DIXON STREETS MASTER PLAN

ADOPTED OCTOBER 19, 2021

PREPARED FOR: CITY OF DIXON

DIXON CALIFORNIA

DKS

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CHAPTER 1. INTRODUCTION

Dixon, California is a city in northern Solano County with a population of approximately 20,000 people. It is situated between San Francisco and Sacramento, southwest of Davis and adjacent to Interstate-80. The city is also traversed by State Route 113 (SR-113) and the Union Pacific rail line. The purpose of this report is to analyze the existing operations of the primary segments and intersections within Dixon, acknowledge areas in need of improvement and provide conceptual recommendations for these areas. Recommendations include updating the existing City of Dixon engineering standards to match the latest methods outlined in the Highway Capacity Manual (HCM).

This report is an update to the Draft Streets Master Plan prepared in 2014. Since that time, several notable updates to the City's planning documents, policies, and analysis tools have taken place:

- In July 2016, Dixon adopted an updated Level of Service (LOS) standard, changing the standard from LOS C to LOS D. However, the adopted policy does not specify a methodology for measuring LOS.
- In July 2020, a public draft update to the City's General Plan 2040 and Draft Environmental Impact Report were published. The General Plan update was adopted, and the Final Environmental Impact Report was certified in May 2021.

Plans for the projected growth over the planning horizon through the year 2040 were revisited as part of the General Plan update and were reflected in the recently updated Dixon Travel Demand Model. This latest version of the Dixon Travel Demand Model was applied to this update of the Streets Master Plan, as further described in Chapter 2, Dixon Travel Demand Model (page 2).

PEAK HOUR TRAFFIC VOLUMES

Capacity planning and operational analysis for roadway facilities typically relies on "peak hour" vehicle traffic volumes to represent the highest level of demand. The morning and afternoon peak hours are typically the highest one-hour volumes measured in a two-hour data collection period, typically 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. The analysis undertaken for this Streets Master Plan represents Level of Service for a typical weekday peak hour condition.

CHAPTER 2. CITYWIDE SYSTEM CAPACITY SCREENING AND ANALYSIS

The City's Engineering Design Standards[1] lists procedures and standards to be used in conducting transportation impact analyses for new development. These standards include a table of maximum daily flow rates by facility type (Table 15-3 in the Design Standards) for roadway segment analyses. The previous Streets Master Plan applied a modified version of this service volume table to identify roadway segments in need of improvement.

As part of Streets Master Plan Update, DKS proposes an update to the City's segment analysis threshold volumes which are currently outlined in the City's Engineering Design Standards. This update would update the roadway categories to be consistent with the City's most recent General Plan as well as to revise the methodologies used to derive those thresholds to current industry standards.

DIXON TRAVEL DEMAND MODEL

As mentioned above, the City of Dixon has updated the travel demand model used for forecasting future traffic growth as part of the General Plan update. The updated model was calibrated and validated to daily traffic counts collected in April 2019. A key difference from the previous version of the model is that trip generation rates are no longer based on Institution of Transportation Engineers rates, which do not adequately account for the "pass by" trip phenomenon and overestimate new trips. More information on the Dixon Travel Demand Model may be found in the model development report[2].

While the updated 2040 Dixon Travel Demand Model shows growth compared the existing conditions, the 2040 future traffic demand is significantly lower than the prior 2035 future traffic demand used in the analysis for the 2014 Streets Master Plan. Table 1 (page 3) lists some of the key differences in forecast traffic volume on major roadways. In general, demand from the updated model range from approximately 40 to 70 percent lower than the prior analysis.

[1] City of Dixon, Public Works Department. Engineering Standards & Specifications, August 26, 2014, https://ca-dixon.civicplus.com/187/Engineering-Standards-Specifications

[2] DKS Associates. City of Dixon Travel Demand Model Update, October 2019.

TABLE 1: COMPARISON OF SELECT DIFFERENCES IN PM PEAK TRAFFIC FORECASTS

ROADWAY	EXTENTS	2019 TRAFFIC COUNT	PRIOR MODELING 2035 PM PEAK HOUR TRAFFIC DEMAND [A]	UPDATED MODELING 2040 PM PEAK HOUR TRAFFIC DEMAND [B]
STRATFORD AVE	East of Pitt School Rd	350	2375	954
A STREET	West of Pitt School Rd	555	1305	790
A STREET	East of First St	355	1500	455
PITT SCHOOL RD	North of A St	630	2000	780
FIRST STREET	North of Vaughn Rd	1360	6125	1910
PEDRICK RD	North of Vaughn Rd	370	4780	520
ADAMS ST	North of D St	370	1275	515
PORTER ROAD	East of Pitt School Rd	270	1385	385

[A] Source: City of Dixon Streets Master Plan, May 2014, Table 5: Peak Hour Roadway Segment Operations – Year 2035 Existing Network Condition

[B] Source: 2040 General Plan scenario from the Dixon Travel Demand Model

CITYWIDE SYSTEM CAPACITY SCREENING

To help screen the citywide street network for future capacity constraints, the City's Level of Service (LOS) volume threshold tables were updated. LOS is a qualitative measure of the effect of several factors, including speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, delay, and operating costs. LOS are designated A through F from best to worst, which cover the entire range of traffic operations that might occur. LOS A through E generally represent traffic volumes at less than roadway capacity, while LOS F represents over capacity and/or forced flow conditions. The City's LOS standard is LOS D.

The methodology memorandum in Appendix G lists the detailed assumptions used to update the volume thresholds by facility type. The update reflects the newest Highway Capacity Manual (6th Edition) methodology and updates the classifications to match the newest classifications proposed in the City's General Plan. Table 2 (page 4) lists the previous LOS thresholds and the new LOS thresholds.

TABLE 2: EXISTING AND PROPOSED VOLUME LOS THRESHOLDS BASED ON PEAK HOUR VOLUME

FACILITY TYPE	VOLUME THRESHOLD (LOS D TO E) (VEHS/HR)	
	CURRENT	PROPOSED
ARTERIAL – 6 LANE	NA	4140
ARTERIAL – 4 LANE	2850	2760
MINOR ARTERIAL / COLLECTOR	2250 [A]	1800
HISTORIC MAIN STREET	NA	1620
LOCAL COLLECTOR	1110 [B]	1620
LOCAL	NA [C]	1000 [D]

A) Standard previously only represented 4-lane collector facility. Facility type updated to minor arterial/collector to represent new classification in the 2040 General Plan.

B) Standard previously only represented 2-lane collector facility. Facility type updated to local collector to represent new classification in the 2040 General Plan.

C) Local streets currently have other metrics that are not capacity based.

D) Proposed threshold based on livability, not based on Highway Capacity Manual methodology.

Using the proposed thresholds listed above, the entire city transportation network was screened under the following three scenarios:

- Existing Conditions (2019) – represents traffic, land use, and roadway network conditions as of spring 2019 at the time of model calibration. This was also thought to be the best representation of current normal traffic patterns, as traffic was still affected by the COVID pandemic at the time of data collection for this study.
- Baseline Scenario (2040) – this scenario assumes land use growth that is consistent with the General Plan. New roadways, as specified in the Southwest Dixon and the Northeast Quadrant specific plans, are assumed to be in place but other major projects, capacity enhancements, and connectivity changes are excluded.
- General Plan Scenario (2040) – this scenario assumes land use growth consistent with the General Plan and roadway network improvements largely consistent with those assumed for the General Plan analyses. In addition to new roadways in the specific plan growth areas, this scenario assumes that the Parkway Boulevard overcrossing, the Parkway Boulevard extension to Pedrick Road, the Vaughn Road realignment, and additional lanes on Pedrick Road from I-80 to Parkway Boulevard are in place.

CITYWIDE SYSTEM RESULTS

The entire travel demand model street network, which includes all but local roadway facilities, was screened using the volume thresholds and functional classifications shown in Table 2 (page 4). The street network is shown in Figure 1 (page 6). The network was screened under each of the three scenarios. Results of the citywide LOS screening are shown in Appendix E, LOS Screening Maps. Based on the updated traffic demand and the LOS methodology; no roadway segments were flagged in the initial high-level screening process.

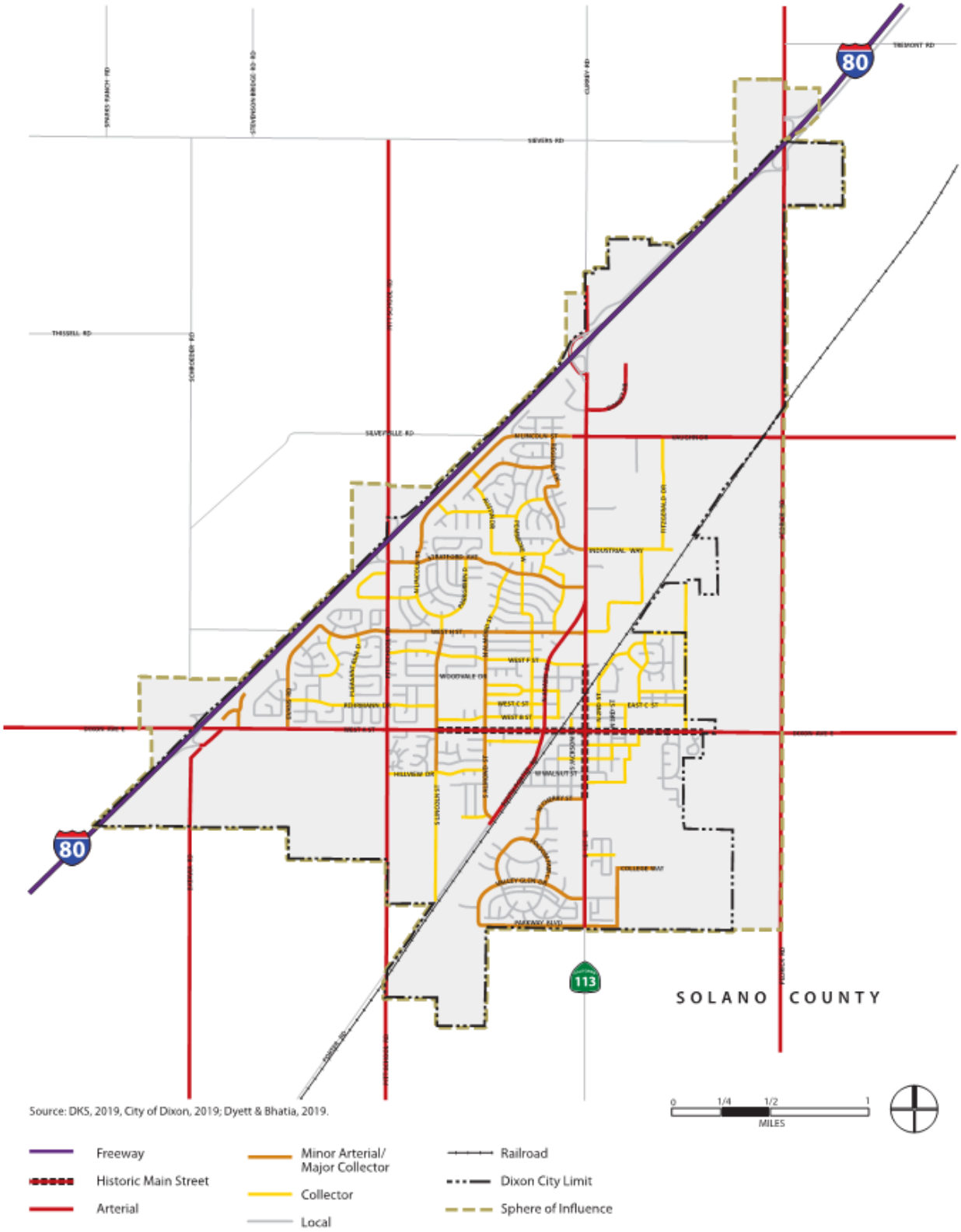

FIGURE 1. EXISTING AND PLANNED ROADWAY NETWORK

Source: Dixon General Plan 2040

CHAPTER 3. DETAILED SEGMENT CAPACITY ANALYSIS

Based on the City guidance, three corridors were selected for more detailed segment analysis, including:

- Pitt School Road between A Street and Stratford Road (unsignalized corridor)
- A Street between I-80 EB Ramps and Pitt School Road (unsignalized corridor)
- First Street between A Street and Vaughn Street (signalized corridor)

The existing conditions scenario uses intersection turning movement counts (TMCs) which were collected on December 2nd, 2020, and March 2nd, 2020 at the bounding intersections. Midsegment volumes were collected on April 16th, 2019, and March 2nd, 2021. As discussed in the LOS methodology memo (see Appendix G), the 2020 and 2021 counts were scaled to match pre-COVID conditions. The count data can be found in Appendix A.

Using methodology from Chapters 18 and 30 from the Highway Capacity Manual 6th Edition (HCM), each of the three segments were analyzed based on volume, geometry, and traffic control to determine the need for operational improvements (for more detail on methodology, see Appendix G). For each scenario, results included travel time, travel speed, level of service, and volume-to-capacity (V/C) ratio for each segment, as shown in Appendix F.

The standard (2040) scenario assumes new roadways in the specific plan growth areas as well as the realignment of Vaughn Road, Parkway Boulevard Overcrossing, widening of Pederick Road from two to four lanes, and extension of Parkway Boulevard Road to Pedrick Road. The volumes were scaled using the appropriate link growth rate acquired from the travel demand model.

Table 3 (page 8) summarizes the LOS results for each corridor under existing conditions (circa 2019) and through the planning horizon (2040). These corridor LOS results are based on estimated travel speeds. LOS A represents free-flow operation (80 percent or more of free-flow speed) while LOS C represents stable operation (travel speeds between 67 percent and 80 percent of the free-flow speed), and LOS F represents low speed operations (30 percent or less than free-flow speed).

TABLE 3: DETAILED CORRIDOR OPERATIONS RESULTS BASED ON PERCENT OF FREE FLOW SPEED

ROADWAY	EXTENTS	DIRECTION	2040 AM PEAK LOS [A]	2040 PM PEAK LOS [A]
EXISTING (2020)				
PITT SCHOOL RD	Between A Street and Stratford Road	NB	A	B
		SB	A	A
A STREET	Between I-80 EB Ramps and Pitt School Road	EB	A	A
		WB	A	A
FIRST STREET	Between A Street and H Street	NB	A	A
		SB	A	A
	Between H Street and Vaughn Street	NB	B	B
		SB	B	B
FUTURE BASELINE (2040)				
PITT SCHOOL RD	Between A Street and Stratford Road	NB	A	A
		SB	A	B
A STREET	Between I-80 EB Ramps and Pitt School Road	EB	A	C
		WB	A	A
FIRST STREET	Between A Street and H Street	NB	A	A
		SB	A	B
	Between H Street and Vaughn Street	NB	B	B
		SB	B	B

[A] Segment-based LOS is based on travel speeds. LOS A represents free-flow operation (80 percent or more of free-flow speed) while LOS F represents low speed operations (30 percent or less than free-flow speed).

Of the segments analyzed, only A Street was found to operate worse than LOS B in the 2040 scenario (PM peak, eastbound direction). This segment operates with a V/C ratio of 0.78 and a calculated speed 12 miles per hour (mph) lower than the posted speed limit (40 mph). All other segments operate at LOS A or B, with speed differentials of seven mph or less compared to the posted speed limit.

TURN WARRANT ANALYSIS

In addition to the detailed HCM analysis of each corridor, a left turn lane warrant analysis was conducted on Pedrick Road and Pitt School Road to understand if a two-lane cross section is still appropriate based on future traffic volumes or if specific left turn lanes or a three-lane section may be recommended based on future traffic volumes. This warrant[3], taken from NCHRP Report 457, has parameters for segment speed, advancing volume, and opposing volume. For each speed, there are volume thresholds that correspond to the number of left-turning vehicles required in the peak hour to justify the installation of a left turn exclusive lane. As the volumes for the segment increases, fewer left turns are needed to justify the lane. Advancing volumes were determined by scaling the midsegment counts with the forecasted TMCs at the bounding intersections. Details for this analysis can be found in Appendix I.

TABLE 4: LEFT TURN WARRANT VOLUMES

ROADWAY	EXTENTS	PEAK HOUR	DIRECTION	ADVANCING VOLUME	REQ. LT %	REQ. LT
FUTURE BASELINE (2040)						
PEDRICK RD	Between Vaughn Rd and I-80 EB Ramps	AM	SB	200	N/A	N/A
		PM	SB	425	7%	30
		AM	NB	310	18%	43
		PM	NB	315	10%	32

Based on the speed of Pitt School Road (40 mph) and the expected conflicting traffic volumes, a left turn lane would not be warranted in the peak hour in the future scenario. Pedrick Road has a 55-mph speed limit. With the forecasted advancing volume, it would require 30 left turning vehicles in the SB direction and 32 left turning vehicles in the NB direction to warrant the left turn lanes. Based on the high-level LOS screening and the turn warrant analysis, a four-lane section (as identified in the General Plan scenario) is not necessary on Pedrick Road. Instead, a two-lane section with select left turn lanes should be considered on Pedrick Road as development occurs in the Northeast Quadrant area.

[3] *Add a Left-Turn Bay on the Major* Road, NCHRP Report 457, Page 22

CHAPTER 4. I-80 RAMP INTERSECTION OPERATIONS

I-80 runs along the northern edge of the City of Dixon. To determine potential intersection improvements that may be needed at the ramp terminals, nine ramp intersections were analyzed as a part of the I-80 operations study. The westbound I-80 off ramp to Milk Farm Road was not included in the analysis. The I-80 ramp intersection operations memorandum can be found in Appendix H.

Traffic counts at each of the I-80 ramp intersections were collected in December 2020 and were scaled to account for the COVID-19 pandemic using daily roadway segment traffic volumes collected in 2019. This analysis revealed operational issues at the following intersections:

- In the existing condition the intersection of Pitt School Road and Stratford Avenue operated at LOS F in the PM due to high delay in EB and SB directions. In the future scenario these sub-standard operations persisted.
- The intersection of First Street and I-80 EB Ramps were flagged for poor operation in the EB and WB directions. These low-volume movements experienced significant delay competing with the high-volume NB and SB movements. However, the overall intersection operated at LOS A with an average delay of three seconds.

RECOMMENDED INTERSECTION IMPROVEMENTS

The Stratford Avenue and Pitt School Road intersection is currently an all-way stop with a channelized eastbound right (EBR) turn. The scaled existing volumes were tested for a signal warrant per the California Manual on Uniform Traffic Control Devices (CAMUTCD)[4]. The four-hour vehicular volume signal warrant was met so signal installation is justified at this intersection. The signal warrant worksheet can be found in Appendix I. With the traffic signal, this intersection operates at LOS A for both AM and PM peak hours, as listed in Table 5 (page 11).

While the existing and future unimproved operations of A Street and I-80 EB Ramps meet the Dixon LOS standard as an all-way stop controlled intersection, a new signal is currently being considered by Caltrans at this location. The projected intersection operations with this improvement are shown in Table 5 (page 11).

[4] California Manual on Uniform Traffic Control Devices – 2014 Edition, Page 830

TABLE 5: FUTURE 2040 INTERSECTION OPERATIONS RESULTS WITH IMPROVEMENT

ID	INTERSECTION	INT. CONTROL	AM PEAK HOUR			PM PEAK HOUR		
			DELAY (S)	LOS	V/C	DELAY (S)	LOS	V/C
			INTERSECTION AVERAGE/WORST APPROACH					
5	STRATFORD AVE/ PITT SCHOOL RD/ I-80 EB RAMPS	AWSC (No Build)	23.2	C	0.37	**>50.0**	**F**	0.78
		Signal (Build)	7.1	A	0.25	9.9	A	0.36
3	A ST/ I-80 EB RAMP / BATAVIA RD	AWSC (No Build)	21.9	C	0.43	23.4	C	0.57
		Signal (Build)	6.5	A	0.29	6.2	A	0.28

Bold and Red indicates exceeding the mobility target. Average Delay (AWSC/Signalized); Worst Approach Delay (TWSC) (seconds per vehicle), LOS: Level of Service, V/C: Volume/Capacity

SUMMARY

In summary, the following is recommended for I-80 ramp intersections:

- Although the EBL and WBL movements at **First Street/EB I-80 ramps** operate at LOS F, the average intersection delay is 3 seconds. The opposing free movements, which account for most of the intersection volume, have no delay associated with them. For these reasons, no immediate improvements are recommended at this location.
- The intersection of **Pitt School Road and Stratford Avenue** operates at LOS F in the PM for existing and future scenarios. The volumes at this intersection justify the installation of a traffic signal which would improve the operations to LOS A for both the AM and PM peak hours.
- All other I-80 ramp intersections meet the City's mobility standard in the standard 2040 scenario.
- As growth occurs surrounding the ramp intersections, active transportation improvements should be considered. Some of these improvements include improved sidewalk connectivity and bike lanes, appropriate crossing at channelized turns, addressing closely spaced access points near ramp intersections and decreasing speeds at ramp intersections by reducing turning radii.
- The Southwest Dixon Specific Plan identifies an interchange improvement at eastbound I-80 ramps/A Street/Batavia Road and shows North Parkway Boulevard connecting directly to the interchange. The configuration shown in the Southwest Dixon Specific Plan would likely require rebuilding the interchange to ensure that the new intersection with North Parkway Boulevard would not cause motor vehicle queues to spillback onto the I-80 mainline. In addition, access at North Parkway Blvd (or Batavia Road) would need to be well managed to ensure safe and efficient I-80 ramp, intersection, and roadway operations.
- A new signal has been planned by Caltrans at the eastbound I-80 off ramp/A Street. Given the close spacing of the I-80 northbound ramps and Gateway Drive on A Street, future traffic signals at the two intersections should be coordinated to maintain safe and efficient operations of the ramp and intersection and access along A Street should be well managed.

CHAPTER 5. RECOMMENDATIONS

ROADWAY PROJECT RECOMMENDATIONS

Based on the detailed corridor analysis and I-80 ramp terminal operational analysis, Table 6 below lists the recommended improvements to address operational deficiencies.

TABLE 6: RECOMMENDED IMPROVEMENTS

LOCATION	RECOMMENDATION
STRATFORD AVE/ PITT SCHOOL RD/ I-80 EB RAMPS	Install traffic signal
PEDRICK ROAD	Add left turn lanes at intersections with significant left turn demand (>30 vehicles per hour) – Five SB locations, 1 NB location. 2800' of road widening for proposed left turn lanes between the railroad tracks and Sparling Lane/I-80 Ramps

Goal M-1 from the Dixon General Plan 2040 (GP) and its associated polices identifies plans for safety, efficiency, and accessibility throughout Dixon. While this was not explicitly examined as part of this study, additional improvements will be needed to upgrade roadways in Dixon to Complete Streets standards (streets that have been designed to safely and comfortable accommodate all users) and to complete the proposed active transportation network identified in the Dixon General Plan 2040 and the Solano County Transportation Authority Active Transportation Plan (STA ATP).

The Dixon portion of the STA ATP calls for improved bicycle facilities on Pitt School Road, Stratford Avenue, West A Street, Lincoln Highway/1st Street, and in Downtown Dixon. These improvements are meant to provide safe routes to transit and schools as well as support equity goals within the city. In addition, the report includes plans to close sidewalk gaps and improve existing sidewalks throughout the city.

Additional projects will be needed to address safety and connectivity considerations, such as projects to improve safety at railroad crossings.

ANALYSIS METHODOLOGY RECOMMENDATIONS

The results of the roadway segment analysis undertaken for this report underscore that segment-based analysis will flag only the most extreme mismatch between roadway cross section and anticipated traffic volume. While roadway corridors may be predicted to operate acceptably, localized safety or operations issues may still occur at intersections. Therefore, our recommendation is to focus primarily on intersection operations when evaluating the transportation impacts of proposed developments or planned growth. Instead, the City should remove the service-volume table from its Traffic Impacts Analysis requirements in its Engineering Standards when next updated and require analysis of intersection operations using the most recently published Highway Capacity Manual methods.

Currently, any location (ramp, segment, or intersection that a project causes the volume-capacity ratio to increase by more than 0.02 is required to be analyzed. In addition, projects with greater than 100 peak hour trip ends require traffic model analysis. The scope of intersection operational analysis required for any specific analysis can be determined by the number of peak hour trips added to each intersection. Improvements should be required where project traffic causes intersection operations to degrade below the adopted standard (LOS D) or adds more than a specified amount of additional delay to an intersection already operating below the standard.

APPENDIX

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APPENDIX A. COUNT DATA

			2019				2020				Change			
	Count #		NB	SB	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB
AM	1	Pedrick Rd/Lincoln Hwy N/O Tremont Rd	142	146	-	-	127	136	-	-	11%	7%		
	2	Currey Rd N/O Milk Farm Rd	54	46	-	-	36	45	-	-	33%	2%		
	3	SR 113/Lincoln Hwy S/O Vaughn Rd	511	677	-	-	586	557	-	-	-15%	18%		
	4	Sievers Rd/Lincoln Hwy W/O Pedrick Rd	-	-	75	89	-	-	77	69			-3%	22%
	5	A St E/O Evans Rd	-	-	221	304	-	-	220	204			0%	33%
	6	Pedrick Rd N/O Vaughn Rd	40	44	-	-	122	129	-	-	-205%	-193%		
	7	Pitt School Rd S/O F St	295	197	-	-	202	211	-	-	32%	-7%		
	8	Pitt School Rd N/O I-80 Ramps	35	33	-	-	38	33	-	-	-9%	0%		
	9	Dixon Ave W/O Schroeder Rd	-	-	103	95	-	-	79	97			23%	-2%
	10	Batavia Rd S/O A St	220	171	-	-	270	158	-	-	-23%	8%		
		Total	1297	1314	399	488	1381	1269	376	370	-6%	3%	6%	24%

			2019				2020				Change			
	Count #		NB	SB	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB
PM	1	Pedrick Rd/Lincoln Hwy N/O Tremont Rd	175	159	-	-	178	164	-	-	-2%	-3%		
	2	Currey Rd N/O Milk Farm Rd	70	59	-	-	39	60	-	-	44%	-2%		
	3	SR 113/Lincoln Hwy S/O Vaughn Rd	611	730	-	-	692	646	-	-	-13%	12%		
	4	Sievers Rd/Lincoln Hwy W/O Pedrick Rd	-	-	63	111	-	-	96	88			-52%	21%
	5	A St E/O Evans Rd	-	-	335	259	-	-	318	238			5%	8%
	6	Pedrick Rd N/O Vaughn Rd	68	59	-	-	229	175	-	-	-237%	-197%		
	7	Pitt School Rd S/O F St	369	270	-	-	227	229	-	-	38%	15%		
	8	Pitt School Rd N/O I-80 Ramps	50	48	-	-	44	46	-	-	12%	4%		
	9	Dixon Ave W/O Schroeder Rd	-	-	127	121	-	-	135	122			-6%	-1%
	10	Batavia Rd S/O A St	363	148	-	-	367	172	-	-	-1%	-16%		
		Total	1706	1473	525	491	1776	1492	549	448	-4%	-1%	-5%	9%

2020 TMC Scaled AM

Count ID	Intersection	PHF	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Currey Road & I-80 WB Ramps_SR 113	0.92	0	0	0	0	0	51	37	0	121	0	316	1
2	N 1st St_I-80 EB Ramps & SR 113_Auction Ln	0.92	143	314	1	0	159	8	2	1	408	4	0	0
3	Pitt School Rd & I-80 WB Ramps	0.92	0	34	218	2	30	0	0	0	0	154	0	8
4	Pitt School Rd & I-80 EB Ramps_Stratford Ave	0.92	219	164	81	57	122	4	1	99	96	66	46	127
5	I-80 WB Ramps_Schroeder Rd & Dixon Ave W	0.92	0	0	0	47	0	15	9	74	0	0	43	229
6	Batavia Rd_I-80 EB On Ramp & I-80 EB Off Ramp	0.92	0	8	13	0	0	0	0	118	2	18	0	100
7	Pedrick Rd & I-80 WB Ramps_Lincoln Hwy	0.92	50	112	30	70	45	28	18	51	72	100	92	23
8	Pedrick Rd & I-80 EB Ramps_Sparling Ln	0.92	70	42	12	27	130	49	89	23	13	8	2	41
9	I-80 EB Ramps & Dixon Ave W_W A St	0.92	15	0	116	0	0	0	0	68	42	93	340	0

2020 TMC AM

Count ID	Intersection	PHF	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Currey Road & I-80 WB Ramps_SR 113	0.884	0	0	0	0	0	50	28	0	121	0	316	1
2	N 1st St_I-80 EB Ramps & SR 113_Auction Ln	0.86	143	314	1	0	135	8	2	1	346	3	0	0
3	Pitt School Rd & I-80 WB Ramps	0.92	0	34	218	2	30	0	0	0	0	154	0	8
4	Pitt School Rd & I-80 EB Ramps_Stratford Ave	0.89	166	124	61	57	122	4	1	99	96	66	46	127
5	I-80 WB Ramps_Schroeder Rd & Dixon Ave W	0.87	0	0	0	47	0	15	7	60	0	0	43	229
6	Batavia Rd_I-80 EB On Ramp & I-80 EB Off Ramp	0.91	0	8	13	0	0	0	0	118	2	17	0	93
7	Pedrick Rd & I-80 WB Ramps_Lincoln Hwy	0.92	41	101	30	70	42	23	16	51	72	93	75	21
8	Pedrick Rd & I-80 EB Ramps_Sparling Ln	0.97	70	42	12	27	130	49	89	23	13	8	2	41
9	I-80 EB Ramps & Dixon Ave W_W A St	0.88	15	0	116	0	0	0	0	68	39	70	256	0

TMC Scale Factor (Peak Hour) AM

Count ID	Intersection	PHF	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Currey Road & I-80 WB Ramps_SR 113	-	0.00	0.00	0.00	0.00	0.00	1.02	1.33	0.00	1.00	0.00	1.00	1.33
2	N 1st St_I-80 EB Ramps & SR 113_Auction Ln	-	1.00	1.00	1.00	0.00	1.18	1.00	1.00	1.00	1.18	1.18	0.00	0.00
3	Pitt School Rd & I-80 WB Ramps	-	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
4	Pitt School Rd & I-80 EB Ramps_Stratford Ave	-	1.32	1.32	1.32	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5	I-80 WB Ramps_Schroeder Rd & Dixon Ave W	-	0.00	0.00	0.00	1.00	0.00	1.00	1.23	1.23	0.00	0.00	1.00	1.00
6	Batavia Rd_I-80 EB On Ramp & I-80 EB Off Ramp	-	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.08	0.00	1.08
7	Pedrick Rd & I-80 WB Ramps_Lincoln Hwy	-	1.22	1.11	1.00	1.00	1.07	1.22	1.11	1.00	1.00	1.07	1.22	1.11
8	Pedrick Rd & I-80 EB Ramps_Sparling Ln	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
9	I-80 EB Ramps & Dixon Ave W_W A St	-	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.08	1.33	1.33	0.00

2020 TMC Scaled PM														
Count ID	Intersection	PHF	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Currey Road & I-80 WB Ramps_SR 113	0.92	0	0	0	0	0	71	69	0	209	0	421	4
2	N 1st St_I-80 EB Ramps & SR 113_Auction Ln	0.92	268	447	0	0	188	12	8	1	478	1	0	0
3	Pitt School Rd & I-80 WB Ramps	0.92	2	57	197	24	109	1	1	0	1	256	0	4
4	Pitt School Rd & I-80 EB Ramps_Stratford Ave	0.92	190	144	166	117	232	34	9	273	116	143	57	155
5	I-80 WB Ramps_Schroeder Rd & Dixon Ave W	0.92	0	0	0	83	0	38	5	110	0	0	77	174
6	Batavia Rd_I-80 EB On Ramp & I-80 EB Off Ramp	0.92	0	9	43	0	0	0	0	321	9	38	0	106
7	Pedrick Rd & I-80 WB Ramps_Lincoln Hwy	0.92	86	118	34	76	41	36	37	51	96	75	77	17
8	Pedrick Rd & I-80 EB Ramps_Sparling Ln	0.92	97	60	25	16	126	68	108	61	7	16	0	54
9	I-80 EB Ramps & Dixon Ave W_W A St	0.92	21	0	336	0	0	0	0	146	51	112	247	0

2019 TMC PM														
Count ID	Intersection	PHF	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Currey Road & I-80 WB Ramps_SR 113	0.99	0	0	0	0	0	71	69	0	209	0	421	3
2	N 1st St_I-80 EB Ramps & SR 113_Auction Ln	0.97	268	447	0	0	168	11	7	1	478	1	0	0
3	Pitt School Rd & I-80 WB Ramps	0.89	2	51	197	24	105	1	1	0	1	229	0	4
4	Pitt School Rd & I-80 EB Ramps_Stratford Ave	0.94	138	104	120	106	202	31	8	248	105	130	52	141
5	I-80 WB Ramps_Schroeder Rd & Dixon Ave W	0.96	0	0	0	83	0	38	5	110	0	0	77	174
6	Batavia Rd_I-80 EB On Ramp & I-80 EB Off Ramp	0.91	0	9	43	0	0	0	0	321	9	38	0	106
7	Pedrick Rd & I-80 WB Ramps_Lincoln Hwy	0.94	71	118	34	76	41	30	37	51	96	75	64	17
8	Pedrick Rd & I-80 EB Ramps_Sparling Ln	0.95	97	60	25	16	126	68	108	61	7	16	0	54
9	I-80 EB Ramps & Dixon Ave W_W A St	0.95	21	0	336	0	0	0	0	139	51	104	229	0

TMC Scale Factor (Peak Hour) PM														
Count ID	Intersection	PHF	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Currey Road & I-80 WB Ramps_SR 113	-	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.44
2	N 1st St_I-80 EB Ramps & SR 113_Auction Ln	-	1.00	1.00	1.00	1.12	1.12	1.12	1.12	1.00	1.00	1.00	1.00	1.00
3	Pitt School Rd & I-80 WB Ramps	-	1.00	1.12	1.00	1.00	1.04	1.00	1.04	1.00	1.12	1.12	1.00	1.04
4	Pitt School Rd & I-80 EB Ramps_Stratford Ave	-	1.38	1.38	1.38	1.10	1.15	1.10	1.10	1.10	1.10	1.10	1.10	1.10
5	I-80 WB Ramps_Schroeder Rd & Dixon Ave W	-	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
6	Batavia Rd_I-80 EB On Ramp & I-80 EB Off Ramp	-	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
7	Pedrick Rd & I-80 WB Ramps_Lincoln Hwy	-	1.21	1.00	1.00	1.00	1.00	1.21	1.00	1.00	1.00	1.00	1.21	1.00
8	Pedrick Rd & I-80 EB Ramps_Sparling Ln	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
9	I-80 EB Ramps & Dixon Ave W_W A St	-	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.05	1.00	1.08	1.08	0.00

Location: I-80 EB Ramps & Dixon Ave W/W A St
City: Dixon
Control: 3-Way Stop

Project ID: 20-070206-009
Date: 12/2/2020

Total

NS/EW Streets:	I-80 EB Ramps				I-80 EB Ramps				Dixon Ave W/W A St				Dixon Ave W/W A St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	0	17	0	0	0	0	0	0	12	2	0	13	61	0	1	110
7:15 AM	3	0	23	0	0	0	0	0	0	16	10	0	15	54	0	0	121
7:30 AM	3	0	33	0	0	0	0	0	0	14	12	0	20	78	0	0	160
7:45 AM	5	0	26	0	0	0	0	0	0	24	9	0	20	67	0	0	151
8:00 AM	4	0	26	0	0	0	0	0	0	20	8	0	18	55	0	0	131
8:15 AM	3	0	31	0	0	0	0	0	0	10	10	0	12	56	0	0	122
8:30 AM	3	0	24	0	0	0	0	0	0	18	7	0	18	52	0	0	122
8:45 AM	5	0	30	0	0	0	0	0	0	17	4	0	11	44	0	0	111
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	30	0	210	0	0	0	0	0	0	131	62	0	127	467	0	1	1028
APPROACH %'s :	12.50%	0.00%	87.50%	0.00%					0.00%	67.88%	32.12%	0.00%	21.34%	78.49%	0.00%	0.17%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	15	0	116	0	0	0	0	0	0	68	39	0	70	256	0	0	564
PEAK HR FACTOR :	0.750	0.000	0.879	0.000	0.000	0.000	0.000	0.000	0.000	0.708	0.813	0.000	0.875	0.821	0.000	0.000	0.881
	0.910								0.811				0.832				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	0	87	0	0	0	0	0	0	31	9	0	36	61	0	0	227
4:15 PM	6	0	86	0	0	0	0	0	0	37	15	0	26	51	0	0	221
4:30 PM	9	0	84	0	0	0	0	0	0	42	13	0	22	61	0	0	231
4:45 PM	3	0	79	0	0	0	0	0	0	29	14	0	20	56	0	0	201
5:00 PM	5	0	85	0	0	0	0	0	0	34	11	0	23	62	0	0	220
5:15 PM	4	0	74	0	0	0	0	0	0	28	14	0	24	56	0	0	200
5:30 PM	5	0	83	0	0	0	0	0	0	24	6	0	15	56	0	0	189
5:45 PM	2	0	72	0	0	0	0	0	0	22	6	0	20	40	0	0	162
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	37	0	650	0	0	0	0	0	0	247	88	0	186	443	0	0	1651
APPROACH %'s :	5.39%	0.00%	94.61%	0.00%					0.00%	73.73%	26.27%	0.00%	29.57%	70.43%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	21	0	336	0	0	0	0	0	0	139	51	0	104	229	0	0	880
PEAK HR FACTOR :	0.583	0.000	0.966	0.000	0.000	0.000	0.000	0.000	0.000	0.827	0.850	0.000	0.722	0.939	0.000	0.000	0.952
	0.960								0.864				0.858				

Location: Pedrick Rd & I-80 WB Ramps/Lincoln Hwy
City: Dixon
Control: 4-Way Stop

Project ID: 20-070206-007
Date: 12/2/2020

Total

NS/EW Streets:	Pedrick Rd				Pedrick Rd				I-80 WB Ramps/Lincoln Hwy				I-80 WB Ramps/Lincoln Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	13	7	0	13	7	1	0	2	6	15	0	13	8	7	0	104
7:15 AM	6	21	2	0	13	15	5	0	3	13	13	0	12	22	4	0	129
7:30 AM	14	20	5	0	12	6	7	0	2	14	23	0	19	12	9	0	143
7:45 AM	6	31	5	0	13	12	2	0	5	9	13	0	30	19	5	0	150
8:00 AM	7	30	12	0	18	12	6	0	4	14	20	0	25	22	2	0	172
8:15 AM	14	20	8	0	27	12	8	0	5	14	16	0	19	22	5	0	170
8:30 AM	5	13	8	0	16	6	7	0	2	10	24	0	10	18	0	0	119
8:45 AM	13	18	13	0	17	11	7	0	5	13	7	0	22	15	3	0	144
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	77	166	60	0	129	81	43	0	28	93	131	0	150	138	35	0	1131
APPROACH %'s :	25.41%	54.79%	19.80%	0.00%	50.99%	32.02%	17.00%	0.00%	11.11%	36.90%	51.98%	0.00%	46.44%	42.72%	10.84%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	41	101	30	0	70	42	23	0	16	51	72	0	93	75	21	0	635
PEAK HR FACTOR :	0.732	0.815	0.625	0.000	0.648	0.875	0.719	0.000	0.800	0.911	0.783	0.000	0.775	0.852	0.583	0.000	0.923
	0.878				0.718				0.891				0.875				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	20	30	9	0	20	15	9	0	7	18	22	0	20	14	5	0	189
4:15 PM	14	35	8	0	20	10	4	0	10	12	29	0	19	14	6	0	181
4:30 PM	17	30	9	0	17	8	7	0	11	11	19	0	19	16	5	0	169
4:45 PM	20	23	8	0	19	8	10	0	9	10	26	0	17	20	1	0	171
5:00 PM	20	28	10	0	26	8	9	0	11	10	21	0	21	20	3	0	187
5:15 PM	13	23	7	0	24	10	10	0	10	6	25	0	18	17	4	0	167
5:30 PM	13	27	7	0	19	13	3	0	10	13	15	0	15	18	2	0	155
5:45 PM	14	23	1	0	9	9	8	0	1	10	9	0	15	12	6	0	117
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	131	219	59	0	154	81	60	0	69	90	166	0	144	131	32	0	1336
APPROACH %'s :	32.03%	53.55%	14.43%	0.00%	52.20%	27.46%	20.34%	0.00%	21.23%	27.69%	51.08%	0.00%	46.91%	42.67%	10.42%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	71	118	34	0	76	41	30	0	37	51	96	0	75	64	17	0	710
PEAK HR FACTOR :	0.888	0.843	0.944	0.000	0.950	0.683	0.750	0.000	0.841	0.708	0.828	0.000	0.938	0.800	0.708	0.000	0.939
	0.945				0.835				0.902				0.975				

Location: Pedrick Rd & I-80 EB Ramps/Sparling Ln
City: Dixon
Control: 4-Way Stop

Project ID: 20-070206-008
Date: 12/2/2020

Total

NS/EW Streets:	Pedrick Rd				Pedrick Rd				I-80 EB Ramps/Sparling Ln				I-80 EB Ramps/Sparling Ln				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	13	3	1	0	4	21	10	0	25	5	3	0	0	0	9	0	94
7:15 AM	5	2	2	0	6	21	13	0	17	8	1	0	2	0	3	0	80
7:30 AM	21	8	2	0	5	25	18	0	25	7	2	0	2	0	11	0	126
7:45 AM	17	14	5	0	7	40	7	0	18	8	8	0	0	0	7	0	131
8:00 AM	18	10	2	0	6	40	10	2	28	3	1	0	2	1	8	0	131
8:15 AM	14	10	3	0	9	25	14	0	18	5	2	0	4	1	15	0	120
8:30 AM	18	4	0	0	6	20	13	0	16	3	1	0	2	0	7	0	90
8:45 AM	13	11	2	0	5	26	8	0	21	4	1	0	3	1	11	0	106
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	119	62	17	0	48	218	93	2	168	43	19	0	15	3	71	0	878
APPROACH %'s :	60.10%	31.31%	8.59%	0.00%	13.30%	60.39%	25.76%	0.55%	73.04%	18.70%	8.26%	0.00%	16.85%	3.37%	79.78%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	70	42	12	0	27	130	49	2	89	23	13	0	8	2	41	0	508
PEAK HR FACTOR :	0.833	0.750	0.600	0.000	0.750	0.813	0.681	0.250	0.795	0.719	0.406	0.000	0.500	0.500	0.683	0.000	0.969
	0.861				0.897				0.919				0.638				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	20	16	5	0	3	35	16	0	30	12	3	0	4	0	12	0	156
4:15 PM	26	17	4	0	6	34	21	0	28	13	1	0	3	0	13	0	166
4:30 PM	33	14	10	0	1	28	17	0	25	19	2	0	4	0	16	0	169
4:45 PM	18	13	6	0	6	29	14	1	25	17	1	0	5	0	13	0	148
5:00 PM	22	16	1	0	6	29	15	1	30	20	0	0	5	0	10	0	155
5:15 PM	18	10	5	0	3	28	21	0	31	7	2	0	1	0	4	0	130
5:30 PM	11	11	0	0	3	29	12	0	26	8	1	0	1	1	8	0	111
5:45 PM	14	12	1	1	1	26	5	0	19	2	1	0	1	0	7	0	90
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	162	109	32	1	29	238	121	2	214	98	11	0	24	1	83	0	1125
APPROACH %'s :	53.29%	35.86%	10.53%	0.33%	7.44%	61.03%	31.03%	0.51%	66.25%	30.34%	3.41%	0.00%	22.22%	0.93%	76.85%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	97	60	25	0	16	126	68	1	108	61	7	0	16	0	54	0	639
PEAK HR FACTOR :	0.735	0.882	0.625	0.000	0.667	0.900	0.810	0.250	0.900	0.803	0.583	0.000	0.800	0.000	0.844	0.000	0.945
	0.798				0.865				0.957				0.875				

Location: N First St/I-80 EB Ramps & SR 113/Auction Ln
City: Dixon
Control: 1-Way Stop (EB)

Project ID: 20-070206-002
Date: 12/2/2020

Total

NS/EW Streets:	N First St/I-80 EB Ramps				N First St/I-80 EB Ramps				SR 113/Auction Ln				SR 113/Auction Ln				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	32	70	0	0	0	31	0	0	0	0	79	0	0	0	0	0	212
7:15 AM	28	83	0	0	0	23	0	0	0	0	85	0	0	0	0	0	219
7:30 AM	36	78	0	0	0	32	1	0	1	1	82	0	2	0	0	0	233
7:45 AM	46	93	0	0	0	42	4	0	0	0	93	0	0	0	0	0	278
8:00 AM	32	71	0	0	0	21	2	0	1	0	88	0	0	0	0	0	215
8:15 AM	29	72	1	0	0	40	1	0	0	0	83	0	1	0	0	0	227
8:30 AM	37	66	0	0	0	22	1	0	1	0	78	0	0	0	0	0	205
8:45 AM	31	60	0	0	0	33	1	0	0	0	108	0	0	0	0	0	233
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	271	593	1	0	0	244	10	0	3	1	696	0	3	0	0	0	1822
APPROACH %'s :	31.33%	68.55%	0.12%	0.00%	0.00%	96.06%	3.94%	0.00%	0.43%	0.14%	99.43%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	143	314	1	0	0	135	8	0	2	1	346	0	3	0	0	0	953
PEAK HR FACTOR :	0.777	0.844	0.250	0.000	0.000	0.804	0.500	0.000	0.500	0.250	0.930	0.000	0.375	0.000	0.000	0.000	0.857
		0.824				0.777				0.938				0.375			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	69	138	0	0	0	27	2	0	4	0	115	0	0	0	0	0	355
4:15 PM	61	101	0	0	0	46	2	0	0	0	126	0	0	0	0	0	336
4:30 PM	67	116	0	1	0	51	3	0	2	0	113	0	0	0	0	0	353
4:45 PM	71	92	0	1	0	44	4	0	1	1	124	0	1	0	0	0	339
5:00 PM	72	99	1	0	0	54	2	0	0	0	109	0	0	0	0	0	337
5:15 PM	49	89	0	0	0	49	1	0	0	2	111	0	1	0	0	0	302
5:30 PM	64	89	0	0	0	38	6	0	1	0	131	0	0	0	0	0	329
5:45 PM	52	85	0	0	0	39	1	0	0	0	92	0	0	0	0	0	269
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	505	809	1	2	0	348	21	0	8	3	921	0	2	0	0	0	2620
APPROACH %'s :	38.34%	61.43%	0.08%	0.15%	0.00%	94.31%	5.69%	0.00%	0.86%	0.32%	98.82%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	268	447	0	2	0	168	11	0	7	1	478	0	1	0	0	0	1383
PEAK HR FACTOR :	0.944	0.810	0.000	0.500	0.000	0.824	0.688	0.000	0.438	0.250	0.948	0.000	0.250	0.000	0.000	0.000	0.974
		0.866				0.829				0.964				0.250			

Location: Currey Road & I-80 WB Ramps/SR 113
City: Dixon
Control: 1-Way Stop (EB)

Project ID: 20-070206-001
Date: 12/2/2020

Total

NS/EW Streets:	Currey Road				Currey Road				I-80 WB Ramps/SR 113				I-80 WB Ramps/SR 113				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	5	0	6	0	26	0	0	74	0	0	111
7:15 AM	0	0	0	0	0	0	10	0	1	0	27	0	0	74	0	0	112
7:30 AM	0	0	0	0	0	0	10	0	7	0	30	0	0	85	0	0	132
7:45 AM	0	0	0	0	0	0	16	0	13	0	37	0	0	80	0	0	146
8:00 AM	0	0	0	0	0	0	14	0	7	0	27	0	0	77	1	0	126
8:15 AM	0	0	0	0	0	0	9	0	7	0	23	0	0	72	0	0	111
8:30 AM	0	0	0	0	0	0	15	0	6	0	32	0	0	70	1	0	124
8:45 AM	0	0	0	0	0	0	19	0	2	0	30	0	0	90	0	0	141
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	98	0	49	0	232	0	0	622	2	0	1003
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	17.44%	0.00%	82.56%	0.00%	0.00%	99.68%	0.32%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	50	0	28	0	121	0	0	316	1	0	516
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.781	0.000	0.538	0.000	0.818	0.000	0.000	0.929	0.250	0.000	0.884
					0.781				0.745				0.932				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	17	0	18	0	53	0	0	101	0	0	189
4:15 PM	0	0	0	0	0	0	16	0	11	0	51	0	0	114	1	0	193
4:30 PM	0	0	0	0	0	0	22	0	15	0	56	0	0	101	1	0	195
4:45 PM	0	0	0	0	0	0	16	0	25	0	49	0	0	105	1	0	196
5:00 PM	0	0	0	0	0	0	14	0	13	0	62	0	0	99	0	0	188
5:15 PM	0	0	0	0	0	0	21	0	13	0	37	0	0	101	0	0	172
5:30 PM	0	0	0	0	0	0	13	0	23	0	46	0	0	120	2	0	204
5:45 PM	0	0	0	0	0	0	12	0	12	0	42	0	0	81	0	0	147
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	131	0	130	0	396	0	0	822	5	0	1484
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	24.71%	0.00%	75.29%	0.00%	0.00%	99.40%	0.60%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	71	0	69	0	209	0	0	421	3	0	773
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.807	0.000	0.690	0.000	0.933	0.000	0.000	0.923	0.750	0.000	0.986
					0.807				0.939				0.922				

Location: Pitt School Rd & I-80 WB Ramps
City: Dixon
Control: 1-Way Stop (WB)

Project ID: 20-070206-003
Date: 12/2/2020

Total

NS/EW Streets:	Pitt School Rd				Pitt School Rd				I-80 WB Ramps				I-80 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	5	66	0	0	5	0	0	0	0	0	0	22	0	0	0	98
7:15 AM	0	4	60	0	0	6	0	0	0	0	0	0	31	0	0	0	101
7:30 AM	0	11	70	0	0	6	0	0	0	0	0	0	27	0	0	0	114
7:45 AM	0	8	61	0	0	6	0	0	0	0	0	0	44	0	0	0	119
8:00 AM	0	8	52	0	0	5	0	0	0	0	0	0	31	0	2	0	98
8:15 AM	0	4	52	0	1	11	0	0	0	0	0	0	37	0	4	0	109
8:30 AM	0	14	53	1	1	8	0	0	0	0	0	0	42	0	2	0	121
8:45 AM	0	11	44	0	0	6	0	0	0	0	0	0	37	0	2	1	101
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	65	458	1	2	53	0	0	0	0	0	0	271	0	10	1	861
APPROACH %'s :	0.00%	12.40%	87.40%	0.19%	3.64%	96.36%	0.00%	0.00%					96.10%	0.00%	3.55%	0.35%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	34	218	1	2	30	0	0	0	0	0	0	154	0	8	0	447
PEAK HR FACTOR :	0.000	0.607	0.893	0.250	0.500	0.682	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.000	0.500	0.000	0.924
	0.917				0.667				0.000				0.920				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	28	48	1	3	22	1	0	0	0	0	0	47	0	4	0	154
4:15 PM	0	24	35	0	5	17	0	0	0	0	0	0	52	0	7	1	141
4:30 PM	0	19	40	0	4	24	1	0	0	0	0	0	44	0	4	0	136
4:45 PM	1	13	47	0	7	24	1	0	0	0	0	0	48	0	0	0	141
5:00 PM	1	12	59	1	9	33	0	0	0	0	0	0	58	0	1	0	174
5:15 PM	0	16	45	1	7	34	0	0	1	0	0	0	55	0	0	1	160
5:30 PM	0	10	46	1	1	14	0	0	0	0	1	0	68	0	3	1	145
5:45 PM	1	11	46	0	3	9	0	0	0	0	0	0	53	0	1	0	124
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	133	366	4	39	177	3	0	1	0	1	0	425	0	20	3	1175
APPROACH %'s :	0.59%	26.28%	72.33%	0.79%	17.81%	80.82%	1.37%	0.00%	50.00%	0.00%	50.00%	0.00%	94.87%	0.00%	4.46%	0.67%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	2	51	197	3	24	105	1	0	1	0	1	0	229	0	4	2	620
PEAK HR FACTOR :	0.500	0.797	0.835	0.750	0.667	0.772	0.250	0.000	0.250	0.000	0.250	0.000	0.842	0.000	0.333	0.500	0.891
	0.866				0.774				0.500				0.816				

Location: Pitt School Rd & I-80 EB Ramps/Stratford Ave
City: Dixon
Control: 4-Way Stop

Project ID: 20-070206-004
Date: 12/2/2020

Total

NS/EW Streets:	Pitt School Rd				Pitt School Rd				I-80 EB Ramps/Stratford Ave				I-80 EB Ramps/Stratford Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	39	32	9	0	11	16	1	0	0	14	22	0	6	19	37	0	206
7:15 AM	43	31	10	0	11	23	3	0	0	24	13	0	18	17	34	0	227
7:30 AM	48	34	18	0	10	22	1	0	0	22	12	0	11	7	45	0	230
7:45 AM	51	32	21	0	18	31	0	0	0	33	20	0	16	13	37	0	272
8:00 AM	34	32	16	0	10	26	1	0	0	18	21	0	18	12	28	0	216
8:15 AM	35	20	11	0	14	30	2	0	0	19	25	0	16	9	36	0	217
8:30 AM	46	40	13	0	15	35	1	0	1	29	30	0	16	12	26	0	264
8:45 AM	32	26	23	0	11	34	0	0	3	27	17	0	17	10	29	0	229
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	328	247	121	0	100	217	9	0	4	186	160	0	118	99	272	0	1861
APPROACH %'s :	47.13%	35.49%	17.39%	0.00%	30.67%	66.56%	2.76%	0.00%	1.14%	53.14%	45.71%	0.00%	24.13%	20.25%	55.62%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	166	124	61	0	57	122	4	0	1	99	96	0	66	46	127	0	969
PEAK HR FACTOR :	0.814	0.775	0.726	0.000	0.792	0.871	0.500	0.000	0.250	0.750	0.800	0.000	0.917	0.885	0.858	0.000	0.891
	0.844				0.897				0.817				0.905				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	39	36	24	0	24	44	4	0	8	45	33	0	28	17	34	0	336
4:15 PM	34	25	31	0	21	44	4	0	3	60	28	0	25	19	28	0	322
4:30 PM	33	25	27	0	26	32	8	0	4	54	15	0	33	9	32	0	298
4:45 PM	31	21	27	0	26	44	4	0	4	69	26	0	26	14	36	0	328
5:00 PM	36	24	26	0	26	50	12	0	1	53	27	0	34	10	48	0	347
5:15 PM	28	29	38	0	26	51	13	0	1	58	34	0	44	15	32	0	369
5:30 PM	43	30	29	0	28	57	2	0	2	68	18	0	26	13	25	0	341
5:45 PM	26	28	34	0	21	41	1	0	1	50	24	0	39	5	31	0	301
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	270	218	236	0	198	363	48	0	24	457	205	0	255	102	266	0	2642
APPROACH %'s :	37.29%	30.11%	32.60%	0.00%	32.51%	59.61%	7.88%	0.00%	3.50%	66.62%	29.88%	0.00%	40.93%	16.37%	42.70%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	138	104	120	0	106	202	31	0	8	248	105	0	130	52	141	0	1385
PEAK HR FACTOR :	0.802	0.867	0.789	0.000	0.946	0.886	0.596	0.000	0.500	0.899	0.772	0.000	0.739	0.867	0.734	0.000	0.938
	0.887				0.942				0.912				0.878				

Location: I-80 WB Ramps/Schroeder Rd & Dixon Ave W
City: Dixon
Control: 3-Way Stop

Project ID: 20-070206-005
Date: 12/2/2020

Total

NS/EW Streets:	I-80 WB Ramps/Schroeder Rd				I-80 WB Ramps/Schroeder Rd				Dixon Ave W				Dixon Ave W				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	5	0	5	0	2	7	0	0	0	10	55	0	84
7:15 AM	0	0	0	0	13	0	2	0	0	14	0	0	0	9	47	0	85
7:30 AM	0	0	0	0	10	0	3	0	4	16	0	0	0	10	72	0	115
7:45 AM	0	0	0	0	16	0	5	0	0	18	0	0	0	14	56	0	109
8:00 AM	0	0	0	0	14	0	6	0	0	13	0	0	0	7	51	0	91
8:15 AM	0	0	0	0	7	0	1	0	3	13	0	0	0	12	50	0	86
8:30 AM	0	0	0	0	13	0	8	0	0	13	0	0	0	7	46	0	87
8:45 AM	0	0	0	0	14	0	6	0	1	8	0	0	0	10	41	0	80
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	92	0	36	0	10	102	0	0	0	79	418	0	737
APPROACH %'s :					71.88%	0.00%	28.13%	0.00%	8.93%	91.07%	0.00%	0.00%	0.00%	15.90%	84.10%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	47	0	15	0	7	60	0	0	0	43	229	0	401
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.734	0.000	0.625	0.000	0.438	0.833	0.000	0.000	0.000	0.768	0.795	0.000	0.872
					0.738				0.838				0.829				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	19	0	11	0	1	21	0	0	0	17	44	0	113
4:15 PM	0	0	0	0	21	0	7	0	3	32	0	0	0	18	42	0	123
4:30 PM	0	0	0	0	26	0	7	0	1	26	0	0	0	18	47	2	127
4:45 PM	0	0	0	0	19	0	7	0	0	25	0	0	0	22	41	0	114
5:00 PM	0	0	0	0	17	0	17	0	1	27	0	0	0	19	44	0	125
5:15 PM	0	0	0	0	15	0	12	1	0	30	0	0	0	16	45	0	119
5:30 PM	0	0	0	0	11	0	12	0	2	18	0	0	0	13	50	0	106
5:45 PM	0	0	0	0	10	0	7	0	2	16	0	0	0	11	28	0	74
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	138	0	80	1	10	195	0	0	0	134	341	2	901
APPROACH %'s :					63.01%	0.00%	36.53%	0.46%	4.88%	95.12%	0.00%	0.00%	0.00%	28.09%	71.49%	0.42%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	83	0	38	0	5	110	0	0	0	77	174	2	489
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.798	0.000	0.559	0.000	0.417	0.859	0.000	0.000	0.000	0.875	0.926	0.250	0.963
					0.890				0.821				0.944				

Location: Batavia Rd/I-80 EB On Ramp & I-80 EB Off Ramps
City: Dixon
Control: 1-Way Stop (NB)

Project ID: 20-070206-006
Date: 12/2/2020

Total

NS/EW Streets:	Batavia Rd/I-80 EB On Ramp				Batavia Rd/I-80 EB On Ramp				I-80 EB Off Ramp				I-80 EB Off Ramp				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	1	0	0	0	0	0	0	20	0	0	3	0	12	0	38
7:15 AM	0	0	3	0	0	0	0	0	0	25	1	0	3	0	21	0	53
7:30 AM	0	2	3	0	0	0	0	0	0	31	0	0	9	0	24	0	69
7:45 AM	0	4	4	0	0	0	0	0	0	27	0	0	3	0	25	0	63
8:00 AM	0	2	3	0	0	0	0	0	0	28	0	0	2	0	25	0	60
8:15 AM	0	0	3	0	0	0	0	0	0	32	2	0	3	0	19	0	59
8:30 AM	0	3	3	0	0	0	0	0	0	23	2	0	5	0	19	0	55
8:45 AM	0	0	1	0	0	0	0	0	0	33	1	0	3	0	13	0	51
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	13	21	0	0	0	0	0	0	219	6	0	31	0	158	0	448
APPROACH %'s :	0.00%	38.24%	61.76%	0.00%					0.00%	97.33%	2.67%	0.00%	16.40%	0.00%	83.60%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	8	13	0	0	0	0	0	0	118	2	0	17	0	93	0	251
PEAK HR FACTOR :	0.000	0.500	0.813	0.000	0.000	0.000	0.000	0.000	0.000	0.922	0.250	0.000	0.472	0.000	0.930	0.000	0.909
		0.656								0.882				0.833			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	4	4	0	0	0	0	0	0	86	2	0	7	0	39	0	142
4:15 PM	0	2	5	0	0	0	0	0	0	87	3	0	10	0	30	0	137
4:30 PM	0	1	17	0	0	0	0	0	0	76	1	0	8	0	28	0	131
4:45 PM	0	0	9	0	0	0	0	0	0	73	0	0	11	0	21	0	114
5:00 PM	0	6	12	0	0	0	0	0	0	85	5	0	9	0	27	0	144
5:15 PM	0	3	6	0	0	0	0	0	0	65	0	0	7	0	32	0	113
5:30 PM	0	5	7	0	0	0	0	0	1	86	2	0	4	0	17	0	122
5:45 PM	0	2	2	0	0	0	0	0	0	67	1	0	2	0	23	0	97
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	23	62	0	0	0	0	0	1	625	14	0	58	0	217	0	1000
APPROACH %'s :	0.00%	27.06%	72.94%	0.00%					0.16%	97.66%	2.19%	0.00%	21.09%	0.00%	78.91%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	9	43	0	0	0	0	0	0	321	9	0	38	0	106	0	526
PEAK HR FACTOR :	0.000	0.375	0.632	0.000	0.000	0.000	0.000	0.000	0.000	0.922	0.450	0.000	0.864	0.000	0.883	0.000	0.913
		0.722								0.917				0.900			

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

SR 113/Lincoln Hwy S/O Vaughn Rd

Day: Wednesday
Date: 4/17/2019

City: Dixon
Project #: CA19_7140_003

DAILY TOTALS	NB	SB	EB	WB	Total
	7,462	9,198	0	0	16,660

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	10		20		0	0	30		12:00	130		141		0	0	271	
00:15	14		10		0	0	24		12:15	122		189		0	0	311	
00:30	12		6		0	0	18		12:30	122		174		0	0	296	
00:45	8	44	2	38	0	0	10	82	12:45	128	502	180	684	0	0	308	1186
01:00	13		18		0	0	31		13:00	131		145		0	0	276	
01:15	16		3		0	0	19		13:15	120		150		0	0	270	
01:30	15		10		0	0	25		13:30	119		125		0	0	244	
01:45	10	54	14	45	0	0	24	99	13:45	138	508	152	572	0	0	290	1080
02:00	15		8		0	0	23		14:00	123		173		0	0	296	
02:15	3		7		0	0	10		14:15	135		181		0	0	316	
02:30	8		15		0	0	23		14:30	109		140		0	0	249	
02:45	11	37	19	49	0	0	30	86	14:45	116	483	140	634	0	0	256	1117
03:00	7		16		0	0	23		15:00	139		134		0	0	273	
03:15	5		15		0	0	20		15:15	113		161		0	0	274	
03:30	3		17		0	0	20		15:30	125		230		0	0	355	
03:45	6	21	33	81	0	0	39	102	15:45	143	520	167	692	0	0	310	1212
04:00	8		39		0	0	47		16:00	170		163		0	0	333	
04:15	12		32		0	0	44		16:15	160		170		0	0	330	
04:30	17		46		0	0	63		16:30	138		167		0	0	305	
04:45	25	62	37	154	0	0	62	216	16:45	136	604	167	667	0	0	303	1271
05:00	23		68		0	0	91		17:00	154		198		0	0	352	
05:15	31		62		0	0	93		17:15	166		159		0	0	325	
05:30	62		67		0	0	129		17:30	144		139		0	0	283	
05:45	83	199	110	307	0	0	193	506	17:45	132	596	131	627	0	0	263	1223
06:00	44		86		0	0	130		18:00	135		128		0	0	263	
06:15	47		104		0	0	151		18:15	104		138		0	0	242	
06:30	69		116		0	0	185		18:30	106		104		0	0	210	
06:45	97	257	113	419	0	0	210	676	18:45	109	454	96	466	0	0	205	920
07:00	100		114		0	0	214		19:00	102		97		0	0	199	
07:15	106		139		0	0	245		19:15	73		109		0	0	182	
07:30	82		132		0	0	214		19:30	89		78		0	0	167	
07:45	138	426	136	521	0	0	274	947	19:45	111	375	77	361	0	0	188	736
08:00	111		131		0	0	242		20:00	97		68		0	0	165	
08:15	94		195		0	0	289		20:15	71		92		0	0	163	
08:30	94		143		0	0	237		20:30	75		81		0	0	156	
08:45	69	368	124	593	0	0	193	961	20:45	68	311	59	300	0	0	127	611
09:00	84		120		0	0	204		21:00	63		51		0	0	114	
09:15	99		127		0	0	226		21:15	47		34		0	0	81	
09:30	83		113		0	0	196		21:30	47		46		0	0	93	
09:45	84	350	147	507	0	0	231	857	21:45	62	219	35	166	0	0	97	385
10:00	83		125		0	0	208		22:00	44		29		0	0	73	
10:15	96		117		0	0	213		22:15	35		26		0	0	61	
10:30	89		138		0	0	227		22:30	23		25		0	0	48	
10:45	99	367	151	531	0	0	250	898	22:45	27	129	20	100	0	0	47	229
11:00	112		140		0	0	252		23:00	20		6		0	0	26	
11:15	137		153		0	0	290		23:15	22		17		0	0	39	
11:30	124		180		0	0	304		23:30	20		9		0	0	29	
11:45	120	493	167	640	0	0	287	1133	23:45	21	83	12	44	0	0	33	127
TOTALS		2678		3885				6563	TOTALS		4784		5313				10097
SPLIT %		40.8%		59.2%				39.4%	SPLIT %		47.4%		52.6%				60.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,462	9,198	0	0	16,660

AM Peak Hour	11:15	11:30					11:30		PM Peak Hour	15:45	15:30					15:30		
AM Pk Volume	511	677					1173		PM Pk Volume	611	730					1328		
Pk Hr Factor	0.932	0.896					0.943		Pk Hr Factor	0.899	0.793					0.935		
7 - 9 Volume	794	1114	0	0			1908		4 - 6 Volume	1200	1294	0	0			2494		
7 - 9 Peak Hour	07:15	07:45					07:45		4 - 6 Peak Hour	16:00	16:15					16:15		
7 - 9 Pk Volume	437	605	0	0			1042		4 - 6 Pk Volume	604	702	0	0			1290		
Pk Hr Factor	0.792	0.776	0.000	0.000			0.901		Pk Hr Factor	0.888	0.886	0.000	0.000			0.916		

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

SR 113/Lincoln Hwy S/O H St

Day: Tuesday
Date: 4/16/2019

City: Dixon
Project #: CA19_7140_014

DAILY TOTALS	NB	SB	EB	WB	Total
	7,052	6,699	0	0	13,751

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	3		5		0	0	8		12:00	106		99		0	0	205	
00:15	5		7		0	0	12		12:15	98		92		0	0	190	
00:30	9		7		0	0	16		12:30	98		87		0	0	185	
00:45	2	19	7	26	0	0	9	45	12:45	104	406	110	388	0	0	214	794
01:00	4		4		0	0	8		13:00	84		111		0	0	195	
01:15	4		3		0	0	7		13:15	113		96		0	0	209	
01:30	0		4		0	0	4		13:30	103		107		0	0	210	
01:45	4	12	2	13	0	0	6	25	13:45	120	420	106	420	0	0	226	840
02:00	3		2		0	0	5		14:00	125		86		0	0	211	
02:15	5		3		0	0	8		14:15	131		121		0	0	252	
02:30	2		7		0	0	9		14:30	150		150		0	0	300	
02:45	3	13	1	13	0	0	4	26	14:45	182	588	164	521	0	0	346	1109
03:00	6		4		0	0	10		15:00	165		136		0	0	301	
03:15	3		3		0	0	6		15:15	158		133		0	0	291	
03:30	12		3		0	0	15		15:30	135		129		0	0	264	
03:45	20	41	1	11	0	0	21	52	15:45	109	567	128	526	0	0	237	1093
04:00	10		1		0	0	11		16:00	119		144		0	0	263	
04:15	16		4		0	0	20		16:15	108		143		0	0	251	
04:30	23		3		0	0	26		16:30	146		152		0	0	298	
04:45	36	85	10	18	0	0	46	103	16:45	121	494	168	607	0	0	289	1101
05:00	20		14		0	0	34		17:00	142		130		0	0	272	
05:15	43		18		0	0	61		17:15	103		168		0	0	271	
05:30	55		14		0	0	69		17:30	126		170		0	0	296	
05:45	59	177	31	77	0	0	90	254	17:45	120	491	164	632	0	0	284	1123
06:00	49		23		0	0	72		18:00	124		142		0	0	266	
06:15	61		31		0	0	92		18:15	105		150		0	0	255	
06:30	57		44		0	0	101		18:30	127		120		0	0	247	
06:45	103	270	39	137	0	0	142	407	18:45	88	444	113	525	0	0	201	969
07:00	68		41		0	0	109		19:00	94		96		0	0	190	
07:15	93		96		0	0	189		19:15	84		102		0	0	186	
07:30	121		80		0	0	201		19:30	113		99		0	0	212	
07:45	134	416	107	324	0	0	241	740	19:45	72	363	83	380	0	0	155	743
08:00	160		158		0	0	318		20:00	89		69		0	0	158	
08:15	115		106		0	0	221		20:15	80		55		0	0	135	
08:30	86		82		0	0	168		20:30	60		80		0	0	140	
08:45	85	446	79	425	0	0	164	871	20:45	67	296	52	256	0	0	119	552
09:00	96		64		0	0	160		21:00	43		52		0	0	95	
09:15	101		84		0	0	185		21:15	45		40		0	0	85	
09:30	84		82		0	0	166		21:30	36		34		0	0	70	
09:45	106	387	138	368	0	0	244	755	21:45	37	161	44	170	0	0	81	331
10:00	124		83		0	0	207		22:00	21		19		0	0	40	
10:15	102		106		0	0	208		22:15	11		26		0	0	37	
10:30	125		114		0	0	239		22:30	20		33		0	0	53	
10:45	90	441	81	384	0	0	171	825	22:45	13	65	9	87	0	0	22	152
11:00	99		70		0	0	169		23:00	9		10		0	0	19	
11:15	96		90		0	0	186		23:15	7		7		0	0	14	
11:30	114		102		0	0	216		23:30	6		12		0	0	18	
11:45	114	423	93	355	0	0	207	778	23:45	5	27	7	36	0	0	12	63
TOTALS		2730		2151				**4881**	**TOTALS**		4322		4548				**8870**
SPLIT %		55.9%		44.1%				**35.5%**	**SPLIT %**		48.7%		51.3%				**64.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	7,052	6,699	0	0	13,751

AM Peak Hour	07:30		07:45					**07:30**	**PM Peak Hour**	14:30		17:15					**14:30**
AM Pk Volume	530		453					**981**	**PM Pk Volume**	655		644					**1238**
Pk Hr Factor	0.828		0.717					**0.771**	**Pk Hr Factor**	0.900		0.947					**0.895**
7 - 9 Volume	862		749		0	0		**1611**	**4 - 6 Volume**	985		1239		0	0		**2224**
7 - 9 Peak Hour	07:30		07:45					**07:30**	**4 - 6 Peak Hour**	16:15		16:45					**16:30**
7 - 9 Pk Volume	530		453		0	0		**981**	**4 - 6 Pk Volume**	517		636		0	0		**1130**
Pk Hr Factor	0.828		0.717		0.000	0.000		**0.771**	**Pk Hr Factor**	0.885		0.935		0.000	0.000		**0.948**

Prepared by National Data & Surveying Services

Pitt School Rd & W A St

Peak Hour Turning Movement Count

ID: 21-070024-001
City: Dixon

Day: Tuesday
Date: 03/02/2021

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Pitt School Rd — SOUTHBOUND

AM	33	34	62	0	104	AM
NOON	0	0	0	0	0	NOON
PM	54	39	113	0	226	PM

W A St — EASTBOUND

AM	NOON	PM	
176	0	230	
0	0	0	0
18	0	91	0
128	0	208	0
19	0	14	0

W A St — WESTBOUND

PM	NOON	AM	
97	0	59	0
160	0	128	0
13	0	6	0
0	0	0	0
328	0	195	

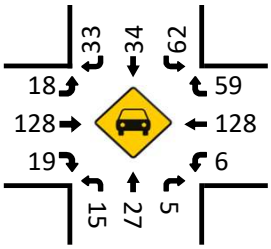
CONTROL: 4-Way Stop

TEV	534 AM	0 NOON	850 PM
PHF	0.91		0.92

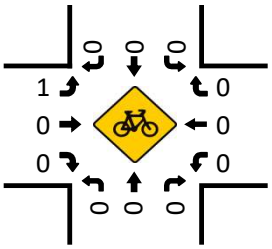
Pitt School Rd — NORTHBOUND

PM	66	0	16	38	7	PM
NOON	0	0	0	0	0	NOON
AM	59	0	15	27	5	AM

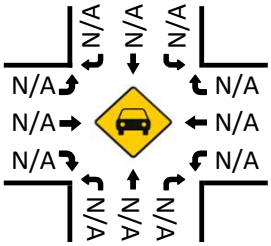
Total Vehicles (AM)



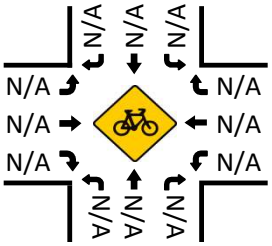
Bikes (AM)



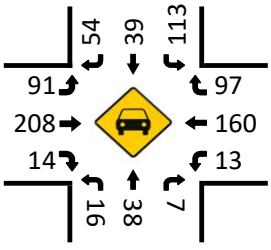
Total Vehicles (Noon)



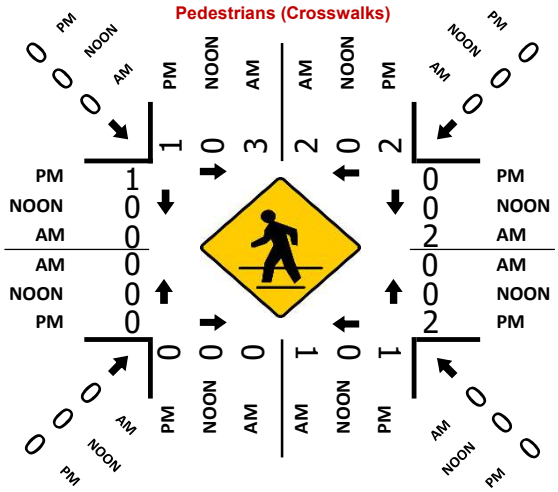
Bikes (NOON)



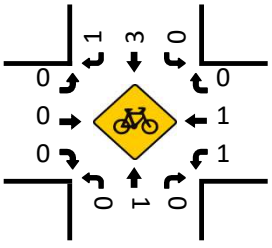
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

1st St & C St

Peak Hour Turning Movement Count

ID: 19-07141-004
City: Dixon

Day: Tuesday
Date: 04/16/2019

	PEAK HOURS	COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

1st St – SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	3	284	173	0	580
NOON	0	0	0	0	0
PM	0	519	135	0	512
	0	0	0	0	

C St – EASTBOUND

	AM	NOON	PM	
Departing	3	0	0	
U-Turn	0	0	0	0
Left	0	0	1	0
Thru	0	0	0	0
Right	0	0	0	0

C St – WESTBOUND

		PM	NOON	AM
Right	0	123	0	215
Thru	0	0	0	0
Left	0	14	0	14
U-Turn	0	0	0	0
Departing		206	0	245

1st St – NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
		0	0	0	0
PM	533	0	0	388	71
NOON	0	0	0	0	0
AM	298	0	0	365	72

CONTROL

0

	AM	NOON	PM
TEV	1126	0	1251
PHF	0.75		0.95

Total Vehicles (AM)

Approach	Movements
Southbound	3, 284, 173
Eastbound	0, 0, 0
Westbound	215, 0, 14
Northbound	0, 365, 72

HT (AM)

Approach	Movements
Southbound	0, 13, 1
Eastbound	0, 0, 0
Westbound	2, 0, 1
Northbound	0, 9, 2

Total Vehicles (Noon)

Approach	Movements
Southbound	N/A, N/A, N/A
Eastbound	N/A, N/A, N/A
Westbound	N/A, N/A, N/A
Northbound	N/A, N/A, N/A

HT (NOON)

Approach	Movements
Southbound	N/A, N/A, N/A
Eastbound	N/A, N/A, N/A
Westbound	N/A, N/A, N/A
Northbound	N/A, N/A, N/A

Total Vehicles (PM)

Approach	Movements
Southbound	0, 519, 135
Eastbound	1, 0, 0
Westbound	123, 0, 14
Northbound	0, 388, 71

HT (PM)

Approach	Movements
Southbound	0, 0, 1
Eastbound	0, 0, 0
Westbound	0, 0, 0
Northbound	0, 3, 0

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound	0	0	0
North	Westbound	0	0	0
West	Southbound	9	0	3
West	Northbound	3	0	4
East	Southbound	5	0	2
East	Northbound	9	0	0
South	Eastbound	14	0	0
South	Westbound	5	0	2
NW diagonal		0	0	0
NE diagonal		0	0	0
SW diagonal		0	0	0
SE diagonal		0	0	0

Prepared by National Data & Surveying Services

1st St & A St

Peak Hour Turning Movement Count

ID: 19-07141-007
City: Dixon

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

1st St — SOUTHBOUND

AM	30	196	29	0	418	AM
NOON	0	0	0	0	0	NOON
PM	30	372	73	0	445	PM

EASTBOUND (A St)

AM	NOON	PM	
424	0	267	
0	0	0	0
85	0	125	0
172	0	167	0
87	0	108	0
AM	NOON	PM	

CONTROL

0

TEV	1479 AM	0 NOON	1530 PM
PHF	0.83		0.98

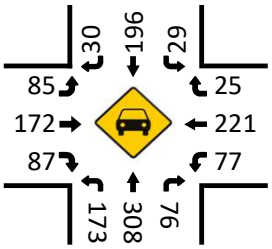
WESTBOUND (A St)

PM	NOON	AM	
0	0	0	0
39	0	25	0
126	0	221	0
60	0	77	0
0	0	0	0
278	0	277	
PM	NOON	AM	

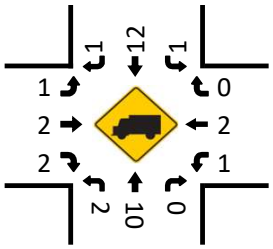
1st St — NORTHBOUND

PM	540	0	111	281	38	PM
NOON	0	0	0	0	0	NOON
AM	360	0	173	308	76	AM

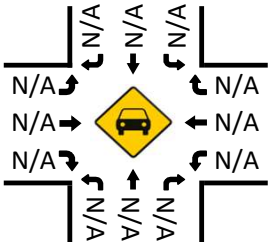
Total Vehicles (AM)



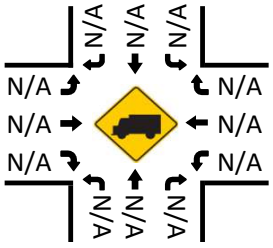
HT (AM)



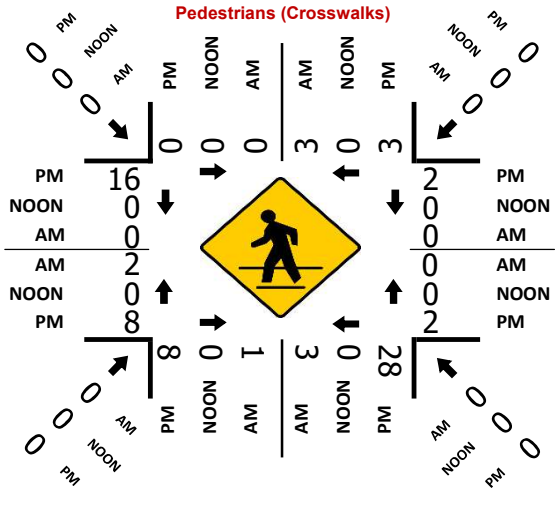
Total Vehicles (Noon)



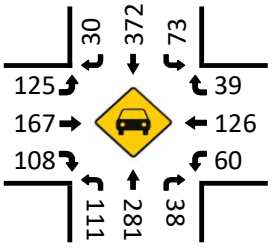
HT (NOON)



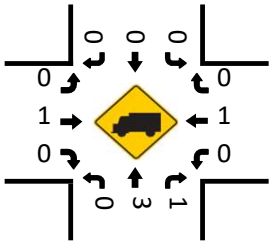
Pedestrians (Crosswalks)



Total Vehicles (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR 113 & Valley Glen Dr/Heritage Ln

Peak Hour Turning Movement Count

ID: 19-07141-009
City: Dixon

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

SR 113 — SOUTHBOUND

AM	28	236	13	0	352	AM
NOON	0	0	0	0	0	NOON
PM	103	179	26	0	342	PM

EASTBOUND — Valley Glen Dr/Heritage Ln

AM	NOON	PM
48	0	182
0	0	1
104	0	71
0	0	1
88	0	37

WESTBOUND — Valley Glen Dr/Heritage Ln

PM	NOON	AM
14	0	37
0	0	2
6	0	10
0	0	0
45	0	19

CONTROL

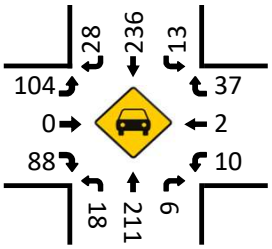
0

TEV	753 AM	0 NOON	791 PM
PHF	0.80		0.96

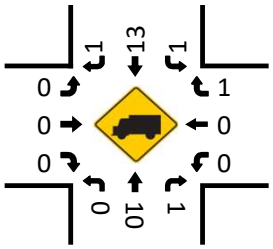
NORTHBOUND — SR 113

PM	222	0	78	257	18	PM
NOON	0	0	0	0	0	NOON
AM	334	0	18	211	6	AM

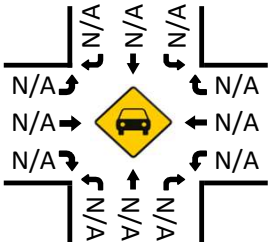
Total Vehicles (AM)



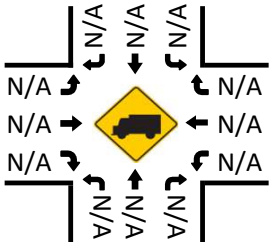
HT (AM)



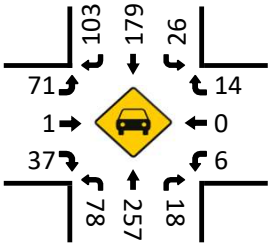
Total Vehicles (Noon)



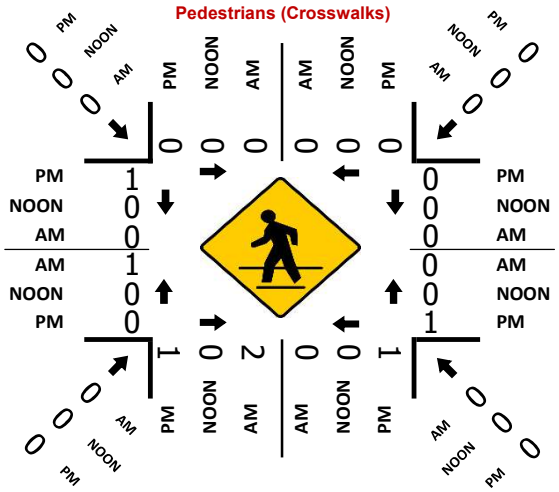
HT (NOON)



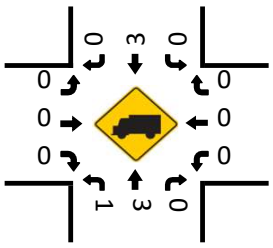
Total Vehicles (PM)



Pedestrians (Crosswalks)



HT (PM)



Prepared by National Data & Surveying Services

SR 113 & Parkway Blvd

Peak Hour Turning Movement Count

ID: 19-07141-010
City: Dixon

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

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

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SR 113 — SOUTHBOUND

AM	12	178	147	0	240	AM
NOON	0	0	0	0	0	NOON
PM	19	139	65	0	356	PM

EASTBOUND — Parkway Blvd

AM	NOON	PM	
19	0	34	
0	0	0	0
31	0	20	0
5	0	0	0
25	0	12	0
AM	NOON	PM	

WESTBOUND — Parkway Blvd

PM	NOON	AM	
82	0	84	0
0	0	3	0
26	0	40	0
0	0	0	0
98	0	208	
PM	NOON	AM	

CONTROL

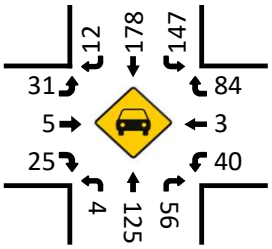
0

TEV	710	0	665
	AM	NOON	PM
PHF	0.71		0.96

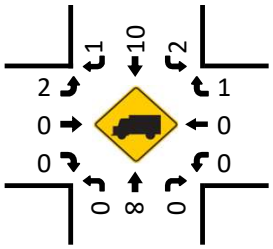
NORTHBOUND — SR 113

PM	177	0	15	254	33	PM
NOON	0	0	0	0	0	NOON
AM	243	0	4	125	56	AM

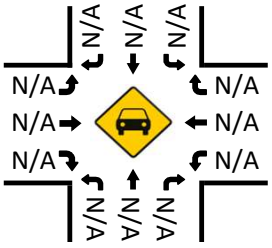
Total Vehicles (AM)



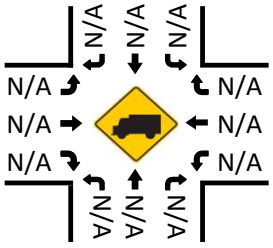
HT (AM)



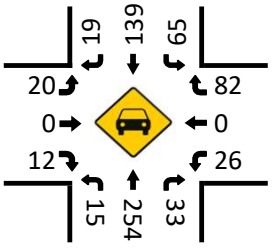
Total Vehicles (Noon)



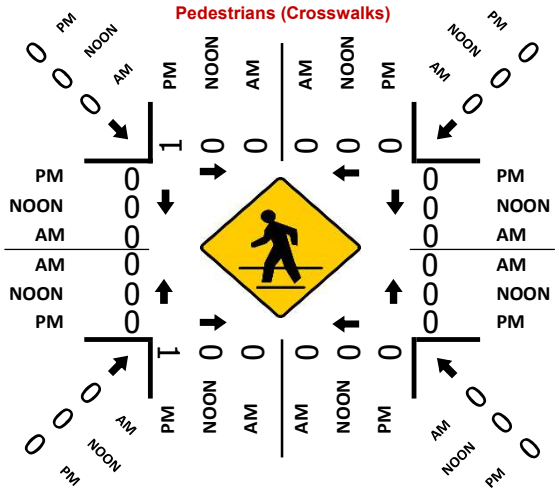
HT (NOON)



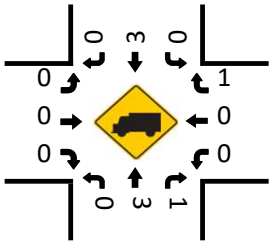
Total Vehicles (PM)



Pedestrians (Crosswalks)



HT (PM)



Prepared by National Data & Surveying Services

Porter St & A St

Peak Hour Turning Movement Count

ID: 19-07141-008
City: Dixon

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

Porter St — SOUTHBOUND

AM	25	51	60	0	123	AM
NOON	0	0	0	0	0	NOON
PM	60	69	96	0	188	PM

A St — EASTBOUND

AM	NOON	PM	
392	0	338	⇦
0	0	0	↶ 0
27	0	30	↱ 0
341	0	319	→ 0
5	0	2	↴ 0

CONTROL

0

TEV	1049 AM	0 NOON	1083 PM
PHF	0.85		0.89

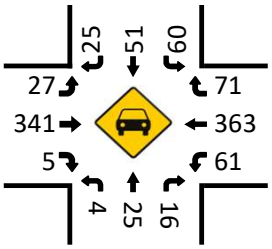
A St — WESTBOUND

PM	NOON	AM	
79	0	71	0 ↰
267	0	363	0 ←
59	0	61	0 ↰
0	0	0	0 ↶
427	0	417	⇨

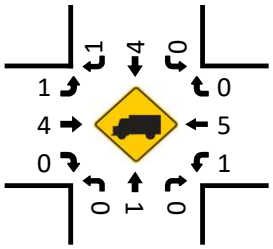
Porter St — NORTHBOUND

PM	130	0	11	79	12	PM
NOON	0	0	0	0	0	NOON
AM	117	0	4	25	16	AM

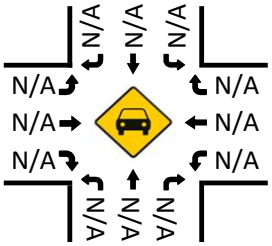
Total Vehicles (AM)



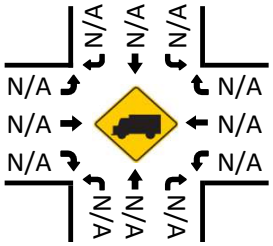
HT (AM)



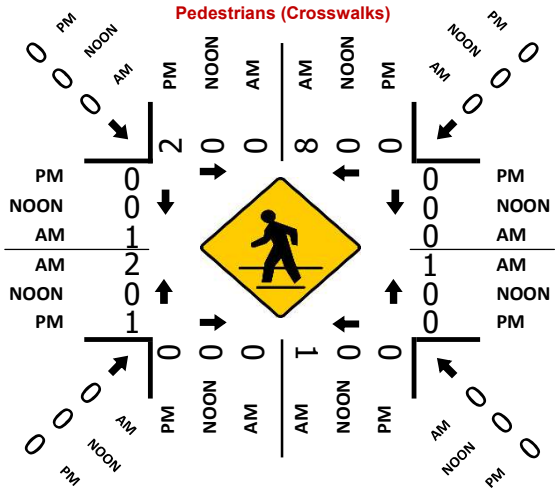
Total Vehicles (Noon)



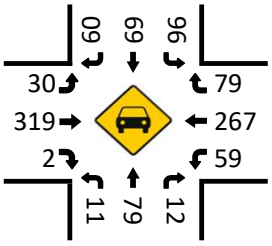
HT (NOON)



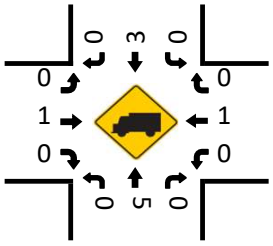
Pedestrians (Crosswalks)



Total Vehicles (PM)



HT (PM)



Prepared by National Data & Surveying Services

Jackson St & A St

Peak Hour Turning Movement Count

ID: 19-07141-002
City: Dixon

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	
AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Jackson St — SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	19	1	1	0	47
NOON	0	0	0	0	0
PM	78	2	8	0	41
	0	0	0	0	

A St — EASTBOUND

	AM	NOON	PM	
Departing	504	0	424	
U-Turn	0	0	0	0
Left	39	0	25	0
Through	317	0	354	0
Right	115	0	111	0

A St — WESTBOUND

		PM	NOON	AM
Right	0	7	0	4
Through	0	244	0	397
Left	0	7	0	11
U-Turn	0	0	0	0
Departing		423	0	347

Jackson St — NORTHBOUND

	Departing	U-Turn	Left	Through	Right
		0	0	0	0
PM	120	0	102	9	61
NOON	0	0	0	0	0
AM	127	0	88	4	29

CONTROL

0

	AM	NOON	PM
TEV	1025	0	1008
PHF	0.83		0.94

Total Vehicles (AM)

SB: 19, 1, 1; WB: 4, 397, 11; NB: 88, 4, 29; EB: 39, 317, 115

Total Vehicles (Noon)

SB: N/A, N/A, N/A; WB: N/A, N/A, N/A; NB: N/A, N/A, N/A; EB: N/A, N/A, N/A

Total Vehicles (PM)

SB: 78, 2, 8; WB: 7, 244, 7; NB: 102, 9, 61; EB: 25, 354, 111

HT (AM)

SB: 0, 0, 0; WB: 0, 5, 0; NB: 0, 1, 1; EB: 0, 4, 0

HT (NOON)

SB: N/A, N/A, N/A; WB: N/A, N/A, N/A; NB: N/A, N/A, N/A; EB: N/A, N/A, N/A

HT (PM)

SB: 0, 0, 0; WB: 0, 0, 0; NB: 0, 0, 0; EB: 0, 1, 0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North (westbound direction)	1	0	5
North (eastbound direction)	9	0	7
West (southbound direction)	0	0	1
West (northbound direction)	0	0	0
East (southbound direction)	1	0	2
East (northbound direction)	5	0	5
South (eastbound direction)	2	0	0
South (westbound direction)	0	0	2
Northwest diagonal	0	0	0
Northeast diagonal	0	0	0
Southwest diagonal	0	0	0
Southeast diagonal	0	0	0

Prepared by National Data & Surveying Services

Pitt School Rd & Porter Rd/Lincoln Hwy

Peak Hour Turning Movement Count

ID: 21-070024-002
City: Dixon

Day: Tuesday
Date: 03/02/2021

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

Pitt School Rd — SOUTHBOUND

	L	T	R	U	
AM	4	14	1	0	13 AM
NOON	0	0	0	0	0 NOON
PM	5	20	4	0	27 PM

EASTBOUND — Porter Rd/Lincoln Hwy

AM	NOON	PM		
71	0	79	⇦	
0	0	0	↶	0
1	0	4	↱	0
60	0	130	→	0
0	0	0	↴	0
AM	NOON	PM		

WESTBOUND — Porter Rd/Lincoln Hwy

PM	NOON	AM		
3	0	3	↰	0
73	0	66	←	0
29	0	16	↰	0
0	0	0	↰	0
179	0	72	⇨	
PM	NOON	AM		

NORTHBOUND — Pitt School Rd

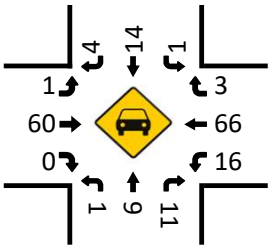
	L	T	R	U	
PM	49	0	1	20	45 PM
NOON	0	0	0	0	0 NOON
AM	30	0	1	9	11 AM

CONTROL

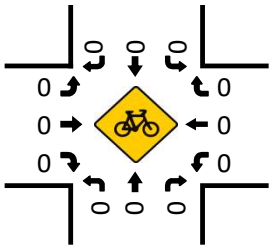
4-Way Stop

TEV	186 AM	0 NOON	334 PM
PHF	0.88		0.88

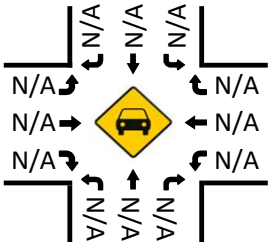
Total Vehicles (AM)



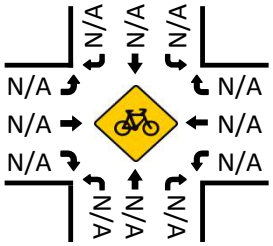
Bikes (AM)



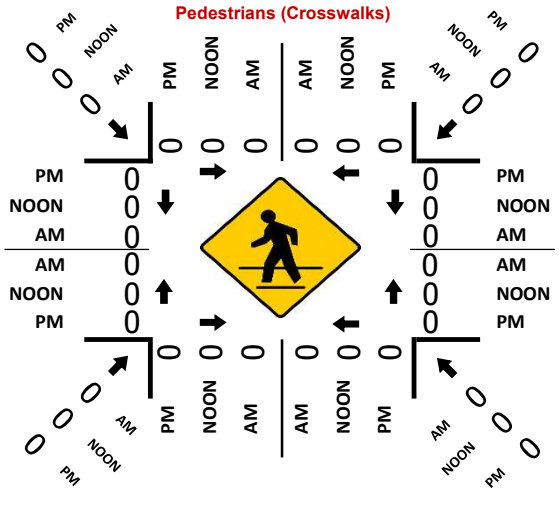
Total Vehicles (Noon)



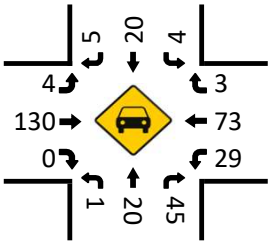
Bikes (NOON)



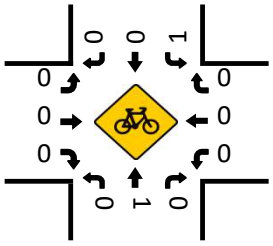
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Valley Glen Dr & Parkway Blvd

Peak Hour Turning Movement Count

ID: 21-070024-003
City: Dixon

Day: Tuesday
Date: 03/02/2021

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Valley Glen Dr — SOUTHBOUND

AM	0	3	29	1	10	AM
NOON	0	0	0	0	0	NOON
PM	0	1	20	1	30	PM

Parkway Blvd — EASTBOUND

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

Parkway Blvd — WESTBOUND

PM	NOON	AM
29	0	7
0	0	0
3	0	1
0	0	0
27	0	30

CONTROL

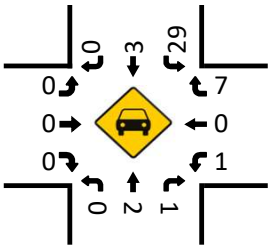
1-Way Stop(SB)

TEV	44 AM	0 NOON	61 PM
PHF	0.92		0.80

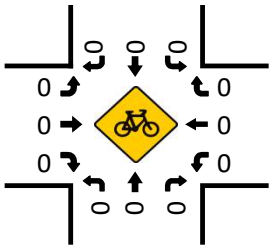
Valley Glen Dr — NORTHBOUND

PM	4	0	0	0	7	PM
NOON	0	0	0	0	0	NOON
AM	4	0	0	2	1	AM

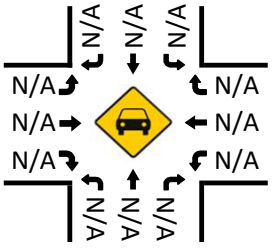
Total Vehicles (AM)



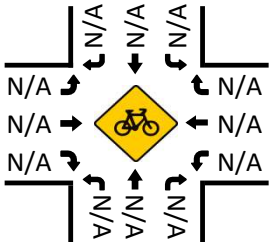
Bikes (AM)



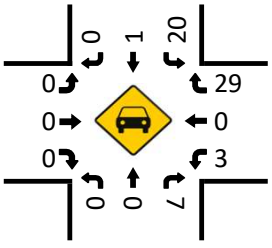
Total Vehicles (Noon)



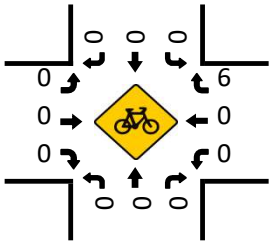
Bikes (NOON)



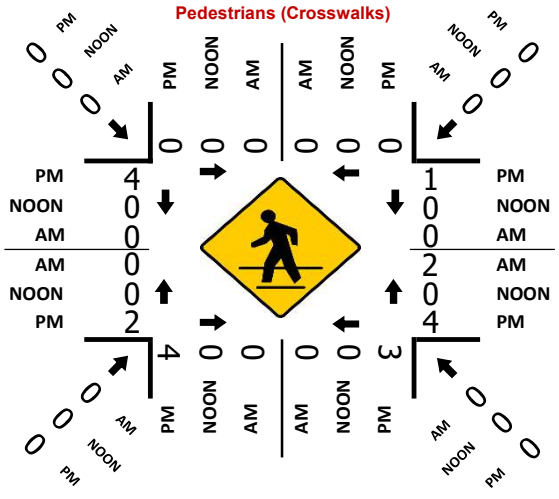
Total Vehicles (PM)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

Pedrick Rd & Vaughn Rd

Peak Hour Turning Movement Count

ID: 20-070204-001
City: Dixon

Day: Wednesday
Date: 12/2/2020

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

SOUTHBOUND (Pedrick Rd)

AM	35	72	1	0	112	AM
NOON	0	0	0	0	0	NOON
PM	55	93	4	0	151	PM

EASTBOUND (Vaughn Rd)

AM	NOON	PM	
58	0	101	⇦
0	0	0	↶ 0
24	0	45	↱ 0
20	0	53	→ 1
7	0	15	↴ 0

WESTBOUND (Vaughn Rd)

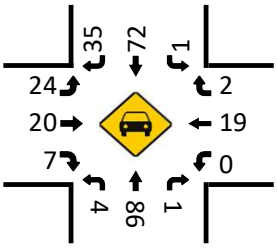
PM	NOON	AM	
10	0	2	0 ↰
32	0	19	1 ←
4	0	0	0 ↙
0	0	0	0 ↶
62	0	22	⇨

NORTHBOUND (Pedrick Rd)

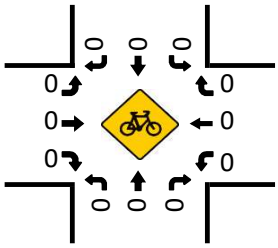
PM	112	0	14	96	5	PM
NOON	0	0	0	0	0	NOON
AM	79	0	4	86	1	AM

CONTROL			
4-Way Stop			
TEV	271 AM	0 NOON	426 PM
PHF	0.87		0.93

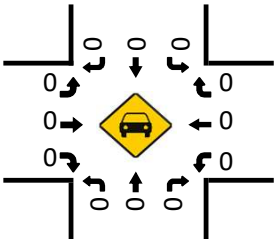
Totals (AM)



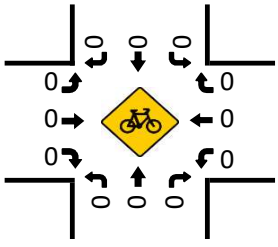
Total Bikes (AM)



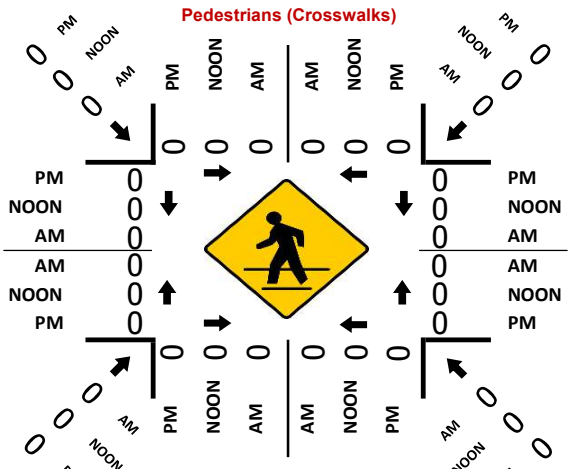
Totals (NOON)



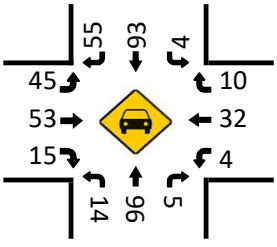
Total Bikes (NOON)



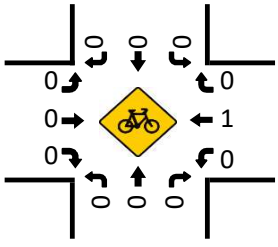
Pedestrians (Crosswalks)



Totals (PM)



Total Bikes (PM)



Peak Hour Volumes used for scaling from Dixon General Plan (2019-2020 Counts)

			2019 Volumes				2020 Volumes (Covid)				Change			
	Count #	Intersection	NB	SB	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB
AM	10	Pedrick Rd N/O Vaughn Rd	155	181	-	-	136	134	-	-	12%	26%		
	9	Pedrick Rd S/O Vaughn Rd	108	83	-	-	82	77	-	-	24%	7%		
	5	Vaugn Rd E/O Pedrick Rd	-	-	40	44	-	-	37	41			8%	7%
	11	Pitt School Rd S/O F St/Fairbanks	295	197	-	-	210	200	-	-	29%	-2%		
	12	Pitt School S/O A St/Hillview	46	60	-	-	86	64	-	-	-87%	-7%		
	8	A St E/O Evans Rd	-	-	221	304	-	-	214	209			3%	31%
	21	A St E/O Pitt School	-	-	377	332	-	-	257	263			32%	21%
	7	Porter Rd W/O Pitt School	86	103	-	-	84	77	-	-	2%	25%		
	33	Pitt School S/O Midway	40	73	-	-			-	-	100%	100%		
	26	Porter W/O Almond	88	107			98	87			-11%	19%		
		Total	818	804	638	680	696	639	508	513	15%	21%	20%	25%

			2019 Volumes				2020 Volumes (Covid)				Change			
	Count #	Intersection	NB	SB	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB
PM	10	Pedrick Rd N/O Vaughn Rd	181	206	-	-	227	190	-	-	-25%	8%		
	9	Pedrick Rd S/O Vaughn Rd	109	157	-	-	130	118	-	-	-19%	25%		
	5	Vaugn Rd E/O Pedrick Rd	-	-	68	59	-	-	53	44			22%	25%
	11	Pitt School Rd S/O F St/Fairbanks	369	270	-	-	242	239	-	-	34%	11%		
	12	Pitt School S/O A St/Hillview	83	48	-	-	94	80	-	-	-13%	-67%		
	8	A St E/O Evans Rd	-	-	335	259	-	-	311	245			7%	5%
	21	A St E/O Pitt School	-	-	323	349	-	-	339	291			-5%	17%
	7	Porter Rd W/O Pitt School	168	83	-	-	137	78	-	-	18%	6%		
	33	Pitt School S/O Midway	103	67	-	-			-	-	100%	100%		
	26	Porter W/O Almond	165	112			157	112		-	5%	0%		
		Total	1178	943	726	667	987	817	703	580	16%	13%	3%	13%

+ means 2020 is lower

Large increase, no scaling factor

Large NB decrease but low volume means greater variability

Wherever we see growth, don't adjust; just use 2020 approach volume

Large NB decrease possibly due to closure s/o A Street, Pitt School closed

2020 TMC Scaled AM Counts														
Count ID	Intersection	**PHF**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
1	Pedrick Rd & Vaughn Rd	0.92	5	107	1	1	91	44	26	22	8	0	20	2
2	Pitt School Rd & A St	0.92	20	28	7	82	35	43	19	132	20	7	155	71
3	Pitt School Rd & Porter Rd	0.92	1	9	11	1	17	5	1	61	0	16	83	3
2020 TMC Scaled PM Counts														
1	Pedrick Rd & Vaughn Rd	0.92	24	154	8	8	194	104	85	104	36	6	68	20
2	Pitt School Rd & A St	0.92	17	40	7	125	43	60	97	223	15	15	187	113
3	Pitt School Rd & Porter Rd	0.92	1	20	47	4	20	5	5	153	0	29	77	3

2020/2021 Turning Movement Counts (Covid) AM														
Count ID	Intersection	**PHF**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
1	Pedrick Rd & Vaughn Rd	0.87	4	86	1	1	72	35	24	20	7	0	19	2
2	Pitt School Rd & A St	0.91	15	27	5	62	34	33	18	128	19	6	128	59
3	Pitt School Rd & Porter Rd	0.88	1	9	11	1	14	4	1	60	0	16	66	3
2020/2021 Turning Movement Counts (Covid) PM														
1	Pedrick Rd & Vaughn Rd	0.92	24	154	8	7	180	96	85	85	29	5	54	16
2	Pitt School Rd & A St	0.92	16	38	7	113	39	54	91	208	14	13	160	97
3	Pitt School Rd & Porter Rd	0.88	1	20	45	4	20	5	4	130	0	29	73	3

TMC Scale Factor (Peak Hour) AM														
Count ID	Intersection	**PHF**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
1	Pedrick Rd & Vaughn Rd	-	1.24	1.24	1.24	1.26	1.26	1.26	1.08	1.08	1.08	1.07	1.07	1.07
2	Pitt School Rd & A St	-	1.31	1.03	1.32	1.32	1.03	1.31	1.03	1.03	1.03	1.21	1.21	1.21
3	Pitt School Rd & Porter Rd	-	1.00	1.00	1.00	1.19	1.19	1.25	1.02	1.02	1.02	1.00	1.25	1.00
TMC Scale Factor (Peak Hour) PM														
1	Pedrick Rd & Vaughn Rd	-	1.00	1.00	1.00	1.08	1.08	1.08	1.00	1.22	1.25	1.25	1.25	1.25
2	Pitt School Rd & A St	-	1.05	1.05	1.05	1.11	1.11	1.11	1.07	1.07	1.07	1.17	1.17	1.17
3	Pitt School Rd & Porter Rd	-	1.00	1.00	1.05	1.00	1.00	1.00	1.18	1.18	1.18	1.00	1.06	1.00

2020/2021 Turning Movement Counts (Covid) scaled up using the TMC Scale Factor (based on peak hour volume differences from 2019) for 2020 TMC Scaled Counts used for Existing Conditions

APPENDIX B. EXISTING SYNCHRO REPORTS

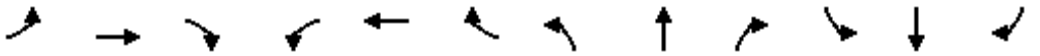
Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	14	0	215	0	365	72	173	284	3
Future Vol, veh/h	0	0	0	14	0	215	0	365	72	173	284	3
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	12	12	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	90	-	-	105	-	-	70	-	-
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	5	2
Mvmt Flow	0	0	0	15	0	234	0	397	78	188	309	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1240	1174	323	1147	1136	448	312	0	0	487	0	0
Stage 1	687	687	-	448	448	-	-	-	-	-	-	-
Stage 2	553	487	-	699	688	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	152	192	718	176	202	611	1248	-	-	1076	-	-
Stage 1	437	447	-	590	573	-	-	-	-	-	-	-
Stage 2	517	550	-	430	447	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	81	156	710	149	164	604	1248	-	-	1064	-	-
Mov Cap-2 Maneuver	81	156	-	149	164	-	-	-	-	-	-	-
Stage 1	437	368	-	584	567	-	-	-	-	-	-	-
Stage 2	317	544	-	350	368	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	15.8	0	3.4
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1248	-	-	-	149	604	1064	-	-
HCM Lane V/C Ratio	-	-	-	-	0.102	0.387	0.177	-	-
HCM Control Delay (s)	0	-	-	0	31.9	14.7	9.1	-	-
HCM Lane LOS	A	-	-	A	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	1.8	0.6	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	172	87	77	221	25	173	308	76	29	196	30
Future Volume (veh/h)	85	172	87	77	221	25	173	308	76	29	196	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	92	187	95	84	240	27	188	335	83	32	213	33
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	5	2
Cap, veh/h	132	280	142	125	391	44	241	456	113	65	334	52
Arrive On Green	0.07	0.24	0.24	0.07	0.24	0.24	0.14	0.32	0.32	0.04	0.22	0.22
Sat Flow, veh/h	1781	1160	589	1781	1647	185	1781	1443	357	1781	1539	238
Grp Volume(v), veh/h	92	0	282	84	0	267	188	0	418	32	0	246
Grp Sat Flow(s),veh/h/ln	1781	0	1750	1781	0	1832	1781	0	1800	1781	0	1777
Q Serve(g_s), s	2.4	0.0	6.9	2.2	0.0	6.2	4.9	0.0	9.8	0.8	0.0	6.0
Cycle Q Clear(g_c), s	2.4	0.0	6.9	2.2	0.0	6.2	4.9	0.0	9.8	0.8	0.0	6.0
Prop In Lane	1.00		0.34	1.00		0.10	1.00		0.20	1.00		0.13
Lane Grp Cap(c), veh/h	132	0	422	125	0	435	241	0	569	65	0	386
V/C Ratio(X)	0.70	0.00	0.67	0.67	0.00	0.61	0.78	0.00	0.73	0.50	0.00	0.64
Avail Cap(c_a), veh/h	599	0	955	599	0	1000	599	0	983	599	0	970
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	16.4	21.6	0.0	16.2	19.9	0.0	14.5	22.5	0.0	16.9
Incr Delay (d2), s/veh	2.5	0.0	0.7	2.3	0.0	0.5	2.1	0.0	0.7	2.2	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	1.0	0.0	2.5	0.9	0.0	2.3	1.9	0.0	3.5	0.4	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.0	0.0	17.0	23.9	0.0	16.7	22.0	0.0	15.2	24.7	0.0	17.6
LnGrp LOS	C	A	B	C	A	B	C	A	B	C	A	B
Approach Vol, veh/h		374			351			606			278	
Approach Delay, s/veh		18.8			18.4			17.3			18.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	19.1	7.4	15.5	10.4	14.3	7.5	15.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	2.8	11.8	4.2	8.9	6.9	8.0	4.4	8.2
Green Ext Time (p_c), s	0.0	1.5	0.1	1.0	0.2	0.8	0.1	0.9

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

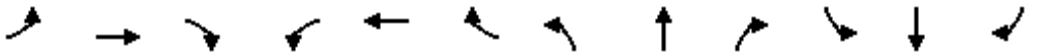
Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	39	313	115	11	392	4	88	3	28	1	1	19
Future Vol, veh/h	39	313	115	11	392	4	88	3	28	1	1	19
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	42	340	125	12	426	4	96	3	30	1	1	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	436	0	0	467	0	0	962	949	412	968	1009	444
Stage 1	-	-	-	-	-	-	489	489	-	458	458	-
Stage 2	-	-	-	-	-	-	473	460	-	510	551	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1124	-	-	1094	-	-	235	260	640	233	240	614
Stage 1	-	-	-	-	-	-	561	549	-	583	567	-
Stage 2	-	-	-	-	-	-	572	566	-	546	515	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1118	-	-	1092	-	-	212	241	635	206	222	605
Mov Cap-2 Maneuver	-	-	-	-	-	-	212	241	-	206	222	-
Stage 1	-	-	-	-	-	-	531	519	-	550	556	-
Stage 2	-	-	-	-	-	-	538	555	-	486	487	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	33.4	12.3
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	252	1118	-	-	1092	-	-	515
HCM Lane V/C Ratio	0.513	0.038	-	-	0.011	-	-	0.044
HCM Control Delay (s)	33.4	8.3	0	-	8.3	0	-	12.3
HCM Lane LOS	D	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	2.7	0.1	-	-	0	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	341	5	61	363	71	4	25	16	60	51	25
Future Volume (veh/h)	27	341	5	61	363	71	4	25	16	60	51	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	29	371	5	66	395	77	4	27	17	65	55	27
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	5	2	2	5	2
Cap, veh/h	62	515	7	118	582	492	10	168	106	117	255	125
Arrive On Green	0.03	0.28	0.28	0.07	0.31	0.31	0.01	0.16	0.16	0.07	0.22	0.22
Sat Flow, veh/h	1781	1841	25	1781	1870	1580	1781	1041	655	1781	1151	565
Grp Volume(v), veh/h	29	0	376	66	395	77	4	0	44	65	0	82
Grp Sat Flow(s),veh/h/ln	1781	0	1866	1781	1870	1580	1781	0	1696	1781	0	1717
Q Serve(g_s), s	0.6	0.0	6.8	1.3	6.9	1.3	0.1	0.0	0.8	1.3	0.0	1.5
Cycle Q Clear(g_c), s	0.6	0.0	6.8	1.3	6.9	1.3	0.1	0.0	0.8	1.3	0.0	1.5
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.39	1.00		0.33
Lane Grp Cap(c), veh/h	62	0	522	118	582	492	10	0	273	117	0	380
V/C Ratio(X)	0.47	0.00	0.72	0.56	0.68	0.16	0.41	0.00	0.16	0.56	0.00	0.22
Avail Cap(c_a), veh/h	761	0	1295	761	1298	1097	761	0	1177	761	0	1192
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	12.2	17.0	11.3	9.3	18.6	0.0	13.5	17.0	0.0	11.9
Incr Delay (d2), s/veh	2.0	0.0	0.7	1.5	0.5	0.1	10.1	0.0	0.1	1.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.3	0.5	2.2	0.4	0.1	0.0	0.3	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	12.9	18.5	11.8	9.4	28.7	0.0	13.6	18.5	0.0	12.0
LnGrp LOS	B	A	B	B	B	A	C	A	B	B	A	B
Approach Vol, veh/h		405			538			48			147	
Approach Delay, s/veh		13.4			12.3			14.9			14.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	14.5	6.5	10.0	5.3	15.7	4.2	12.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.3	8.8	3.3	2.8	2.6	8.9	2.1	3.5
Green Ext Time (p_c), s	0.0	1.4	0.0	0.1	0.0	1.6	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	132	20	7	155	71	20	28	7	82	35	43
Future Vol, veh/h	19	132	20	7	155	71	20	28	7	82	35	43
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	143	22	8	168	77	22	30	8	89	38	47
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	10.4	9.9	9.5	9.6
HCM LOS	B	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	80%	0%	87%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	20%	0%	13%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	35	19	152	7	155	71	82	35	43
LT Vol	20	0	19	0	7	0	0	82	0	0
Through Vol	0	28	0	132	0	155	0	0	35	0
RT Vol	0	7	0	20	0	0	71	0	0	43
Lane Flow Rate	22	38	21	165	8	168	77	89	38	47
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.041	0.065	0.036	0.264	0.013	0.27	0.109	0.161	0.063	0.069
Departure Headway (Hd)	6.762	6.117	6.35	5.755	6.268	5.766	5.063	6.495	5.992	5.289
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	530	586	565	625	574	627	712	553	598	678
Service Time	4.495	3.85	4.079	3.484	3.968	3.466	2.763	4.225	3.722	3.018
HCM Lane V/C Ratio	0.042	0.065	0.037	0.264	0.014	0.268	0.108	0.161	0.064	0.069
HCM Control Delay	9.8	9.3	9.3	10.5	9.1	10.6	8.4	10.5	9.1	8.4
HCM Lane LOS	A	A	A	B	A	B	A	B	A	A
HCM 95th-tile Q	0.1	0.2	0.1	1.1	0	1.1	0.4	0.6	0.2	0.2

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	61	0	16	83	3	1	9	11	1	17	5
Future Vol, veh/h	1	61	0	16	83	3	1	9	11	1	17	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	66	0	17	90	3	1	10	12	1	18	5
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	7.5	7.7	7.4	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	0%	2%	16%	4%
Vol Thru, %	90%	0%	98%	81%	74%
Vol Right, %	0%	100%	0%	3%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	11	62	102	23
LT Vol	1	0	1	16	1
Through Vol	9	0	61	83	17
RT Vol	0	11	0	3	5
Lane Flow Rate	11	12	67	111	25
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.015	0.014	0.077	0.126	0.029
Departure Headway (Hd)	4.908	4.156	4.104	4.082	4.241
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	721	848	867	875	831
Service Time	2.697	1.945	2.157	2.125	2.333
HCM Lane V/C Ratio	0.015	0.014	0.077	0.127	0.03
HCM Control Delay	7.8	7	7.5	7.7	7.5
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0	0	0.2	0.4	0.1

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	22	8	0	20	2	5	107	1	1	91	44
Future Vol, veh/h	26	22	8	0	20	2	5	107	1	1	91	44
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
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	2	5	2
Mvmt Flow	28	24	9	0	22	2	5	116	1	1	99	48
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.7	8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	46%	0%	1%
Vol Thru, %	95%	39%	91%	67%
Vol Right, %	1%	14%	9%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	113	56	22	136
LT Vol	5	26	0	1
Through Vol	107	22	20	91
RT Vol	1	8	2	44
Lane Flow Rate	123	61	24	148
Geometry Grp	1	1	1	1
Degree of Util (X)	0.143	0.077	0.03	0.164
Departure Headway (Hd)	4.197	4.556	4.539	3.982
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	841	791	793	885
Service Time	2.29	2.557	2.541	2.075
HCM Lane V/C Ratio	0.146	0.077	0.03	0.167
HCM Control Delay	8	7.9	7.7	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.2	0.1	0.6

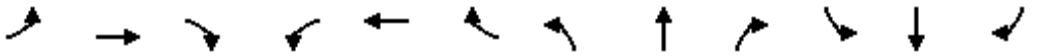
Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	0	88	10	2	37	18	211	6	13	236	28
Future Vol, veh/h	104	0	88	10	2	37	18	211	6	13	236	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	120	180	-	-	160	-	-
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	113	0	96	11	2	40	20	229	7	14	257	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	456	576	144	430	588	118	287	0	0	236	0	0
Stage 1	300	300	-	273	273	-	-	-	-	-	-	-
Stage 2	156	276	-	157	315	-	-	-	-	-	-	-
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	488	426	877	509	420	912	1272	-	-	1328	-	-
Stage 1	684	664	-	710	683	-	-	-	-	-	-	-
Stage 2	831	680	-	829	654	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	455	414	877	444	409	912	1272	-	-	1328	-	-
Mov Cap-2 Maneuver	455	414	-	444	409	-	-	-	-	-	-	-
Stage 1	673	657	-	699	672	-	-	-	-	-	-	-
Stage 2	779	669	-	731	647	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	10.2	0.6	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1272	-	-	455	877	438	912	1328	-	-
HCM Lane V/C Ratio	0.015	-	-	0.248	0.109	0.03	0.044	0.011	-	-
HCM Control Delay (s)	7.9	-	-	15.5	9.6	13.5	9.1	7.7	-	-
HCM Lane LOS	A	-	-	C	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	0.4	0.1	0.1	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	5	25	40	3	84	4	125	56	147	178	12
Future Volume (veh/h)	31	5	25	40	3	84	4	125	56	147	178	12
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	34	5	27	43	3	91	4	136	61	160	193	13
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	73	30	164	89	241	395	10	243	109	415	586	497
Arrive On Green	0.04	0.12	0.12	0.05	0.13	0.13	0.01	0.20	0.20	0.12	0.31	0.31
Sat Flow, veh/h	1781	254	1370	1781	1870	1585	1781	1223	549	3456	1870	1585
Grp Volume(v), veh/h	34	0	32	43	3	91	4	0	197	160	193	13
Grp Sat Flow(s),veh/h/ln	1781	0	1624	1781	1870	1585	1781	0	1772	1728	1870	1585
Q Serve(g_s), s	0.6	0.0	0.6	0.7	0.0	1.4	0.1	0.0	3.1	1.3	2.5	0.2
Cycle Q Clear(g_c), s	0.6	0.0	0.6	0.7	0.0	1.4	0.1	0.0	3.1	1.3	2.5	0.2
Prop In Lane	1.00		0.84	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	73	0	195	89	241	395	10	0	352	415	586	497
V/C Ratio(X)	0.47	0.00	0.16	0.48	0.01	0.23	0.41	0.00	0.56	0.39	0.33	0.03
Avail Cap(c_a), veh/h	285	0	1609	683	2272	2115	285	0	1982	663	2152	1824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	12.4	14.5	11.9	9.4	15.5	0.0	11.3	12.7	8.2	7.4
Incr Delay (d2), s/veh	4.6	0.0	0.4	4.0	0.0	0.3	25.5	0.0	1.4	0.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.2	0.3	0.0	0.4	0.1	0.0	0.9	0.4	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.3	0.0	12.7	18.5	11.9	9.7	41.0	0.0	12.7	13.3	8.6	7.5
LnGrp LOS	B	A	B	B	B	A	D	A	B	B	A	A
Approach Vol, veh/h		66			137			201			366	
Approach Delay, s/veh		16.1			12.5			13.3			10.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	10.2	5.6	7.8	4.2	13.8	5.3	8.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	35.0	12.0	31.0	5.0	36.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	3.3	5.1	2.7	2.6	2.1	4.5	2.6	3.4
Green Ext Time (p_c), s	0.1	1.1	0.0	0.1	0.0	1.1	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

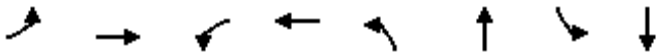
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	14	0	123	0	388	71	135	519	0
Future Vol, veh/h	1	0	0	14	0	123	0	388	71	135	519	0
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	12	12	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	90	-	-	105	-	-	70	-	-
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	1	0	0	15	0	134	0	422	77	147	564	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1386	1369	576	1343	1331	473	564	0	0	511	0	0
Stage 1	858	858	-	473	473	-	-	-	-	-	-	-
Stage 2	528	511	-	870	858	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	120	146	517	129	154	591	1008	-	-	1054	-	-
Stage 1	352	374	-	572	558	-	-	-	-	-	-	-
Stage 2	534	537	-	346	374	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	83	124	511	112	131	584	1008	-	-	1042	-	-
Mov Cap-2 Maneuver	83	124	-	112	131	-	-	-	-	-	-	-
Stage 1	352	321	-	566	552	-	-	-	-	-	-	-
Stage 2	412	531	-	294	321	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48.9	16	0	1.9
HCM LOS	E	C		

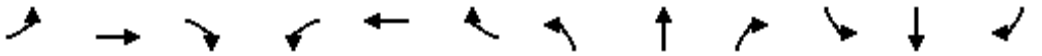
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1008	-	-	83	112	584	1042	-	-
HCM Lane V/C Ratio	-	-	-	0.013	0.136	0.229	0.141	-	-
HCM Control Delay (s)	0	-	-	48.9	42.1	13	9	-	-
HCM Lane LOS	A	-	-	E	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.9	0.5	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	136	299	65	179	121	346	79	437
v/c Ratio	0.49	0.68	0.32	0.47	0.46	0.52	0.36	0.69
Control Delay	38.7	32.9	39.1	31.2	38.8	24.4	39.1	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	32.9	39.1	31.2	38.8	24.4	39.1	31.4
Queue Length 50th (ft)	59	116	29	69	53	120	35	171
Queue Length 95th (ft)	133	227	76	149	121	266	88	#413
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	482	780	482	799	482	836	482	816
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.38	0.13	0.22	0.25	0.41	0.16	0.54

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	167	108	60	126	39	111	281	38	73	372	30
Future Volume (veh/h)	125	167	108	60	126	39	111	281	38	73	372	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	182	117	65	137	42	121	305	41	79	404	33
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	176	258	166	104	279	85	157	522	70	116	513	42
Arrive On Green	0.10	0.24	0.24	0.06	0.20	0.20	0.09	0.32	0.32	0.07	0.30	0.30
Sat Flow, veh/h	1781	1054	678	1781	1364	418	1781	1611	217	1781	1704	139
Grp Volume(v), veh/h	136	0	299	65	0	179	121	0	346	79	0	437
Grp Sat Flow(s),veh/h/ln	1781	0	1732	1781	0	1783	1781	0	1828	1781	0	1843
Q Serve(g_s), s	3.9	0.0	8.2	1.9	0.0	4.6	3.5	0.0	8.2	2.3	0.0	11.3
Cycle Q Clear(g_c), s	3.9	0.0	8.2	1.9	0.0	4.6	3.5	0.0	8.2	2.3	0.0	11.3
Prop In Lane	1.00		0.39	1.00		0.23	1.00		0.12	1.00		0.08
Lane Grp Cap(c), veh/h	176	0	424	104	0	364	157	0	592	116	0	555
V/C Ratio(X)	0.77	0.00	0.71	0.62	0.00	0.49	0.77	0.00	0.58	0.68	0.00	0.79
Avail Cap(c_a), veh/h	547	0	864	547	0	890	547	0	912	547	0	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	18.0	24.0	0.0	18.3	23.2	0.0	14.7	23.8	0.0	16.7
Incr Delay (d2), s/veh	2.7	0.0	0.8	2.3	0.0	0.4	3.0	0.0	0.3	2.6	0.0	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	1.6	0.0	3.0	0.8	0.0	1.8	1.5	0.0	3.0	1.0	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	0.0	18.8	26.2	0.0	18.7	26.2	0.0	15.0	26.4	0.0	17.6
LnGrp LOS	C	A	B	C	A	B	C	A	B	C	A	B
Approach Vol, veh/h		435			244			467			516	
Approach Delay, s/veh		20.9			20.7			17.9			19.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	20.9	7.0	16.7	8.6	19.7	9.2	14.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	4.3	10.2	3.9	10.2	5.5	13.3	5.9	6.6
Green Ext Time (p_c), s	0.1	1.2	0.0	1.1	0.1	1.5	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	351	111	7	244	7	102	9	61	8	2	78
Future Vol, veh/h	25	351	111	7	244	7	102	9	61	8	2	78
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	27	382	121	8	265	8	111	10	66	9	2	85

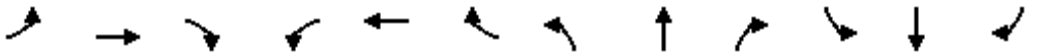
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	279	0	0	505	0	0	838	794	452	833	850	285
Stage 1	-	-	-	-	-	-	499	499	-	291	291	-
Stage 2	-	-	-	-	-	-	339	295	-	542	559	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1284	-	-	1060	-	-	286	321	608	288	298	754
Stage 1	-	-	-	-	-	-	554	544	-	717	672	-
Stage 2	-	-	-	-	-	-	676	669	-	525	511	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1277	-	-	1058	-	-	242	306	603	240	284	743
Mov Cap-2 Maneuver	-	-	-	-	-	-	242	306	-	240	284	-
Stage 1	-	-	-	-	-	-	536	527	-	691	662	-
Stage 2	-	-	-	-	-	-	586	659	-	442	495	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	32.4	12.1
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	312	1277	-	-	1058	-	-	605
HCM Lane V/C Ratio	0.599	0.021	-	-	0.007	-	-	0.158
HCM Control Delay (s)	32.4	7.9	0	-	8.4	0	-	12.1
HCM Lane LOS	D	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	3.6	0.1	-	-	0	-	-	0.6

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	349	64	290	86	12	99	104	140
v/c Ratio	0.13	0.60	0.23	0.43	0.14	0.05	0.31	0.32	0.23
Control Delay	28.2	21.8	27.3	16.2	4.0	28.9	25.4	26.6	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	21.8	27.3	16.2	4.0	28.9	25.4	26.6	13.5
Queue Length 50th (ft)	10	96	19	51	0	4	27	30	20
Queue Length 95th (ft)	39	210	62	164	23	21	81	87	83
Internal Link Dist (ft)		263		667			657		264
Turn Bay Length (ft)	70		50		190	55		75	
Base Capacity (vph)	719	1105	719	1110	962	719	1086	719	1031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.32	0.09	0.26	0.09	0.02	0.09	0.14	0.14

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	319	2	59	267	79	11	79	12	96	69	60
Future Volume (veh/h)	30	319	2	59	267	79	11	79	12	96	69	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	347	2	64	290	86	12	86	13	104	75	65
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	69	483	3	116	535	452	28	255	38	157	214	186
Arrive On Green	0.04	0.26	0.26	0.06	0.29	0.29	0.02	0.16	0.16	0.09	0.23	0.23
Sat Flow, veh/h	1781	1858	11	1781	1870	1580	1781	1583	239	1781	920	797
Grp Volume(v), veh/h	33	0	349	64	290	86	12	0	99	104	0	140
Grp Sat Flow(s),veh/h/ln	1781	0	1868	1781	1870	1580	1781	0	1823	1781	0	1717
Q Serve(g_s), s	0.7	0.0	6.4	1.3	4.9	1.5	0.3	0.0	1.8	2.1	0.0	2.6
Cycle Q Clear(g_c), s	0.7	0.0	6.4	1.3	4.9	1.5	0.3	0.0	1.8	2.1	0.0	2.6
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.13	1.00		0.46
Lane Grp Cap(c), veh/h	69	0	486	116	535	452	28	0	293	157	0	400
V/C Ratio(X)	0.48	0.00	0.72	0.55	0.54	0.19	0.43	0.00	0.34	0.66	0.00	0.35
Avail Cap(c_a), veh/h	759	0	1244	759	1295	1094	759	0	1262	759	0	1189
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	12.6	17.0	11.3	10.1	18.3	0.0	14.0	16.6	0.0	12.0
Incr Delay (d2), s/veh	1.9	0.0	0.8	1.5	0.3	0.1	3.8	0.0	0.3	1.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.2	0.5	1.6	0.4	0.1	0.0	0.6	0.8	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	0.0	13.4	18.6	11.6	10.2	22.2	0.0	14.2	18.4	0.0	12.2
LnGrp LOS	B	A	B	B	B	B	C	A	B	B	A	B
Approach Vol, veh/h		382			440			111			244	
Approach Delay, s/veh		13.9			12.4			15.1			14.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	13.8	7.3	10.0	5.5	14.7	4.6	12.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	25.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.3	8.4	4.1	3.8	2.7	6.9	2.3	4.6
Green Ext Time (p_c), s	0.0	1.2	0.1	0.3	0.0	1.2	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	223	15	15	187	113	17	40	7	125	43	60
Future Vol, veh/h	97	223	15	15	187	113	17	40	7	125	43	60
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	105	242	16	16	203	123	18	43	8	136	47	65
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	13.8	12	11	11.7
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	85%	0%	94%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	15%	0%	6%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	47	97	238	15	187	113	125	43	60
LT Vol	17	0	97	0	15	0	0	125	0	0
Through Vol	0	40	0	223	0	187	0	0	43	0
RT Vol	0	7	0	15	0	0	113	0	0	60
Lane Flow Rate	18	51	105	259	16	203	123	136	47	65
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.041	0.104	0.205	0.463	0.032	0.373	0.201	0.281	0.09	0.113
Departure Headway (Hd)	7.914	7.301	6.998	6.449	7.116	6.611	5.904	7.438	6.933	6.225
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	450	487	510	556	501	541	604	481	514	572
Service Time	5.71	5.096	4.77	4.221	4.892	4.387	3.679	5.218	4.713	4.004
HCM Lane V/C Ratio	0.04	0.105	0.206	0.466	0.032	0.375	0.204	0.283	0.091	0.114
HCM Control Delay	11.1	11	11.6	14.7	10.1	13.3	10.2	13.1	10.4	9.8
HCM Lane LOS	B	B	B	B	B	B	B	B	B	A
HCM 95th-tile Q	0.1	0.3	0.8	2.4	0.1	1.7	0.7	1.1	0.3	0.4

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	153	0	29	77	3	1	20	47	4	20	5
Future Vol, veh/h	5	153	0	29	77	3	1	20	47	4	20	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	166	0	32	84	3	1	22	51	4	22	5
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.5	8.2	7.7	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	0%	3%	27%	14%
Vol Thru, %	95%	0%	97%	71%	69%
Vol Right, %	0%	100%	0%	3%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	47	158	109	29
LT Vol	1	0	5	29	4
Through Vol	20	0	153	77	20
RT Vol	0	47	0	3	5
Lane Flow Rate	23	51	172	118	32
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.033	0.064	0.206	0.145	0.041
Departure Headway (Hd)	5.244	4.516	4.32	4.404	4.706
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	685	795	833	817	762
Service Time	2.962	2.233	2.331	2.416	2.726
HCM Lane V/C Ratio	0.034	0.064	0.206	0.144	0.042
HCM Control Delay	8.1	7.5	8.5	8.2	7.9
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.8	0.5	0.1

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	104	36	6	68	20	24	154	8	8	194	104
Future Vol, veh/h	85	104	36	6	68	20	24	154	8	8	194	104
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
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	2	5	2
Mvmt Flow	92	113	39	7	74	22	26	167	9	9	211	113
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.8	9.8	10.8	12.4
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	38%	6%	3%
Vol Thru, %	83%	46%	72%	63%
Vol Right, %	4%	16%	21%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	186	225	94	306
LT Vol	24	85	6	8
Through Vol	154	104	68	194
RT Vol	8	36	20	104
Lane Flow Rate	202	245	102	333
Geometry Grp	1	1	1	1
Degree of Util (X)	0.304	0.373	0.161	0.466
Departure Headway (Hd)	5.421	5.496	5.668	5.044
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	661	653	631	715
Service Time	3.463	3.535	3.716	3.08
HCM Lane V/C Ratio	0.306	0.375	0.162	0.466
HCM Control Delay	10.8	11.8	9.8	12.4
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.3	1.7	0.6	2.5

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	71	1	37	6	0	14	78	257	18	26	179	103
Future Vol, veh/h	71	1	37	6	0	14	78	257	18	26	179	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	120	180	-	-	160	-	-
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	77	1	40	7	0	15	85	279	20	28	195	112

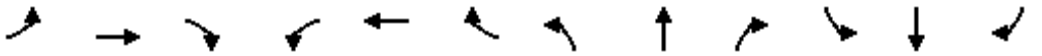
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	617	776	154	613	822	150	307	0	0	299	0	0
Stage 1	307	307	-	459	459	-	-	-	-	-	-	-
Stage 2	310	469	-	154	363	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
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	374	327	864	377	307	870	1250	-	-	1259	-	-
Stage 1	678	660	-	551	565	-	-	-	-	-	-	-
Stage 2	675	559	-	833	623	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	343	298	864	334	280	870	1250	-	-	1259	-	-
Mov Cap-2 Maneuver	343	298	-	334	280	-	-	-	-	-	-	-
Stage 1	632	645	-	514	527	-	-	-	-	-	-	-
Stage 2	618	521	-	775	609	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	11.2	1.8	0.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1250	-	-	342	864	334	870	1259	-	-
HCM Lane V/C Ratio	0.068	-	-	0.229	0.047	0.02	0.017	0.022	-	-
HCM Control Delay (s)	8.1	-	-	18.6	9.4	16	9.2	7.9	-	-
HCM Lane LOS	A	-	-	C	A	C	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	0.1	0.1	0.1	0.1	-	-

Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	22	13	28	89	16	312	71	151	21
v/c Ratio	0.08	0.01	0.08	0.12	0.05	0.31	0.11	0.09	0.02
Control Delay	24.9	0.0	22.2	0.3	24.9	12.8	21.6	9.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	0.0	22.2	0.3	24.9	12.8	21.6	9.2	0.0
Queue Length 50th (ft)	2	0	2	0	1	21	3	0	0
Queue Length 95th (ft)	37	0	41	0	30	237	42	116	0
Internal Link Dist (ft)		724				533		637	
Turn Bay Length (ft)	80				350		320		
Base Capacity (vph)	291	1472	697	756	291	1605	677	1636	1407
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.01	0.04	0.12	0.05	0.19	0.10	0.09	0.01

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	12	26	0	82	15	254	33	65	139	19
Future Volume (veh/h)	20	0	12	26	0	82	15	254	33	65	139	19
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	22	0	13	28	0	89	16	276	36	71	151	21
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	50	0	168	62	210	295	37	440	57	255	607	514
Arrive On Green	0.03	0.00	0.11	0.03	0.00	0.11	0.02	0.27	0.27	0.07	0.32	0.32
Sat Flow, veh/h	1781	0	1585	1781	1870	1585	1781	1621	211	3456	1870	1585
Grp Volume(v), veh/h	22	0	13	28	0	89	16	0	312	71	151	21
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	1585	1781	0	1832	1728	1870	1585
Q Serve(g_s), s	0.4	0.0	0.2	0.5	0.0	1.5	0.3	0.0	4.6	0.6	1.8	0.3
Cycle Q Clear(g_c), s	0.4	0.0	0.2	0.5	0.0	1.5	0.3	0.0	4.6	0.6	1.8	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	50	0	168	62	210	295	37	0	497	255	607	514
V/C Ratio(X)	0.44	0.00	0.08	0.46	0.00	0.30	0.43	0.00	0.63	0.28	0.25	0.04
Avail Cap(c_a), veh/h	287	0	1581	688	2286	2054	287	0	2063	667	2166	1836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	0.0	12.5	14.7	0.0	10.9	15.0	0.0	9.9	13.6	7.7	7.2
Incr Delay (d2), s/veh	6.1	0.0	0.2	5.2	0.0	0.6	7.8	0.0	1.3	0.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.2	0.0	0.4	0.2	0.0	1.3	0.2	0.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	0.0	12.7	19.9	0.0	11.5	22.8	0.0	11.3	14.2	7.9	7.2
LnGrp LOS	C	A	B	B	A	B	C	A	B	B	A	A
Approach Vol, veh/h		35			117			328			243	
Approach Delay, s/veh		17.9			13.5			11.8			9.7	
Approach LOS		B			B			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	12.4	5.1	7.3	4.6	14.1	4.9	7.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	35.0	12.0	31.0	5.0	36.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	2.6	6.6	2.5	2.2	2.3	3.8	2.4	3.5
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0	0.8	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	74	43	229	47	15
Future Vol, veh/h	9	74	43	229	47	15
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	85	49	263	54	17
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8	8.4	8.2
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	0%	76%
Vol Thru, %	89%	16%	0%
Vol Right, %	0%	84%	24%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	83	272	62
LT Vol	9	0	47
Through Vol	74	43	0
RT Vol	0	229	15
Lane Flow Rate	95	313	71
Geometry Grp	1	1	1
Degree of Util (X)	0.114	0.315	0.094
Departure Headway (Hd)	4.319	3.625	4.754
Convergence, Y/N	Yes	Yes	Yes
Cap	817	975	758
Service Time	2.416	1.712	2.754
HCM Lane V/C Ratio	0.116	0.321	0.094
HCM Control Delay	8	8.4	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	1.4	0.3

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	0	118	2	18	0	100	0	8	13	0	0	0
Future Vol, veh/h	0	118	2	18	0	100	0	8	13	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	0	-	-	16979	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	130	2	20	0	110	0	9	14	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	-	0	0	-	131	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	-	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	0	760	919
Stage 1	0	-	-	0	788	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	919
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	919	-	-
HCM Lane V/C Ratio	0.025	-	-
HCM Control Delay (s)	9	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	68	42	93	340	15	116
Future Vol, veh/h	68	42	93	340	15	116
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	48	106	386	17	132
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	14.4	9.1
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	11%	0%	21%
Vol Thru, %	0%	62%	79%
Vol Right, %	89%	38%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	131	110	433
LT Vol	15	0	93
Through Vol	0	68	340
RT Vol	116	42	0
Lane Flow Rate	149	125	492
Geometry Grp	1	1	1
Degree of Util (X)	0.199	0.16	0.612
Departure Headway (Hd)	4.812	4.606	4.478
Convergence, Y/N	Yes	Yes	Yes
Cap	743	775	802
Service Time	2.861	2.657	2.517
HCM Lane V/C Ratio	0.201	0.161	0.613
HCM Control Delay	9.1	8.5	14.4
HCM Lane LOS	A	A	B
HCM 95th-tile Q	0.7	0.6	4.3

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	154	8	34	218	2	30
Future Vol, veh/h	154	8	34	218	2	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	167	9	37	237	2	33

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	193	156	0	0	274	0
Stage 1	156	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	796	890	-	-	1289	-
Stage 1	872	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	794	890	-	-	1289	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	835	1289	-
HCM Lane V/C Ratio	-	-	0.211	0.002	-
HCM Control Delay (s)	-	-	10.5	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	99	96	66	46	127	219	164	81	57	122	4
Future Vol, veh/h	1	99	96	66	46	127	219	164	81	57	122	4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	111	108	74	52	143	246	184	91	64	137	4
Number of Lanes	0	1	0	1	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	3	1
HCM Control Delay	16.1	11.6	15.2	13.5
HCM LOS	C	B	C	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	1%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	51%	0%	100%	0%	0%	97%
Vol Right, %	0%	0%	100%	49%	0%	0%	100%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	219	164	81	196	66	46	127	57	126
LT Vol	219	0	0	1	66	0	0	57	0
Through Vol	0	164	0	99	0	46	0	0	122
RT Vol	0	0	81	96	0	0	127	0	4
Lane Flow Rate	246	184	91	220	74	52	143	64	142
Geometry Grp	8	8	8	8	7	7	7	8	8
Degree of Util (X)	0.517	0.361	0.16	0.452	0.16	0.104	0.26	0.147	0.305
Departure Headway (Hd)	7.558	7.049	6.337	7.396	7.78	7.27	6.557	8.288	7.753
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	477	510	565	487	461	493	548	432	463
Service Time	5.301	4.792	4.08	5.145	5.526	5.017	4.303	6.044	5.509
HCM Lane V/C Ratio	0.516	0.361	0.161	0.452	0.161	0.105	0.261	0.148	0.307
HCM Control Delay	18.2	13.7	10.3	16.1	12	10.9	11.6	12.5	13.9
HCM Lane LOS	C	B	B	C	B	B	B	B	B
HCM 95th-tile Q	2.9	1.6	0.6	2.3	0.6	0.3	1	0.5	1.3

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	0	121	0	316	1	0	0	0	0	0	51
Future Vol, veh/h	37	0	121	0	316	1	0	0	0	0	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16965	-	-	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	40	0	132	0	343	1	0	0	0	0	0	55

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	344	0	-	-	-	0			-	-	344
Stage 1	-	-	-	-	-	-			-	-	-
Stage 2	-	-	-	-	-	-			-	-	-
Critical Hdwy	4.12	-	-	-	-	-			-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-			-	-	3.318
Pot Cap-1 Maneuver	1215	-	0	0	-	-			0	0	699
Stage 1	-	-	0	0	-	-			0	0	-
Stage 2	-	-	0	0	-	-			0	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1215	-	-	-	-	-			-	0	699
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	8.1	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1215	-	-	-	699
HCM Lane V/C Ratio	0.033	-	-	-	0.079
HCM Control Delay (s)	8.1	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	408	4	0	0	143	314	1	0	159	8
Future Vol, veh/h	2	1	408	4	0	0	143	314	1	0	159	8
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	150	-	-	-	425	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	474	5	0	0	166	365	1	0	185	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	888	888	-	888	892	366	194	0	0	-	-	0
Stage 1	190	190	-	698	698	-	-	-	-	-	-	-
Stage 2	698	698	-	190	194	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	264	283	0	264	281	679	1379	-	-	0	-	-
Stage 1	812	743	0	431	442	-	-	-	-	0	-	-
Stage 2	431	442	0	812	740	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	240	249	-	239	247	679	1379	-	-	-	-	-
Mov Cap-2 Maneuver	240	249	-	239	247	-	-	-	-	-	-	-
Stage 1	715	743	-	379	389	-	-	-	-	-	-	-
Stage 2	379	389	-	811	740	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20	20.4	2.5	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1379	-	-	243	-	239	-	-
HCM Lane V/C Ratio	0.121	-	-	0.014	-	0.019	-	-
HCM Control Delay (s)	8	-	-	20	0	20.4	-	-
HCM Lane LOS	A	-	-	C	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	51	72	100	92	23	50	112	30	70	45	28
Future Vol, veh/h	18	51	72	100	92	23	50	112	30	70	45	28
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	55	78	109	100	25	54	122	33	76	49	30
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.4	10.9	10.1	9.6
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	13%	47%	100%	0%
Vol Thru, %	0%	79%	36%	43%	0%	62%
Vol Right, %	0%	21%	51%	11%	0%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	142	141	215	70	73
LT Vol	50	0	18	100	70	0
Through Vol	0	112	51	92	0	45
RT Vol	0	30	72	23	0	28
Lane Flow Rate	54	154	153	234	76	79
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.095	0.242	0.215	0.339	0.135	0.123
Departure Headway (Hd)	6.304	5.647	5.052	5.223	6.375	5.596
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	570	636	714	692	563	641
Service Time	4.032	3.376	3.06	3.228	4.106	3.327
HCM Lane V/C Ratio	0.095	0.242	0.214	0.338	0.135	0.123
HCM Control Delay	9.7	10.2	9.4	10.9	10.1	9.1
HCM Lane LOS	A	B	A	B	B	A
HCM 95th-tile Q	0.3	0.9	0.8	1.5	0.5	0.4

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	23	13	8	2	41	70	42	12	27	130	49
Future Vol, veh/h	89	23	13	8	2	41	70	42	12	27	130	49
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	92	24	13	8	2	42	72	43	12	28	134	51
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9	7.9	8.8	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	71%	16%	100%	0%
Vol Thru, %	0%	78%	18%	4%	0%	73%
Vol Right, %	0%	22%	10%	80%	0%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	54	125	51	27	179
LT Vol	70	0	89	8	27	0
Through Vol	0	42	23	2	0	130
RT Vol	0	12	13	41	0	49
Lane Flow Rate	72	56	129	53	28	185
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.114	0.078	0.176	0.066	0.043	0.252
Departure Headway (Hd)	5.68	5.02	4.914	4.493	5.61	4.914
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	630	712	729	794	638	729
Service Time	3.422	2.762	2.948	2.535	3.348	2.652
HCM Lane V/C Ratio	0.114	0.079	0.177	0.067	0.044	0.254
HCM Control Delay	9.2	8.2	9	7.9	8.6	9.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.3	0.6	0.2	0.1	1

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	110	77	174	83	38
Future Vol, veh/h	5	110	77	174	83	38
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	115	80	181	86	40
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.3	8.6	8.6
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	69%
Vol Thru, %	96%	31%	0%
Vol Right, %	0%	69%	31%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	115	251	121
LT Vol	5	0	83
Through Vol	110	77	0
RT Vol	0	174	38
Lane Flow Rate	120	261	126
Geometry Grp	1	1	1
Degree of Util (X)	0.15	0.287	0.164
Departure Headway (Hd)	4.505	3.958	4.681
Convergence, Y/N	Yes	Yes	Yes
Cap	798	910	766
Service Time	2.525	1.975	2.707
HCM Lane V/C Ratio	0.15	0.287	0.164
HCM Control Delay	8.3	8.6	8.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	1.2	0.6

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	321	9	38	0	106	0	9	43	0	0	0
Future Vol, veh/h	0	321	9	38	0	106	0	9	43	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	0	-	-	16979	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	353	10	42	0	116	0	10	47	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	-	0	0	-	358	358
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	-	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	0	568	686
Stage 1	0	-	-	0	628	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	686
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s	0	10.7
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	686	-	-
HCM Lane V/C Ratio	0.083	-	-
HCM Control Delay (s)	10.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	146	51	112	247	21	336
Future Vol, veh/h	146	51	112	247	21	336
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	54	118	260	22	354
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.7	14.8	13
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	6%	0%	31%
Vol Thru, %	0%	74%	69%
Vol Right, %	94%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	357	197	359
LT Vol	21	0	112
Through Vol	0	146	247
RT Vol	336	51	0
Lane Flow Rate	376	207	378
Geometry Grp	1	1	1
Degree of Util (X)	0.512	0.307	0.556
Departure Headway (Hd)	4.908	5.335	5.301
Convergence, Y/N	Yes	Yes	Yes
Cap	733	674	680
Service Time	2.943	3.371	3.33
HCM Lane V/C Ratio	0.513	0.307	0.556
HCM Control Delay	13	10.7	14.8
HCM Lane LOS	B	B	B
HCM 95th-tile Q	3	1.3	3.4

Intersection	
Int Delay, s/veh	6.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	256	4	57	197	24	109
Future Vol, veh/h	256	4	57	197	24	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	288	4	64	221	27	122

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	351	175	0	0	285	0
Stage 1	175	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	646	868	-	-	1277	-
Stage 1	855	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	631	868	-	-	1277	-
Mov Cap-2 Maneuver	631	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	1.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	641	1277	-
HCM Lane V/C Ratio	-	-	0.456	0.021	-
HCM Control Delay (s)	-	-	15.2	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.4	0.1	-

Intersection	
Intersection Delay, s/veh	59.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	273	116	143	57	155	190	144	166	117	232	34
Future Vol, veh/h	9	273	116	143	57	155	190	144	166	117	232	34
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	307	130	161	64	174	213	162	187	131	261	38
Number of Lanes	0	1	0	1	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	3	1
HCM Control Delay	158.4	19	24.3	39.2
HCM LOS	F	C	C	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	2%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	69%	0%	100%	0%	0%	87%
Vol Right, %	0%	0%	100%	29%	0%	0%	100%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	190	144	166	398	143	57	155	117	266
LT Vol	190	0	0	9	143	0	0	117	0
Through Vol	0	144	0	273	0	57	0	0	232
RT Vol	0	0	166	116	0	0	155	0	34
Lane Flow Rate	213	162	187	447	161	64	174	131	299
Geometry Grp	8	8	8	8	7	7	7	8	8
Degree of Util (X)	0.606	0.437	0.468	1.239	0.438	0.166	0.416	0.38	0.816
Departure Headway (Hd)	11.119	10.591	9.852	9.973	10.568	10.041	9.303	11.387	10.76
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	327	343	367	367	344	359	390	318	338
Service Time	8.819	8.291	7.552	7.673	8.268	7.741	7.003	9.087	8.46
HCM Lane V/C Ratio	0.651	0.472	0.51	1.218	0.468	0.178	0.446	0.412	0.885
HCM Control Delay	29.5	21.3	20.9	158.4	21.3	14.7	18.5	20.9	47.3
HCM Lane LOS	D	C	C	F	C	B	C	C	E
HCM 95th-tile Q	3.7	2.1	2.4	19.4	2.1	0.6	2	1.7	7

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	0	209	0	421	4	0	0	0	0	0	71
Future Vol, veh/h	69	0	209	0	421	4	0	0	0	0	0	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16965	-	-	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	75	0	227	0	458	4	0	0	0	0	0	77

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	462	0	-	-	-	0			-	-	460
Stage 1	-	-	-	-	-	-			-	-	-
Stage 2	-	-	-	-	-	-			-	-	-
Critical Hdwy	4.12	-	-	-	-	-			-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-			-	-	3.318
Pot Cap-1 Maneuver	1099	-	0	0	-	-			0	0	601
Stage 1	-	-	0	0	-	-			0	0	-
Stage 2	-	-	0	0	-	-			0	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1099	-	-	-	-	-			-	0	601
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	8.5	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1099	-	-	-	601
HCM Lane V/C Ratio	0.068	-	-	-	0.128
HCM Control Delay (s)	8.5	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	478	1	0	0	268	447	0	0	188	12
Future Vol, veh/h	8	1	478	1	0	0	268	447	0	0	188	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	150	-	-	-	425	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1	493	1	0	0	276	461	0	0	194	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1213	1213	-	1214	1219	461	206	0	-	-	-	0
Stage 1	200	200	-	1013	1013	-	-	-	-	-	-	-
Stage 2	1013	1013	-	201	206	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	159	182	0	158	180	600	1365	-	0	0	-	-
Stage 1	802	736	0	288	316	-	-	-	0	0	-	-
Stage 2	288	316	0	801	731	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	134	145	-	133	144	600	1365	-	-	-	-	-
Mov Cap-2 Maneuver	134	145	-	133	144	-	-	-	-	-	-	-
Stage 1	640	736	-	230	252	-	-	-	-	-	-	-
Stage 2	230	252	-	800	731	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33.6	32.3	3.1	0
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1365	-	135	-	133	-	-
HCM Lane V/C Ratio	0.202	-	0.069	-	0.008	-	-
HCM Control Delay (s)	8.3	-	33.6	0	32.3	-	-
HCM Lane LOS	A	-	D	A	D	-	-
HCM 95th %tile Q(veh)	0.8	-	0.2	-	0	-	-

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	51	96	75	77	17	86	118	34	76	41	36
Future Vol, veh/h	37	51	96	75	77	17	86	118	34	76	41	36
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	54	102	80	82	18	91	126	36	81	44	38
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.1	10.4	10.3	9.6
HCM LOS	B	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	20%	44%	100%	0%
Vol Thru, %	0%	78%	28%	46%	0%	53%
Vol Right, %	0%	22%	52%	10%	0%	47%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	86	152	184	169	76	77
LT Vol	86	0	37	75	76	0
Through Vol	0	118	51	77	0	41
RT Vol	0	34	96	17	0	36
Lane Flow Rate	91	162	196	180	81	82
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.16	0.253	0.277	0.27	0.144	0.127
Departure Headway (Hd)	6.3	5.635	5.095	5.406	6.428	5.589
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	570	639	705	665	559	642
Service Time	4.028	3.362	3.123	3.436	4.158	3.318
HCM Lane V/C Ratio	0.16	0.254	0.278	0.271	0.145	0.128
HCM Control Delay	10.2	10.3	10.1	10.4	10.2	9.1
HCM Lane LOS	B	B	B	B	B	A
HCM 95th-tile Q	0.6	1	1.1	1.1	0.5	0.4

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	108	61	7	16	0	54	97	60	25	16	126	68
Future Vol, veh/h	108	61	7	16	0	54	97	60	25	16	126	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	114	64	7	17	0	57	102	63	26	17	133	72
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.1	8.4	9.4	10
HCM LOS	B	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	61%	23%	100%	0%
Vol Thru, %	0%	71%	35%	0%	0%	65%
Vol Right, %	0%	29%	4%	77%	0%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	85	176	70	16	194
LT Vol	97	0	108	16	16	0
Through Vol	0	60	61	0	0	126
RT Vol	0	25	7	54	0	68
Lane Flow Rate	102	89	185	74	17	204
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.168	0.13	0.265	0.099	0.028	0.292
Departure Headway (Hd)	5.923	5.211	5.155	4.816	5.909	5.156
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	601	682	693	736	602	692
Service Time	3.701	2.988	3.222	2.899	3.684	2.931
HCM Lane V/C Ratio	0.17	0.13	0.267	0.101	0.028	0.295
HCM Control Delay	9.9	8.8	10.1	8.4	8.9	10.1
HCM Lane LOS	A	A	B	A	A	B
HCM 95th-tile Q	0.6	0.4	1.1	0.3	0.1	1.2

APPENDIX C. FUTURE SYNCHRO REPORTS

TABLE 1: FUTURE (2040) INTERSECTION OPERATIONS

	INTERSECTION	BASELINE SCENARIO		SCENARIO A		SCENARIO B	
		DELAY (S)	LOS	DELAY (S)	LOS	DELAY (S)	LOS
AM PEAK HOUR							
1C	PEDERICK RD/ VAUGHN RD	1 / 11	A / B	9	A	1 / 11	A / B
2B	FIRST ST/ C ST	5 / 39	A / E	5 / 40	A / E	5 / 40	A / E
2C	ADAMS ST/ PORTER ST/ A ST	14	B	14	B	14	B
2F	JACKSON ST/ A ST	8 / 63	A / F	12 / 103	B / F	6 / 48	A / E
2G	FIRST ST/ A ST	19	B	21	C	19	B
3B	PITT SCHOOL RD/ PORTER ST	8	A	8	A	8	A
3C	PITT SCHOOL RD/ A ST	13	B	13	B	13	B
PM PEAK HOUR							
1C	PEDERICK RD/ VAUGHN RD	3 / 16	A / C	12	B	3 / 16	A / C
2B	FIRST ST/ C ST	3 / 82	A / F	3 / 67	A / F	3 / 77	A / F
2C	ADAMS ST/ PORTER ST/ A ST	15	B	15	B	16	B
2F	JACKSON ST/ A ST	14 / 76	B / F	20 / 122	A / F	13 / 66	A / F
2G	FIRST ST/ A ST	21	C	23	C	22	C
3B	PITT SCHOOL RD/ PORTER ST	9	A	8	A	8	A
3C	PITT SCHOOL RD/ A ST	23	C	23	C	24	C

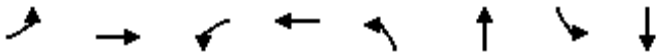
Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	15	0	255	0	405	75	185	325	0
Future Vol, veh/h	0	0	0	15	0	255	0	405	75	185	325	0
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	12	12	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	90	-	-	105	-	-	70	-	-
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	5	2
Mvmt Flow	0	0	0	16	0	277	0	440	82	201	353	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1375	1289	365	1260	1248	493	353	0	0	534	0	0
Stage 1	755	755	-	493	493	-	-	-	-	-	-	-
Stage 2	620	534	-	767	755	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	123	164	680	147	173	576	1206	-	-	1034	-	-
Stage 1	401	417	-	558	547	-	-	-	-	-	-	-
Stage 2	476	524	-	395	417	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	54	130	672	122	137	569	1206	-	-	1022	-	-
Mov Cap-2 Maneuver	54	130	-	122	137	-	-	-	-	-	-	-
Stage 1	401	335	-	552	541	-	-	-	-	-	-	-
Stage 2	244	518	-	314	335	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	18.4	0	3.4
HCM LOS	A	C		

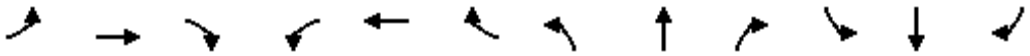
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1206	-	-	-	122	569	1022	-	-
HCM Lane V/C Ratio	-	-	-	-	0.134	0.487	0.197	-	-
HCM Control Delay (s)	0	-	-	0	39	17.2	9.4	-	-
HCM Lane LOS	A	-	-	A	E	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	2.7	0.7	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	103	278	76	305	190	424	38	271
v/c Ratio	0.43	0.60	0.36	0.69	0.60	0.59	0.21	0.65
Control Delay	39.4	29.7	39.4	35.2	40.0	24.9	39.6	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	29.7	39.4	35.2	40.0	24.9	39.6	34.0
Queue Length 50th (ft)	43	100	32	120	78	155	16	102
Queue Length 95th (ft)	111	217	89	255	#190	334	54	226
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	471	780	471	794	471	818	471	770
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.36	0.16	0.38	0.40	0.52	0.08	0.35

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	180	75	70	250	30	175	320	70	35	210	40
Future Volume (veh/h)	95	180	75	70	250	30	175	320	70	35	210	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	103	196	82	76	272	33	190	348	76	38	228	43
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	5	2
Cap, veh/h	135	315	132	116	395	48	242	478	104	73	338	64
Arrive On Green	0.08	0.25	0.25	0.07	0.24	0.24	0.14	0.32	0.32	0.04	0.23	0.23
Sat Flow, veh/h	1781	1244	520	1781	1632	198	1781	1483	324	1781	1488	281
Grp Volume(v), veh/h	103	0	278	76	0	305	190	0	424	38	0	271
Grp Sat Flow(s),veh/h/ln	1781	0	1764	1781	0	1830	1781	0	1807	1781	0	1769
Q Serve(g_s), s	2.8	0.0	7.0	2.1	0.0	7.6	5.2	0.0	10.4	1.0	0.0	7.0
Cycle Q Clear(g_c), s	2.8	0.0	7.0	2.1	0.0	7.6	5.2	0.0	10.4	1.0	0.0	7.0
Prop In Lane	1.00		0.29	1.00		0.11	1.00		0.18	1.00		0.16
Lane Grp Cap(c), veh/h	135	0	447	116	0	443	242	0	582	73	0	402
V/C Ratio(X)	0.76	0.00	0.62	0.66	0.00	0.69	0.78	0.00	0.73	0.52	0.00	0.67
Avail Cap(c_a), veh/h	568	0	913	568	0	947	568	0	935	568	0	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	16.6	22.9	0.0	17.3	21.0	0.0	15.1	23.6	0.0	17.7
Incr Delay (d2), s/veh	3.3	0.0	0.5	2.3	0.0	0.7	2.1	0.0	0.7	2.1	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	1.2	0.0	2.6	0.9	0.0	2.9	2.1	0.0	3.7	0.5	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	0.0	17.2	25.3	0.0	18.0	23.1	0.0	15.7	25.7	0.0	18.5
LnGrp LOS	C	A	B	C	A	B	C	A	B	C	A	B
Approach Vol, veh/h		381			381			614			309	
Approach Delay, s/veh		19.6			19.5			18.0			19.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	20.2	7.3	16.7	10.8	15.4	7.8	16.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.0	12.4	4.1	9.0	7.2	9.0	4.8	9.6
Green Ext Time (p_c), s	0.0	1.5	0.1	1.0	0.2	0.9	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	325	125	10	430	10	95	5	30	0	0	30
Future Vol, veh/h	75	325	125	10	430	10	95	5	30	0	0	30
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	82	353	136	11	467	11	103	5	33	0	0	33

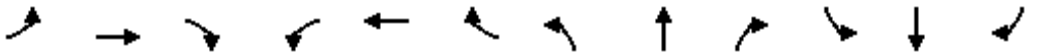
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	484	0	0	491	0	0	1108	1093	430	1112	1156	489
Stage 1	-	-	-	-	-	-	587	587	-	501	501	-
Stage 2	-	-	-	-	-	-	521	506	-	611	655	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1079	-	-	1072	-	-	187	214	625	186	197	579
Stage 1	-	-	-	-	-	-	496	497	-	552	543	-
Stage 2	-	-	-	-	-	-	539	540	-	481	463	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1073	-	-	1070	-	-	158	187	620	155	172	570
Mov Cap-2 Maneuver	-	-	-	-	-	-	158	187	-	155	172	-
Stage 1	-	-	-	-	-	-	442	443	-	490	532	-
Stage 2	-	-	-	-	-	-	496	529	-	399	413	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.2	63	11.7
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	192	1073	-	-	1070	-	-	570
HCM Lane V/C Ratio	0.736	0.076	-	-	0.01	-	-	0.057
HCM Control Delay (s)	63	8.6	0	-	8.4	0	-	11.7
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	4.8	0.2	-	-	0	-	-	0.2

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	391	54	424	120	5	59	82	98
v/c Ratio	0.19	0.57	0.21	0.61	0.18	0.02	0.23	0.28	0.19
Control Delay	27.1	18.3	27.0	19.1	4.3	28.4	22.5	26.6	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	18.3	27.0	19.1	4.3	28.4	22.5	26.6	14.6
Queue Length 50th (ft)	15	101	16	112	0	2	13	24	15
Queue Length 95th (ft)	49	213	52	233	30	12	49	70	63
Internal Link Dist (ft)		263		667			657		264
Turn Bay Length (ft)	70		50		190	55		75	
Base Capacity (vph)	688	1111	688	1114	973	688	1052	688	1031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.35	0.08	0.38	0.12	0.01	0.06	0.12	0.10

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	355	5	50	390	110	5	40	15	75	55	35
Future Volume (veh/h)	45	355	5	50	390	110	5	40	15	75	55	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	49	386	5	54	424	120	5	43	16	82	60	38
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	5	2	2	5	2
Cap, veh/h	94	558	7	101	574	485	12	196	73	134	233	148
Arrive On Green	0.05	0.30	0.30	0.06	0.31	0.31	0.01	0.16	0.16	0.08	0.22	0.22
Sat Flow, veh/h	1781	1842	24	1781	1870	1580	1781	1263	470	1781	1040	659
Grp Volume(v), veh/h	49	0	391	54	424	120	5	0	59	82	0	98
Grp Sat Flow(s),veh/h/ln	1781	0	1866	1781	1870	1580	1781	0	1732	1781	0	1699
Q Serve(g_s), s	1.0	0.0	7.2	1.2	7.9	2.2	0.1	0.0	1.2	1.7	0.0	1.9
Cycle Q Clear(g_c), s	1.0	0.0	7.2	1.2	7.9	2.2	0.1	0.0	1.2	1.7	0.0	1.9
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.27	1.00		0.39
Lane Grp Cap(c), veh/h	94	0	565	101	574	485	12	0	269	134	0	381
V/C Ratio(X)	0.52	0.00	0.69	0.53	0.74	0.25	0.42	0.00	0.22	0.61	0.00	0.26
Avail Cap(c_a), veh/h	730	0	1242	730	1245	1051	730	0	1153	730	0	1130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	12.0	17.9	12.1	10.2	19.3	0.0	14.4	17.5	0.0	12.5
Incr Delay (d2), s/veh	1.7	0.0	0.6	1.6	0.7	0.1	8.3	0.0	0.2	1.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.4	0.5	2.6	0.6	0.1	0.0	0.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.7	0.0	12.6	19.5	12.9	10.3	27.6	0.0	14.6	19.2	0.0	12.6
LnGrp LOS	B	A	B	B	B	B	C	A	B	B	A	B
Approach Vol, veh/h		440			598			64			180	
Approach Delay, s/veh		13.4			12.9			15.6			15.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	15.8	6.9	10.1	6.1	16.0	4.3	12.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.2	9.2	3.7	3.2	3.0	9.9	2.1	3.9
Green Ext Time (p_c), s	0.0	1.4	0.1	0.1	0.0	1.8	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	160	50	10	145	125	70	140	15	80	75	65
Future Vol, veh/h	65	160	50	10	145	125	70	140	15	80	75	65
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	174	54	11	158	136	76	152	16	87	82	71
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	14.3	12.3	13.2	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	90%	0%	76%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	10%	0%	24%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	155	65	210	10	145	125	80	75	65
LT Vol	70	0	65	0	10	0	0	80	0	0
Through Vol	0	140	0	160	0	145	0	0	75	0
RT Vol	0	15	0	50	0	0	125	0	0	65
Lane Flow Rate	76	168	71	228	11	158	136	87	82	71
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.165	0.339	0.15	0.441	0.023	0.315	0.245	0.191	0.167	0.131
Departure Headway (Hd)	7.813	7.237	7.633	6.958	7.704	7.196	6.486	7.893	7.385	6.674
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	460	497	470	518	465	500	553	455	486	537
Service Time	5.556	4.98	5.374	4.699	5.446	4.938	4.227	5.637	5.128	4.417
HCM Lane V/C Ratio	0.165	0.338	0.151	0.44	0.024	0.316	0.246	0.191	0.169	0.132
HCM Control Delay	12.1	13.7	11.7	15.1	10.6	13.2	11.3	12.5	11.6	10.4
HCM Lane LOS	B	B	B	C	B	B	B	B	B	B
HCM 95th-tile Q	0.6	1.5	0.5	2.2	0.1	1.3	1	0.7	0.6	0.4

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	65	0	15	90	5	5	15	5	0	50	90
Future Vol, veh/h	5	65	0	15	90	5	5	15	5	0	50	90
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	71	0	16	98	5	5	16	5	0	54	98
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8	8.2	7.9	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	0%	7%	14%	0%
Vol Thru, %	75%	0%	93%	82%	36%
Vol Right, %	0%	100%	0%	5%	64%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	5	70	110	140
LT Vol	5	0	5	15	0
Through Vol	15	0	65	90	50
RT Vol	0	5	0	5	90
Lane Flow Rate	22	5	76	120	152
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.032	0.007	0.095	0.147	0.175
Departure Headway (Hd)	5.234	4.405	4.476	4.414	4.136
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	686	814	802	814	869
Service Time	2.953	2.123	2.496	2.432	2.151
HCM Lane V/C Ratio	0.032	0.006	0.095	0.147	0.175
HCM Control Delay	8.1	7.2	8	8.2	8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0	0.3	0.5	0.6

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	2	2	2	0	0	25	2	195	10	25	110	2
Future Vol, veh/h	2	2	2	0	0	25	2	195	10	25	110	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	2	5	2
Mvmt Flow	2	2	2	0	0	27	2	212	11	27	120	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	285	402	61	337	398	112	122	0	0	223	0	0
Stage 1	175	175	-	222	222	-	-	-	-	-	-	-
Stage 2	110	227	-	115	176	-	-	-	-	-	-	-
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	645	535	991	593	538	920	1463	-	-	1343	-	-
Stage 1	810	753	-	760	718	-	-	-	-	-	-	-
Stage 2	883	715	-	877	752	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	615	522	991	579	525	920	1463	-	-	1343	-	-
Mov Cap-2 Maneuver	615	522	-	579	525	-	-	-	-	-	-	-
Stage 1	808	736	-	758	717	-	-	-	-	-	-	-
Stage 2	855	714	-	853	735	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	9	0.1	1.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1463	-	-	659	920	1343	-	-
HCM Lane V/C Ratio	0.001	-	-	0.01	0.03	0.02	-	-
HCM Control Delay (s)	7.5	0	-	10.5	9	7.7	0.1	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	30	15	200	100	35
Future Vol, veh/h	55	30	15	200	100	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	5	5	2
Mvmt Flow	60	33	16	217	109	38

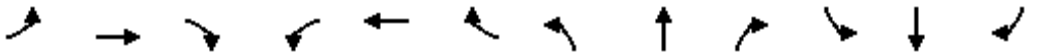
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	269	74	147	0	-	0
Stage 1	128	-	-	-	-	-
Stage 2	141	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	698	973	1432	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	689	973	1432	-	-	-
Mov Cap-2 Maneuver	689	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1432	-	689	973	-	-
HCM Lane V/C Ratio	0.011	-	0.087	0.034	-	-
HCM Control Delay (s)	7.5	0	10.7	8.8	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.1	-	-

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	98	16	38	22	256	11	310
v/c Ratio	0.40	0.24	0.06	0.09	0.10	0.12	0.05	0.14
Control Delay	19.5	5.3	14.5	0.5	19.8	6.3	19.4	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	5.3	14.5	0.5	19.8	6.3	19.4	6.2
Queue Length 50th (ft)	21	0	3	0	4	11	2	13
Queue Length 95th (ft)	66	25	16	0	24	45	15	53
Internal Link Dist (ft)	419		513			652		394
Turn Bay Length (ft)				120	180		160	
Base Capacity (vph)	635	782	582	782	228	2181	228	2173
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.13	0.03	0.05	0.10	0.12	0.05	0.14

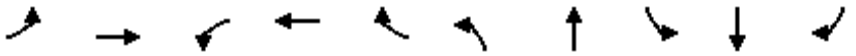
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	0	90	15	0	35	20	225	10	10	265	20
Future Volume (veh/h)	105	0	90	15	0	35	20	225	10	10	265	20
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	114	0	98	16	0	38	22	245	11	11	288	22
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	0	552	129	0	552	46	1372	61	25	1286	98
Arrive On Green	0.35	0.00	0.35	0.35	0.00	0.35	0.03	0.40	0.40	0.01	0.38	0.38
Sat Flow, veh/h	0	0	1585	0	0	1585	1781	3464	155	1781	3347	254
Grp Volume(v), veh/h	114	0	98	16	0	38	22	125	131	11	152	158
Grp Sat Flow(s),veh/h/ln	0	0	1585	0	0	1585	1781	1777	1842	1781	1777	1825
Q Serve(g_s), s	0.0	0.0	2.4	0.0	0.0	0.9	0.7	2.6	2.6	0.3	3.2	3.3
Cycle Q Clear(g_c), s	19.5	0.0	2.4	19.5	0.0	0.9	0.7	2.6	2.6	0.3	3.2	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.14
Lane Grp Cap(c), veh/h	129	0	552	129	0	552	46	704	730	25	683	701
V/C Ratio(X)	0.89	0.00	0.18	0.12	0.00	0.07	0.48	0.18	0.18	0.44	0.22	0.23
Avail Cap(c_a), veh/h	129	0	552	129	0	552	175	704	730	175	683	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	12.7	28.0	0.0	12.2	26.9	11.0	11.0	27.4	11.6	11.6
Incr Delay (d2), s/veh	46.7	0.0	0.2	0.4	0.0	0.1	7.5	0.6	0.5	11.7	0.8	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	3.1	0.0	0.8	0.2	0.0	0.3	0.4	0.9	1.0	0.2	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	0.0	12.8	28.4	0.0	12.2	34.3	11.5	11.5	39.0	12.4	12.4
LnGrp LOS	E	A	B	C	A	B	C	B	B	D	B	B
Approach Vol, veh/h		212			54			278			321	
Approach Delay, s/veh		46.1			17.0			13.3			13.3	
Approach LOS		D			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	26.7		24.0	5.9	26.0		24.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	21.5		19.5	5.5	21.5		19.5				
Max Q Clear Time (g_c+I1), s	2.3	4.6		21.5	2.7	5.3		21.5				
Green Ext Time (p_c), s	0.0	1.1		0.0	0.0	1.4		0.0				

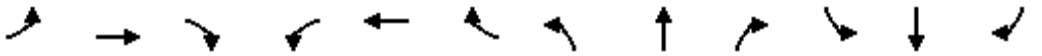
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	38	54	87	16	130	16	239	207	168	38
v/c Ratio	0.11	0.14	0.25	0.03	0.20	0.07	0.42	0.37	0.14	0.04
Control Delay	25.5	9.4	24.9	15.0	3.8	29.9	17.5	28.0	14.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	9.4	24.9	15.0	3.8	29.9	17.5	28.0	14.3	0.1
Queue Length 50th (ft)	10	3	21	3	0	4	43	26	25	0
Queue Length 95th (ft)	52	27	87	16	23	28	160	#119	130	0
Internal Link Dist (ft)		774		782			690		652	
Turn Bay Length (ft)	80					350		320		
Base Capacity (vph)	343	1211	579	1501	645	241	1349	561	1461	1272
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.04	0.15	0.01	0.20	0.07	0.18	0.37	0.11	0.03

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	10	40	80	15	120	15	115	105	190	155	35
Future Volume (veh/h)	35	10	40	80	15	120	15	115	105	190	155	35
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	38	11	43	87	16	130	16	125	114	207	168	38
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	78	42	166	144	307	454	37	199	181	423	602	511
Arrive On Green	0.04	0.13	0.13	0.08	0.16	0.16	0.02	0.22	0.22	0.12	0.32	0.32
Sat Flow, veh/h	1781	333	1303	1781	1870	1585	1781	901	822	3456	1870	1585
Grp Volume(v), veh/h	38	0	54	87	16	130	16	0	239	207	168	38
Grp Sat Flow(s),veh/h/ln	1781	0	1636	1781	1870	1585	1781	0	1722	1728	1870	1585
Q Serve(g_s), s	0.7	0.0	1.1	1.7	0.3	2.3	0.3	0.0	4.5	2.0	2.4	0.6
Cycle Q Clear(g_c), s	0.7	0.0	1.1	1.7	0.3	2.3	0.3	0.0	4.5	2.0	2.4	0.6
Prop In Lane	1.00		0.80	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	78	0	208	144	307	454	37	0	380	423	602	511
V/C Ratio(X)	0.48	0.00	0.26	0.60	0.05	0.29	0.44	0.00	0.63	0.49	0.28	0.07
Avail Cap(c_a), veh/h	250	0	1424	600	1996	1885	250	0	1693	582	1891	1602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	0.0	14.0	15.8	12.5	9.9	17.2	0.0	12.6	14.6	9.0	8.4
Incr Delay (d2), s/veh	4.6	0.0	0.7	4.0	0.1	0.3	8.0	0.0	1.7	0.9	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.7	0.1	0.6	0.2	0.0	1.4	0.6	0.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	0.0	14.7	19.8	12.6	10.2	25.2	0.0	14.3	15.5	9.2	8.4
LnGrp LOS	C	A	B	B	B	B	C	A	B	B	A	A
Approach Vol, veh/h		92			233			255			413	
Approach Delay, s/veh		17.4			14.0			15.0			12.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	11.8	6.9	8.5	4.7	15.5	5.6	9.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	35.0	12.0	31.0	5.0	36.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	4.0	6.5	3.7	3.1	2.3	4.4	2.7	4.3
Green Ext Time (p_c), s	0.1	1.4	0.1	0.2	0.0	1.0	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	110	155	30	30	80	105
Future Vol, veh/h	110	155	30	30	80	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	168	33	33	87	114
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9	8.1	9.3
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	30	110	155	80	105
LT Vol	0	0	110	0	80	0
Through Vol	30	0	0	0	0	105
RT Vol	0	30	0	155	0	0
Lane Flow Rate	33	33	120	168	87	114
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.05	0.043	0.19	0.211	0.14	0.168
Departure Headway (Hd)	5.473	4.766	5.721	4.517	5.815	5.311
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	653	748	628	794	617	675
Service Time	3.219	2.513	3.454	2.251	3.554	3.05
HCM Lane V/C Ratio	0.051	0.044	0.191	0.212	0.141	0.169
HCM Control Delay	8.5	7.7	9.8	8.5	9.5	9.1
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.7	0.8	0.5	0.6

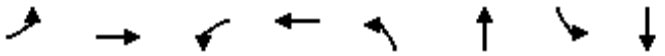
Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	15	0	145	0	435	80	165	640	0
Future Vol, veh/h	1	0	0	15	0	145	0	435	80	165	640	0
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	12	12	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	90	-	-	105	-	-	70	-	-
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	5	2
Mvmt Flow	1	0	0	16	0	158	0	473	87	179	696	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1650	1626	708	1595	1583	529	696	0	0	572	0	0
Stage 1	1054	1054	-	529	529	-	-	-	-	-	-	-
Stage 2	596	572	-	1066	1054	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	79	102	435	86	109	550	900	-	-	1001	-	-
Stage 1	273	303	-	533	527	-	-	-	-	-	-	-
Stage 2	490	504	-	269	303	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	48	83	430	72	88	544	900	-	-	990	-	-
Mov Cap-2 Maneuver	48	83	-	72	88	-	-	-	-	-	-	-
Stage 1	273	248	-	527	521	-	-	-	-	-	-	-
Stage 2	348	498	-	218	248	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	81.7	19.4	0	1.9
HCM LOS	F	C		

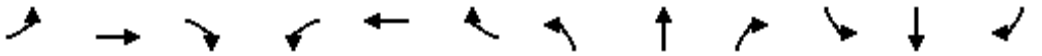
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	900	-	-	48	72	544	990	-	-
HCM Lane V/C Ratio	-	-	-	0.023	0.226	0.29	0.181	-	-
HCM Control Delay (s)	0	-	-	81.7	69.1	14.3	9.4	-	-
HCM Lane LOS	A	-	-	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	1.2	0.7	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	147	288	60	190	120	358	103	494
v/c Ratio	0.57	0.58	0.34	0.61	0.52	0.52	0.48	0.75
Control Delay	41.3	28.9	40.5	36.6	41.1	24.7	41.2	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	28.9	40.5	36.6	41.1	24.7	41.2	33.3
Queue Length 50th (ft)	64	113	27	75	53	126	45	199
Queue Length 95th (ft)	140	217	72	156	119	281	106	#496
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	400	656	400	665	400	689	400	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.44	0.15	0.29	0.30	0.52	0.26	0.75

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	170	95	55	130	45	110	290	40	95	415	40
Future Volume (veh/h)	135	170	95	55	130	45	110	290	40	95	415	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	147	185	103	60	141	49	120	315	43	103	451	43
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	5	2
Cap, veh/h	190	263	146	97	241	84	156	551	75	134	541	52
Arrive On Green	0.11	0.23	0.23	0.05	0.18	0.18	0.09	0.34	0.34	0.08	0.33	0.33
Sat Flow, veh/h	1781	1119	623	1781	1316	457	1781	1608	219	1781	1639	156
Grp Volume(v), veh/h	147	0	288	60	0	190	120	0	358	103	0	494
Grp Sat Flow(s),veh/h/ln	1781	0	1742	1781	0	1773	1781	0	1827	1781	0	1795
Q Serve(g_s), s	4.4	0.0	8.3	1.8	0.0	5.4	3.6	0.0	8.8	3.1	0.0	13.9
Cycle Q Clear(g_c), s	4.4	0.0	8.3	1.8	0.0	5.4	3.6	0.0	8.8	3.1	0.0	13.9
Prop In Lane	1.00		0.36	1.00		0.26	1.00		0.12	1.00		0.09
Lane Grp Cap(c), veh/h	190	0	409	97	0	324	156	0	626	134	0	593
V/C Ratio(X)	0.78	0.00	0.70	0.62	0.00	0.59	0.77	0.00	0.57	0.77	0.00	0.83
Avail Cap(c_a), veh/h	521	0	829	521	0	843	521	0	869	521	0	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	19.2	25.3	0.0	20.4	24.4	0.0	14.7	24.8	0.0	16.9
Incr Delay (d2), s/veh	2.6	0.0	0.8	2.3	0.0	0.6	3.0	0.0	0.3	3.5	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	3.1	0.8	0.0	2.1	1.5	0.0	3.2	1.3	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	0.0	20.0	27.6	0.0	21.1	27.4	0.0	15.0	28.3	0.0	20.2
LnGrp LOS	C	A	C	C	A	C	C	A	B	C	A	C
Approach Vol, veh/h		435			250			478			597	
Approach Delay, s/veh		22.1			22.6			18.1			21.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	22.7	7.0	16.8	8.8	22.1	9.8	14.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.1	10.8	3.8	10.3	5.6	15.9	6.4	7.4
Green Ext Time (p_c), s	0.1	1.3	0.0	1.0	0.1	1.6	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	14.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	50	360	125	5	265	10	115	15	55	10	5	130
Future Vol, veh/h	50	360	125	5	265	10	115	15	55	10	5	130
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	54	391	136	5	288	11	125	16	60	11	5	141

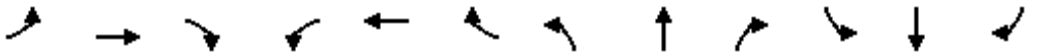
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	305	0	0	529	0	0	956	884	468	922	947	310
Stage 1	-	-	-	-	-	-	569	569	-	310	310	-
Stage 2	-	-	-	-	-	-	387	315	-	612	637	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1256	-	-	1038	-	-	238	284	595	251	261	730
Stage 1	-	-	-	-	-	-	507	506	-	700	659	-
Stage 2	-	-	-	-	-	-	637	656	-	480	471	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1249	-	-	1036	-	-	176	263	590	201	241	719
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	263	-	201	241	-
Stage 1	-	-	-	-	-	-	475	474	-	653	651	-
Stage 2	-	-	-	-	-	-	500	648	-	388	441	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	75.8	13.6
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	230	1249	-	-	1036	-	-	577
HCM Lane V/C Ratio	0.874	0.044	-	-	0.005	-	-	0.273
HCM Control Delay (s)	75.8	8	0	-	8.5	0	-	13.6
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	7.1	0.1	-	-	0	-	-	1.1

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	429	60	364	125	11	114	147	185
v/c Ratio	0.22	0.61	0.25	0.52	0.19	0.06	0.39	0.45	0.32
Control Delay	32.1	22.8	32.0	20.3	4.8	33.1	30.4	30.7	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	22.8	32.0	20.3	4.8	33.1	30.4	30.7	14.5
Queue Length 50th (ft)	18	137	22	110	0	4	39	52	34
Queue Length 95th (ft)	54	289	63	236	34	21	98	121	106
Internal Link Dist (ft)		263		667			657		264
Turn Bay Length (ft)	70		50		190	55		75	
Base Capacity (vph)	596	999	596	1003	891	596	962	596	920
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.43	0.10	0.36	0.14	0.02	0.12	0.25	0.20

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	395	0	55	335	115	10	95	10	135	80	90
Future Volume (veh/h)	45	395	0	55	335	115	10	95	10	135	80	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	49	429	0	60	364	125	11	103	11	147	87	98
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	5	2	2	5	2
Cap, veh/h	93	562	0	107	577	488	26	239	26	192	188	211
Arrive On Green	0.05	0.30	0.00	0.06	0.31	0.31	0.01	0.15	0.15	0.11	0.24	0.24
Sat Flow, veh/h	1781	1870	0	1781	1870	1580	1781	1618	173	1781	779	878
Grp Volume(v), veh/h	49	429	0	60	364	125	11	0	114	147	0	185
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	1870	1580	1781	0	1791	1781	0	1657
Q Serve(g_s), s	1.1	8.7	0.0	1.4	7.0	2.5	0.3	0.0	2.4	3.3	0.0	4.0
Cycle Q Clear(g_c), s	1.1	8.7	0.0	1.4	7.0	2.5	0.3	0.0	2.4	3.3	0.0	4.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.10	1.00		0.53
Lane Grp Cap(c), veh/h	93	562	0	107	577	488	26	0	264	192	0	399
V/C Ratio(X)	0.53	0.76	0.00	0.56	0.63	0.26	0.43	0.00	0.43	0.77	0.00	0.46
Avail Cap(c_a), veh/h	685	1168	0	685	1168	987	685	0	1119	685	0	1035
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	13.2	0.0	19.0	12.4	10.8	20.3	0.0	16.2	18.1	0.0	13.5
Incr Delay (d2), s/veh	1.7	0.8	0.0	1.7	0.4	0.1	4.2	0.0	0.4	2.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.0	0.0	0.5	2.4	0.7	0.1	0.0	0.9	1.3	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	14.0	0.0	20.7	12.8	10.9	24.6	0.0	16.6	20.5	0.0	13.8
LnGrp LOS	C	B	A	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		478			549			125			332	
Approach Delay, s/veh		14.8			13.2			17.3			16.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	16.5	8.5	10.1	6.2	16.8	4.6	14.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.4	10.7	5.3	4.4	3.1	9.0	2.3	6.0
Green Ext Time (p_c), s	0.0	1.5	0.1	0.3	0.0	1.5	0.0	0.7

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

Intersection	
Intersection Delay, s/veh	23.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	255	45	35	255	130	50	100	15	170	140	125
Future Vol, veh/h	150	255	45	35	255	130	50	100	15	170	140	125
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	163	277	49	38	277	141	54	109	16	185	152	136
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	30.7	23.8	16.8	18
HCM LOS	D	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	87%	0%	85%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	13%	0%	15%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	115	150	300	35	255	130	170	140	125
LT Vol	50	0	150	0	35	0	0	170	0	0
Through Vol	0	100	0	255	0	255	0	0	140	0
RT Vol	0	15	0	45	0	0	130	0	0	125
Lane Flow Rate	54	125	163	326	38	277	141	185	152	136
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.157	0.339	0.421	0.785	0.1	0.692	0.324	0.489	0.381	0.313
Departure Headway (Hd)	10.386	9.775	9.29	8.671	9.499	8.984	8.264	9.518	9.003	8.282
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	345	367	388	417	377	402	434	379	400	433
Service Time	8.161	7.55	7.052	6.432	7.264	6.749	6.029	7.279	6.764	6.043
HCM Lane V/C Ratio	0.157	0.341	0.42	0.782	0.101	0.689	0.325	0.488	0.38	0.314
HCM Control Delay	15.1	17.5	18.7	36.7	13.3	29.7	15	21.1	17.2	14.8
HCM Lane LOS	C	C	C	E	B	D	B	C	C	B
HCM 95th-tile Q	0.6	1.5	2	6.8	0.3	5.1	1.4	2.6	1.7	1.3

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	130	0	30	75	5	5	75	10	5	45	15
Future Vol, veh/h	65	130	0	30	75	5	5	75	10	5	45	15
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	141	0	33	82	5	5	82	11	5	49	16
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	9.3	8.5	8.8	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	33%	27%	8%
Vol Thru, %	94%	0%	67%	68%	69%
Vol Right, %	0%	100%	0%	5%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	10	195	110	65
LT Vol	5	0	65	30	5
Through Vol	75	0	130	75	45
RT Vol	0	10	0	5	15
Lane Flow Rate	87	11	212	120	71
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.131	0.014	0.269	0.154	0.095
Departure Headway (Hd)	5.413	4.676	4.571	4.636	4.825
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	662	764	786	772	740
Service Time	3.152	2.415	2.6	2.67	2.867
HCM Lane V/C Ratio	0.131	0.014	0.27	0.155	0.096
HCM Control Delay	9	7.5	9.3	8.5	8.4
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.4	0	1.1	0.5	0.3

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	2	15	0	100	2	215	15	115	310	2
Future Vol, veh/h	2	2	2	15	0	100	2	215	15	115	310	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	2	5	2
Mvmt Flow	2	2	2	16	0	109	2	234	16	125	337	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	709	842	170	666	835	125	339	0	0	250	0	0
Stage 1	588	588	-	246	246	-	-	-	-	-	-	-
Stage 2	121	254	-	420	589	-	-	-	-	-	-	-
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	321	299	844	345	302	902	1217	-	-	1313	-	-
Stage 1	462	494	-	736	701	-	-	-	-	-	-	-
Stage 2	870	696	-	581	494	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	256	263	844	311	266	902	1217	-	-	1313	-	-
Mov Cap-2 Maneuver	256	263	-	311	266	-	-	-	-	-	-	-
Stage 1	461	436	-	735	700	-	-	-	-	-	-	-
Stage 2	764	695	-	509	436	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.9	11	0.1	2.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1217	-	-	337	723	1313	-	-
HCM Lane V/C Ratio	0.002	-	-	0.019	0.173	0.095	-	-
HCM Control Delay (s)	8	0	-	15.9	11	8	0.3	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.6	0.3	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	85	140	85	215	280	85
Future Vol, veh/h	85	140	85	215	280	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	5	5	2
Mvmt Flow	92	152	92	234	304	92

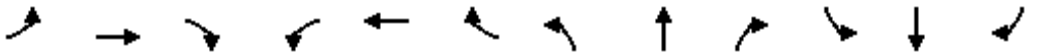
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	651	198	396	0	-	0
Stage 1	350	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	401	810	1159	-	-	-
Stage 1	684	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	365	810	1159	-	-	-
Mov Cap-2 Maneuver	365	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1159	-	365	810	-	-
HCM Lane V/C Ratio	0.08	-	0.253	0.188	-	-
HCM Control Delay (s)	8.4	0.2	18.2	10.5	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1	0.7	-	-

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	76	38	11	11	98	343	22	305
v/c Ratio	0.32	0.11	0.05	0.03	0.34	0.13	0.12	0.14
Control Delay	21.8	0.6	17.6	0.2	22.0	4.7	23.1	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	0.6	17.6	0.2	22.0	4.7	23.1	7.2
Queue Length 50th (ft)	19	0	3	0	25	14	6	20
Queue Length 95th (ft)	50	0	13	0	62	53	24	47
Internal Link Dist (ft)	476		490			638		401
Turn Bay Length (ft)				120	180		160	
Base Capacity (vph)	538	673	538	673	357	2618	188	2152
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.06	0.02	0.02	0.27	0.13	0.12	0.14

Intersection Summary



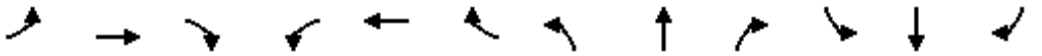
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	0	35	10	0	10	90	295	20	20	205	75
Future Volume (veh/h)	70	0	35	10	0	10	90	295	20	20	205	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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	76	0	38	11	0	11	98	321	22	22	223	82
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	151	0	337	151	0	337	134	1632	111	47	1115	398
Arrive On Green	0.21	0.00	0.21	0.21	0.00	0.21	0.08	0.48	0.48	0.03	0.43	0.43
Sat Flow, veh/h	14	0	1585	14	0	1585	1781	3376	230	1781	2566	916
Grp Volume(v), veh/h	76	0	38	11	0	11	98	168	175	22	152	153
Grp Sat Flow(s),veh/h/ln	14	0	1585	14	0	1585	1781	1777	1829	1781	1777	1705
Q Serve(g_s), s	0.1	0.0	0.9	0.1	0.0	0.3	2.6	2.6	2.7	0.6	2.6	2.7
Cycle Q Clear(g_c), s	10.3	0.0	0.9	10.3	0.0	0.3	2.6	2.6	2.7	0.6	2.6	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.54
Lane Grp Cap(c), veh/h	151	0	337	151	0	337	134	859	884	47	772	741
V/C Ratio(X)	0.50	0.00	0.11	0.07	0.00	0.03	0.73	0.20	0.20	0.47	0.20	0.21
Avail Cap(c_a), veh/h	373	0	587	368	0	587	348	859	884	183	772	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	0.0	15.4	24.3	0.0	15.2	22.0	7.2	7.2	23.3	8.5	8.5
Incr Delay (d2), s/veh	2.6	0.0	0.1	0.2	0.0	0.0	7.4	0.5	0.5	7.1	0.6	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	0.9	0.0	0.3	0.1	0.0	0.1	1.2	0.8	0.8	0.3	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	0.0	15.6	24.5	0.0	15.2	29.4	7.7	7.7	30.4	9.1	9.2
LnGrp LOS	C	A	B	C	A	B	C	A	A	C	A	A
Approach Vol, veh/h		114			22			441			327	
Approach Delay, s/veh		23.1			19.9			12.5			10.6	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	28.0		14.9	8.2	25.6		14.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	9.5	19.0		18.0				
Max Q Clear Time (g_c+I1), s	2.6	4.7		12.3	4.6	4.7		12.3				
Green Ext Time (p_c), s	0.0	1.7		0.2	0.1	1.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		13.3	
HCM 6th LOS		B	

Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	38	33	76	163	33	321	109	141	27
v/c Ratio	0.17	0.04	0.23	0.18	0.15	0.45	0.21	0.12	0.03
Control Delay	31.2	0.1	25.9	0.5	31.3	17.9	27.0	14.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	0.1	25.9	0.5	31.3	17.9	27.0	14.0	0.0
Queue Length 50th (ft)	7	0	13	0	6	49	9	10	0
Queue Length 95th (ft)	55	0	85	0	50	240	59	109	0
Internal Link Dist (ft)		759				560		638	
Turn Bay Length (ft)	80				350		320		
Base Capacity (vph)	225	1339	540	883	225	1439	523	1511	1311
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.02	0.14	0.18	0.15	0.22	0.21	0.09	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	0	30	70	0	150	30	225	70	100	130	25
Future Volume (veh/h)	35	0	30	70	0	150	30	225	70	100	130	25
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	38	0	33	76	0	163	33	245	76	109	141	27
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	78	0	198	132	290	392	69	365	113	318	598	507
Arrive On Green	0.04	0.00	0.13	0.07	0.00	0.16	0.04	0.27	0.27	0.09	0.32	0.32
Sat Flow, veh/h	1781	0	1585	1781	1870	1585	1781	1369	425	3456	1870	1585
Grp Volume(v), veh/h	38	0	33	76	0	163	33	0	321	109	141	27
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	1585	1781	0	1794	1728	1870	1585
Q Serve(g_s), s	0.8	0.0	0.7	1.5	0.0	3.1	0.7	0.0	5.8	1.1	2.0	0.4
Cycle Q Clear(g_c), s	0.8	0.0	0.7	1.5	0.0	3.1	0.7	0.0	5.8	1.1	2.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	78	0	198	132	290	392	69	0	478	318	598	507
V/C Ratio(X)	0.49	0.00	0.17	0.58	0.00	0.42	0.47	0.00	0.67	0.34	0.24	0.05
Avail Cap(c_a), veh/h	246	0	1359	591	1965	1811	246	0	1736	573	1862	1578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	14.1	16.2	0.0	11.4	17.0	0.0	11.8	15.4	9.1	8.5
Incr Delay (d2), s/veh	4.6	0.0	0.4	4.0	0.0	0.7	5.0	0.0	1.6	0.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.2	0.6	0.0	0.9	0.3	0.0	1.8	0.4	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	0.0	14.5	20.2	0.0	12.1	22.0	0.0	13.5	16.0	9.3	8.6
LnGrp LOS	C	A	B	C	A	B	C	A	B	B	A	A
Approach Vol, veh/h		71			239			354			277	
Approach Delay, s/veh		18.3			14.7			14.3			11.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	13.6	6.7	8.5	5.4	15.6	5.6	9.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	35.0	12.0	31.0	5.0	36.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	3.1	7.8	3.5	2.7	2.7	4.0	2.8	5.1
Green Ext Time (p_c), s	0.1	1.9	0.1	0.1	0.0	0.8	0.0	0.5

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

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	80	120	105	110	30
Future Vol, veh/h	50	80	120	105	110	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	87	130	114	120	33
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	8.6	8.4	9.3
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	105	50	80	110	30
LT Vol	0	0	50	0	110	0
Through Vol	120	0	0	0	0	30
RT Vol	0	105	0	80	0	0
Lane Flow Rate	130	114	54	87	120	33
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.183	0.138	0.09	0.115	0.187	0.046
Departure Headway (Hd)	5.057	4.353	5.977	4.772	5.62	5.117
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	710	823	599	750	638	700
Service Time	2.784	2.081	3.711	2.506	3.352	2.849
HCM Lane V/C Ratio	0.183	0.139	0.09	0.116	0.188	0.047
HCM Control Delay	8.9	7.8	9.3	8.1	9.6	8.1
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.7	0.5	0.3	0.4	0.7	0.1

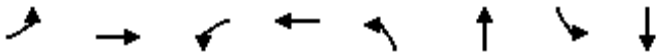
Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	15	0	250	0	420	80	185	320	0
Future Vol, veh/h	0	0	0	15	0	250	0	420	80	185	320	0
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	12	12	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	90	-	-	105	-	-	70	-	-
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	5	2
Mvmt Flow	0	0	0	16	0	272	0	457	87	201	348	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1387	1306	360	1275	1263	513	348	0	0	556	0	0
Stage 1	750	750	-	513	513	-	-	-	-	-	-	-
Stage 2	637	556	-	762	750	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	120	160	684	144	170	561	1211	-	-	1015	-	-
Stage 1	403	419	-	544	536	-	-	-	-	-	-	-
Stage 2	465	513	-	397	419	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	52	127	676	119	134	555	1211	-	-	1003	-	-
Mov Cap-2 Maneuver	52	127	-	119	134	-	-	-	-	-	-	-
Stage 1	403	335	-	538	530	-	-	-	-	-	-	-
Stage 2	237	507	-	314	335	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	18.8	0	3.5
HCM LOS	A	C		

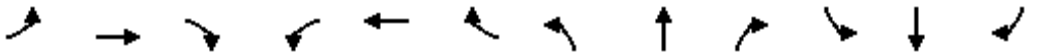
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1211	-	-	-	119	555	1003	-	-
HCM Lane V/C Ratio	-	-	-	-	0.137	0.49	0.2	-	-
HCM Control Delay (s)	0	-	-	0	40	17.5	9.5	-	-
HCM Lane LOS	A	-	-	A	E	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	2.7	0.7	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	315	87	310	239	452	33	282
v/c Ratio	0.48	0.69	0.41	0.70	0.67	0.57	0.21	0.69
Control Delay	41.2	33.3	41.5	37.3	42.7	23.2	41.2	37.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	33.3	41.5	37.3	42.7	23.2	41.2	37.0
Queue Length 50th (ft)	50	122	39	132	102	133	15	118
Queue Length 95th (ft)	121	250	98	264	#278	365	50	238
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	430	709	430	727	430	831	430	704
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.44	0.20	0.43	0.56	0.54	0.08	0.40

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	185	105	80	260	25	220	340	75	30	220	40
Future Volume (veh/h)	105	185	105	80	260	25	220	340	75	30	220	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	114	201	114	87	283	27	239	370	82	33	239	43
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	5	2
Cap, veh/h	148	282	160	119	398	38	294	525	116	64	339	61
Arrive On Green	0.08	0.25	0.25	0.07	0.24	0.24	0.16	0.35	0.35	0.04	0.23	0.23
Sat Flow, veh/h	1781	1112	630	1781	1677	160	1781	1479	328	1781	1501	270
Grp Volume(v), veh/h	114	0	315	87	0	310	239	0	452	33	0	282
Grp Sat Flow(s),veh/h/ln	1781	0	1742	1781	0	1837	1781	0	1806	1781	0	1771
Q Serve(g_s), s	3.5	0.0	9.1	2.7	0.0	8.6	7.2	0.0	11.9	1.0	0.0	8.1
Cycle Q Clear(g_c), s	3.5	0.0	9.1	2.7	0.0	8.6	7.2	0.0	11.9	1.0	0.0	8.1
Prop In Lane	1.00		0.36	1.00		0.09	1.00		0.18	1.00		0.15
Lane Grp Cap(c), veh/h	148	0	442	119	0	436	294	0	641	64	0	400
V/C Ratio(X)	0.77	0.00	0.71	0.73	0.00	0.71	0.81	0.00	0.70	0.52	0.00	0.70
Avail Cap(c_a), veh/h	515	0	818	515	0	863	515	0	848	515	0	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	18.8	25.4	0.0	19.4	22.3	0.0	15.4	26.2	0.0	19.7
Incr Delay (d2), s/veh	3.2	0.0	0.8	3.3	0.0	0.8	2.1	0.0	0.9	2.4	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	3.4	1.2	0.0	3.4	2.9	0.0	4.4	0.4	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	0.0	19.6	28.6	0.0	20.2	24.4	0.0	16.3	28.6	0.0	20.6
LnGrp LOS	C	A	B	C	A	C	C	A	B	C	A	C
Approach Vol, veh/h		429			397			691			315	
Approach Delay, s/veh		21.9			22.0			19.1			21.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	23.7	7.7	18.0	13.1	16.5	8.6	17.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.0	13.9	4.7	11.1	9.2	10.1	5.5	10.6
Green Ext Time (p_c), s	0.0	1.5	0.1	1.1	0.2	1.0	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	11.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	80	370	125	10	490	10	95	5	30	0	0	25
Future Vol, veh/h	80	370	125	10	490	10	95	5	30	0	0	25
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	87	402	136	11	533	11	103	5	33	0	0	27

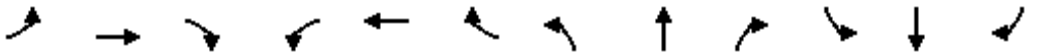
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	550	0	0	540	0	0	1230	1218	479	1237	1281	555
Stage 1	-	-	-	-	-	-	646	646	-	567	567	-
Stage 2	-	-	-	-	-	-	584	572	-	670	714	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1020	-	-	1028	-	-	154	181	587	153	166	531
Stage 1	-	-	-	-	-	-	460	467	-	508	507	-
Stage 2	-	-	-	-	-	-	498	504	-	446	435	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1014	-	-	1026	-	-	129	155	582	124	142	523
Mov Cap-2 Maneuver	-	-	-	-	-	-	129	155	-	124	142	-
Stage 1	-	-	-	-	-	-	402	408	-	442	496	-
Stage 2	-	-	-	-	-	-	461	493	-	361	380	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.2	102.7	12.3
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	158	1014	-	-	1026	-	-	523
HCM Lane V/C Ratio	0.894	0.086	-	-	0.011	-	-	0.052
HCM Control Delay (s)	102.7	8.9	0	-	8.5	0	-	12.3
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	6.3	0.3	-	-	0	-	-	0.2

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	429	71	478	114	5	60	82	93
v/c Ratio	0.20	0.53	0.29	0.58	0.15	0.03	0.26	0.32	0.20
Control Delay	29.2	17.5	29.0	17.5	4.9	29.4	22.4	29.0	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	17.5	29.0	17.5	4.9	29.4	22.4	29.0	16.2
Queue Length 50th (ft)	15	116	24	130	3	2	13	28	18
Queue Length 95th (ft)	45	244	64	267	32	12	48	71	62
Internal Link Dist (ft)		263		667			657		264
Turn Bay Length (ft)	70		50		190	55		75	
Base Capacity (vph)	585	999	585	1009	885	585	938	585	932
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.43	0.12	0.47	0.13	0.01	0.06	0.14	0.10

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	390	5	65	440	105	5	35	20	75	55	30
Future Volume (veh/h)	40	390	5	65	440	105	5	35	20	75	55	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	43	424	5	71	478	114	5	38	22	82	60	33
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	5	2	2	5	2
Cap, veh/h	84	576	7	121	622	526	12	163	94	132	241	132
Arrive On Green	0.05	0.31	0.31	0.07	0.33	0.33	0.01	0.15	0.15	0.07	0.22	0.22
Sat Flow, veh/h	1781	1845	22	1781	1870	1580	1781	1077	624	1781	1102	606
Grp Volume(v), veh/h	43	0	429	71	478	114	5	0	60	82	0	93
Grp Sat Flow(s),veh/h/ln	1781	0	1866	1781	1870	1580	1781	0	1701	1781	0	1708
Q Serve(g_s), s	1.0	0.0	8.3	1.6	9.3	2.1	0.1	0.0	1.3	1.8	0.0	1.8
Cycle Q Clear(g_c), s	1.0	0.0	8.3	1.6	9.3	2.1	0.1	0.0	1.3	1.8	0.0	1.8
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.37	1.00		0.35
Lane Grp Cap(c), veh/h	84	0	583	121	622	526	12	0	257	132	0	373
V/C Ratio(X)	0.51	0.00	0.74	0.59	0.77	0.22	0.42	0.00	0.23	0.62	0.00	0.25
Avail Cap(c_a), veh/h	703	0	1197	703	1200	1014	703	0	1091	703	0	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	12.5	18.3	12.1	9.7	20.1	0.0	15.1	18.2	0.0	13.1
Incr Delay (d2), s/veh	1.8	0.0	0.7	1.7	0.8	0.1	8.3	0.0	0.2	1.8	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.8	0.6	3.1	0.6	0.1	0.0	0.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	13.1	20.0	12.9	9.8	28.3	0.0	15.3	20.0	0.0	13.2
LnGrp LOS	C	A	B	C	B	A	C	A	B	B	A	B
Approach Vol, veh/h		472			663			65			175	
Approach Delay, s/veh		13.8			13.1			16.3			16.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	16.7	7.0	10.1	5.9	17.5	4.3	12.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.6	10.3	3.8	3.3	3.0	11.3	2.1	3.8
Green Ext Time (p_c), s	0.1	1.6	0.1	0.1	0.0	1.9	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	180	35	5	175	135	50	105	15	90	50	65
Future Vol, veh/h	60	180	35	5	175	135	50	105	15	90	50	65
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	196	38	5	190	147	54	114	16	98	54	71
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	14.1	12.4	12.2	11.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	88%	0%	84%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	12%	0%	16%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	120	60	215	5	175	135	90	50	65
LT Vol	50	0	60	0	5	0	0	90	0	0
Through Vol	0	105	0	180	0	175	0	0	50	0
RT Vol	0	15	0	35	0	0	135	0	0	65
Lane Flow Rate	54	130	65	234	5	190	147	98	54	71
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.118	0.262	0.135	0.444	0.011	0.366	0.254	0.211	0.11	0.129
Departure Headway (Hd)	7.822	7.226	7.453	6.832	7.414	6.931	6.222	7.768	7.261	6.55
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	497	483	530	483	521	580	463	493	547
Service Time	5.567	4.97	5.167	4.546	5.153	4.646	3.937	5.512	5.004	4.293
HCM Lane V/C Ratio	0.118	0.262	0.135	0.442	0.01	0.365	0.253	0.212	0.11	0.13
HCM Control Delay	11.6	12.5	11.3	14.9	10.2	13.6	11	12.6	10.9	10.3
HCM Lane LOS	B	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.4	1	0.5	2.3	0	1.7	1	0.8	0.4	0.4

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	55	0	20	75	5	0	10	10	0	35	10
Future Vol, veh/h	0	55	0	20	75	5	0	10	10	0	35	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	60	0	22	82	5	0	11	11	0	38	11
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	7.5	7.8	7.4	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	20%	0%
Vol Thru, %	100%	0%	100%	75%	78%
Vol Right, %	0%	100%	0%	5%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	10	55	100	45
LT Vol	0	0	0	20	0
Through Vol	10	0	55	75	35
RT Vol	0	10	0	5	10
Lane Flow Rate	11	11	60	109	49
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.015	0.013	0.069	0.124	0.057
Departure Headway (Hd)	4.854	4.152	4.139	4.111	4.211
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	728	848	857	865	838
Service Time	2.647	1.945	2.205	2.167	2.301
HCM Lane V/C Ratio	0.015	0.013	0.07	0.126	0.058
HCM Control Delay	7.7	7	7.5	7.8	7.6
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0	0	0.2	0.4	0.2

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

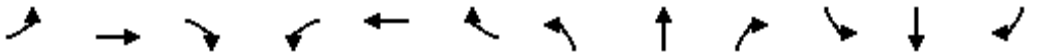
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	35	30	0	25	0	15	230	0	0	95	30
Future Vol, veh/h	55	35	30	0	25	0	15	230	0	0	95	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	2	5	2
Mvmt Flow	60	38	33	0	27	0	16	250	0	0	103	33
Number of Lanes	1	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	9	9	9.2	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	16%	0%	100%	0%	0%	0%	0%
Vol Thru, %	84%	100%	0%	54%	100%	100%	51%
Vol Right, %	0%	0%	0%	46%	0%	0%	49%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	153	55	65	25	63	62
LT Vol	15	0	55	0	0	0	0
Through Vol	77	153	0	35	25	63	32
RT Vol	0	0	0	30	0	0	30
Lane Flow Rate	100	167	60	71	27	69	67
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.143	0.238	0.1	0.102	0.043	0.101	0.091
Departure Headway (Hd)	5.181	5.15	6.037	5.209	5.68	5.283	4.889
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	691	697	593	686	628	677	731
Service Time	2.915	2.884	3.782	2.954	3.734	3.023	2.629
HCM Lane V/C Ratio	0.145	0.24	0.101	0.103	0.043	0.102	0.092
HCM Control Delay	8.8	9.5	9.5	8.5	9	8.6	8.1
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0.9	0.3	0.3	0.1	0.3	0.3

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	92	158	21	33	33	250	11	326
v/c Ratio	0.33	0.36	0.07	0.08	0.13	0.12	0.05	0.15
Control Delay	18.1	6.1	14.6	0.4	19.1	6.2	19.3	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	6.1	14.6	0.4	19.1	6.2	19.3	6.4
Queue Length 50th (ft)	17	0	4	0	6	10	2	13
Queue Length 95th (ft)	56	36	19	0	30	44	15	57
Internal Link Dist (ft)	429		461			636		303
Turn Bay Length (ft)				120	180		160	
Base Capacity (vph)	647	823	653	797	275	2171	233	2150
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.19	0.03	0.04	0.12	0.12	0.05	0.15

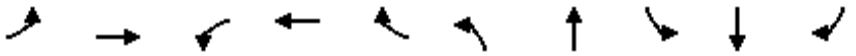
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	0	145	15	5	30	30	220	10	10	275	25
Future Volume (veh/h)	85	0	145	15	5	30	30	220	10	10	275	25
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	92	0	158	16	5	33	33	239	11	11	299	27
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	130	0	557	114	21	557	64	1354	62	25	1218	109
Arrive On Green	0.35	0.00	0.35	0.35	0.35	0.35	0.04	0.39	0.39	0.01	0.37	0.37
Sat Flow, veh/h	0	0	1585	0	60	1585	1781	3460	159	1781	3298	296
Grp Volume(v), veh/h	92	0	158	21	0	33	33	122	128	11	160	166
Grp Sat Flow(s),veh/h/ln	0	0	1585	60	0	1585	1781	1777	1842	1781	1777	1817
Q Serve(g_s), s	0.0	0.0	4.0	0.0	0.0	0.8	1.0	2.5	2.5	0.3	3.5	3.5
Cycle Q Clear(g_c), s	19.5	0.0	4.0	19.5	0.0	0.8	1.0	2.5	2.5	0.3	3.5	3.5
Prop In Lane	1.00		1.00	0.76		1.00	1.00		0.09	1.00		0.16
Lane Grp Cap(c), veh/h	130	0	557	135	0	557	64	695	721	25	656	671
V/C Ratio(X)	0.71	0.00	0.28	0.16	0.00	0.06	0.52	0.18	0.18	0.44	0.24	0.25
Avail Cap(c_a), veh/h	130	0	557	135	0	557	209	695	721	177	656	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	13.0	15.0	0.0	11.9	26.3	11.0	11.0	27.1	12.1	12.1
Incr Delay (d2), s/veh	16.3	0.0	0.3	0.5	0.0	0.0	6.3	0.6	0.5	11.6	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	1.3	0.2	0.0	0.2	0.5	0.9	0.9	0.2	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	0.0	13.2	15.5	0.0	12.0	32.6	11.6	11.6	38.8	13.0	13.0
LnGrp LOS	D	A	B	B	A	B	C	B	B	D	B	B
Approach Vol, veh/h		250			54			283			337	
Approach Delay, s/veh		24.6			13.4			14.0			13.9	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	26.2		24.0	6.5	25.0		24.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	21.5		19.5	6.5	20.5		19.5				
Max Q Clear Time (g_c+I1), s	2.3	4.5		21.5	3.0	5.5		21.5				
Green Ext Time (p_c), s	0.0	1.1		0.0	0.0	1.5		0.0				

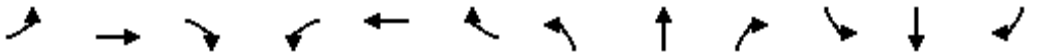
Intersection Summary			
HCM 6th Ctrl Delay		16.8	
HCM 6th LOS		B	



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	49	81	98	5	120	5	239	223	245	16
v/c Ratio	0.15	0.21	0.29	0.01	0.17	0.02	0.46	0.44	0.24	0.02
Control Delay	26.1	9.0	26.1	15.2	3.7	30.4	19.3	29.9	15.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.1	9.0	26.1	15.2	3.7	30.4	19.3	29.9	15.1	0.1
Queue Length 50th (ft)	13	4	24	1	0	1	45	29	39	0
Queue Length 95th (ft)	#69	34	97	8	22	14	162	#130	187	0
Internal Link Dist (ft)		776		790			528		636	
Turn Bay Length (ft)	80					350		320		
Base Capacity (vph)	326	1178	528	1489	714	220	1344	512	1450	1264
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.07	0.19	0.00	0.17	0.02	0.18	0.44	0.17	0.01

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	15	60	90	5	110	5	120	100	205	225	15
Future Volume (veh/h)	45	15	60	90	5	110	5	120	100	205	225	15
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	49	16	65	98	5	120	5	130	109	223	245	16
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	96	41	168	154	300	451	12	206	172	427	628	532
Arrive On Green	0.05	0.13	0.13	0.09	0.16	0.16	0.01	0.22	0.22	0.12	0.34	0.34
Sat Flow, veh/h	1781	323	1311	1781	1870	1585	1781	940	788	3456	1870	1585
Grp Volume(v), veh/h	49	0	81	98	5	120	5	0	239	223	245	16
Grp Sat Flow(s),veh/h/ln	1781	0	1634	1781	1870	1585	1781	0	1728	1728	1870	1585
Q Serve(g_s), s	1.0	0.0	1.6	1.9	0.1	2.1	0.1	0.0	4.5	2.2	3.6	0.2
Cycle Q Clear(g_c), s	1.0	0.0	1.6	1.9	0.1	2.1	0.1	0.0	4.5	2.2	3.6	0.2
Prop In Lane	1.00		0.80	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	96	0	209	154	300	451	12	0	378	427	628	532
V/C Ratio(X)	0.51	0.00	0.39	0.63	0.02	0.27	0.41	0.00	0.63	0.52	0.39	0.03
Avail Cap(c_a), veh/h	247	0	1403	592	1969	1864	247	0	1676	574	1865	1580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	0.0	14.5	15.9	12.8	10.0	17.9	0.0	12.8	14.8	9.2	8.0
Incr Delay (d2), s/veh	4.2	0.0	1.2	4.3	0.0	0.3	21.1	0.0	1.7	1.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.5	0.8	0.0	0.6	0.1	0.0	1.4	0.7	1.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	15.6	20.2	12.8	10.3	39.0	0.0	14.5	15.8	9.6	8.1
LnGrp LOS	C	A	B	C	B	B	D	A	B	B	A	A
Approach Vol, veh/h		130			223			244			484	
Approach Delay, s/veh		17.6			14.7			15.0			12.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	11.9	7.1	8.6	4.2	16.1	5.9	9.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	35.0	12.0	31.0	5.0	36.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	4.2	6.5	3.9	3.6	2.1	5.6	3.0	4.1
Green Ext Time (p_c), s	0.1	1.4	0.1	0.4	0.0	1.4	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

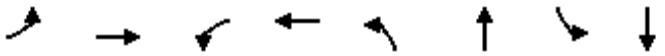
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	15	0	145	0	440	80	160	630	0
Future Vol, veh/h	0	0	0	15	0	145	0	440	80	160	630	0
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	12	12	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	90	-	-	105	-	-	70	-	-
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	0	0	0	16	0	158	0	478	87	174	685	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1634	1610	697	1579	1567	534	685	0	0	577	0	0
Stage 1	1033	1033	-	534	534	-	-	-	-	-	-	-
Stage 2	601	577	-	1045	1033	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	81	105	441	88	111	546	908	-	-	996	-	-
Stage 1	281	310	-	530	524	-	-	-	-	-	-	-
Stage 2	487	502	-	276	310	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	50	85	436	74	90	540	908	-	-	985	-	-
Mov Cap-2 Maneuver	50	85	-	74	90	-	-	-	-	-	-	-
Stage 1	281	255	-	524	518	-	-	-	-	-	-	-
Stage 2	345	496	-	225	255	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	19.3	0	1.9
HCM LOS	A	C		

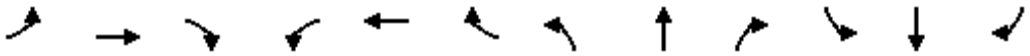
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	908	-	-	-	74	540	985	-	-
HCM Lane V/C Ratio	-	-	-	-	0.22	0.292	0.177	-	-
HCM Control Delay (s)	0	-	-	0	66.9	14.4	9.4	-	-
HCM Lane LOS	A	-	-	A	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	1.2	0.6	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	163	348	54	179	147	364	87	494
v/c Ratio	0.63	0.69	0.34	0.57	0.60	0.50	0.46	0.79
Control Delay	45.1	32.6	42.8	36.4	44.1	24.3	43.6	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	32.6	42.8	36.4	44.1	24.3	43.6	37.8
Queue Length 50th (ft)	77	147	26	75	70	139	41	221
Queue Length 95th (ft)	156	270	67	151	141	279	95	#494
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	368	603	368	615	368	731	368	623
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.58	0.15	0.29	0.40	0.50	0.24	0.79

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	190	130	50	130	35	135	295	40	80	415	40
Future Volume (veh/h)	150	190	130	50	130	35	135	295	40	80	415	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	207	141	54	141	38	147	321	43	87	451	43
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	207	267	182	88	272	73	189	579	78	114	532	51
Arrive On Green	0.12	0.26	0.26	0.05	0.19	0.19	0.11	0.36	0.36	0.06	0.32	0.32
Sat Flow, veh/h	1781	1028	700	1781	1410	380	1781	1612	216	1781	1679	160
Grp Volume(v), veh/h	163	0	348	54	0	179	147	0	364	87	0	494
Grp Sat Flow(s),veh/h/ln	1781	0	1728	1781	0	1790	1781	0	1828	1781	0	1839
Q Serve(g_s), s	5.3	0.0	11.2	1.8	0.0	5.4	4.8	0.0	9.5	2.9	0.0	15.0
Cycle Q Clear(g_c), s	5.3	0.0	11.2	1.8	0.0	5.4	4.8	0.0	9.5	2.9	0.0	15.0
Prop In Lane	1.00		0.41	1.00		0.21	1.00		0.12	1.00		0.09
Lane Grp Cap(c), veh/h	207	0	449	88	0	345	189	0	657	114	0	583
V/C Ratio(X)	0.79	0.00	0.77	0.61	0.00	0.52	0.78	0.00	0.55	0.76	0.00	0.85
Avail Cap(c_a), veh/h	477	0	751	477	0	778	477	0	795	477	0	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	0.0	20.5	27.9	0.0	21.6	26.1	0.0	15.3	27.5	0.0	19.1
Incr Delay (d2), s/veh	2.5	0.0	1.1	2.5	0.0	0.4	2.6	0.0	0.3	4.0	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	4.2	0.8	0.0	2.1	2.1	0.0	3.6	1.3	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	0.0	21.6	30.4	0.0	22.1	28.7	0.0	15.6	31.5	0.0	23.8
LnGrp LOS	C	A	C	C	A	C	C	A	B	C	A	C
Approach Vol, veh/h		511			233			511			581	
Approach Delay, s/veh		23.7			24.0			19.4			25.0	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	25.5	7.0	19.5	10.3	23.0	11.0	15.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	4.9	11.5	3.8	13.2	6.8	17.0	7.3	7.4
Green Ext Time (p_c), s	0.1	1.3	0.0	1.2	0.1	1.5	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	20.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	50	430	125	5	290	10	110	15	60	15	5	140
Future Vol, veh/h	50	430	125	5	290	10	110	15	60	15	5	140
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	54	467	136	5	315	11	120	16	65	16	5	152

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	332	0	0	605	0	0	1064	987	544	1028	1050	337
Stage 1	-	-	-	-	-	-	645	645	-	337	337	-
Stage 2	-	-	-	-	-	-	419	342	-	691	713	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1227	-	-	973	-	-	201	247	539	212	227	705
Stage 1	-	-	-	-	-	-	461	467	-	677	641	-
Stage 2	-	-	-	-	-	-	612	638	-	435	435	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1220	-	-	971	-	-	144	227	534	164	209	694
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	227	-	164	209	-
Stage 1	-	-	-	-	-	-	429	434	-	628	633	-
Stage 2	-	-	-	-	-	-	466	630	-	340	405	-

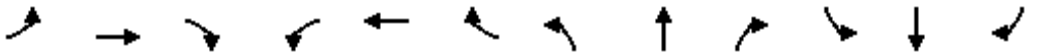
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	121.5	15.8
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	196	1220	-	-	971	-	-	505
HCM Lane V/C Ratio	1.026	0.045	-	-	0.006	-	-	0.344
HCM Control Delay (s)	121.5	8.1	0	-	8.7	0	-	15.8
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	9	0.1	-	-	0	-	-	1.5

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	484	65	397	120	11	114	152	180
v/c Ratio	0.25	0.61	0.30	0.49	0.16	0.07	0.43	0.50	0.33
Control Delay	33.2	23.2	33.3	19.6	4.7	33.3	31.7	33.0	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	23.2	33.3	19.6	4.7	33.3	31.7	33.0	14.8
Queue Length 50th (ft)	19	161	25	122	0	4	41	58	35
Queue Length 95th (ft)	54	#377	66	259	34	21	95	122	100
Internal Link Dist (ft)		263		667			657		264
Turn Bay Length (ft)	70		50		190	55		75	
Base Capacity (vph)	510	874	510	874	790	510	860	510	820
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.55	0.13	0.45	0.15	0.02	0.13	0.30	0.22

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	445	0	60	365	110	10	90	15	140	75	90
Future Volume (veh/h)	45	445	0	60	365	110	10	90	15	140	75	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	484	0	65	397	120	11	98	16	152	82	98
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	91	603	0	111	624	527	25	220	36	198	183	219
Arrive On Green	0.05	0.32	0.00	0.06	0.33	0.33	0.01	0.14	0.14	0.11	0.24	0.24
Sat Flow, veh/h	1781	1870	0	1781	1870	1580	1781	1564	255	1781	771	922
Grp Volume(v), veh/h	49	484	0	65	397	120	11	0	114	152	0	180
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	1870	1580	1781	0	1819	1781	0	1693
Q Serve(g_s), s	1.2	10.4	0.0	1.6	7.9	2.4	0.3	0.0	2.5	3.7	0.0	4.0
Cycle Q Clear(g_c), s	1.2	10.4	0.0	1.6	7.9	2.4	0.3	0.0	2.5	3.7	0.0	4.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.14	1.00		0.54
Lane Grp Cap(c), veh/h	91	603	0	111	624	527	25	0	256	198	0	402
V/C Ratio(X)	0.54	0.80	0.00	0.59	0.64	0.23	0.43	0.00	0.44	0.77	0.00	0.45
Avail Cap(c_a), veh/h	647	1061	0	647	1104	933	647	0	1073	647	0	999
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	13.6	0.0	20.1	12.4	10.6	21.5	0.0	17.3	19.0	0.0	14.3
Incr Delay (d2), s/veh	1.8	1.0	0.0	1.8	0.4	0.1	4.2	0.0	0.5	2.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.7	0.0	0.6	2.7	0.7	0.1	0.0	0.9	1.5	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.2	14.6	0.0	21.9	12.8	10.7	25.8	0.0	17.8	21.4	0.0	14.6
LnGrp LOS	C	B	A	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		533			582			125			332	
Approach Delay, s/veh		15.3			13.4			18.5			17.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	18.2	8.9	10.2	6.3	18.7	4.6	14.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	25.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.6	12.4	5.7	4.5	3.2	9.9	2.3	6.0
Green Ext Time (p_c), s	0.0	1.7	0.1	0.3	0.0	1.6	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	22.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	140	285	30	30	275	140	35	65	10	185	100	115
Future Vol, veh/h	140	285	30	30	275	140	35	65	10	185	100	115
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	152	310	33	33	299	152	38	71	11	201	109	125
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	29.5	23.2	14.7	17.3
HCM LOS	D	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	87%	0%	90%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	13%	0%	10%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	75	140	315	30	275	140	185	100	115
LT Vol	35	0	140	0	30	0	0	185	0	0
Through Vol	0	65	0	285	0	275	0	0	100	0
RT Vol	0	10	0	30	0	0	140	0	0	115
Lane Flow Rate	38	82	152	342	33	299	152	201	109	125
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.108	0.217	0.373	0.785	0.081	0.703	0.327	0.512	0.261	0.276
Departure Headway (Hd)	10.187	9.574	8.829	8.251	8.976	8.464	7.747	9.171	8.658	7.94
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	352	375	408	438	399	427	464	394	415	453
Service Time	7.944	7.331	6.573	5.995	6.721	6.209	5.492	6.916	6.403	5.685
HCM Lane V/C Ratio	0.108	0.219	0.373	0.781	0.083	0.7	0.328	0.51	0.263	0.276
HCM Control Delay	14.2	15	16.8	35.2	12.5	29	14.2	21.2	14.4	13.7
HCM Lane LOS	B	B	C	E	B	D	B	C	B	B
HCM 95th-tile Q	0.4	0.8	1.7	6.9	0.3	5.3	1.4	2.8	1	1.1

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	155	0	30	75	5	0	35	55	5	25	5
Future Vol, veh/h	5	155	0	30	75	5	0	35	55	5	25	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	168	0	33	82	5	0	38	60	5	27	5
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.6	8.3	7.9	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	3%	27%	14%
Vol Thru, %	100%	0%	97%	68%	71%
Vol Right, %	0%	100%	0%	5%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	55	160	110	35
LT Vol	0	0	5	30	5
Through Vol	35	0	155	75	25
RT Vol	0	55	0	5	5
Lane Flow Rate	38	60	174	120	38
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.055	0.075	0.212	0.149	0.05
Departure Headway (Hd)	5.242	4.537	4.396	4.474	4.769
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	684	790	817	803	751
Service Time	2.964	2.259	2.414	2.493	2.795
HCM Lane V/C Ratio	0.056	0.076	0.213	0.149	0.051
HCM Control Delay	8.3	7.6	8.6	8.3	8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.8	0.5	0.2

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

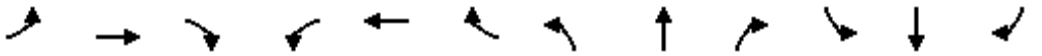
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	110	65	10	85	20	40	210	15	5	280	85
Future Vol, veh/h	75	110	65	10	85	20	40	210	15	5	280	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	2	5	2
Mvmt Flow	82	120	71	11	92	22	43	228	16	5	304	92
Number of Lanes	1	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	12.2	12.1	11.6	12.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	28%	0%	100%	0%	9%	3%	0%
Vol Thru, %	72%	88%	0%	63%	74%	97%	62%
Vol Right, %	0%	12%	0%	37%	17%	0%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	145	120	75	175	115	145	225
LT Vol	40	0	75	0	10	5	0
Through Vol	105	105	0	110	85	140	140
RT Vol	0	15	0	65	20	0	85
Lane Flow Rate	158	130	82	190	125	158	245
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.288	0.232	0.163	0.339	0.239	0.276	0.413
Departure Headway (Hd)	6.583	6.406	7.191	6.418	6.878	6.31	6.075
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	544	558	497	557	519	567	589
Service Time	4.355	4.177	4.961	4.188	4.959	4.074	3.84
HCM Lane V/C Ratio	0.29	0.233	0.165	0.341	0.241	0.279	0.416
HCM Control Delay	12	11.1	11.4	12.5	12.1	11.5	13.1
HCM Lane LOS	B	B	B	B	B	B	B
HCM 95th-tile Q	1.2	0.9	0.6	1.5	0.9	1.1	2

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	65	65	11	11	141	348	22	310
v/c Ratio	0.29	0.16	0.05	0.03	0.45	0.15	0.12	0.18
Control Delay	21.8	0.8	17.9	0.1	23.0	4.9	22.9	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	0.8	17.9	0.1	23.0	4.9	22.9	7.9
Queue Length 50th (ft)	16	0	3	0	36	14	6	20
Queue Length 95th (ft)	45	0	13	0	81	52	23	46
Internal Link Dist (ft)	405		426			648		446
Turn Bay Length (ft)				120	180		160	
Base Capacity (vph)	525	714	500	714	380	2395	184	1721
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.09	0.02	0.02	0.37	0.15	0.12	0.18

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	60	10	0	10	130	295	25	20	195	90
Future Volume (veh/h)	60	0	60	10	0	10	130	295	25	20	195	90
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	65	0	65	11	0	11	141	321	27	22	212	98
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	146	0	401	146	0	401	181	1520	127	46	913	407
Arrive On Green	0.25	0.00	0.25	0.25	0.00	0.25	0.10	0.46	0.46	0.03	0.38	0.38
Sat Flow, veh/h	23	0	1585	21	0	1585	1781	3320	278	1781	2390	1066
Grp Volume(v), veh/h	65	0	65	11	0	11	141	171	177	22	156	154
Grp Sat Flow(s),veh/h/ln	23	0	1585	21	0	1585	1781	1777	1820	1781	1777	1679
Q Serve(g_s), s	0.2	0.0	1.6	0.2	0.0	0.3	4.0	3.0	3.0	0.6	3.0	3.2
Cycle Q Clear(g_c), s	13.0	0.0	1.6	13.0	0.0	0.3	4.0	3.0	3.0	0.6	3.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.63
Lane Grp Cap(c), veh/h	146	0	401	146	0	401	181	813	833	46	679	641
V/C Ratio(X)	0.45	0.00	0.16	0.08	0.00	0.03	0.78	0.21	0.21	0.47	0.23	0.24
Avail Cap(c_a), veh/h	283	0	556	276	0	556	357	813	833	173	679	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	0.0	14.9	25.6	0.0	14.4	22.5	8.4	8.4	24.7	10.7	10.8
Incr Delay (d2), s/veh	2.1	0.0	0.2	0.2	0.0	0.0	7.0	0.6	0.6	7.3	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.5	0.1	0.0	0.1	1.8	1.0	1.0	0.3	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	0.0	15.1	25.8	0.0	14.4	29.5	8.9	8.9	32.0	11.5	11.7
LnGrp LOS	C	A	B	C	A	B	C	A	A	C	B	B
Approach Vol, veh/h		130			22			489			332	
Approach Delay, s/veh		21.4			20.1			14.9			13.0	
Approach LOS		C			C			B			B	

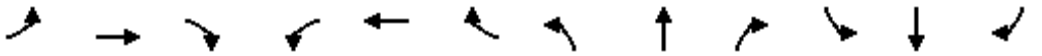
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	28.0		17.7	9.7	24.1		17.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	10.3	18.2		18.0				
Max Q Clear Time (g_c+I1), s	2.6	5.0		15.0	6.0	5.2		15.0				
Green Ext Time (p_c), s	0.0	1.7		0.1	0.1	1.3		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			15.2
HCM 6th LOS			B

Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	33	27	82	174	54	397	109	152	43
v/c Ratio	0.15	0.03	0.25	0.21	0.25	0.52	0.22	0.13	0.04
Control Delay	33.9	0.1	28.2	0.6	35.0	18.2	29.4	14.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	0.1	28.2	0.6	35.0	18.2	29.4	14.2	0.1
Queue Length 50th (ft)	7	0	15	0	11	66	10	21	0
Queue Length 95th (ft)	52	0	96	0	#93	302	63	115	0
Internal Link Dist (ft)		791				718		648	
Turn Bay Length (ft)	80				350		320		
Base Capacity (vph)	216	1318	518	814	216	1396	502	1460	1271
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.02	0.16	0.21	0.25	0.28	0.22	0.10	0.03

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	25	75	0	160	50	285	80	100	140	40
Future Volume (veh/h)	30	0	25	75	0	160	50	285	80	100	140	40
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	33	0	27	82	0	174	54	310	87	109	152	43
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	69	0	187	134	290	386	101	433	121	307	636	539
Arrive On Green	0.04	0.00	0.12	0.08	0.00	0.15	0.06	0.31	0.31	0.09	0.34	0.34
Sat Flow, veh/h	1781	0	1585	1781	1870	1585	1781	1405	394	3456	1870	1585
Grp Volume(v), veh/h	33	0	27	82	0	174	54	0	397	109	152	43
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	1585	1781	0	1799	1728	1870	1585
Q Serve(g_s), s	0.7	0.0	0.6	1.7	0.0	3.6	1.2	0.0	7.6	1.2	2.3	0.7
Cycle Q Clear(g_c), s	0.7	0.0	0.6	1.7	0.0	3.6	1.2	0.0	7.6	1.2	2.3	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	69	0	187	134	290	386	101	0	554	307	636	539
V/C Ratio(X)	0.48	0.00	0.14	0.61	0.00	0.45	0.53	0.00	0.72	0.36	0.24	0.08
Avail Cap(c_a), veh/h	228	0	1259	548	1821	1684	228	0	1614	531	1725	1462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	0.0	15.4	17.5	0.0	12.5	17.9	0.0	12.0	16.7	9.3	8.7
Incr Delay (d2), s/veh	5.1	0.0	0.4	4.4	0.0	0.8	4.3	0.0	1.8	0.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.2	0.8	0.0	1.1	0.5	0.0	2.4	0.4	0.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	15.8	21.9	0.0	13.4	22.2	0.0	13.7	17.4	9.4	8.8
LnGrp LOS	C	A	B	C	A	B	C	A	B	B	A	A
Approach Vol, veh/h		60			256			451			304	
Approach Delay, s/veh		20.0			16.1			14.8			12.2	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	16.0	6.9	8.6	6.2	17.3	5.5	10.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	35.0	12.0	31.0	5.0	36.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	3.2	9.6	3.7	2.6	3.2	4.3	2.7	5.6
Green Ext Time (p_c), s	0.1	2.4	0.1	0.1	0.0	0.9	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

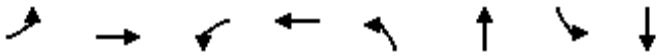
Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	15	0	240	0	420	80	185	315	0
Future Vol, veh/h	0	0	0	15	0	240	0	420	80	185	315	0
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	12	12	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	90	-	-	105	-	-	70	-	-
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	5	2
Mvmt Flow	0	0	0	16	0	261	0	457	87	201	342	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1375	1300	354	1269	1257	513	342	0	0	556	0	0
Stage 1	744	744	-	513	513	-	-	-	-	-	-	-
Stage 2	631	556	-	756	744	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	123	161	690	145	171	561	1217	-	-	1015	-	-
Stage 1	407	421	-	544	536	-	-	-	-	-	-	-
Stage 2	469	513	-	400	421	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	55	127	682	120	135	555	1217	-	-	1003	-	-
Mov Cap-2 Maneuver	55	127	-	120	135	-	-	-	-	-	-	-
Stage 1	407	337	-	538	530	-	-	-	-	-	-	-
Stage 2	249	507	-	316	337	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	18.4	0	3.5
HCM LOS	A	C		

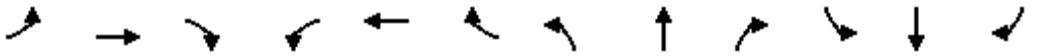
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1217	-	-	-	120	555	1003	-	-
HCM Lane V/C Ratio	-	-	-	-	0.136	0.47	0.2	-	-
HCM Control Delay (s)	0	-	-	0	39.7	17.1	9.5	-	-
HCM Lane LOS	A	-	-	A	E	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	2.5	0.7	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	103	288	92	299	179	441	38	250
v/c Ratio	0.43	0.65	0.40	0.68	0.58	0.62	0.21	0.60
Control Delay	38.5	31.1	38.5	34.3	39.2	25.8	38.7	32.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	31.1	38.5	34.3	39.2	25.8	38.7	32.3
Queue Length 50th (ft)	44	109	39	122	76	162	16	92
Queue Length 95th (ft)	109	223	100	243	173	#354	53	209
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	483	791	483	813	483	821	483	790
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.36	0.19	0.37	0.37	0.54	0.08	0.32

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	180	85	85	245	30	165	330	75	35	200	30
Future Volume (veh/h)	95	180	85	85	245	30	165	330	75	35	200	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	103	196	92	92	266	33	179	359	82	38	217	33
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	5	2
Cap, veh/h	137	293	138	130	393	49	230	460	105	73	348	53
Arrive On Green	0.08	0.25	0.25	0.07	0.24	0.24	0.13	0.31	0.31	0.04	0.23	0.23
Sat Flow, veh/h	1781	1195	561	1781	1627	202	1781	1469	335	1781	1543	235
Grp Volume(v), veh/h	103	0	288	92	0	299	179	0	441	38	0	250
Grp Sat Flow(s),veh/h/ln	1781	0	1756	1781	0	1829	1781	0	1804	1781	0	1778
Q Serve(g_s), s	2.8	0.0	7.2	2.5	0.0	7.2	4.8	0.0	10.9	1.0	0.0	6.2
Cycle Q Clear(g_c), s	2.8	0.0	7.2	2.5	0.0	7.2	4.8	0.0	10.9	1.0	0.0	6.2
Prop In Lane	1.00		0.32	1.00		0.11	1.00		0.19	1.00		0.13
Lane Grp Cap(c), veh/h	137	0	431	130	0	441	230	0	565	73	0	400
V/C Ratio(X)	0.75	0.00	0.67	0.71	0.00	0.68	0.78	0.00	0.78	0.52	0.00	0.62
Avail Cap(c_a), veh/h	583	0	934	583	0	973	583	0	960	583	0	946
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	16.6	22.2	0.0	16.8	20.6	0.0	15.3	23.0	0.0	17.1
Incr Delay (d2), s/veh	3.1	0.0	0.7	2.6	0.0	0.7	2.2	0.0	0.9	2.1	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	1.2	0.0	2.6	1.0	0.0	2.7	1.9	0.0	3.9	0.4	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	0.0	17.3	24.8	0.0	17.5	22.8	0.0	16.2	25.0	0.0	17.7
LnGrp LOS	C	A	B	C	A	B	C	A	B	C	A	B
Approach Vol, veh/h		391			391			620			288	
Approach Delay, s/veh		19.4			19.2			18.1			18.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	19.3	7.6	16.0	10.3	15.0	7.8	15.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.0	12.9	4.5	9.2	6.8	8.2	4.8	9.2
Green Ext Time (p_c), s	0.0	1.6	0.1	1.0	0.2	0.9	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	70	325	125	10	405	5	90	5	30	0	0	25
Future Vol, veh/h	70	325	125	10	405	5	90	5	30	0	0	25
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	76	353	136	11	440	5	98	5	33	0	0	27

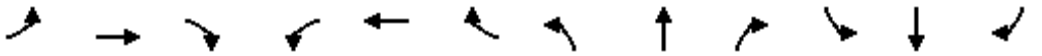
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	451	0	0	491	0	0	1063	1048	430	1070	1114	459
Stage 1	-	-	-	-	-	-	575	575	-	471	471	-
Stage 2	-	-	-	-	-	-	488	473	-	599	643	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1109	-	-	1072	-	-	201	228	625	199	208	602
Stage 1	-	-	-	-	-	-	503	503	-	573	560	-
Stage 2	-	-	-	-	-	-	561	558	-	488	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1103	-	-	1070	-	-	174	201	620	167	184	593
Mov Cap-2 Maneuver	-	-	-	-	-	-	174	201	-	167	184	-
Stage 1	-	-	-	-	-	-	453	453	-	515	549	-
Stage 2	-	-	-	-	-	-	523	547	-	410	422	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.2	48.1	11.4
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	212	1103	-	-	1070	-	-	593
HCM Lane V/C Ratio	0.641	0.069	-	-	0.01	-	-	0.046
HCM Control Delay (s)	48.1	8.5	0	-	8.4	0	-	11.4
HCM Lane LOS	E	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	3.8	0.2	-	-	0	-	-	0.1

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	413	49	424	92	11	93	87	92
v/c Ratio	0.16	0.61	0.19	0.56	0.13	0.05	0.32	0.30	0.17
Control Delay	28.2	19.8	27.9	17.1	4.1	28.9	22.3	27.3	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	19.8	27.9	17.1	4.1	28.9	22.3	27.3	13.6
Queue Length 50th (ft)	12	113	15	78	0	3	20	26	13
Queue Length 95th (ft)	42	237	50	241	25	19	67	75	58
Internal Link Dist (ft)		263		667			657		264
Turn Bay Length (ft)	70		50		190	55		75	
Base Capacity (vph)	680	1097	680	1119	970	680	1033	680	1015
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.38	0.07	0.38	0.09	0.02	0.09	0.13	0.09

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	375	5	45	390	85	10	55	30	80	50	35
Future Volume (veh/h)	35	375	5	45	390	85	10	55	30	80	50	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	38	408	5	49	424	92	11	60	33	87	54	38
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	5	2	2	5	2
Cap, veh/h	77	549	7	94	575	486	26	173	95	140	219	154
Arrive On Green	0.04	0.30	0.30	0.05	0.31	0.31	0.01	0.16	0.16	0.08	0.22	0.22
Sat Flow, veh/h	1781	1844	23	1781	1870	1580	1781	1100	605	1781	992	698
Grp Volume(v), veh/h	38	0	413	49	424	92	11	0	93	87	0	92
Grp Sat Flow(s),veh/h/ln	1781	0	1866	1781	1870	1580	1781	0	1705	1781	0	1691
Q Serve(g_s), s	0.8	0.0	7.7	1.0	7.8	1.7	0.2	0.0	1.9	1.8	0.0	1.7
Cycle Q Clear(g_c), s	0.8	0.0	7.7	1.0	7.8	1.7	0.2	0.0	1.9	1.8	0.0	1.7
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.35	1.00		0.41
Lane Grp Cap(c), veh/h	77	0	556	94	575	486	26	0	268	140	0	374
V/C Ratio(X)	0.49	0.00	0.74	0.52	0.74	0.19	0.43	0.00	0.35	0.62	0.00	0.25
Avail Cap(c_a), veh/h	737	0	1255	737	1258	1062	737	0	1147	737	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	12.2	17.8	12.0	9.8	18.9	0.0	14.5	17.3	0.0	12.4
Incr Delay (d2), s/veh	1.8	0.0	0.7	1.6	0.7	0.1	4.2	0.0	0.3	1.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.6	0.4	2.6	0.5	0.1	0.0	0.6	0.7	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	0.0	13.0	19.5	12.7	9.9	23.0	0.0	14.8	18.9	0.0	12.5
LnGrp LOS	B	A	B	B	B	A	C	A	B	B	A	B
Approach Vol, veh/h		451			565			104			179	
Approach Delay, s/veh		13.6			12.8			15.7			15.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	15.5	7.0	10.1	5.7	15.9	4.6	12.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.0	9.7	3.8	3.9	2.8	9.8	2.2	3.7
Green Ext Time (p_c), s	0.0	1.5	0.1	0.3	0.0	1.7	0.0	0.3

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

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	165	50	10	145	125	70	140	15	80	70	65
Future Vol, veh/h	60	165	50	10	145	125	70	140	15	80	70	65
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	179	54	11	158	136	76	152	16	87	76	71
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	14.5	12.3	13.1	11.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	90%	0%	77%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	10%	0%	23%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	155	60	215	10	145	125	80	70	65
LT Vol	70	0	60	0	10	0	0	80	0	0
Through Vol	0	140	0	165	0	145	0	0	70	0
RT Vol	0	15	0	50	0	0	125	0	0	65
Lane Flow Rate	76	168	65	234	11	158	136	87	76	71
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.165	0.338	0.138	0.45	0.023	0.314	0.244	0.191	0.156	0.131
Departure Headway (Hd)	7.794	7.218	7.609	6.938	7.68	7.172	6.462	7.888	7.38	6.668
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	460	499	472	519	466	501	556	456	486	538
Service Time	5.537	4.961	5.352	4.681	5.425	4.917	4.206	5.631	5.123	4.411
HCM Lane V/C Ratio	0.165	0.337	0.138	0.451	0.024	0.315	0.245	0.191	0.156	0.132
HCM Control Delay	12.1	13.6	11.6	15.3	10.6	13.2	11.3	12.5	11.5	10.4
HCM Lane LOS	B	B	B	C	B	B	B	B	B	B
HCM 95th-tile Q	0.6	1.5	0.5	2.3	0.1	1.3	1	0.7	0.5	0.4

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	75	100	5	0	75
Future Vol, veh/h	5	75	100	5	0	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	82	109	5	0	82
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7.7	7.8	7.1
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	0%
Vol Thru, %	94%	95%	0%
Vol Right, %	0%	5%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	80	105	75
LT Vol	5	0	0
Through Vol	75	100	0
RT Vol	0	5	75
Lane Flow Rate	87	114	82
Geometry Grp	1	1	1
Degree of Util (X)	0.101	0.13	0.083
Departure Headway (Hd)	4.176	4.114	3.675
Convergence, Y/N	Yes	Yes	Yes
Cap	854	867	955
Service Time	2.223	2.157	1.774
HCM Lane V/C Ratio	0.102	0.131	0.086
HCM Control Delay	7.7	7.8	7.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.4	0.3

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	2	2	2	0	0	25	2	200	10	25	115	2
Future Vol, veh/h	2	2	2	0	0	25	2	200	10	25	115	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	2	5	2
Mvmt Flow	2	2	2	0	0	27	2	217	11	27	125	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	293	412	64	345	408	114	127	0	0	228	0	0
Stage 1	180	180	-	227	227	-	-	-	-	-	-	-
Stage 2	113	232	-	118	181	-	-	-	-	-	-	-
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	637	529	987	585	531	917	1457	-	-	1337	-	-
Stage 1	804	749	-	755	715	-	-	-	-	-	-	-
Stage 2	880	711	-	874	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	607	516	987	571	518	917	1457	-	-	1337	-	-
Mov Cap-2 Maneuver	607	516	-	571	518	-	-	-	-	-	-	-
Stage 1	802	733	-	753	714	-	-	-	-	-	-	-
Stage 2	852	710	-	850	733	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	9	0.1	1.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1457	-	-	652	917	1337	-	-
HCM Lane V/C Ratio	0.001	-	-	0.01	0.03	0.02	-	-
HCM Control Delay (s)	7.5	0	-	10.6	9	7.7	0.1	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	30	15	205	100	35
Future Vol, veh/h	55	30	15	205	100	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	5	5	2
Mvmt Flow	60	33	16	223	109	38

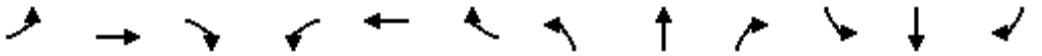
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	272	74	147	0	-	0
Stage 1	128	-	-	-	-	-
Stage 2	144	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	695	973	1432	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	686	973	1432	-	-	-
Mov Cap-2 Maneuver	686	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	868	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1432	-	686	973	-	-
HCM Lane V/C Ratio	0.011	-	0.087	0.034	-	-
HCM Control Delay (s)	7.5	0	10.7	8.8	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.1	-	-

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	98	16	38	22	266	11	310
v/c Ratio	0.40	0.24	0.06	0.09	0.10	0.12	0.05	0.14
Control Delay	19.5	5.3	14.5	0.5	19.8	6.3	19.4	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	5.3	14.5	0.5	19.8	6.3	19.4	6.2
Queue Length 50th (ft)	21	0	3	0	4	11	2	13
Queue Length 95th (ft)	66	25	16	0	24	47	15	53
Internal Link Dist (ft)	571		510			641		426
Turn Bay Length (ft)				120	180		160	
Base Capacity (vph)	635	782	582	782	228	2181	228	2173
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.13	0.03	0.05	0.10	0.12	0.05	0.14

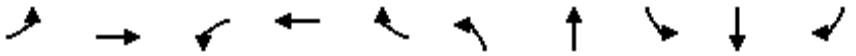
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	0	90	15	0	35	20	235	10	10	265	20
Future Volume (veh/h)	105	0	90	15	0	35	20	235	10	10	265	20
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	114	0	98	16	0	38	22	255	11	11	288	22
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	0	552	129	0	552	46	1375	59	25	1286	98
Arrive On Green	0.35	0.00	0.35	0.35	0.00	0.35	0.03	0.40	0.40	0.01	0.38	0.38
Sat Flow, veh/h	0	0	1585	0	0	1585	1781	3471	149	1781	3347	254
Grp Volume(v), veh/h	114	0	98	16	0	38	22	130	136	11	152	158
Grp Sat Flow(s),veh/h/ln	0	0	1585	0	0	1585	1781	1777	1844	1781	1777	1825
Q Serve(g_s), s	0.0	0.0	2.4	0.0	0.0	0.9	0.7	2.7	2.7	0.3	3.2	3.3
Cycle Q Clear(g_c), s	19.5	0.0	2.4	19.5	0.0	0.9	0.7	2.7	2.7	0.3	3.2	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.14
Lane Grp Cap(c), veh/h	129	0	552	129	0	552	46	704	730	25	683	701
V/C Ratio(X)	0.89	0.00	0.18	0.12	0.00	0.07	0.48	0.18	0.19	0.44	0.22	0.23
Avail Cap(c_a), veh/h	129	0	552	129	0	552	175	704	730	175	683	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	12.7	28.0	0.0	12.2	26.9	11.0	11.0	27.4	11.6	11.6
Incr Delay (d2), s/veh	46.7	0.0	0.2	0.4	0.0	0.1	7.5	0.6	0.6	11.7	0.8	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	3.1	0.0	0.8	0.2	0.0	0.3	0.4	1.0	1.0	0.2	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	0.0	12.8	28.4	0.0	12.2	34.3	11.6	11.6	39.0	12.4	12.4
LnGrp LOS	E	A	B	C	A	B	C	B	B	D	B	B
Approach Vol, veh/h		212			54			288			321	
Approach Delay, s/veh		46.1			17.0			13.3			13.3	
Approach LOS		D			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	26.7		24.0	5.9	26.0		24.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	21.5		19.5	5.5	21.5		19.5				
Max Q Clear Time (g_c+I1), s	2.3	4.7		21.5	2.7	5.3		21.5				
Green Ext Time (p_c), s	0.0	1.2		0.0	0.0	1.4		0.0				

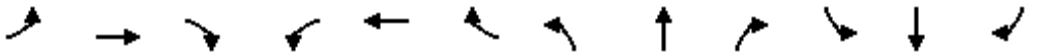
Intersection Summary			
HCM 6th Ctrl Delay		21.5	
HCM 6th LOS		C	



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	65	120	103	22	109	27	266	179	190	49
v/c Ratio	0.13	0.30	0.32	0.06	0.24	0.13	0.52	0.37	0.20	0.05
Control Delay	24.7	9.0	27.6	17.6	4.7	31.5	20.0	30.4	15.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	9.0	27.6	17.6	4.7	31.5	20.0	30.4	15.3	0.1
Queue Length 50th (ft)	11	6	26	6	0	7	50	24	30	0
Queue Length 95th (ft)	#98	43	102	20	22	41	175	#101	145	0
Internal Link Dist (ft)		783		766			474		641	
Turn Bay Length (ft)	80					350		320		
Base Capacity (vph)	507	1108	494	1418	456	206	1249	479	1363	1196
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.11	0.21	0.02	0.24	0.13	0.21	0.37	0.14	0.04

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	20	90	95	20	100	25	120	125	165	175	45
Future Volume (veh/h)	60	20	90	95	20	100	25	120	125	165	175	45
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	65	22	98	103	22	109	27	130	136	179	190	49
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	117	40	179	157	293	427	58	197	207	391	591	501
Arrive On Green	0.07	0.13	0.13	0.09	0.16	0.16	0.03	0.24	0.24	0.11	0.32	0.32
Sat Flow, veh/h	1781	299	1332	1781	1870	1585	1781	837	876	3456	1870	1585
Grp Volume(v), veh/h	65	0	120	103	22	109	27	0	266	179	190	49
Grp Sat Flow(s),veh/h/ln	1781	0	1631	1781	1870	1585	1781	0	1713	1728	1870	1585
Q Serve(g_s), s	1.3	0.0	2.6	2.1	0.4	2.0	0.6	0.0	5.2	1.8	2.9	0.8
Cycle Q Clear(g_c), s	1.3	0.0	2.6	2.1	0.4	2.0	0.6	0.0	5.2	1.8	2.9	0.8
Prop In Lane	1.00		0.82	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	117	0	219	157	293	427	58	0	404	391	591	501
V/C Ratio(X)	0.56	0.00	0.55	0.66	0.08	0.26	0.46	0.00	0.66	0.46	0.32	0.10
Avail Cap(c_a), veh/h	239	0	1355	573	1905	1793	239	0	1607	556	1805	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	15.1	16.5	13.4	10.7	17.7	0.0	12.9	15.5	9.7	9.0
Incr Delay (d2), s/veh	4.1	0.0	2.1	4.6	0.1	0.3	5.6	0.0	1.8	0.8	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.9	0.9	0.1	0.6	0.3	0.0	1.6	0.6	0.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	0.0	17.2	21.1	13.5	11.0	23.4	0.0	14.7	16.3	10.0	9.1
LnGrp LOS	C	A	B	C	B	B	C	A	B	B	B	A
Approach Vol, veh/h		185			234			293			418	
Approach Delay, s/veh		18.5			15.7			15.5			12.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	12.8	7.3	9.0	5.2	15.8	6.5	9.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	35.0	12.0	31.0	5.0	36.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	3.8	7.2	4.1	4.6	2.6	4.9	3.3	4.0
Green Ext Time (p_c), s	0.1	1.6	0.1	0.6	0.0	1.2	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	110	180	20	25	160	25
Future Vol, veh/h	110	180	20	25	160	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	196	22	27	174	27
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.1	8.1	10.5
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	25	110	180	160	25
LT Vol	0	0	110	0	160	0
Through Vol	20	0	0	0	0	25
RT Vol	0	25	0	180	0	0
Lane Flow Rate	22	27	120	196	174	27
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.033	0.036	0.19	0.246	0.283	0.04
Departure Headway (Hd)	5.539	4.833	5.722	4.518	5.852	5.348
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	644	737	628	794	614	668
Service Time	3.296	2.589	3.456	2.252	3.597	3.094
HCM Lane V/C Ratio	0.034	0.037	0.191	0.247	0.283	0.04
HCM Control Delay	8.5	7.8	9.8	8.7	10.9	8.3
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.1	0.1	0.7	1	1.2	0.1

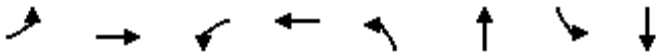
Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	15	0	145	0	425	80	160	635	0
Future Vol, veh/h	1	0	0	15	0	145	0	425	80	160	635	0
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	12	12	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	90	-	-	105	-	-	70	-	-
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	5	2
Mvmt Flow	1	0	0	16	0	158	0	462	87	174	690	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1623	1599	702	1568	1556	518	690	0	0	561	0	0
Stage 1	1038	1038	-	518	518	-	-	-	-	-	-	-
Stage 2	585	561	-	1050	1038	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	82	106	438	90	113	558	905	-	-	1010	-	-
Stage 1	279	308	-	541	533	-	-	-	-	-	-	-
Stage 2	497	510	-	275	308	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	51	87	433	76	92	552	905	-	-	998	-	-
Mov Cap-2 Maneuver	51	87	-	76	92	-	-	-	-	-	-	-
Stage 1	279	254	-	535	527	-	-	-	-	-	-	-
Stage 2	355	504	-	224	254	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	77.1	18.9	0	1.9
HCM LOS	F	C		

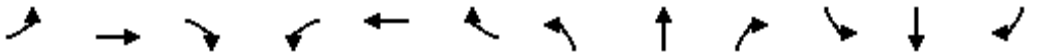
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	905	-	-	51	76	552	998	-	-
HCM Lane V/C Ratio	-	-	-	0.021	0.215	0.286	0.174	-	-
HCM Control Delay (s)	0	-	-	77.1	64.9	14.1	9.4	-	-
HCM Lane LOS	A	-	-	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	1.2	0.6	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	136	305	60	184	125	364	109	494
v/c Ratio	0.55	0.61	0.34	0.57	0.53	0.53	0.49	0.75
Control Delay	41.5	29.4	41.0	35.1	41.5	25.4	41.6	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	29.4	41.0	35.1	41.5	25.4	41.6	34.0
Queue Length 50th (ft)	61	120	27	73	56	132	49	204
Queue Length 95th (ft)	132	231	72	153	124	289	112	#502
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	398	651	398	664	398	685	398	657
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.47	0.15	0.28	0.31	0.53	0.27	0.75

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	170	110	55	130	40	115	295	40	100	415	40
Future Volume (veh/h)	125	170	110	55	130	40	115	295	40	100	415	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	136	185	120	60	141	43	125	321	43	109	451	43
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	5	2
Cap, veh/h	176	254	165	96	270	82	162	547	73	142	537	51
Arrive On Green	0.10	0.24	0.24	0.05	0.20	0.20	0.09	0.34	0.34	0.08	0.33	0.33
Sat Flow, veh/h	1781	1050	681	1781	1366	417	1781	1612	216	1781	1639	156
Grp Volume(v), veh/h	136	0	305	60	0	184	125	0	364	109	0	494
Grp Sat Flow(s),veh/h/ln	1781	0	1731	1781	0	1783	1781	0	1828	1781	0	1795
Q Serve(g_s), s	4.2	0.0	9.1	1.9	0.0	5.2	3.9	0.0	9.2	3.4	0.0	14.3
Cycle Q Clear(g_c), s	4.2	0.0	9.1	1.9	0.0	5.2	3.9	0.0	9.2	3.4	0.0	14.3
Prop In Lane	1.00		0.39	1.00		0.23	1.00		0.12	1.00		0.09
Lane Grp Cap(c), veh/h	176	0	420	96	0	353	162	0	620	142	0	589
V/C Ratio(X)	0.77	0.00	0.73	0.62	0.00	0.52	0.77	0.00	0.59	0.77	0.00	0.84
Avail Cap(c_a), veh/h	507	0	801	507	0	825	507	0	846	507	0	830
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	19.6	26.0	0.0	20.2	25.0	0.0	15.3	25.4	0.0	17.5
Incr Delay (d2), s/veh	2.7	0.0	0.9	2.4	0.0	0.4	2.9	0.0	0.3	3.3	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	3.4	0.8	0.0	2.0	1.6	0.0	3.4	1.5	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	0.0	20.5	28.5	0.0	20.6	27.9	0.0	15.6	28.7	0.0	21.4
LnGrp LOS	C	A	C	C	A	C	C	A	B	C	A	C
Approach Vol, veh/h		441			244			489			603	
Approach Delay, s/veh		22.6			22.5			18.8			22.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	23.1	7.0	17.6	9.1	22.4	9.5	15.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.4	11.2	3.9	11.1	5.9	16.3	6.2	7.2
Green Ext Time (p_c), s	0.1	1.3	0.0	1.1	0.1	1.5	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	12.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	350	125	5	265	10	115	15	55	10	5	125
Future Vol, veh/h	45	350	125	5	265	10	115	15	55	10	5	125
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	49	380	136	5	288	11	125	16	60	11	5	136

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	305	0	0	518	0	0	932	863	457	901	926	310
Stage 1	-	-	-	-	-	-	548	548	-	310	310	-
Stage 2	-	-	-	-	-	-	384	315	-	591	616	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1256	-	-	1048	-	-	247	292	604	259	269	730
Stage 1	-	-	-	-	-	-	521	517	-	700	659	-
Stage 2	-	-	-	-	-	-	639	656	-	493	482	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1249	-	-	1046	-	-	185	272	599	210	250	719
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	272	-	210	250	-
Stage 1	-	-	-	-	-	-	491	487	-	657	651	-
Stage 2	-	-	-	-	-	-	506	648	-	402	454	-

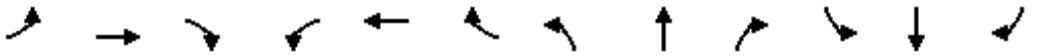
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	66.3	13.4
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	241	1249	-	-	1046	-	-	580
HCM Lane V/C Ratio	0.834	0.039	-	-	0.005	-	-	0.262
HCM Control Delay (s)	66.3	8	0	-	8.5	0	-	13.4
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	6.5	0.1	-	-	0	-	-	1

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	467	60	370	109	22	158	163	168
v/c Ratio	0.21	0.67	0.30	0.52	0.17	0.13	0.53	0.55	0.28
Control Delay	35.7	26.5	35.7	21.5	5.2	35.7	34.0	35.6	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.7	26.5	35.7	21.5	5.2	35.7	34.0	35.6	15.2
Queue Length 50th (ft)	16	166	25	120	0	9	61	67	32
Queue Length 95th (ft)	48	#381	66	252	33	33	129	137	93
Internal Link Dist (ft)		263		667			657		264
Turn Bay Length (ft)	70		50		190	55		75	
Base Capacity (vph)	470	805	470	822	745	470	773	470	751
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.58	0.13	0.45	0.15	0.05	0.20	0.35	0.22

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	430	0	55	340	100	20	125	20	150	70	85
Future Volume (veh/h)	35	430	0	55	340	100	20	125	20	150	70	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	38	467	0	60	370	109	22	136	22	163	76	92
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	5	2	2	5	2
Cap, veh/h	74	587	0	104	617	521	47	247	40	211	189	229
Arrive On Green	0.04	0.31	0.00	0.06	0.33	0.33	0.03	0.16	0.16	0.12	0.25	0.25
Sat Flow, veh/h	1781	1870	0	1781	1870	1580	1781	1529	247	1781	748	905
Grp Volume(v), veh/h	38	467	0	60	370	109	22	0	158	163	0	168
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	1870	1580	1781	0	1777	1781	0	1652
Q Serve(g_s), s	1.0	10.5	0.0	1.5	7.6	2.3	0.6	0.0	3.8	4.1	0.0	3.9
Cycle Q Clear(g_c), s	1.0	10.5	0.0	1.5	7.6	2.3	0.6	0.0	3.8	4.1	0.0	3.9
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.14	1.00		0.55
Lane Grp Cap(c), veh/h	74	587	0	104	617	521	47	0	287	211	0	419
V/C Ratio(X)	0.51	0.80	0.00	0.58	0.60	0.21	0.46	0.00	0.55	0.77	0.00	0.40
Avail Cap(c_a), veh/h	620	1058	0	620	1058	894	620	0	1005	620	0	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	14.4	0.0	21.1	12.9	11.1	22.0	0.0	17.7	19.7	0.0	14.3
Incr Delay (d2), s/veh	2.0	1.0	0.0	1.9	0.3	0.1	2.6	0.0	0.6	2.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.8	0.0	0.6	2.7	0.7	0.2	0.0	1.4	1.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	15.4	0.0	23.0	13.2	11.2	24.7	0.0	18.4	21.9	0.0	14.5
LnGrp LOS	C	B	A	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		505			539			180			331	
Approach Delay, s/veh		16.0			13.9			19.1			18.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	18.4	9.5	11.4	5.9	19.2	5.2	15.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.5	12.5	6.1	5.8	3.0	9.6	2.6	5.9
Green Ext Time (p_c), s	0.0	1.6	0.1	0.5	0.0	1.5	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	24.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	265	45	35	255	130	50	100	15	170	140	125
Future Vol, veh/h	150	265	45	35	255	130	50	100	15	170	140	125
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	163	288	49	38	277	141	54	109	16	185	152	136
Number of Lanes	1	1	0	1	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	33.1	24.1	16.9	18.2
HCM LOS	D	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	87%	0%	85%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	13%	0%	15%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	115	150	310	35	255	130	170	140	125
LT Vol	50	0	150	0	35	0	0	170	0	0
Through Vol	0	100	0	265	0	255	0	0	140	0
RT Vol	0	15	0	45	0	0	130	0	0	125
Lane Flow Rate	54	125	163	337	38	277	141	185	152	136
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.158	0.341	0.422	0.814	0.101	0.696	0.327	0.491	0.383	0.315
Departure Headway (Hd)	10.445	9.834	9.311	8.695	9.554	9.039	8.319	9.571	9.056	8.335
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	343	365	386	414	375	399	431	377	397	431
Service Time	8.225	7.613	7.075	6.459	7.319	6.804	6.083	7.337	6.822	6.1
HCM Lane V/C Ratio	0.157	0.342	0.422	0.814	0.101	0.694	0.327	0.491	0.383	0.316
HCM Control Delay	15.2	17.7	18.7	40	13.4	30.2	15.1	21.3	17.4	14.9
HCM Lane LOS	C	C	C	E	B	D	C	C	C	B
HCM 95th-tile Q	0.6	1.5	2	7.4	0.3	5.1	1.4	2.6	1.8	1.3

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	65	130	75	5	5	15
Future Vol, veh/h	65	130	75	5	5	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	141	82	5	5	16
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.4	7.6	7.3
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	0%	25%
Vol Thru, %	67%	94%	0%
Vol Right, %	0%	6%	75%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	195	80	20
LT Vol	65	0	5
Through Vol	130	75	0
RT Vol	0	5	15
Lane Flow Rate	212	87	22
Geometry Grp	1	1	1
Degree of Util (X)	0.242	0.099	0.025
Departure Headway (Hd)	4.103	4.092	4.182
Convergence, Y/N	Yes	Yes	Yes
Cap	873	869	861
Service Time	2.134	2.15	2.182
HCM Lane V/C Ratio	0.243	0.1	0.026
HCM Control Delay	8.4	7.6	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.3	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	2	2	2	15	0	100	2	215	15	115	315	2
Future Vol, veh/h	2	2	2	15	0	100	2	215	15	115	315	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	2	5	2
Mvmt Flow	2	2	2	16	0	109	2	234	16	125	342	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	714	847	172	668	840	125	344	0	0	250	0	0
Stage 1	593	593	-	246	246	-	-	-	-	-	-	-
Stage 2	121	254	-	422	594	-	-	-	-	-	-	-
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	319	297	842	344	300	902	1212	-	-	1313	-	-
Stage 1	459	492	-	736	701	-	-	-	-	-	-	-
Stage 2	870	696	-	580	491	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	255	261	842	310	264	902	1212	-	-	1313	-	-
Mov Cap-2 Maneuver	255	261	-	310	264	-	-	-	-	-	-	-
Stage 1	458	434	-	735	700	-	-	-	-	-	-	-
Stage 2	764	695	-	508	433	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.9	11	0.1	2.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1212	-	-	336	722	1313	-	-
HCM Lane V/C Ratio	0.002	-	-	0.019	0.173	0.095	-	-
HCM Control Delay (s)	8	0	-	15.9	11	8	0.3	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.6	0.3	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	85	140	85	215	280	85
Future Vol, veh/h	85	140	85	215	280	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	5	5	2
Mvmt Flow	92	152	92	234	304	92

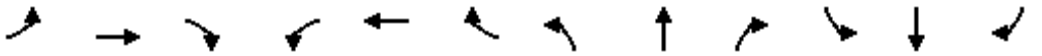
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	651	198	396	0	-	0
Stage 1	350	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	401	810	1159	-	-	-
Stage 1	684	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	365	810	1159	-	-	-
Mov Cap-2 Maneuver	365	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1159	-	365	810	-	-
HCM Lane V/C Ratio	0.08	-	0.253	0.188	-	-
HCM Control Delay (s)	8.4	0.2	18.2	10.5	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1	0.7	-	-

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	76	38	11	11	87	348	22	316
v/c Ratio	0.32	0.11	0.05	0.03	0.34	0.13	0.11	0.14
Control Delay	21.7	0.6	17.5	0.2	23.5	4.8	22.3	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	0.6	17.5	0.2	23.5	4.8	22.3	6.6
Queue Length 50th (ft)	20	0	3	0	23	15	6	21
Queue Length 95th (ft)	49	0	13	0	59	55	23	45
Internal Link Dist (ft)	398		461			637		418
Turn Bay Length (ft)				120	180		160	
Base Capacity (vph)	554	689	554	689	282	2615	207	2210
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.06	0.02	0.02	0.31	0.13	0.11	0.14

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	0	35	10	0	10	80	300	20	20	215	75
Future Volume (veh/h)	70	0	35	10	0	10	80	300	20	20	215	75
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	76	0	38	11	0	11	87	326	22	22	234	82
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	155	0	333	155	0	333	128	1617	109	47	1126	384
Arrive On Green	0.21	0.00	0.21	0.21	0.00	0.21	0.07	0.48	0.48	0.03	0.43	0.43
Sat Flow, veh/h	14	0	1585	14	0	1585	1781	3379	227	1781	2600	887
Grp Volume(v), veh/h	76	0	38	11	0	11	87	171	177	22	158	158
Grp Sat Flow(s),veh/h/ln	14	0	1585	14	0	1585	1781	1777	1830	1781	1777	1711
Q Serve(g_s), s	0.1	0.0	0.9	0.1	0.0	0.3	2.3	2.6	2.6	0.6	2.6	2.7
Cycle Q Clear(g_c), s	9.9	0.0	0.9	9.9	0.0	0.3	2.3	2.6	2.6	0.6	2.6	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.52
Lane Grp Cap(c), veh/h	155	0	333	155	0	333	128	850	875	47	770	741
V/C Ratio(X)	0.49	0.00	0.11	0.07	0.00	0.03	0.68	0.20	0.20	0.47	0.21	0.21
Avail Cap(c_a), veh/h	409	0	620	403	0	620	282	850	875	207	770	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	15.1	23.7	0.0	14.9	21.4	7.1	7.1	22.7	8.3	8.4
Incr Delay (d2), s/veh	2.4	0.0	0.2	0.2	0.0	0.0	6.2	0.5	0.5	7.0	0.6	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	0.9	0.0	0.3	0.1	0.0	0.1	1.0	0.8	0.8	0.3	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	0.0	15.3	23.8	0.0	14.9	27.6	7.6	7.6	29.7	8.9	9.0
LnGrp LOS	C	A	B	C	A	B	C	A	A	C	A	A
Approach Vol, veh/h		114			22			435			338	
Approach Delay, s/veh		22.5			19.4			11.6			10.3	
Approach LOS		C			B			B			B	

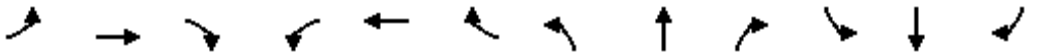
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	27.1		14.5	7.9	25.0		14.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	22.5		18.5	7.5	20.5		18.5				
Max Q Clear Time (g_c+I1), s	2.6	4.6		11.9	4.3	4.7		11.9				
Green Ext Time (p_c), s	0.0	1.7		0.2	0.0	1.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		12.7	
HCM 6th LOS		B	

Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	54	65	98	147	87	359	92	147	54
v/c Ratio	0.14	0.08	0.32	0.20	0.44	0.44	0.21	0.21	0.08
Control Delay	27.9	0.2	29.6	0.6	40.5	19.0	30.6	17.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.9	0.2	29.6	0.6	40.5	19.0	30.6	17.3	0.2
Queue Length 50th (ft)	10	0	26	0	25	87	13	32	0
Queue Length 95th (ft)	#88	0	107	0	#149	267	53	112	0
Internal Link Dist (ft)		747				658		637	
Turn Bay Length (ft)	80				350		320		
Base Capacity (vph)	378	1266	472	730	196	1294	457	1371	1203
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.05	0.21	0.20	0.44	0.28	0.20	0.11	0.04

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	0	60	90	0	135	80	240	90	85	135	50
Future Volume (veh/h)	50	0	60	90	0	135	80	240	90	85	135	50
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	54	0	65	98	0	147	87	261	98	92	147	54
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	102	0	196	151	283	370	141	373	140	283	544	461
Arrive On Green	0.06	0.00	0.12	0.08	0.00	0.15	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1781	0	1585	1781	1870	1585	1781	1296	487	3456	1870	1585
Grp Volume(v), veh/h	54	0	65	98	0	147	87	0	359	92	147	54
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	1585	1781	0	1783	1728	1870	1585
Q Serve(g_s), s	1.1	0.0	1.4	2.0	0.0	3.0	1.8	0.0	6.8	1.0	2.3	0.9
Cycle Q Clear(g_c), s	1.1	0.0	1.4	2.0	0.0	3.0	1.8	0.0	6.8	1.0	2.3	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	102	0	196	151	283	370	141	0	514	283	544	461
V/C Ratio(X)	0.53	0.00	0.33	0.65	0.00	0.40	0.62	0.00	0.70	0.33	0.27	0.12
Avail Cap(c_a), veh/h	235	0	1294	563	1872	1716	235	0	1644	546	1774	1503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.4	0.0	15.2	16.8	0.0	12.3	16.9	0.0	12.0	16.4	10.4	9.9
Incr Delay (d2), s/veh	4.2	0.0	1.0	4.6	0.0	0.7	4.3	0.0	1.7	0.7	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.9	0.0	0.9	0.8	0.0	2.1	0.3	0.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	16.2	21.4	0.0	13.0	21.3	0.0	13.8	17.1	10.6	10.0
LnGrp LOS	C	A	B	C	A	B	C	A	B	B	B	A
Approach Vol, veh/h		119			245			446			293	
Approach Delay, s/veh		18.6			16.4			15.2			12.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	14.9	7.2	8.7	7.0	15.0	6.2	9.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	35.0	12.0	31.0	5.0	36.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	3.0	8.8	4.0	3.4	3.8	4.3	3.1	5.0
Green Ext Time (p_c), s	0.1	2.1	0.1	0.3	0.0	0.9	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	175	30	120	145	40
Future Vol, veh/h	35	175	30	120	145	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	190	33	130	158	43
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.1	8.3	9.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	120	35	175	145	40
LT Vol	0	0	35	0	145	0
Through Vol	30	0	0	0	0	40
RT Vol	0	120	0	175	0	0
Lane Flow Rate	33	130	38	190	158	43
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.048	0.167	0.063	0.25	0.252	0.063
Departure Headway (Hd)	5.32	4.614	5.94	4.735	5.748	5.245
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	671	773	603	757	624	681
Service Time	3.069	2.364	3.681	2.475	3.497	2.994
HCM Lane V/C Ratio	0.049	0.168	0.063	0.251	0.253	0.063
HCM Control Delay	8.3	8.3	9.1	9.1	10.4	8.3
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.2	0.6	0.2	1	1	0.2

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	85	55	455	80	20
Future Vol, veh/h	15	85	55	455	80	20
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	98	63	523	92	23
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.8	13.2	9.6
HCM LOS	A	B	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	0%	80%
Vol Thru, %	85%	11%	0%
Vol Right, %	0%	89%	20%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	100	510	100
LT Vol	15	0	80
Through Vol	85	55	0
RT Vol	0	455	20
Lane Flow Rate	115	586	115
Geometry Grp	1	1	1
Degree of Util (X)	0.154	0.628	0.172
Departure Headway (Hd)	4.833	3.855	5.377
Convergence, Y/N	Yes	Yes	Yes
Cap	740	938	664
Service Time	2.873	1.875	3.436
HCM Lane V/C Ratio	0.155	0.625	0.173
HCM Control Delay	8.8	13.2	9.6
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.5	4.6	0.6

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑				↗		↱				
Traffic Vol, veh/h	0	155	20	80	0	140	0	100	80	0	0	0
Future Vol, veh/h	0	155	20	80	0	140	0	100	80	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	0	-	-	16979	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	170	22	88	0	154	0	110	88	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	-	0	0	-	181	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	-	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	0	713	862
Stage 1	0	-	-	0	750	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	862
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s	0	10.4
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	862	-	-
HCM Lane V/C Ratio	0.229	-	-
HCM Control Delay (s)	10.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.9	-	-

Intersection	
Intersection Delay, s/veh	21.9
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	40	115	70	470	130	140
Future Vol, veh/h	40	115	70	470	130	140
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	131	80	534	148	159
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	10.4	29.1	14.1
HCM LOS	B	D	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	48%	0%	100%	0%
Vol Thru, %	0%	26%	0%	100%
Vol Right, %	52%	74%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	270	155	70	470
LT Vol	130	0	70	0
Through Vol	0	40	0	470
RT Vol	140	115	0	0
Lane Flow Rate	307	176	80	534
Geometry Grp	2	5	7	7
Degree of Util (X)	0.487	0.264	0.137	0.846
Departure Headway (Hd)	5.709	5.401	6.209	5.703
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	629	664	578	636
Service Time	3.753	3.449	3.942	3.436
HCM Lane V/C Ratio	0.488	0.265	0.138	0.84
HCM Control Delay	14.1	10.4	9.9	32
HCM Lane LOS	B	B	A	D
HCM 95th-tile Q	2.7	1.1	0.5	9.3

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	165	10	40	240	0	30
Future Vol, veh/h	165	10	40	240	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	179	11	43	261	0	33

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	207	174	0	0	304	0
Stage 1	174	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	781	869	-	-	1257	-
Stage 1	856	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	781	869	-	-	1257	-
Mov Cap-2 Maneuver	781	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	989	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	828	1257	-
HCM Lane V/C Ratio	-	-	0.23	-	-
HCM Control Delay (s)	-	-	10.6	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Intersection Delay, s/veh	23.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	100	105	75	60	125	345	200	100	60	140	5
Future Vol, veh/h	0	100	105	75	60	125	345	200	100	60	140	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	112	118	84	67	140	388	225	112	67	157	6
Number of Lanes	0	1	0	1	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	3	1
HCM Control Delay	20.2	13	30.6	16.1
HCM LOS	C	B	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	49%	0%	100%	0%	0%	97%
Vol Right, %	0%	0%	100%	51%	0%	0%	100%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	345	200	100	205	75	60	125	60	145
LT Vol	345	0	0	0	75	0	0	60	0
Through Vol	0	200	0	100	0	60	0	0	140
RT Vol	0	0	100	105	0	0	125	0	5
Lane Flow Rate	388	225	112	230	84	67	140	67	163
Geometry Grp	8	8	8	8	7	7	7	8	8
Degree of Util (X)	0.864	0.469	0.212	0.531	0.2	0.151	0.286	0.172	0.391
Departure Headway (Hd)	8.028	7.517	6.801	8.298	8.564	8.051	7.333	9.188	8.647
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	450	476	525	433	418	444	487	388	414
Service Time	5.805	5.294	4.578	6.087	6.342	5.829	5.11	6.987	6.446
HCM Lane V/C Ratio	0.862	0.473	0.213	0.531	0.201	0.151	0.287	0.173	0.394
HCM Control Delay	44.1	16.8	11.4	20.2	13.5	12.3	13.1	13.9	17
HCM Lane LOS	E	C	B	C	B	B	B	B	C
HCM 95th-tile Q	8.8	2.5	0.8	3	0.7	0.5	1.2	0.6	1.8

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	0	210	0	330	0	0	0	0	0	0	55
Future Vol, veh/h	50	0	210	0	330	0	0	0	0	0	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16965	-	-	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	54	0	228	0	359	0	0	0	0	0	0	60

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	359	0	-	-	-	0			-	-	359
Stage 1	-	-	-	-	-	-			-	-	-
Stage 2	-	-	-	-	-	-			-	-	-
Critical Hdwy	4.12	-	-	-	-	-			-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-			-	-	3.318
Pot Cap-1 Maneuver	1200	-	0	0	-	-			0	0	685
Stage 1	-	-	0	0	-	-			0	0	-
Stage 2	-	-	0	0	-	-			0	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1200	-	-	-	-	-			-	0	685
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	8.1	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1200	-	-	-	685
HCM Lane V/C Ratio	0.045	-	-	-	0.087
HCM Control Delay (s)	8.1	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	430	5	0	0	230	320	0	0	215	15
Future Vol, veh/h	0	0	430	5	0	0	230	320	0	0	215	15
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	150	-	-	-	425	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	500	6	0	0	267	372	0	0	250	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1165	1165	-	1165	1173	372	267	0	-	-	-	0
Stage 1	259	259	-	906	906	-	-	-	-	-	-	-
Stage 2	906	906	-	259	267	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	171	194	0	171	192	674	1297	-	0	0	-	-
Stage 1	746	694	0	331	355	-	-	-	0	0	-	-
Stage 2	331	355	0	746	688	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	144	154	-	144	152	674	1297	-	-	-	-	-
Mov Cap-2 Maneuver	144	154	-	144	152	-	-	-	-	-	-	-
Stage 1	592	694	-	263	282	-	-	-	-	-	-	-
Stage 2	263	282	-	746	688	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	31	3.6	0
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1297	-	-	-	144	-	-
HCM Lane V/C Ratio	0.206	-	-	-	0.04	-	-
HCM Control Delay (s)	8.5	-	0	0	31	-	-
HCM Lane LOS	A	-	A	A	D	-	-
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	50	85	135	95	30	60	165	35	75	60	30
Future Vol, veh/h	20	50	85	135	95	30	60	165	35	75	60	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	54	92	147	103	33	65	179	38	82	65	33
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.4	12.9	11.7	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	13%	52%	100%	0%
Vol Thru, %	0%	82%	32%	37%	0%	67%
Vol Right, %	0%	17%	55%	12%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	200	155	260	75	90
LT Vol	60	0	20	135	75	0
Through Vol	0	165	50	95	0	60
RT Vol	0	35	85	30	0	30
Lane Flow Rate	65	217	168	283	82	98
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.12	0.361	0.255	0.437	0.154	0.164
Departure Headway (Hd)	6.618	5.985	5.456	5.57	6.78	6.033
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	541	600	655	644	528	593
Service Time	4.366	3.733	3.509	3.617	4.532	3.785
HCM Lane V/C Ratio	0.12	0.362	0.256	0.439	0.155	0.165
HCM Control Delay	10.3	12.1	10.4	12.9	10.8	10
HCM Lane LOS	B	B	B	B	B	A
HCM 95th-tile Q	0.4	1.6	1	2.2	0.5	0.6

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	125	35	25	10	5	40	210	75	25	25	165	80
Future Vol, veh/h	125	35	25	10	5	40	210	75	25	25	165	80
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	129	36	26	10	5	41	216	77	26	26	170	82
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.1	9	11.4	11.3
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	68%	18%	100%	0%
Vol Thru, %	0%	75%	19%	9%	0%	67%
Vol Right, %	0%	25%	14%	73%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	100	185	55	25	245
LT Vol	210	0	125	10	25	0
Through Vol	0	75	35	5	0	165
RT Vol	0	25	25	40	0	80
Lane Flow Rate	216	103	191	57	26	253
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.368	0.155	0.299	0.086	0.044	0.383
Departure Headway (Hd)	6.111	5.429	5.638	5.471	6.19	5.453
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	589	662	637	654	580	662
Service Time	3.837	3.154	3.669	3.51	3.916	3.179
HCM Lane V/C Ratio	0.367	0.156	0.3	0.087	0.045	0.382
HCM Control Delay	12.4	9.2	11.1	9	9.2	11.5
HCM Lane LOS	B	A	B	A	A	B
HCM 95th-tile Q	1.7	0.5	1.3	0.3	0.1	1.8

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	135	80	315	190	50
Future Vol, veh/h	5	135	80	315	190	50
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	141	83	328	198	52
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.5	11.5	11.2
HCM LOS	A	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	79%
Vol Thru, %	96%	20%	0%
Vol Right, %	0%	80%	21%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	140	395	240
LT Vol	5	0	190
Through Vol	135	80	0
RT Vol	0	315	50
Lane Flow Rate	146	411	250
Geometry Grp	1	1	1
Degree of Util (X)	0.205	0.493	0.359
Departure Headway (Hd)	5.062	4.311	5.176
Convergence, Y/N	Yes	Yes	Yes
Cap	703	831	688
Service Time	3.136	2.362	3.262
HCM Lane V/C Ratio	0.208	0.495	0.363
HCM Control Delay	9.5	11.5	11.2
HCM Lane LOS	A	B	B
HCM 95th-tile Q	0.8	2.8	1.6

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑				↗		↱				
Traffic Vol, veh/h	0	520	80	125	0	140	0	60	130	0	0	0
Future Vol, veh/h	0	520	80	125	0	140	0	60	130	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	0	-	-	16979	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	571	88	137	0	154	0	66	143	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	-	0	0	-	615	615
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	-	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	0	407	491
Stage 1	0	-	-	0	482	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	491
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s	0	17.6
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	491	-	-
HCM Lane V/C Ratio	0.425	-	-
HCM Control Delay (s)	17.6	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	2.1	-	-

Intersection	
Intersection Delay, s/veh	23.4
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	175	155	105	320	90	405
Future Vol, veh/h	175	155	105	320	90	405
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	184	163	111	337	95	426
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	18.2	18.8	30.7
HCM LOS	C	C	D

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	18%	0%	100%	0%
Vol Thru, %	0%	53%	0%	100%
Vol Right, %	82%	47%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	495	330	105	320
LT Vol	90	0	105	0
Through Vol	0	175	0	320
RT Vol	405	155	0	0
Lane Flow Rate	521	347	111	337
Geometry Grp	2	5	7	7
Degree of Util (X)	0.831	0.599	0.225	0.638
Departure Headway (Hd)	5.742	6.208	7.33	6.818
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	636	580	490	529
Service Time	3.742	4.255	5.08	4.568
HCM Lane V/C Ratio	0.819	0.598	0.227	0.637
HCM Control Delay	30.7	18.2	12.2	20.9
HCM Lane LOS	D	C	B	C
HCM 95th-tile Q	8.8	3.9	0.9	4.5

Intersection	
Int Delay, s/veh	10.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	370	5	60	195	20	120
Future Vol, veh/h	370	5	60	195	20	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	416	6	67	219	22	135

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	356	177	0	0	286	0
Stage 1	177	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	642	866	-	-	1276	-
Stage 1	854	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	630	866	-	-	1276	-
Mov Cap-2 Maneuver	630	-	-	-	-	-
Stage 1	838	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.9	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	639	1276	-
HCM Lane V/C Ratio	-	-	0.659	0.018	-
HCM Control Delay (s)	-	-	20.9	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	4.9	0.1	-

Intersection	
Intersection Delay, s/veh	103.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	270	140	180	65	150	250	160	195	140	330	45
Future Vol, veh/h	10	270	140	180	65	150	250	160	195	140	330	45
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	303	157	202	73	169	281	180	219	157	371	51
Number of Lanes	0	1	0	1	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	3	1
HCM Control Delay	235	24.6	41	128.8
HCM LOS	F	C	E	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	2%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	64%	0%	100%	0%	0%	88%
Vol Right, %	0%	0%	100%	33%	0%	0%	100%	0%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	250	160	195	420	180	65	150	140	375
LT Vol	250	0	0	10	180	0	0	140	0
Through Vol	0	160	0	270	0	65	0	0	330
RT Vol	0	0	195	140	0	0	150	0	45
Lane Flow Rate	281	180	219	472	202	73	169	157	421
Geometry Grp	8	8	8	8	7	7	7	8	8
Degree of Util (X)	0.852	0.52	0.592	1.417	0.587	0.202	0.433	0.489	1.241
Departure Headway (Hd)	12.591	12.056	11.307	11.477	11.88	11.346	10.598	12.567	11.937
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	289	302	322	321	305	318	342	289	308
Service Time	10.291	9.756	9.007	9.177	9.58	9.046	8.298	10.267	9.637
HCM Lane V/C Ratio	0.972	0.596	0.68	1.47	0.662	0.23	0.494	0.543	1.367
HCM Control Delay	59	27.1	29.2	235	30.2	16.9	21.1	26.7	166.9
HCM Lane LOS	F	D	D	F	D	C	C	D	F
HCM 95th-tile Q	7.3	2.8	3.6	23.5	3.5	0.7	2.1	2.5	17.2

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	0	290	0	445	5	0	0	0	0	0	85
Future Vol, veh/h	80	0	290	0	445	5	0	0	0	0	0	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16965	-	-	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	87	0	315	0	484	5	0	0	0	0	0	92

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	489	0	-	-	-	0			-	-	487
Stage 1	-	-	-	-	-	-			-	-	-
Stage 2	-	-	-	-	-	-			-	-	-
Critical Hdwy	4.12	-	-	-	-	-			-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-			-	-	3.318
Pot Cap-1 Maneuver	1074	-	0	0	-	-			0	0	581
Stage 1	-	-	0	0	-	-			0	0	-
Stage 2	-	-	0	0	-	-			0	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1074	-	-	-	-	-			-	0	581
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	8.6	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1074	-	-	-	581
HCM Lane V/C Ratio	0.081	-	-	-	0.159
HCM Control Delay (s)	8.6	0	-	-	12.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.6

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	510	0	0	0	350	445	0	0	290	20
Future Vol, veh/h	5	0	510	0	0	0	350	445	0	0	290	20
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	150	-	-	-	425	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	526	0	0	0	361	459	0	0	299	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1491	1491	-	1491	1501	459	320	0	-	-	-	0
Stage 1	310	310	-	1181	1181	-	-	-	-	-	-	-
Stage 2	1181	1181	-	310	320	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	102	124	0	102	122	602	1240	-	0	0	-	-
Stage 1	700	659	0	232	264	-	-	-	0	0	-	-
Stage 2	232	264	0	700	652	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	79	88	-	79	86	602	1240	-	-	-	-	-
Mov Cap-2 Maneuver	79	88	-	79	86	-	-	-	-	-	-	-
Stage 1	496	659	-	164	187	-	-	-	-	-	-	-
Stage 2	164	187	-	700	652	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	53.7	0	4	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1240	-	79	-	-	-	-
HCM Lane V/C Ratio	0.291	-	0.065	-	-	-	-
HCM Control Delay (s)	9.1	-	53.7	0	0	-	-
HCM Lane LOS	A	-	F	A	A	-	-
HCM 95th %tile Q(veh)	1.2	-	0.2	-	-	-	-

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	60	110	190	105	30	80	150	60	120	65	30
Future Vol, veh/h	30	60	110	190	105	30	80	150	60	120	65	30
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	64	117	202	112	32	85	160	64	128	69	32
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.5	17.5	13.2	12
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	15%	58%	100%	0%
Vol Thru, %	0%	71%	30%	32%	0%	68%
Vol Right, %	0%	29%	55%	9%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	210	200	325	120	95
LT Vol	80	0	30	190	120	0
Through Vol	0	150	60	105	0	65
RT Vol	0	60	110	30	0	30
Lane Flow Rate	85	223	213	346	128	101
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.172	0.408	0.358	0.587	0.263	0.187
Departure Headway (Hd)	7.286	6.569	6.05	6.115	7.408	6.669
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	550	594	591	485	538
Service Time	5.007	4.29	4.094	4.131	5.155	4.415
HCM Lane V/C Ratio	0.172	0.405	0.359	0.585	0.264	0.188
HCM Control Delay	11.5	13.8	12.5	17.5	12.8	11
HCM Lane LOS	B	B	B	C	B	B
HCM 95th-tile Q	0.6	2	1.6	3.8	1	0.7

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	125	65	15	30	0	65	175	95	35	20	250	100
Future Vol, veh/h	125	65	15	30	0	65	175	95	35	20	250	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	132	68	16	32	0	68	184	100	37	21	263	105
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.7	10.3	11.7	16.4
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	61%	32%	100%	0%
Vol Thru, %	0%	73%	32%	0%	0%	71%
Vol Right, %	0%	27%	7%	68%	0%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	130	205	95	20	350
LT Vol	175	0	125	30	20	0
Through Vol	0	95	65	0	0	250
RT Vol	0	35	15	65	0	100
Lane Flow Rate	184	137	216	100	21	368
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.337	0.224	0.367	0.167	0.038	0.594
Departure Headway (Hd)	6.588	5.888	6.129	6.007	6.514	5.804
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	543	608	585	593	548	619
Service Time	4.348	3.648	4.196	4.086	4.269	3.558
HCM Lane V/C Ratio	0.339	0.225	0.369	0.169	0.038	0.595
HCM Control Delay	12.7	10.4	12.7	10.3	9.5	16.8
HCM Lane LOS	B	B	B	B	A	C
HCM 95th-tile Q	1.5	0.9	1.7	0.6	0.1	3.9

APPENDIX D. SYNCHRO REPORTS – INTERSECTION IMPROVEMENTS

Intersection	
Intersection Delay, s/veh	4.0
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	93	233	147
Demand Flow Rate, veh/h	95	237	150
Vehicles Circulating, veh/h	111	61	16
Vehicles Exiting, veh/h	55	145	282
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.6	4.4	3.6
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	95	237	150
Cap Entry Lane, veh/h	1232	1297	1358
Entry HV Adj Factor	0.979	0.982	0.979
Flow Entry, veh/h	93	233	147
Cap Entry, veh/h	1206	1273	1329
V/C Ratio	0.077	0.183	0.110
Control Delay, s/veh	3.6	4.4	3.6
LOS	A	A	A
95th %tile Queue, veh	0	1	0

Intersection	
Intersection Delay, s/veh	5.8
Intersection LOS	A

Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	244	326	396
Demand Flow Rate, veh/h	249	333	404
Vehicles Circulating, veh/h	310	94	94
Vehicles Exiting, veh/h	188	465	333
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.1	5.3	5.9
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	249	333	404
Cap Entry Lane, veh/h	1006	1254	1254
Entry HV Adj Factor	0.980	0.980	0.980
Flow Entry, veh/h	244	326	396
Cap Entry, veh/h	986	1229	1229
V/C Ratio	0.248	0.266	0.322
Control Delay, s/veh	6.1	5.3	5.9
LOS	A	A	A
95th %tile Queue, veh	1	1	1

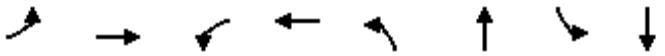
Lane Group	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	16	272	544	201	348
v/c Ratio	0.09	0.50	0.64	0.40	0.28
Control Delay	19.4	4.1	13.9	5.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	4.1	13.9	5.5	3.9
Queue Length 50th (ft)	4	0	101	14	27
Queue Length 95th (ft)	17	17	202	35	62
Internal Link Dist (ft)		291	630		665
Turn Bay Length (ft)	90			70	
Base Capacity (vph)	514	832	854	498	1235
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.33	0.64	0.40	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	15	0	250	0	420	80	185	320	0
Future Volume (veh/h)	0	0	0	15	0	250	0	420	80	185	320	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	0	0	0	16	0	272	0	457	87	201	348	0
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	5	2
Cap, veh/h	0	425	0	537	0	351	132	663	126	457	1108	0
Arrive On Green	0.00	0.00	0.00	0.23	0.00	0.23	0.00	0.44	0.44	0.09	0.61	0.00
Sat Flow, veh/h	0	1870	0	1781	0	1543	1033	1523	290	1781	1826	0
Grp Volume(v), veh/h	0	0	0	16	0	272	0	0	544	201	348	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1543	1033	0	1813	1781	1826	0
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	9.0	0.0	0.0	13.2	3.0	5.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.4	0.0	9.0	0.0	0.0	13.2	3.0	5.0	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.16	1.00		0.00
Lane Grp Cap(c), veh/h	0	425	0	537	0	351	132	0	789	457	1108	0
V/C Ratio(X)	0.00	0.00	0.00	0.03	0.00	0.78	0.00	0.00	0.69	0.44	0.31	0.00
Avail Cap(c_a), veh/h	0	619	0	722	0	511	132	0	789	492	1108	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.4	0.0	19.7	0.0	0.0	12.4	8.7	5.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	4.9	0.7	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	3.3	0.0	0.0	5.5	1.0	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	16.4	0.0	24.2	0.0	0.0	17.3	9.3	5.9	0.0
LnGrp LOS	A	A	A	B	A	C	A	A	B	A	A	A
Approach Vol, veh/h		0			288			544			549	
Approach Delay, s/veh		0.0			23.8			17.3			7.2	
Approach LOS					C			B			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.3	28.2		16.9		37.5		16.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	5.9	22.6		18.0		33.0		18.0				
Max Q Clear Time (g_c+I1), s	5.0	15.2		0.0		7.0		11.0				
Green Ext Time (p_c), s	0.1	2.1		0.0		2.3		1.0				

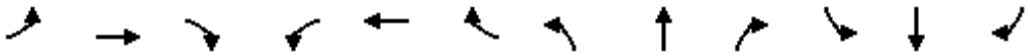
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	315	87	310	239	452	33	282
v/c Ratio	0.31	0.53	0.24	0.52	0.72	0.62	0.25	0.73
Control Delay	23.7	29.8	15.5	25.7	45.1	22.2	37.9	36.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	29.8	15.5	25.7	45.1	22.2	37.9	36.8
Queue Length 50th (ft)	42	111	24	126	101	132	15	118
Queue Length 95th (ft)	76	171	51	197	#253	271	41	177
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	365	620	360	628	332	741	130	527
Starvation Cap Reductn	0	6	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.51	0.24	0.49	0.72	0.61	0.25	0.54

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	185	105	80	260	25	220	340	75	30	220	40
Future Volume (veh/h)	105	185	105	80	260	25	220	340	75	30	220	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	114	201	114	87	283	27	239	370	82	33	239	43
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	5	2
Cap, veh/h	484	437	248	516	651	62	238	451	100	59	308	55
Arrive On Green	0.10	0.66	0.66	0.06	0.39	0.39	0.13	0.31	0.31	0.03	0.21	0.21
Sat Flow, veh/h	1781	1115	632	1781	1679	160	1781	1478	328	1781	1500	270
Grp Volume(v), veh/h	114	0	315	87	0	310	239	0	452	33	0	282
Grp Sat Flow(s),veh/h/ln	1781	0	1747	1781	0	1839	1781	0	1806	1781	0	1770
Q Serve(g_s), s	2.8	0.0	6.7	2.1	0.0	9.3	10.0	0.0	17.4	1.4	0.0	11.3
Cycle Q Clear(g_c), s	2.8	0.0	6.7	2.1	0.0	9.3	10.0	0.0	17.4	1.4	0.0	11.3
Prop In Lane	1.00		0.36	1.00		0.09	1.00		0.18	1.00		0.15
Lane Grp Cap(c), veh/h	484	0	685	516	0	713	238	0	552	59	0	363
V/C Ratio(X)	0.24	0.00	0.46	0.17	0.00	0.43	1.01	0.00	0.82	0.56	0.00	0.78
Avail Cap(c_a), veh/h	495	0	685	536	0	713	238	0	650	119	0	519
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.00	0.91	1.00	0.00	1.00	1.00	0.00	1.00	0.97	0.00	0.97
Uniform Delay (d), s/veh	12.3	0.0	9.0	12.5	0.0	16.9	32.5	0.0	24.1	35.7	0.0	28.2
Incr Delay (d2), s/veh	0.1	0.0	2.0	0.1	0.0	0.2	60.0	0.0	6.1	3.0	0.0	2.6
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	1.0	0.0	2.3	0.8	0.0	3.7	8.1	0.0	7.9	0.6	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.4	0.0	11.0	12.6	0.0	17.1	92.5	0.0	30.2	38.7	0.0	30.8
LnGrp LOS	B	A	B	B	A	B	F	A	C	D	A	C
Approach Vol, veh/h		429			397			691			315	
Approach Delay, s/veh		11.4			16.1			51.7			31.6	
Approach LOS		B			B			D			C	

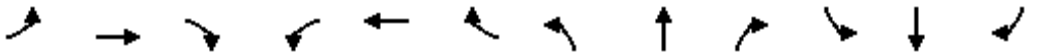
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	26.9	8.2	33.4	14.0	19.4	8.5	33.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	27.0	5.0	22.0	10.0	22.0	5.0	22.0
Max Q Clear Time (g_c+I1), s	3.4	19.4	4.1	8.7	12.0	13.3	4.8	11.3
Green Ext Time (p_c), s	0.0	1.2	0.0	1.1	0.0	0.7	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	87	538	11	544	141	27
v/c Ratio	0.15	0.42	0.02	0.47	0.61	0.05
Control Delay	1.6	2.7	1.5	6.6	35.2	0.2
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	1.6	2.7	1.5	6.9	35.2	0.2
Queue Length 50th (ft)	2	8	1	72	52	0
Queue Length 95th (ft)	7	94	m0	30	98	0
Internal Link Dist (ft)		667		259	308	244
Turn Bay Length (ft)	80		50			
Base Capacity (vph)	591	1271	589	1168	412	702
Starvation Cap Reductn	0	0	0	182	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.42	0.02	0.55	0.34	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	370	125	10	490	10	95	5	30	0	0	25
Future Volume (veh/h)	80	370	125	10	490	10	95	5	30	0	0	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.97		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	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	87	402	136	11	533	11	103	5	33	0	0	27
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	677	438	148	773	603	12	230	21	51	0	0	244
Arrive On Green	0.63	0.66	0.66	0.35	0.37	0.37	0.16	0.16	0.16	0.00	0.00	0.16
Sat Flow, veh/h	1781	1333	451	1781	1643	34	925	129	322	0	0	1535
Grp Volume(v), veh/h	87	0	538	11	0	544	141	0	0	0	0	27
Grp Sat Flow(s),veh/h/ln	1781	0	1784	1781	0	1677	1376	0	0	0	0	1535
Q Serve(g_s), s	0.0	0.0	19.5	0.0	0.0	22.8	6.2	0.0	0.0	0.0	0.0	1.1
Cycle Q Clear(g_c), s	0.0	0.0	19.5	0.0	0.0	22.8	7.3	0.0	0.0	0.0	0.0	1.1
Prop In Lane	1.00		0.25	1.00		0.02	0.73		0.23	0.00		1.00
Lane Grp Cap(c), veh/h	677	0	587	773	0	615	302	0	0	0	0	244
V/C Ratio(X)	0.13	0.00	0.92	0.01	0.00	0.88	0.47	0.00	0.00	0.00	0.00	0.11
Avail Cap(c_a), veh/h	677	0	856	773	0	805	490	0	0	0	0	450
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.00	0.91	0.76	0.00	0.76	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	9.3	0.0	12.0	13.2	0.0	22.3	29.6	0.0	0.0	0.0	0.0	27.0
Incr Delay (d2), s/veh	0.1	0.0	20.1	0.0	0.0	13.5	1.1	0.0	0.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	6.9	0.1	0.0	10.6	2.4	0.0	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	0.0	32.1	13.3	0.0	35.8	30.8	0.0	0.0	0.0	0.0	27.2
LnGrp LOS	A	A	C	B	A	D	C	A	A	A	A	C
Approach Vol, veh/h		625			555			141			27	
Approach Delay, s/veh		28.9			35.3			30.8			27.2	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.4	28.7		15.9	27.6	31.5		15.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	36.0		22.0	5.0	36.0		22.0				
Max Q Clear Time (g_c+I1), s	2.0	21.5		3.1	2.0	24.8		9.3				
Green Ext Time (p_c), s	0.0	3.1		0.1	0.0	2.7		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		31.7	
HCM 6th LOS		C	

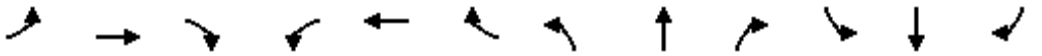
Notes

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	429	71	478	114	5	60	82	93
v/c Ratio	0.28	0.42	0.45	0.45	0.12	0.04	0.36	0.42	0.25
Control Delay	36.4	14.2	38.6	11.0	1.6	33.6	28.3	37.1	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	14.2	38.6	11.0	1.6	33.6	28.3	37.1	18.1
Queue Length 50th (ft)	19	125	30	92	0	2	17	36	22
Queue Length 95th (ft)	47	216	#89	181	13	12	49	74	61
Internal Link Dist (ft)		263		667			657		264
Turn Bay Length (ft)	70		50		190	55		75	
Base Capacity (vph)	151	1019	159	1074	973	118	590	194	593
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.42	0.45	0.45	0.12	0.04	0.10	0.42	0.16

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	390	5	65	440	105	5	35	20	75	55	30
Future Volume (veh/h)	40	390	5	65	440	105	5	35	20	75	55	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	43	424	5	71	478	114	5	38	22	82	60	33
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	5	2	2	5	2
Cap, veh/h	70	482	6	664	1112	941	12	100	58	105	161	88
Arrive On Green	0.04	0.26	0.26	0.75	1.00	1.00	0.01	0.09	0.09	0.06	0.15	0.15
Sat Flow, veh/h	1781	1845	22	1781	1870	1582	1781	1073	621	1781	1100	605
Grp Volume(v), veh/h	43	0	429	71	478	114	5	0	60	82	0	93
Grp Sat Flow(s),veh/h/ln	1781	0	1866	1781	1870	1582	1781	0	1694	1781	0	1705
Q Serve(g_s), s	1.8	0.0	16.5	0.8	0.0	0.0	0.2	0.0	2.5	3.4	0.0	3.7
Cycle Q Clear(g_c), s	1.8	0.0	16.5	0.8	0.0	0.0	0.2	0.0	2.5	3.4	0.0	3.7
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.37	1.00		0.35
Lane Grp Cap(c), veh/h	70	0	488	664	1112	941	12	0	158	105	0	249
V/C Ratio(X)	0.61	0.00	0.88	0.11	0.43	0.12	0.43	0.00	0.38	0.78	0.00	0.37
Avail Cap(c_a), veh/h	119	0	597	664	1112	941	119	0	565	119	0	568
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.88	0.88	0.88	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.5	0.0	26.6	6.1	0.0	0.0	37.1	0.0	31.9	34.8	0.0	28.9
Incr Delay (d2), s/veh	3.2	0.0	19.7	0.0	1.1	0.2	8.8	0.0	0.6	21.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	9.6	0.3	0.3	0.1	0.1	0.0	1.0	2.1	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	0.0	46.3	6.1	1.1	0.2	45.9	0.0	32.5	56.3	0.0	29.3
LnGrp LOS	D	A	D	A	A	A	D	A	C	E	A	C
Approach Vol, veh/h		472			663			65			175	
Approach Delay, s/veh		45.6			1.5			33.5			41.9	
Approach LOS		D			A			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.0	23.6	8.4	11.0	7.0	48.6	4.5	14.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	24.0	5.0	25.0	5.0	24.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	2.8	18.5	5.4	4.5	3.8	2.0	2.2	5.7
Green Ext Time (p_c), s	0.0	0.9	0.0	0.1	0.0	2.1	0.0	0.3

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

Notes

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

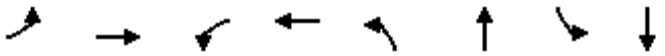
Lane Group	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	16	158	565	174	685
v/c Ratio	0.09	0.30	0.53	0.32	0.49
Control Delay	19.6	1.5	11.1	4.3	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	1.5	11.1	4.3	5.1
Queue Length 50th (ft)	4	0	104	12	68
Queue Length 95th (ft)	17	0	201	28	139
Internal Link Dist (ft)		291	630		665
Turn Bay Length (ft)	90			70	
Base Capacity (vph)	524	814	1058	546	1390
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.19	0.53	0.32	0.49

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	15	0	145	0	440	80	160	630	0
Future Volume (veh/h)	0	0	0	15	0	145	0	440	80	160	630	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	16	0	158	0	478	87	174	685	0
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	0	292	0	423	0	238	145	739	135	516	1240	0
Arrive On Green	0.00	0.00	0.00	0.16	0.00	0.16	0.00	0.48	0.48	0.09	0.66	0.00
Sat Flow, veh/h	0	1870	0	1781	0	1524	757	1536	280	1781	1870	0
Grp Volume(v), veh/h	0	0	0	16	0	158	0	0	565	174	685	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1524	757	0	1816	1781	1870	0
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	4.9	0.0	0.0	11.7	2.1	9.7	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.4	0.0	4.9	0.0	0.0	11.7	2.1	9.7	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.15	1.00		0.00
Lane Grp Cap(c), veh/h	0	292	0	423	0	238	145	0	874	516	1240	0
V/C Ratio(X)	0.00	0.00	0.00	0.04	0.00	0.66	0.00	0.00	0.65	0.34	0.55	0.00
Avail Cap(c_a), veh/h	0	677	0	789	0	551	145	0	874	550	1240	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	17.9	0.0	19.8	0.0	0.0	9.7	6.5	4.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.7	0.4	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	1.8	0.0	0.0	4.4	0.6	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	17.9	0.0	22.9	0.0	0.0	13.4	6.9	6.2	0.0
LnGrp LOS	A	A	A	B	A	C	A	A	B	A	A	A
Approach Vol, veh/h		0			174			565			859	
Approach Delay, s/veh		0.0			22.5			13.4			6.4	
Approach LOS					C			B			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	28.5		12.3		37.5		12.3				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	5.5	23.0		18.0		33.0		18.0				
Max Q Clear Time (g_c+I1), s	4.1	13.7		0.0		11.7		6.9				
Green Ext Time (p_c), s	0.1	2.6		0.0		5.2		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			10.6									
HCM 6th LOS			B									

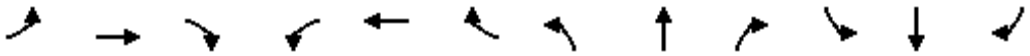


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	163	348	54	179	147	364	87	494
v/c Ratio	0.32	0.52	0.15	0.30	0.71	0.71	0.31	0.88
Control Delay	20.1	24.6	19.5	27.9	61.0	40.0	38.8	50.1
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	25.1	19.5	27.9	61.0	40.0	38.8	50.1
Queue Length 50th (ft)	50	113	19	82	91	214	47	291
Queue Length 95th (ft)	m113	202	47	149	#167	286	96	395
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	513	682	362	608	236	715	299	663
Starvation Cap Reductn	0	98	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	14	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.60	0.15	0.30	0.62	0.51	0.29	0.75

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	190	130	50	130	35	135	295	40	80	415	40
Future Volume (veh/h)	150	190	130	50	130	35	135	295	40	80	415	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	207	141	54	141	38	147	321	43	87	451	43
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	567	421	287	461	527	142	178	364	49	298	492	47
Arrive On Green	0.12	0.68	0.68	0.04	0.37	0.37	0.10	0.23	0.23	0.17	0.29	0.29
Sat Flow, veh/h	1781	1031	702	1781	1414	381	1781	1611	216	1781	1679	160
Grp Volume(v), veh/h	163	0	348	54	0	179	147	0	364	87	0	494
Grp Sat Flow(s),veh/h/ln	1781	0	1734	1781	0	1796	1781	0	1826	1781	0	1839
Q Serve(g_s), s	5.5	0.0	9.6	1.8	0.0	6.9	8.1	0.0	19.3	4.3	0.0	26.0
Cycle Q Clear(g_c), s	5.5	0.0	9.6	1.8	0.0	6.9	8.1	0.0	19.3	4.3	0.0	26.0
Prop In Lane	1.00		0.41	1.00		0.21	1.00		0.12	1.00		0.09
Lane Grp Cap(c), veh/h	567	0	707	461	0	669	178	0	413	298	0	539
V/C Ratio(X)	0.29	0.00	0.49	0.12	0.00	0.27	0.83	0.00	0.88	0.29	0.00	0.92
Avail Cap(c_a), veh/h	595	0	707	481	0	669	232	0	712	298	0	662
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.00	0.87	1.00	0.00	1.00	1.00	0.00	1.00	0.87	0.00	0.87
Uniform Delay (d), s/veh	15.5	0.0	11.0	18.1	0.0	21.9	44.2	0.0	37.4	36.5	0.0	34.1
Incr Delay (d2), s/veh	0.1	0.0	2.1	0.0	0.0	0.1	13.5	0.0	3.1	0.2	0.0	12.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	3.3	0.8	0.0	2.9	4.2	0.0	8.8	1.9	0.0	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	0.0	13.1	18.1	0.0	22.0	57.7	0.0	40.5	36.6	0.0	46.8
LnGrp LOS	B	A	B	B	A	C	E	A	D	D	A	D
Approach Vol, veh/h		511			233			511			581	
Approach Delay, s/veh		13.9			21.1			45.4			45.3	
Approach LOS		B			C			D			D	

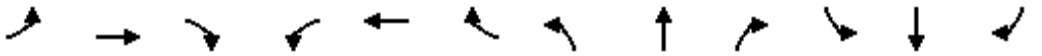
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	26.6	7.9	44.8	14.0	33.3	11.4	41.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	10.0	39.0	5.0	30.0	13.0	36.0	9.0	26.0
Max Q Clear Time (g_c+I1), s	6.3	21.3	3.8	11.6	10.1	28.0	7.5	8.9
Green Ext Time (p_c), s	0.0	1.3	0.0	1.4	0.1	1.4	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	54	603	5	326	201	173
v/c Ratio	0.08	0.48	0.01	0.28	0.90	0.40
Control Delay	4.1	5.6	6.0	14.5	71.1	9.5
Queue Delay	0.0	0.0	0.0	0.9	0.0	0.0
Total Delay	4.1	5.6	6.0	15.4	71.1	9.5
Queue Length 50th (ft)	1	1	2	175	111	11
Queue Length 95th (ft)	m19	132	m3	m164	#183	59
Internal Link Dist (ft)		667		259	308	244
Turn Bay Length (ft)	80		50			
Base Capacity (vph)	696	1251	528	1173	306	549
Starvation Cap Reductn	0	0	0	574	0	0
Spillback Cap Reductn	0	9	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.49	0.01	0.54	0.66	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	430	125	5	290	10	110	15	60	15	5	140
Future Volume (veh/h)	50	430	125	5	290	10	110	15	60	15	5	140
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	0.99		0.97	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	467	136	5	315	11	120	16	65	16	5	152
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	748	950	277	614	1169	41	186	30	76	55	23	276
Arrive On Green	0.08	1.00	1.00	0.01	0.65	0.65	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	1390	405	1781	1796	63	675	155	397	81	119	1451
Grp Volume(v), veh/h	54	0	603	5	0	326	201	0	0	173	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1795	1781	0	1859	1226	0	0	1651	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.1	0.0	7.4	6.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	0.0	0.1	0.0	7.4	16.2	0.0	0.0	9.9	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.03	0.60		0.32	0.09		0.88
Lane Grp Cap(c), veh/h	748	0	1226	614	0	1209	291	0	0	354	0	0
V/C Ratio(X)	0.07	0.00	0.49	0.01	0.00	0.27	0.69	0.00	0.00	0.49	0.00	0.00
Avail Cap(c_a), veh/h	768	0	1226	691	0	1209	425	0	0	506	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.00	0.84	0.87	0.00	0.87	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.8	0.0	0.0	5.9	0.0	7.4	39.5	0.0	0.0	36.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.2	0.0	0.0	0.5	2.9	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.0	0.0	2.9	5.0	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.8	0.0	1.2	5.9	0.0	7.9	42.4	0.0	0.0	37.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		657			331			201			173	
Approach Delay, s/veh		1.5			7.8			42.4			37.8	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	72.3		23.0	7.9	69.1		23.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	54.0		29.0	5.0	54.0		29.0				
Max Q Clear Time (g_c+I1), s	2.1	2.0		11.9	2.9	9.4		18.2				
Green Ext Time (p_c), s	0.0	4.9		0.9	0.0	2.2		0.9				

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

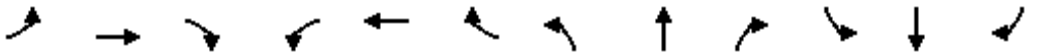
Notes

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	484	65	397	120	11	114	152	180
v/c Ratio	0.38	0.47	0.45	0.38	0.13	0.11	0.59	0.70	0.39
Control Delay	51.9	18.4	55.9	11.1	1.3	47.3	51.6	58.6	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	18.4	55.9	11.1	1.3	47.3	51.6	58.6	21.8
Queue Length 50th (ft)	30	187	43	85	0	7	66	94	57
Queue Length 95th (ft)	66	342	m74	188	m16	25	116	157	123
Internal Link Dist (ft)		263		667			657		264
Turn Bay Length (ft)	70		50		190	55		75	
Base Capacity (vph)	140	1026	152	1042	929	96	462	256	614
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.47	0.43	0.38	0.13	0.11	0.25	0.59	0.29

Intersection Summary

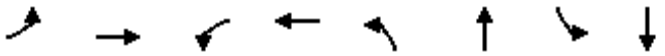
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	445	0	60	365	110	10	90	15	140	75	90
Future Volume (veh/h)	45	445	0	60	365	110	10	90	15	140	75	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	484	0	65	397	120	11	98	16	152	82	98
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	66	1095	0	83	1113	942	23	164	27	183	150	179
Arrive On Green	0.04	0.59	0.00	0.09	1.00	1.00	0.01	0.10	0.10	0.10	0.19	0.19
Sat Flow, veh/h	1781	1870	0	1781	1870	1582	1781	1562	255	1781	770	920
Grp Volume(v), veh/h	49	484	0	65	397	120	11	0	114	152	0	180
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	1870	1582	1781	0	1817	1781	0	1691
Q Serve(g_s), s	2.7	14.5	0.0	3.6	0.0	0.0	0.6	0.0	6.0	8.4	0.0	9.6
Cycle Q Clear(g_c), s	2.7	14.5	0.0	3.6	0.0	0.0	0.6	0.0	6.0	8.4	0.0	9.6
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.14	1.00		0.54
Lane Grp Cap(c), veh/h	66	1095	0	83	1113	942	23	0	191	183	0	329
V/C Ratio(X)	0.74	0.44	0.00	0.78	0.36	0.13	0.47	0.00	0.60	0.83	0.00	0.55
Avail Cap(c_a), veh/h	125	1095	0	125	1113	942	89	0	454	249	0	575
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.7	11.6	0.0	44.8	0.0	0.0	49.0	0.0	42.7	44.0	0.0	36.3
Incr Delay (d2), s/veh	5.9	1.3	0.0	8.4	0.9	0.3	5.3	0.0	1.1	11.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	6.0	0.0	1.7	0.3	0.1	0.3	0.0	2.7	4.3	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	12.9	0.0	53.2	0.9	0.3	54.3	0.0	43.9	55.7	0.0	36.8
LnGrp LOS	D	B	A	D	A	A	D	A	D	E	A	D
Approach Vol, veh/h		533			582			125			332	
Approach Delay, s/veh		16.6			6.6			44.8			45.5	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	62.6	14.3	14.5	7.7	63.5	5.3	23.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	38.0	14.0	25.0	7.0	38.0	5.0	34.0
Max Q Clear Time (g_c+I1), s	5.6	16.5	10.4	8.0	4.7	2.0	2.6	11.6
Green Ext Time (p_c), s	0.0	2.0	0.1	0.3	0.0	1.8	0.0	0.7

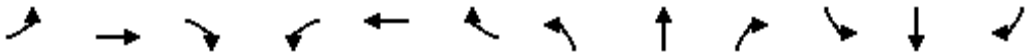
Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	315	87	310	342	452	33	282
v/c Ratio	0.50	0.71	0.43	0.73	0.84	0.55	0.22	0.71
Control Delay	42.2	34.6	42.3	38.8	54.0	22.6	41.6	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	34.6	42.3	38.8	54.0	22.6	41.6	38.3
Queue Length 50th (ft)	50	122	39	132	156	133	15	118
Queue Length 95th (ft)	121	250	98	264	#437	365	50	238
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	405	669	405	684	405	827	405	663
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.47	0.21	0.45	0.84	0.55	0.08	0.43

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	185	105	80	260	25	315	340	75	30	220	40
Future Volume (veh/h)	105	185	105	80	260	25	315	340	75	30	220	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	114	201	114	87	283	27	342	370	82	33	239	43
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	5	2
Cap, veh/h	148	275	156	113	382	36	390	594	132	62	326	59
Arrive On Green	0.08	0.25	0.25	0.06	0.23	0.23	0.22	0.40	0.40	0.03	0.22	0.22
Sat Flow, veh/h	1781	1111	630	1781	1677	160	1781	1479	328	1781	1501	270
Grp Volume(v), veh/h	114	0	315	87	0	310	342	0	452	33	0	282
Grp Sat Flow(s),veh/h/ln	1781	0	1742	1781	0	1837	1781	0	1807	1781	0	1771
Q Serve(g_s), s	4.0	0.0	10.5	3.0	0.0	9.9	11.7	0.0	12.6	1.2	0.0	9.4
Cycle Q Clear(g_c), s	4.0	0.0	10.5	3.0	0.0	9.9	11.7	0.0	12.6	1.2	0.0	9.4
Prop In Lane	1.00		0.36	1.00		0.09	1.00		0.18	1.00		0.15
Lane Grp Cap(c), veh/h	148	0	431	113	0	419	390	0	726	62	0	385
V/C Ratio(X)	0.77	0.00	0.73	0.77	0.00	0.74	0.88	0.00	0.62	0.53	0.00	0.73
Avail Cap(c_a), veh/h	451	0	716	451	0	755	451	0	743	451	0	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	0.0	21.9	29.2	0.0	22.7	23.9	0.0	15.1	30.0	0.0	23.0
Incr Delay (d2), s/veh	3.2	0.0	0.9	4.2	0.0	1.0	14.5	0.0	1.1	2.6	0.0	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	1.7	0.0	4.1	1.4	0.0	4.1	6.2	0.0	4.8	0.5	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	0.0	22.8	33.4	0.0	23.7	38.4	0.0	16.2	32.6	0.0	24.1
LnGrp LOS	C	A	C	C	A	C	D	A	B	C	A	C
Approach Vol, veh/h		429			397			794			315	
Approach Delay, s/veh		25.1			25.8			25.8			25.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	29.4	8.0	19.7	17.9	17.8	9.2	18.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	3.2	14.6	5.0	12.5	13.7	11.4	6.0	11.9
Green Ext Time (p_c), s	0.0	1.5	0.1	1.1	0.1	0.9	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

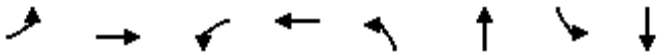
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	80	370	125	10	490	10	0	0	30	0	0	25
Future Vol, veh/h	80	370	125	10	490	10	0	0	30	0	0	25
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	87	402	136	11	533	11	0	0	33	0	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	550	0	0	540	0	0	1230	1218	479	1235	1281	555
Stage 1	-	-	-	-	-	-	646	646	-	567	567	-
Stage 2	-	-	-	-	-	-	584	572	-	668	714	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1020	-	-	1028	-	-	154	181	587	153	166	531
Stage 1	-	-	-	-	-	-	460	467	-	508	507	-
Stage 2	-	-	-	-	-	-	498	504	-	448	435	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1014	-	-	1026	-	-	129	155	582	128	142	523
Mov Cap-2 Maneuver	-	-	-	-	-	-	129	155	-	128	142	-
Stage 1	-	-	-	-	-	-	402	408	-	442	496	-
Stage 2	-	-	-	-	-	-	461	493	-	368	380	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.2	11.6	12.3
HCM LOS			B	B

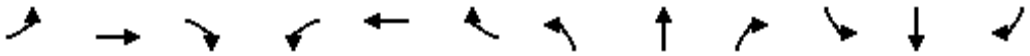
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	582	1014	-	-	1026	-	-	523
HCM Lane V/C Ratio	0.056	0.086	-	-	0.011	-	-	0.052
HCM Control Delay (s)	11.6	8.9	0	-	8.5	0	-	12.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0	-	-	0.2



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	163	348	54	179	272	364	87	494
v/c Ratio	0.66	0.72	0.36	0.59	0.81	0.47	0.48	0.85
Control Delay	48.2	35.4	44.9	38.6	55.0	23.4	46.2	45.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	35.4	44.9	38.6	55.0	23.4	46.2	45.3
Queue Length 50th (ft)	84	160	28	82	142	142	45	249
Queue Length 95th (ft)	156	270	67	151	#308	279	95	#494
Internal Link Dist (ft)		259		278		327		630
Turn Bay Length (ft)	85		65		95		150	
Base Capacity (vph)	341	561	341	570	341	780	341	578
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.62	0.16	0.31	0.80	0.47	0.26	0.85

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	190	130	50	130	35	250	295	40	80	415	40
Future Volume (veh/h)	150	190	130	50	130	35	250	295	40	80	415	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	207	141	54	141	38	272	321	43	87	451	43
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	204	254	173	82	253	68	317	672	90	113	507	48
Arrive On Green	0.11	0.25	0.25	0.05	0.18	0.18	0.18	0.42	0.42	0.06	0.30	0.30
Sat Flow, veh/h	1781	1027	700	1781	1409	380	1781	1613	216	1781	1679	160
Grp Volume(v), veh/h	163	0	348	54	0	179	272	0	364	87	0	494
Grp Sat Flow(s),veh/h/ln	1781	0	1727	1781	0	1789	1781	0	1829	1781	0	1839
Q Serve(g_s), s	6.3	0.0	13.4	2.1	0.0	6.5	10.5	0.0	10.3	3.4	0.0	18.1
Cycle Q Clear(g_c), s	6.3	0.0	13.4	2.1	0.0	6.5	10.5	0.0	10.3	3.4	0.0	18.1
Prop In Lane	1.00		0.41	1.00		0.21	1.00		0.12	1.00		0.09
Lane Grp Cap(c), veh/h	204	0	428	82	0	321	317	0	762	113	0	556
V/C Ratio(X)	0.80	0.00	0.81	0.66	0.00	0.56	0.86	0.00	0.48	0.77	0.00	0.89
Avail Cap(c_a), veh/h	403	0	635	403	0	658	403	0	762	403	0	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	25.1	33.2	0.0	26.5	28.2	0.0	15.0	32.6	0.0	23.5
Incr Delay (d2), s/veh	2.7	0.0	3.0	3.3	0.0	0.6	11.7	0.0	0.2	4.2	0.0	10.8
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	2.8	0.0	5.5	1.0	0.0	2.7	5.3	0.0	3.9	1.5	0.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	0.0	28.1	36.4	0.0	27.0	40.0	0.0	15.2	36.8	0.0	34.3
LnGrp LOS	C	A	C	D	A	C	D	A	B	D	A	C
Approach Vol, veh/h		511			233			636			581	
Approach Delay, s/veh		29.7			29.2			25.8			34.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	33.5	7.3	21.5	16.6	25.4	12.1	16.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	16.0	26.0	16.0	26.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	5.4	12.3	4.1	15.4	12.5	20.1	8.3	8.5
Green Ext Time (p_c), s	0.1	1.2	0.0	1.1	0.2	1.1	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	50	430	125	5	290	10	0	0	60	15	5	140
Future Vol, veh/h	50	430	125	5	290	10	0	0	60	15	5	140
Conflicting Peds, #/hr	6	0	2	2	0	6	10	0	7	7	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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	54	467	136	5	315	11	0	0	65	16	5	152

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	332	0	0	605	0	0	1064	987	544	1020	1050	337
Stage 1	-	-	-	-	-	-	645	645	-	337	337	-
Stage 2	-	-	-	-	-	-	419	342	-	683	713	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1227	-	-	973	-	-	201	247	539	215	227	705
Stage 1	-	-	-	-	-	-	461	467	-	677	641	-
Stage 2	-	-	-	-	-	-	612	638	-	439	435	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1220	-	-	971	-	-	144	227	534	176	209	694
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	227	-	176	209	-
Stage 1	-	-	-	-	-	-	429	434	-	628	633	-
Stage 2	-	-	-	-	-	-	466	630	-	357	405	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	12.7	15.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	534	1220	-	-	971	-	-	515
HCM Lane V/C Ratio	0.122	0.045	-	-	0.006	-	-	0.338
HCM Control Delay (s)	12.7	8.1	0	-	8.7	0	-	15.5
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	1.5

Intersection	
Intersection Delay, s/veh	28.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	15	0	240	0	420	80	185	315	0
Future Vol, veh/h	0	0	0	15	0	240	0	420	80	185	315	0
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	5	2
Mvmt Flow	0	0	0	16	0	261	0	457	87	201	342	0
Number of Lanes	0	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	0	15.1	47.3	16.7
HCM LOS	-	C	E	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	84%	100%	0%	0%	0%	100%
Vol Right, %	0%	16%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	500	0	15	240	185	315
LT Vol	0	0	0	15	0	185	0
Through Vol	0	420	0	0	0	0	315
RT Vol	0	80	0	0	240	0	0
Lane Flow Rate	0	543	0	16	261	201	342
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0	0.933	0	0.036	0.479	0.38	0.603
Departure Headway (Hd)	6.296	6.182	8.509	7.845	6.615	6.799	6.341
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	582	0	454	543	527	565
Service Time	4.07	3.956	6.509	5.626	4.396	4.577	4.119
HCM Lane V/C Ratio	0	0.933	0	0.035	0.481	0.381	0.605
HCM Control Delay	9.1	47.3	11.5	10.9	15.4	13.7	18.4
HCM Lane LOS	N	E	N	B	C	B	C
HCM 95th-tile Q	0	12	0	0.1	2.6	1.8	4

Intersection	
Intersection Delay, s/veh	19.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	325	125	10	405	5	90	5	30	0	0	25
Future Vol, veh/h	70	325	125	10	405	5	90	5	30	0	0	25
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	353	136	11	440	5	98	5	33	0	0	27
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	23.6	17.9	11.6	9.6
HCM LOS	C	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	72%	13%	2%	0%
Vol Thru, %	4%	62%	96%	0%
Vol Right, %	24%	24%	1%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	520	420	25
LT Vol	90	70	10	0
Through Vol	5	325	405	0
RT Vol	30	125	5	25
Lane Flow Rate	136	565	457	27
Geometry Grp	1	1	1	1
Degree of Util (X)	0.243	0.782	0.661	0.047
Departure Headway (Hd)	6.443	4.982	5.213	6.193
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	556	723	694	575
Service Time	4.498	3.017	3.251	4.266
HCM Lane V/C Ratio	0.245	0.781	0.659	0.047
HCM Control Delay	11.6	23.6	17.9	9.6
HCM Lane LOS	B	C	C	A
HCM 95th-tile Q	0.9	7.7	5	0.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	2	2	2	0	0	25	2	200	10	25	115	2
Future Vol, veh/h	2	2	2	0	0	25	2	200	10	25	115	2
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	-	-	-	-	-	-	-	-	-	250	-	-
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	5	2	2	5	2
Mvmt Flow	2	2	2	0	0	27	2	217	11	27	125	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	420	412	126	409	408	223	127	0	0	228	0	0
Stage 1	180	180	-	227	227	-	-	-	-	-	-	-
Stage 2	240	232	-	182	181	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	544	530	924	553	533	817	1459	-	-	1340	-	-
Stage 1	822	750	-	776	716	-	-	-	-	-	-	-
Stage 2	763	713	-	820	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	517	518	924	541	521	817	1459	-	-	1340	-	-
Mov Cap-2 Maneuver	517	518	-	541	521	-	-	-	-	-	-	-
Stage 1	820	735	-	774	715	-	-	-	-	-	-	-
Stage 2	736	712	-	799	735	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	9.6	0.1	1.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1459	-	-	606	817	1340	-	-
HCM Lane V/C Ratio	0.001	-	-	0.011	0.033	0.02	-	-
HCM Control Delay (s)	7.5	0	-	11	9.6	7.7	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	30	15	205	100	35
Future Vol, veh/h	55	30	15	205	100	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	250	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	5	5	2
Mvmt Flow	60	33	16	223	109	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	364	109	147	0	-	0
Stage 1	109	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	635	945	1435	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	628	945	1435	-	-	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1435	-	628	945	-	-
HCM Lane V/C Ratio	0.011	-	0.095	0.035	-	-
HCM Control Delay (s)	7.5	-	11.3	8.9	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.1	-	-

Intersection	
Intersection Delay, s/veh	63
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	15	0	145	0	425	80	160	635	0
Future Vol, veh/h	1	0	0	15	0	145	0	425	80	160	635	0
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	5	2
Mvmt Flow	1	0	0	16	0	158	0	462	87	174	690	0
Number of Lanes	0	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	11.9	12.8	43.3	85.6
HCM LOS	B	B	E	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	100%	0%	100%	0%
Vol Thru, %	100%	84%	0%	0%	0%	0%	100%
Vol Right, %	0%	16%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	505	1	15	145	160	635
LT Vol	0	0	1	15	0	160	0
Through Vol	0	425	0	0	0	0	635
RT Vol	0	80	0	0	145	0	0
Lane Flow Rate	0	549	1	16	158	174	690
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0	0.911	0.003	0.037	0.302	0.31	1.141
Departure Headway (Hd)	6.348	6.236	8.903	8.41	7.171	6.408	5.952
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	587	404	428	504	565	614
Service Time	4.048	3.936	6.903	6.11	4.871	4.108	3.652
HCM Lane V/C Ratio	0	0.935	0.002	0.037	0.313	0.308	1.124
HCM Control Delay	9	43.3	11.9	11.4	12.9	12	104.1
HCM Lane LOS	N	E	B	B	B	B	F
HCM 95th-tile Q	0	11.2	0	0.1	1.3	1.3	22.3

Intersection	
Intersection Delay, s/veh	24.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	350	125	5	265	10	115	15	55	10	5	125
Future Vol, veh/h	45	350	125	5	265	10	115	15	55	10	5	125
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	380	136	5	288	11	125	16	60	11	5	136
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	35.9	15.7	13.9	12
HCM LOS	E	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	62%	9%	2%	7%
Vol Thru, %	8%	67%	95%	4%
Vol Right, %	30%	24%	4%	89%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	185	520	280	140
LT Vol	115	45	5	10
Through Vol	15	350	265	5
RT Vol	55	125	10	125
Lane Flow Rate	201	565	304	152
Geometry Grp	1	1	1	1
Degree of Util (X)	0.377	0.879	0.519	0.273
Departure Headway (Hd)	6.758	5.598	6.137	6.468
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	531	644	587	554
Service Time	4.818	3.639	4.187	4.532
HCM Lane V/C Ratio	0.379	0.877	0.518	0.274
HCM Control Delay	13.9	35.9	15.7	12
HCM Lane LOS	B	E	C	B
HCM 95th-tile Q	1.7	10.5	3	1.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	2	2	2	15	0	100	2	215	15	115	315	2
Future Vol, veh/h	2	2	2	15	0	100	2	215	15	115	315	2
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	-	-	-	-	-	-	-	-	-	250	-	-
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	5	2	2	5	2
Mvmt Flow	2	2	2	16	0	109	2	234	16	125	342	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	894	847	343	841	840	242	344	0	0	250	0	0
Stage 1	593	593	-	246	246	-	-	-	-	-	-	-
Stage 2	301	254	-	595	594	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	262	299	700	284	302	797	1215	-	-	1316	-	-
Stage 1	492	493	-	758	703	-	-	-	-	-	-	-
Stage 2	708	697	-	491	493	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	210	270	700	260	273	797	1215	-	-	1316	-	-
Mov Cap-2 Maneuver	210	270	-	260	273	-	-	-	-	-	-	-
Stage 1	491	446	-	756	702	-	-	-	-	-	-	-
Stage 2	610	696	-	441	446	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.1	12.2	0.1	2.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1215	-	-	303	628	1316	-	-
HCM Lane V/C Ratio	0.002	-	-	0.022	0.199	0.095	-	-
HCM Control Delay (s)	8	0	-	17.1	12.2	8	-	-
HCM Lane LOS	A	A	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0.3	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	85	140	85	215	280	85
Future Vol, veh/h	85	140	85	215	280	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	250	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	5	5	2
Mvmt Flow	92	152	92	234	304	92

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	722	304	396	0	-	0
Stage 1	304	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	394	736	1163	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	363	736	1163	-	-	-
Mov Cap-2 Maneuver	363	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	2.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1163	-	363	736	-	-
HCM Lane V/C Ratio	0.079	-	0.255	0.207	-	-
HCM Control Delay (s)	8.4	-	18.3	11.2	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1	0.8	-	-

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	85	55	455	80	20
Future Vol, veh/h	15	85	55	455	80	20
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	98	63	523	92	23
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.8	13.2	9.6
HCM LOS	A	B	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	0%	80%
Vol Thru, %	85%	11%	0%
Vol Right, %	0%	89%	20%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	100	510	100
LT Vol	15	0	80
Through Vol	85	55	0
RT Vol	0	455	20
Lane Flow Rate	115	586	115
Geometry Grp	1	1	1
Degree of Util (X)	0.154	0.628	0.172
Departure Headway (Hd)	4.833	3.855	5.377
Convergence, Y/N	Yes	Yes	Yes
Cap	740	938	664
Service Time	2.873	1.875	3.436
HCM Lane V/C Ratio	0.155	0.625	0.173
HCM Control Delay	8.8	13.2	9.6
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.5	4.6	0.6

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑				↗		↱				
Traffic Vol, veh/h	0	155	20	80	0	140	0	100	80	0	0	0
Future Vol, veh/h	0	155	20	80	0	140	0	100	80	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	0	-	-	16979	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	170	22	88	0	154	0	110	88	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	-	0	0	-	181	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	-	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	0	713	862
Stage 1	0	-	-	0	750	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	862
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s	0	10.4
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	862	-	-
HCM Lane V/C Ratio	0.229	-	-
HCM Control Delay (s)	10.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.9	-	-

Intersection	
Intersection Delay, s/veh	21.9
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	40	115	70	470	130	140
Future Vol, veh/h	40	115	70	470	130	140
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	131	80	534	148	159
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	10.4	29.1	14.1
HCM LOS	B	D	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	48%	0%	100%	0%
Vol Thru, %	0%	26%	0%	100%
Vol Right, %	52%	74%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	270	155	70	470
LT Vol	130	0	70	0
Through Vol	0	40	0	470
RT Vol	140	115	0	0
Lane Flow Rate	307	176	80	534
Geometry Grp	2	5	7	7
Degree of Util (X)	0.487	0.264	0.137	0.846
Departure Headway (Hd)	5.709	5.401	6.209	5.703
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	629	664	578	636
Service Time	3.753	3.449	3.942	3.436
HCM Lane V/C Ratio	0.488	0.265	0.138	0.84
HCM Control Delay	14.1	10.4	9.9	32
HCM Lane LOS	B	B	A	D
HCM 95th-tile Q	2.7	1.1	0.5	9.3

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	165	10	40	240	0	30
Future Vol, veh/h	165	10	40	240	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	179	11	43	261	0	33

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	207	174	0	0	304	0
Stage 1	174	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	781	869	-	-	1257	-
Stage 1	856	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	781	869	-	-	1257	-
Mov Cap-2 Maneuver	781	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	989	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	828	1257	-
HCM Lane V/C Ratio	-	-	0.23	-	-
HCM Control Delay (s)	-	-	10.6	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	100	105	75	60	125	345	200	100	60	140	5
Future Volume (veh/h)	0	100	105	75	60	125	345	200	100	60	140	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	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	112	0	84	67	140	388	225	112	67	157	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	378		442	378	320	784	911	772	684	872	33
Arrive On Green	0.00	0.20	0.00	0.20	0.20	0.20	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	0	1870	0	1281	1870	1585	1223	1870	1585	1043	1790	68
Grp Volume(v), veh/h	0	112	0	84	67	140	388	225	112	67	0	163
Grp Sat Flow(s),veh/h/ln	0	1870	0	1281	1870	1585	1223	1870	1585	1043	0	1858
Q Serve(g_s), s	0.0	1.5	0.0	1.7	0.9	2.2	7.6	2.0	1.1	1.2	0.0	1.4
Cycle Q Clear(g_c), s	0.0	1.5	0.0	3.2	0.9	2.2	9.0	2.0	1.1	3.2	0.0	1.4
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	0	378		442	378	320	784	911	772	684	0	905
V/C Ratio(X)	0.00	0.30		0.19	0.18	0.44	0.49	0.25	0.15	0.10	0.00	0.18
Avail Cap(c_a), veh/h	0	1168		983	1168	990	1366	1801	1526	1180	0	1789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.8	0.0	11.2	9.6	10.1	6.7	4.3	4.1	5.3	0.0	4.2
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.2	0.2	0.9	0.5	0.1	0.1	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.0	0.4	0.3	0.7	1.2	0.4	0.2	0.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.2	0.0	11.4	9.8	11.1	7.2	4.5	4.2	5.3	0.0	4.3
LnGrp LOS	A	B		B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		112	A		291			725			230	
Approach Delay, s/veh		10.2			10.9			5.9			4.6	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.6		10.4		18.6		10.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		27.9		18.1		27.9		18.1				
Max Q Clear Time (g_c+I1), s		11.0		3.5		5.2		5.2				
Green Ext Time (p_c), s		3.1		0.4		1.2		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		7.1
HCM 6th LOS		A

Notes

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

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	0	210	0	330	0	0	0	0	0	0	55
Future Vol, veh/h	50	0	210	0	330	0	0	0	0	0	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16965	-	-	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	54	0	228	0	359	0	0	0	0	0	0	60

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	359	0	-	-	-	0			-	-	359
Stage 1	-	-	-	-	-	-			-	-	-
Stage 2	-	-	-	-	-	-			-	-	-
Critical Hdwy	4.12	-	-	-	-	-			-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-			-	-	3.318
Pot Cap-1 Maneuver	1200	-	0	0	-	-			0	0	685
Stage 1	-	-	0	0	-	-			0	0	-
Stage 2	-	-	0	0	-	-			0	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1200	-	-	-	-	-			-	0	685
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	8.1	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1200	-	-	-	685
HCM Lane V/C Ratio	0.045	-	-	-	0.087
HCM Control Delay (s)	8.1	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	430	5	0	0	230	320	0	0	215	15
Future Vol, veh/h	0	0	430	5	0	0	230	320	0	0	215	15
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	150	-	-	-	425	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	500	6	0	0	267	372	0	0	250	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1165	1165	-	1165	1173	372	267	0	-	-	-	0
Stage 1	259	259	-	906	906	-	-	-	-	-	-	-
Stage 2	906	906	-	259	267	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	171	194	0	171	192	674	1297	-	0	0	-	-
Stage 1	746	694	0	331	355	-	-	-	0	0	-	-
Stage 2	331	355	0	746	688	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	144	154	-	144	152	674	1297	-	-	-	-	-
Mov Cap-2 Maneuver	144	154	-	144	152	-	-	-	-	-	-	-
Stage 1	592	694	-	263	282	-	-	-	-	-	-	-
Stage 2	263	282	-	746	688	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	31	3.6	0
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1297	-	-	-	144	-	-
HCM Lane V/C Ratio	0.206	-	-	-	0.04	-	-
HCM Control Delay (s)	8.5	-	0	0	31	-	-
HCM Lane LOS	A	-	A	A	D	-	-
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	50	85	135	95	30	60	165	35	75	60	30
Future Vol, veh/h	20	50	85	135	95	30	60	165	35	75	60	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	54	92	147	103	33	65	179	38	82	65	33
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.4	12.9	11.7	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	13%	52%	100%	0%
Vol Thru, %	0%	82%	32%	37%	0%	67%
Vol Right, %	0%	17%	55%	12%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	200	155	260	75	90
LT Vol	60	0	20	135	75	0
Through Vol	0	165	50	95	0	60
RT Vol	0	35	85	30	0	30
Lane Flow Rate	65	217	168	283	82	98
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.12	0.361	0.255	0.437	0.154	0.164
Departure Headway (Hd)	6.618	5.985	5.456	5.57	6.78	6.033
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	541	600	655	644	528	593
Service Time	4.366	3.733	3.509	3.617	4.532	3.785
HCM Lane V/C Ratio	0.12	0.362	0.256	0.439	0.155	0.165
HCM Control Delay	10.3	12.1	10.4	12.9	10.8	10
HCM Lane LOS	B	B	B	B	B	A
HCM 95th-tile Q	0.4	1.6	1	2.2	0.5	0.6

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	125	35	25	10	5	40	210	75	25	25	165	80
Future Vol, veh/h	125	35	25	10	5	40	210	75	25	25	165	80
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	129	36	26	10	5	41	216	77	26	26	170	82
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.1	9	11.4	11.3
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	68%	18%	100%	0%
Vol Thru, %	0%	75%	19%	9%	0%	67%
Vol Right, %	0%	25%	14%	73%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	100	185	55	25	245
LT Vol	210	0	125	10	25	0
Through Vol	0	75	35	5	0	165
RT Vol	0	25	25	40	0	80
Lane Flow Rate	216	103	191	57	26	253
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.368	0.155	0.299	0.086	0.044	0.383
Departure Headway (Hd)	6.111	5.429	5.638	5.471	6.19	5.453
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	589	662	637	654	580	662
Service Time	3.837	3.154	3.669	3.51	3.916	3.179
HCM Lane V/C Ratio	0.367	0.156	0.3	0.087	0.045	0.382
HCM Control Delay	12.4	9.2	11.1	9	9.2	11.5
HCM Lane LOS	B	A	B	A	A	B
HCM 95th-tile Q	1.7	0.5	1.3	0.3	0.1	1.8

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	135	80	315	190	50
Future Vol, veh/h	5	135	80	315	190	50
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	141	83	328	198	52
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.5	11.5	11.2
HCM LOS	A	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	79%
Vol Thru, %	96%	20%	0%
Vol Right, %	0%	80%	21%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	140	395	240
LT Vol	5	0	190
Through Vol	135	80	0
RT Vol	0	315	50
Lane Flow Rate	146	411	250
Geometry Grp	1	1	1
Degree of Util (X)	0.205	0.493	0.359
Departure Headway (Hd)	5.062	4.311	5.176
Convergence, Y/N	Yes	Yes	Yes
Cap	703	831	688
Service Time	3.136	2.362	3.262
HCM Lane V/C Ratio	0.208	0.495	0.363
HCM Control Delay	9.5	11.5	11.2
HCM Lane LOS	A	B	B
HCM 95th-tile Q	0.8	2.8	1.6

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑				↗		↱				
Traffic Vol, veh/h	0	520	80	125	0	140	0	60	130	0	0	0
Future Vol, veh/h	0	520	80	125	0	140	0	60	130	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	0	-	-	16979	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	571	88	137	0	154	0	66	143	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	-	0	0	-	615	615
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	-	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	0	407	491
Stage 1	0	-	-	0	482	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	491
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s	0	17.6
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	491	-	-
HCM Lane V/C Ratio	0.425	-	-
HCM Control Delay (s)	17.6	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	2.1	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	175	155	105	320	90	405
Future Volume (veh/h)	175	155	105	320	90	405
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	1900	1900
Adj Flow Rate, veh/h	184	163	111	337	95	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	365	323	565	747	378	
Arrive On Green	0.40	0.40	0.40	0.40	0.21	0.00
Sat Flow, veh/h	914	810	1034	1870	1764	0
Grp Volume(v), veh/h	0	347	111	337	96	0
Grp Sat Flow(s),veh/h/ln	0	1725	1034	1870	1782	0
Q Serve(g_s), s	0.0	3.5	2.1	3.1	1.0	0.0
Cycle Q Clear(g_c), s	0.0	3.5	5.6	3.1	1.0	0.0
Prop In Lane		0.47	1.00		0.99	0.00
Lane Grp Cap(c), veh/h	0	688	565	747	382	
V/C Ratio(X)	0.00	0.50	0.20	0.45	0.25	
Avail Cap(c_a), veh/h	0	1332	951	1445	1377	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	5.3	7.4	5.1	7.6	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.2	0.4	0.3	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	0.0	0.1	0.2	0.3	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	5.8	7.6	5.6	7.9	0.0
LnGrp LOS	A	A	A	A	A	
Approach Vol, veh/h	347			448	96	A
Approach Delay, s/veh	5.8			6.1	7.9	
Approach LOS	A			A	A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	9.5	13.8	13.8
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	3.0	5.5	7.6
Green Ext Time (p_c), s	0.2	1.4	1.7

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

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

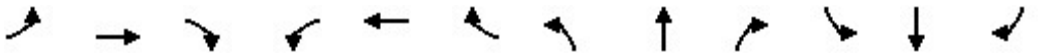
Intersection	
Int Delay, s/veh	10.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	370	5	60	195	20	120
Future Vol, veh/h	370	5	60	195	20	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	416	6	67	219	22	135

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	356	177	0	0	286	0
Stage 1	177	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	642	866	-	-	1276	-
Stage 1	854	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	630	866	-	-	1276	-
Mov Cap-2 Maneuver	630	-	-	-	-	-
Stage 1	838	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.9	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	639	1276	-
HCM Lane V/C Ratio	-	-	0.659	0.018	-
HCM Control Delay (s)	-	-	20.9	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	4.9	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	270	140	180	65	150	250	160	195	140	330	45
Future Volume (veh/h)	10	270	140	180	65	150	250	160	195	140	330	45
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	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	303	0	202	73	169	281	180	219	157	371	51
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	448		491	459	389	543	941	798	645	810	111
Arrive On Green	0.25	0.25	0.00	0.25	0.25	0.25	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	27	1826	0	1076	1870	1585	965	1870	1585	986	1609	221
Grp Volume(v), veh/h	314	0	0	202	73	169	281	180	219	157	0	422
Grp Sat Flow(s),veh/h/ln	1853	0	0	1076	1870	1585	965	1870	1585	986	0	1831
Q Serve(g_s), s	0.4	0.0	0.0	0.0	1.1	3.2	9.5	1.9	2.8	3.7	0.0	5.3
Cycle Q Clear(g_c), s	5.5	0.0	0.0	5.2	1.1	3.2	14.8	1.9	2.8	5.6	0.0	5.3
Prop In Lane	0.04		0.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	559	0		491	459	389	543	941	798	645	0	921
V/C Ratio(X)	0.56	0.00		0.41	0.16	0.43	0.52	0.19	0.27	0.24	0.00	0.46
Avail Cap(c_a), veh/h	1030	0		769	941	798	543	941	798	645	0	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	0.0	12.2	10.6	11.4	10.5	4.9	5.1	6.4	0.0	5.7
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.6	0.2	0.8	3.5	0.5	0.9	0.9	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.2	0.4	1.0	2.0	0.6	0.8	0.7	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	0.0	0.0	12.7	10.8	12.2	14.0	5.3	6.0	7.3	0.0	7.4
LnGrp LOS	B	A		B	B	B	B	A	A	A	A	A
Approach Vol, veh/h		314	A		444			680			579	
Approach Delay, s/veh		13.1			12.2			9.1			7.4	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		13.3		22.5		13.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		16.8		7.5		7.6		7.2				
Green Ext Time (p_c), s		0.5		1.3		2.6		1.5				

Intersection Summary		
HCM 6th Ctrl Delay	9.9	
HCM 6th LOS	A	

Notes

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

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	0	290	0	445	5	0	0	0	0	0	85
Future Vol, veh/h	80	0	290	0	445	5	0	0	0	0	0	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16965	-	-	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	87	0	315	0	484	5	0	0	0	0	0	92

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	489	0	-	-	-	0			-	-	487
Stage 1	-	-	-	-	-	-			-	-	-
Stage 2	-	-	-	-	-	-			-	-	-
Critical Hdwy	4.12	-	-	-	-	-			-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-			-	-	3.318
Pot Cap-1 Maneuver	1074	-	0	0	-	-			0	0	581
Stage 1	-	-	0	0	-	-			0	0	-
Stage 2	-	-	0	0	-	-			0	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1074	-	-	-	-	-			-	0	581
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	8.6	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1074	-	-	-	581
HCM Lane V/C Ratio	0.081	-	-	-	0.159
HCM Control Delay (s)	8.6	0	-	-	12.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.6

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	510	0	0	0	350	445	0	0	290	20
Future Vol, veh/h	5	0	510	0	0	0	350	445	0	0	290	20
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	150	-	-	-	425	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	526	0	0	0	361	459	0	0	299	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1491	1491	-	1491	1501	459	320	0	-	-	-	0
Stage 1	310	310	-	1181	1181	-	-	-	-	-	-	-
Stage 2	1181	1181	-	310	320	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	102	124	0	102	122	602	1240	-	0	0	-	-
Stage 1	700	659	0	232	264	-	-	-	0	0	-	-
Stage 2	232	264	0	700	652	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	79	88	-	79	86	602	1240	-	-	-	-	-
Mov Cap-2 Maneuver	79	88	-	79	86	-	-	-	-	-	-	-
Stage 1	496	659	-	164	187	-	-	-	-	-	-	-
Stage 2	164	187	-	700	652	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	53.7	0	4	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1240	-	79	-	-	-	-
HCM Lane V/C Ratio	0.291	-	0.065	-	-	-	-
HCM Control Delay (s)	9.1	-	53.7	0	0	-	-
HCM Lane LOS	A	-	F	A	A	-	-
HCM 95th %tile Q(veh)	1.2	-	0.2	-	-	-	-

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	60	110	190	105	30	80	150	60	120	65	30
Future Vol, veh/h	30	60	110	190	105	30	80	150	60	120	65	30
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	64	117	202	112	32	85	160	64	128	69	32
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.5	17.5	13.2	12
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	15%	58%	100%	0%
Vol Thru, %	0%	71%	30%	32%	0%	68%
Vol Right, %	0%	29%	55%	9%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	210	200	325	120	95
LT Vol	80	0	30	190	120	0
Through Vol	0	150	60	105	0	65
RT Vol	0	60	110	30	0	30
Lane Flow Rate	85	223	213	346	128	101
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.172	0.408	0.358	0.587	0.263	0.187
Departure Headway (Hd)	7.286	6.569	6.05	6.115	7.408	6.669
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	550	594	591	485	538
Service Time	5.007	4.29	4.094	4.131	5.155	4.415
HCM Lane V/C Ratio	0.172	0.405	0.359	0.585	0.264	0.188
HCM Control Delay	11.5	13.8	12.5	17.5	12.8	11
HCM Lane LOS	B	B	B	C	B	B
HCM 95th-tile Q	0.6	2	1.6	3.8	1	0.7

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	125	65	15	30	0	65	175	95	35	20	250	100
Future Vol, veh/h	125	65	15	30	0	65	175	95	35	20	250	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	132	68	16	32	0	68	184	100	37	21	263	105
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

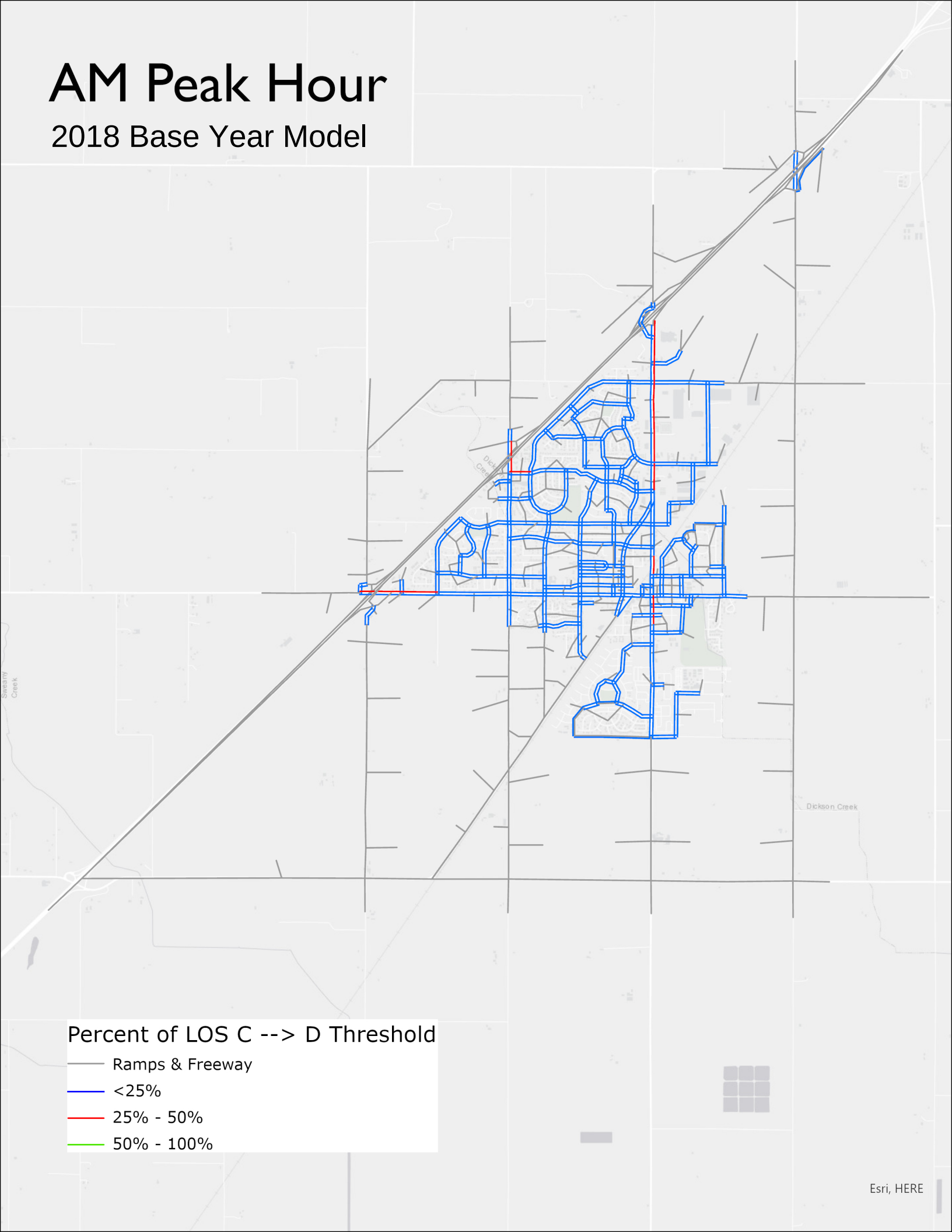
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.7	10.3	11.7	16.4
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	61%	32%	100%	0%
Vol Thru, %	0%	73%	32%	0%	0%	71%
Vol Right, %	0%	27%	7%	68%	0%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	130	205	95	20	350
LT Vol	175	0	125	30	20	0
Through Vol	0	95	65	0	0	250
RT Vol	0	35	15	65	0	100
Lane Flow Rate	184	137	216	100	21	368
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.337	0.224	0.367	0.167	0.038	0.594
Departure Headway (Hd)	6.588	5.888	6.129	6.007	6.514	5.804
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	543	608	585	593	548	619
Service Time	4.348	3.648	4.196	4.086	4.269	3.558
HCM Lane V/C Ratio	0.339	0.225	0.369	0.169	0.038	0.595
HCM Control Delay	12.7	10.4	12.7	10.3	9.5	16.8
HCM Lane LOS	B	B	B	B	A	C
HCM 95th-tile Q	1.5	0.9	1.7	0.6	0.1	3.9

APPENDIX E. LOS SCREENING MAPS

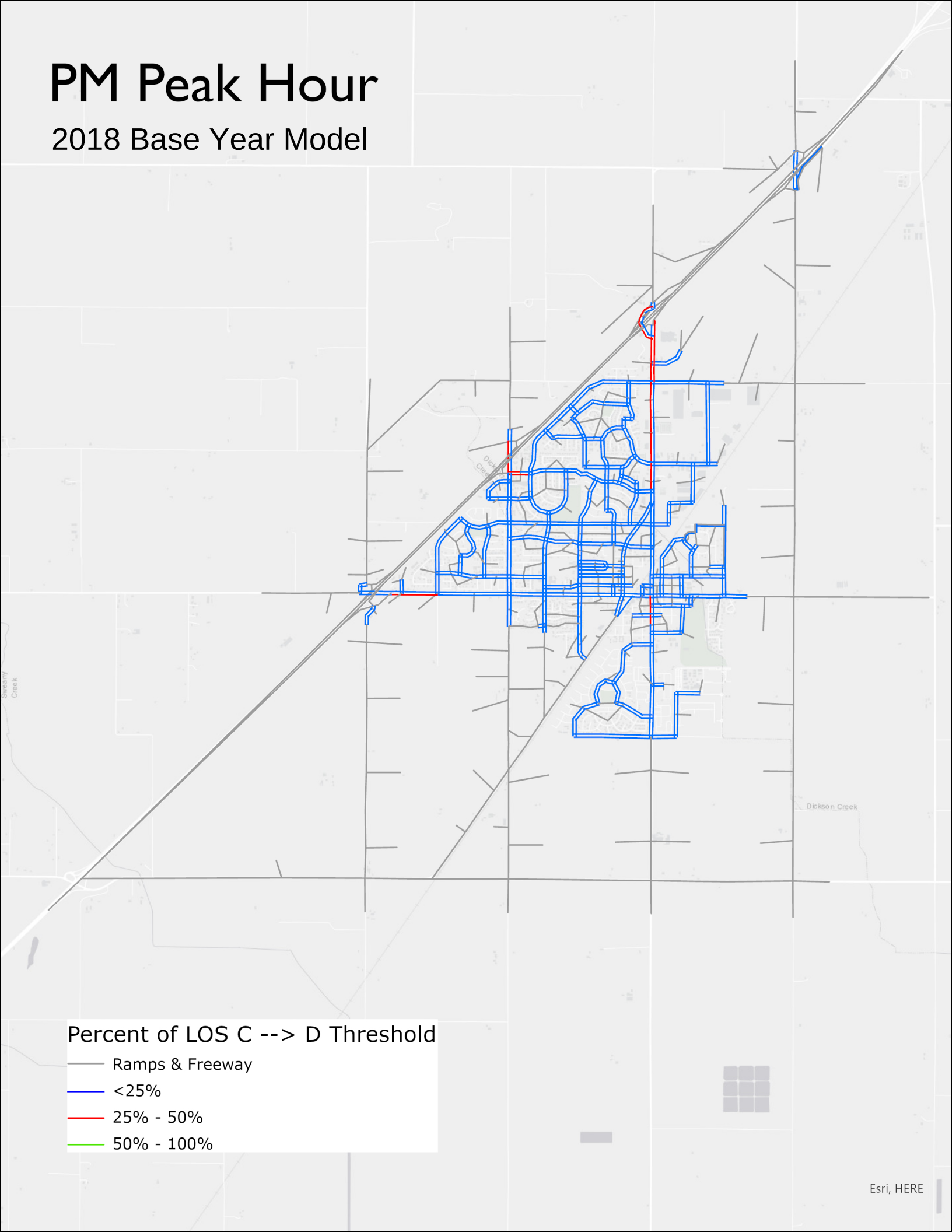
AM Peak Hour

2018 Base Year Model



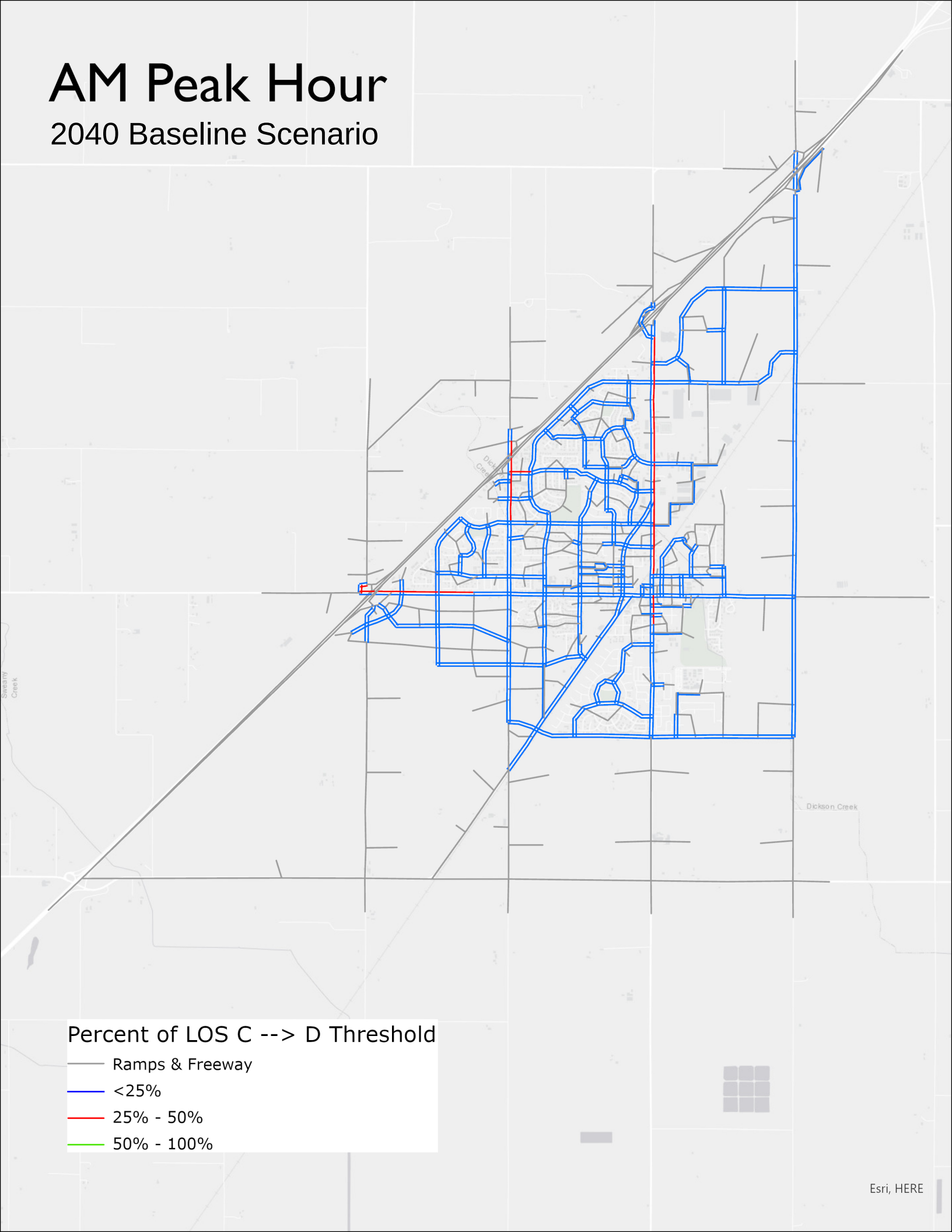
PM Peak Hour

2018 Base Year Model



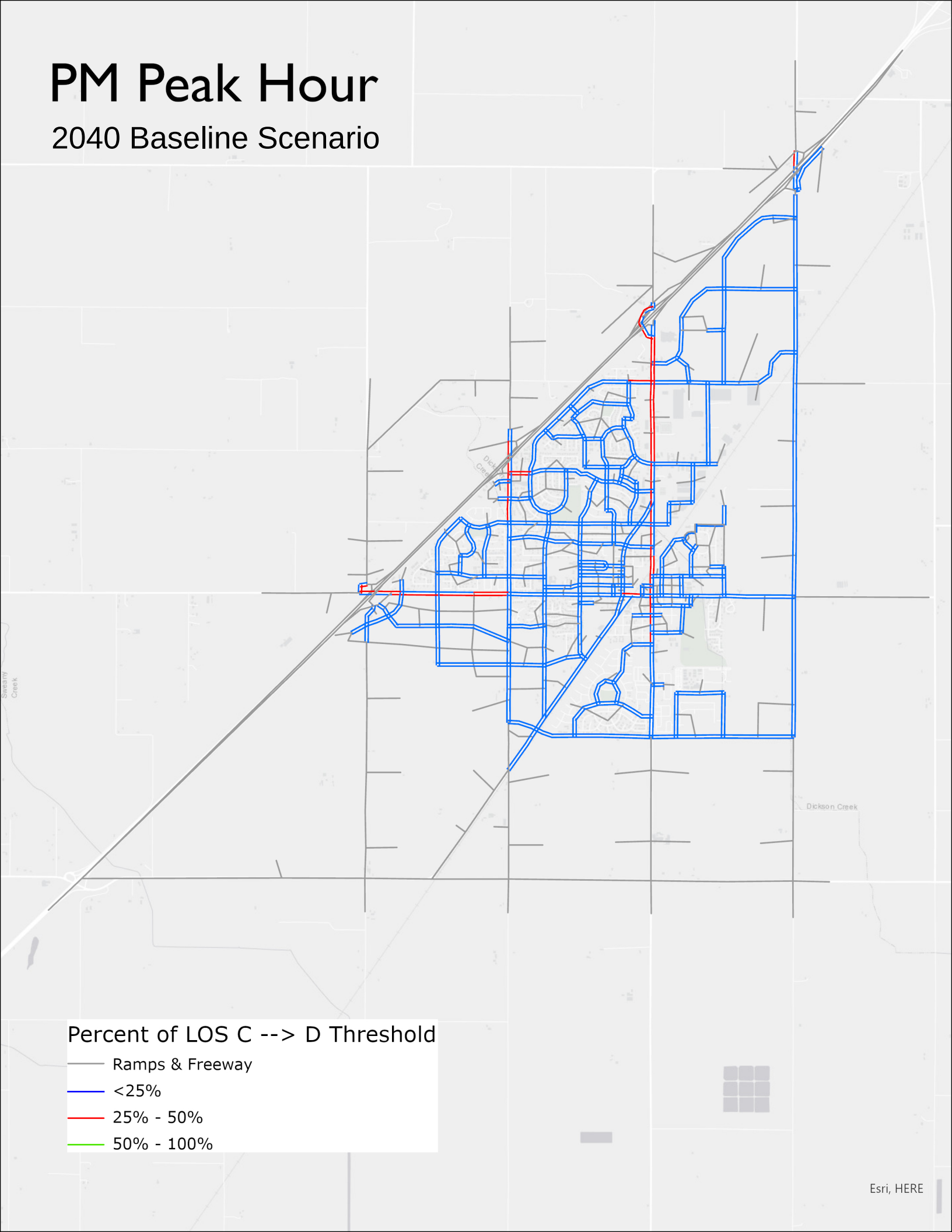
AM Peak Hour

2040 Baseline Scenario



PM Peak Hour

2040 Baseline Scenario



APPENDIX F. DETAILED HCM CALCULATIONS

Signalized Segment Calculations

Existing

Segment Data	1st St bet. A St and H St				1st St bet. H St and Vaughn St			
	NB		SB		NB		SB	
	AM	PM	AM	PM	AM	PM	AM	PM
Number of through lanes	1	1	1	1	2	2	2	2
Speed limit	25	25	25	25	45	45	45	45
Midsegment volume	446	491	425	632	368	604	593	667
Length of segment	3075	3075	3075	3075	5800	5800	5800	5800
Width of upstream boundary intersection	100	100	70	70	120	120	100	100
Length of segment with restrictive median	0	0	0	0	3100	3100	3100	3100
Length of segment with nonrestrictive median	2590	3075	3075	3075	2700	2700	2700	2700
Start-up lost time	2	2	2	2	2	2	2	2
Access Data								
Prop. of segment with Curb on right-hand side	1	1	1	1	1	1	1	1
Number of access points on right-hand side	8	8	8	8	10	10	8	8
Proportion of segment with on-street parking	0.12	0.12	0.12	0.12	0	0	0	0
Running Time Calculation								
Adjusted Length	2975	2975	3005	3005	5680	5680	5700	5700
Prop. of segment length with restrictive median	0	0	0	0	0.55	0.55	0.54	0.54
Speed Constant	37.35	37.35	37.35	37.35	46.75	46.75	46.75	46.75
Adjustment for cross section	-0.47	-0.47	-0.47	-0.47	-1.67	-1.67	-1.67	-1.67
Access Point Density	28.00	28.00	28.00	28.00	19.00	19.00	15.00	15.00
Adjustment for access points	-2.18	-2.18	-2.18	-2.18	-0.74	-0.74	-0.59	-0.59
Adjustment for on-street parking	-0.36	-0.36	-0.36	-0.36	0.00	0.00	0.00	0.00
Base free-flow speed	34.34	34.34	34.34	34.34	44.34	44.34	44.50	44.50
Segment Length adjustment factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Free-flow speed	34.24	34.24	34.24	34.24	45.00	45.00	45.00	45.00
Proximity adjustment	1.03	1.03	1.03	1.05	1.01	1.01	1.01	1.02
Running time (s)	63.57	63.78	63.47	64.51	88.90	89.41	89.38	89.55
Speed	32.98	32.87	33.03	32.50	44.48	44.23	44.24	44.16
Progression Data								
Effective green to cycle length	0.40	0.40	0.30	0.30	0.30	0.30	0.40	0.40
Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion arriving on green	0.40	0.40	0.30	0.30	0.30	0.30	0.40	0.40
Signal Control Delay Calculation								
Cycle Length	100	100	100	100	100	100	100	100
Through Lane Proportion	0.3	0.8	0.8	0.6	0.8	0.8	0.8	0.8
Through-lane group volume	134	393	340	379	294	483	474	534
lane group saturation flow rate	1800	1800	1800	1800	1800	1800	1800	1800
Capacity	720	720	540	540	1080	1080	1440	1440
Volume-to-Capacity Ratio	0.19	0.55	0.63	0.70	0.27	0.45	0.33	0.37
Adjustment for platooning	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform delay	19.48	23.08	30.21	31.01	26.66	28.32	20.74	21.13
Upstream Filtering	0.99	0.82	0.74	0.65	0.97	0.89	0.95	0.94
Incremental delay	0.58	2.49	4.15	5.01	0.60	1.22	0.59	0.69
Control Delay	20.06	25.56	34.36	36.02	27.26	29.54	21.32	21.81
LOS A Thres	20	20	20	20	36	36	36	36
LOS B Thres	17	17	17	17	30	30	30	30
LOS C Thres	13	13	13	13	23	23	23	23
LOS D Thres	10	10	10	10	18	18	18	18
LOS E Thres	8	8	8	8	14	14	14	14
Final Calc								
Total Travel time	83.63	89.34	97.83	100.53	116.16	118.95	110.70	111.36
Speed	25.07	23.47	21.43	20.85	34.04	33.25	35.72	35.51
Volume-to-Capacity Ratio	0.29	0.24	0.18	0.17	0.40	0.37	0.47	0.46
LOS	A	A	A	A	B	B	B	B

Signalized Segment Calculations

GP assumptions w/o Vaughn Rd and Parkway Blvd changes

Segment Data	**1st St bet. A St and H St**				**1st St bet. H St and Vaughn St**			
	NB		SB		NB		SB	
	AM	PM	AM	PM	AM	PM	AM	PM
Number of through lanes	1	1	1	1	2	2	2	2
Speed limit	25	25	25	25	45	45	45	45
Midsegment volume	508.44	545.01	471.75	771.04	434.24	676.48	812.41	1053.86
Length of segment	3075	3075	3075	3075	5800	5800	5800	5800
Width of upstream boundary intersection	100	100	70	70	120	120	100	100
Length of segment with restrictive median	0	0	0	0	3100	3100	3100	3100
Length of segment with nonrestrictive median	2590	3075	3075	3075	2700	2700	2700	2700
Start-up lost time	2	2	2	2	2	2	2	2
Access Data								
Prop. of segment with Curb on right-hand side	1	1	1	1	1	1	1	1
Number of access points on right-hand side	8	8	8	8	10	10	8	8
Proportion of segment with on-street parking	0.12	0.12	0.12	0.12	0	0	0	0
Running Time Calculation								
Adjusted Length	2975	2975	3005	3005	5680	5680	5700	5700
Prop. of segment length with restrictive median	0	0	0	0	0.55	0.55	0.54	0.54
Speed Constant	37.35	37.35	37.35	37.35	46.75	46.75	46.75	46.75
Adjustment for cross section	-0.47	-0.47	-0.47	-0.47	-1.67	-1.67	-1.67	-1.67
Access Point Density	28.00	28.00	28.00	28.00	19.00	19.00	15.00	15.00
Adjustment for access points	-2.18	-2.18	-2.18	-2.18	-0.74	-0.74	-0.59	-0.59
Adjustment for on-street parking	-0.36	-0.36	-0.36	-0.36	0.00	0.00	0.00	0.00
Base free-flow speed	34.34	34.34	34.34	34.34	44.34	44.34	44.50	44.50
Segment Length adjustment factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Free-flow speed	34.24	34.24	34.24	34.24	45.00	45.00	45.00	45.00
Proximity adjustment	1.03	1.04	1.03	1.06	1.01	1.02	1.02	1.03
Running time (s)	63.87	64.05	63.69	65.31	89.04	89.57	89.88	90.47
Speed	32.83	32.73	32.92	32.10	44.41	44.15	44.00	43.71
Progression Data								
Effective green to cycle length	0.40	0.40	0.30	0.30	0.30	0.30	0.40	0.40
Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion arriving on green	0.40	0.40	0.30	0.30	0.30	0.30	0.40	0.40
Signal Control Delay Calculation								
Cycle Length	100	100	100	100	100	100	100	100
Through Lane Proportion	0.3	0.8	0.8	0.6	0.8	0.8	0.8	0.8
Through-lane group volume	153	436	377	463	347	541	650	843
lane group saturation flow rate	1800	1800	1800	1800	1800	1800	1800	1800
Capacity	720	720	540	540	1080	1080	1440	1440
Volume-to-Capacity Ratio	0.21	0.61	0.70	0.86	0.32	0.50	0.45	0.59
Adjustment for platooning	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform delay	19.65	23.81	31.01	33.02	27.10	28.82	21.95	23.56
Upstream Filtering	0.99	0.76	0.65	0.39	0.96	0.86	0.89	0.78
Incremental delay	0.66	2.95	5.01	7.80	0.75	1.43	0.91	1.40
Control Delay	20.31	26.76	36.02	40.82	27.85	30.25	22.86	24.96
LOS A Thres	20	20	20	20	36	36	36	36
LOS B Thres	17	17	17	17	30	30	30	30
LOS C Thres	13	13	13	13	23	23	23	23
LOS D Thres	10	10	10	10	18	18	18	18
LOS E Thres	8	8	8	8	14	14	14	14
Final Calc								
Total Travel time	84.18	90.81	99.71	106.13	116.89	119.82	112.74	115.43
Speed	24.91	23.09	21.03	19.76	33.83	33.00	35.08	34.26
Volume-to-Capacity Ratio	0.29	0.23	0.17	0.14	0.39	0.36	0.44	0.41
LOS	A	A	A	B	B	B	B	B

Signalized Segment Calculations

GP assumptions w/ Vaughn Rd and Parkway Blvd changes

Segment Data	**1st St bet. A St and H St**				**1st St bet. H St and Vaughn St**			
	NB		SB		NB		SB	
	AM	PM	AM	PM	AM	PM	AM	PM
Number of through lanes	1	1	1	1	2	2	2	2
Speed limit	25	25	25	25	45	45	45	45
Midsegment volume	508.44	564.65	493	771.04	434.24	676.48	812.41	1053.86
Length of segment	3075	3075	3075	3075	5800	5800	5800	5800
Width of upstream boundary intersection	100	100	70	70	120	120	100	100
Length of segment with restrictive median	0	0	0	0	3100	3100	3100	3100
Length of segment with nonrestrictive median	2590	3075	3075	3075	2700	2700	2700	2700
Start-up lost time	2	2	2	2	2	2	2	2
Access Data								
Prop. of segment with Curb on right-hand side	1	1	1	1	1	1	1	1
Number of access points on right-hand side	8	8	8	8	10	10	8	8
Proportion of segment with on-street parking	0.12	0.12	0.12	0.12	0	0	0	0
Running Time Calculation								
Adjusted Length	2975	2975	3005	3005	5680	5680	5700	5700
Prop. of segment length with restrictive median	0	0	0	0	0.55	0.55	0.54	0.54
Speed Constant	37.35	37.35	37.35	37.35	46.75	46.75	46.75	46.75
Adjustment for cross section	-0.47	-0.47	-0.47	-0.47	-1.67	-1.67	-1.67	-1.67
Access Point Density	28.00	28.00	28.00	28.00	19.00	19.00	15.00	15.00
Adjustment for access points	-2.18	-2.18	-2.18	-2.18	-0.74	-0.74	-0.59	-0.59
Adjustment for on-street parking	-0.36	-0.36	-0.36	-0.36	0.00	0.00	0.00	0.00
Base free-flow speed	34.34	34.34	34.34	34.34	44.34	44.34	44.50	44.50
Segment Length adjustment factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Free-flow speed	34.24	34.24	34.24	34.24	45.00	45.00	45.00	45.00
Proximity adjustment	1.03	1.04	1.03	1.06	1.01	1.02	1.02	1.03
Running time (s)	63.87	64.15	63.79	65.31	89.04	89.57	89.88	90.47
Speed	32.83	32.68	32.87	32.10	44.41	44.15	44.00	43.71
Progression Data								
Effective green to cycle length	0.40	0.40	0.30	0.30	0.30	0.30	0.40	0.40
Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion arriving on green	0.40	0.40	0.30	0.30	0.30	0.30	0.40	0.40
Signal Control Delay Calculation								
Cycle Length	100	100	100	100	100	100	100	100
Through Lane Proportion	0.3	0.8	0.8	0.6	0.8	0.8	0.8	0.8
Through-lane group volume	153	452	394	463	347	541	650	843
lane group saturation flow rate	1800	1800	1800	1800	1800	1800	1800	1800
Capacity	720	720	540	540	1080	1080	1440	1440
Volume-to-Capacity Ratio	0.21	0.63	0.73	0.86	0.32	0.50	0.45	0.59
Adjustment for platooning	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform delay	19.65	24.06	31.37	33.02	27.10	28.82	21.95	23.56
Upstream Filtering	0.99	0.74	0.61	0.39	0.96	0.86	0.89	0.78
Incremental delay	0.66	3.12	5.42	7.80	0.75	1.43	0.91	1.40
Control Delay	20.31	27.18	36.79	40.82	27.85	30.25	22.86	24.96
LOS A Thres	20	20	20	20	36	36	36	36
LOS B Thres	17	17	17	17	30	30	30	30
LOS C Thres	13	13	13	13	23	23	23	23
LOS D Thres	10	10	10	10	18	18	18	18
LOS E Thres	8	8	8	8	14	14	14	14
Final Calc								
Total Travel time	84.18	91.33	100.58	106.13	116.89	119.82	112.74	115.43
Speed	24.91	22.96	20.84	19.76	33.83	33.00	35.08	34.26
Volume-to-Capacity Ratio	0.29	0.22	0.16	0.14	0.39	0.36	0.44	0.41
LOS	A	A	A	B	B	B	B	B

Unsignalized Segment Calculations

Default Value | User Entry | Autofill | Output

Existing

Segment	Pitt School Rd				A Street			
Direction	NB		SB		EB		WB	
Bounding Cross St	Stratford Rd		W A St		Pitt School Rd		I-80 NB Ramps	
Control Type	AWSC	AWSC	AWSC	AWSC	AWSC	AWSC	AWSC	AWSC
Time	AM	PM	AM	PM	AM	PM	AM	PM
Entry	330	380	330	650	180	580	280	430
Mid	160	242	120	231	155	300	189	209
Exit	645	605	220	435	275	450	470	320
Speed Limit	35	35	35	35	40	40	40	40
Thru Lanes	2	2	2	2	1	1	1	1
Capacity Calculation								
Step 1: Traffic Demand Adjustments								
Adjustments and checks not typically used for planning study								
Step 2: Determine Running Time								
A. Determine Free Flow Speed								
base free-flow speed (mi/h)(Sfo)	40.30	40.30	40.30	40.30	42.20	42.20	42.20	42.20
base free-flow speed calibration factor (mi/h) (Scalib)	0	0	0	0	0	0	0	0
speed constant (mi/h) (So)	42.1	42.1	42.1	42.1	44.4	44.4	44.4	44.4
adjustment for cross section (mi/h) (Fcs)	-1.8	-1.8	-1.8	-1.8	-2.2	-2.2	-2.2	-2.2
access point density	20.00	20.00	20.00	20.00	10.00	10.00	10.00	10.00
adjustment for access points (mi/h) (Fa)	−0.8	−0.8	−0.8	−0.8	−0.8	−0.8	−0.8	−0.8
adjustment for on-street parking (mi/h) (Fpk)	0	0	0	0	0	0	0	0
B. Vehicle Proximity Adjustment								
proximity adjustment factor (Fv)	1.02	1.02	1.01	1.02	1.01	1.03	1.02	1.02
midsegment demand flow rate (veh/h) (Vm)	645	605	330	650	275	580	470	430
number of through lanes on the segment in the subjec								
ravel (ln) (Nth)	2	2	2	2	1	1	1	1
free-flow speed (mi/h) (Sf)	40.30	40.30	40.30	40.30	42.20	42.20	42.20	42.20
C. Compute Delay Due to Turning Vehicles								
Lanes	2	2	2	2	1	1	1	1
Avg Vol	322.5	302.5	165	325	275	580	470	430
Row ID	3	3	1	3	2	5	4	4
Thru Veh Delay	0.096	0.082	0.03	0.098	0.07	0.252	0.162	0.138
D. Compute Delay Due to Other Sources								
N/A								
E. Compute Segment Running Time								
segment running time (s) (Tr)	86.01	85.65	84.03	86.06	82.00	85.06	83.71	83.30
start-up lost time (l1)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
segment length (ft) (L)	4875	4875	4875	4875	4950	4950	4950	4950
control-type adjustment factor (Fx)	1	1	1	1	1	1	1	1
delay due to turns (s/veh) (Dap,i)	0.096	0.082	0.03	0.098	0.07	0.252	0.162	0.138
number of influential access points(points) (Nap)	19	19	19	19	9	9	9	9
Number of access point on the right (points) (Nap,s)	11	11	8	8	5	5	4	4
Number of access points on the left accessable (Nap,o)	8	8	11	11	4	4	5	5
Step 5: Compute Thru Vehicle Delay (Synchro HCM 6 Output)								
V/C	0.36	0.47	0.16	0.09	0.26	0.47	0.61	0.56
Delay	13.7	21.3	9.1	10.4	10.5	14.7	14.4	14.8
LOS	B	C	A	B	B	B	B	B
Step 6: Determine Through Stop Rate (Stop/veh)								
Default for AWSC	1	1	1	1	1	1	1	1
Step 7: Determine Travel Speed								
travel speed of through vehicles for the segment (mi/h) (ST,seg	33.33	31.08	35.69	34.46	36.49	33.83	34.40	34.40
segment length (ft) (L)	4875	4875	4875	4875	4950	4950	4950	4950
segment running time (s) (Tr)	86.01	85.65	84.03	86.06	82.00	85.06	83.71	83.30
through delay (s/veh) (Dt)	13.7	21.3	9.1	10.4	10.5	14.7	14.4	14.8
Step 8: Determine Spatial Stop Rate								
spatial stop rate for the segment (stops/mi) (Hseg)	7.58	7.58	7.58	7.58	4.27	4.27	4.27	4.27
full stop rate (stops/veh) (h)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

full stop rate due to other sources (stops/veh) (hother)	6	6	6	6	3	3	3	3
segment length (ft) (L)	4875	4875	4875	4875	4950	4950	4950	4950
Step 9: LOS								
Column ID	45	45	45	45	45	45	45	45
BFFF (mph)	40.30	40.30	40.30	40.30	42.20	42.20	42.20	42.20
Travel time	99.71	106.95	93.13	96.46	92.50	99.76	98.11	98.10
Travel Speed	33.33	31.08	35.69	34.46	36.49	33.83	34.40	34.40
LOS A Thres	32.24	32.24	32.24	32.24	33.76	33.76	33.76	33.76
LOS B Thres	27.18	27.18	27.18	27.18	28.32	28.32	28.32	28.32
LOS C Thres	20.18	20.18	20.18	20.18	21.32	21.32	21.32	21.32
LOS D Thres	16.12	16.12	16.12	16.12	16.88	16.88	16.88	16.88
LOS E Thres	12.12	12.12	12.12	12.12	12.88	12.88	12.88	12.88
LOS F Thres	12.12	12.12	12.12	12.12	12.88	12.88	12.88	12.88
LOS	A	B	A	A	A	A	A	A
Step 10: Traveler Perception Score								
Perception Score	3.46	3.46	3.46	3.46	2.83	2.83	2.83	2.83
Pbcdef	0.94	0.94	0.94	0.94	0.87	0.87	0.87	0.87
Pcdef	0.72	0.72	0.72	0.72	0.53	0.53	0.53	0.53
Pdef	0.46	0.46	0.46	0.46	0.27	0.27	0.27	0.27
Pef	0.24	0.24	0.24	0.24	0.12	0.12	0.12	0.12
Pf	0.10	0.10	0.10	0.10	0.04	0.04	0.04	0.04
Proportion of intersections with LT lane	1	1	1	1	1	1	1	1

Unsignalized Segment Calculations

Default Value | User Entry | Autofill | Output

Future (No I-80 Mitigations)

Segment	Pitt School Rd				A Street			
Direction	NB		SB		EB		WB	
Bounding Cross St	Stratford Rd		W A St		Pitt School Rd		I-80 NB Ramps	
Control Type	AWSC	AWSC	AWSC	AWSC	AWSC	AWSC	AWSC	AWSC
Time	AM	PM	AM	PM	AM	PM	AM	PM
Entry	330	380	330	650	180	580	280	430
Mid	226	300	136	310	155	300	228	240
Exit	645	605	220	435	275	450	470	320
Speed Limit	35	35	35	35	40	40	40	40
Thru Lanes	2	2	2	2	1	1	1	1
Capacity Calculation								
Step 1: Traffic Demand Adjustments								
Adjustments and checks not typically used for planning study								
Step 2: Determine Running Time								
A. Determine Free Flow Speed								
base free-flow speed (mi/h)(Sfo)	40.30	40.30	40.30	40.30	42.20	42.20	42.20	42.20
base free-flow speed calibration factor (mi/h) (Scalib)	0	0	0	0	0	0	0	0
speed constant (mi/h) (So)	42.1	42.1	42.1	42.1	44.4	44.4	44.4	44.4
adjustment for cross section (mi/h) (Fcs)	-1.8	-1.8	-1.8	-1.8	-2.2	-2.2	-2.2	-2.2
access point density	20.00	20.00	20.00	20.00	10.00	10.00	10.00	10.00
adjustment for access points (mi/h) (Fa)	−0.8	−0.8	−0.8	−0.8	−0.8	−0.8	−0.8	−0.8
adjustment for on-street parking (mi/h) (Fpk)	0	0	0	0	0	0	0	0
B. Vehicle Proximity Adjustment								
proximity adjustment factor (Fv)	1.02	1.02	1.01	1.02	1.01	1.03	1.02	1.02
midsegment demand flow rate (veh/h) (Vm)	645	605	330	650	275	580	470	430
number of through lanes on the segment in the subjec								
ravel (ln) (Nth)	2	2	2	2	1	1	1	1
free-flow speed (mi/h) (Sf)	40.30	40.30	40.30	40.30	42.20	42.20	42.20	42.20
C. Compute Delay Due to Turning Vehicles								
Lanes	2	2	2	2	1	1	1	1
Avg Vol	322.5	302.5	165	325	275	580	470	430
Row ID	3	3	1	3	2	5	4	4
Thru Veh Delay	0.096	0.082	0.03	0.098	0.07	0.252	0.162	0.138
D. Compute Delay Due to Other Sources								
N/A								
E. Compute Segment Running Time								
segment running time (s) (Tr)	86.01	85.65	84.03	86.06	82.00	85.06	83.71	83.30
start-up lost time (l1)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
segment length (ft) (L)	4875	4875	4875	4875	4950	4950	4950	4950
control-type adjustment factor (Fx)	1	1	1	1	1	1	1	1
delay due to turns (s/veh) (Dap,i)	0.096	0.082	0.03	0.098	0.07	0.252	0.162	0.138
number of influential access points(points) (Nap)	19	19	19	19	9	9	9	9
Number of access point on the right (points) (Nap,s)	11	11	8	8	5	5	4	4
Number of access points on the left accessable (Nap,o)	8	8	11	11	4	4	5	5
Step 5: Compute Thru Vehicle Delay (Synchro HCM 6 Output)								
V/C	0.473	0.596	0.169	0.38	0.44	0.782	0.84	0.637
Delay	16.8	27.1	11.6	17.2	11.7	36.7	32	20.9
LOS	C	D	B	C	B	E	D	C
Step 6: Determine Through Stop Rate (Stop/veh)								
Default for AWSC	1	1	1	1	1	1	1	1
Step 7: Determine Travel Speed								
travel speed of through vehicles for the segment (mi/h) (ST,seg	32.33	29.48	34.76	32.19	36.02	27.72	29.17	32.39
segment length (ft) (L)	4875	4875	4875	4875	4950	4950	4950	4950
segment running time (s) (Tr)	86.01	85.65	84.03	86.06	82.00	85.06	83.71	83.30
through delay (s/veh) (Dt)	16.8	27.1	11.6	17.2	11.7	36.7	32	20.9
Step 8: Determine Spatial Stop Rate								
spatial stop rate for the segment (stops/mi) (Hseg)	7.58	7.58	7.58	7.58	4.27	4.27	4.27	4.27
full stop rate (stops/veh) (h)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

full stop rate due to other sources (stops/veh) (hother)	6	6	6	6	3	3	3	3
segment length (ft) (L)	4875	4875	4875	4875	4950	4950	4950	4950
Step 9: LOS								
Column ID	45	45	45	45	45	45	45	45
BFFF (mph)	40.30	40.30	40.30	40.30	42.20	42.20	42.20	42.20
Travel time	102.81	112.75	95.63	103.26	93.70	121.76	115.71	104.20
Travel Speed	32.33	29.48	34.76	32.19	36.02	27.72	29.17	32.39
LOS A Thres	32.24	32.24	32.24	32.24	33.76	33.76	33.76	33.76
LOS B Thres	27.18	27.18	27.18	27.18	28.32	28.32	28.32	28.32
LOS C Thres	20.18	20.18	20.18	20.18	21.32	21.32	21.32	21.32
LOS D Thres	16.12	16.12	16.12	16.12	16.88	16.88	16.88	16.88
LOS E Thres	12.12	12.12	12.12	12.12	12.88	12.88	12.88	12.88
LOS F Thres	12.12	12.12	12.12	12.12	12.88	12.88	12.88	12.88
LOS	A	B	A	B	A	C	B	B
Step 10: Traveler Perception Score								
Perception Score	3.46	3.46	3.46	3.46	2.83	2.83	2.83	2.83
Pbcdef	0.94	0.94	0.94	0.94	0.87	0.87	0.87	0.87
Pcdef	0.72	0.72	0.72	0.72	0.53	0.53	0.53	0.53
Pdef	0.46	0.46	0.46	0.46	0.27	0.27	0.27	0.27
Pef	0.24	0.24	0.24	0.24	0.12	0.12	0.12	0.12
Pf	0.10	0.10	0.10	0.10	0.04	0.04	0.04	0.04
Proportion of intersections with LT lane	1	1	1	1	1	1	1	1

Unsignalized Segment Calculations

Default Value | User Entry | Autofill | Output

Future (With I-80 Mitigations)

Segment	Pitt School Rd				A Street			
Direction	NB		SB		EB		WB	
Bounding Cross St	Stratford Rd		W A St		Pitt School Rd		I-80 NB Ramps	
Control Type	AWSC	AWSC	AWSC	AWSC	AWSC	AWSC	AWSC	AWSC
Time	AM	PM	AM	PM	AM	PM	AM	PM
Entry	330	380	330	650	180	580	280	430
Mid	226	300	136	310	155	300	228	240
Exit	645	605	220	435	275	450	470	320
Speed Limit	35	35	35	35	40	40	40	40
Thru Lanes	2	2	2	2	1	1	1	1
Capacity Calculation								
Step 1: Traffic Demand Adjustments								
Adjustments and checks not typically used for planning study								
Step 2: Determine Running Time								
A. Determine Free Flow Speed								
base free-flow speed (mi/h)(Sfo)	40.30	40.30	40.30	40.30	42.20	42.20	42.20	42.20
base free-flow speed calibration factor (mi/h) (Scalib)	0	0	0	0	0	0	0	0
speed constant (mi/h) (So)	42.1	42.1	42.1	42.1	44.4	44.4	44.4	44.4
adjustment for cross section (mi/h) (Fcs)	-1.8	-1.8	-1.8	-1.8	-2.2	-2.2	-2.2	-2.2
access point density	20.00	20.00	20.00	20.00	10.00	10.00	10.00	10.00
adjustment for access points (mi/h) (Fa)	−0.8	−0.8	−0.8	−0.8	−0.8	−0.8	−0.8	−0.8
adjustment for on-street parking (mi/h) (Fpk)	0	0	0	0	0	0	0	0
B. Vehicle Proximity Adjustment								
proximity adjustment factor (Fv)	1.02	1.02	1.01	1.02	1.01	1.03	1.02	1.02
midsegment demand flow rate (veh/h) (Vm)	645	605	330	650	275	580	470	430
number of through lanes on the segment in the subjec								
ravel (ln) (Nth)	2	2	2	2	1	1	1	1
free-flow speed (mi/h) (Sf)	40.30	40.30	40.30	40.30	42.20	42.20	42.20	42.20
C. Compute Delay Due to Turning Vehicles								
Lanes	2	2	2	2	1	1	1	1
Avg Vol	322.5	302.5	165	325	275	580	470	430
Row ID	3	3	1	3	2	5	4	4
Thru Veh Delay	0.096	0.082	0.03	0.098	0.07	0.252	0.162	0.138
D. Compute Delay Due to Other Sources								
N/A								
E. Compute Segment Running Time								
segment running time (s) (Tr)	86.01	85.65	84.03	86.06	82.00	85.06	83.71	83.30
start-up lost time (l1)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
segment length (ft) (L)	4875	4875	4875	4875	4950	4950	4950	4950
control-type adjustment factor (Fx)	1	1	1	1	1	1	1	1
delay due to turns (s/veh) (Dap,i)	0.096	0.082	0.03	0.098	0.07	0.252	0.162	0.138
number of influential access points(points) (Nap)	19	19	19	19	9	9	9	9
Number of access point on the right (points) (Nap,s)	11	11	8	8	5	5	4	4
Number of access points on the left accessable (Nap,o)	8	8	11	11	4	4	5	5
Step 5: Compute Thru Vehicle Delay (Synchro HCM 6 Output)								
V/C	0.25	0.19	0.169	0.38	0.44	0.782	0.66	0.45
Delay	5.9	9.1	11.6	17.2	11.7	36.7	6.4	6.1
LOS	A	A	B	C	B	E	A	A
Step 6: Determine Through Stop Rate (Stop/veh)								
Default for AWSC	1	1	1	1	1	1	1	1
Step 7: Determine Travel Speed								
travel speed of through vehicles for the segment (mi/h) (ST,seg)	36.16	35.08	34.76	32.19	36.02	27.72	37.46	37.75
segment length (ft) (L)	4875	4875	4875	4875	4950	4950	4950	4950
segment running time (s) (Tr)	86.01	85.65	84.03	86.06	82.00	85.06	83.71	83.30
through delay (s/veh) (Dt)	5.9	9.1	11.6	17.2	11.7	36.7	6.4	6.1
Step 8: Determine Spatial Stop Rate								
spatial stop rate for the segment (stops/mi) (Hseg)	7.58	7.58	7.58	7.58	4.27	4.27	4.27	4.27
full stop rate (stops/veh) (h)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
full stop rate due to other sources (stops/veh) (hother)	6	6	6	6	3	3	3	3
segment length (ft) (L)	4875	4875	4875	4875	4950	4950	4950	4950
Step 9: LOS								
Column ID	45	45	45	45	45	45	45	45

BFFF (mph)	40.30	40.30	40.30	40.30	42.20	42.20	42.20	42.20
Travel time	91.91	94.75	95.63	103.26	93.70	121.76	90.11	89.40
Travel Speed	36.16	35.08	34.76	32.19	36.02	27.72	37.46	37.75
LOS A Thres	32.24	32.24	32.24	32.24	33.76	33.76	33.76	33.76
LOS B Thres	27.18	27.18	27.18	27.18	28.32	28.32	28.32	28.32
LOS C Thres	20.18	20.18	20.18	20.18	21.32	21.32	21.32	21.32
LOS D Thres	16.12	16.12	16.12	16.12	16.88	16.88	16.88	16.88
LOS E Thres	12.12	12.12	12.12	12.12	12.88	12.88	12.88	12.88
LOS F Thres	12.12	12.12	12.12	12.12	12.88	12.88	12.88	12.88
LOS	A	A	A	B	A	C	A	A
Step 10: Traveler Perception Score								
Perception Score	3.46	3.46	3.46	3.46	2.83	2.83	2.83	2.83
Pbcdef	0.94	0.94	0.94	0.94	0.87	0.87	0.87	0.87
Pcdef	0.72	0.72	0.72	0.72	0.53	0.53	0.53	0.53
Pdef	0.46	0.46	0.46	0.46	0.27	0.27	0.27	0.27
Pef	0.24	0.24	0.24	0.24	0.12	0.12	0.12	0.12
Pf	0.10	0.10	0.10	0.10	0.04	0.04	0.04	0.04
Proportion of intersections with LT lane	1	1	1	1	1	1	1	1

Exhibit 18-1: LOS Thresholds

Travel Speed Threshold by Base Free-Flow Speed (mi/h)									
LOS	55	50	45	40	35	30	25	V/C	
A	44	40	36	32	28	24	20	1	>
B	37	34	30	27	23	20	17		>
C	28	25	23	20	18	15	13		>
D	22	20	18	16	14	12	10		>
E	17	15	14	12	11	9	8		>
F	17	15	14	12	11	9	8		<
F	Any							1	>

Exhibit 18-11: BFFF Adjustment Factors

				Adjustment for Cross Section	
Speed Limit	Speed Constant	Median Type	% restrictive median	No Curb	Curb
25	37.4	Restrictive	20	0.3	-0.9
30	39.7		40	0.6	-1.4
35	42.1		60	0.9	-1.8
40	44.4		80	1.2	-2.2
45	46.8		100	0.5	-2.7
50	49.1	Unrestrictive	N/A	0	-0.5
55	51.5	Restrictive	N/A	0	-0.5

	Adjustment for Access Points by Lanes				
Access Density (points/mi)	1 lane	2 lane	3 lane	% on street parking	Adjustment for parking
0	0	0	0	0	0
2	−0.2	−0.1	−0.1	20	−0.6
4	−0.3	−0.2	−0.1	40	−1.2
10	−0.8	−0.4	−0.3	60	−1.8
20	−1.6	−0.8	−0.5	80	−2.4
40	−3.1	−1.6	−1.0	100	−3.0
60	−4.7	−2.3	−1.6		

Exhibit 18-13: Delay Due to Turning Vehicles

	Thru Vehicle Delay by # of thru lanes		
Midsegment Volume	1	2	3
100	0.01	0.01	0.01
200	0.04	0.04	0.05
300	0.08	0.08	0.09
400	0.12	0.15	0.15
500	0.18	0.25	0.15
600	0.27	0.41	0.15
700	0.39	0.72	0.15

APPENDIX G. LOS METHODOLOGY MEMO

DKS 1970 BROADWAY, SUITE 740, OAKLAND, CA 94612 • 510.763.2061 • DKSASSOCIATES.COM

MEMORANDUM – PROPOSED LOS METHODOLOGY

DATE: January 21, 2021

TO: Deborah Barr | City of Dixon

FROM: Erin Vaca | DKS Associates
Sean Carney | DKS Associates

SUBJECT: Proposed Analysis Methodologies for Dixon Streets Master Plan Agreement #20-044

APPROACH OVERVIEW

In accordance with the City's policies and discussion with City staff, DKS proposes utilizing the most current version of the Highway Capacity Manual (HCM) where possible to perform traffic analysis. The HCM uses the concept of Level of Service (LOS) to describe roadway operating conditions. LOS is a qualitative measure of the effect of several factors, including speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, delay, and operating costs. LOS are designated A through F from best to worst, which cover the entire range of traffic operations that might occur. LOS A through E generally represent traffic volumes at less than roadway capacity, while LOS F represents over capacity and/or forced flow conditions. Based upon the City's level of service policy, LOS D will be utilized as the appropriate criteria in all study analyses.

The analysis will be conducted in two stages; first, segments will be screened against threshold capacities and second, intersections will be analyzed at interchanges and at other locations that are flagged by the segment screening.

SEGMENT ANALYSIS APPROACH

As part of this Streets Master Plan, DKS proposes an update to the City's segment analysis threshold volumes which are currently outlined in the City Standards. This update is meant to update the roadway categories to be in line with the City's most recent General Plan as well as to update the methodologies used to derive those thresholds to current industry standards. New threshold volumes were developed based on the HCM 6th Edition using assumed typical cross section per roadway category. Details regarding these assumptions and calculations can be found in Appendix A on Page 3. Table 1 on Page 2 summarizes the previous threshold peak hour volumes and the proposed updated thresholds.

TABLE 1: EXISTING AND PROPOSED SEGMENT LOS THRESHOLDS BASED ON PEAK HOUR VOLUME

LOS Threshold	Facility Type					
Existing Thresholds		**Arterial 4 Lane**	**Arterial 2 Lane**	**Collector 4 Lane**	**Collector 2 Lane**	**Local[1]**
LOS C->D	No Current Category	1950	950	1540	750	N/A
LOS D->E		2850	1400	2250	1110	N/A
LOS E->F		3110	1540	2460	1220	N/A
Proposed Thresholds	**6 Lane Arterial**	**4 Lane Arterial**	**Collector/ Minor Arterial**	**Historic Main Street**	**Local Collector**	**Local[2]**
LOS C->D	4080	2730	1620	1570	1320	1000
LOS D->E	4140	2760	1800	1620	1620	
LOS E->F	4200	2810				

1 LOCAL STREETS CURRENTLY HAVE OTHER METRICS WHICH THEY ARE MEASURED AGAINST

2 PROPOSED THRESHOLD BASED ON LIVIBILTY, NOT HCM BASED – TO BE INCLUDED IN ENGINEERING SPECIFICATIONS UPDATE

INTERSECTION METHODOLOGY

DKS proposes utilizing the HCM 6th Edition methodologies for intersection capacity analysis as implemented through the Synchro software package. This procedure calculates an average control delay per vehicle at an intersection and assigns a level of service designation based upon the delay. Table 2 presents the level of service criteria for intersections in accordance with the HCM 6th Edition methodology. Where the HCM 6th Edition methodology does not apply due to intersection geometrics or signal timing, the HCM 2000 is used instead.

TABLE 2: INTERSECTION LEVEL OF SERVICE CRITERIA – TO BE INCLUDED IN ENGINEERING SPECIFICATIONS UPDATE

Level of Service (LOS)	Total Delay Per Vehicle (seconds)	
	Signalized	**Unsignalized**
A	$\leq$ 10	$\leq$ 10
B	> 10 and $\leq$ 20	> 10 and $\leq$ 15
C	> 20 and $\leq$ 35	> 15 and $\leq$ 25
D	> 35 and $\leq$ 55	> 25 and $\leq$ 35
E	> 55 and $\leq$ 80	> 35 and $\leq$ 50
F	> 80	> 50

SOURCE: HIGHWAY CAPACITY MANUAL 6TH EDITION, TRANSPORTATION RESEARCH BOARD.

Proposed Table

Parameters	Impact of Parameter*	Facility Type					
		6 Lane Arterial	4 Lane Arterial	Collector /Minor Arterial	Historic Main Street	Local Collector	Local
Lanes (directional)	**H**	3	2	1	1	1	1
Speed Limit (mph)	M	45	40	35	25	25	25
Assumed Segment Length (ft)	L	2700	2700	1350	1350	1350	1350
Length of Restrictive Median (ft)	L	0	0	0	0	0	0
Length of Non-Restrictive Median (ft)	L	0	0	0	0	0	0
Start Up Lost Time (s)	L	2	2	2	2	2	2
Proportion with Curb (ratio)	L	1	1	1	1	1	1
Access Point Density (points per mile)	M	16	16	32	32	32	162
Proportion On Street Parking (ratio)	H	0	0	0.25	1	1	1
Cycle Length (s) (typical 60-180)	M	100	100	100	100	100	100
Effective g/C (green/Cycle Length) Ratio (typical .35-.6)	H	0.6	0.6	0.5	0.6	0.5	0.4
Platooning Ratio (Measure of coordination on the Corridor, typical 0.5-1.5)	M	1.2	1.2	1	1	1	0.8
Proportion of through movements at intersection	M	0.8	0.8	0.8	0.8	0.8	0.3
Saturation Flow Rate (typical 1750 rural, 1900 Urban Pop>250,000)	H	1800	1800	1800	1800	1800	1800
Results (peak hour vph threshold)							
LOS C->D		4080	2730	1620	1570	1320	N/A
LOS D->E		4140	2760	1800	1620	1620	1200
LOS E->F		4200	2810				1320

* H=High, M=Moderate, L=Low

DETAILED SEGMENT CAPACITY ANALYSIS

METHODOLOGY

On each of the corridors, segments counts were collected on December 2nd, 2020 and March 2nd, 2021. Counts from 2019 were used to scale the existing volumes to match pre-COVID rates. Growth rates from the Dixon travel demand model were used to forecast future (year 2040) traffic volumes on the segments.

Each of the segments were analyzed using Highway Capacity Manual 6th Edition (HCM 6) methodologies. signalized and unsignalized intersections use different methodologies. Signalized segments were analyzed using the procedure outlined in HCM Chapters 18 and 30. Figure 1 on Page 5 shows a flowchart of the calculation process.

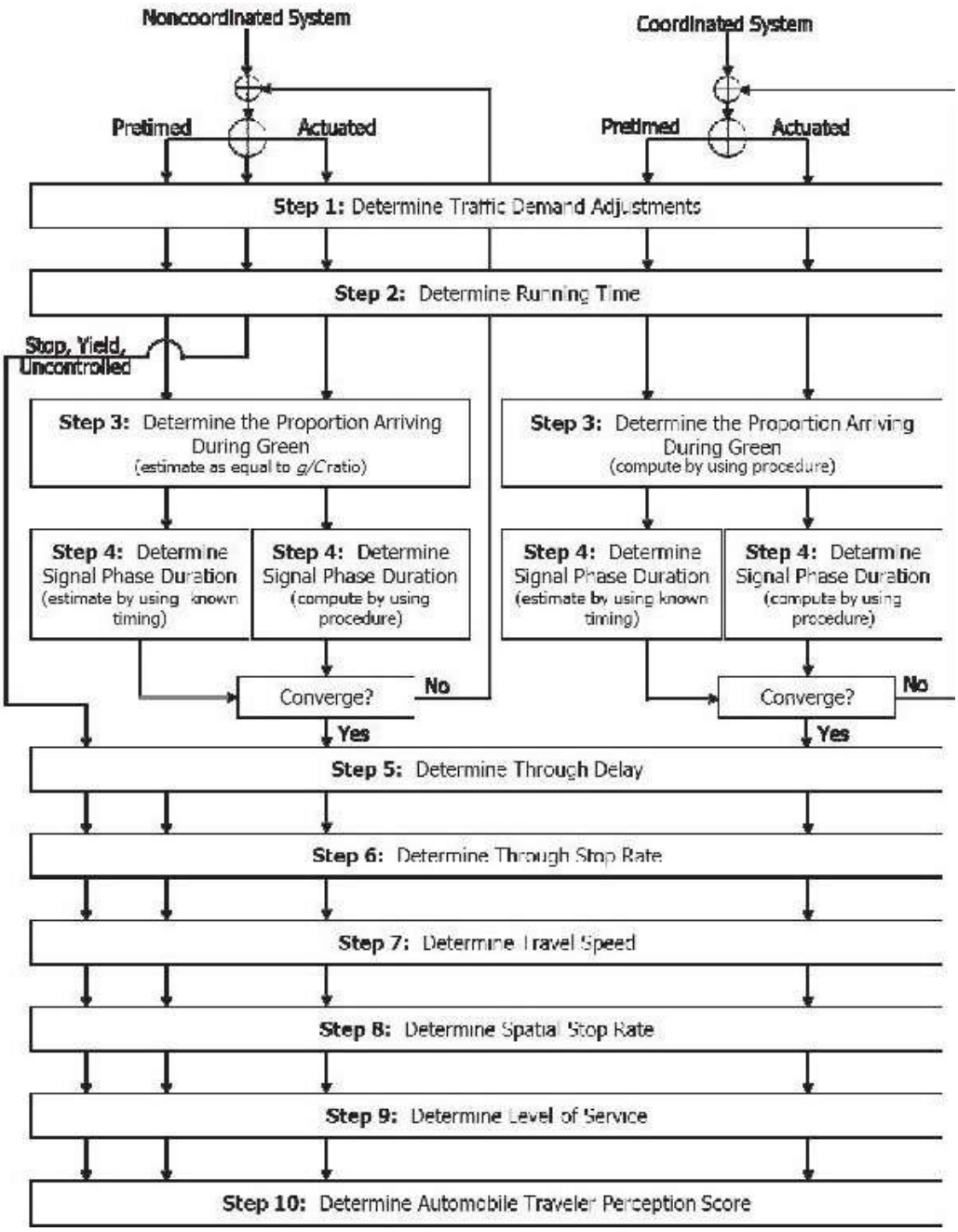


FIGURE 1. INTERSECTION DETAILED ANALYSIS FLOWCHART

Source: HCM 6

Each direction of travel is analyzed separately. The segment running time is calculated first by applying various factors relating to delay and stoppage to the forecasted midsegment volumes. The smoothness of the segment is measured by the arrival on green metric. Signal timing data as well as volume and capacity data were used to determine control delay at the signalized boundary intersections. This delay was added to the delay associated with segment geometry to determine the travel time, travel speed, V/C and LOS for the segment. The 1st Street segment was separated into two segments for this analysis. The first one having a 25-mph speed limit and 1 through lane

in each direction, and the second having a 45-mph speed limit with 2 through lanes in each direction.

The unsignalized intersections utilize the same process but skip steps 3 and 4 that require signal timing information. From this methodology it is possible to determine the travel time, travel speed, LOS, and V/C for the signalized and unsignalized segments. LOS will be the determining parameter for whether the segment operates below the City of Dixon standards with the threshold being LOS D.

APPENDIX H. I-80 RAMP INTERSECTION TRAFFIC ANALYSIS MEMO

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I-80 INTERCHANGE OPERATIONS ASSESSMENT

DATE: March 4, 2021

TO: Deborah Barr | City of Dixon

FROM: Erin Vaca | DKS Associates
Dane Rini | DKS Associates

SUBJECT: Dixon I-80 Interchange Operations Assessment Memo Project #20156

INTRODUCTION

Dixon, California is a city in northern Solano County with a population of about 20,000 people. Situated between Interstate-80 and State Route 113, between Vacaville and Davis, there are four freeway interchanges serving Dixon, which are comprised of nine ramp intersections.

The purpose of this analysis is to understand how planned growth in Dixon will impact traffic operations at the freeway ramp intersections, and to identify geometric and traffic control upgrades that will be necessary to serve horizon year traffic conditions. The analysis process includes evaluating the existing traffic control devices at these intersections in response to the projected growth in the area and developing recommendations to provide safe and efficient travel conditions. The nine study intersections within Dixon along I-80 are shown in **Figure 1** (page 2). The westbound I-80 off ramp to Milk Farm Road was not included in the analysis.

FIGURE 1. STUDY INTERSECTIONS ALONG INTERSTATE 80

EXISTING CONDITIONS

Intersection turning movements were collected on December 2nd, 2020 at the study intersections. Due to travel pattern changes associated with the COVID-19 pandemic, traffic counts from 2019 were used to factor the 2020 traffic counts to pre-COVID conditions. Turning movements were scaled based on the difference in approach volume between 2019 and 2020.The count data can be found in the section 1 of the appendix. The factored traffic volumes used for analysis are shown in **Figure 2** (page 4).

FIGURE 2: EXISTING 2019 AM(PM) TRAFFIC VOLUMES

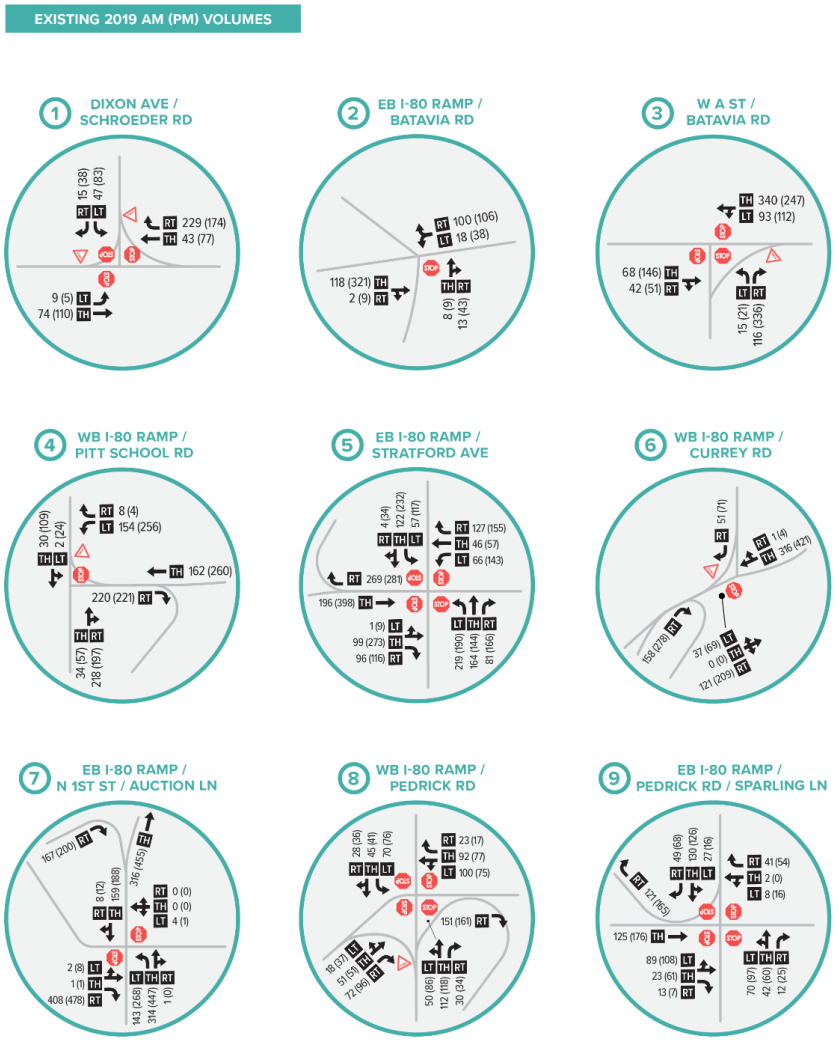

FIGURE 2. EXISTING (YEAR 2019) INTERSECTION VOLUMES

Intersection operations were analyzed using Synchro software and the Highway Capacity Manual 6th Edition (HCM 6) methodologies. For signalized and all-way stop controlled intersections, LOS is based on the average delay per vehicle for all vehicles entering an intersection. For stop-controlled intersections, LOS is determined by the delay on the worst controlled approach. **Table 1** presents the average control delay thresholds for each LOS grade for signalized and unsignalized intersections.

TABLE 1. INTERSECTION LEVEL OF SERVICE CRITERIA

LEVEL OF SERVICE[a]	AVERAGE CONTROL DELAY (SECONDS/VEHICLE)	
	SIGNALIZED INTERSECTIONS	UNSIGNALIZED INTERSECTIONS
A	Delay ≤ 10.0	Delay ≤ 10.0
B	10.0 < Delay ≤ 20.0	10.0 < Delay ≤ 15.0
C	20.0 < Delay ≤ 35.0	15.0 < Delay ≤ 25.0
D	35.0 < Delay ≤ 55.0	25.0 < Delay ≤ 35.0
E	55.0 < Delay ≤ 80.0	35.0 < Delay ≤ 50.0
F	Delay > 80.0	Delay > 50.0

[a] Control Delay per Vehicle (in seconds per vehicle - SPV), Sources: Chapter 19: Signalized Intersections, Chapter 20: Two-Way Stop-Controlled Intersection, and Chapter 21: All-Way Stop-Controlled Intersections in the Highway Capacity Manual – 6th Edition (Transportation Research Board 2018).

Performance measures used for this analysis include volume-to-capacity (V/C) ratios, seconds of control delay and levels of service (LOS). The City's mobility standard is LOS D. With an LOS of F and an average delay exceeding 50 seconds, the **Stratford Avenue/Pitt School Road/EB I-80 ramps** intersection operates below the City's mobility standard in the existing condition.

TABLE 2: EXISTING (YEAR 2020) INTERSECTION OPERATIONS RESULTS

ID	INTERSECTION	INT. CONTROL	AM PEAK HOUR			PM PEAK HOUR		
			DELAY	LOS	V/C	DELAY	LOS	V/C
			INTERSECTION AVERAGE/WORST APPROACH					
1	SCHROEDER RD/ DIXON AVE/ I-80 WB RAMPS	AWSC	8.3/8.4	A/A	0.18/0.32	8.5/8.6	A/A	0.20/0.29
2	BATAVIA RD/ I-80 EB RAMPS	TWSC	1.3/9.0	A/A	0.03/0.03	1.5/10.7	A/B	0.08/0.08
3	A ST/ I-80 EB RAMPS / BATAVIA RD	AWSC	12.4/14.4	B/B	0.33/0.61	13.2/14.8	B/B	0.46/0.56
4	PITT SCHOOL ROAD/ I-80 WB RAMPS	TWSC	3.8/10.5	A/B	0.11/0.21	6.4/15.2	A/C	0.24/0.46
5	STRATFORD AVE/ PITT SCHOOL RD/ I-80 EB RAMPS	AWSC	14.3/16.1	B/C	0.27/0.45	**>50.0/>50.0**	**F/F**	0.58/1.22
6	CURREY RD/ I-80 WB RAMPS	TWSC	2.1/10.6	A/B	0.07/0.08	2.5/11.9	A/B	0.1/0.13
7	1ST STREET (SR-113)/ I-80 EB RAMPS	TWSC	2.0/20.4	A/C	0.05/0.01	2.8/33.6	A/D	0.1/0.20
8	PEDRICK RD/ I-80 WB RAMPS	AWSC	10.1/10.9	B/B	0.19/0.34	10.1/10.4	B/B	0.21/0.27
9	PEDERICK RD/ I-80 EB RAMPS / SPARKLING LN	AWSC	8.9/9.2	A/A	0.12/0.15	9.7/10.1	A/B	0.17/0.27

Bold and Red indicates exceeding the mobility standard. Average Delay (AWSC/Signalized); Worst Approach Delay (TWSC) (seconds per vehicle), LOS: Level of Service, V/C: Volume/Capacity

FUTURE TRAFFIC VOLUMES

The development of the turning movement forecasts followed procedures documented in National Highway Cooperative Research Program Report 765[1] Rather than using travel demand model outputs directly, growth increments derived from the travel demand model were applied to the observed volumes at each intersection approach to develop the future (year 2040) traffic volumes. First, the modelled growth in traffic volumes between the horizon year (2040) and the base year (2019) was added to the observed existing conditions volumes for each intersection approach (e.g., northbound Pitt School Road approaching Stratford Avenue). Forecasted turning movements (e.g., left turns from northbound Pitt School Road to the I-80 ramps) were then derived using an iterative fitting process.

The intersection with the most projected growth was **Batavia Road/ EB I-80 ramps**. The total volume of this intersection grows more than 100% for the AM and PM peak hours. The other study intersections have projected growth rates ranging from 10% to 80%. The forecasted turning movements are shown in **Figure 3** (page 8).

FUTURE BASELINE INTERSECTION OPERATIONS

Table 2 summarizes the future intersection operations for the baseline scenario. The baseline 2040 scenario incorporates network improvements and growth that are consistent with the recently published draft General Plan but does not include any changes to the study intersection operations or geometry. The Synchro reports can be found in Appendix C.

In this scenario, the **Stratford Avenue/Pitt School Road/ EB I-80 ramps** intersection operates at LOS F in the PM peak hour with a delay greater than 50 seconds and V/C of 0.78. The east and westbound approaches of the intersection of **First Street/EB I-80 ramps** operate at LOS F in the PM peak hour, although the overall intersection LOS is A. The poor LOS of this intersection reflects a low volume of eastbound left (EBL) and westbound left (WBL)-turning vehicles attempting to proceed through the free northbound and southbound movements. The EBL and WBL movements comprise less than one percent of the total intersection volume and do not reflect the overall operation of the intersection. The 0.29 V/C ratio indicates that the intersection is far below capacity.

Note that while the **Westbound I-80 ramp/Currey Road** intersection operates adequately under the baseline scenario, no significant growth for the Milk Farm property was assumed. Should a redevelopment proposal be received for this area, this intersection along with the westbound I-80 off ramp to Milk Farm Road will likely require improvements.

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[1] National Cooperative Highway Research Program (NCHRP) Report 765: *Analytical Forecasting Approaches for Project-Level Planning and Design.*

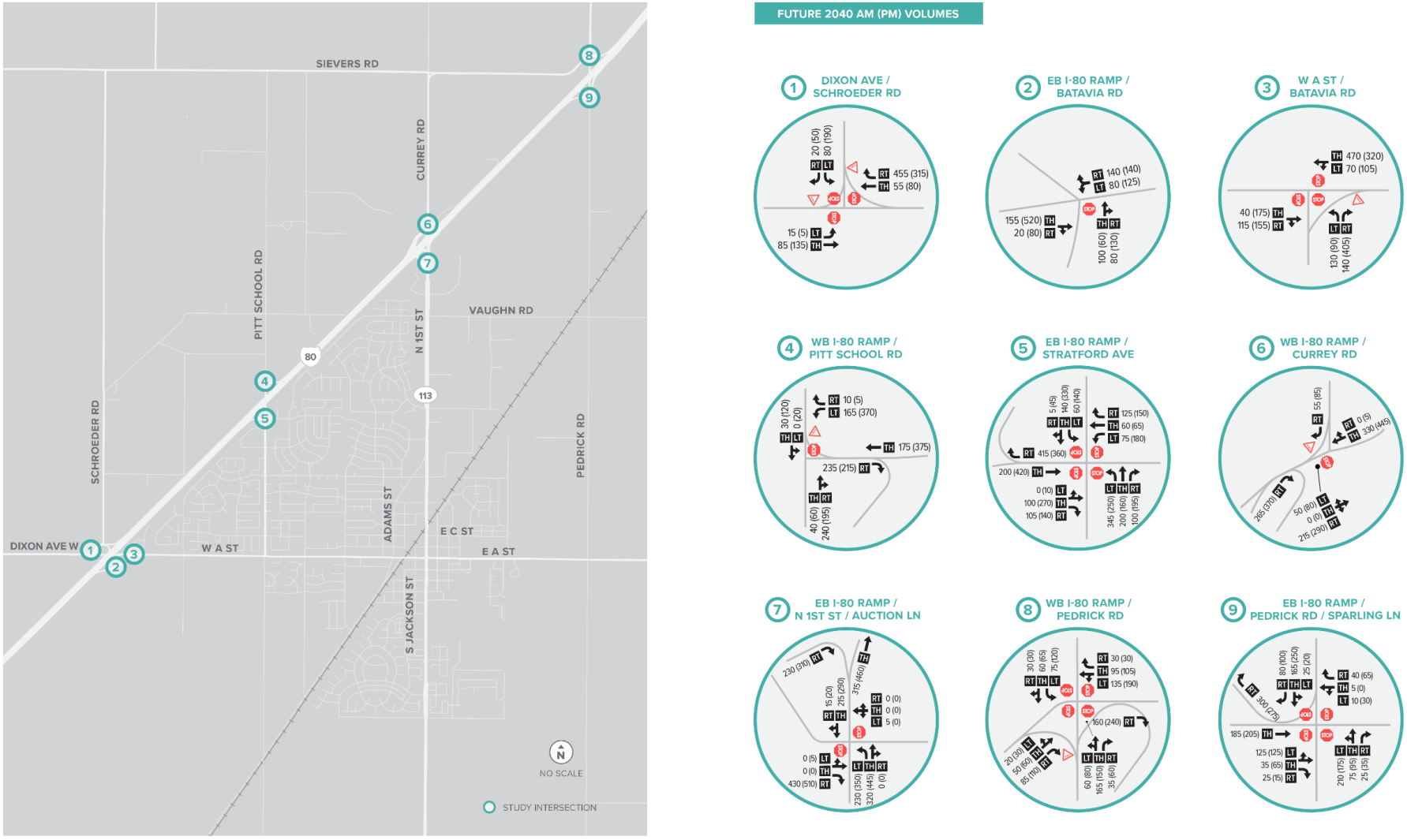


FIGURE 3: FUTURE 2040 AM(PM) TRAFFIC VOLUMES

FIGURE 3. FUTURE (2040) INTERSECTION TURNING MOVEMENT VOLUME

TABLE 3: FUTURE BASELINE (NO BUILD) 2040 INTERSECTION OPERATIONS RESULTS

ID	INTERSECTION	INT. CONTROL	AM PEAK HOUR			PM PEAK HOUR		
			DELAY	LOS	V/C	DELAY	LOS	V/C
			INTERSECTION AVERAGE/WORST APPROACH					
1	SCHROEDER RD/ DIXON AVE/ I-80 WB RAMPS	AWSC	12.1/13.2	B/B	0.32/0.63	11.0/11.5	B/B	0.36/0.5
2	BATAVIA RD/ I-80 EB RAMPS	TWSC	5.3/10.4	A/B	0.23/0.23	4.2/17.6	A/C	0.43/0.43
3	A ST/ I-80 EB RAMPS / BATAVIA RD	AWSC	21.9/29.1	C/D	0.43/0.14	23.4/30.7	C/D	0.57/0.57
4	PITT SCHOOL ROAD/ I-80 WB RAMPS	TWSC	3.8/10.6	A/B	0.23/0.23	10.4/20.9	B/C	0.34/0.66
5	STRATFORD AVE/ PITT SCHOOL RD/ I-80 EB RAMPS	AWSC	23.2/30.6	C/D	0.37/0.52	**>50.0/>50.0**	**F/F**	0.78/1.47
6	CURREY RD/ I-80 WB RAMPS	TWSC	2.3/10.8	A/B	0.07/0.09	2.8/12.4	A/B	0.12/0.16
7	1ST STREET (SR-113)/ I-80 EB RAMPS	TWSC	2.7/31.0	A/D	0.12/0.04	**3.1/>50.0**	**A/F**	0.19/0.29
8	PEDRICK RD/ I-80 WB RAMPS	AWSC	11.6/12.9	B/B	0.25/0.44	14.2/17.5	B/C	0.33/0.59
9	PEDERICK RD/ I-80 EB RAMPS	AWSC	11.1/11.4	B/B	0.22/0.26	13.6/16.4	B/C	0.29/0.32

Bold and Red indicates exceeding the mobility target. Average Delay (AWSC/Signalized); Worst Approach Delay (TWSC) (seconds per vehicle), LOS: Level of Service, V/C: Volume/Capacity

RECOMMENDED IMPROVEMENTS

The recommended improvements for Pitt School Road/Stratford Avenue/EB I-80 ramps are discussed in the following section. **Table 3** summarizes the anticipated operations after implementing the below recommended improvements.

INTERSECTION IMPROVEMENTS

This intersection of **Stratford Avenue and Pitt School Road** is currently an all-way stop with a channelized eastbound right (EBR) turn. The scaled existing volumes were tested for a signal warrant per the California Manual on Uniform Traffic Control Devices (CAMUTCD)2. The four-hour vehicular volume signal warrant was met so signal installation is justified at this intersection. The signal warrant worksheet can be found in section 2 of the appendix. With the traffic signal, this intersection operates at LOS A for both AM and PM peaks. While existing and future no-build operations of **A Street and I-80 EB Ramps** meet the Dixon standard, a new signal is planned at this location. The operations of this improvement are shown in Table 4.

TABLE 4: FUTURE 2040 INTERSECTION OPERATIONS RESULTS WITH IMPROVEMENTS

ID	INTERSECTION	INT. CONTROL	AM PEAK HOUR			PM PEAK HOUR		
			DELAY	LOS	V/C	DELAY	LOS	V/C
			INTERSECTION AVERAGE/WORST APPROACH					
5	STRATFORD AVE/ PITT SCHOOL RD/ I-80 EB RAMPS (NO-BUILD)	AWSC	23.2/30.6	C/D	0.37/0.52	**>50.0/>50.0**	**F/F**	0.78/1.47
5	STRATFORD AVE/ PITT SCHOOL RD/ I-80 EB RAMPS (BUILD)	Signal	7.1/10.9	A/B	0.25/0.27	9.9/13.1	A/B	0.36/0.56
3	A ST/ I-80 EB RAMPS / BATAVIA RD (NO-BUILD)	AWSC	21.9/29.1	C/D	0.43/0.14	23.4/30.7	C/D	0.57/0.57
3	A ST/ I-80 EB RAMPS / BATAVIA RD (BUILD)	Signal	6.5/9.3	A/A	0.29/0.41	6.2/7.9	A/A	0.28/0.25

Bold and Red indicates exceeding the mobility target. Average Delay (AWSC/Signalized); Worst Approach Delay (TWSC) (seconds per vehicle), LOS: Level of Service, V/C: Volume/Capacity

[2] California Manual on Uniform Traffic Control Devices – 2014 Edition, Page 830

BIKE AND PEDESTRIAN CONSIDERATIONS

Although this analysis focused on the operation of intersections for motor vehicles, active transportation improvements at these intersections should be considered during the land use development review process. As growth extends to the interchanges, it is reasonable to expect higher levels of walking and biking and active transportation modes should therefore be considered in the ultimate design solutions for the ramp junctions.

The types of improvements needed include improved sidewalk connectivity and bike lanes, appropriate crossing at channelized turns, addressing closely spaced access points near ramp intersections and decreasing speeds at ramp intersections by reducing turning radii.

Figure 4 (page 13) from the Dixon General Plan shows proposed bike/multi-use paths proposed along the south side of I-80 between West A Street and Market Lane. It is recommended that these paths be connected and integrated into bounding streets with class II bike lanes. The General Plan also proposes class IV bike lanes on West A Street and Pitt School Road. The proposed signals at Dixon Avenue and Stratford Avenue should be implemented with enhanced crossings (e.g., improved striping or countdown timers) for pedestrians and detection for bikes to improve safety for these vulnerable road users.

While the channelized EB I-80 off-ramp right turn to West A Street is currently yield control, the large radius allows vehicles to traverse this movement at very high speeds. With bike and pedestrian integration, it is important that this channelized movement be modified so vehicles make this turn at slower speeds and are more likely to consider surrounding cyclists and pedestrians.

The General Plan also proposes a multi-use path along I-80 from North Lincoln Street to Pedrick Road and the EB I-80 ramps. The General Plan shows this path crossing at the unsignalized intersection of First Street and the EB I-80 ramps (it is not clear whether this is at grade or grade-separated). Because the main movements at this intersection are uncontrolled (EB I-80 off, EB I-80 on and Currey Road EB right), it is recommended that the path either cross at Dorset Drive (which is signalized) or grade separated. While a change in control type at First Street and the EB ramps would allow safer crossing over the high-speed arterial, the change in control may not be warranted and could result in a reduction in safety overall. This should be studied further if other options are not feasible.

Currently there is a barrier separated walkway on the south/west side of the bridge connecting Currey Road to First Street. This pathway is not connected to pedestrian facilities on either end of the bridge, nor are there facilities approaching or departing the bridge. It is recommended that the separation be extended to the existing class II bike lane on First Street to the south. On the north side of the bridge, the walkway is only accessible via the embankment adjacent to the free-flowing WB on-ramp where pedestrians are expected to cross from Currey Road. Surface street crossing is not recommended at this location but as development occurs in the Currey Road/Milk Farm Road area, careful consideration should be given to pedestrian and bicycle connectivity to the bridge. Extension of the walkway from the bridge should only be considered where there is an opportunity to safely cross pedestrians.

In addition, the yield sign for the SB-WB movement on Currey Road is placed such that it is likely ignored. This creates a conflict with the WB through movement. Substantial intersection redesign may be required to address this conflict.

The General Plan also proposes a multi-use path along the west side of Pedrick Road from the I-80 EB ramps to Vaughn Road. Since this location has a high proportion of heavy vehicle traffic, any bicycle infrastructure along this corridor should therefore consider an additional buffer, ideally a vertical physical barrier, to provide a safer environment for bicyclists and pedestrians.

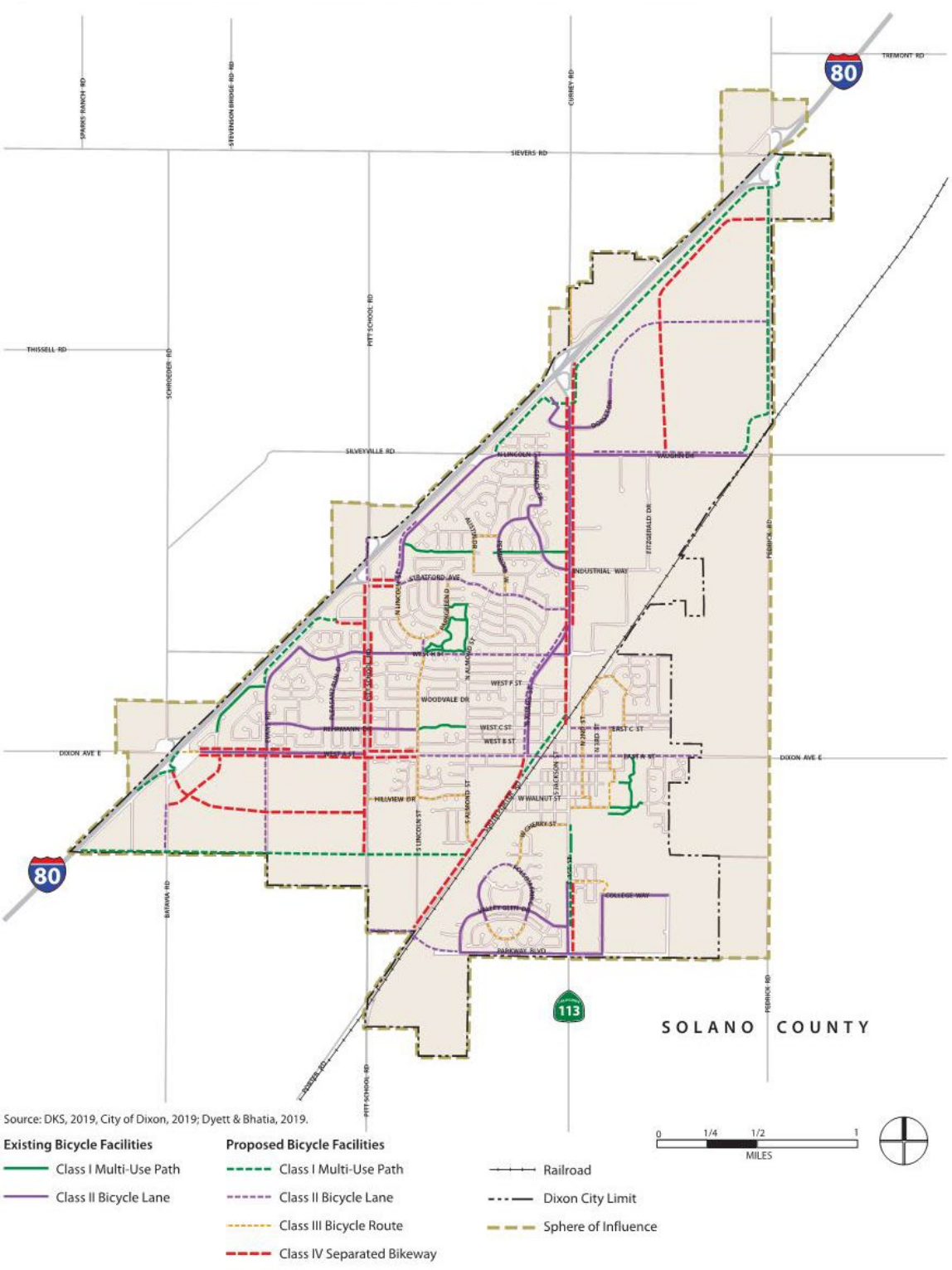


FIGURE 4: DIXON GENERAL PLAN – EXISTING/PROPOSED BICYCLE AND PEDESTRIAN NETWORK

SUMMARY OF RECOMMENDATIONS

This section summarizes the key findings and recommendations:

- Most I-80 ramp intersections meet the City's mobility standard in the 2040 scenario.
    - The EBL and WBL movements at **First Street/EB I-80 ramps** operate at LOS F but the average intersection delay is 3.1 seconds. There less than 10 vehicles associated with these movements between both peak hours. In addition, the signal at Dorset Drive provides gaps in traffic for left turners that synchro does not capture. Should the EBL movement grow with development at Milk Farm Road, a signal may be necessary. With this a queuing study of the EB I-80 Off Ramp is recommended as well as advanced queue warning for vehicles exiting at this location. However, for now, no mitigations are recommended at this location.
    - The intersection of Pitt School Road and Stratford Avenue operates at LOS F in the PM for existing and future scenarios. The volumes at this intersection justify the installation of a traffic signal which would improve the operations to LOS A for both the AM and PM peak hours.
- The Southwest Dixon Specific Plan identifies an interchange improvement at eastbound I-80 ramps/A Street/Batavia Road and shows North Parkway Boulevard connecting directly to the interchange. It is likely that the configuration shown in the Southwest Dixon Specific Plan would require rebuilding the interchange to ensure that the new intersection with North Parkway Boulevard would not cause motor vehicle queues to spillback onto the I-80 mainline. In addition, access at North Parkway Blvd (or Batavia Road) would need to be well managed to ensure safe and efficient I-80 ramp, intersection, and roadway operations.
- A new signal has been planned by Caltrans at the eastbound I-80 off ramp/A Street. Given the close spacing of the I-80 northbound ramps and Gateway Drive on A Street, future traffic signals at the two intersections should be coordinated to maintain safe and efficient operations of the ramp and intersection and access along A Street should be well managed.
- While active transportation connections across the freeway bridges may not be necessary at all locations, improvements should be explored at some overpasses where better connectivity between/to facilities is needed.

APPENDIX

CONTENTS

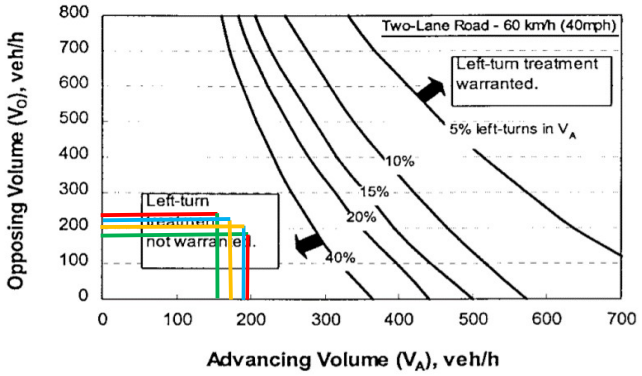
APPENDIX I. SIGNAL/TURN WARRANTS

Location	Speed Limit (mph)	Dir.	Peak Period	Existing				60 mph		50 mph		55 mph	
				Entry	Mid_2019	Forecast	Exit	Req. LT %	Req. LT	Req. LT %	Req. LT	Req. LT %	Req. LT
Pedrick	55	SB	AM	200	143	199	137	40%	80	n/a	n/a	n/a	n/a
			PM	295	195	394	427	5%	21	10%	43	7%	30
		NB	AM	222	143	358	310	10%	36	15%	54	12%	43
			PM	317	172	289	305	10%	32	10%	32	10%	32

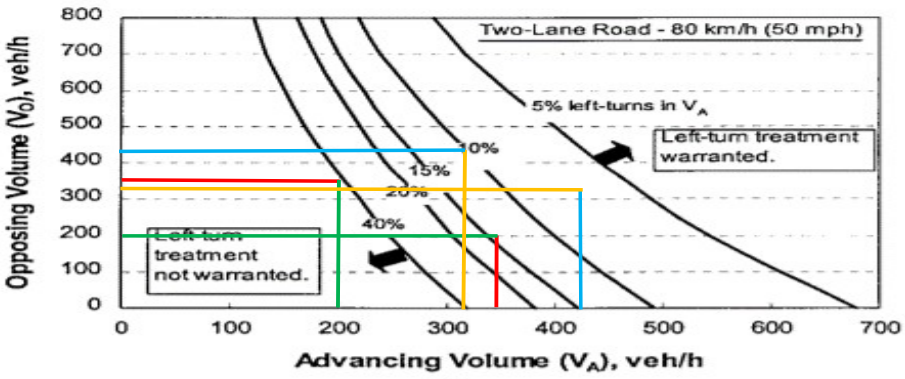
				Entry	Mid_2021	Exit	Min LT Vol Req	40 mph
Pitt School bet. Porter and A St	40	SB	AM	135	143	185	7	n/a
			PM	220	195	140	5	n/a
		NB	AM	185	143	225	5	n/a
			PM	200	172	165	6	n/a

	Growth		
Pedrick	SB	AM	39%
		PM	102%
	NB	AM	150%
		PM	68%

SB AM
SB PM
NB AM
NB PM



(a)



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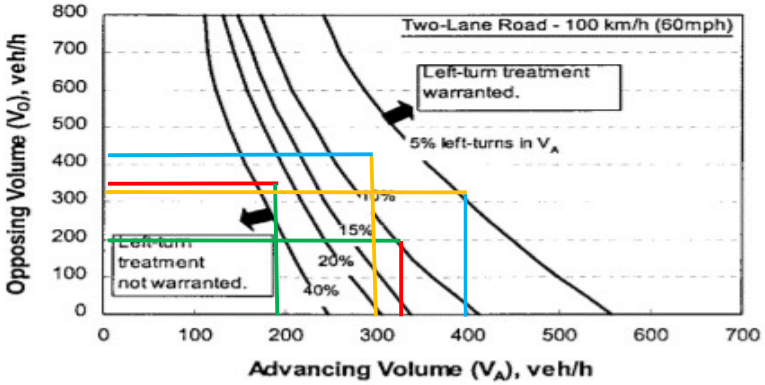

(c)

Traffic Signal Warrant Analysis Workbook

STUDY AND ANALYSIS INFORMATION

Municipality:	Dixon	**Analysis Date:**	3/3/2021
County:	Solano	**Conducted By:**	DER
		Agency/Company Name:	DKS Associates

Analysis Information

Data Collection Date:	12/2/2020
Day of the Week:	Wednesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number:	Pitt School Rd
Major Street Approach #1 Direction:	N-Bound
Major Street Approach #2 Direction:	S-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach:	1	**LANE(S)**
Speed Limit or 85th Percentile Speed on the Major Street:	25	**MPH**

Minor Street Information

Minor Street Name and Route Number:	Stratford Ave
Minor Street Approach #1 Direction:	E-Bound
Minor Street Approach #2 Direction:	W-Bound

Number of Lanes for Moving Traffic on Each Minor Street Approach:	1	**LANE(S)**

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	**Yes**	**No**
Warrant 2, Four-Hour Vehicular Volume	**Yes**	**Yes**
Warrant 3, Peak Hour	**Yes**	**No**
Warrant 4, Pedestrian Volume	**No**	**N/A**
Warrant 5, School Crossing	**No**	**N/A**
Warrant 6, Coordinated Signal System	**No**	**N/A**
Warrant 7, Crash Experience	**No**	**N/A**
Warrant 8, Roadway Network	**No**	**N/A**
Warrant 9, Intersection Near a Grade Crossing	**No**	**N/A**
Warrant PA-1, ADT Volume Warrant	**No**	**N/A**
Warrant PA-2, Midblock and Trail Crossings	**No**	**N/A**

MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

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

Total Number of Unique Hours Met On Figure 4C-1
4

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
12:00 AM	0	0	
12:15 AM	0	0	
12:30 AM	0	0	
12:45 AM	0	0	
1:00 AM	0	0	
1:15 AM	0	0	
1:30 AM	0	0	
1:45 AM	0	0	
2:00 AM	0	0	
2:15 AM	0	0	
2:30 AM	0	0	
2:45 AM	0	0	
3:00 AM	0	0	
3:15 AM	0	0	
3:30 AM	0	0	
3:45 AM	0	0	
4:00 AM	0	0	
4:15 AM	0	0	
4:30 AM	0	0	
4:45 AM	0	0	
5:00 AM	0	0	
5:15 AM	0	0	
5:30 AM	0	0	
5:45 AM	0	0	
6:00 AM	0	0	
6:15 AM	134	62	
6:30 AM	282	131	
6:45 AM	447	194	
7:00 AM	633	260	Met
7:15 AM	644	256	Met
7:30 AM	629	248	Met
7:45 AM	646	239	Met
8:00 AM	612	229	Met
8:15 AM	467	171	
8:30 AM	334	110	
8:45 AM	152	56	
9:00 AM	0	0	
9:15 AM	0	0	
9:30 AM	0	0	
9:45 AM	0	0	
10:00 AM	0	0	
10:15 AM	0	0	
10:30 AM	0	0	
10:45 AM	0	0	
11:00 AM	0	0	
11:15 AM	0	0	
11:30 AM	0	0	
11:45 AM	0	0	

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
12:00 PM	0	0	
12:15 PM	0	0	
12:30 PM	0	0	
12:45 PM	0	0	
1:00 PM	0	0	
1:15 PM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	203	86	
3:30 PM	391	177	
3:45 PM	569	250	Met
4:00 PM	747	349	Met
4:15 PM	746	344	Met
4:30 PM	773	346	Met
4:45 PM	817	361	Met
5:00 PM	818	337	Met
5:15 PM	616	256	Met
5:30 PM	401	163	
5:45 PM	179	75	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	
7:00 PM	0	0	
7:15 PM	0	0	
7:30 PM	0	0	
7:45 PM	0	0	
8:00 PM	0	0	
8:15 PM	0	0	
8:30 PM	0	0	
8:45 PM	0	0	
9:00 PM	0	0	
9:15 PM	0	0	
9:30 PM	0	0	
9:45 PM	0	0	
10:00 PM	0	0	
10:15 PM	0	0	
10:30 PM	0	0	
10:45 PM	0	0	
11:00 PM	0	0	

MUTCD Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume