1018		3	397	336
V/C Ratio(X)	0.79	0.70		0.94	0.65	0.66	0.90	0.06		0.99	0.00	0.12
Avail Cap(c_a), veh/h	102	771		85	368	384	1218	1018		77	397	336
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(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	24.9	0.0	31.2	26.3	26.4	19.9	6.7	0.0	31.3	19.5	19.9
Incr Delay (d2), s/veh	27.9	1.8	0.0	119.1	3.4	3.3	8.7	0.1	0.0	234.6	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.8	0.0	0.4	2.1	2.2	7.8	0.4	0.0	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.5	26.7	0.0	150.3	29.7	29.7	28.6	6.9	0.0	265.9	19.5	20.6
LnGrp LOS	E	C		F	C	C	C	A		F	B	C
Approach Vol, veh/h	469			295			1100			43		
Approach Delay, s/veh	31.0			33.4			27.3			37.7		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	38.6	4.8	14.6	25.4	17.8	7.4	12.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax)2s7	32.7	32.7	3.0	13.6	22.1	13.3	3.6	13.0				
Max Q Clear Time (g_c+l1)2s1	3.0	3.0	2.3	8.7	19.9	3.2	4.3	6.7				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.1	1.1	0.0	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay, s/veh 29.4

HCM 6th LOS C

Notes

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

Intersection													
Int Delay, s/veh	50.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕		↙	↕		↙	↕		
Traffic Vol, veh/h	9	0	25	84	0	1	24	1475	3	14	750	4	
Future Vol, veh/h	9	0	25	84	0	1	24	1475	3	14	750	4	
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	-	-	-	-	-	-	100	-	-	150	-	-	
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	10	0	27	91	0	1	26	1603	3	15	815	4	
Major/Minor	Minor2		Minor1		Major1		Major2						
Conflicting Flow All	1701	2505	410	2095	2506	803	819	0	0	1606	0	0	
Stage 1	847	847	-	1657	1657	-	-	-	-	-	-	-	
Stage 2	854	1658	-	438	849	-	-	-	-	-	-	-	
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-	
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-	
Pot Cap-1 Maneuver	60	28	591	~ 30	28	326	805	-	-	403	-	-	
Stage 1	323	376	-	102	154	-	-	-	-	-	-	-	
Stage 2	320	153	-	567	375	-	-	-	-	-	-	-	
Platoon blocked, %								-	-	-	-	-	
Mov Cap-1 Maneuver	57	26	591	~ 27	26	326	805	-	-	403	-	-	
Mov Cap-2 Maneuver	57	26	-	~ 27	26	-	-	-	-	-	-	-	
Stage 1	313	362	-	99	149	-	-	-	-	-	-	-	
Stage 2	309	148	-	521	361	-	-	-	-	-	-	-	
Approach	EB		WB		NB		SB						
HCM Ctrl Dly, s/v	32		\$	1392		0.2		0.3					
HCM LOS	D		F										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	805	-	-	170	27	403	-	-					
HCM Lane V/C Ratio	0.032	-	-	0.217	3.422	0.038	-	-					
HCM Ctrl Dly (s/v)	9.6	-	-	\$	1392	14.3	-	-					
HCM Lane LOS	A	-	-	D	F	B	-	-					
HCM 95th %tile Q (veh)	0.1	-	-	0.8	11.3	0.1	-	-					
Notes													
~: Volume exceeds capacity			\$: Delay exceeds 300s										
+: Computation Not Defined			*: All major volume in platoon										

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	0	25	84	0	1	24	1475	3	14	750	4
Future Volume (veh/h)	9	0	25	84	0	1	24	1475	3	14	750	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	10	0	27	91	0	1	26	1603	3	15	815	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	12	109	287	0	1	55	2166	4	34	2116	10
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.03	0.60	0.60	0.02	0.58	0.58
Sat Flow, veh/h	324	131	1229	1463	0	16	1781	3639	7	1781	3626	18
Grp Volume(v), veh/h	37	0	0	92	0	0	26	783	823	15	399	420
Grp Sat Flow(s),veh/h/ln	1684	0	0	1479	0	0	1781	1777	1869	1781	1777	1867
Q Serve(g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	0.7	14.5	14.5	0.4	5.5	5.5
Cycle Q Clear(g_c), s	0.9	0.0	0.0	2.7	0.0	0.0	0.7	14.5	14.5	0.4	5.5	5.5
Prop In Lane	0.27		0.73	0.99		0.01	1.00		0.00	1.00		0.01
Lane Grp Cap(c), veh/h	250	0	0	289	0	0	55	1058	1113	34	1037	1089
V/C Ratio(X)	0.15	0.00	0.00	0.32	0.00	0.00	0.47	0.74	0.74	0.44	0.39	0.39
Avail Cap(c_a), veh/h	723	0	0	715	0	0	208	1291	1358	196	1280	1345
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(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	0.0	0.0	20.0	0.0	0.0	21.6	6.6	6.6	22.0	5.1	5.1
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.6	0.0	0.0	6.2	1.8	1.7	8.9	0.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.9	0.0	0.0	0.3	3.6	3.8	0.2	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.6	0.0	0.0	20.6	0.0	0.0	27.9	8.5	8.4	30.9	5.3	5.3
LnGrp LOS	B			C			C	A	A	C	A	A
Approach Vol, veh/h	37			92			1632			834		
Approach Delay, s/veh	19.6			20.6			8.7			5.8		
Approach LOS	B			C			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	31.5		8.5	5.9	31.0		8.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	50	33.0		18.0	5.3	32.7		18.0				
Max Q Clear Time (g_c+l1)2s	16.5			2.9	2.7	7.5		4.7				
Green Ext Time (p_c), s	0.0	10.6		0.1	0.0	5.6		0.3				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	8.4											
HCM 6th LOS	A											

Notes

User approved pedestrian interval to be less than phase max green.

Appendix C

Approved Developments

APPROVED DEVELOPMENTS

Osgood Apartments South (#72 on the Development Activity Map)

Osgood Apartments Phase II (#88 on the Development Activity Map)

Osgood Family Housing (#73 on the Development Activity Map)

Ice House Terrace Industrial/Palisades (#75 on the Development Activity Map)

Event Center -- 43160 Osgood Rd

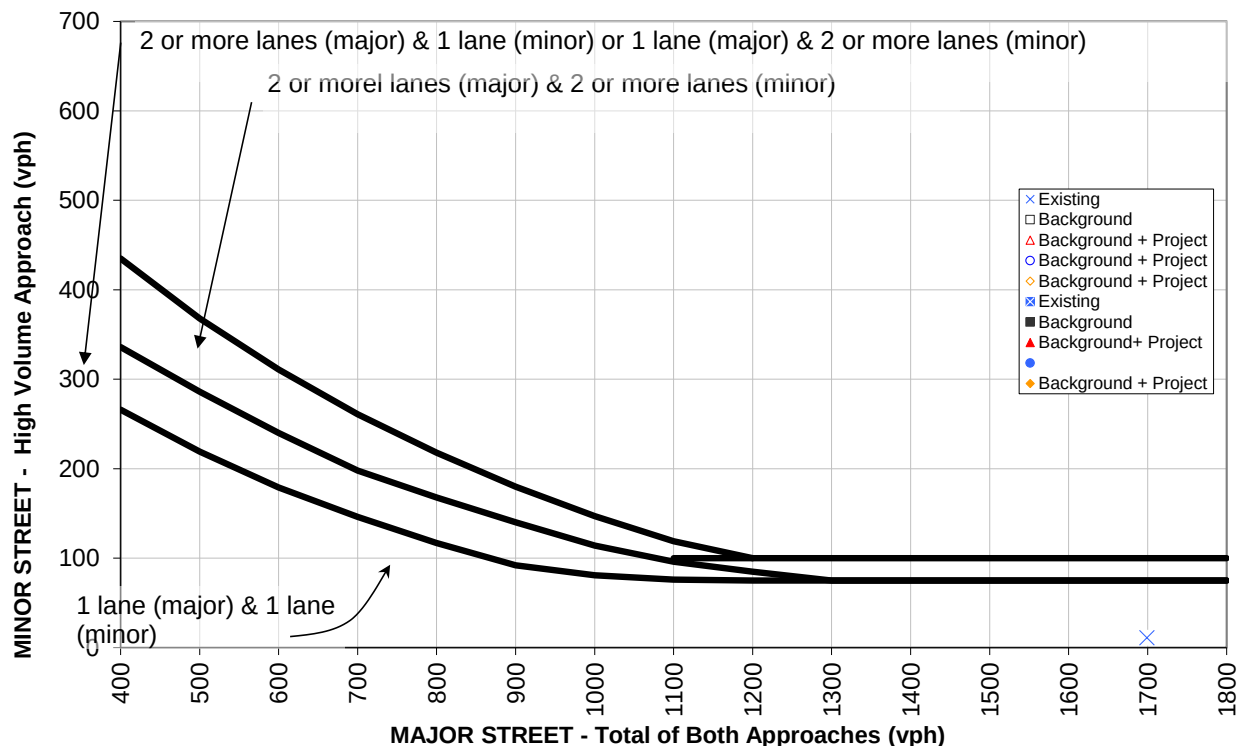
Washington Hospital/UCSF Outpatient Clinic – 45388 Warm Springs Blvd

Appendix D

Signal Warrant Sheets

Osgood Road & North Driveway/Osgood Court

**PEAK HOUR VOLUME SIGNAL WARRANT - 2010 CA MUTCD
(70% Factor. Pop Less 10,000 or 40 MPH or more on Maj. St)**



* NOTE: 100 vph applies as the lower threshold volume for a minor street approach with 2 or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with 1 lane.

Peak Hour Volume Warrant Per 2014 MUTCD - Over 40 MPH

		Approach Lanes		AM Peak Hour Volumes				
		2 or One More		Existing	Background	Background + Project		
Major Street - Both Approaches	Osgood Road		x	1699	1868	1900		
Minor Street - Highest Approach	N. Driveway	x		11	11	20		
Warrant Met?				no	no	no		

		Approach Lanes		PM Peak Hour Volumes				
		2 or One More		Existing	Background	Background + Project		
Major Street - Both Approaches	Osgood Road		x	2041	2226	2270		
Minor Street - Highest Approach	N. Driveway	x		34	34	85		
Warrant Met?				no	no	yes		