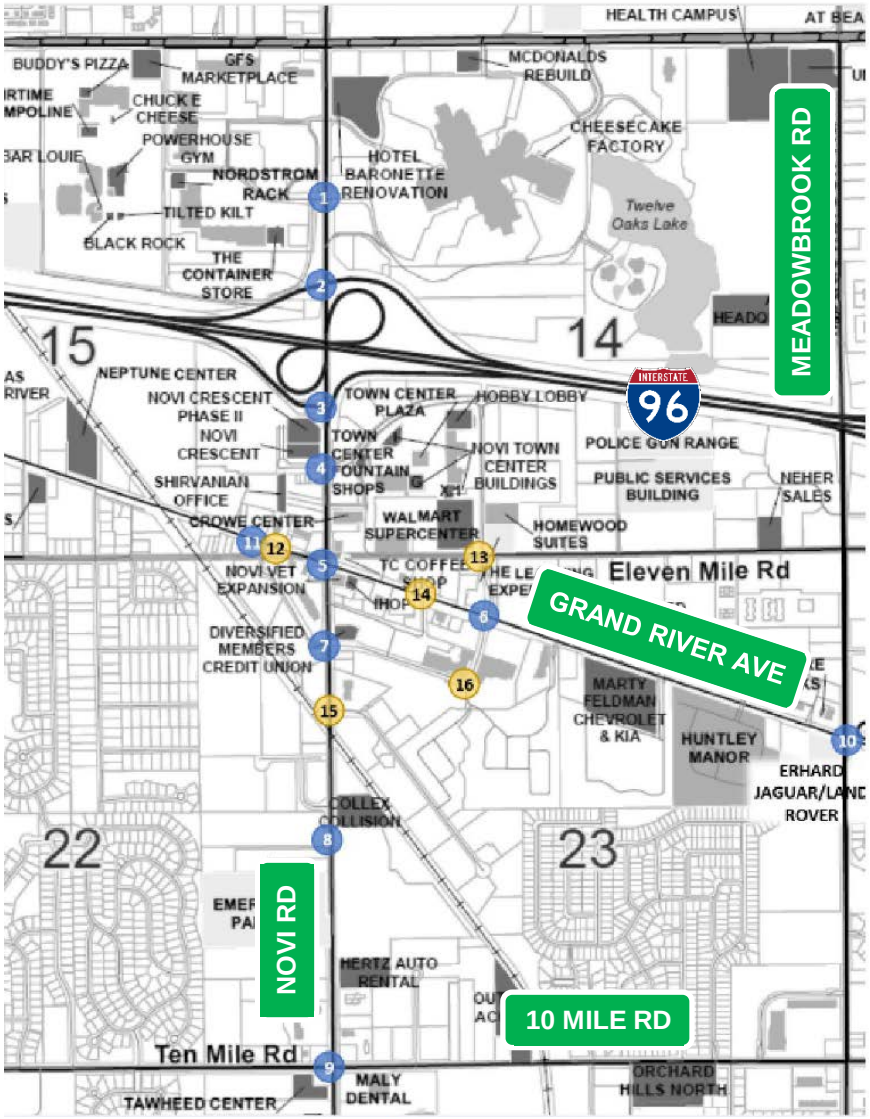
Novi Rd / Grand River Ave Area Multi-Development Traffic Impact Study

City of Novi, Oakland County

Tuesday, November 13, 2018

AECOM

Study Area – Map View



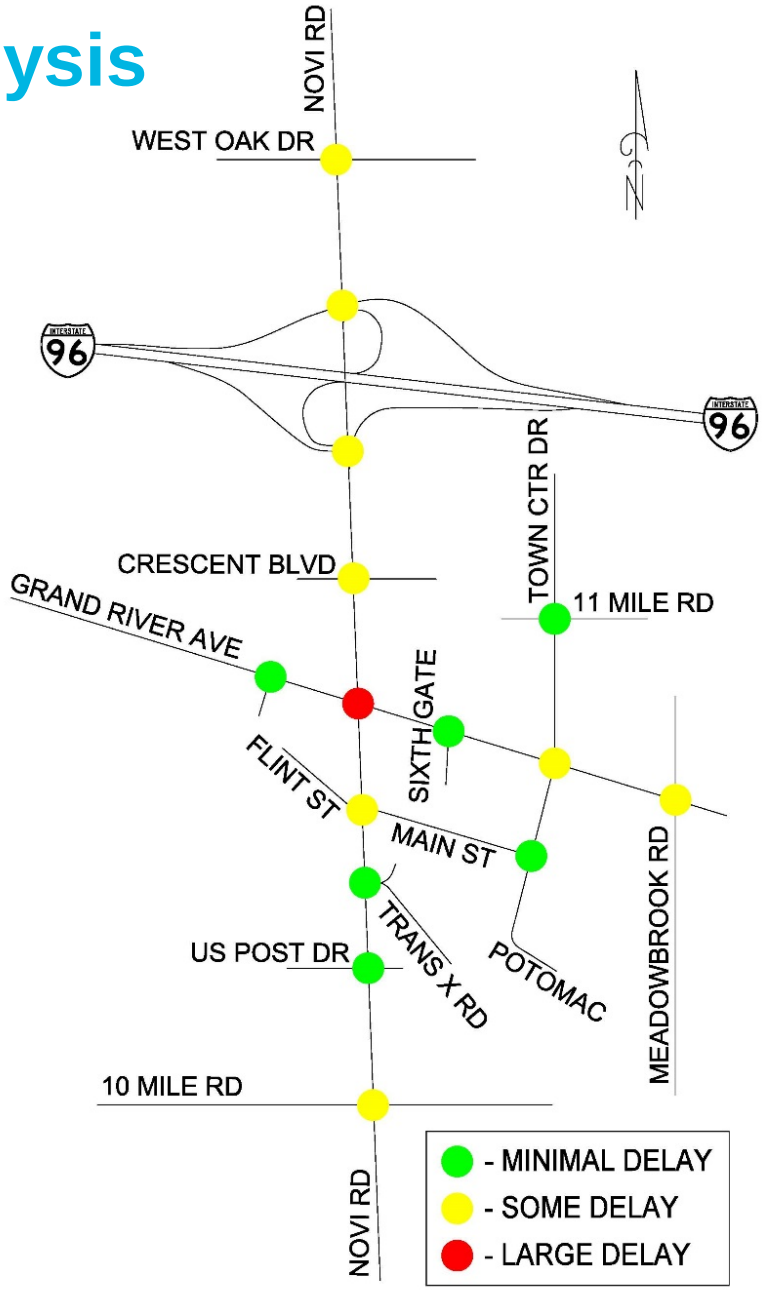
Study Area Intersections

1 – Novi Rd and West Oaks Dr S
2 – Novi Rd and WB I-96 Off Ramp
3 – Novi Rd and EB I-96 Off-Ramp
4 – Novi Rd and Crescent Blvd
5 – Novi Rd and Grand River Ave
6 – Grand River Ave and Main St
7 – Novi Rd and Flint St/Main St
8 – Novi Rd and Post Office Driveway
9 – Novi Rd and Ten Mile Rd
10 – Grand River Ave and Meadowbrook Rd
*11 – Grand River Ave and Crescent Blvd**
12 – Grand River Ave and Flint St
13 – Eleven Mile Rd and Town Center Dr
14 – Grand River Ave and Sixth Gate Dr
15 – Novi Rd and Trans X Rd
16 – Main St and Main St/Potomac

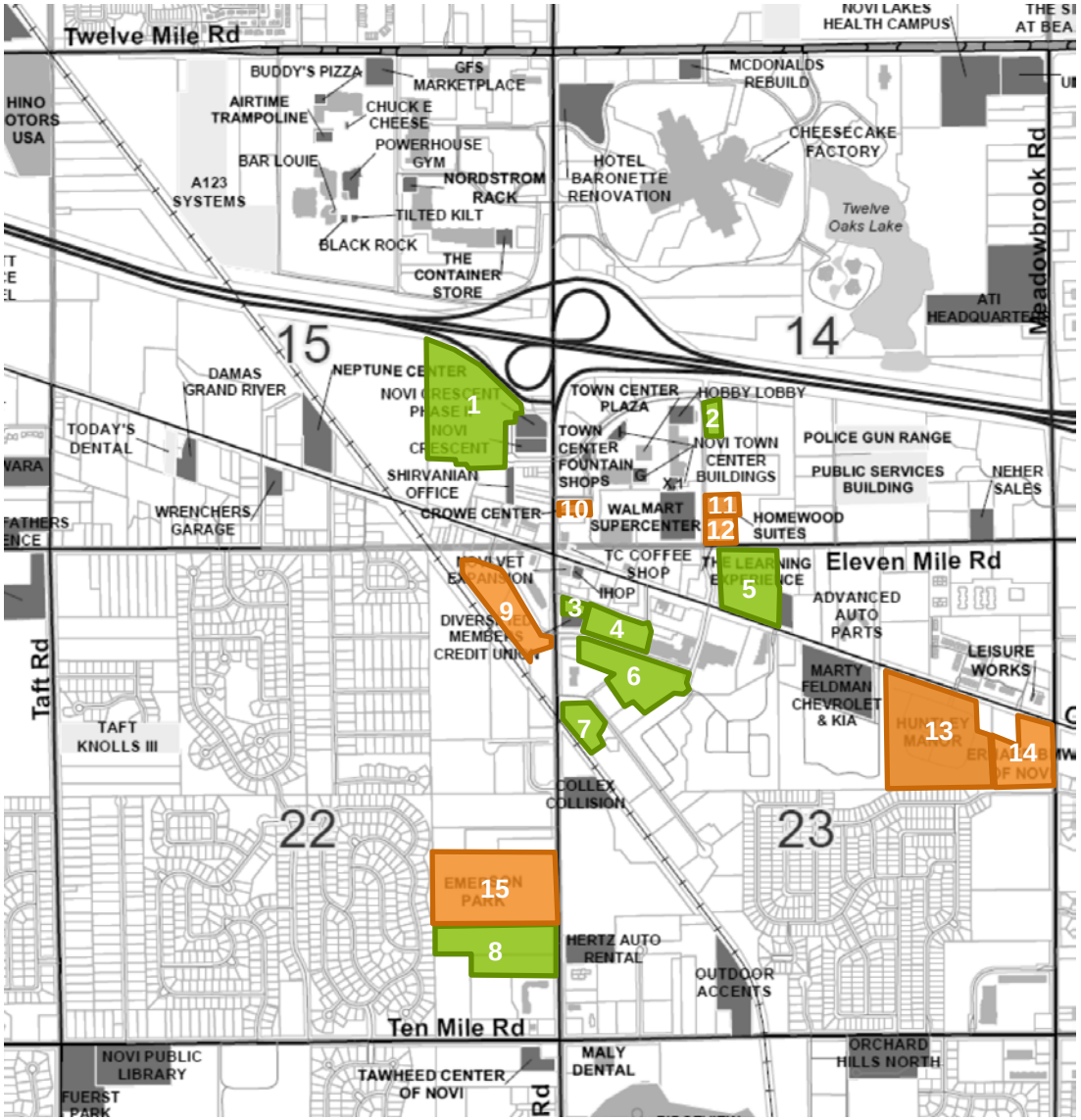
**proposed*

Existing (2018) Traffic Analysis

- Intersection Level-of-Service varies from “A” to “E”
- Novi Rd at Grand River Ave intersection is operating over capacity
- Several individual turn movements are LOS “F”



Development Map



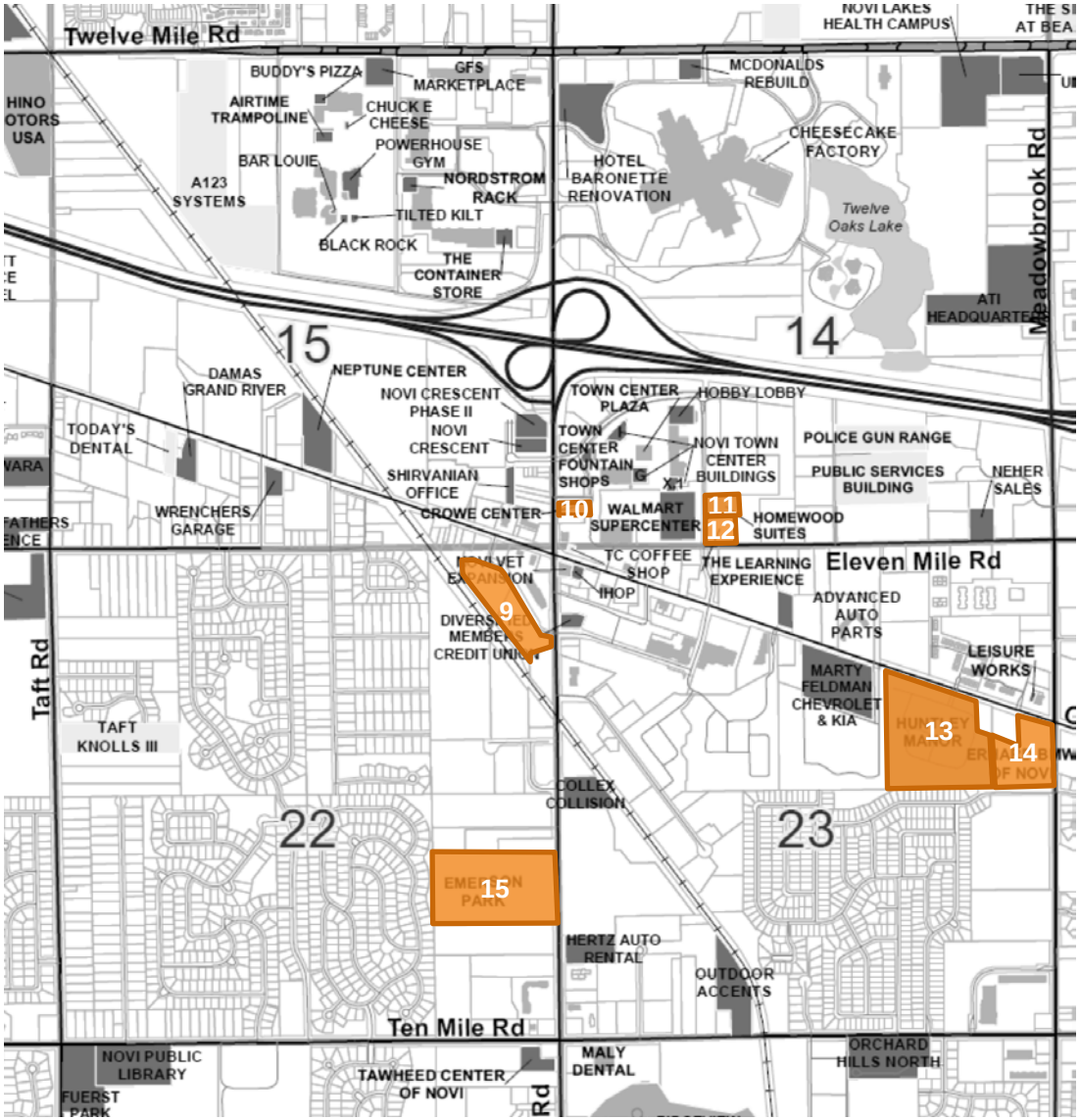
Future Developments

1 – Adell Center
2 – Potential Retail/Office
3 – Main Street NW
4 – Main Street North
5 – Asian Village
6 – Mainstreet Lofts
7 – City Park
8 – Mirage Theater & Retail

Background Developments

9 – The Bond Development
10 – Crowe Center
11 – Homewood Suites
12 – The Learning Experience
13 – Huntley Manor
14 – Erhard Jaguar/Land Rover
15 – Emerson Park

Background (2028) Conditions



Background Developments

9 – The Bond Development
10 – Crowe Center
11 – Homewood Suites
12 – The Learning Experience
13 – Huntley Manor
14 – Erhard Jaguar/Land Rover
15 – Emerson Park

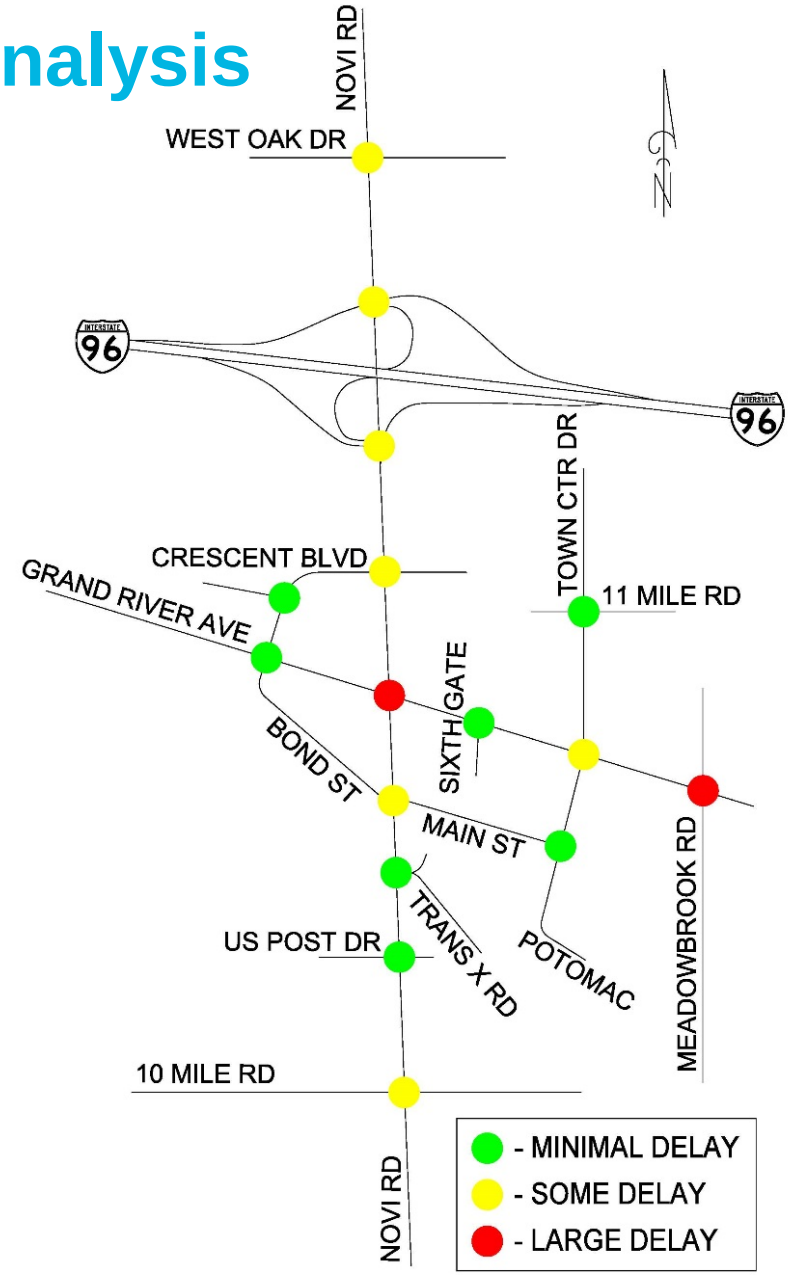
Traffic Volumes grown to 2028
- 0.5% annual growth rate

Development Trip Generation
- 535 trips (Weekday AM)
- 702 trips (Weekday PM)
- 805 trips generated (Sat)

New Roadway Geometry
- Bond St connection
- Crescent Blvd connection
- Industrial Spur to Crescent Blvd
- Development driveways

Background (2028) Traffic Analysis

- Intersection Level-of-Service varies from “A” to “F”
- Novi Rd at Grand River Ave intersection projected to operate over capacity
- Grand River Ave at Meadowbrook Rd intersection projected to operate over capacity
- Several individual turn movements are LOS “F”



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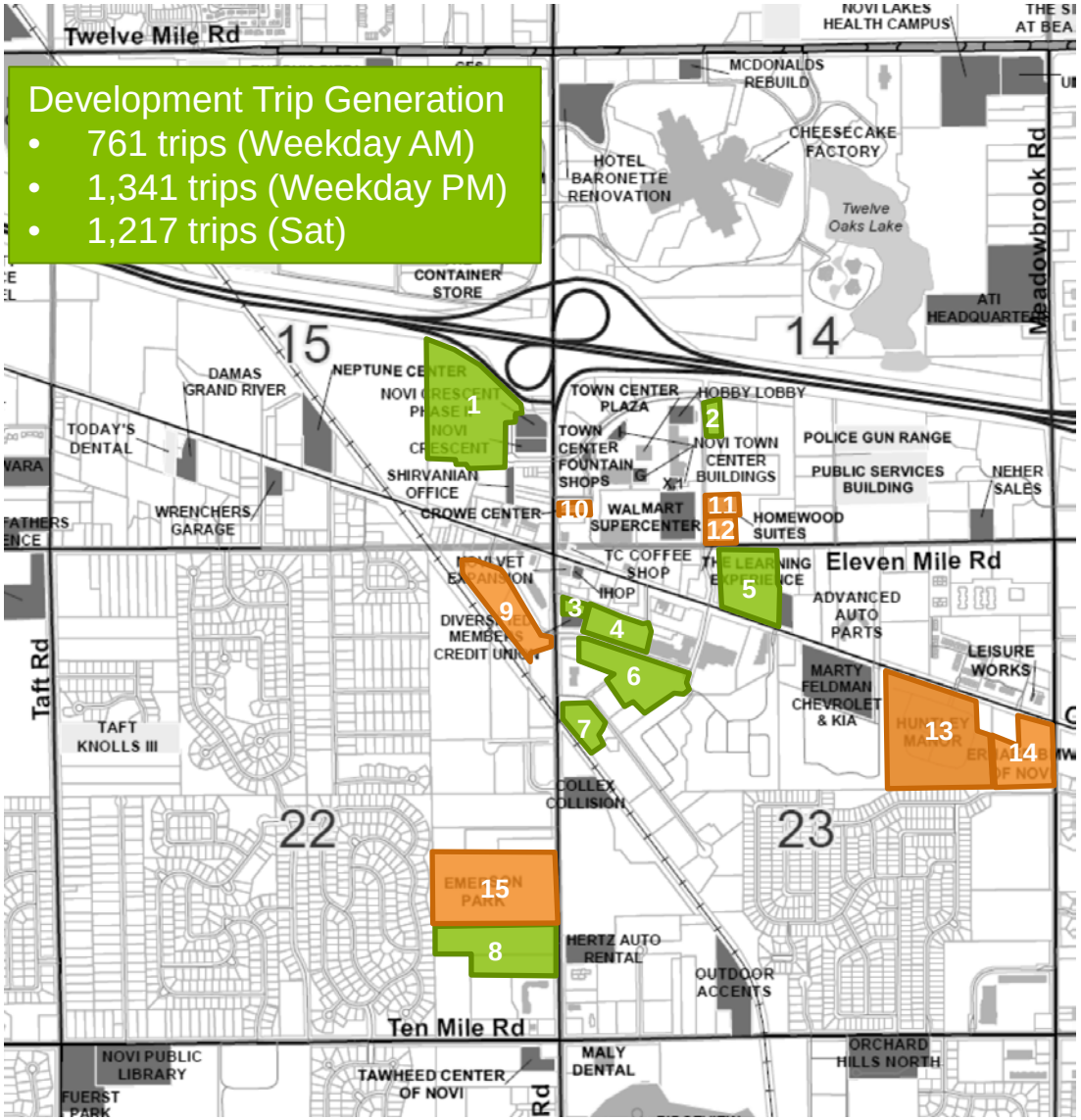
Future (2028) Conditions



Future Developments

1 – Adell Center
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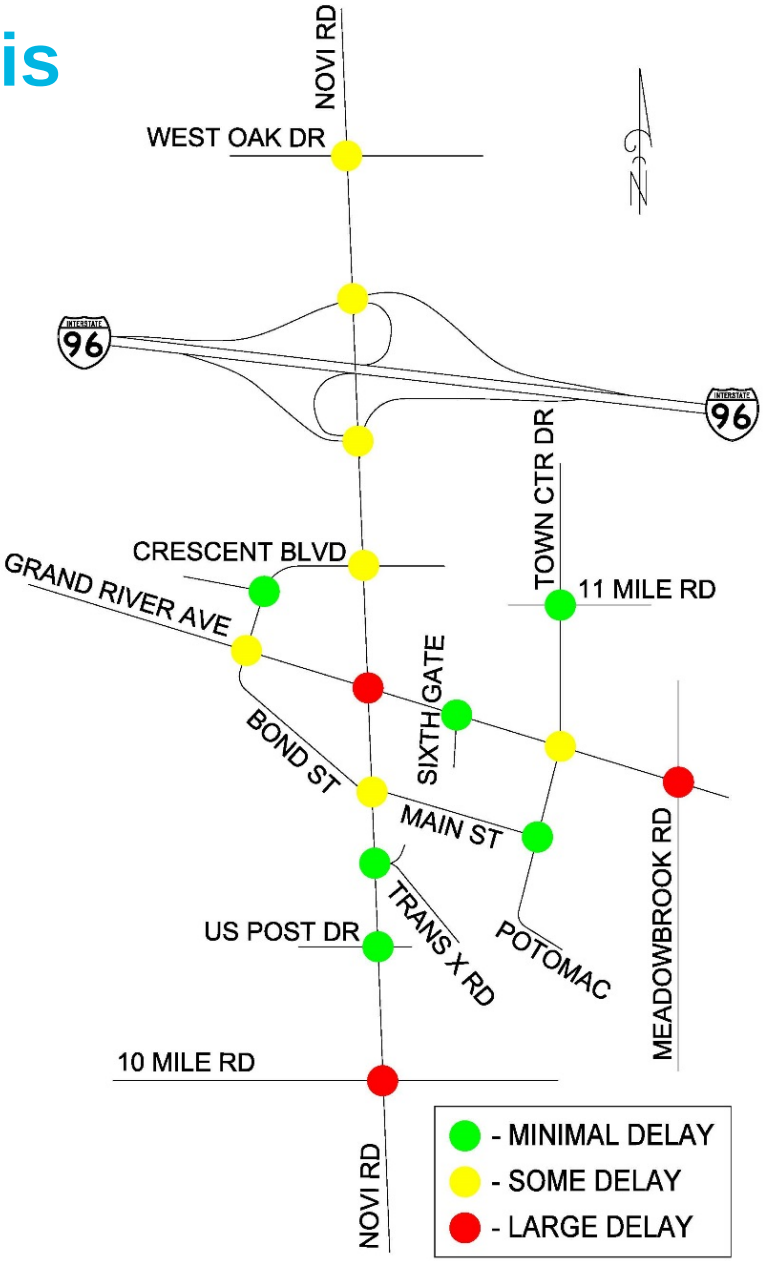
Background Developments

9 – The Bond Development
10 – Crowe Center
11 – Homewood Suites
12 – The Learning Experience
13 – Huntley Manor
14 – Erhard Jaguar/Land Rover
15 – Emerson Park

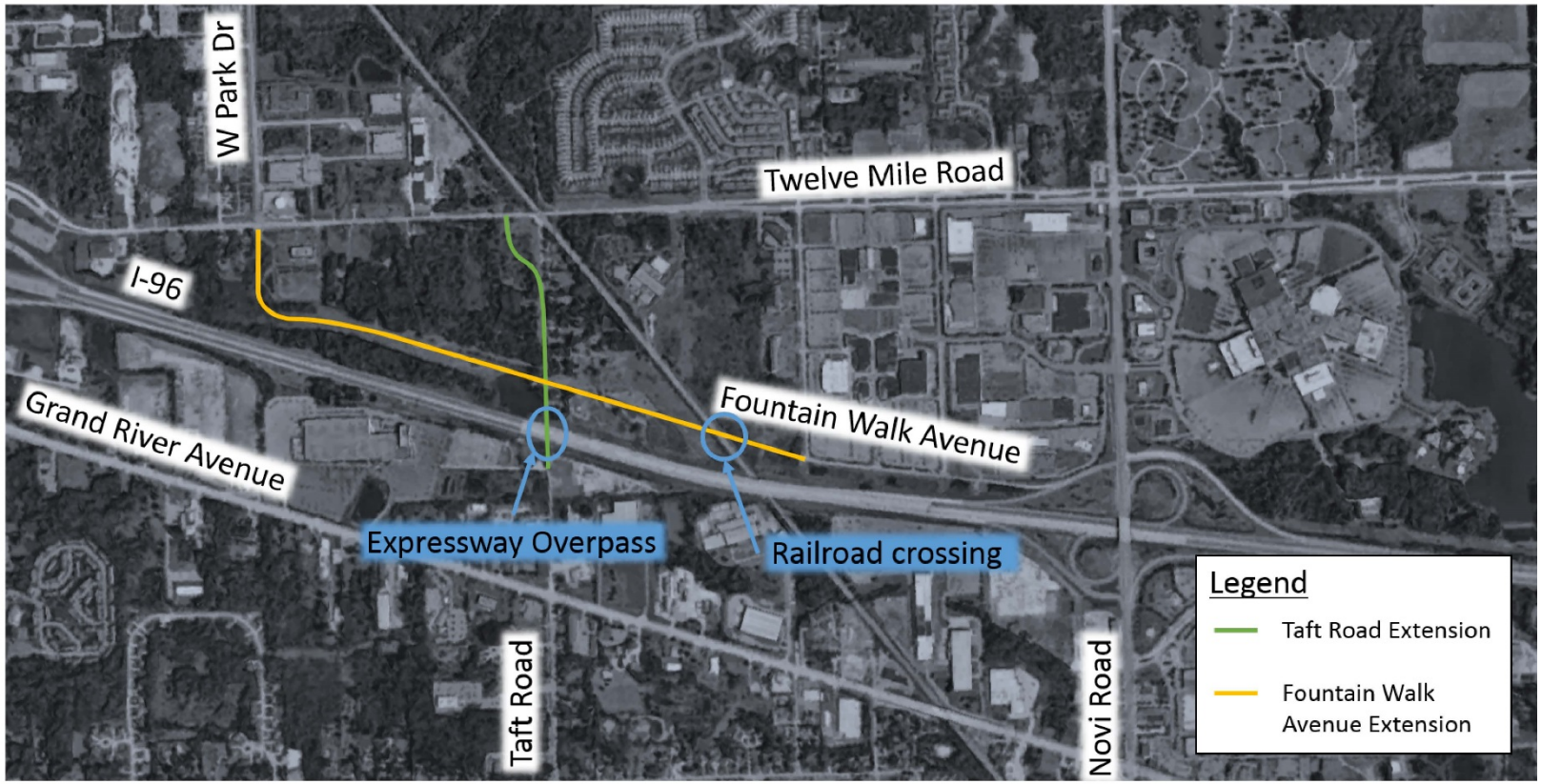
Future (2028) Traffic Analysis

- Intersection Level-of-Service varies from “A” to “F”
- Novi Rd at Grand River Ave intersection projected to operate over capacity
- Grand River Ave at Meadowbrook Rd intersection projected to operate over capacity
- Novi Rd at 10 Mile Rd intersection projected to operate over capacity
- Several individual turn movements are LOS “F”



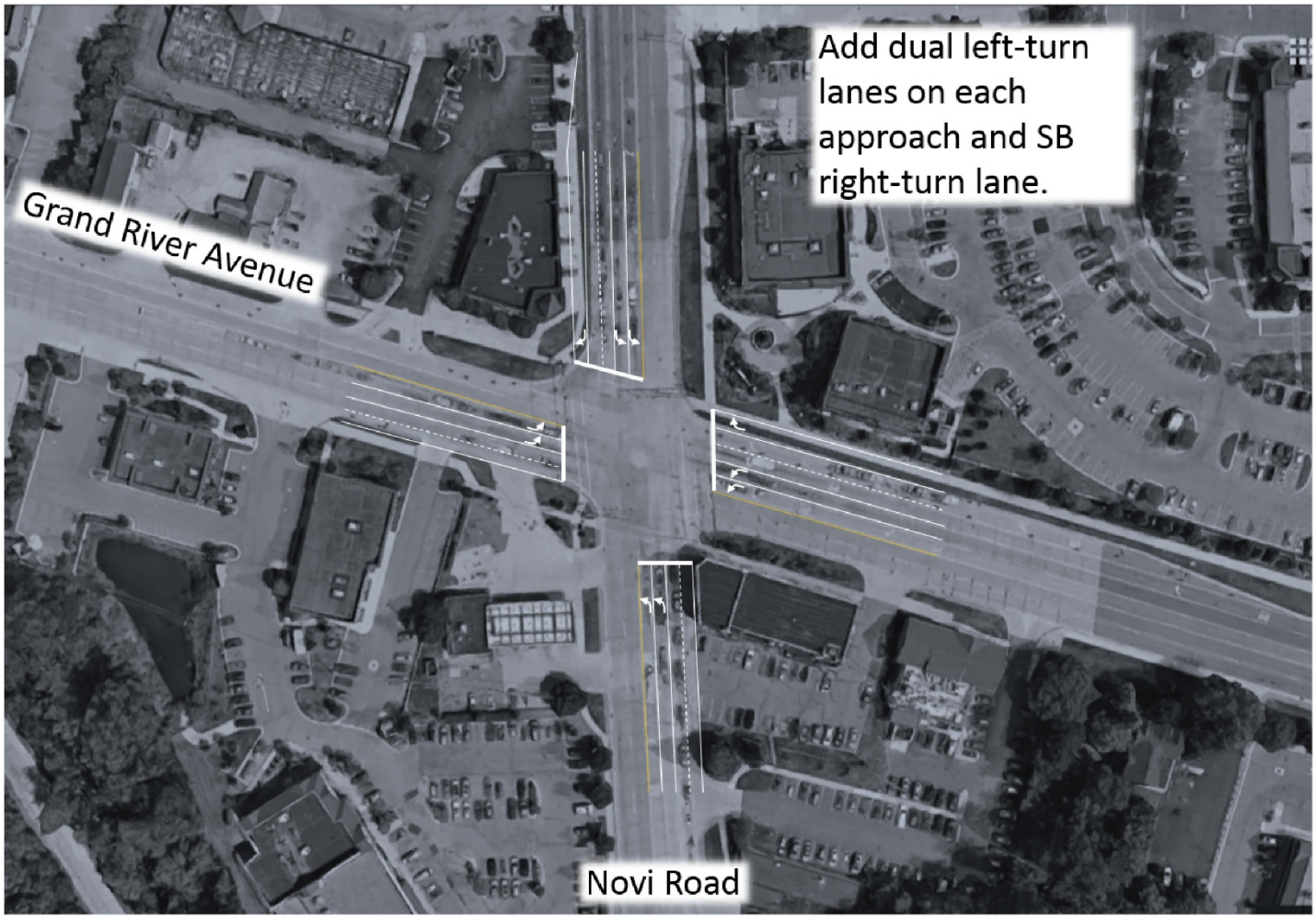
Potential Future Mitigation (cont.)

- Taft Rd/Fountain Walk Ave Connection Concept



Potential Future Mitigation (cont.)

- Novi Rd at Grand River Ave Concept



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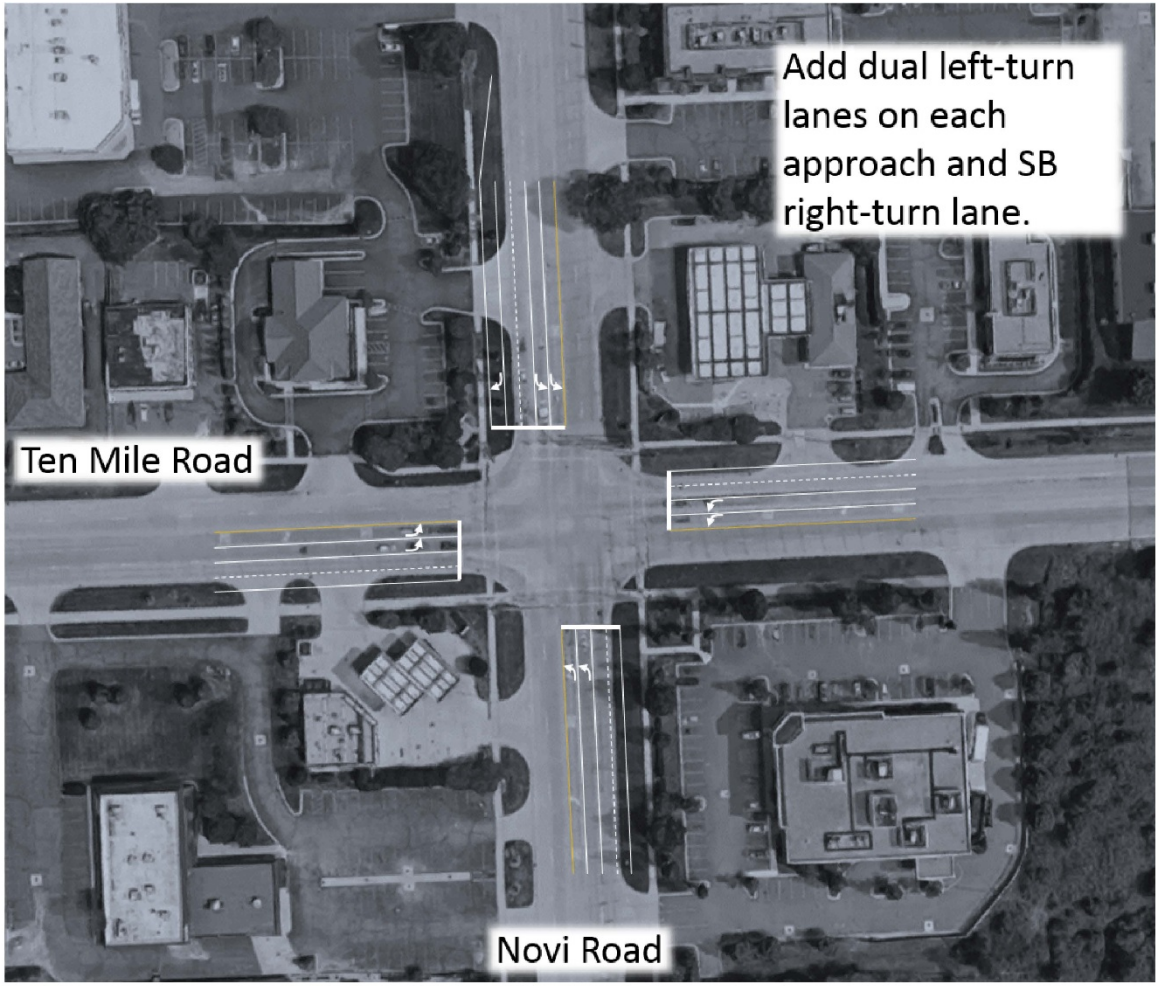
Potential Future Mitigation (cont.)

- Novi Rd at Ten Mile Rd Concept



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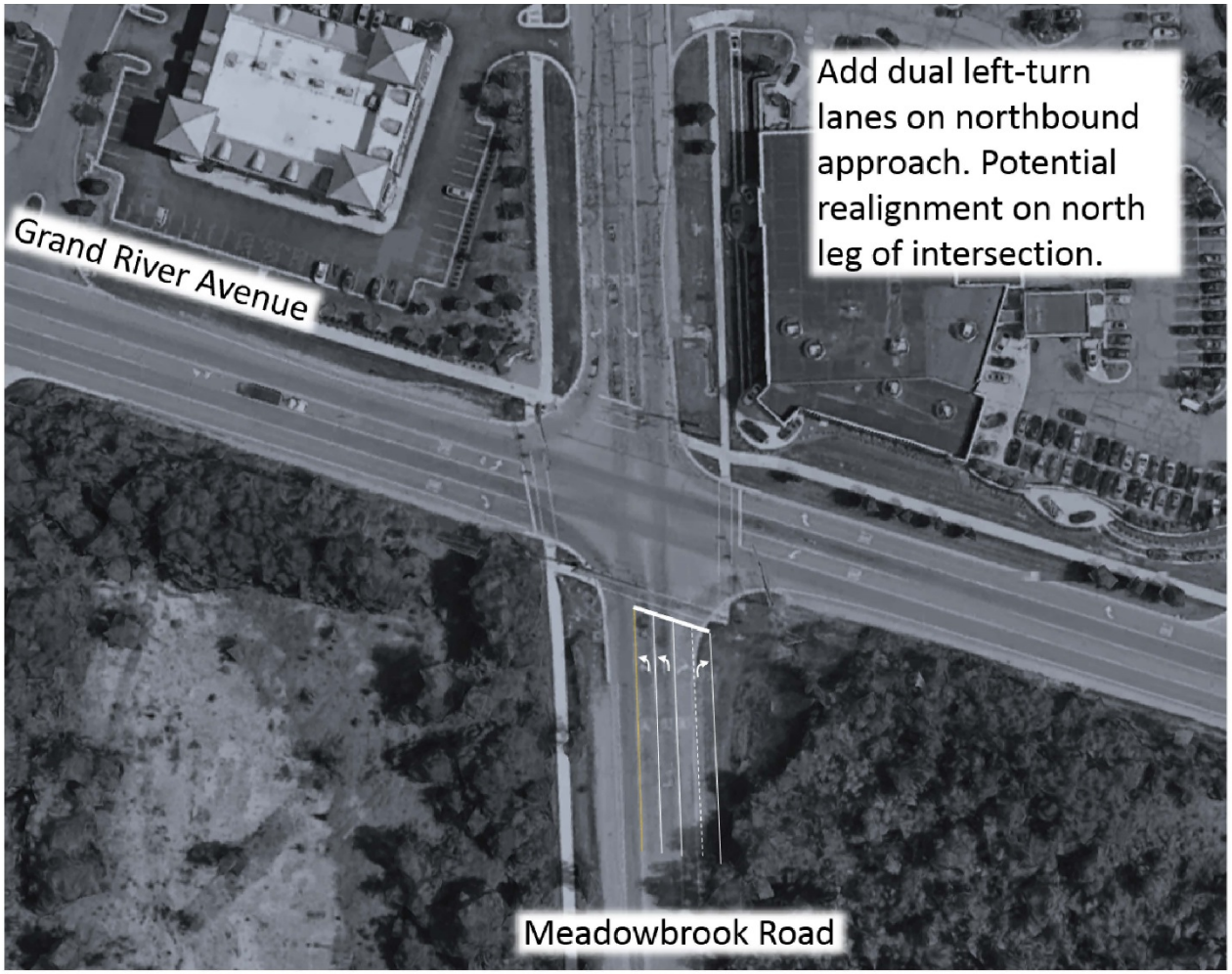
Potential Future Mitigation (cont.)

- Grand River Ave at Meadowbrook Rd Concept



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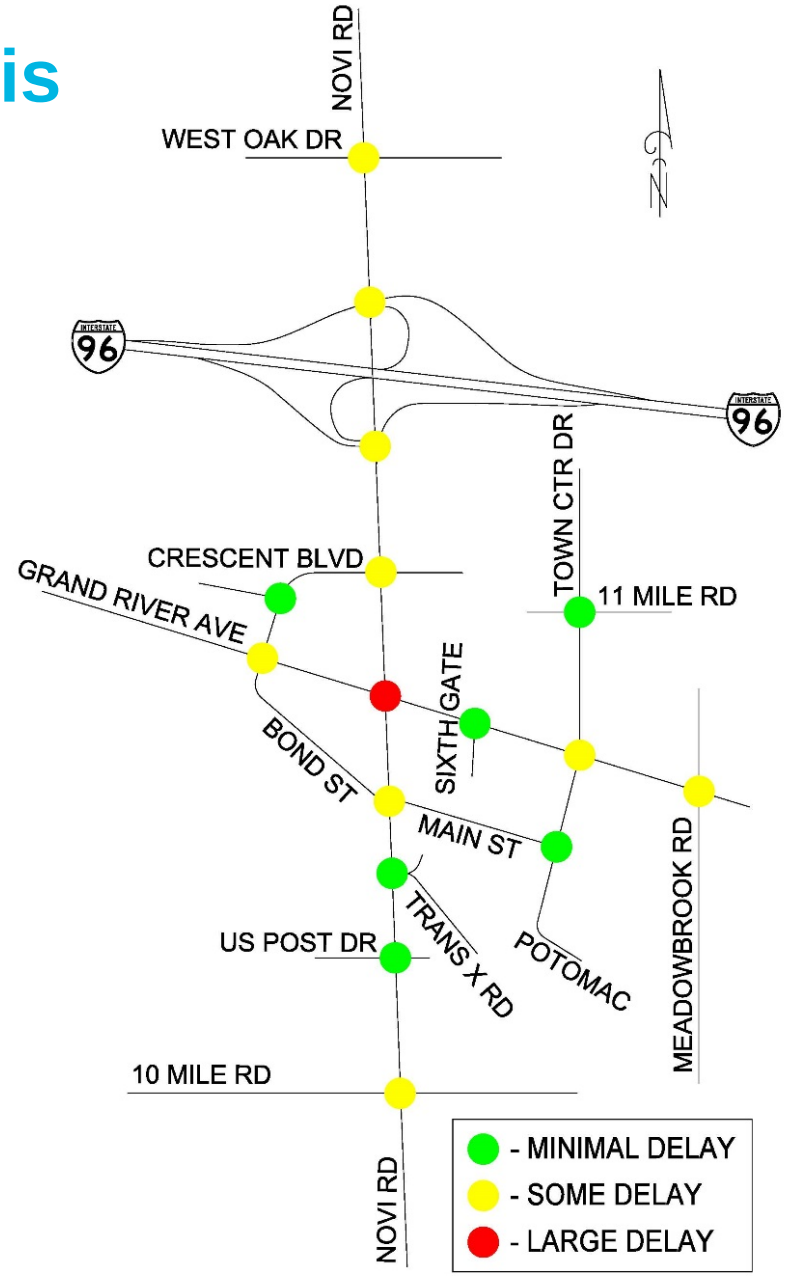
Potential Future Mitigation (cont.)

- Grand River Ave (Meadowbrook Rd to Novi Rd) Concept

Future (2028) Traffic Analysis (with mitigation)

- Includes signal timing adjustments
- Includes roadway improvements, except for Novi Rd at Grand River Ave
- Novi Rd at Grand River Ave intersection still projected to operate over capacity



Conclusions

- 15 future developments would add over 2,000 trips to the study area during Weekday PM and Saturday Midday
- Novi Rd at Grand River Ave intersection currently operates over capacity (limited right-of-way makes widening difficult)
- Signal timing adjustments provide little benefit to the study area, because the current SCATS signal system is efficient
- Mitigation measures beyond signal timing adjustments are recommended
- Roadway improvements, future roadway connections, and transit opportunities should be considered and coordinated with owning jurisdictions.
  - Signal timing adjustments are currently being coordinated with RCOC.
- 10 Mile Road Corridor Study – to be completed in 2019

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AECOM

Novi Road/Grand River Avenue Area Multi-Development Traffic Impact Study - DRAFT

City of Novi

October 12, 2018

DRAFT

Quality information

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Revision	Revision date	Details	Authorized	Name	Position
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2	10/12/18	Revised Draft		Maureen Peters	Traffic Engineer/PM

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1. Introduction

1.1 Background Information

The City of Novi has requested the support of AECOM to perform a traffic impact study (TIS) for the City's Town Center area. The Novi Town Center is comprised of several developments surrounding the intersection of Novi Road and Grand River Avenue. The Novi Town Center area has several developments in the planning phase as well as additional parcels that are available for future development. Due to the routine traffic concerns in the area, it was recommended to analyze the potential future traffic impacts and mitigation measures associated with the multiple developments collectively, rather than through a typical, independent TIS that are usually prepared as part of the City's site plan development process. Combining the developments into one TIS will allow the City to assess the traffic impacts beyond the developments' build years and will serve as a planning tool to identify and prepare for roadway modifications as additional developments are introduced into the general area.

AECOM has identified 15 developments that are expected to be incorporated into the overall study, as shown in **Figure 1**. Seven of the developments have either been approved and are in the construction phase or are in the planning stage and currently under review. Some of the background developments produced their own independent studies that may be referenced within this report for the purpose of developing trip generation estimates. There are an additional eight developments/parcels within the general area that could be developed at a later date.

The study includes 10 existing signalized intersections and five unsignalized intersections, as shown in **Figure 2**. The study will also consider the extension of Crescent Boulevard to Grand River Avenue on the west side of Novi Road as part of any future scenarios, which adds a potential eleventh signalized intersection.

1.2 Report Organization

Following the introductory section (Section 1), the report is composed of the following sections:

- **Section 2: Existing (2018) Conditions**
  Section 2 provides a description of the existing transportation facilities and contains an analysis of the existing 2018 peak-hour traffic conditions within the study area.

- **Section 3: Background (2028) Conditions**
  Section 3 contains an analysis of background year (2028) peak-hour traffic conditions – conditions for the projected opening year (2028) of all study area background developments, but without traffic generated by the future developments. Background conditions include estimated traffic from the background developments identified in Figure 1 and are used as a "baseline" from which impacts associated with the future developments can be quantified. Any roadway capacity improvements proposed to be completed by the background developments have also been included.

- **Section 4: Future (2028) Conditions**
  Section 4 contains an analysis of traffic conditions during the projected completion of all proposed developments (2028), including traffic generated by the future developments listed in Figure 1. Future conditions can be compared to background conditions to quantify the impact of the proposed developments.

- **Section 5: Potential Future Mitigation**
  Section 5 contains a discussion of potential mitigation options that could improve the operation of intersections and traffic movements that are projected to operate poorly under future conditions. Varying levels of mitigation options were examined based on input from the City.

- **Section 6: Conclusion**
  Section 6 provides a summary of the analysis and mitigation options available that may lead to improvements in traffic operations throughout the study area.

2. Existing (2018) Conditions

Section 2 provides a description of the existing transportation facilities and contains an analysis of the existing 2018 peak-hour traffic conditions within the study area.

2.1 Study Area

The study area for the TIS generally includes intersections located within and in the vicinity of the Town Center area. A total of 15 intersections have been included in the study area under existing conditions as listed below. Refer to Figure 2, Study Area Intersections, for the locations of these intersections. Note that 16 intersections are shown in the map. The sixteenth intersection, Grand River Avenue at Crescent Boulevard, is a proposed signalized intersection that will be reviewed as part of Background (2028) and Future (2028) conditions and is not included in the Existing (2018) conditions analysis.

1. Novi Road and West Oaks Drive South
2. Novi Road and westbound I-96 off-ramp
3. Novi Road and eastbound I-96 off-ramp
4. Novi Road and Crescent Boulevard
5. Novi Road and Grand River Avenue
6. Novi Road and Flint Street/Main Street
7. Novi Road and Trans X Road
8. Novi Road and US Post Office Driveway
9. Novi Road and Ten Mile Road
10. Grand River Avenue and Flint Street
11. Grand River Avenue and Sixth Gate
12. Grand River Avenue and Main Street/Town Center Drive
13. Grand River Avenue and Meadowbrook Road
14. Eleven Mile Road and Town Center Drive
15. Main Street and Potomac

2.2 Existing Roadways

The study area comprises the following major arterials:

Novi Road is a north-south arterial roadway generally comprised of five lanes to the south of I-96, and seven lanes to the north of I-96. Novi Road has a posted speed limit of 45 mph in the study area.

The Novi Road and Grand River Avenue intersection is signalized with left-turn phases for each approach and is controlled by the Road Commission for Oakland County's (RCOC) Sydney Coordinated Adaptive Traffic System (SCATS). The maximum cycle length is approximately 150 seconds during peak-hours of traffic.

Grand River Avenue is an east-west arterial that varies from five lanes to the west of Novi Road, to three lanes to the east of Meadowbrook Road. The posted speed limit within the study area is 40 mph to the west of Main Street/Town Center Drive, and 50 mph to the east of Main Street/Town Center Drive.

The Grand River Avenue and Meadowbrook Road intersection is signalized with left-turn phases at each approach and is controlled by RCOC's SCATS system. The maximum cycle length is 150 seconds during peak hours of traffic.

Meadowbrook Road is a north-south arterial and is comprised of three lanes with a posted speed limit of 40 mph.

Ten Mile Road is an east-west arterial and is comprised of two lanes with a posted speed limit of 45 mph.

The Novi Road and Ten Mile Road intersection is signalized with left-turn phases for each approach and is controlled by RCOC's SCATS system. The maximum cycle length is 150 seconds during peak-hours of traffic.

The I-96 interchange is a partial cloverleaf with two loop ramps for entering freeway traffic. The westbound exit ramp to Novi Road is comprised of five lanes, and the eastbound exit ramp to Novi Road is comprised of three lanes. Both

exit ramps are signalized and controlled by RCOC's SCATS system. The maximum cycle lengths are 150 seconds during peak-hours of traffic.

All other roadways in this study can be generalized as collector roadways, stub streets, or driveways. Crescent Boulevard, Main Street, and Flint Street (Bond Street) are expected to eventually form a "loop" road around the intersection of Novi Road and Grand River Avenue. It is expected that the loop roadway may detour a percentage of traffic away from the Novi Road and Grand River Avenue intersection.

2.3 Existing (2018) Conditions Capacity Analysis

AECOM collected peak-hour turning movement counts at the study area intersections during March/April 2018 for the Weekday Morning (7-9 AM), Weekday Afternoon (4-6 PM), and Saturday Midday (1-3 PM) peak periods of traffic. The traffic data count reports that were collected as part of this study are included in **Appendix A**.

In order to quantify intersection traffic operations at the study-area intersections, existing level-of-service (LOS) values were determined using the industry-standard methodology presented in the Highway Capacity Manual (2010), published by the Transportation Research Board (TRB). Synchro® traffic analysis software (version 9), based on the Highway Capacity Manual (2000) methodologies, was used in the analysis.

The term "level-of-service" (LOS) denotes how well (or poorly) a traffic movement operates under given traffic demands, lane configurations, and traffic controls. Each level is determined by the average amount of control delay per vehicle. Control delay is the total delay associated with stopping for a traffic signal or stop sign, and includes four components; deceleration delay, queue move up time, stopped delay, and final acceleration delay.

As shown in **Table 1**, LOS "A" indicates small average control delays (less than ten seconds per vehicle) whereas LOS "F" indicates intersection failure, resulting in extensive vehicular queues and long delays (over 80 seconds per vehicle at a signalized intersection). **LOS "D" (or better) is typically considered acceptable performance and low LOS values are tolerable for short time periods or during peak-hours when heavier traffic volumes are expected.**

Table 1 - Level of Service Criteria at Intersections

Level-of-Service	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	10 - 20	10 - 15
C	20 - 35	15 - 25
D	35 - 55	25 - 35
E	55 - 80	35 - 50
F	> 80	>50

Source: *HCM, 2010*

The existing (2018) conditions peak-hour intersection LOS results for the 10 signalized intersection and five unsignalized intersections listed on page 6 are shown in **Table 2**. The existing (2018) conditions peak-hour traffic volumes and movement-by-movement LOS results are depicted in **Figure 3**. Capacity analysis reports from the *Synchro*® software for all intersections are included in **Appendix B-1**.

Table 2 – Existing (2018) Conditions Intersection LOS Results

Intersection	Traffic Control	Weekday AM Peak-Hour		Weekday PM Peak-Hour		Saturday Midday Peak-Hour	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Novi Road and West Oaks Drive South	*Signalized*	13.9	B	32.6	C	51.7	D
Novi Road and WB I-96 Off-Ramp	*Signalized*	42.8	D	30.8	C	30.5	C
Novi Road and EB I-96 Off-Ramp	*Signalized*	8.7	A	13.2	B	15.4	B
Novi Road and Crescent Boulevard	*Signalized*	13.2	B	24.3	C	29.9	C
Novi Road and Grand River Avenue	*Signalized*	**60.0**	**E**	**68.8**	**E**	**60.3**	**E**
Novi Road and Flint Street/Main Street	*Signalized*	13.6	B	12.0	B	11.2	B
Novi Road and Trans X Road (WB approach results shown)	*1-Way STOP*	14.7	B	18.4	C	20.8	C
Novi Road and US Post Office Driveway	*Signalized*	3.9	A	5.3	A	4.1	A
Novi Road and Ten Mile Road	*Signalized*	36.3	D	47.1	D	33.9	C
Grand River Avenue and Flint Street (NB approach results shown)	*1-Way STOP*	26.0	D	15.3	C	16.4	C
Grand River Avenue and Sixth Gate (NB approach results shown)	*1-Way STOP*	9.3	A	15.2	C	12.5	B
Grand River Avenue and Main Street/ Town Center Drive	*Signalized*	12.6	B	21.5	C	21.8	C
Grand River Avenue and Meadowbrook Road	*Signalized*	27.1	C	53.5	D	32.5	C
Eleven Mile Road and Town Center Drive	*4-Way STOP*	7.7	A	12.4	B	10.6	B
Main Street and Potomac	*3-Way STOP*	7.6	A	8.1	A	8.5	A

As shown in Table 2, the existing (2018) peak-hour capacity analysis shows that all study area intersections currently operate at an acceptable intersection LOS, with the exception of the Novi Road/Grand River Avenue intersection during all three peak-hours. As shown in Figure 3, several individual turning movements at study area intersections currently operate at unacceptable LOS. Many of these turning movements are relatively low volume movements, and the poor LOS ratings (and lengthy average delay times) are due to the long signal cycle length that the SCATS system provides during peak times to service the major high-volume thru movements.

However, under existing conditions, there are some large volume movements that are currently operating poorly, and should be noted. These movements include:

- At Novi Road/Westbound I-96 off-ramp, the westbound left-turn movement.
- At Novi Road/Eastbound I-96 off-ramp, the eastbound right-turn movement.
- At Novi Road/Grand River Avenue, the westbound and northbound thru movements, as well as all four left-turn movements.
- At Novi Road/Ten Mile Road, the eastbound and northbound left-turn movements.
- At Grand River Avenue/Meadowbrook Road, the westbound and southbound thru movements.

2.4 Existing (2018) Conditions Capacity Analysis (with Mitigation)

The existing poorly operating turning movements were attempted to be mitigated by adjusting signal timings at the study area intersections. Because the intersections are currently controlled by the adaptive control SCATS system, improvement in performance via signal timing adjustments is minor. Some small improvements were achieved using only signal timing adjustments as a mitigation measure.

The existing (2018) conditions (with mitigation) peak-hour intersection LOS results are shown in **Table 3**. The existing (2018) conditions (with mitigation) peak-hour traffic volumes and movement-by-movement LOS results are depicted in **Figure 4**. Capacity analysis reports from the *Synchro*® software for all intersections are included in **Appendix B-2**.

Table 3 – Existing (2018) Conditions (with Mitigation) Intersection LOS Results

Intersection	Traffic Control	Weekday AM Peak-Hour		Weekday PM Peak-Hour		Saturday Midday Peak-Hour	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Novi Road and West Oaks Drive South	*Signalized*	15.0	B	30.5	C	41.0	D
Novi Road and WB I-96 Off-Ramp	*Signalized*	24.4	C	21.1	C	26.4	C
Novi Road and EB I-96 Off-Ramp	*Signalized*	10.1	B	13.1	B	19.8	B
Novi Road and Crescent Boulevard	*Signalized*	10.9	B	29.1	C	32.6	C
Novi Road and Grand River Avenue	*Signalized*	52.5	D	**55.6**	**E**	**56.0**	**E**
Novi Road and Flint Street/Main Street	*Signalized*	13.1	B	12.0	B	11.1	B
Novi Road and Trans X Road (WB approach results shown)	*1-Way STOP*	14.7	B	18.4	C	20.8	C
Novi Road and US Post Office Driveway	*Signalized*	3.9	A	5.3	A	4.4	A
Novi Road and Ten Mile Road	*Signalized*	36.3	D	47.1	D	33.4	C
Grand River Avenue and Flint Street (NB approach results shown)	*1-Way STOP*	26.0	D	15.2	C	16.3	C
Grand River Avenue and Sixth Gate (NB approach results shown)	*1-Way STOP*	9.3	A	15.3	C	12.6	B
Grand River Avenue and Main Street/ Town Center Drive	*Signalized*	12.1	B	21.8	C	21.1	C
Grand River Avenue and Meadowbrook Road	*Signalized*	26.5	C	52.4	D	33.6	C
Eleven Mile Road and Town Center Drive	*4-Way STOP*	7.7	A	12.4	B	10.6	B
Main Street and Potomac	*3-Way STOP*	7.6	A	8.1	A	8.5	A

When comparing to Table 2, Table 3 shows that adjusting signal timings produced incremental improvements at some intersections, including the Novi Road/Westbound I-96 off-ramp and Novi Road/Grand River Avenue intersections. However, the Novi Road/Grand River Avenue intersection would still operate at a poor intersection overall LOS E during the weekday afternoon and Saturday midday peak-hours.

As shown in Figure 4 following the report text, several large turning movements would continue to operate at poor LOS during the three peak-hours, similar to existing conditions without mitigation measures.

3. Background (2028) Conditions

Section 3 contains an analysis of background year (2028) peak-hour traffic conditions – conditions for the projected opening year (2028) of all study area background developments, but without traffic generated by the future developments. Background conditions include estimated traffic from the background developments identified in Figure 1 and are used as a "baseline" from which impacts associated with the future developments can be quantified.

3.1 Background Traffic Volumes

The background traffic volumes (2028) were calculated based on an annual growth rate and adding traffic that is anticipated to be generated by proposed developments within the study area that have been identified by the City of Novi as having been approved or potentially anticipated to be approved in the near term, as indicated in Figure 1 as "background".

3.1.1 Annual Growth Rate

An annual traffic growth rate was used to estimate growth on the study area roadway network based on information provided by the Southeastern Michigan Council of Governments (SEMCOG). Generally, the study area roadway network has experienced a decline in traffic volumes since 2010. However, the population of the City of Novi is expected to increase by approximately 7.1% from the year 2015 to the build-out year of 2028. Further, SEMCOG population projections for Novi are only showing a 0.6% per year growth in population from 2015 to 2030. Based on the information, a conservative annual growth rate of 0.5% was applied to existing (2018) peak-hour volumes to determine background year (2028) peak-hour volumes. Organic growth is addressed via anticipated trip generation from the seven background developments and eight future developments, another reason for using the lower annual percent growth rate of 0.5% per year.

3.1.2 Previously Approved Developments

The City of Novi has identified seven developments within the study area as "background" developments based on their position within the site plan review process.

The Bond development (aka the District, aka Flint Street) is proposed as a mixed-use commercial/residential development including a total of 250 apartments and a 5,578 square foot retail center. The development is located on the southwest side of the existing Flint Street and plans to revitalize Flint Street with on-street parking and other features. The developer submitted a site-specific TIS to the City dated March 15, 2018. The TIS recommends providing permissive/protected left-turn phasing at all left-turn movements at the intersection of Grand River Avenue and Novi Road, providing a 70-second cycle length at the intersection of Novi Road and Flint Street to reduce minor street vehicle delays while maintaining coordination with adjacent 140-second cycle length signals, and to provide an exclusive left-turn lane for the eastbound approach at the intersection of Novi Road and Bond Street/Main Street.

The **Crowe Center** (aka Town Center Gardens) development is now built as a multi-use development consisting of a high-turnover sit-down restaurant, two specialty retail centers, and a medical-dental office. The 8,883 square foot building contains 2,340 square feet of restaurant, 3,041 square feet of retail, and 3,502 square feet for a possible dental office or other retail use. The development is located on the east side of Novi Road south of Crowe Drive. A TIS was not performed for this development; therefore, only site-generated traffic volumes will be added to background Synchro models for this development.

The **Homewood Suites** development is an 88-room hotel that is located east of Town Center Drive and north of 11 Mile Road. A TIS was not performed for this development; therefore, only site-generated traffic volumes will be added to background Synchro models for this development.

The **Learning Experience** development is a proposed 10,000 square foot daycare center that is located on the north side of 11 Mile Road and east of Town Center Drive. A TIS was not performed for this development; therefore, only site-generated traffic volumes will be added to background Synchro models for this development.

The **Huntley Manor** development is a proposed multi-family residential development consisting of 210 apartments. The development is located on the south side of Grand River Avenue to the west of Meadowbrook Road. A site-specific TIS was previously completed in November 2014.

The **Erhard Jaguar/Land Rover** development is a proposed automobile sales development that is located in the southwest corner of the intersection of Grand River Avenue and Meadowbrook Road. The development is comprised of a total of 58,663 square feet that will include both sales and service areas. A site-specific rezoning TIS was prepared for the previous Erhard BMW site and was submitted to the City on October 9, 2017. The TIS did not recommend any modifications; therefore, only site-generated traffic volumes have been added to background Synchro models for this development.

The **Emerson Park** development is a proposed multi-family residential development consisting of 120 units. The development is located on the west side of Novi Road and south of the USPS driveway. A TIS was performed for this development on February 6, 2017. The study suggested mitigation measures to include reducing the cycle length at the US Post Office Driveway to 60 seconds instead of 120 seconds to more effectively service side street traffic under existing conditions. A southbound right-turn taper lane at the proposed site driveway was also recommended as it met warrants.

3.1.3 Trip Generation

The proposed trip generation for the seven background developments is shown in **Table 4.**

Background (2028) trip generation determination for the weekday morning, afternoon, and Saturday midday peak-hours for the background developments was based on the methods of the ITE Trip Generation Manual. Trip generation was performed based on the methods of the *ITE Trip Generation Manual, 10th Edition*, published by the Institute of Transportation Engineers (ITE). The *ITE Trip Generation Manual* contains information on more than 4,800 trip generation studies nationwide for different land use purposes.

Pass-By Site Trips

It is anticipated that the shopping center in The Bond development will capitalize on the traffic volumes along Novi Road and Grand River Avenue by “capturing” customers passing by the location to/from work or other destinations. These trips are classified as “pass-by” trips, since they are already on the roadway network and enter the site as they drive past. While pass-by trips do not add new trips to the roadway network, they add turning movements at the site driveway locations.

For a shopping center land use, the ITE Trip Generation Handbook provides data for pass-by traffic for the weekday afternoon peak-hour and Saturday midday peak-hour, indicating an average pass-by rate of 35%.

Traffic generated by the proposed developments was used to measure the impact of the developments on the study area intersections for the background (2028) conditions.

Table 4 – Background (2028) Trip Generation

Development #	Development Name	Land Use Description	ITE Land Use	ITE LUC	Size	Units	Weekday AM Peak-Hour Trips			Weekday PM Peak-Hour Trips			Saturday Midday Peak-Hour Trips		
							Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
9	The Bond	retail space	**Shopping Center**	**820**	**6,000**	SF				33	35	**68**	35	32	**67**
			Less: Pass-by trips (35% PM peak-hour, 35% Saturday peak-hour)							-12	-12	**-24**	-12	-12	**-24**
		apartments	**Multi-Family Housing (MID-rise)**	**221**	**250**	units	22	62	**84**	65	42	**107**	54	56	**110**
		The Bond Development TOTAL (Net New)					**22**	**62**	**84**	**86**	**65**	**151**	**77**	**76**	**153**
10	Crowe Center	restaurant	**High-Turnover Sit-Down Restaurant**	**932**	**2,340**	SF	13	10	**23**	14	9	**23**	13	13	**26**
		specialty retail center	**Variety Store**	**814**	**3,041**	SF				11	10	**21**	11	10	**21**
		medical-dental office	**Medical-Dental Office**	**720**	**3,502**	SF	9	2	**11**	4	10	**14**	6	5	**11**
		Crowe Center Development TOTAL					**22**	**12**	**34**	**29**	**29**	**58**	**30**	**28**	**58**
11	Homewood Suites	suites hotel	**All Suites Hotel**	**311**	**88**	occ'd rooms	28	14	**42**	20	26	**46**	13	10	**23**
12	The Learning Experience	daycare	**Day Care Center**	**565**	**10,000**	SF	58	52	**110**	52	59	**111**	11	6	**17**
13	Huntley Manor	apartments	**Multi-Family Housing (low-rise)**	**220**	**210**	units	22	75	**97**	72	42	**114**	97	97	**194**
14	Erhard Auto Sales	auto sales	**Automobile Sales (New)**	**840**	**58,663**	SF	80	30	**110**	51	76	**127**	118	118	**236**
15	Emerson Park	multi-family housing	**Multi-Family Housing (low-rise)**	**220**	**123**	units	13	45	**58**	45	26	**71**	50	50	**100**
Total NET NEW Peak-Hour Trips							245	290	**535**	355	323	**678**	396	385	**781**
							AM Peak Hour			**PM Peak Hour**			**Sat Peak Hour**		

Source: ITE Trip Generation Manual, 10th Ed & ITE Trip Generation Handbook, 3rd Ed

Assumes no AM trip generation (not open)

As shown in Table 4, the proposed background developments are projected to generate:

- 535 net new trips (245 entering trips, 290 exiting trips) in the background (2028) weekday morning peak-hour
- 678 net new trips (355 entering trips, 323 exiting trips) in the background (2028) weekday afternoon peak-hour
- 781 net new trips (396 entering trips, 385 exiting trips) in the background (2028) build Saturday midday peak-hour

3.1.4 Trip Distribution and Traffic Assignment

Background development generated trips were assigned to the roadway network based on a methodology that considers traffic volumes entering and exiting the study area via the perimeter intersections. Trip distribution was calculated based on the total two-way trips to/from these perimeter intersections, with separate computations for each peak-hour, based on the respective peak-hour's two-way volumes. AECOM met with the City of Novi and the Road Commission of Oakland County (RCOC) on August 14, 2018 and received acceptance from the City and RCOC on the trip distribution methodology. Based on these two-way volumes at the perimeter intersections, perimeter trip distribution percentages are depicted in **Figure 5**.

The traffic generated by the seven background developments was assigned to the roadway network based on the determined trip distribution percentages. The total background development traffic that would be added to the roadway network is shown in Figure 5. Traffic volumes for each of the seven individual developments are shown separately in **Figures 5A to 5G**.

As shown in Figure 5, several turning movements in the study area will experience an increase in traffic due to trips generated by background developments. Significant increases include:

1. Westbound I-96 off-ramp left-turn at Novi Road
2. Southbound Novi Road left-turn at Grand River Avenue
3. Westbound Grand River Avenue left-turn at Novi Road
4. Northbound Meadowbrook Road left-turn at Grand River Avenue

3.2 Background (2028) Conditions Capacity Analysis

A capacity analysis was conducted for the study area intersections under background (2028) traffic conditions. The background (2028) analysis included two major changes to the study area roadway network. First, based on conversations with the City, it was assumed that the new Bond Street (replacing Flint Street) would be constructed in alignment with The Bond development in the southwest quadrant of Novi Road/Grand River Avenue. Second, it was assumed that Crescent Boulevard would be extended to Grand River Avenue, opposite Bond Street, to the west of Novi Road. It was also assumed that a new traffic signal would be installed at the new intersection of Grand River Avenue with Bond Street/Crescent Boulevard. This signal would be located approximately 1,000 feet west of the Novi Road/Grand River Avenue intersection. The existing Flint Street stub street that intersects with Grand River just west of Novi Road would remain in place. Refer to **Appendix C** for the Bond Street and Crescent Boulevard draft plans.

The background traffic volumes at Novi Road/Grand River Avenue were adjusted, as it is assumed that future traffic volumes would utilize the new Bond Street and Crescent Boulevard connections as “cut-thrus” to avoid congestion at the Novi Road/Grand River Avenue signal. Four turning movements were reassigned, as described, and previously approved by the City in the Flint Street Development Traffic Impact Study. The adjusted turning movements were as follows:

1. Northbound left-turn movement (5% reduction in traffic, shifted to Bond Street)
2. Eastbound right-turn movement (10% reduction in traffic, shifted to Bond Street)
3. Eastbound left-turn movement (5% reduction in traffic, shifted to Crescent Boulevard)
4. Southbound right-turn movement (10% reduction in traffic, shifted to Crescent Boulevard)

In addition, traffic counts were conducted at the two existing industrial driveways along the north side of Grand River Avenue at the Comau and General Filters developments. Traffic that currently accesses these developments directly from Grand River Avenue may utilize the new Crescent Boulevard connection (and Industrial Spur from Crescent Boulevard) in the future. Therefore, in the background analysis, applicable traffic to and from the east was reassigned to Crescent Boulevard and the Industrial Spur. Development traffic was reassigned based on existing turning movements at these driveways. For traffic travelling to/from the east on Grand River Avenue, it was assumed that 40% of this traffic was also to/from the north on Novi Road. Traffic assumed to be to/from the north on Novi Road was reassigned to the Novi Road/Crescent Boulevard intersection via Crescent Boulevard directly, and would thus bypass the Novi Road/Grand River Avenue intersection in the future.

The background (2028) conditions peak-hour intersection LOS results are shown in **Table 5**. The background (2028) conditions peak-hour traffic volumes and movement-by-movement LOS results are depicted in **Figure 6**. Capacity analysis reports from the *Synchro*® software for all intersections are included in **Appendix B-3**.

Table 5 – Background (2028) Conditions Intersection LOS Results

Intersection	Traffic Control	Weekday AM Peak-Hour		Weekday PM Peak-Hour		Saturday Midday Peak-Hour	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Novi Road and West Oaks Drive South	*Signalized*	14.9	B	30.8	C	43.4	D
Novi Road and WB I-96 Off-Ramp	*Signalized*	24.6	C	22.4	C	28.7	C
Novi Road and EB I-96 Off-Ramp	*Signalized*	10.4	B	14.1	B	22.4	C
Novi Road and Crescent Boulevard	*Signalized*	13.3	B	31.3	C	34.6	C
Novi Road and Grand River Avenue	*Signalized*	**72.5**	**E**	**72.7**	**E**	**88.3**	**F**
Novi Road and Bond Street/Main Street	*Signalized*	13.8	B	15.1	B	12.6	B
Novi Road and Trans X Road (WB approach results shown)	*1-Way STOP*	16.5	C	21.5	C	24.8	C
Novi Road and US Post Office Driveway	*Signalized*	3.7	A	5.2	A	4.3	A
Novi Road and Ten Mile Road	*Signalized*	37.8	D	54.2	D	36.6	D
Grand River Avenue and Bond Street/ Crescent Boulevard*	*Signalized**	7.0	A	11.0	B	8.0	A
Grand River Avenue and Sixth Gate (NB approach results shown)	*1-Way STOP*	9.7	A	20.2	C	16.1	C
Grand River Avenue and Main Street/ Town Center Drive	*Signalized*	13.4	B	25.3	C	23.5	C
Grand River Avenue and Meadowbrook Road	*Signalized*	27.9	C	**69.2**	**E**	42.0	D
Eleven Mile Road and Town Center Drive	*4-Way STOP*	8.6	A	15.4	B	11.3	B
Main Street and Potomac	*3-Way STOP*	7.7	A	8.2	A	8.6	A
Crescent Boulevard and Industrial Spur (EB approach results shown)	*1-Way STOP*	8.8	A	9.2	A	8.8	A

**Analysis assumes new traffic signal added at the Grand River Avenue intersection with Bond Street and Crescent Boulevard.*

As shown in Table 5, the background (2028) peak-hour capacity analysis shows that the Novi Road/Grand River Avenue intersection is projected to operate with a poor LOS during all three peak-hours. The intersection currently operates poorly during all three peak-hours, and intersection delay times are projected to increase when compared to existing conditions. In addition, the Grand River Avenue/Meadowbrook Road intersection is projected to operate poorly during the weekday afternoon peak-hour.

As shown on Figure 6, several large turning movements are projected to operate poorly under background (2018) conditions. Some of these movements are in addition to those occurring under existing conditions. These additional poorly operating movements include:

- At Novi Road/Grand River Avenue, the eastbound thru movement and the westbound right-turn movement.
- At Novi Road/Ten Mile Road, the westbound thru movement.
- At Grand River Avenue/Meadowbrook Road, the northbound left-turn movement.

4. Future (2028) Conditions

Section 4 contains an analysis of traffic conditions during the projected completion of all proposed developments (2028), including traffic generated by the future developments listed in Figure 1. Future conditions can be compared to background conditions to quantify the impact of the proposed developments.

4.1 Future Proposed Developments

The City of Novi is planning for the future development of eight different parcels within the study area network, in addition to those identified as “background”. With input from City Planning staff on expected projects and through discussions of potential land uses for vacant parcels, the future developments were assumed to include the following:

The **Adell Center** is proposed as a mixed-use development consisting of nine individual units. The development is located on the property of the former Novi Expo Center site west of Novi Road, south of I-96. The development is expected to have one main access point from Crescent Boulevard. The expected land uses for the site include:

- 180-Room Hotel
- 130-Room Business Hotel
- iFLY Indoor Skydiving (10,000 square feet)
- Health/Fitness Club (20,000 square feet)
- Carvana (7,500 square feet)
- Quality Restaurant (7,163 square feet)
- High-Turnover Sit-Down Restaurant (7,000 square feet)
- Open Space, Undeveloped Unit
- Existing Water Tower

The developer of the Adell Center provided trip generation estimates for each of the above land uses which were used as part of this study.

The **potential office/retail** space located at the southeast corner of Crescent Boulevard and Town Center Drive (currently an unused parking lot) is anticipated to be developed into general office use. A potential building size of 19,000 square feet was assumed for this parcel based on comparing the ratio of building-to-lot size (square footage) of similar general office buildings in Novi.

The **Main Street NW** parcel located on the east side of Novi Road, north of Main Street was assumed to be developed with a 6,000 square foot high-turnover sit-down restaurant. The size of the restaurant was determined based on comparing the ratio of building-to-lot size (square footage) of similar high-turnover sit-down restaurant in Novi.

The **Main Street North** parcel located on the north side of Main Street east of Novi Road was assumed to be a multi-family residential development consisting of 206 units. The development proposes on-street parking along Main Street and off-street parking north of the development. The development is assumed to have access to Main Street via a private drive on the west side of the site, east of the existing credit union as well as access to Grand River Avenue via Sixth Gate.

The **Asian Village** development is anticipated to be developed on the Anglin property on the north side of Grand River Avenue, east of Town Center Drive. The development may have up to three access points: one onto Grand River Avenue, one onto Town Center Drive and one along Eleven Mile Road. The potential land uses were based on publicly available news articles from Crain’s Detroit on 5/13/18 and ChinaDaily.com on 5/25/18. The following assumptions were used for the TIS analysis:

- 200 multi-family housing units
- 75,000 square foot shopping center (Lifestyle Center)
- 25,000 square foot food market
- 15,000 square feet of general office

The **Main Street Lofts** development is a multi-family residential development with 224 units. The parcel is located on the south side of Main Street, east of Novi Road. The development is proposed to have access points off of Main Street and Trans X Road.

The **City Park** development is proposed for the vacant parcel of land located on the east side of Novi Road and south side of Trans X Road. The park was assumed to be a public park and include a playground encompassing the 3.643 acres available. Access to the park was assume to be from Trans X Road.

The **Mirage Theater and Retail** development is located on the west side of Novi Road, north of Ten Mile Road. The land uses within the development include 20,000 square feet of retail, restaurants, or office uses and a 773 seat movie theater. The development was assumed to have two access points off of Novi Road.

4.2 Trip Generation

The proposed trip generation for the eight future developments is shown in **Table 6.** Traffic generated by the proposed developments was used to measure the impact of the developments on the study area intersections for the future (2028) conditions. Assumptions were made in cases where land use data was not available in the ITE Trip Generation Manual or data was provided from a recent trip generation analysis.

Future (2028) Trip Generation Assumptions (with development name in parentheses):

- iFly (Adell Center) – Saturday trips based on the Kimberley-Horn report appendix.
- Carvana (Adell Center) – Saturday data not available, assume same trips as weekday PM peak-hour.
- All land uses (Asian Village) - Crain's Detroit, 5/13/18 article; and China Daily.com 5/25/18 article http://www.ecns.cn/news/society/2018-05-25/detail-ifyuqkxh5546517.shtml
- Multi-family housing (Mainstreet Lofts) - Trips based on data in the AECOM 09/13/17 memorandum to the City
- Playground (City Park) - Very small city park, ITE Trip Generation 10th Edition does not compute trips for a park of this size. Nominal trips are assumed.
- Movie Theatre (Theatre & Retail) - Based on total number of seats

Pass-By Site Trips

As with The Bond background development, it is anticipated that future retail-oriented developments will capitalize on the traffic volumes along Novi Road and Grand River Avenue by “capturing” customers passing by the location to/from work or other destinations. While pass-by trips do not add new trips to the roadway network, they add turning movements at the site driveway locations.

Based on the ITE pass-by trip data, it is estimated that approximately 10% to 40% of peak-hour trips for each of the three peak-hours are pass-by trips for the retail-type land uses. **Table 7** summarizes the pass-by trip percentages for these applicable land uses.

Internal Site Trips

Some of the proposed developments will also attract internal trips. Internal trips are common between two or more trip generators on the same site, and are common for a development with adjacent businesses like the restaurant and hotel land uses in the Adell Center development. An internal trip occurs when a patron visits two or more land uses that can be accessed from the same parking area (i.e. there is no need to enter the main roadway when going from land use to land use).

For numerous land uses, the ITE Trip Generation Manual provides data for internal trips for selected peak-hours, including many of the land uses in the present study. Some of the land uses for the Adell Center, Asian Village, and the shopping center in the Mirage Theater and Retail development are of the types that involve internal trips. Based on the ITE internal trip data, it is estimated that approximately 10% to 30% of peak-hour trips for these land uses are internal trips. Table 7 summarizes the internal trip percentages for applicable land uses. For those land uses that show internal trip percentages in Table 7, their respective trips shown in Table 6 include this reduction in total trips based on their internal trip percentage.

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Table 6 – Future (2028) Trip Generation

Development #	Development Name	Land Use Description	ITE Land Use	ITE LUC	Size	Units	Weekday AM Peak-Hour Trips			Weekday PM Peak-Hour Trips			Saturday Peak-Hour Trips		
							Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
1	Adell Center	Hotel	**Hotel**	**310**	**180**	rooms	50	35	**85**	50	48	**98**	65	51	**116**
		Business Hotel	**Business Hotel**	**312**	**130**	rooms	21	30	**51**	21	17	**38**	25	27	**52**
		I-Fly (indoor skydiving)	**none**	**n/a**	**10,000**	SF	4	0	**4**	24	22	**46**	27	37	**64**
		Health / Fitness Club	**Health / Fitness Club**	**492**	**20,000**	SF	13	13	**26**	39	30	**69**	31	33	**64**
		Carvana (on-line used car dealer)	**none**	**n/a**	**7,500**	SF	6	6	**12**	6	6	**12**	6	6	**12**
		Quality Restaurant	**Quality Restaurant**	**931**	**7,163**	SF	4	1	**5**	34	16	**50**	40	28	**68**
		Hi-Turnover Restaurant	**High-Turnover Sit-Down Restaurant**	**932**	**7,000**	SF	4	1	**5**	38	23	**61**	36	34	**70**
2	currently unused parking lot	General Office	**General Office**	**710**	**19,000**	SF	38	6	**44**	4	20	**24**	5	5	**10**
3	Main Street NW	Restaurant	**High-Turnover Sit-Down Restaurant**	**932**	**6,000**	SF	33	27	**60**	36	23	**59**	34	33	**67**
4	Main Street North	Residential	**Multi-Family Housing (Mid-Rise)**	**221**	**206**	units	18	51	**69**	54	35	**89**	45	48	**93**
5	Asian Village (mixed use)	Residential	**Multi-Family Housing (Mid-Rise)**	**221**	**200**	units	18	50	**68**	52	34	**86**	44	47	**91**
		Lifestyle Center	**Shopping Center**	**820**	**75,000**	SF	88	46	**134**	74	84	**158**	30	26	**56**
		Food Market	**Supermarket**	**850**	**25,000**	SF	49	33	**82**	113	109	**222**	92	89	**181**
		Office	**General Office**	**710**	**15,000**	SF	35	6	**41**	3	16	**19**	4	4	**8**
6	Mainstreet Lofts		**Multi-Family Housing (Mid-Rise)**	**221**	**224**	units	19	56	**75**	59	37	**96**	49	52	**101**
7	City Park	playground	**Public Park**	**411**	**3.643**	acres				5	5	**10**	10	10	**20**
8	Theater & Retail (see Mirage Cinema Development info)	Theater	**Movie Theater**	**445**	**773**	seats				22	40	**62**	50	20	**70**
		Shopping Center	**Shopping Center**	**820**	**20,000**	SF				79	86	**165**	47	43	**90**
Total NET NEW Peak-Hour Trips							400	361	**761**	713	651	**1364**	640	593	**1233**
							AM Peak Hour			**PM Peak Hour**			**Sat Peak Hour**		

Source: ITE Trip Generation Manual, 10th Ed & ITE Trip Generation Handbook, 3rd Ed

Assumes no AM trip gen (not open)

Table 7 – Future (2028) Pass-By and Internal Trips

							Pass-By Trip Percentages			Internal Trip Percentages		
Development #	Development Name	Land Use Description	ITE Land Use	ITE LUC	Size	Units	AM	PM	SAT	AM	PM	SAT
1	Adell Center	Hotel	**Hotel**	**310**	**180**	rooms					10%	10%
		Business Hotel	**Business Hotel**	**312**	**130**	rooms					10%	10%
		iFly (indoor skydiving)	**none**	**n/a**	**10,000**	SF					15%	15%
		Health / Fitness Club	**Health / Fitness Club**	**492**	**20,000**	SF						
		Carvana (on-line used car dealer)	**none**	**n/a**	**7,500**	SF						
		Quality Restaurant	**Quality Restaurant**	**931**	**7,163**	SF		40%	30%		10%	10%
		Hi-Turnover Restaurant	**High-Turnover Sit-Down Restaurant**	**932**	**7,000**	SF		40%	30%		10%	10%
2	currently unused parking lot	General Office	**General Office**	**710**	**19,000**	SF						
3	Main Street NW	Restaurant	**High-Turnover Sit-Down Restaurant**	**932**	**6,000**	SF	20%	40%	30%			
4	Main Street North	Residential	**Multi-Family Housing (Mid-Rise)**	**221**	**206**	units						
5	Asian Village (mixed use)	Residential	**Multi-Family Housing (Mid-Rise)**	**221**	**200**	units						
		Lifestyle Center	**Shopping Center**	**820**	**75,000**	SF	10%	30%	20%	15%	20%	30%
		Food Market	**Supermarket**	**850**	**25,000**	SF	10%	30%	20%	15%	20%	30%
		Office	**General Office**	**710**	**15,000**	SF						
6	Mainstreet Lofts		**Multi-Family Housing (Mid-Rise)**	**221**	**224**	units						
7	City Park	playground	**Public Park**	**411**	**3.643**	acres						
8	Theater & Retail (Mirage Cinema Development info)	Theater	**Movie Theater**	**445**	**773**	seats					10%	10%
		Shopping Center	**Shopping Center**	**820**	**20,000**	SF		30%	20%		10%	10%

Source: ITE Trip Generation Manual, 10th Ed & ITE Trip Generation Handbook, 3rd Ed

Assumes pass-by trips for these land uses are not applicable.

4.3 Trip Distribution and Traffic Assignment

Future development generated trips were assigned to the roadway network using the same distribution percentages assumed for the background development trips. The traffic generated by the eight future developments was assigned to the roadway network based on the determined trip distribution percentages. The total future development traffic that would be added to the roadway network is shown in **Figure 7**. Traffic volumes for each of the eight individual developments are shown separately in **Figures 7A to 7H**.

As shown in Figure 7, several turning movements in the study area will experience an increase in traffic due to trips generated by future developments. Significant increases include:

1. Westbound I-96 off-ramp left-turn movement at Novi Road
2. Southbound Novi Road thru movement at Grand River Avenue
3. Northbound Novi Road thru movement at Grand River Avenue

4.4 Future (2028) Conditions Capacity Analysis

A capacity analysis was conducted for the study area intersections under future (2028) traffic conditions. The future (2028) analysis did not include any additional changes to the roadway network, beyond the Bond Street and Crescent Boulevard new ring road improvements that were introduced in the background (2028) analysis. The future analysis did consider "cut-thru" traffic avoiding congestion at the Novi Road/Grand River Avenue signal.

The future (2028) conditions peak-hour intersection LOS results are shown in **Table 8**. The future (2028) conditions peak-hour traffic volumes and movement-by-movement LOS results are depicted in **Figure 8**. Capacity analysis reports from the *Synchro*® software for all intersections are included in **Appendix B-4**.

Table 8 – Future (2028) Conditions Intersection LOS Results

Intersection	Traffic Control	Weekday AM Peak-Hour		Weekday PM Peak-Hour		Saturday Midday Peak-Hour	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Novi Road and West Oaks Drive South	*Signalized*	14.7	B	30.9	C	44.6	D
Novi Road and WB I-96 Off-Ramp	*Signalized*	24.8	C	22.8	C	31.9	C
Novi Road and EB I-96 Off-Ramp	*Signalized*	10.4	B	14.8	B	25.9	C
Novi Road and Crescent Boulevard	*Signalized*	16.6	B	35.6	D	40.7	D
Novi Road and Grand River Avenue	*Signalized*	**100.3**	**F**	**111.7**	**F**	**133.6**	**F**
Novi Road and Bond Street/Main Street	*Signalized*	19.8	B	18.9	B	15.2	B
Novi Road and Trans X Road (WB approach results shown)	*1-Way STOP*	18.2	C	27.5	D	27.0	D
Novi Road and US Post Office Driveway	*Signalized*	3.5	A	4.9	A	4.2	A
Novi Road and Ten Mile Road	*Signalized*	39.8	D	**69.0**	**E**	40.9	D
Grand River Avenue and Bond Street/ Crescent Boulevard*	*Signalized**	9.8	A	16.7	B	13.4	B
Grand River Avenue and Sixth Gate (NB approach results shown)	*1-Way STOP*	13.3	B	30.8	D	34.7	D
Grand River Avenue and Main Street/ Town Center Drive	*Signalized*	15.7	B	34.6	C	29.5	C
Grand River Avenue and Meadowbrook Road	*Signalized*	28.6	C	**83.2**	**F**	47.9	D
Eleven Mile Road and Town Center Drive	*4-Way STOP*	9.1	A	17.3	C	11.8	B
Main Street and Potomac	*3-Way STOP*	7.9	A	8.5	A	9.0	A
Crescent Boulevard and Industrial Spur (EB approach results shown)	*1-Way STOP*	9.2	A	9.9	A	9.6	A

**Analysis assumes new traffic signal added at the Grand River Avenue intersection with Bond Street and Crescent Boulevard.*

As shown in Table 8, the future (2028) peak-hour capacity analysis shows that the Novi Road/Grand River Avenue intersection is projected to operate with a poor LOS F during all three peak-hours, as is the case with the existing and background conditions. In addition, the Novi Road/Ten Mile Road and Grand River Avenue/Meadowbrook Road intersections are projected to operate poorly during the weekday afternoon peak-hour. The Grand River

Avenue/Meadowbrook Road intersection was already projected to operate poorly during the weekday afternoon peak-hour under background conditions.

As shown on Figure 8, several large turning movements are projected to operate poorly under future (2028) conditions. Some of these movements are in addition to those occurring under existing and background conditions. These additional poorly operating movements include:

- At Novi Road/Crescent Boulevard, the eastbound left-turn movement.
- At Grand River Avenue/Crescent Boulevard, the southbound left-turn movement.
- At Novi Road/Grand River Avenue, the southbound thru and right-turn movements.
- At Novi Road/Ten Mile Road, the southbound thru and right-turn movements.

5. Potential Future Mitigation

Section 5 contains a discussion of potential mitigation options that could improve the operation of intersections and traffic movements that are projected to operate poorly under future (2028) conditions after all study developments are implemented. Varying levels of mitigation options were examined based on input from the City. The mitigation recommendations were grouped into the following 'categories':

1. Signal timing adjustments
2. Traffic diversion via Taft Road and potential Fountain Walk Avenue connections
3. Roadway improvements within existing rights-of-way
4. Transit opportunities

5.1 Signal Timing Adjustments

The potential mitigation solution that is least expensive, and least invasive, is to adjust signal timings at the study area intersections. The signals in the study area currently operate on RCOC's SCATS system. The SCATS system produces traffic-responsive signal timings that adjust in real time based on the traffic volumes. The system provides for coordinated timings between signals along the Novi Road and Grand River Avenue corridors. Since the signal system already operates fully-actuated in real time, there is very little potential to improving signal operations based on signal timings alone. However, an existing timing optimization analysis was conducted to review if signal timing adjustments could improve operations. AECOM tested split adjustments at intersections with poorly operating traffic movements. Some small improvements were achieved by using timing adjustments as a mitigation measure.

An analysis of signal timing adjustments for future conditions produced incremental improvements for a few large traffic movements in the study area. These movements include:

- At Novi Road/Westbound I-96 off-ramp, the westbound left-turn movement.
- At Novi Road/Crescent Boulevard, the eastbound left-turn movement.
- At Novi Road/Ten Mile Road, the eastbound and northbound left-turn movements.

The signal timing adjustment opportunities will be coordinated with the RCOC and considered for implementation, as deemed necessary.

5.2 Taft Road/Fountain Walk Avenue Connection

A good portion of traffic utilizing the Novi Road and Grand River Avenue corridors is travelling to and from the West Oaks and Twelve Oaks shopping centers on the north side of I-96. Similarly, it is assumed that a significant portion of the traffic within the study area is traveling between the residential areas to the south and west of the study area to the shopping districts and freeway interchange within the study area. Therefore, an alternative connection between the two areas could be considered. The connection of Taft Road over the I-96 expressway, and a subsequent connection of Fountain Walk Avenue to Taft Road over the railroad (and up to Twelve Mile Road), as shown in the City's Master Plan,

could provide another point of access to these shopping centers and freeway interface from the residential areas of Novi to the south and west. Refer to **Figure 9** for a schematic concept drawing. These connections could ease the traffic burden placed on Novi Road and Grand River Avenue in the Town Center vicinity, including specific traffic movements such as the eastbound Grand River Avenue left-turn onto northbound Novi Road and the southbound Novi Road right-turn onto westbound Grand River Avenue. Similarly, these connection roadways could ease the burden on the eastbound Ten Mile Road left-turn onto northbound Novi Road, and the southbound Novi Road right-turn onto westbound Ten Mile Road.

Connection of these roadways would incur a significant cost. However, these costs would be on par with purchasing right-of-way along the Novi Road corridor that may be required to otherwise increase capacity of the corridor.

The future (2028) condition capacity analysis showed that three study area intersections are projected to operate over capacity. A preliminary diversion analysis was conducted to determine what level of traffic would need to be diverted away from the study area to allow these intersections to operate within capacity in the future. This iterative analysis showed the following diversions would be required:

1. Novi Road/Grand River Avenue – 25% diversion required under AM, PM and Saturday peak periods
2. Novi Road/Ten Mile Road – 10% diversion required under the PM peak period
3. Grand River Avenue/Meadowbrook Road – 15% diversion required under the PM peak period

A more detailed analysis, such as an origin-destination study, would need to be conducted to determine the extent of traffic in the study area travelling to/from the southwest portion of the city to the West Oaks and Twelve Oaks shopping centers or I-96/Novi Road interchange and would therefore be inclined to utilize the alternative Taft Road (and/or subsequent Fountain Walk Avenue) connections. However, it would seem that a 25% diversion may be ambitious, and that alternative mitigation measures should be examined as well.

5.3 Potential Roadway Improvements

Roadway improvements at key locations could provide the additional capacity to allow the study area intersections to operate acceptably in the future. However, some improvements would incur large costs in acquiring additional right-of-way. Based on the projected poorly operating intersections and traffic movements in the future, the following roadway improvements should be considered.

Novi Road/Grand River Avenue – add dual left-turn lanes on all approaches, and a southbound right-turn lane.

This intersection operates over capacity during all three peak periods under existing conditions, and the addition of traffic generated by future developments worsens this situation. The existing left-turn volumes at this intersection are 140 vehicle or higher during the peak-hours. The eastbound left-turn movement is currently 420 vehicles during the weekday morning peak-hour. All four left-turn movements are projected to be more than 200 vehicles during at least one peak-hour under future (2028) conditions.

In addition, the southbound right-turn movement is currently 300 vehicles during the Saturday midday peak-hour. Despite this being the largest right-turn movement at the intersection, there is no southbound right-turn lane at this intersection. The addition of a southbound right-turn lane, with overlapping right-turn green arrow operation, would improve the operation of this intersection. Refer to **Figure 10A** for a concept map showing these improvements.

However, the recommended improvements at this intersection are restricted by limited right-of-way in all four quadrants of this intersection. Purchase of the necessary right-of-way would be costly and invasive to existing businesses at this intersection. Therefore, widening of this intersection does not appear to be feasible and, therefore, was not included as part of the capacity analysis.

Novi Road/Ten Mile Road – add dual left-turn lanes on all approaches, and a southbound right-turn lane.

This intersection is projected to operate over capacity during the weekday afternoon peak-hour under future conditions. The same capacity issues that occur at Novi Road/Grand River Avenue, also occur at this intersection but to a lesser extent.

Four-way dual left-turn lanes, plus a southbound right-turn lane would allow this intersection to operate acceptably under future conditions. Unlike the Grand River Avenue intersection, this intersection appears to have sufficient right-of-way to accommodate widening of the intersection, therefore these recommendations are included in the capacity analysis. Refer to **Figure 10B** for a concept map showing these improvements.

The Ten Mile corridor from Napier Road to Haggerty Road is currently being reviewed under a separate study. If Ten Mile Road were to be widened in the future, the intersection of Novi Road at Ten Mile Road could be enhanced with suggested mitigation measures at the same time.

Grand River Avenue/Meadowbrook Road – add northbound dual left-turn lanes

Under future traffic conditions, the northbound Meadowbrook Road left-turn movement at Grand River Avenue is projected to contain approximately 300 vehicles during the weekday afternoon and Saturday midday peak-hours. This is an increase from approximately 180-190 vehicles under existing conditions. This projected increase is due to the proposed developments near this intersection. Dual northbound left-turn lanes could allow this intersection to operate acceptably under future conditions. This recommendation is included in the capacity analysis. Refer to **Figure 10C** for a concept map showing these improvements.

Grand River Avenue/Main Street/Town Center Drive – add north/south right-turn green arrows to signal

The northbound and southbound right-turn movements at this intersection are both projected to have increased traffic volumes due to proposed future developments in the area. The addition of right-turn green arrows would be a relatively easy addition, as the north/south approaches already have exclusive right-turn lanes, and the right-turn green arrows could operate as overlaps to the existing east/west Grand River Avenue left-turn phases. This recommendation is included in the capacity analysis. Refer to **Figure 10D** for a concept map showing these improvements.

Grand River Avenue – widen to five lanes from Meadowbrook Road to Novi Road

The projected increase in development along Grand River Avenue between Main Street/Town Center Drive and Meadowbrook Road would lend itself to a future roadway widening. Many of the parcels in this area are currently undeveloped. Grand River Avenue currently has a variable cross-section ranging from three lanes to five lanes along this stretch of roadway, including some extended right-turn bays or deceleration lanes. Therefore, the roadway widening would not be extensive along a good portion of this section. There appears to be ample right-of-way to accommodate this widening. The second eastbound Grand River Avenue thru lane could be constructed as a right-turn lane at Meadowbrook Road, so no widening would be necessary to the east of Meadowbrook Road. This recommendation is included in the capacity analysis. Refer to **Figure 10D** for a concept map showing these improvements.

5.4 Transit Opportunities

Another option for potentially improving traffic operations within the area is to provide alternate ride-sharing opportunities for motorists, which would in turn reduce the number of individual trips on the roadway network. Ride-share opportunities could include services such as Uber, Lyft, autonomous shuttles, transit connectors, etc. The City has expressed interest in exploring transit connector options between the shopping districts to the north and south of the I-96 freeway, as recommended in the 2016 Thoroughfare Master Plan. Additional transit connections could be explored beyond the immediate study area to capture some repetitive and recurring trips between various locations such as large residential populations, the Providence Park hospital or the Suburban Collection Showplace. In order to assess the practicality of transit solutions, the City could consider conducting an origin-destination study to determine where potential transit stop locations may fit and the volume of customers that may be expected to utilize the systems. Ride-sharing and transit opportunity impacts were not included in the capacity analysis of this study.

5.5 Future (2028) Conditions Capacity Analysis (with Mitigation)

A capacity analysis was conducted for the study area intersections under future (2028) traffic conditions with recommended roadway improvements in place. The capacity analysis included all of the roadway improvements listed in the previous section, except for suggestions at the intersection of Novi Road and Grand River Avenue due to right-

of-way limitations, and as directed by the City. The capacity analysis included timing changes to account for laneage modifications included in the mitigation recommendations.

The future (2028) conditions (with mitigation) peak-hour intersection LOS results are shown in **Table 9**. The future (2028) conditions (with mitigation) peak-hour traffic volumes and movement-by-movement LOS results are depicted in **Figure 11**. Capacity analysis reports from the *Synchro*® software for all intersections are included in **Appendix B-5**.

Table 9 – Future (2028) Conditions (with Mitigation) Intersection LOS Results

Intersection	Traffic Control	Weekday AM Peak-Hour		Weekday PM Peak-Hour		Saturday Midday Peak-Hour	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Novi Road and West Oaks Drive South	*Signalized*	14.6	B	30.7	C	43.9	D
Novi Road and WB I-96 Off-Ramp	*Signalized*	25.4	C	23.3	C	29.9	C
Novi Road and EB I-96 Off-Ramp	*Signalized*	10.4	B	15.2	B	25.3	C
Novi Road and Crescent Boulevard	*Signalized*	19.0	B	35.0	C	36.5	D
Novi Road and Grand River Avenue	*Signalized*	**95.8**	**F**	**95.0**	**F**	**103.5**	**F**
Novi Road and Bond Street/Main Street	*Signalized*	19.7	B	19.0	B	15.2	B
Novi Road and Trans X Road (WB approach results shown)	*1-Way STOP*	18.2	C	27.5	D	27.0	D
Novi Road and US Post Office Driveway	*Signalized*	3.5	A	4.9	A	4.1	A
Novi Road and Ten Mile Road	*Signalized*	40.6	D	47.6	D	36.8	D
Grand River Avenue and Bond Street/ Crescent Boulevard	*Signalized*	9.9	A	15.9	B	13.8	B
Grand River Avenue and Sixth Gate (NB approach results shown)	*1-Way STOP*	12.5	B	12.9	B	12.8	B
Grand River Avenue and Main Street/ Town Center Drive	*Signalized*	14.9	B	27.3	C	26.2	C
Grand River Avenue and Meadowbrook Road	*Signalized*	31.7	C	44.9	D	36.0	D
Eleven Mile Road and Town Center Drive	*4-Way STOP*	9.1	A	17.3	C	11.8	B
Main Street and Potomac	*3-Way STOP*	7.9	A	8.5	A	9.0	A
Crescent Boulevard and Industrial Spur (EB approach results shown)	*1-Way STOP*	9.2	A	9.9	A	9.6	A

As shown in Table 9, with roadway modifications (and corresponding signal timing adjustments) included in the future conditions analysis, the Novi Road/Ten Mile Road and Grand River Avenue/Meadowbrook Road intersections are both projected to operate with improved (and acceptable) intersection LOS during the weekday afternoon peak-hour. However, the Novi Road/Grand River Avenue intersection is still projected to operate poorly during all three peak-hours.

As shown on Figure 11, many poorly operating turning movements are projected to operate with improved LOS, with roadway improvements assumed to be in place. This is primarily true at the Novi Road/Ten Mile Road and Grand River Avenue/Meadowbrook Road intersections.

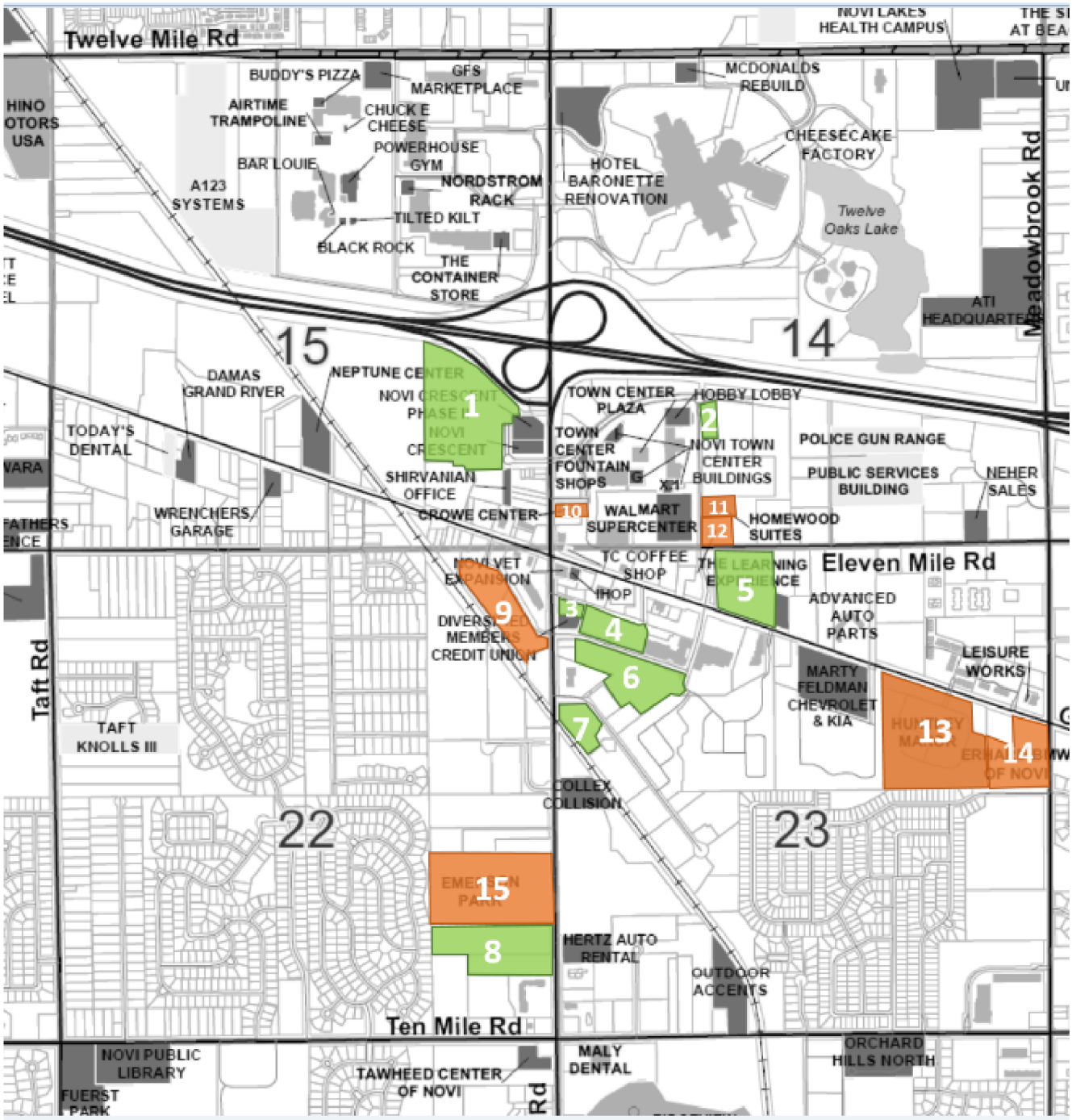
6. Conclusions

The large Town Center area within the city of Novi is expected to experience additional development over the next ten years. The study examined the traffic operations of the roadways during existing (2018) conditions, and with the anticipated traffic impacts of 15 background and future developments in the horizon year of 2028. The analysis concluded that the intersection of Novi Road and Grand River Avenue operates with an unacceptable LOS under

existing conditions. Additionally, several other individual turning movements operate poorly within the study area under existing conditions. Signal timing adjustments show incremental improvements; however, because of the existing operation of RCOC's SCATS system, signal timing impacts are minimal.

The addition of background and future development traffic will impact the study area intersections and cause additional intersections to operate below acceptable LOS, including Novi Road/Ten Mile Road and Grand River Avenue/Meadowbrook Road. Several individual turning movements are projected to operate poorly under future (2028) conditions as well.

The study offers varying levels of mitigation opportunities including signal timing adjustments, lane additions, roadway connections over the I-96 expressway, and local transit services. The signal timing and lane adjustments were analyzed as part of this study, as discussed in Section 5. The Taft Road/Fountain Walk Avenue connections and transit opportunities were discussed qualitatively because additional investigation is required to determine the effectiveness and feasibility of those solutions. Implementation of the mitigation measures as discussed in Section 5 could result in improved intersection LOS to acceptable levels at all study intersections, except for the intersection of Novi Road and Grand River Avenue where right-of-way is limited and other options should be considered.



Future Developments

1 – Adell Center
2 – Potential Retail/Office
3 – Main Street NW
4 – Main Street North
5 – Asian Village
6 – Mainstreet Lofts
7 – City Park
8 – Mirage Theater & Retail

Background Developments

9 – The Bond Development
10 – Crowe Center
11 – Homewood Suites
12 – The Learning Experience
13 – Huntley Manor
14 – Erhard Jaguar/Land Rover
15 – Emerson Park

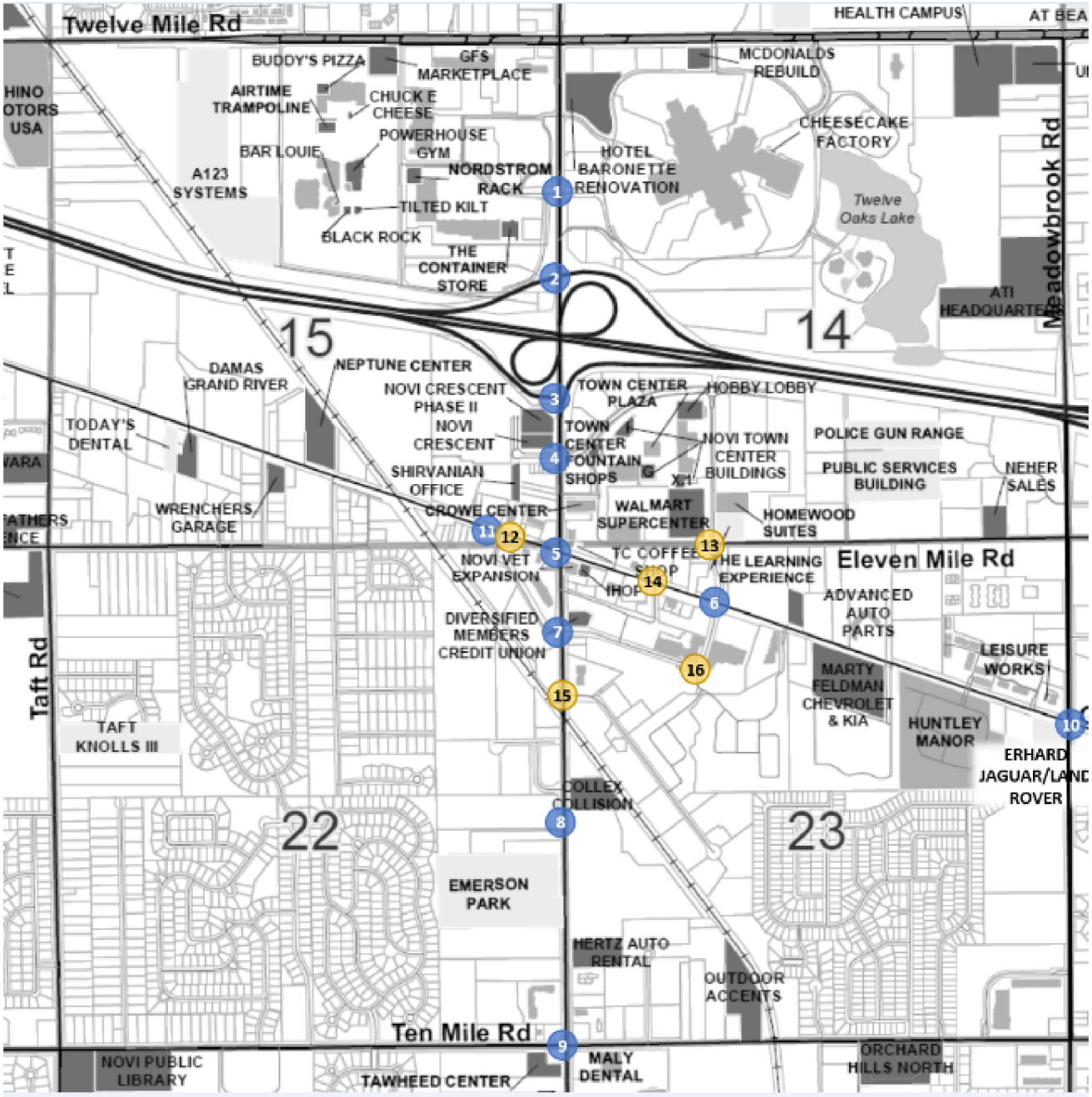
NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

AECOM

STUDY AREA DEVELOPMENTS

FIGURE 1

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-1_Study Area Developments



Signalized Study Intersections

1 – Novi Road and West Oaks Dr S
2 – Novi Road and WB I-96 Off Ramp
3 – Novi Road and EB I-96 Off Ramp
4 – Novi Road and Crescent Boulevard
5 – Novi Road and Grand River Avenue
6 – Grand River Avenue and Main Street
7 – Novi Road and Flint Street/Main Street
8 – Novi Road and Post Office Driveway
9 – Novi Road and Ten Mile Road
10 – Grand River Avenue and Meadowbrook
11 – Grand River Avenue and Crescent Blvd/Flint Street (proposed)

Unsignalized Study Intersections

12 – Grand River Avenue and existing Flint Street
13 – Eleven Mile Road and Town Center Dr
14 – Grand River Avenue and Sixth Gate
15 – Novi Road and Trans X
16 – Main Street and Main Street/Potomac

*Additional site driveways will be included as necessary for purposes of identifying mitigation measures.

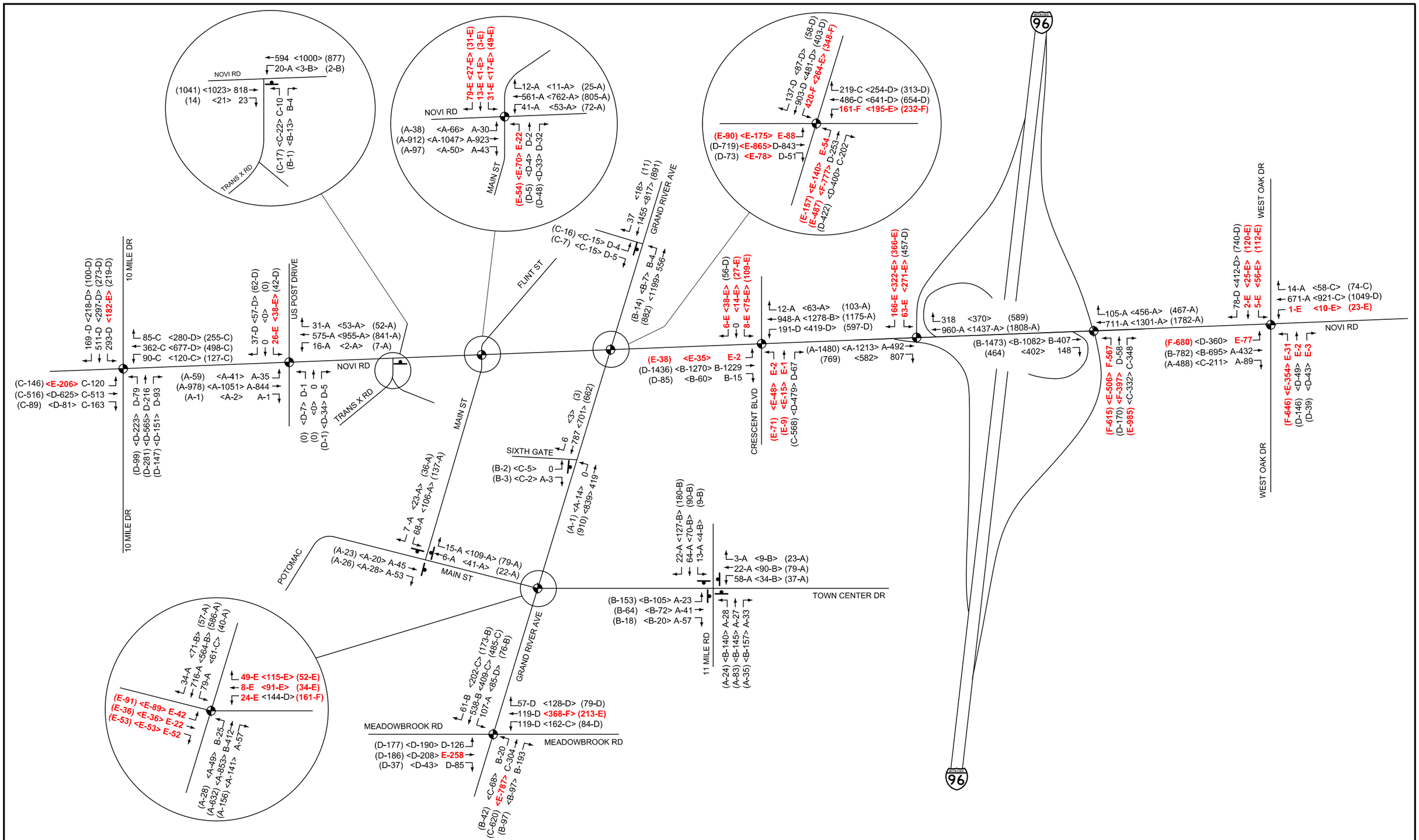
NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

AECOM

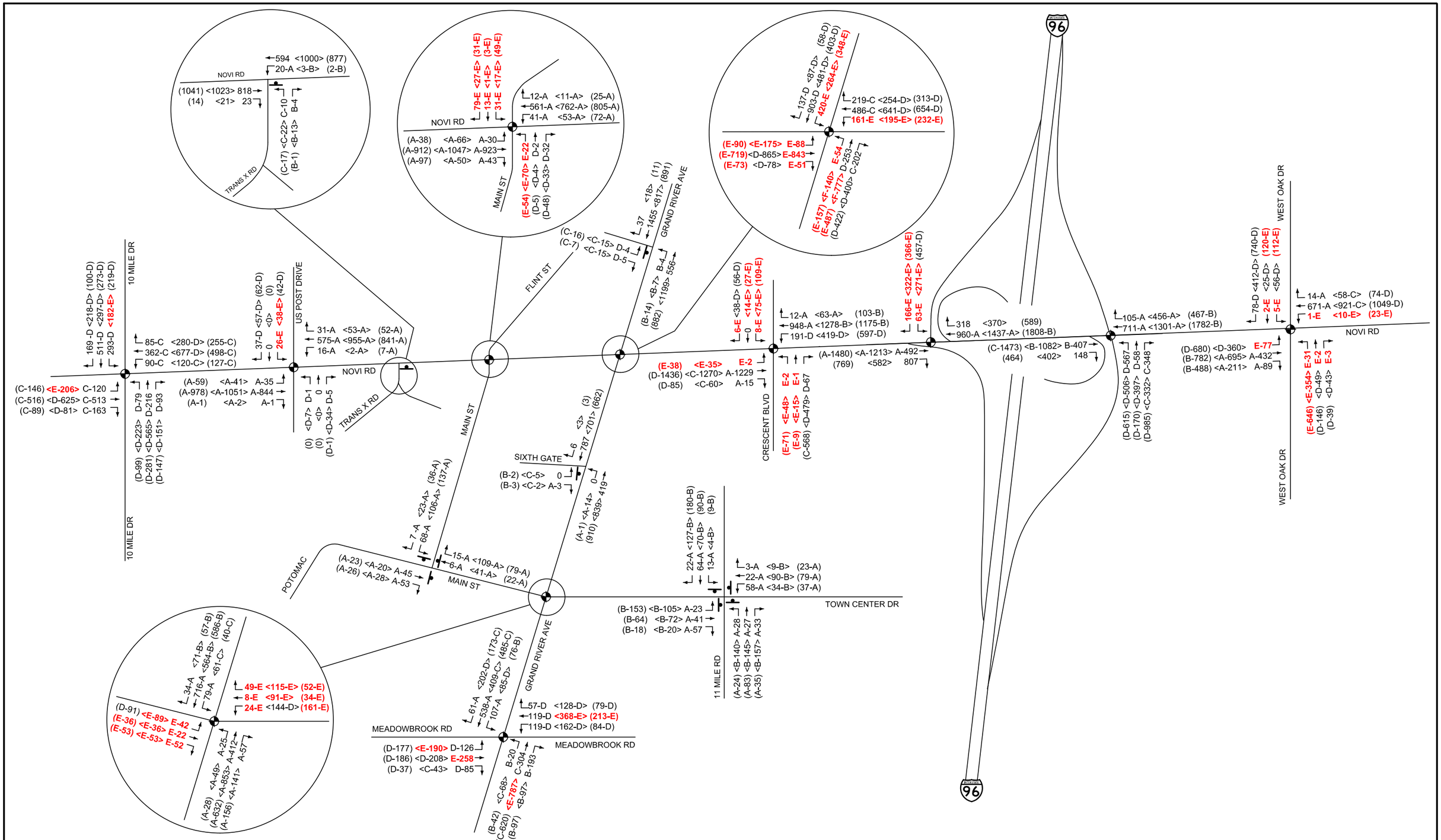
STUDY AREA INTERSECTIONS

FIGURE 2

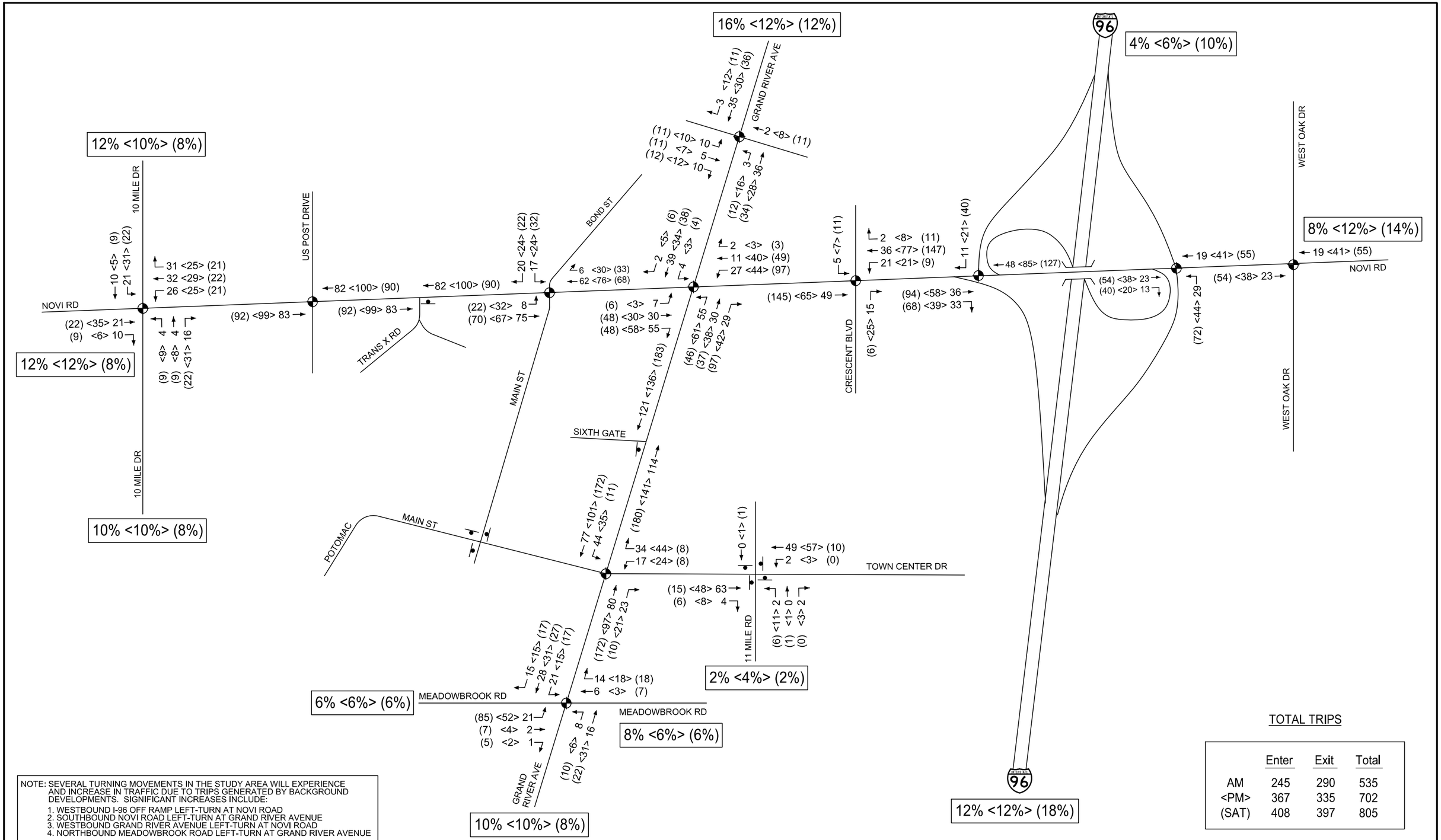
G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-2_Study Area Intersections



	LEGEND	NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY	
AECOM	- TRAFFIC SIGNAL - STOP SIGN - LANE MOVEMENT XXX-X - AM-PEAK WEEKDAY TRAFFIC VOLUME & LOS <XXX-X> - PM-PEAK WEEKDAY TRAFFIC VOLUME & LOS (XXX-X) - SATURDAY PEAK TRAFFIC VOLUME & LOS	EXISTING (2018) AM, PM AND SATURDAY PEAK-HOUR VOLUMES AND LEVELS OF SERVICE	FIGURE 3



	LEGEND	NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY	
AECOM	- TRAFFIC SIGNAL - STOP SIGN - LANE MOVEMENT XXX-X - AM-PEAK WEEKDAY TRAFFIC VOLUME & LOS <XXX-X> - PM-PEAK WEEKDAY TRAFFIC VOLUME & LOS (XXX-X) - SATURDAY PEAK TRAFFIC VOLUME & LOS	EXISTING (2018) AM, PM AND SATURDAY PEAK-HOUR VOLUMES AND LEVELS OF SERVICE (W/MITIGATION)	FIGURE 4



NOTE: SEVERAL TURNING MOVEMENTS IN THE STUDY AREA WILL EXPERIENCE AND INCREASE IN TRAFFIC DUE TO TRIPS GENERATED BY BACKGROUND DEVELOPMENTS. SIGNIFICANT INCREASES INCLUDE:

1. WESTBOUND I-96 OFF RAMP LEFT-TURN AT NOVI ROAD
2. SOUTHBOUND NOVI ROAD LEFT-TURN AT GRAND RIVER AVENUE
3. WESTBOUND GRAND RIVER AVENUE LEFT-TURN AT NOVI ROAD
4. NORTHBOUND MEADOWBROOK ROAD LEFT-TURN AT GRAND RIVER AVENUE

TOTAL TRIPS

	Enter	Exit	Total
AM	245	290	535
<PM>	367	335	702
(SAT)	408	397	805

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

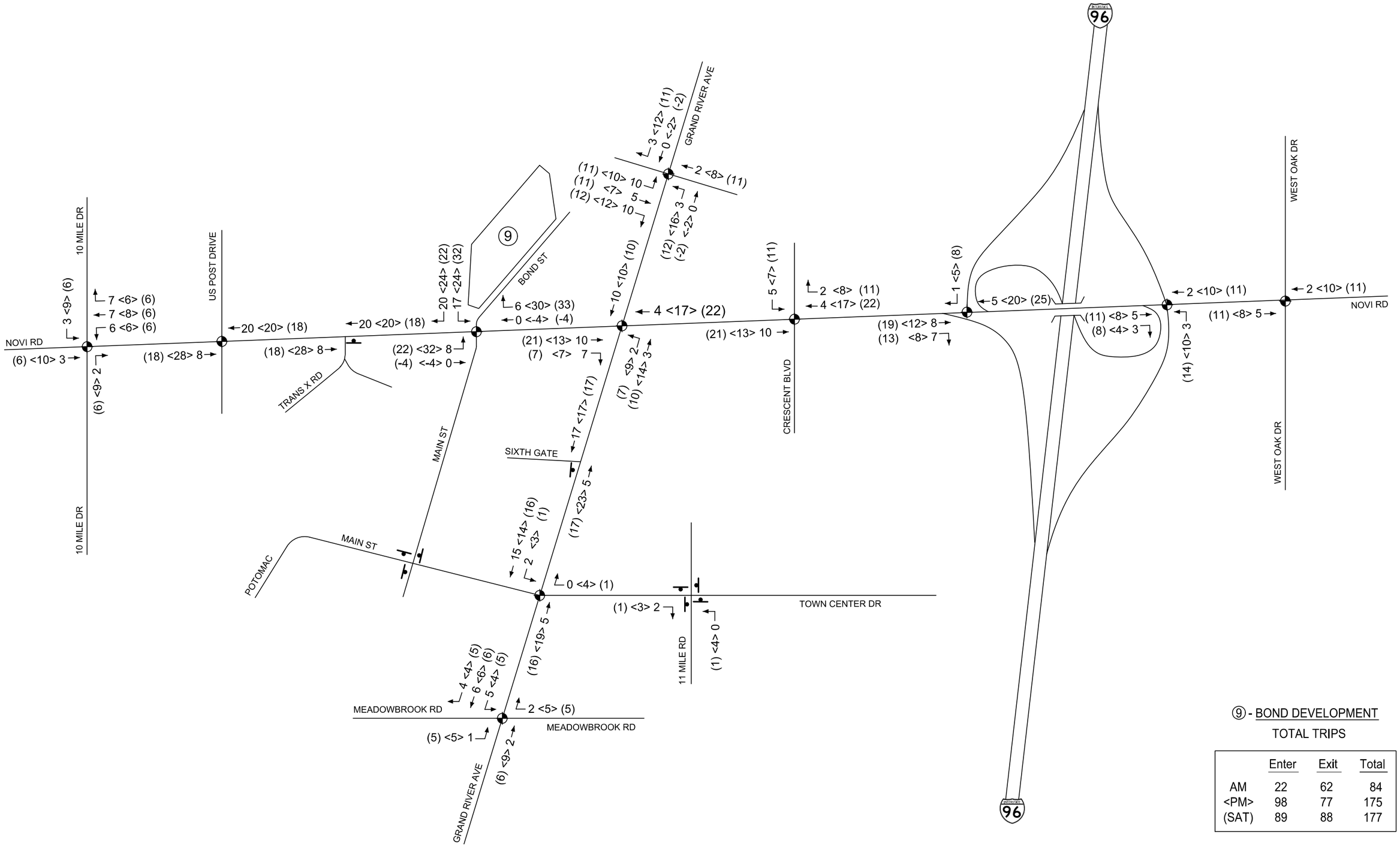
AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

2028 BACKGROUND DEVELOPMENT TRIP GENERATION AND DISTRIBUTION

FIGURE 5

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-5_BKGD DEVELOPMENT TOTAL GENERATED VOLUMES



⑨ - BOND DEVELOPMENT

TOTAL TRIPS

	Enter	Exit	Total
AM	22	62	84
<PM>	98	77	175
(SAT)	89	88	177

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME

<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME

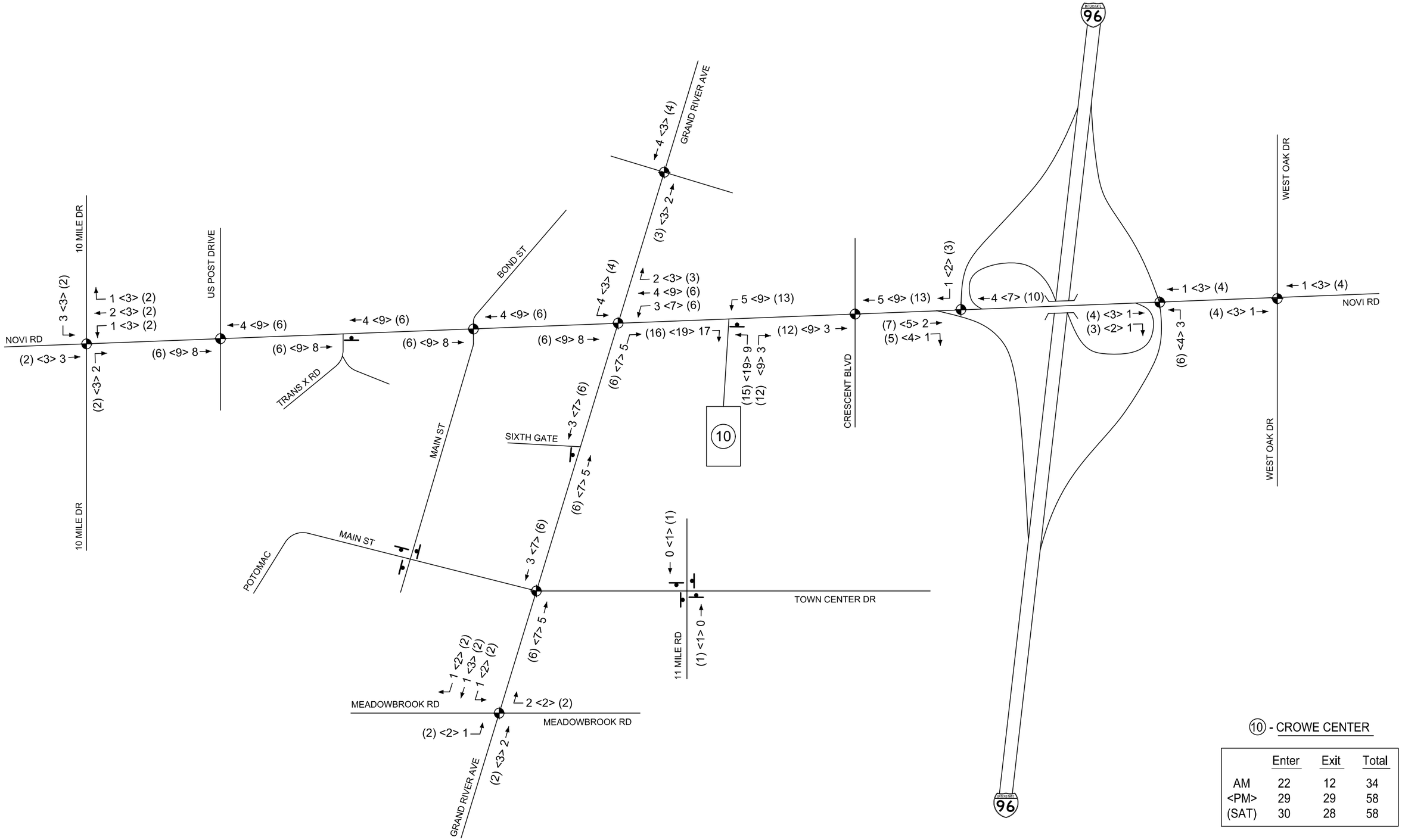
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

BOND DEVELOPMENT GENERATED TRAFFIC VOLUMES

FIGURE 5A



⑩ - CROWE CENTER

	Enter	Exit	Total
AM	22	12	34
<PM>	29	29	58
(SAT)	30	28	58

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

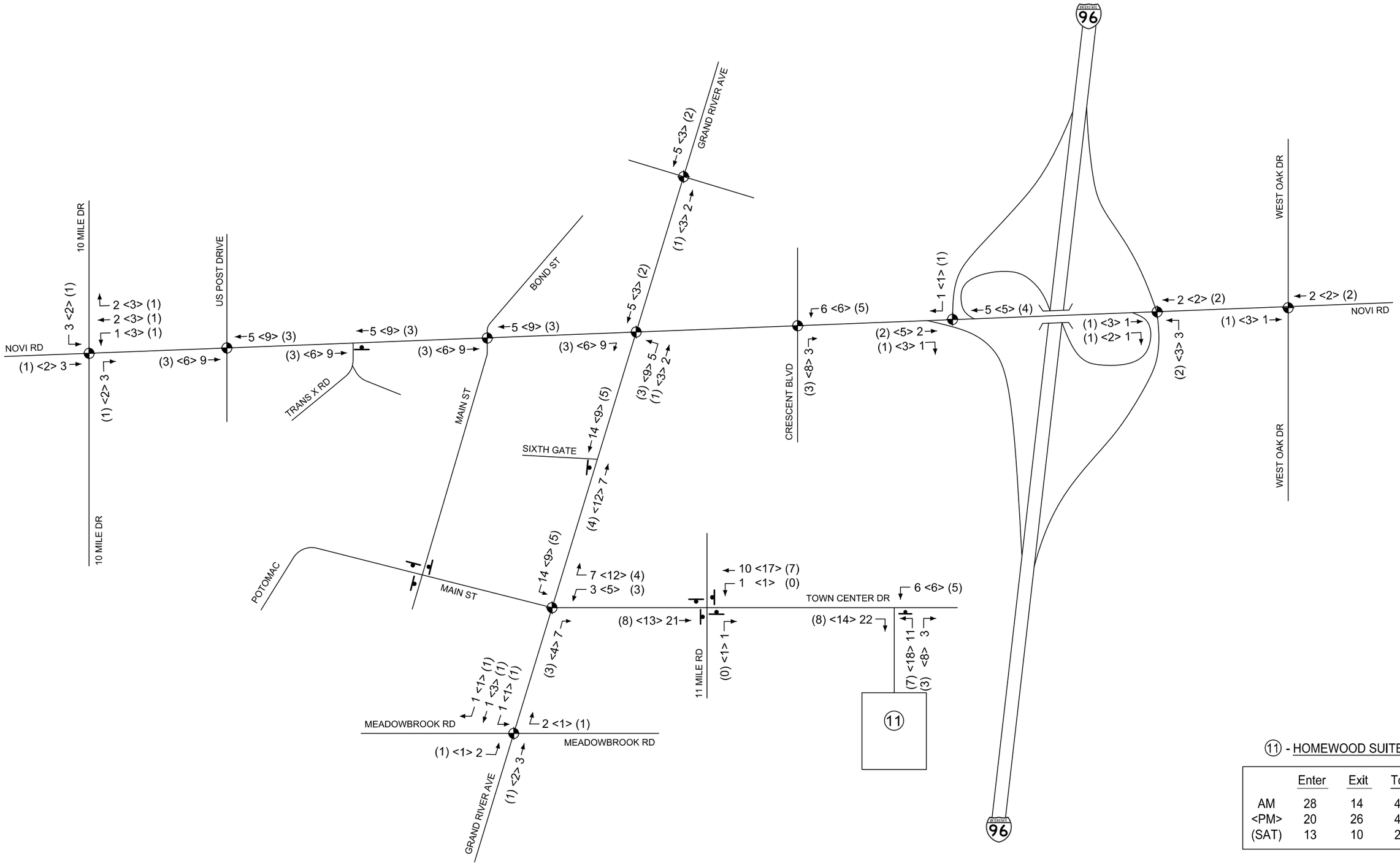
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

CROWE CENTER
GENERATED TRAFFIC VOLUMES

FIGURE 5B



11 - HOMEWOOD SUITES

	Enter	Exit	Total
AM	28	14	42
<PM>	20	26	46
(SAT)	13	10	23

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

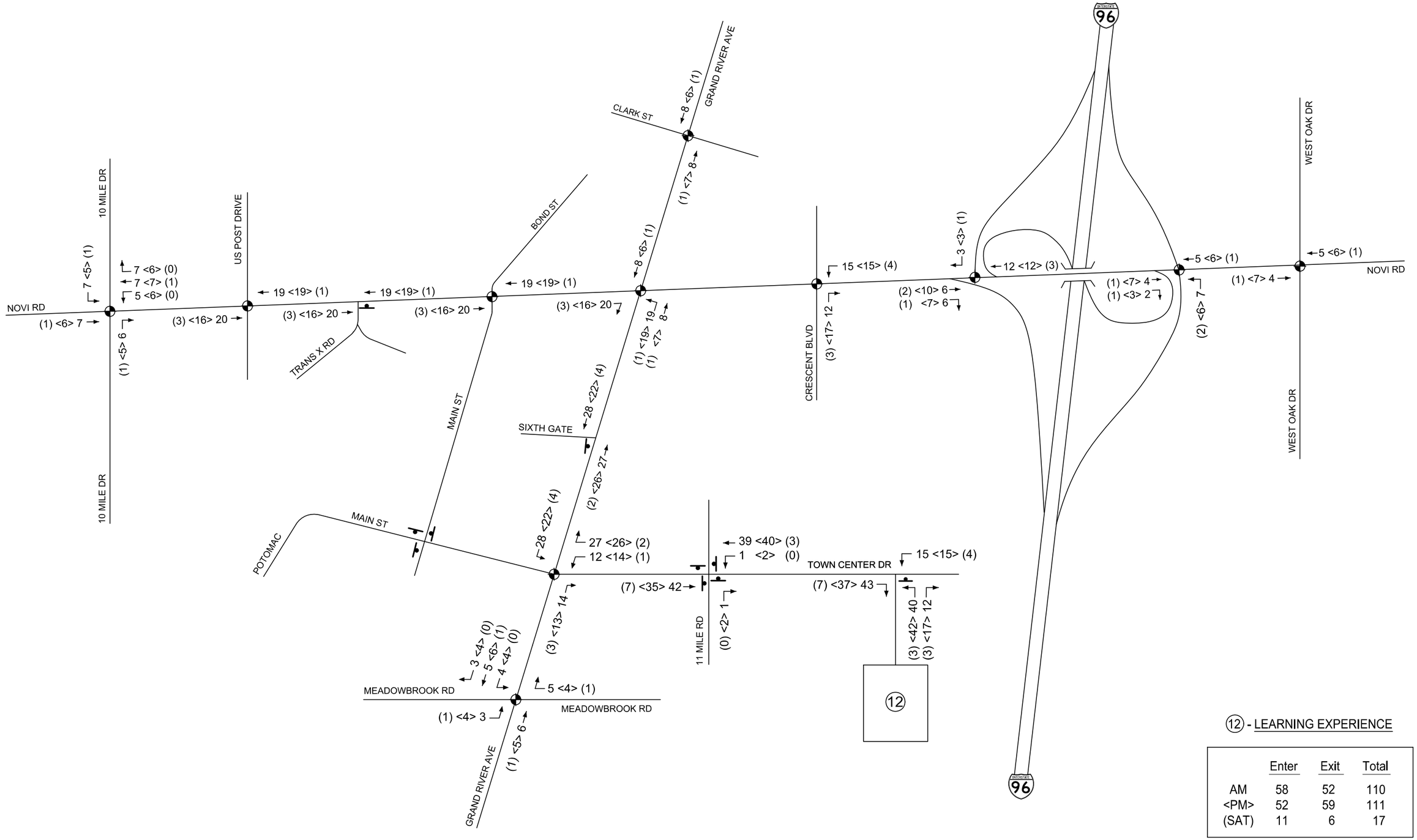
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

HOMEWOOD SUITES
GENERATED TRAFFIC VOLUMES

FIGURE 5C



12 - LEARNING EXPERIENCE

	Enter	Exit	Total
AM	58	52	110
<PM>	52	59	111
(SAT)	11	6	17

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

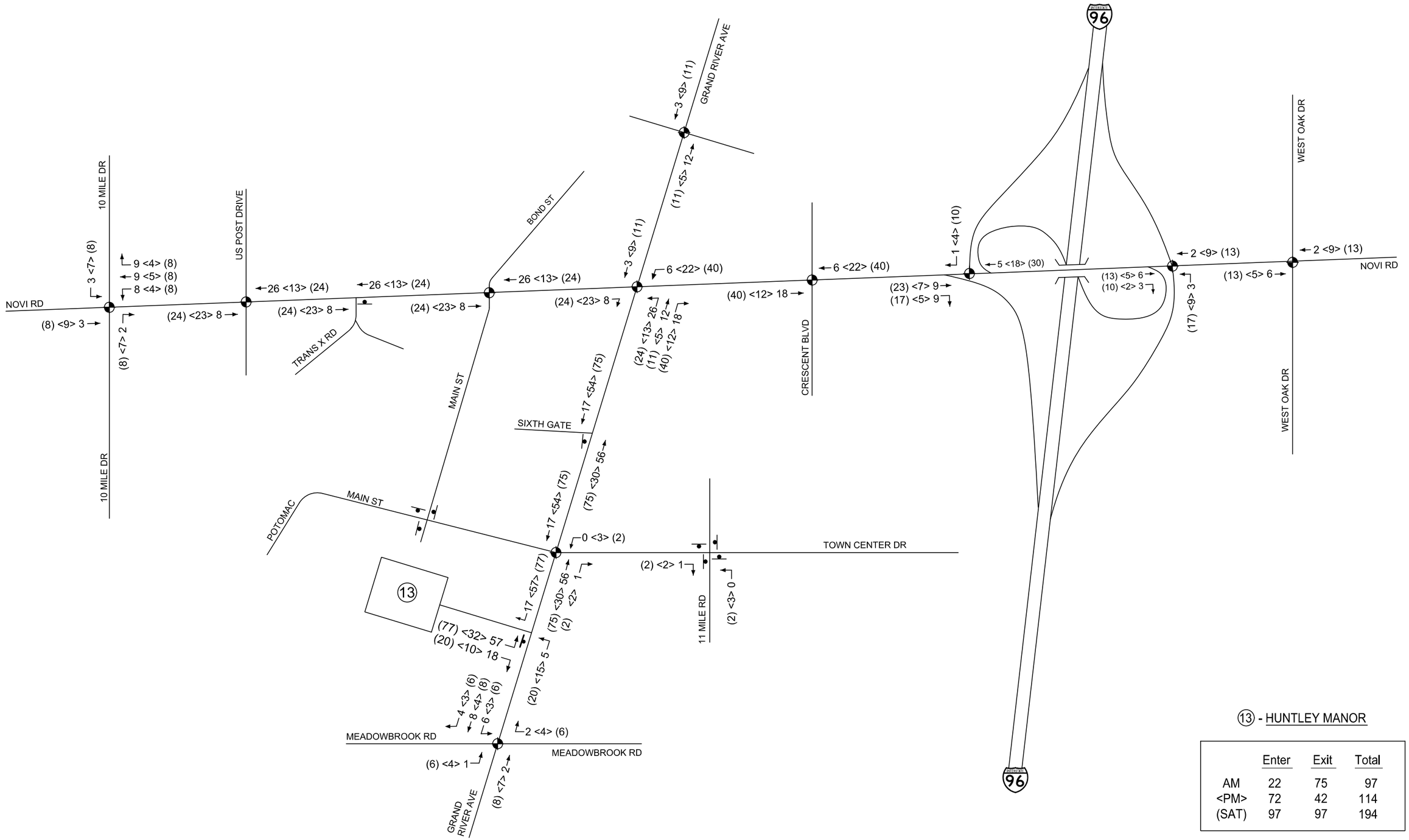
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

LEARNING EXPERIENCE GENERATED TRAFFIC VOLUMES

FIGURE 5D



13 - HUNTLEY MANOR

	Enter	Exit	Total
AM	22	75	97
<PM>	72	42	114
(SAT)	97	97	194

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

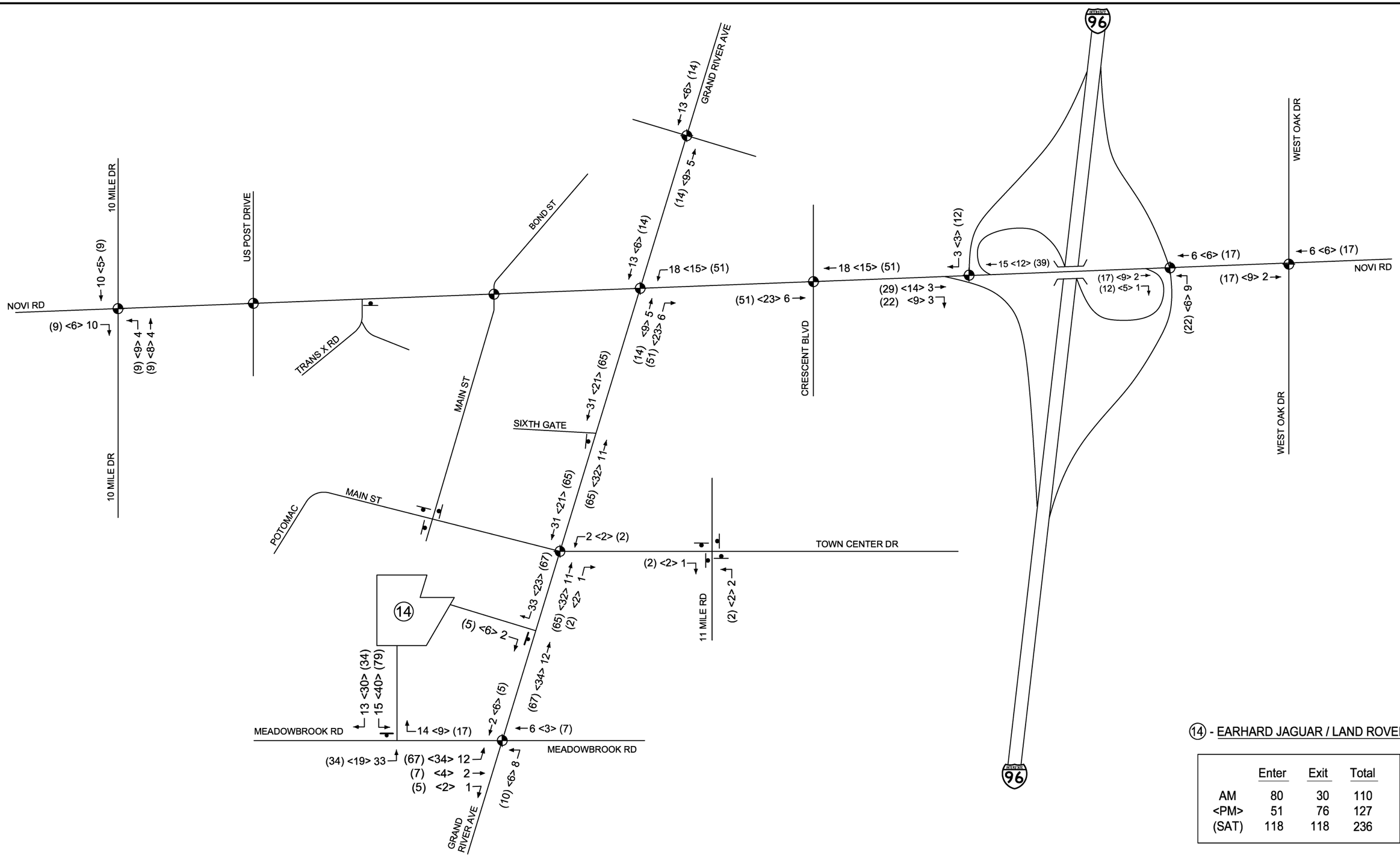
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

HUNTLEY MANOR
GENERATED TRAFFIC VOLUMES

FIGURE 5E



14 - EARHARD JAGUAR / LAND ROVER

	Enter	Exit	Total
AM	80	30	110
<PM>	51	76	127
(SAT)	118	118	236

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

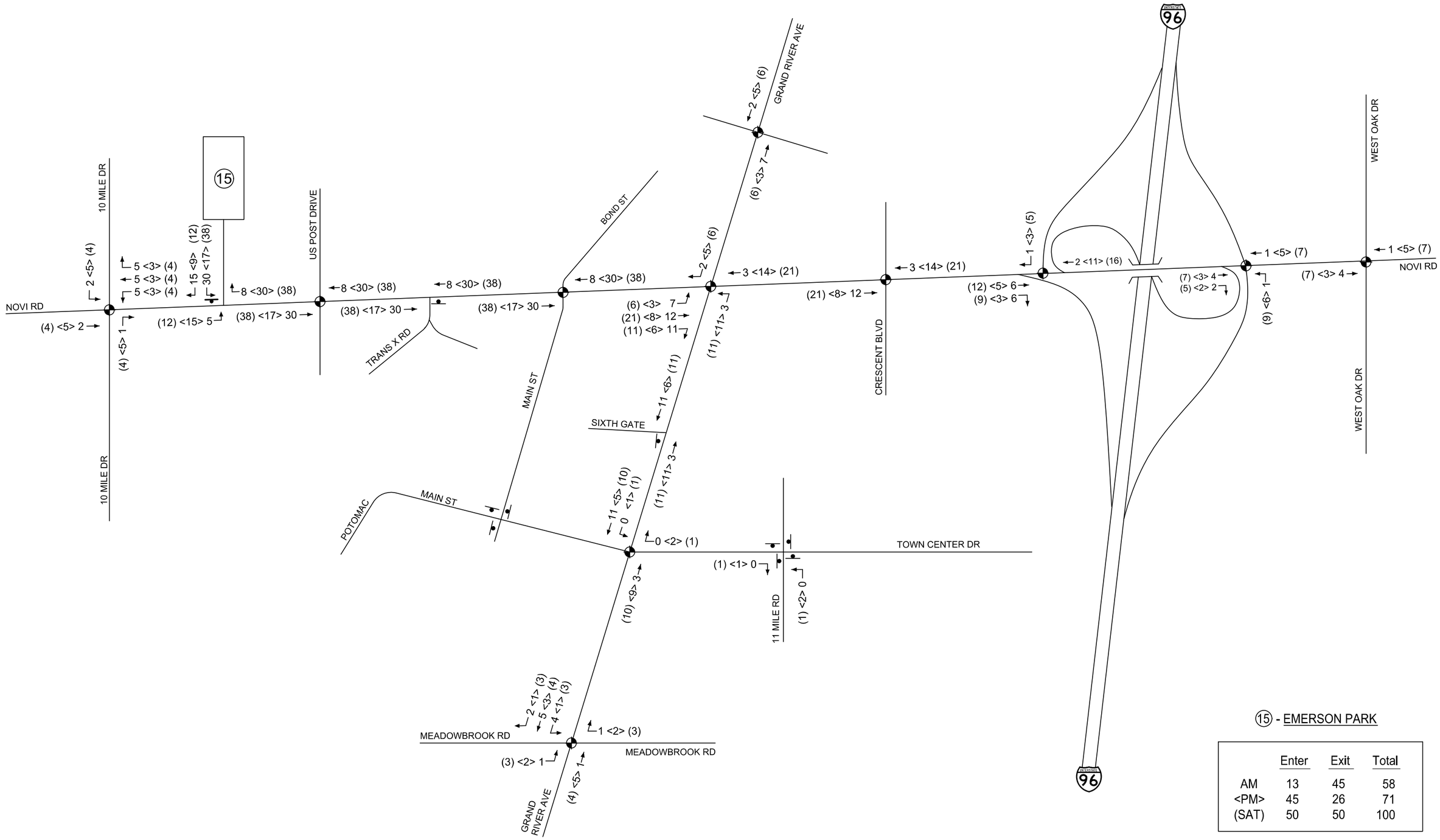
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

ERHARD JAGUAR / LAND ROVER GENERATED TRAFFIC VOLUMES

FIGURE 5F



15 - EMERSON PARK

	Enter	Exit	Total
AM	13	45	58
<PM>	45	26	71
(SAT)	50	50	100

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

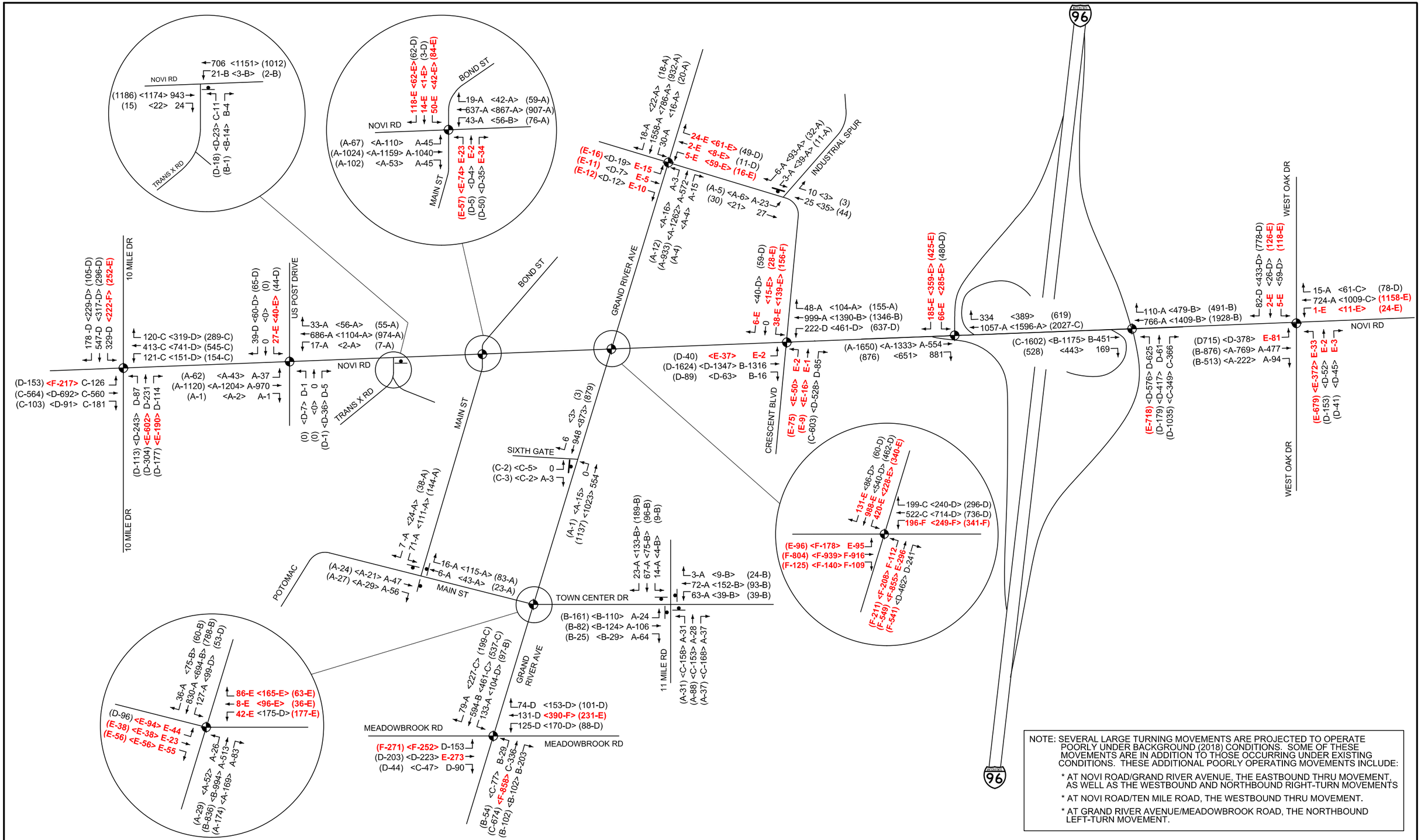
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

EMERSON PARK
GENERATED TRAFFIC VOLUMES

FIGURE 5G



LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

XXX-X - AM-PEAK WEEKDAY TRAFFIC VOLUME & LOS
<XXX-X> - PM-PEAK WEEKDAY TRAFFIC VOLUME & LOS
(XXX-X) - SATURDAY PEAK TRAFFIC VOLUME & LOS

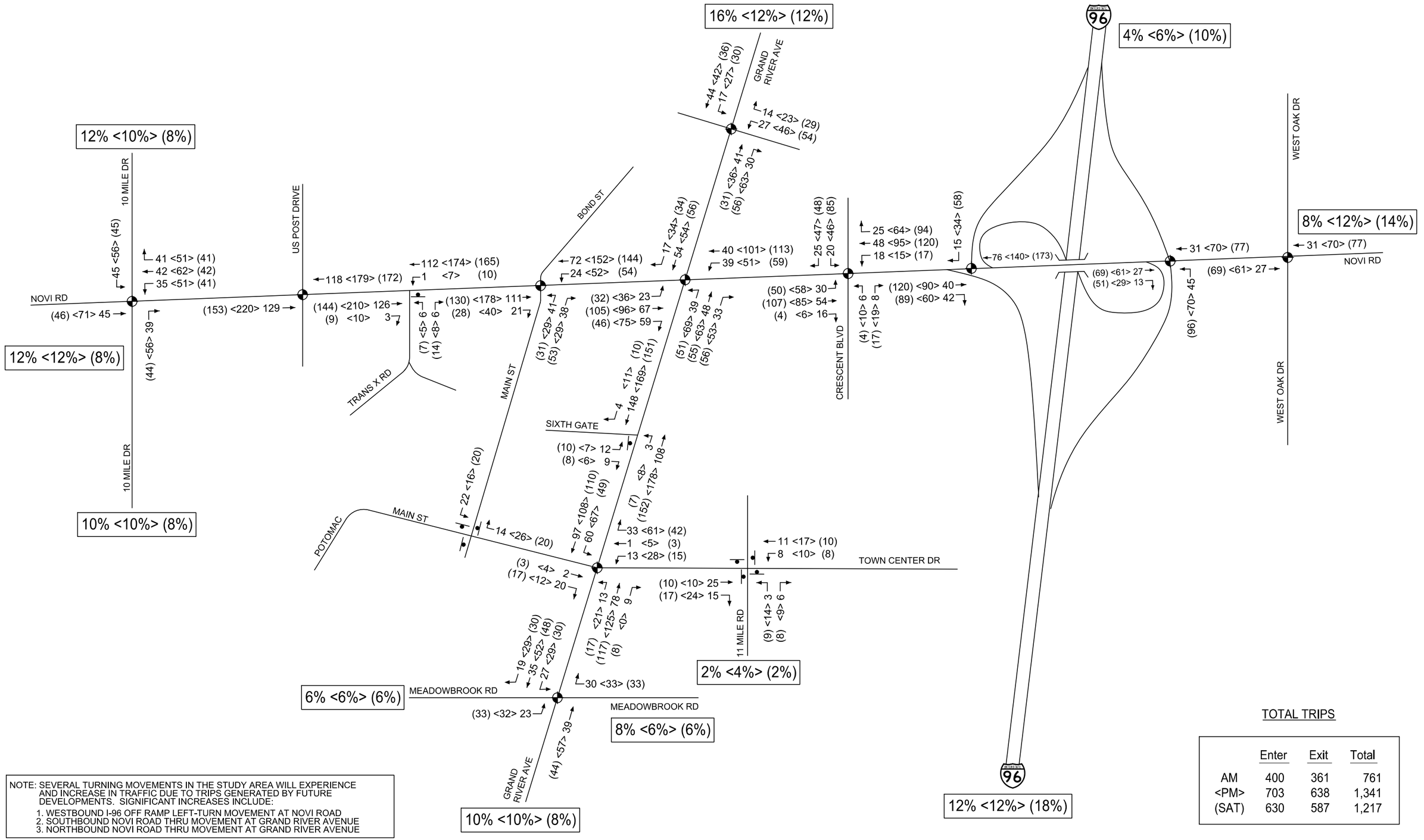
AECOM

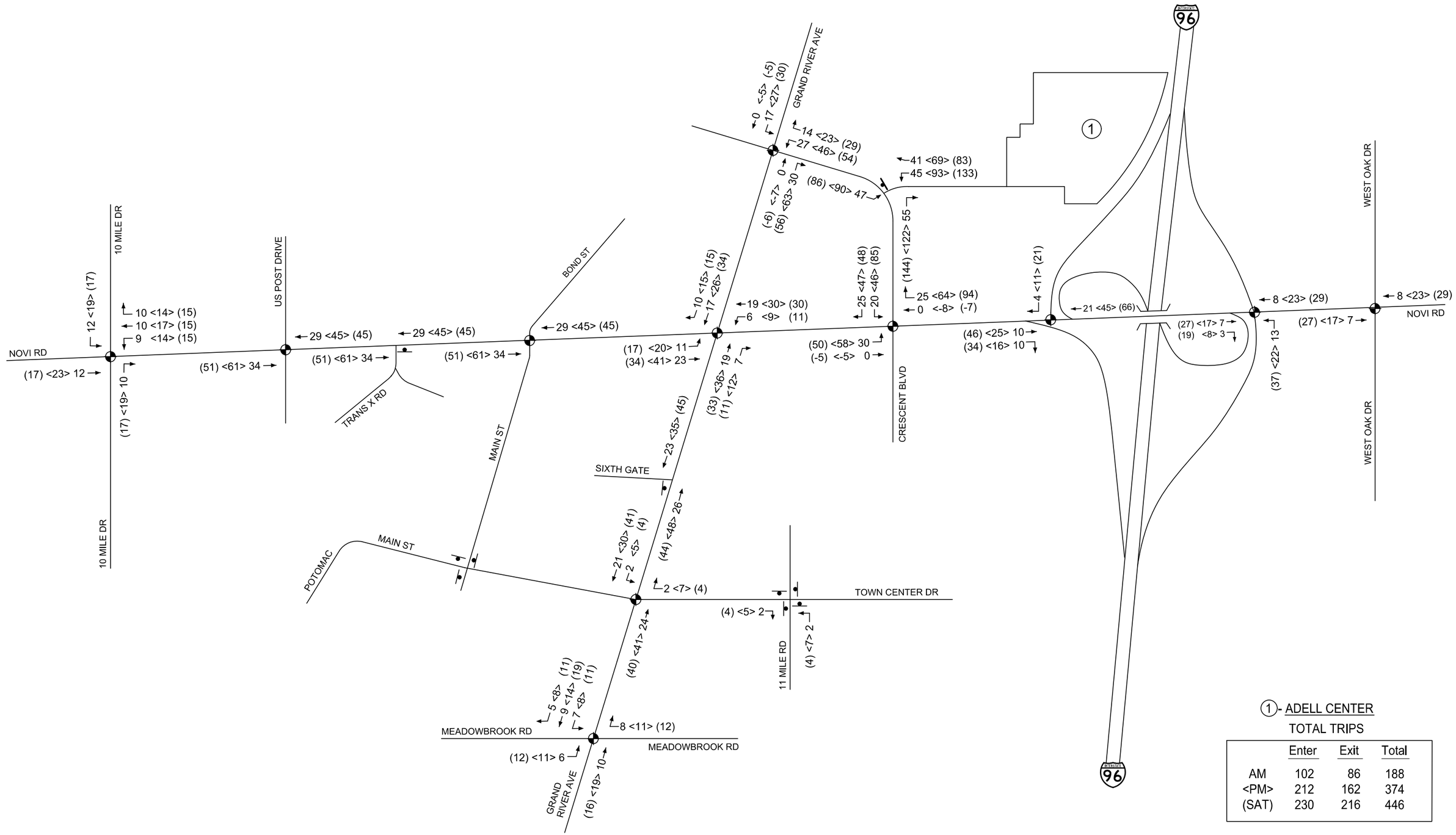
NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

BACKGROUND (2028) AM, PM AND SATURDAY PEAK-HOUR VOLUMES AND LEVELS OF SERVICE

FIGURE 6

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-6_BKGD 2028 VOLUMES & LOS


16% <12%> (12%)
4% <6%> (10%)
12% <10%> (8%)
8% <12%> (14%)
12% <12%> (8%)
10% <10%> (8%)
2% <4%> (2%)
6% <6%> (6%)
8% <6%> (6%)
12% <12%> (18%)
10% <10%> (8%)
NOVI RD
10 MILE DR
US POST DRIVE
BOND ST
GRAND RIVER AVE
TRANS X RD
MAIN ST
SIXTH GATE
CRESCENT BLVD
WEST OAK DR
POTOMAC
TOWN CENTER DR
11 MILE RD
MEADOWBROOK RD
45 <56> (45)
41 <51> (41)
42 <62> (42)
35 <51> (41)
(46) <71> 45
(44) <56> 39
(153) <220> 129
118 <179> (172)
(144) <210> 126
(9) <10> 3
112 <174> (165)
1 <7> (10)
(7) <5> 6
(14) <8> 6
(130) <178> 111
(28) <40> 21
72 <152> (144)
24 <52> (54)
(31) <29> 41
(53) <29> 38
17 <34> (34)
54 <54> (56)
40 <101> (113)
39 <51> (59)
(32) <36> 23
(105) <96> 67
(46) <75> 59
(51) <69> 39
(55) <63> 48
(56) <53> 33
(10) <11> (151)
4 148 <169>
(10) <7> 12
(8) <6> 9
3 <8> 108
(7) (152) <178>
22 <16> (20)
14 <26> (20)
97 <108> (110)
60 <67> (49)
33 <61> (42)
1 <5> (3)
13 <28> (15)
(3) <4> 2
(17) <12> 20
(10) <10> 25
(17) <24> 15
11 <17> (10)
8 <10> (8)
(9) <14> 3
(8) <9> 6
<21> 13
(17) <125> 78
(117) <0> 9
(8)
19 <29> (30)
35 <52> (48)
27 <29> (30)
30 <33> (33)
(33) <32> 23
(44) <57> 39
44 <42> (36)
17 <27> (30)
14 <23> (29)
27 <46> (54)
(31) <36> 41
(56) <63> 30
25 <47> (48)
20 <46> (85)
(50) <58> 30
(107) <85> 54
(4) <6> 16
25 <64> (94)
48 <95> (120)
18 <15> (17)
(4) <10> 6
(17) <19> 8
(120) <90> 40
(89) <60> 42
15 <34> (58)
76 <140> (173)
(69) <61> 27
(51) <29> 13
(96) <70> 45
31 <70> (77)
(69) <61> 27
31 <70> (77)
NOTE: SEVERAL TURNING MOVEMENTS IN THE STUDY AREA WILL EXPERIENCE AND INCREASE IN TRAFFIC DUE TO TRIPS GENERATED BY FUTURE DEVELOPMENTS. SIGNIFICANT INCREASES INCLUDE:
1. WESTBOUND I-96 OFF RAMP LEFT-TURN MOVEMENT AT NOVI ROAD
2. SOUTHBOUND NOVI ROAD THRU MOVEMENT AT GRAND RIVER AVENUE
3. NORTHBOUND NOVI ROAD THRU MOVEMENT AT GRAND RIVER AVENUE
TOTAL TRIPS
Enter Exit Total
AM 400 361 761
<PM> 703 638 1,341
(SAT) 630 587 1,217
LEGEND
- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME
AECOM
NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY
2028 FUTURE DEVELOPMENT
TRIP GENERATION AND DISTRIBUTION
FIGURE
7
G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-7_FUTURE DEVELOPMENT TOTAL GENERATED VOLUMES



1- ADELL CENTER

TOTAL TRIPS

	Enter	Exit	Total
AM	102	86	188
<PM>	212	162	374
(SAT)	230	216	446

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME

<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME

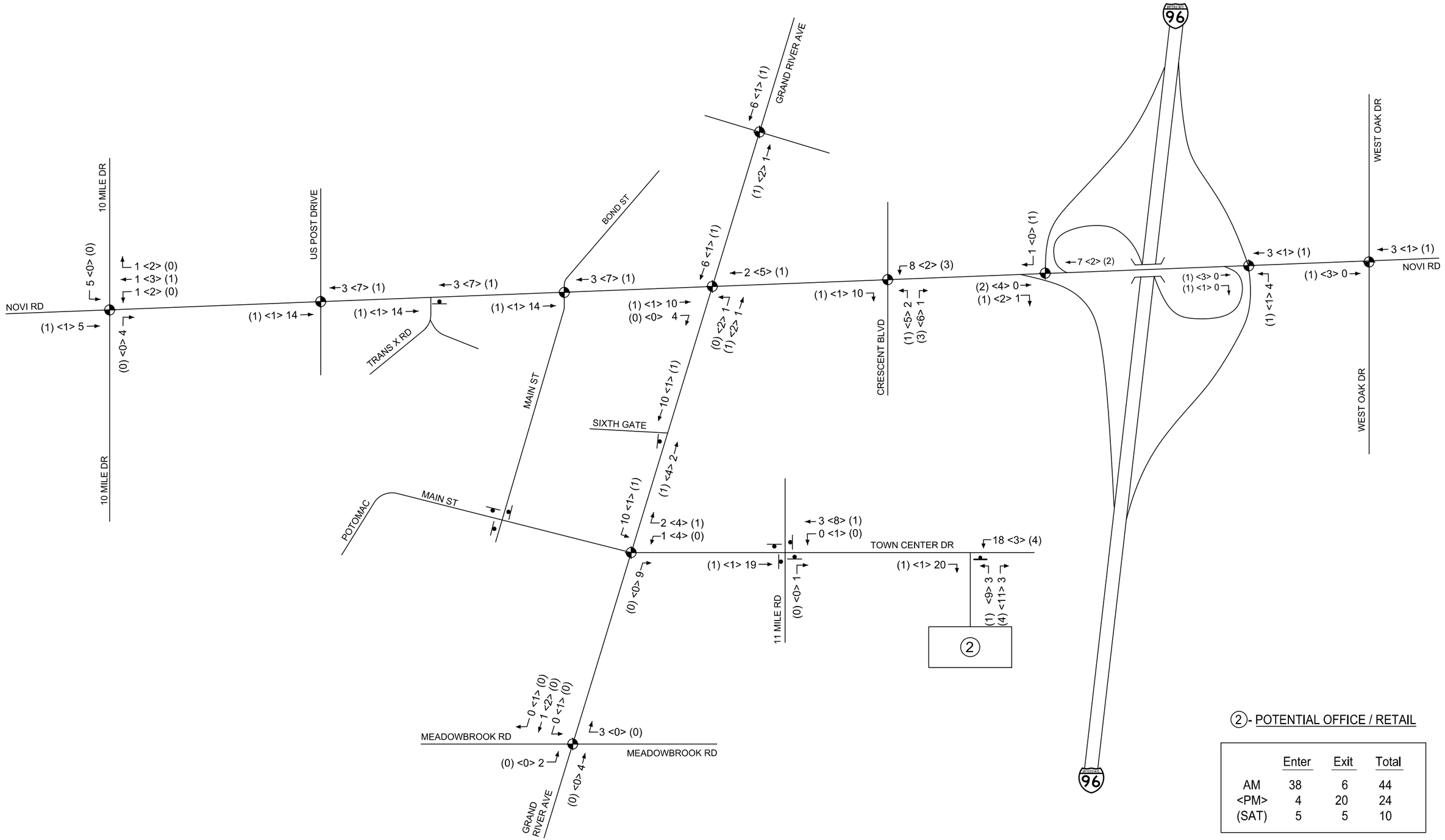
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

ADELL CENTER
GENERATED TRAFFIC VOLUMES

FIGURE 7A



② - POTENTIAL OFFICE / RETAIL

	Enter	Exit	Total
AM	38	6	44
<PM>	4	20	24
(SAT)	5	5	10

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

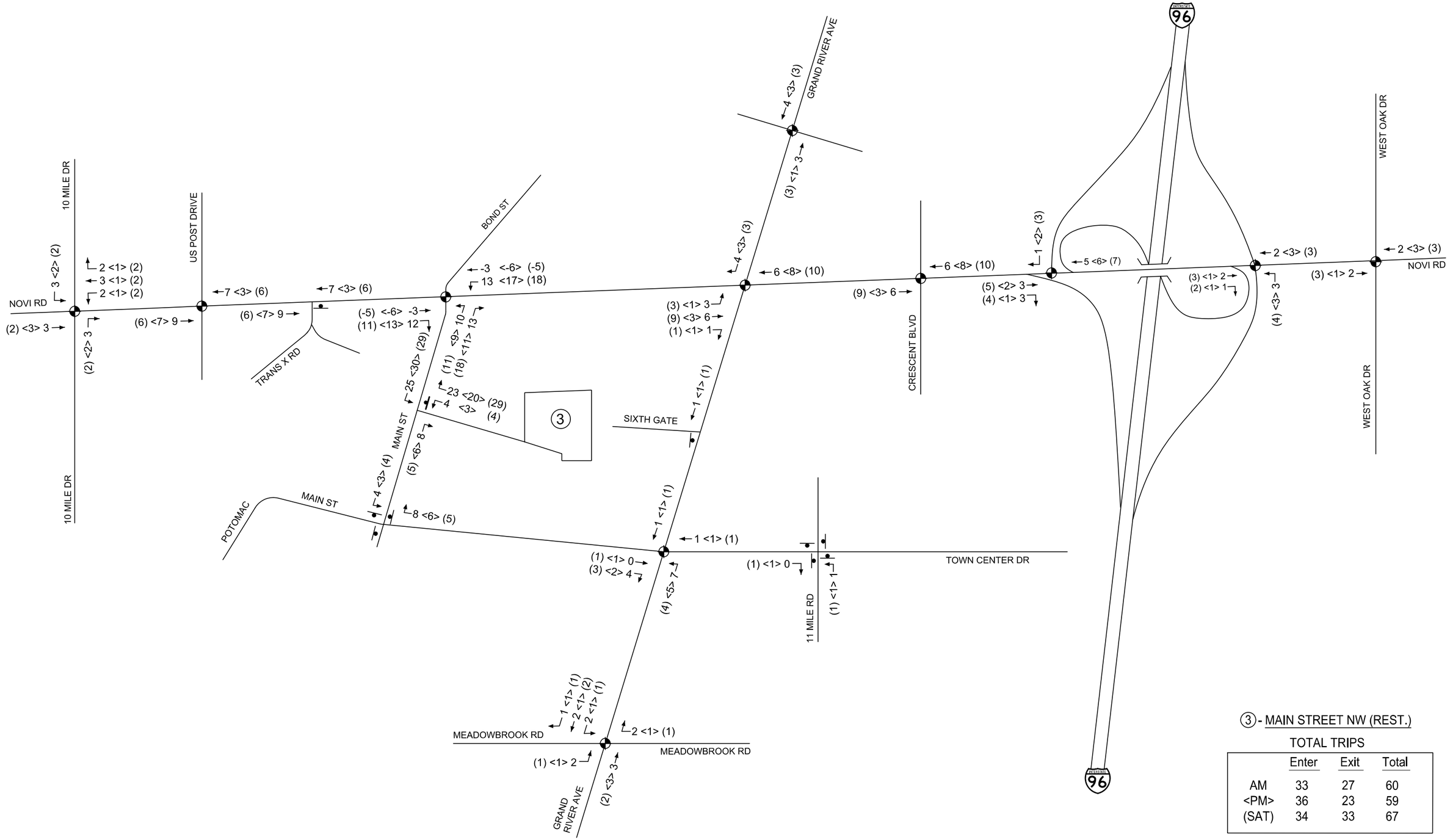
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

POTENTIAL OFFICE / RETAIL GENERATED TRAFFIC VOLUMES

FIGURE 7B



③ - MAIN STREET NW (REST.)

TOTAL TRIPS

	Enter	Exit	Total
AM	33	27	60
<PM>	36	23	59
(SAT)	34	33	67

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

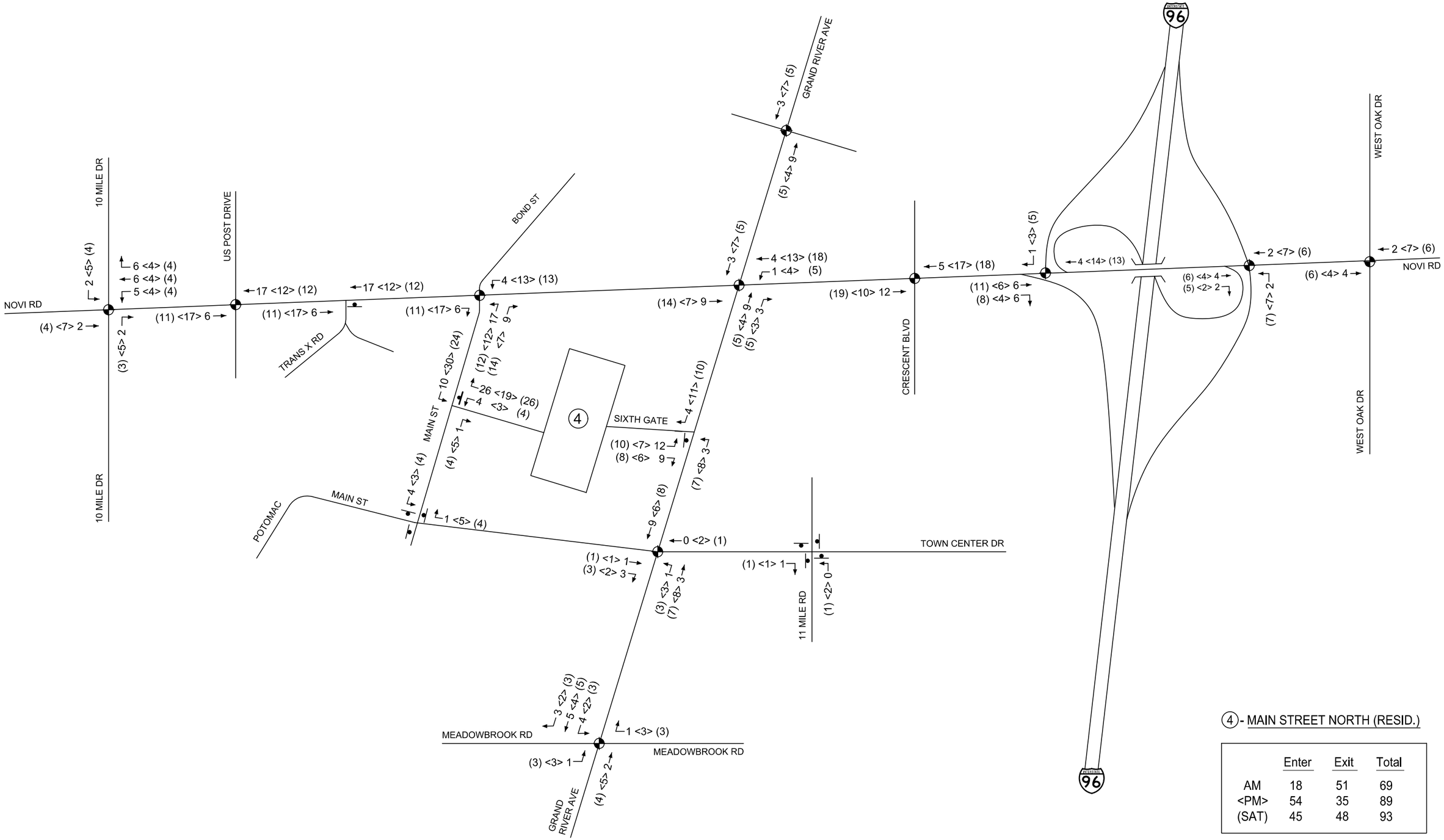
NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

MAIN STREET NW (RESTAURANT) GENERATED TRAFFIC VOLUMES

FIGURE 7C

AECOM

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-7C_MAIN STREET NW RES GENERATED VOLUMES



④- MAIN STREET NORTH (RESID.)

	Enter	Exit	Total
AM	18	51	69
<PM>	54	35	89
(SAT)	45	48	93

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

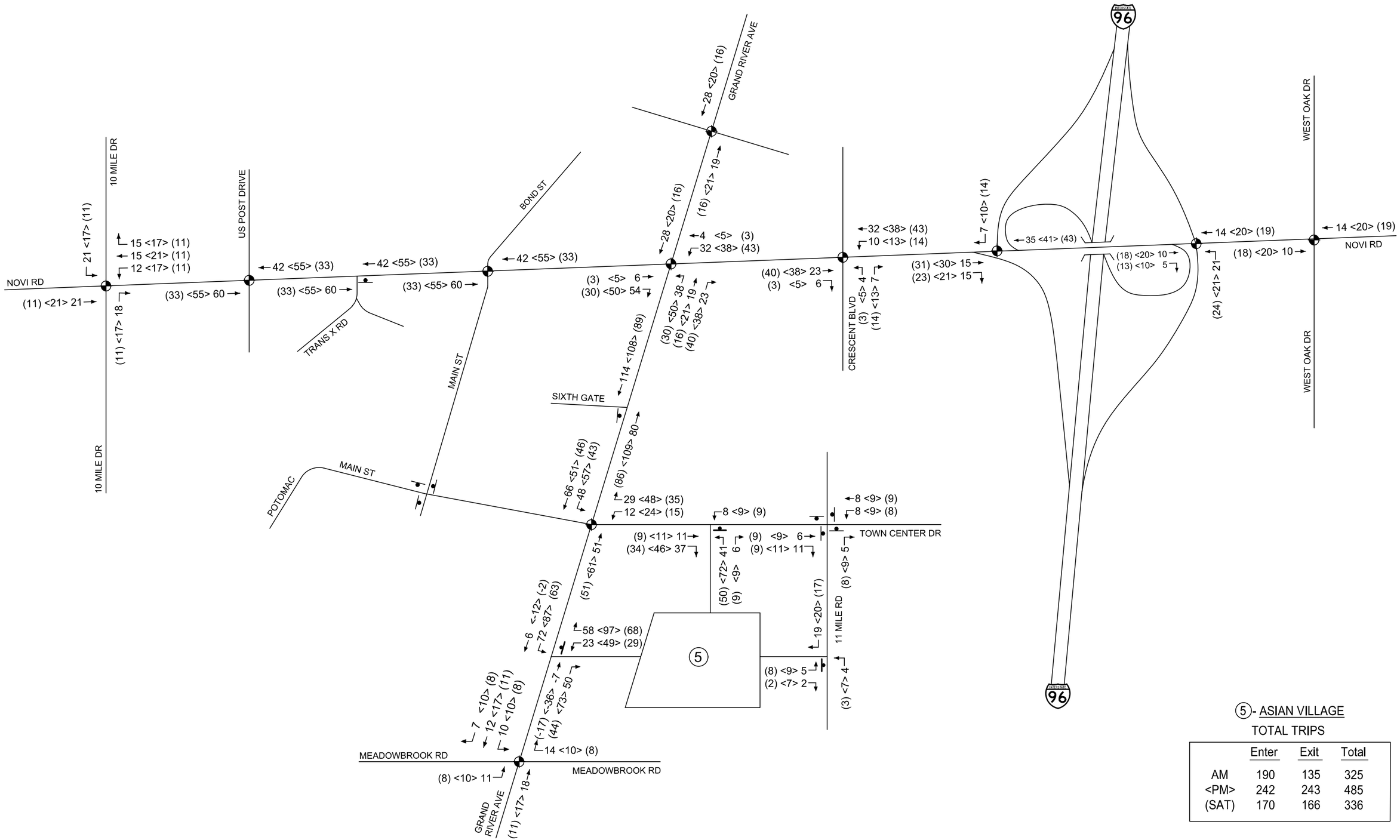
AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

MAIN STREET NORTH (RESIDENTIAL) GENERATED TRAFFIC VOLUMES

FIGURE 7D

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-7D_MAIN STREET NORTH RESID GENERATED VOLUMES



(5)- ASIAN VILLAGE

TOTAL TRIPS

	Enter	Exit	Total
AM	190	135	325
<PM>	242	243	485
(SAT)	170	166	336

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME

<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME

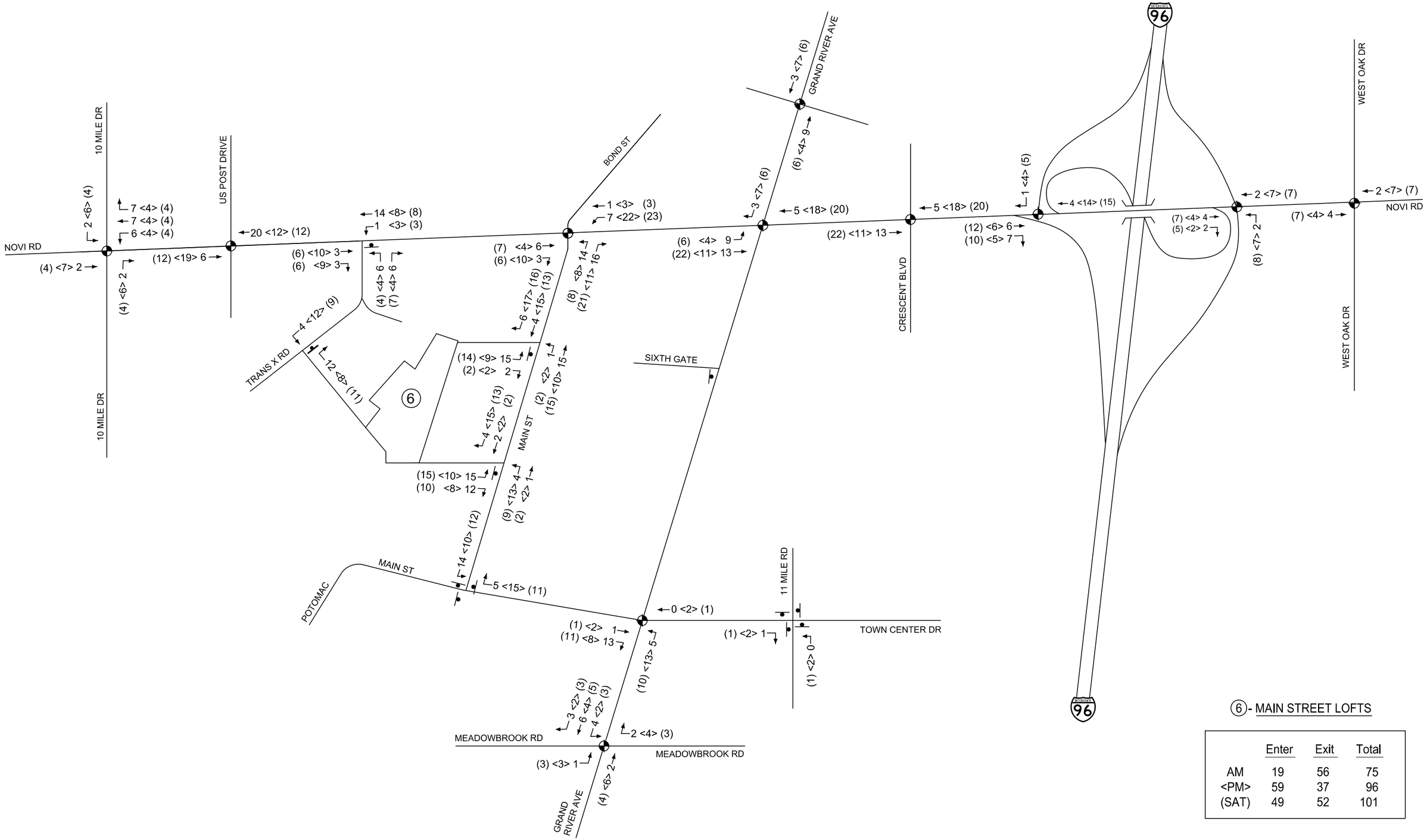
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

ASIAN VILLAGE
GENERATED TRAFFIC VOLUMES

FIGURE 7E



⑥- MAIN STREET LOFTS

	Enter	Exit	Total
AM	19	56	75
<PM>	59	37	96
(SAT)	49	52	101

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

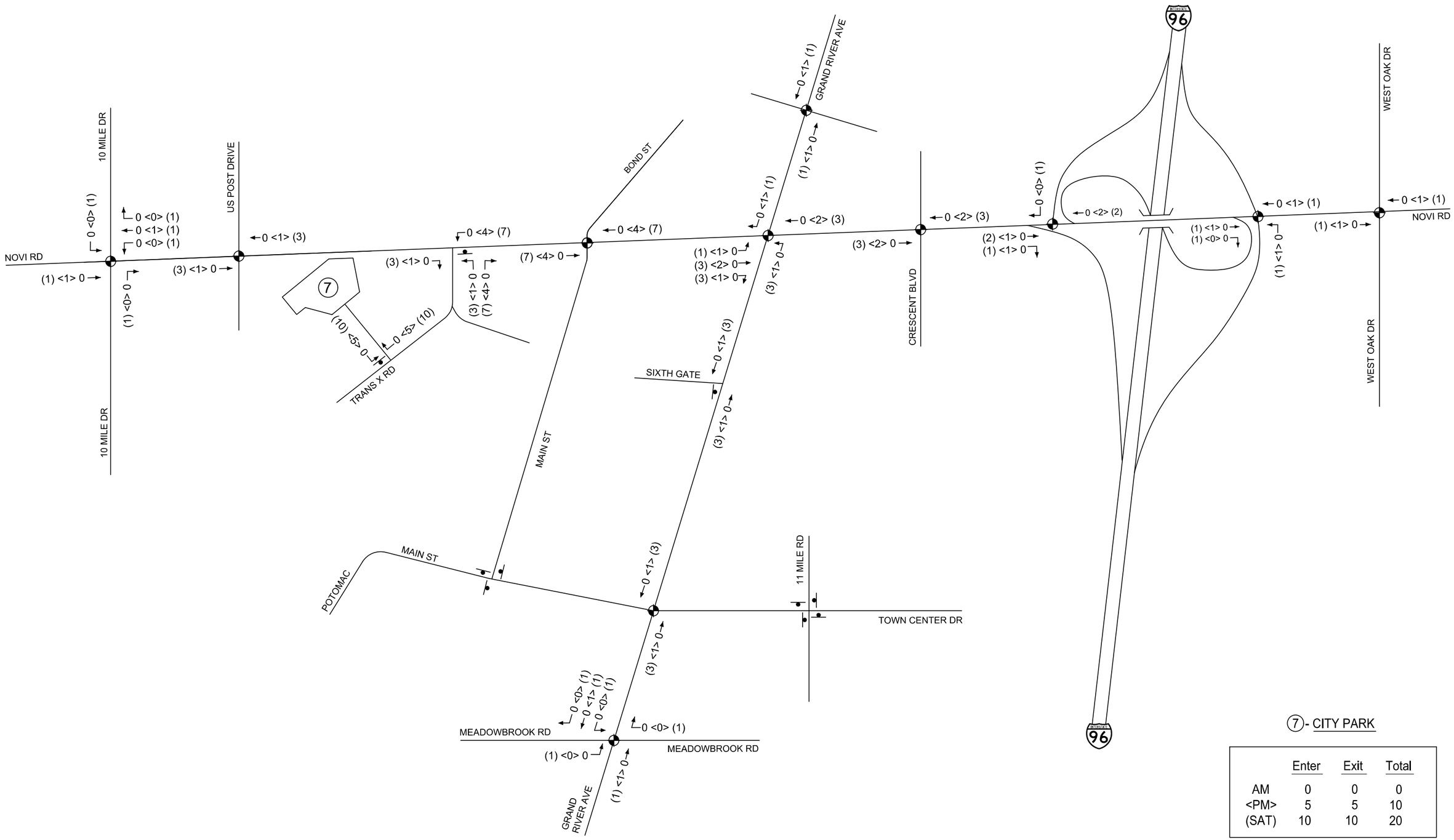
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

MAIN STREET LOFTS
GENERATED TRAFFIC VOLUMES

FIGURE
7F



7- CITY PARK

	Enter	Exit	Total
AM	0	0	0
<PM>	5	5	10
(SAT)	10	10	20

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

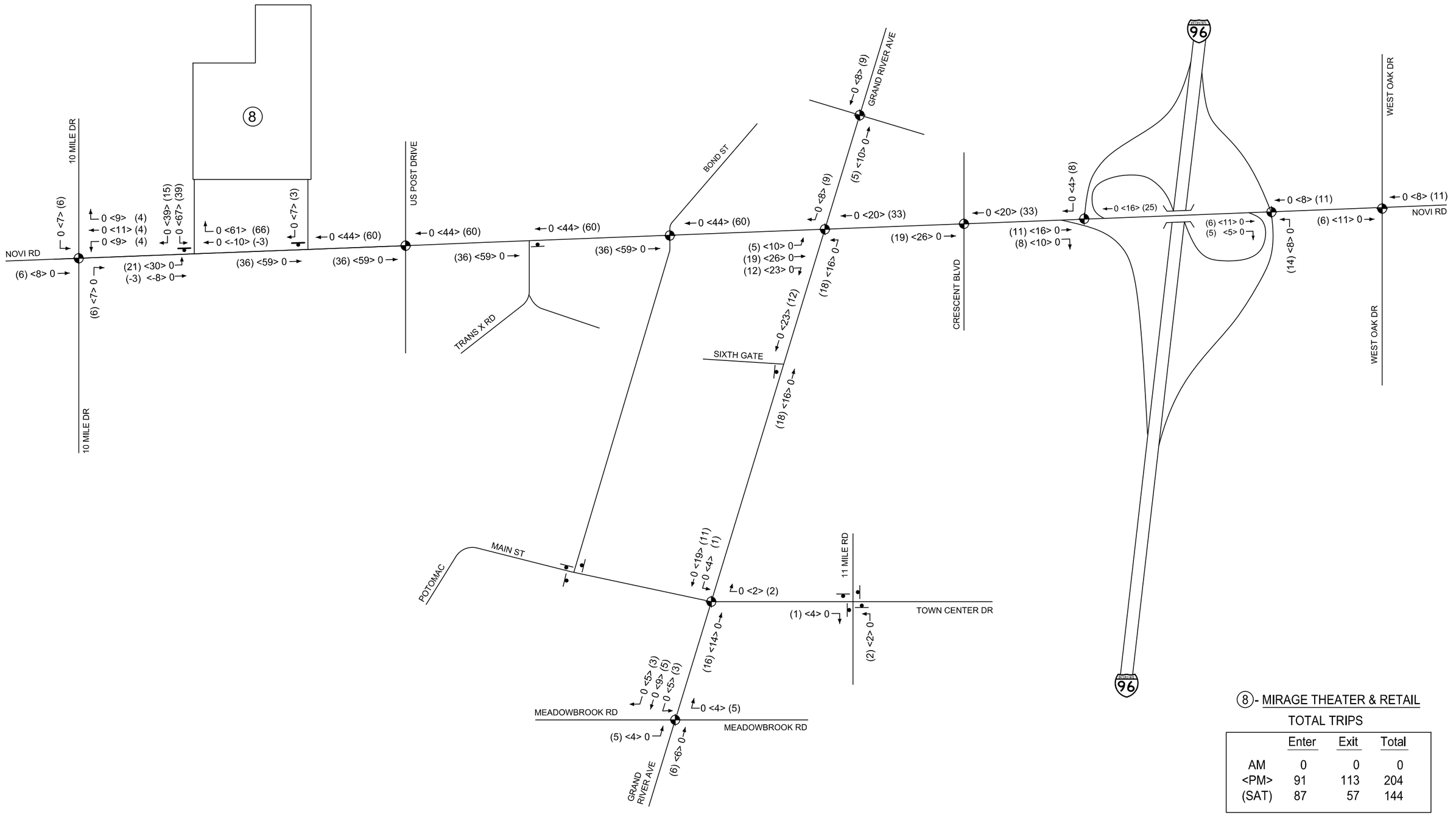
XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME
<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

CITY PARK
GENERATED TRAFFIC VOLUMES

FIGURE 7G



⑧- MIRAGE THEATER & RETAIL

TOTAL TRIPS

	Enter	Exit	Total
AM	0	0	0
<PM>	91	113	204
(SAT)	87	57	144

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

XXX - AM-PEAK WEEKDAY TRAFFIC VOLUME

<XXX> - PM-PEAK WEEKDAY TRAFFIC VOLUME

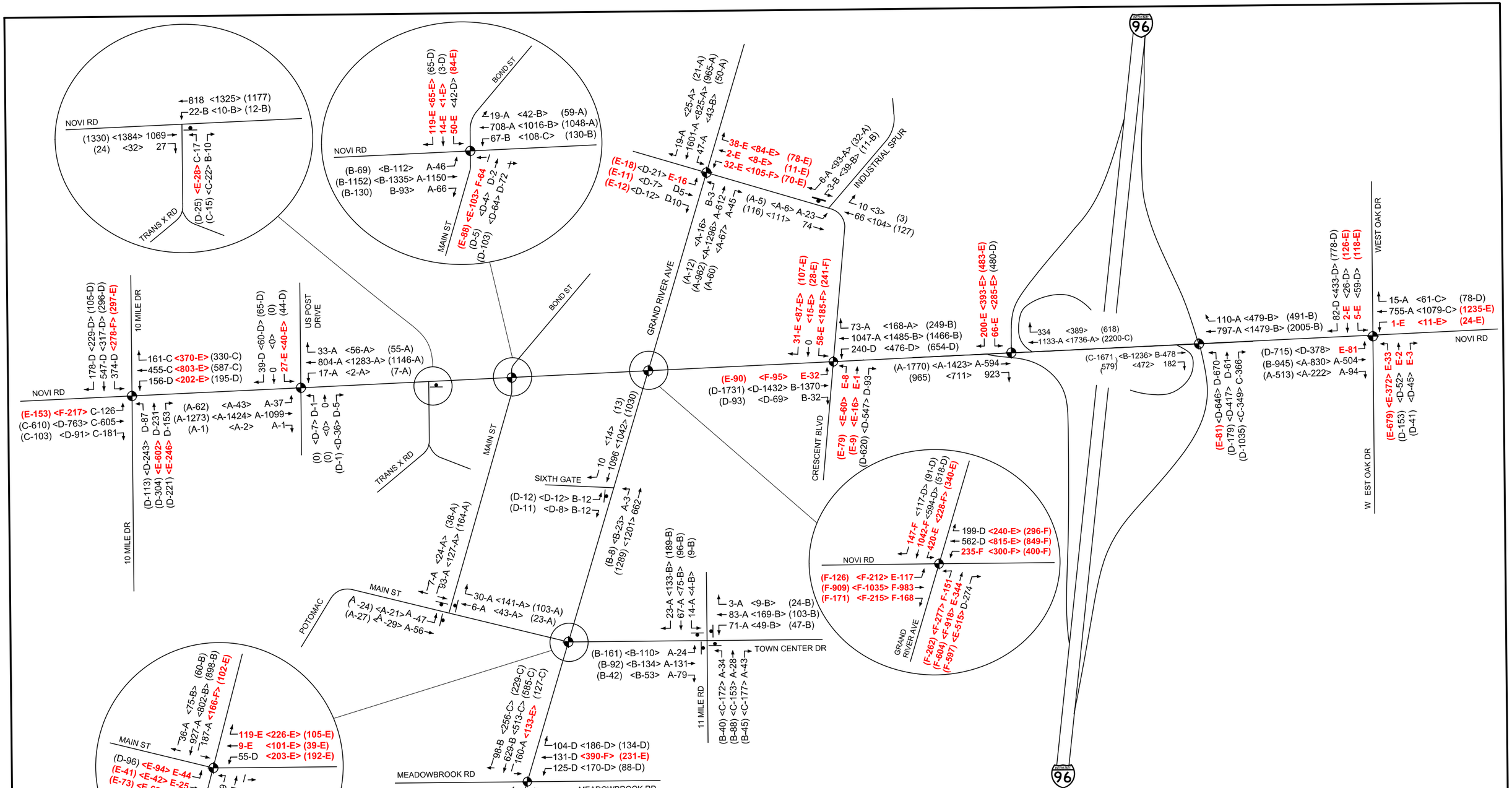
(XXX) - SATURDAY PEAK TRAFFIC VOLUME

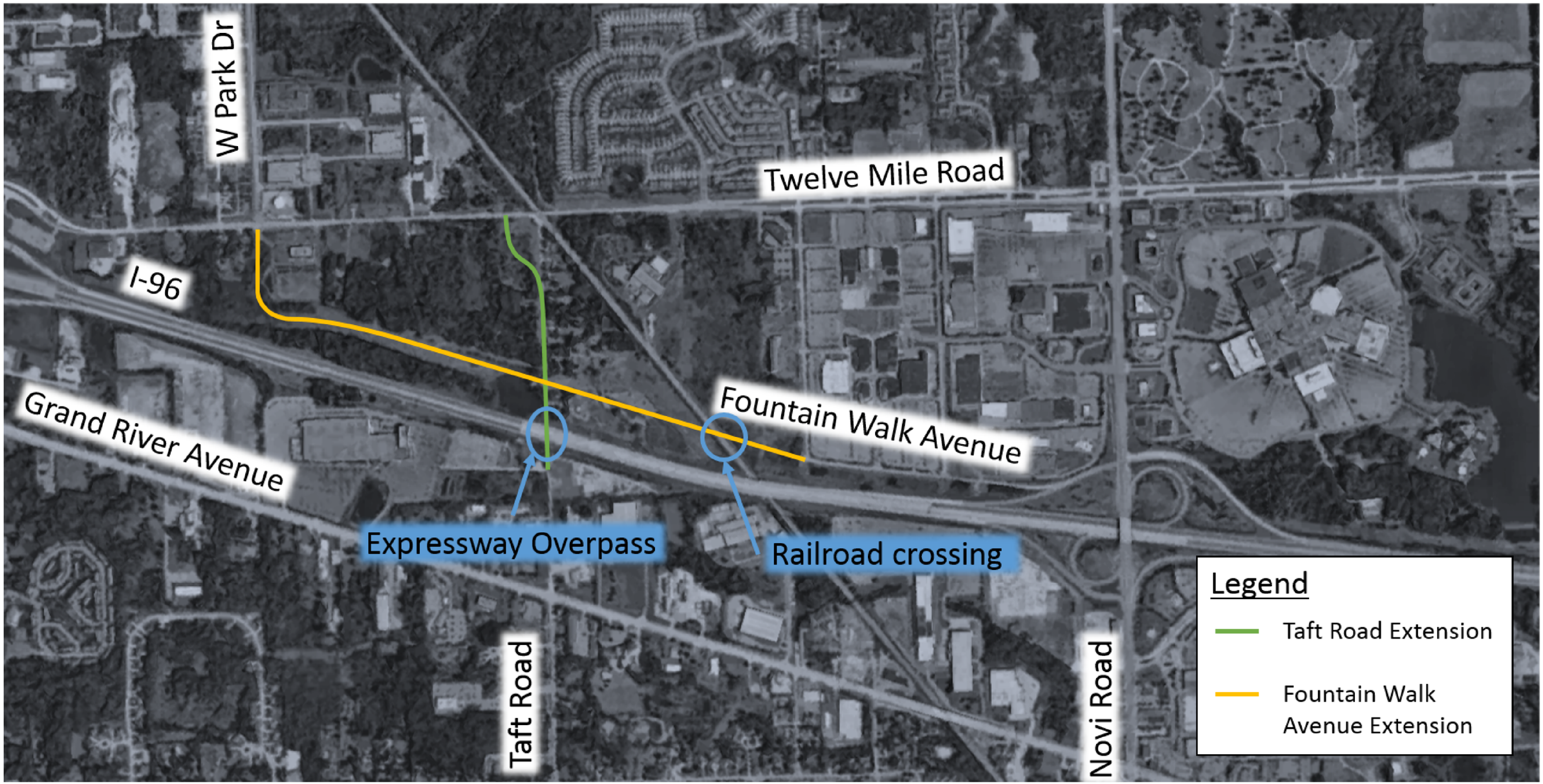
AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

MIRAGE THEATER & RETAIL GENERATED TRAFFIC VOLUMES

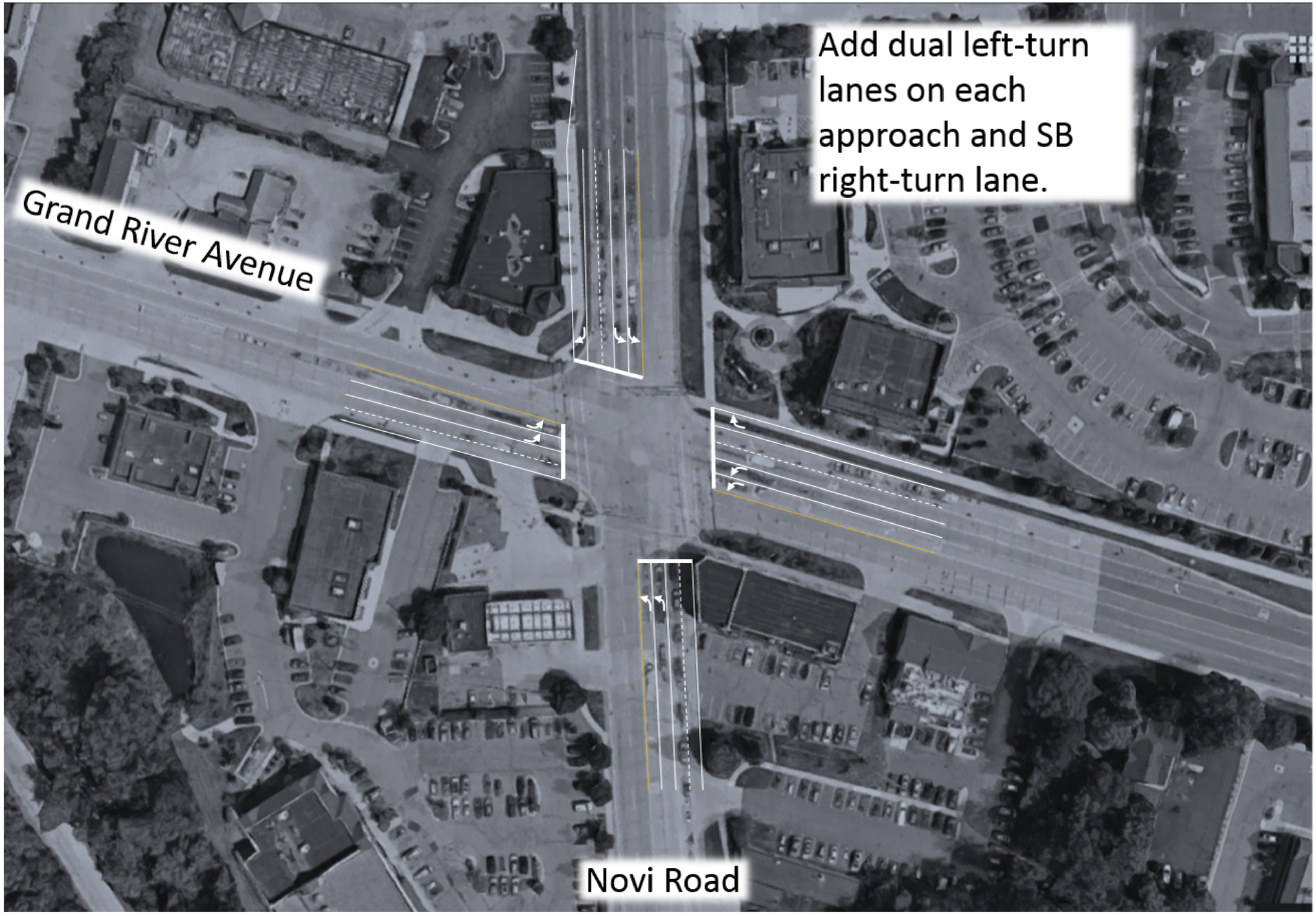
FIGURE 7H


NOVI RD
GRAND RIVER AVE
BOND ST
MAIN ST
10 MILE DR
US POST DRIVE
TRANS X RD
CRESCENT BLVD
SIXTH GATE
POTOMAC
INDUSTRIAL SPUR
TOWN CENTER DR
11 MILE RD
MEADOWBROOK RD
WEST OAK DR
W EST OAK DR
GRAND RIVER AVE
MAIN ST
NOVI RD
MEADOWBROOK RD
GRAND RIVER AVE
MAIN ST
NOVI RD
GRAND RIVER AVE
MAIN ST
NOVI RD
GRAND RIVER AVE
MAIN ST
NOVI



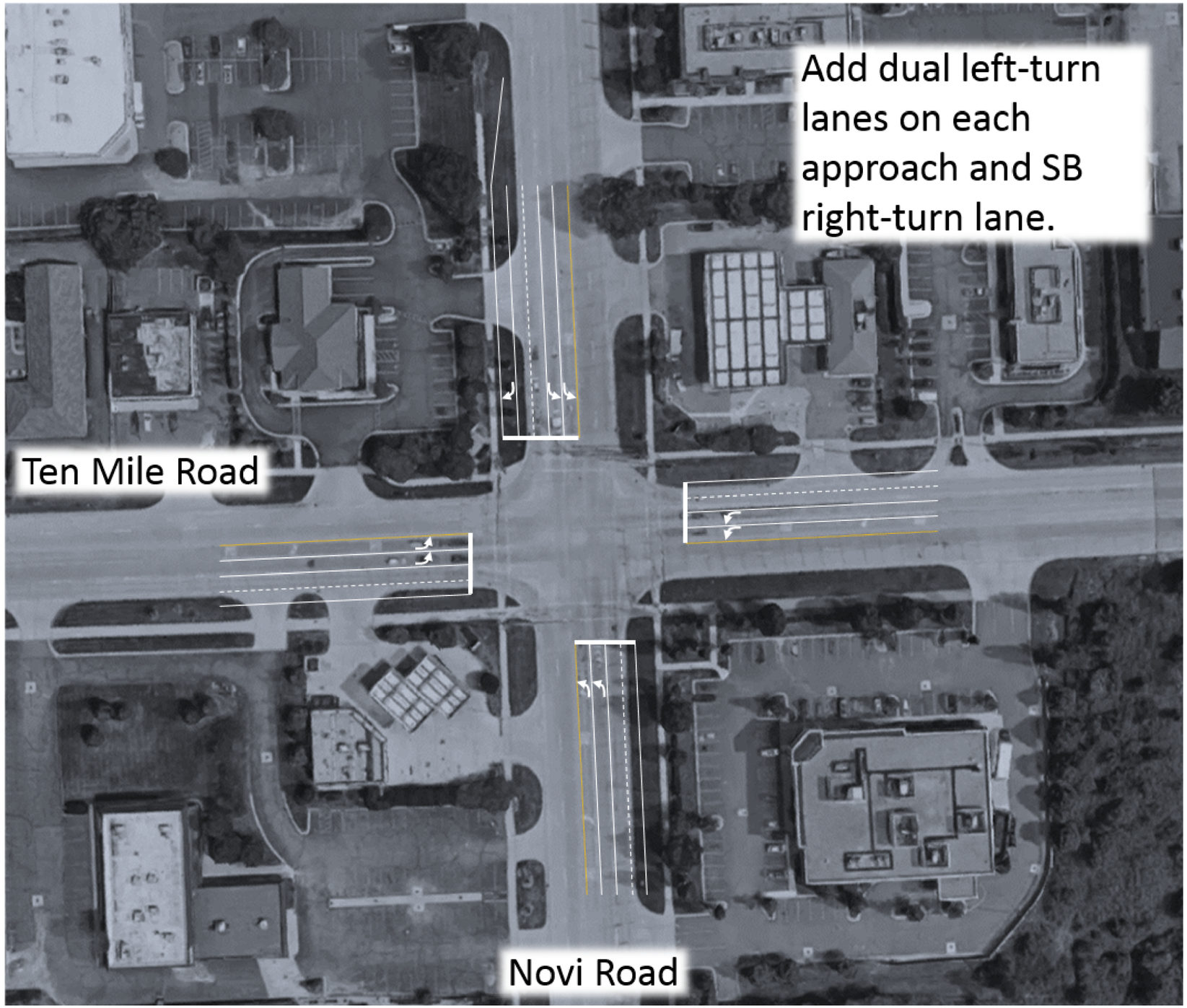
	LEGEND	NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY	
AECOM		TAFT ROAD/FOUNTAIN WALK AVENUE CONNECTION CONCEPT	FIGURE 9

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-9_TAFT ROAD FOUNTAIN WALK AVE CONNECTION CONCEPT



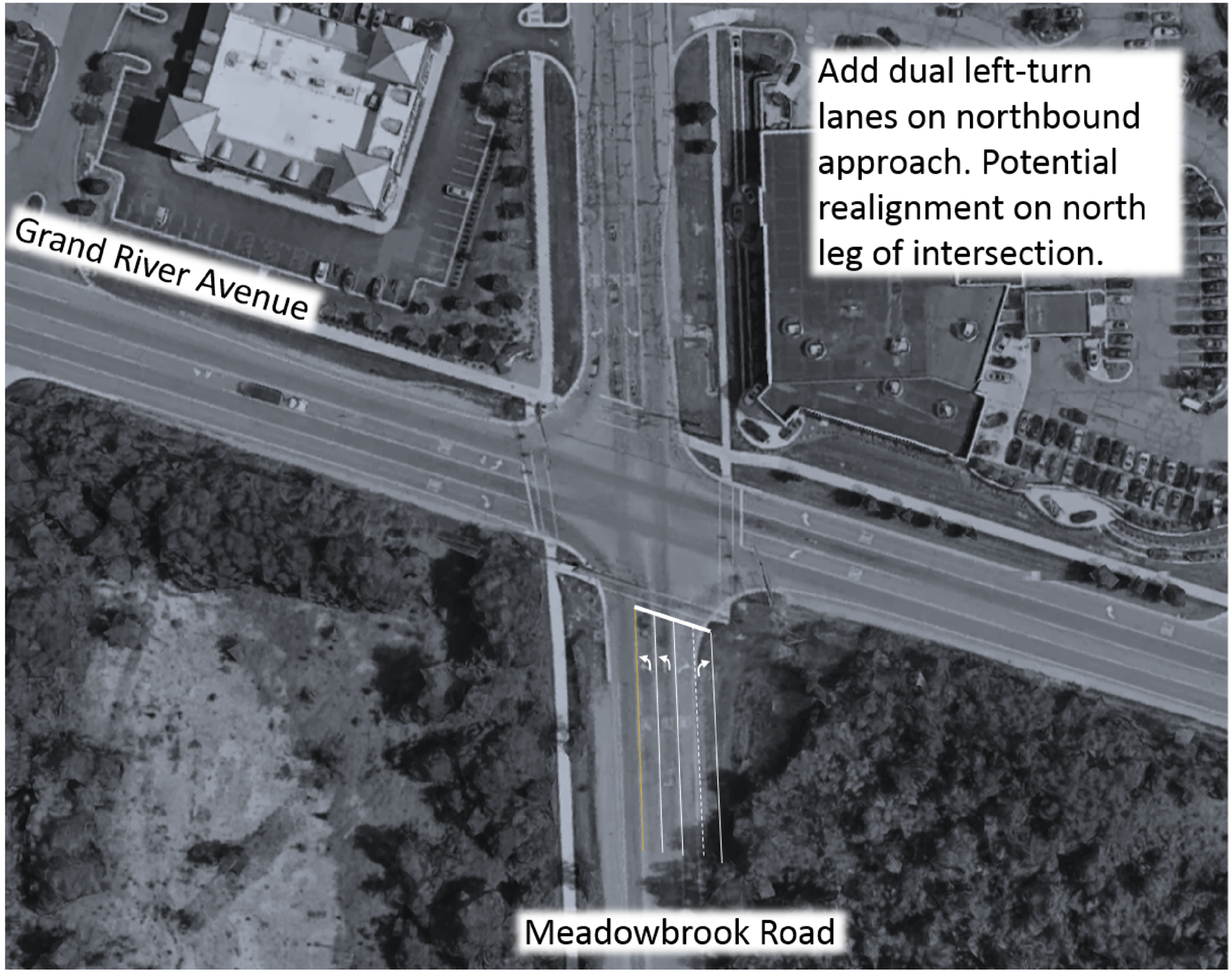
	LEGEND	NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY	
AECOM		NOVI ROAD/GRAND RIVER AVENUE INTERSECTION MITIGATION CONCEPT	FIGURE 10A

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-10A_NOVI RD-GRAND RIVER INTERSECTION MIT CONCEPT



	LEGEND	NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY	
AECOM		NOVI ROAD/TEN MILE INTERSECTION MITIGATION CONCEPT	FIGURE 10B

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-10B_NOVI RD-TEN MI INTERSECTION MIT CONCEPT

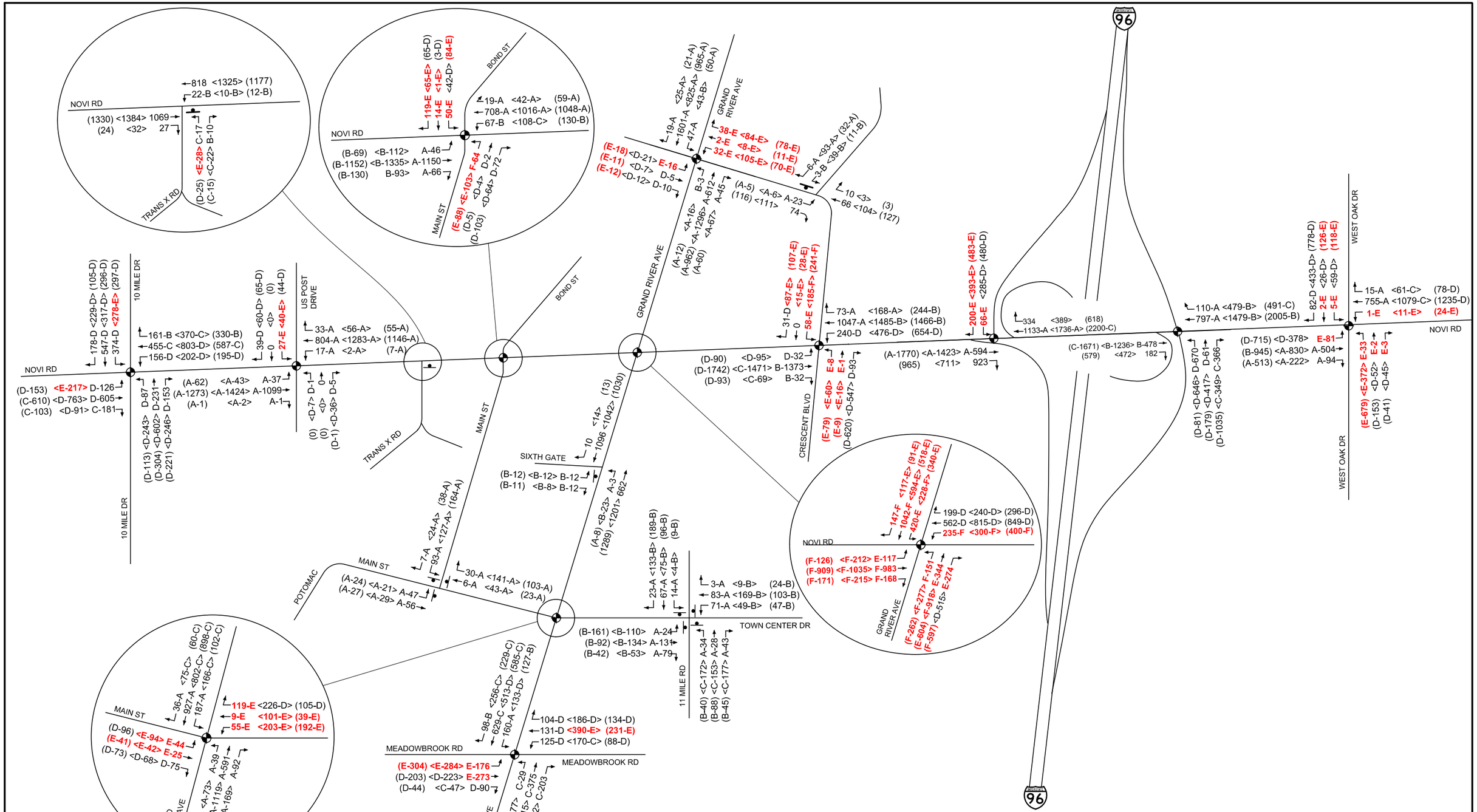


	LEGEND	NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY	
AECOM		GRAND RIVER AVENUE/MEADOWBROOK ROAD INTERSECTION MITIGATION CONCEPT	FIGURE 10C

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-10C_GRAND RIVER AVENUE MEADOWBROOK ROAD INTERTSECTION MIT CONCEPT

	LEGEND	NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY	
AECOM		GRAND RIVER AVENUE MITIGATION CONCEPT	FIGURE 10D

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-10D_GRAND RIVER AVENUE MITIGATION CONCEPT



NOTE: MANY POORLY OPERATING TURNING MOVEMENTS ARE PROJECTED TO OPERATE WITH IMPROVED LOS, WITH ROADWAY IMPROVEMENTS ASSUMED TO BE IN PLACE. THIS IS PRIMARILY TRUE AT THE NOVI ROAD/TEN MILE ROAD AND GRAND RIVER AVENUE/MEADOWBROOK ROAD INTERSECTIONS.

LEGEND

- TRAFFIC SIGNAL
- STOP SIGN
- LANE MOVEMENT

XXX-X - AM-PEAK WEEKDAY TRAFFIC VOLUME & LOS
<XXX-X> - PM-PEAK WEEKDAY TRAFFIC VOLUME & LOS
(XXX-X) - SATURDAY PEAK TRAFFIC VOLUME & LOS

AECOM

NOVI RD / GRAND RIVER AVE AREA TRAFFIC IMPACT STUDY

FUTURE (2028) AM, PM AND SATURDAY PEAK-HOUR VOLUMES AND LEVELS OF SERVICE (W/MITIGATION)

FIGURE 11

G:\GrandRapids\DCS\Projects\12944755\Engineering\Traffic\60528219 - Novi POs\Novi_Grand River TIS\CADD-11_FUTURE (MITIGATION) 2028 VOLUMES & LOS

APPENDIX A. Turning Movement Counts

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Road @ West Oaks / Twelve Oaks Mall
Site Code:
Start Date: 03/15/2018

Turning Movement Data

Start Time	West Oaks Dr Eastbound					Twelve Oaks Mall Rd Westbound					Novi Rd Northbound					Novi Rd Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:00 AM	2	0	18	0	20	8	1	0	0	9	16	77	13	0	106	0	128	2	0	130	265
7:15 AM	1	1	14	0	16	3	0	0	0	3	21	77	10	0	108	1	140	1	0	142	269
7:30 AM	2	0	17	0	19	0	0	1	0	1	5	99	16	0	120	1	171	1	0	173	313
7:45 AM	2	1	14	0	17	5	0	1	0	6	23	138	28	0	189	0	202	5	0	207	419
Hourly Total	7	2	63	0	72	16	1	2	0	19	65	391	67	0	523	2	641	9	0	652	1266
8:00 AM	2	0	27	0	29	5	1	1	0	7	15	91	13	0	119	1	163	2	0	166	321
8:15 AM	0	1	17	0	18	8	1	1	0	10	19	94	24	0	137	0	159	3	0	162	327
8:30 AM	1	0	20	0	21	13	0	0	0	13	20	109	24	0	153	0	147	4	0	151	338
8:45 AM	6	1	18	0	25	6	0	1	0	7	31	95	34	0	160	0	164	6	0	170	362
Hourly Total	9	2	82	0	93	32	2	3	0	37	85	389	95	0	569	1	633	15	0	649	1348
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	16	7	108	0	131	105	16	7	0	128	97	137	57	0	291	4	192	7	0	203	753
4:15 PM	17	2	89	0	108	90	15	7	0	112	101	153	55	0	309	4	184	12	0	200	729
4:30 PM	18	8	87	0	113	96	17	8	0	121	108	163	50	0	321	2	195	12	0	209	764
4:45 PM	14	6	121	0	141	85	10	9	0	104	95	164	45	1	304	2	202	13	0	217	766
Hourly Total	65	23	405	0	493	376	58	31	0	465	401	617	207	1	1225	12	773	44	0	829	3012
5:00 PM	6	6	117	0	129	92	19	10	0	121	103	200	46	0	349	1	246	14	0	261	860
5:15 PM	20	7	100	0	127	90	11	14	0	115	80	166	54	0	300	3	224	15	0	242	784
5:30 PM	15	8	86	0	109	90	14	9	0	113	77	154	55	0	286	5	240	9	0	254	762
5:45 PM	15	4	109	0	128	82	5	10	0	97	100	175	56	0	331	1	211	20	0	232	788
Hourly Total	56	25	412	0	493	354	49	43	0	446	360	695	211	0	1266	10	921	58	0	989	3194
Grand Total	137	52	962	0	1151	778	110	79	0	967	911	2092	580	1	3583	25	2968	126	0	3119	8820
Approach %	11.9	4.5	83.6	-	-	80.5	11.4	8.2	-	-	25.4	58.4	16.2	-	-	0.8	95.2	4.0	-	-	-
Total %	1.6	0.6	10.9	-	13.0	8.8	1.2	0.9	-	11.0	10.3	23.7	6.6	-	40.6	0.3	33.7	1.4	-	35.4	-
Lights	136	51	953	-	1140	774	108	78	-	960	904	2074	575	-	3553	25	2938	125	-	3088	8741
% Lights	99.3	98.1	99.1	-	99.0	99.5	98.2	98.7	-	99.3	99.2	99.1	99.1	-	99.2	100.0	99.0	99.2	-	99.0	99.1
Other Vehicles	1	1	9	-	11	4	2	1	-	7	7	18	5	-	30	0	30	1	-	31	79
% Other Vehicles	0.7	1.9	0.9	-	1.0	0.5	1.8	1.3	-	0.7	0.8	0.9	0.9	-	0.8	0.0	1.0	0.8	-	1.0	0.9
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Road @ West Oaks / Twelve Oaks Mall
Site Code:
Start Date: 03/15/2018

Turning Movement Peak Hour Data (7:45 AM)

Start Time	West Oaks Dr Eastbound					Twelve Oaks Mall Rd Westbound					Novi Rd Northbound					Novi Rd Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:45 AM	2	1	14	0	17	5	0	1	0	6	23	138	28	0	189	0	202	5	0	207	419
8:00 AM	2	0	27	0	29	5	1	1	0	7	15	91	13	0	119	1	163	2	0	166	321
8:15 AM	0	1	17	0	18	8	1	1	0	10	19	94	24	0	137	0	159	3	0	162	327
8:30 AM	1	0	20	0	21	13	0	0	0	13	20	109	24	0	153	0	147	4	0	151	338
Total	5	2	78	0	85	31	2	3	0	36	77	432	89	0	598	1	671	14	0	686	1405
Approach %	5.9	2.4	91.8	-	-	86.1	5.6	8.3	-	-	12.9	72.2	14.9	-	-	0.1	97.8	2.0	-	-	-
Total %	0.4	0.1	5.6	-	6.0	2.2	0.1	0.2	-	2.6	5.5	30.7	6.3	-	42.6	0.1	47.8	1.0	-	48.8	-
PHF	0.625	0.500	0.722	-	0.733	0.596	0.500	0.750	-	0.692	0.837	0.783	0.795	-	0.791	0.250	0.830	0.700	-	0.829	0.838
Lights	5	2	74	-	81	28	1	3	-	32	72	422	87	-	581	1	657	13	-	671	1365
% Lights	100.0	100.0	94.9	-	95.3	90.3	50.0	100.0	-	88.9	93.5	97.7	97.8	-	97.2	100.0	97.9	92.9	-	97.8	97.2
Other Vehicles	0	0	4	-	4	3	1	0	-	4	5	10	2	-	17	0	14	1	-	15	40
% Other Vehicles	0.0	0.0	5.1	-	4.7	9.7	50.0	0.0	-	11.1	6.5	2.3	2.2	-	2.8	0.0	2.1	7.1	-	2.2	2.8
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Road @ West Oaks / Twelve Oaks Mall
Site Code:
Start Date: 03/15/2018

Turning Movement Peak Hour Data (5:00 PM)

Start Time	West Oaks Dr Eastbound					Twelve Oaks Mall Rd Westbound					Novi Rd Northbound					Novi Rd Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
5:00 PM	6	6	117	0	129	92	19	10	0	121	103	200	46	0	349	1	246	14	0	261	860
5:15 PM	20	7	100	0	127	90	11	14	0	115	80	166	54	0	300	3	224	15	0	242	784
5:30 PM	15	8	86	0	109	90	14	9	0	113	77	154	55	0	286	5	240	9	0	254	762
5:45 PM	15	4	109	0	128	82	5	10	0	97	100	175	56	0	331	1	211	20	0	232	788
Total	56	25	412	0	493	354	49	43	0	446	360	695	211	0	1266	10	921	58	0	989	3194
Approach %	11.4	5.1	83.6	-	-	79.4	11.0	9.6	-	-	28.4	54.9	16.7	-	-	1.0	93.1	5.9	-	-	-
Total %	1.8	0.8	12.9	-	15.4	11.1	1.5	1.3	-	14.0	11.3	21.8	6.6	-	39.6	0.3	28.8	1.8	-	31.0	-
PHF	0.700	0.781	0.880	-	0.955	0.962	0.645	0.768	-	0.921	0.874	0.869	0.942	-	0.907	0.500	0.936	0.725	-	0.947	0.928
Lights	56	25	411	-	492	353	49	43	-	445	360	695	211	-	1266	10	919	58	-	987	3190
% Lights	100.0	100.0	99.8	-	99.8	99.7	100.0	100.0	-	99.8	100.0	100.0	100.0	-	100.0	100.0	99.8	100.0	-	99.8	99.9
Other Vehicles	0	0	1	-	1	1	0	0	-	1	0	0	0	-	0	0	2	0	-	2	4
% Other Vehicles	0.0	0.0	0.2	-	0.2	0.3	0.0	0.0	-	0.2	0.0	0.0	0.0	-	0.0	0.0	0.2	0.0	-	0.2	0.1
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Rd @ West Oaks Drive / Twelve Oaks Mall (Sat.)
Site Code:
Start Date: 03/24/2018

Turning Movement Data

Start Time	West Oaks Dr Eastbound					Twelve Oaks Mall Rd Westbound					Novi Rd Northbound					Novi Rd Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
1:00 PM	20	39	182	2	241	174	29	5	0	208	178	184	126	0	488	4	225	19	2	248	1185
1:15 PM	17	24	145	1	186	150	42	10	0	202	182	228	133	0	543	2	258	24	0	284	1215
1:30 PM	28	34	173	0	235	177	32	13	0	222	173	171	140	0	484	10	238	26	0	274	1215
1:45 PM	28	35	143	0	206	171	36	15	0	222	158	173	142	0	473	4	244	17	0	265	1166
Hourly Total	93	132	643	3	868	672	139	43	0	854	691	756	541	0	1988	20	965	86	2	1071	4781
2:00 PM	35	27	186	0	248	159	36	6	0	201	176	198	115	0	489	4	255	14	0	273	1211
2:15 PM	25	39	194	1	258	170	41	17	0	228	146	211	140	0	497	8	254	22	1	284	1267
2:30 PM	21	36	173	1	230	168	34	12	0	214	182	176	131	0	489	4	275	17	1	296	1229
2:45 PM	31	18	187	0	236	149	35	4	0	188	176	197	102	0	475	7	265	21	0	293	1192
Hourly Total	112	120	740	2	972	646	146	39	0	831	680	782	488	0	1950	23	1049	74	2	1146	4899
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	205	252	1383	5	1840	1318	285	82	0	1685	1371	1538	1029	0	3938	43	2014	160	4	2217	9680
Approach %	11.1	13.7	75.2	-	-	78.2	16.9	4.9	-	-	34.8	39.1	26.1	-	-	1.9	90.8	7.2	-	-	-
Total %	2.1	2.6	14.3	-	19.0	13.6	2.9	0.8	-	17.4	14.2	15.9	10.6	-	40.7	0.4	20.8	1.7	-	22.9	-
Lights	204	252	1380	-	1836	1317	284	81	-	1682	1370	1529	1027	-	3926	43	2006	160	-	2209	9653
% Lights	99.5	100.0	99.8	-	99.8	99.9	99.6	98.8	-	99.8	99.9	99.4	99.8	-	99.7	100.0	99.6	100.0	-	99.6	99.7
Other Vehicles	1	0	3	-	4	1	1	1	-	3	1	9	2	-	12	0	8	0	-	8	27
% Other Vehicles	0.5	0.0	0.2	-	0.2	0.1	0.4	1.2	-	0.2	0.1	0.6	0.2	-	0.3	0.0	0.4	0.0	-	0.4	0.3
Pedestrians	-	-	-	5	-	-	-	-	0	-	-	-	-	0	-	-	-	-	4	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Rd @ West Oaks Drive / Twelve Oaks Mall (Sat.)
Site Code:
Start Date: 03/24/2018

Turning Movement Peak Hour Data (2:00 PM)

Start Time	West Oaks Dr Eastbound					Twelve Oaks Mall Rd Westbound					Novi Rd Northbound					Novi Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
2:00 PM	35	27	186	0	248	159	36	6	0	201	176	198	115	0	489	4	255	14	0	273	1211
2:15 PM	25	39	194	1	258	170	41	17	0	228	146	211	140	0	497	8	254	22	1	284	1267
2:30 PM	21	36	173	1	230	168	34	12	0	214	182	176	131	0	489	4	275	17	1	296	1229
2:45 PM	31	18	187	0	236	149	35	4	0	188	176	197	102	0	475	7	265	21	0	293	1192
Total	112	120	740	2	972	646	146	39	0	831	680	782	488	0	1950	23	1049	74	2	1146	4899
Approach %	11.5	12.3	76.1	-	-	77.7	17.6	4.7	-	-	34.9	40.1	25.0	-	-	2.0	91.5	6.5	-	-	-
Total %	2.3	2.4	15.1	-	19.8	13.2	3.0	0.8	-	17.0	13.9	16.0	10.0	-	39.8	0.5	21.4	1.5	-	23.4	-
PHF	0.800	0.769	0.954	-	0.942	0.950	0.890	0.574	-	0.911	0.934	0.927	0.871	-	0.981	0.719	0.954	0.841	-	0.968	0.967
Lights	111	120	739	-	970	646	146	38	-	830	679	777	487	-	1943	23	1044	74	-	1141	4884
% Lights	99.1	100.0	99.9	-	99.8	100.0	100.0	97.4	-	99.9	99.9	99.4	99.8	-	99.6	100.0	99.5	100.0	-	99.6	99.7
Other Vehicles	1	0	1	-	2	0	0	1	-	1	1	5	1	-	7	0	5	0	-	5	15
% Other Vehicles	0.9	0.0	0.1	-	0.2	0.0	0.0	2.6	-	0.1	0.1	0.6	0.2	-	0.4	0.0	0.5	0.0	-	0.4	0.3
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: WB I-96 Off-Ramp @ Novi Rd
Site Code:
Start Date: 04/19/2018

Turning Movement Data

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	133	6	47	0	186	0	50	0	0	50	0	153	29	0	182	418
7:15 AM	0	0	0	0	0	106	11	54	0	171	0	55	0	0	55	0	163	22	0	185	411
7:30 AM	0	0	0	0	0	118	12	61	1	191	0	73	0	0	73	0	162	29	0	191	455
7:45 AM	0	0	0	0	0	186	17	102	0	305	0	95	0	0	95	0	163	29	0	192	592
Hourly Total	0	0	0	0	0	543	46	264	1	853	0	273	0	0	273	0	641	109	0	750	1876
8:00 AM	0	0	0	0	0	129	4	63	0	196	0	80	0	0	80	0	171	31	0	202	478
8:15 AM	0	0	0	0	0	137	13	78	0	228	0	100	0	0	100	0	182	25	0	207	535
8:30 AM	0	0	0	0	0	122	22	95	0	239	0	101	0	0	101	0	173	28	0	201	541
8:45 AM	0	0	0	0	0	179	19	112	0	310	0	126	0	0	126	0	185	21	0	206	642
Hourly Total	0	0	0	0	0	567	58	348	0	973	0	407	0	0	407	0	711	105	0	816	2196
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	105	73	74	0	252	0	250	0	0	250	0	311	104	0	415	917
4:15 PM	0	0	0	0	0	113	64	74	0	251	0	233	0	0	233	0	279	120	0	399	883
4:30 PM	0	0	0	0	0	118	76	79	0	273	0	256	0	0	256	0	269	83	0	352	881
4:45 PM	0	0	0	0	0	123	79	91	0	293	0	272	0	0	272	0	267	113	0	380	945
Hourly Total	0	0	0	0	0	459	292	318	0	1069	0	1011	0	0	1011	0	1126	420	0	1546	3626
5:00 PM	0	0	0	0	0	112	100	85	0	297	0	291	0	0	291	0	301	120	0	421	1009
5:15 PM	0	0	0	0	0	132	91	95	0	318	0	269	0	0	269	0	327	138	0	465	1052
5:30 PM	0	0	0	0	0	126	111	63	0	300	0	251	0	0	251	0	349	110	0	459	1010
5:45 PM	0	0	0	0	0	136	95	89	0	320	0	271	0	0	271	0	324	88	0	412	1003
Hourly Total	0	0	0	0	0	506	397	332	0	1235	0	1082	0	0	1082	0	1301	456	0	1757	4074
6:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	2076	793	1262	1	4131	0	2773	0	0	2773	0	3779	1090	0	4869	11773
Approach %	0.0	0.0	0.0	-	-	50.3	19.2	30.5	-	-	0.0	100.0	0.0	-	-	0.0	77.6	22.4	-	-	-
Total %	0.0	0.0	0.0	-	0.0	17.6	6.7	10.7	-	35.1	0.0	23.6	0.0	-	23.6	0.0	32.1	9.3	-	41.4	-
Lights	0	0	0	-	0	2001	785	1231	-	4017	0	2747	0	-	2747	0	3723	1078	-	4801	11565
% Lights	-	-	-	-	-	96.4	99.0	97.5	-	97.2	-	99.1	-	-	99.1	-	98.5	98.9	-	98.6	98.2
Other Vehicles	0	0	0	-	0	75	8	31	-	114	0	26	0	-	26	0	56	12	-	68	208
% Other Vehicles	-	-	-	-	-	3.6	1.0	2.5	-	2.8	-	0.9	-	-	0.9	-	1.5	1.1	-	1.4	1.8
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: WB I-96 Off-Ramp @ Novi Rd
Site Code:
Start Date: 04/19/2018

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
8:00 AM	0	0	0	0	0	129	4	63	0	196	0	80	0	0	80	0	171	31	0	202	478
8:15 AM	0	0	0	0	0	137	13	78	0	228	0	100	0	0	100	0	182	25	0	207	535
8:30 AM	0	0	0	0	0	122	22	95	0	239	0	101	0	0	101	0	173	28	0	201	541
8:45 AM	0	0	0	0	0	179	19	112	0	310	0	126	0	0	126	0	185	21	0	206	642
Total	0	0	0	0	0	567	58	348	0	973	0	407	0	0	407	0	711	105	0	816	2196
Approach %	0.0	0.0	0.0	-	-	58.3	6.0	35.8	-	-	0.0	100.0	0.0	-	-	0.0	87.1	12.9	-	-	-
Total %	0.0	0.0	0.0	-	0.0	25.8	2.6	15.8	-	44.3	0.0	18.5	0.0	-	18.5	0.0	32.4	4.8	-	37.2	-
PHF	0.000	0.000	0.000	-	0.000	0.792	0.659	0.777	-	0.785	0.000	0.808	0.000	-	0.808	0.000	0.961	0.847	-	0.986	0.855
Lights	0	0	0	-	0	540	56	340	-	936	0	398	0	-	398	0	693	102	-	795	2129
% Lights	-	-	-	-	-	95.2	96.6	97.7	-	96.2	-	97.8	-	-	97.8	-	97.5	97.1	-	97.4	96.9
Other Vehicles	0	0	0	-	0	27	2	8	-	37	0	9	0	-	9	0	18	3	-	21	67
% Other Vehicles	-	-	-	-	-	4.8	3.4	2.3	-	3.8	-	2.2	-	-	2.2	-	2.5	2.9	-	2.6	3.1
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
5:00 PM	0	0	0	0	0	112	100	85	0	297	0	291	0	0	291	0	301	120	0	421	1009
5:15 PM	0	0	0	0	0	132	91	95	0	318	0	269	0	0	269	0	327	138	0	465	1052
5:30 PM	0	0	0	0	0	126	111	63	0	300	0	251	0	0	251	0	349	110	0	459	1010
5:45 PM	0	0	0	0	0	136	95	89	0	320	0	271	0	0	271	0	324	88	0	412	1003
Total	0	0	0	0	0	506	397	332	0	1235	0	1082	0	0	1082	0	1301	456	0	1757	4074
Approach %	0.0	0.0	0.0	-	-	41.0	32.1	26.9	-	-	0.0	100.0	0.0	-	-	0.0	74.0	26.0	-	-	-
Total %	0.0	0.0	0.0	-	0.0	12.4	9.7	8.1	-	30.3	0.0	26.6	0.0	-	26.6	0.0	31.9	11.2	-	43.1	-
PHF	0.000	0.000	0.000	-	0.000	0.930	0.894	0.874	-	0.965	0.000	0.930	0.000	-	0.930	0.000	0.932	0.826	-	0.945	0.968
Lights	0	0	0	-	0	492	392	327	-	1211	0	1078	0	-	1078	0	1292	453	-	1745	4034
% Lights	-	-	-	-	-	97.2	98.7	98.5	-	98.1	-	99.6	-	-	99.6	-	99.3	99.3	-	99.3	99.0
Other Vehicles	0	0	0	-	0	14	5	5	-	24	0	4	0	-	4	0	9	3	-	12	40
% Other Vehicles	-	-	-	-	-	2.8	1.3	1.5	-	1.9	-	0.4	-	-	0.4	-	0.7	0.7	-	0.7	1.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: WB I-96 Off-Ramp @ Novi Rd (Sat)
Site Code:
Start Date: 04/21/2018

Turning Movement Data

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	0	0	0	0	0	169	34	235	0	438	1	338	0	0	339	0	381	98	0	479	1256
1:15 PM	0	0	0	0	0	134	35	236	0	405	1	355	0	0	356	0	438	117	0	555	1316
1:30 PM	0	0	0	0	0	160	31	236	0	427	0	380	0	0	380	0	418	110	0	528	1335
1:45 PM	0	0	0	0	0	154	43	243	0	440	0	369	0	0	369	0	414	103	0	517	1326
Hourly Total	0	0	0	0	0	617	143	950	0	1710	2	1442	0	0	1444	0	1651	428	0	2079	5233
2:00 PM	0	0	0	0	0	146	38	227	0	411	0	384	0	0	384	0	434	119	0	553	1348
2:15 PM	0	0	0	0	0	148	35	219	0	402	0	366	0	0	366	0	459	107	0	566	1334
2:30 PM	0	0	0	0	0	157	35	259	0	451	0	369	0	0	369	0	410	100	0	510	1330
2:45 PM	0	0	0	0	0	164	62	280	0	506	0	354	0	0	354	0	479	141	0	620	1480
Hourly Total	0	0	0	0	0	615	170	985	0	1770	0	1473	0	0	1473	0	1782	467	0	2249	5492
Grand Total	0	0	0	0	0	1232	313	1935	0	3480	2	2915	0	0	2917	0	3433	895	0	4328	10725
Approach %	0.0	0.0	0.0	-	-	35.4	9.0	55.6	-	-	0.1	99.9	0.0	-	-	0.0	79.3	20.7	-	-	-
Total %	0.0	0.0	0.0	-	0.0	11.5	2.9	18.0	-	32.4	0.0	27.2	0.0	-	27.2	0.0	32.0	8.3	-	40.4	-
Lights	0	0	0	-	0	1223	313	1933	-	3469	2	2906	0	-	2908	0	3427	893	-	4320	10697
% Lights	-	-	-	-	-	99.3	100.0	99.9	-	99.7	100.0	99.7	-	-	99.7	-	99.8	99.8	-	99.8	99.7
Other Vehicles	0	0	0	-	0	9	0	2	-	11	0	9	0	-	9	0	6	2	-	8	28
% Other Vehicles	-	-	-	-	-	0.7	0.0	0.1	-	0.3	0.0	0.3	-	-	0.3	-	0.2	0.2	-	0.2	0.3
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Peak Hour Data (2:00 PM)

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
2:00 PM	0	0	0	0	0	146	38	227	0	411	0	384	0	0	384	0	434	119	0	553	1348
2:15 PM	0	0	0	0	0	148	35	219	0	402	0	366	0	0	366	0	459	107	0	566	1334
2:30 PM	0	0	0	0	0	157	35	259	0	451	0	369	0	0	369	0	410	100	0	510	1330
2:45 PM	0	0	0	0	0	164	62	280	0	506	0	354	0	0	354	0	479	141	0	620	1480
Total	0	0	0	0	0	615	170	985	0	1770	0	1473	0	0	1473	0	1782	467	0	2249	5492
Approach %	0.0	0.0	0.0	-	-	34.7	9.6	55.6	-	-	0.0	100.0	0.0	-	-	0.0	79.2	20.8	-	-	-
Total %	0.0	0.0	0.0	-	0.0	11.2	3.1	17.9	-	32.2	0.0	26.8	0.0	-	26.8	0.0	32.4	8.5	-	41.0	-
PHF	0.000	0.000	0.000	-	0.000	0.938	0.685	0.879	-	0.875	0.000	0.959	0.000	-	0.959	0.000	0.930	0.828	-	0.907	0.928
Lights	0	0	0	-	0	610	170	985	-	1765	0	1471	0	-	1471	0	1780	465	-	2245	5481
% Lights	-	-	-	-	-	99.2	100.0	100.0	-	99.7	-	99.9	-	-	99.9	-	99.9	99.6	-	99.8	99.8
Other Vehicles	0	0	0	-	0	5	0	0	-	5	0	2	0	-	2	0	2	2	-	4	11
% Other Vehicles	-	-	-	-	-	0.8	0.0	0.0	-	0.3	-	0.1	-	-	0.1	-	0.1	0.4	-	0.2	0.2
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Road @ I-96
EB Off Ramp
Site Code:
Start Date: 03/15/2018

Turning Movement Data

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	17	0	33	0	50	0	0	0	0	0	0	84	200	0	284	0	162	0	0	162	496
7:15 AM	13	0	29	0	42	0	0	0	0	0	0	104	214	0	318	0	220	0	0	220	580
7:30 AM	13	0	48	0	61	0	0	0	0	0	0	95	187	0	282	0	269	0	0	269	612
7:45 AM	18	0	45	0	63	0	0	0	0	0	0	147	178	0	325	0	279	0	0	279	667
Hourly Total	61	0	155	0	216	0	0	0	0	0	0	430	779	0	1209	0	930	0	0	930	2355
8:00 AM	13	0	30	0	43	0	0	0	0	0	0	112	215	0	327	0	217	0	0	217	587
8:15 AM	19	0	43	0	62	0	0	0	0	0	0	138	227	0	365	0	195	0	0	195	622
8:30 AM	18	0	45	0	63	0	0	0	0	0	1	148	200	0	349	0	199	0	0	199	611
8:45 AM	27	0	46	0	73	0	0	0	0	0	0	106	171	0	277	0	241	0	0	241	591
Hourly Total	77	0	164	0	241	0	0	0	0	0	1	504	813	0	1318	0	852	0	0	852	2411
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	41	0	64	0	105	0	0	0	1	0	0	293	210	0	503	0	318	0	0	318	926
4:15 PM	56	0	68	0	124	0	0	0	0	0	0	287	209	0	496	0	299	0	0	299	919
4:30 PM	60	0	67	0	127	0	0	0	0	0	0	318	214	0	532	0	315	0	0	315	974
4:45 PM	56	0	92	0	148	0	0	0	0	0	0	288	142	0	430	0	305	0	0	305	883
Hourly Total	213	0	291	0	504	0	0	0	1	0	0	1186	775	0	1961	0	1237	0	0	1237	3702
5:00 PM	77	0	80	0	157	0	0	0	0	0	0	350	175	0	525	0	366	0	0	366	1048
5:15 PM	65	0	83	0	148	0	0	0	0	0	0	268	136	0	404	0	341	0	0	341	893
5:30 PM	63	0	92	0	155	0	0	0	0	0	0	292	129	0	421	0	348	0	0	348	924
5:45 PM	66	0	67	0	133	0	0	0	0	0	0	303	142	0	445	0	382	0	0	382	960
Hourly Total	271	0	322	0	593	0	0	0	0	0	0	1213	582	0	1795	0	1437	0	0	1437	3825
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	622	0	932	0	1554	0	0	0	1	0	1	3333	2949	0	6283	0	4456	0	0	4456	12293
Approach %	40.0	0.0	60.0	-	-	0.0	0.0	0.0	-	-	0.0	53.0	46.9	-	-	0.0	100.0	0.0	-	-	-
Total %	5.1	0.0	7.6	-	12.6	0.0	0.0	0.0	-	0.0	0.0	27.1	24.0	-	51.1	0.0	36.2	0.0	-	36.2	-
Lights	616	0	914	-	1530	0	0	0	-	0	1	3286	2881	-	6168	0	4370	0	-	4370	12068
% Lights	99.0	-	98.1	-	98.5	-	-	-	-	-	100.0	98.6	97.7	-	98.2	-	98.1	-	-	98.1	98.2
Other Vehicles	6	0	18	-	24	0	0	0	-	0	0	47	68	-	115	0	86	0	-	86	225
% Other Vehicles	1.0	-	1.9	-	1.5	-	-	-	-	-	0.0	1.4	2.3	-	1.8	-	1.9	-	-	1.9	1.8
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Road @ I-96
EB Off Ramp
Site Code:
Start Date: 03/15/2018

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Eastbound Approach					Westbound Approach					Northbound Approach					Southbound Approach					
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	13	0	48	0	61	0	0	0	0	0	0	95	187	0	282	0	269	0	0	269	612
7:45 AM	18	0	45	0	63	0	0	0	0	0	0	147	178	0	325	0	279	0	0	279	667
8:00 AM	13	0	30	0	43	0	0	0	0	0	0	112	215	0	327	0	217	0	0	217	587
8:15 AM	19	0	43	0	62	0	0	0	0	0	0	138	227	0	365	0	195	0	0	195	622
Total	63	0	166	0	229	0	0	0	0	0	0	492	807	0	1299	0	960	0	0	960	2488
Approach %	27.5	0.0	72.5	-	-	0.0	0.0	0.0	-	-	0.0	37.9	62.1	-	-	0.0	100.0	0.0	-	-	-
Total %	2.5	0.0	6.7	-	9.2	0.0	0.0	0.0	-	0.0	0.0	19.8	32.4	-	52.2	0.0	38.6	0.0	-	38.6	-
PHF	0.829	0.000	0.865	-	0.909	0.000	0.000	0.000	-	0.000	0.000	0.837	0.889	-	0.890	0.000	0.860	0.000	-	0.860	0.933
Lights	61	0	162	-	223	0	0	0	-	0	0	476	792	-	1268	0	930	0	-	930	2421
% Lights	96.8	-	97.6	-	97.4	-	-	-	-	-	-	96.7	98.1	-	97.6	-	96.9	-	-	96.9	97.3
Other Vehicles	2	0	4	-	6	0	0	0	-	0	0	16	15	-	31	0	30	0	-	30	67
% Other Vehicles	3.2	-	2.4	-	2.6	-	-	-	-	-	-	3.3	1.9	-	2.4	-	3.1	-	-	3.1	2.7
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Road @ I-96
EB Off Ramp
Site Code:
Start Date: 03/15/2018

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Eastbound Approach					Westbound Approach					Northbound Approach					Southbound Approach					
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
5:00 PM	77	0	80	0	157	0	0	0	0	0	0	350	175	0	525	0	366	0	0	366	1048
5:15 PM	65	0	83	0	148	0	0	0	0	0	0	268	136	0	404	0	341	0	0	341	893
5:30 PM	63	0	92	0	155	0	0	0	0	0	0	292	129	0	421	0	348	0	0	348	924
5:45 PM	66	0	67	0	133	0	0	0	0	0	0	303	142	0	445	0	382	0	0	382	960
Total	271	0	322	0	593	0	0	0	0	0	0	1213	582	0	1795	0	1437	0	0	1437	3825
Approach %	45.7	0.0	54.3	-	-	0.0	0.0	0.0	-	-	0.0	67.6	32.4	-	-	0.0	100.0	0.0	-	-	-
Total %	7.1	0.0	8.4	-	15.5	0.0	0.0	0.0	-	0.0	0.0	31.7	15.2	-	46.9	0.0	37.6	0.0	-	37.6	-
PHF	0.880	0.000	0.875	-	0.944	0.000	0.000	0.000	-	0.000	0.000	0.866	0.831	-	0.855	0.000	0.940	0.000	-	0.940	0.912
Lights	271	0	316	-	587	0	0	0	-	0	0	1211	578	-	1789	0	1424	0	-	1424	3800
% Lights	100.0	-	98.1	-	99.0	-	-	-	-	-	-	99.8	99.3	-	99.7	-	99.1	-	-	99.1	99.3
Other Vehicles	0	0	6	-	6	0	0	0	-	0	0	2	4	-	6	0	13	0	-	13	25
% Other Vehicles	0.0	-	1.9	-	1.0	-	-	-	-	-	-	0.2	0.7	-	0.3	-	0.9	-	-	0.9	0.7
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Rd @ I-96
EB Off-ramp (Sat.)
Site Code:
Start Date: 03/24/2018

Turning Movement Data

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	119	0	100	0	219	0	0	0	0	0	0	377	174	0	551	0	461	0	0	461	1231
1:15 PM	108	0	88	0	196	0	0	0	0	0	0	360	198	0	558	0	398	0	0	398	1152
1:30 PM	112	0	103	0	215	0	0	0	0	0	0	359	195	0	554	0	480	0	0	480	1249
1:45 PM	110	0	88	0	198	0	0	0	0	0	0	351	198	0	549	0	430	0	0	430	1177
Hourly Total	449	0	379	0	828	0	0	0	0	0	0	1447	765	0	2212	0	1769	0	0	1769	4809
2:00 PM	116	0	81	0	197	0	0	0	0	0	0	367	183	0	550	0	450	0	0	450	1197
2:15 PM	119	0	94	0	213	0	0	0	0	0	0	403	193	0	596	0	448	0	0	448	1257
2:30 PM	126	0	82	0	208	0	0	0	0	0	0	361	207	0	568	0	437	0	0	437	1213
2:45 PM	123	0	81	0	204	0	0	0	0	0	0	364	175	0	539	0	451	0	0	451	1194
Hourly Total	484	0	338	0	822	0	0	0	0	0	0	1495	758	0	2253	0	1786	0	0	1786	4861
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Grand Total	933	0	717	0	1650	0	0	0	0	0	0	2942	1524	0	4466	0	3555	0	0	3555	9671
Approach %	56.5	0.0	43.5	-	-	0.0	0.0	0.0	-	-	0.0	65.9	34.1	-	-	0.0	100.0	0.0	-	-	-
Total %	9.6	0.0	7.4	-	17.1	0.0	0.0	0.0	-	0.0	0.0	30.4	15.8	-	46.2	0.0	36.8	0.0	-	36.8	-
Lights	930	0	707	-	1637	0	0	0	-	0	0	2935	1514	-	4449	0	3544	0	-	3544	9630
% Lights	99.7	-	98.6	-	99.2	-	-	-	-	-	-	99.8	99.3	-	99.6	-	99.7	-	-	99.7	99.6
Other Vehicles	3	0	10	-	13	0	0	0	-	0	0	7	10	-	17	0	11	0	-	11	41
% Other Vehicles	0.3	-	1.4	-	0.8	-	-	-	-	-	-	0.2	0.7	-	0.4	-	0.3	-	-	0.3	0.4
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Rd @ I-96
EB Off-ramp (Sat.)
Site Code:
Start Date: 03/24/2018

Turning Movement Peak Hour Data (1:30 PM)

Start Time	Eastbound Approach					Westbound Approach					Northbound Approach					Southbound Approach					
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:30 PM	112	0	103	0	215	0	0	0	0	0	0	359	195	0	554	0	480	0	0	480	1249
1:45 PM	110	0	88	0	198	0	0	0	0	0	0	351	198	0	549	0	430	0	0	430	1177
2:00 PM	116	0	81	0	197	0	0	0	0	0	0	367	183	0	550	0	450	0	0	450	1197
2:15 PM	119	0	94	0	213	0	0	0	0	0	0	403	193	0	596	0	448	0	0	448	1257
Total	457	0	366	0	823	0	0	0	0	0	0	1480	769	0	2249	0	1808	0	0	1808	4880
Approach %	55.5	0.0	44.5	-	-	0.0	0.0	0.0	-	-	0.0	65.8	34.2	-	-	0.0	100.0	0.0	-	-	-
Total %	9.4	0.0	7.5	-	16.9	0.0	0.0	0.0	-	0.0	0.0	30.3	15.8	-	46.1	0.0	37.0	0.0	-	37.0	-
PHF	0.960	0.000	0.888	-	0.957	0.000	0.000	0.000	-	0.000	0.000	0.918	0.971	-	0.943	0.000	0.942	0.000	-	0.942	0.971
Lights	455	0	361	-	816	0	0	0	-	0	0	1475	763	-	2238	0	1804	0	-	1804	4858
% Lights	99.6	-	98.6	-	99.1	-	-	-	-	-	-	99.7	99.2	-	99.5	-	99.8	-	-	99.8	99.5
Other Vehicles	2	0	5	-	7	0	0	0	-	0	0	5	6	-	11	0	4	0	-	4	22
% Other Vehicles	0.4	-	1.4	-	0.9	-	-	-	-	-	-	0.3	0.8	-	0.5	-	0.2	-	-	0.2	0.5
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Road @ Crescent Boulevard
Site Code:
Start Date: 03/15/2018

Turning Movement Data

Start Time	Crescent Blvd Eastbound					Crescent Blvd Westbound					Novi Rd Northbound					Novi Rd Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:00 AM	2	0	1	0	3	1	0	9	0	10	1	269	1	0	271	29	175	1	0	205	489
7:15 AM	0	0	3	0	3	0	0	23	0	23	1	280	1	0	282	27	209	3	0	239	547
7:30 AM	2	0	2	0	4	0	0	12	0	12	2	286	2	0	290	39	277	4	0	320	626
7:45 AM	0	0	1	0	1	0	0	18	0	18	0	306	0	0	306	48	279	1	0	328	653
Hourly Total	4	0	7	0	11	1	0	62	0	63	4	1141	4	0	1149	143	940	9	0	1092	2315
8:00 AM	5	0	2	0	7	2	1	21	0	24	0	282	7	0	289	48	192	6	0	246	566
8:15 AM	1	0	1	0	2	0	0	16	0	16	0	355	6	0	361	56	200	1	0	257	636
8:30 AM	0	0	0	0	0	1	1	18	0	20	0	330	2	0	332	52	185	0	0	237	589
8:45 AM	1	0	6	0	7	1	0	12	0	13	1	258	1	0	260	57	225	8	0	290	570
Hourly Total	7	0	9	0	16	4	2	67	0	73	1	1225	16	0	1242	213	802	15	0	1030	2361
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	17	5	16	0	38	18	1	155	0	174	7	339	11	0	357	85	284	13	0	382	951
4:15 PM	4	4	9	0	17	11	2	108	0	121	7	381	14	0	402	86	264	14	0	364	904
4:30 PM	12	2	6	0	20	7	2	133	0	142	7	401	16	0	424	100	273	16	0	389	975
4:45 PM	19	4	12	0	35	11	0	100	0	111	10	327	19	0	356	88	266	26	0	380	882
Hourly Total	52	15	43	0	110	47	5	496	0	548	31	1448	60	0	1539	359	1087	69	0	1515	3712
5:00 PM	15	3	9	0	27	13	2	142	0	157	7	363	13	0	383	100	334	15	0	449	1016
5:15 PM	20	3	16	0	39	11	6	119	0	136	14	286	18	0	318	96	307	18	0	421	914
5:30 PM	16	5	8	0	29	17	4	94	0	115	7	314	14	0	335	110	317	15	0	442	921
5:45 PM	24	3	5	0	32	7	3	124	0	134	7	307	15	0	329	113	320	15	0	448	943
Hourly Total	75	14	38	0	127	48	15	479	0	542	35	1270	60	0	1365	419	1278	63	0	1760	3794
Grand Total	138	29	97	0	264	100	22	1104	0	1226	71	5084	140	0	5295	1134	4107	156	0	5397	12182
Approach %	52.3	11.0	36.7	-	-	8.2	1.8	90.0	-	-	1.3	96.0	2.6	-	-	21.0	76.1	2.9	-	-	-
Total %	1.1	0.2	0.8	-	2.2	0.8	0.2	9.1	-	10.1	0.6	41.7	1.1	-	43.5	9.3	33.7	1.3	-	44.3	-
Lights	138	29	93	-	260	100	22	1097	-	1219	70	4966	137	-	5173	1129	4004	154	-	5287	11939
% Lights	100.0	100.0	95.9	-	98.5	100.0	100.0	99.4	-	99.4	98.6	97.7	97.9	-	97.7	99.6	97.5	98.7	-	98.0	98.0
Other Vehicles	0	0	4	-	4	0	0	7	-	7	1	118	3	-	122	5	103	2	-	110	243
% Other Vehicles	0.0	0.0	4.1	-	1.5	0.0	0.0	0.6	-	0.6	1.4	2.3	2.1	-	2.3	0.4	2.5	1.3	-	2.0	2.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Road @ Crescent Boulevard
Site Code:
Start Date: 03/15/2018

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Crescent Blvd Eastbound					Crescent Blvd Westbound					Novi Rd Northbound					Novi Rd Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:30 AM	2	0	2	0	4	0	0	12	0	12	2	286	2	0	290	39	277	4	0	320	626
7:45 AM	0	0	1	0	1	0	0	18	0	18	0	306	0	0	306	48	279	1	0	328	653
8:00 AM	5	0	2	0	7	2	1	21	0	24	0	282	7	0	289	48	192	6	0	246	566
8:15 AM	1	0	1	0	2	0	0	16	0	16	0	355	6	0	361	56	200	1	0	257	636
Total	8	0	6	0	14	2	1	67	0	70	2	1229	15	0	1246	191	948	12	0	1151	2481
Approach %	57.1	0.0	42.9	-	-	2.9	1.4	95.7	-	-	0.2	98.6	1.2	-	-	16.6	82.4	1.0	-	-	-
Total %	0.3	0.0	0.2	-	0.6	0.1	0.0	2.7	-	2.8	0.1	49.5	0.6	-	50.2	7.7	38.2	0.5	-	46.4	-
PHF	0.400	0.000	0.750	-	0.500	0.250	0.250	0.798	-	0.729	0.250	0.865	0.536	-	0.863	0.853	0.849	0.500	-	0.877	0.950
Lights	8	0	6	-	14	2	1	66	-	69	2	1197	13	-	1212	188	917	12	-	1117	2412
% Lights	100.0	-	100.0	-	100.0	100.0	100.0	98.5	-	98.6	100.0	97.4	86.7	-	97.3	98.4	96.7	100.0	-	97.0	97.2
Other Vehicles	0	0	0	-	0	0	0	1	-	1	0	32	2	-	34	3	31	0	-	34	69
% Other Vehicles	0.0	-	0.0	-	0.0	0.0	0.0	1.5	-	1.4	0.0	2.6	13.3	-	2.7	1.6	3.3	0.0	-	3.0	2.8
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Road @ Crescent Boulevard
Site Code:
Start Date: 03/15/2018

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Crescent Blvd Eastbound					Crescent Blvd Westbound					Novi Rd Northbound					Novi Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
5:00 PM	15	3	9	0	27	13	2	142	0	157	7	363	13	0	383	100	334	15	0	449	1016
5:15 PM	20	3	16	0	39	11	6	119	0	136	14	286	18	0	318	96	307	18	0	421	914
5:30 PM	16	5	8	0	29	17	4	94	0	115	7	314	14	0	335	110	317	15	0	442	921
5:45 PM	24	3	5	0	32	7	3	124	0	134	7	307	15	0	329	113	320	15	0	448	943
Total	75	14	38	0	127	48	15	479	0	542	35	1270	60	0	1365	419	1278	63	0	1760	3794
Approach %	59.1	11.0	29.9	-	-	8.9	2.8	88.4	-	-	2.6	93.0	4.4	-	-	23.8	72.6	3.6	-	-	-
Total %	2.0	0.4	1.0	-	3.3	1.3	0.4	12.6	-	14.3	0.9	33.5	1.6	-	36.0	11.0	33.7	1.7	-	46.4	-
PHF	0.781	0.700	0.594	-	0.814	0.706	0.625	0.843	-	0.863	0.625	0.875	0.833	-	0.891	0.927	0.957	0.875	-	0.980	0.934
Lights	75	14	38	-	127	48	15	477	-	540	35	1262	60	-	1357	419	1256	63	-	1738	3762
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	99.6	-	99.6	100.0	99.4	100.0	-	99.4	100.0	98.3	100.0	-	98.8	99.2
Other Vehicles	0	0	0	-	0	0	0	2	-	2	0	8	0	-	8	0	22	0	-	22	32
% Other Vehicles	0.0	0.0	0.0	-	0.0	0.0	0.0	0.4	-	0.4	0.0	0.6	0.0	-	0.6	0.0	1.7	0.0	-	1.3	0.8
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Rd @ Crescent Blvd (Sat)
Site Code:
Start Date: 04/21/2018

Turning Movement Data

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	32	4	13	0	49	19	4	143	0	166	11	325	24	0	360	165	272	20	0	457	1032
1:15 PM	34	14	12	0	60	20	3	126	0	149	13	315	28	0	356	155	285	30	0	470	1035
1:30 PM	23	7	16	0	46	29	4	138	0	171	9	350	26	0	385	171	315	24	2	510	1112
1:45 PM	30	3	13	0	46	21	2	132	0	155	12	307	23	0	342	158	298	19	0	475	1018
Hourly Total	119	28	54	0	201	89	13	539	0	641	45	1297	101	0	1443	649	1170	93	2	1912	4197
2:00 PM	30	4	12	0	46	9	2	145	0	156	16	355	29	0	400	116	289	27	0	432	1034
2:15 PM	31	13	14	0	58	16	2	154	0	172	10	348	20	0	378	171	285	28	0	484	1092
2:30 PM	25	2	15	0	42	24	1	138	0	163	8	356	18	0	382	154	286	23	0	463	1050
2:45 PM	23	8	15	0	46	22	4	131	0	157	4	377	18	0	399	156	315	25	0	496	1098
Hourly Total	109	27	56	0	192	71	9	568	0	648	38	1436	85	0	1559	597	1175	103	0	1875	4274
Grand Total	228	55	110	0	393	160	22	1107	0	1289	83	2733	186	0	3002	1246	2345	196	2	3787	8471
Approach %	58.0	14.0	28.0	-	-	12.4	1.7	85.9	-	-	2.8	91.0	6.2	-	-	32.9	61.9	5.2	-	-	-
Total %	2.7	0.6	1.3	-	4.6	1.9	0.3	13.1	-	15.2	1.0	32.3	2.2	-	35.4	14.7	27.7	2.3	-	44.7	-
Lights	227	55	110	-	392	160	22	1104	-	1286	83	2714	185	-	2982	1241	2338	195	-	3774	8434
% Lights	99.6	100.0	100.0	-	99.7	100.0	100.0	99.7	-	99.8	100.0	99.3	99.5	-	99.3	99.6	99.7	99.5	-	99.7	99.6
Other Vehicles	1	0	0	-	1	0	0	3	-	3	0	19	1	-	20	5	7	1	-	13	37
% Other Vehicles	0.4	0.0	0.0	-	0.3	0.0	0.0	0.3	-	0.2	0.0	0.7	0.5	-	0.7	0.4	0.3	0.5	-	0.3	0.4
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Turning Movement Peak Hour Data (2:00 PM)

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
2:00 PM	30	4	12	0	46	9	2	145	0	156	16	355	29	0	400	116	289	27	0	432	1034
2:15 PM	31	13	14	0	58	16	2	154	0	172	10	348	20	0	378	171	285	28	0	484	1092
2:30 PM	25	2	15	0	42	24	1	138	0	163	8	356	18	0	382	154	286	23	0	463	1050
2:45 PM	23	8	15	0	46	22	4	131	0	157	4	377	18	0	399	156	315	25	0	496	1098
Total	109	27	56	0	192	71	9	568	0	648	38	1436	85	0	1559	597	1175	103	0	1875	4274
Approach %	56.8	14.1	29.2	-	-	11.0	1.4	87.7	-	-	2.4	92.1	5.5	-	-	31.8	62.7	5.5	-	-	-
Total %	2.6	0.6	1.3	-	4.5	1.7	0.2	13.3	-	15.2	0.9	33.6	2.0	-	36.5	14.0	27.5	2.4	-	43.9	-
PHF	0.879	0.519	0.933	-	0.828	0.740	0.563	0.922	-	0.942	0.594	0.952	0.733	-	0.974	0.873	0.933	0.920	-	0.945	0.973
Lights	109	27	56	-	192	71	9	565	-	645	38	1424	85	-	1547	596	1172	103	-	1871	4255
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	99.5	-	99.5	100.0	99.2	100.0	-	99.2	99.8	99.7	100.0	-	99.8	99.6
Other Vehicles	0	0	0	-	0	0	0	3	-	3	0	12	0	-	12	1	3	0	-	4	19
% Other Vehicles	0.0	0.0	0.0	-	0.0	0.0	0.0	0.5	-	0.5	0.0	0.8	0.0	-	0.8	0.2	0.3	0.0	-	0.2	0.4
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Rd @ Grand River Ave (Sat)
Site Code:
Start Date: 04/21/2018

Turning Movement Data

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	71	73	28	0	172	45	96	94	0	235	37	219	22	0	278	70	177	57	0	304	989
1:15 PM	59	82	19	0	160	40	98	86	0	224	15	192	18	0	225	79	169	62	0	310	919
1:30 PM	74	80	14	0	168	32	107	106	0	245	24	207	19	0	250	76	205	63	0	344	1007
1:45 PM	54	71	16	0	141	47	112	106	0	265	23	196	25	0	244	79	177	74	0	330	980
Hourly Total	258	306	77	0	641	164	413	392	0	969	99	814	84	0	997	304	728	256	0	1288	3895
2:00 PM	72	78	13	0	163	45	123	119	0	287	21	177	14	0	212	47	146	73	0	266	928
2:15 PM	78	87	19	0	184	32	133	100	0	265	23	207	19	0	249	58	172	102	0	332	1030
2:30 PM	84	105	14	0	203	41	121	106	0	268	21	154	14	0	189	67	165	70	0	302	962
2:45 PM	114	133	12	0	259	39	110	97	0	246	25	181	26	0	232	60	171	68	0	299	1036
Hourly Total	348	403	58	0	809	157	487	422	0	1066	90	719	73	0	882	232	654	313	0	1199	3956
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	606	709	135	0	1450	321	900	814	0	2035	189	1533	157	0	1879	536	1382	569	0	2487	7851
Approach %	41.8	48.9	9.3	-	-	15.8	44.2	40.0	-	-	10.1	81.6	8.4	-	-	21.6	55.6	22.9	-	-	-
Total %	7.7	9.0	1.7	-	18.5	4.1	11.5	10.4	-	25.9	2.4	19.5	2.0	-	23.9	6.8	17.6	7.2	-	31.7	-
Lights	604	701	134	-	1439	321	895	810	-	2026	188	1523	157	-	1868	535	1375	565	-	2475	7808
% Lights	99.7	98.9	99.3	-	99.2	100.0	99.4	99.5	-	99.6	99.5	99.3	100.0	-	99.4	99.8	99.5	99.3	-	99.5	99.5
Other Vehicles	2	8	1	-	11	0	5	4	-	9	1	10	0	-	11	1	7	4	-	12	43
% Other Vehicles	0.3	1.1	0.7	-	0.8	0.0	0.6	0.5	-	0.4	0.5	0.7	0.0	-	0.6	0.2	0.5	0.7	-	0.5	0.5
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Turning Movement Peak Hour Data (2:00 PM)

Start Time	Eastbound Approach Eastbound					Westbound Approach Westbound					Northbound Approach Northbound					Southbound Approach Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
2:00 PM	72	78	13	0	163	45	123	119	0	287	21	177	14	0	212	47	146	73	0	266	928
2:15 PM	78	87	19	0	184	32	133	100	0	265	23	207	19	0	249	58	172	102	0	332	1030
2:30 PM	84	105	14	0	203	41	121	106	0	268	21	154	14	0	189	67	165	70	0	302	962
2:45 PM	114	133	12	0	259	39	110	97	0	246	25	181	26	0	232	60	171	68	0	299	1036
Total	348	403	58	0	809	157	487	422	0	1066	90	719	73	0	882	232	654	313	0	1199	3956
Approach %	43.0	49.8	7.2	-	-	14.7	45.7	39.6	-	-	10.2	81.5	8.3	-	-	19.3	54.5	26.1	-	-	-
Total %	8.8	10.2	1.5	-	20.4	4.0	12.3	10.7	-	26.9	2.3	18.2	1.8	-	22.3	5.9	16.5	7.9	-	30.3	-
PHF	0.763	0.758	0.763	-	0.781	0.872	0.915	0.887	-	0.929	0.900	0.868	0.702	-	0.886	0.866	0.951	0.767	-	0.903	0.955
Lights	348	401	57	-	806	157	484	419	-	1060	89	713	73	-	875	231	650	312	-	1193	3934
% Lights	100.0	99.5	98.3	-	99.6	100.0	99.4	99.3	-	99.4	98.9	99.2	100.0	-	99.2	99.6	99.4	99.7	-	99.5	99.4
Other Vehicles	0	2	1	-	3	0	3	3	-	6	1	6	0	-	7	1	4	1	-	6	22
% Other Vehicles	0.0	0.5	1.7	-	0.4	0.0	0.6	0.7	-	0.6	1.1	0.8	0.0	-	0.8	0.4	0.6	0.3	-	0.5	0.6
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM

27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : Novi Rd- Main St 1-3 PM Weekend Count
Site Code : 00000000
Start Date : 3/24/2018
Page No : 1

Groups Printed- Cars - Trucks - Peds

	NOVI From North					MAIN From East					NOVI From South					MAIN From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
01:00 PM	11	192	22	0	225	15	4	18	0	37	30	245	6	0	281	9	1	18	0	28	571
01:15 PM	5	204	13	0	222	9	0	11	0	20	24	222	17	0	263	11	1	10	0	22	527
01:30 PM	4	202	17	0	223	13	0	15	0	28	19	241	9	0	269	7	0	11	0	18	538
01:45 PM	5	207	20	1	233	11	1	10	0	22	24	204	6	0	234	4	1	10	0	15	504
Total	25	805	72	1	903	48	5	54	0	107	97	912	38	0	1047	31	3	49	0	83	2140
02:00 PM	5	200	16	0	221	13	0	10	0	23	17	198	10	0	225	7	1	11	0	19	488
02:15 PM	2	194	14	3	213	7	0	15	0	22	14	211	7	0	232	11	0	13	0	24	491
02:30 PM	5	205	13	0	223	4	2	14	0	20	19	204	13	0	236	10	1	10	0	21	500
02:45 PM	6	225	14	0	245	10	0	13	0	23	12	198	8	2	220	12	4	9	1	26	514
Total	18	824	57	3	902	34	2	52	0	88	62	811	38	2	913	40	6	43	1	90	1993
Grand Total	43	1629	129	4	1805	82	7	106	0	195	159	1723	76	2	1960	71	9	92	1	173	4133
Apprch %	2.4	90.2	7.1	0.2		42.1	3.6	54.4	0		8.1	87.9	3.9	0.1		41	5.2	53.2	0.6		
Total %	1	39.4	3.1	0.1	43.7	2	0.2	2.6	0	4.7	3.8	41.7	1.8	0	47.4	1.7	0.2	2.2	0	4.2	
Cars	43	1628	129	4	1804	80	7	106	0	193	159	1716	76	2	1953	71	9	92	1	173	4123
% Cars	100	99.9	100	100	99.9	97.6	100	100	0	99	100	99.6	100	100	99.6	100	100	100	100	100	99.8
Trucks	0	0	0	0	0	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	4
% Trucks	0	0	0	0	0	2.4	0	0	0	1	0	0.1	0	0	0.1	0	0	0	0	0	0.1
Peds	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
% Peds	0	0.1	0	0	0.1	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0.1

File Name : Novi Rd- Main St 1-3 PM Weekend Count
Site Code : 00000000
Start Date : 3/24/2018
Page No : 2

	NOVI From North					MAIN From East					NOVI From South					MAIN From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	**11**	192	**22**	0	225	**15**	**4**	**18**	0	**37**	**30**	**245**	6	0	**281**	9	**1**	**18**	0	**28**	**571**
01:15 PM	5	204	13	0	222	9	0	11	0	20	24	222	**17**	0	263	**11**	1	10	0	22	527
01:30 PM	4	202	17	0	223	13	0	15	0	28	19	241	9	0	269	7	0	11	0	18	538
01:45 PM	5	**207**	20	**1**	**233**	11	1	10	0	22	24	204	6	0	234	4	1	10	0	15	504
Total Volume	25	805	72	1	903	48	5	54	0	107	97	912	38	0	1047	31	3	49	0	83	2140
% App. Total	2.8	89.1	8	0.1		44.9	4.7	50.5	0		9.3	87.1	3.6	0		37.3	3.6	59	0		
PHF	.568	.972	.818	.250	.969	.800	.313	.750	.000	.723	.808	.931	.559	.000	.931	.705	.750	.681	.000	.741	.937
Cars	25	804	72	1	902	47	5	54	0	106	97	907	38	0	1042	31	3	49	0	83	2133
% Cars	100	99.9	100	100	99.9	97.9	100	100	0	99.1	100	99.5	100	0	99.5	100	100	100	0	100	99.7
Trucks	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	3
% Trucks	0	0	0	0	0	2.1	0	0	0	0.9	0	0.2	0	0	0.2	0	0	0	0	0	0.1
Peds	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
% Peds	0	0.1	0	0	0.1	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0.2

AECOM

27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : Novi Rd- Trans X 7-9 AM
Site Code : 00000000
Start Date : 3/1/2018
Page No : 1

Groups Printed- Cars - Trucks - Peds

	NOVI From North					TRANS X From East					NOVI From South					TRANS X From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	133	4	1	138	0	0	2	0	2	4	177	0	0	181	0	0	0	0	0	321
07:15 AM	0	145	6	0	151	2	0	1	0	3	4	214	0	0	218	0	0	0	0	0	372
07:30 AM	0	159	2	0	161	0	0	2	0	2	2	189	0	0	191	0	0	0	0	0	354
07:45 AM	0	159	10	0	169	1	0	2	0	3	8	204	0	0	212	0	0	0	0	0	384
Total	0	596	22	1	619	3	0	7	0	10	18	784	0	0	802	0	0	0	0	0	1431
08:00 AM	0	131	2	0	133	1	0	5	0	6	9	211	0	0	220	0	0	0	0	0	359
08:15 AM	0	122	2	0	124	2	0	1	0	3	5	210	0	0	215	0	0	0	0	0	342
08:30 AM	0	131	6	0	137	2	0	3	0	5	6	193	0	0	199	0	0	0	0	0	341
08:45 AM	0	129	2	0	131	4	0	4	0	8	10	195	0	0	205	0	0	0	0	0	344
Total	0	513	12	0	525	9	0	13	0	22	30	809	0	0	839	0	0	0	0	0	1386
Grand Total	0	1109	34	1	1144	12	0	20	0	32	48	1593	0	0	1641	0	0	0	0	0	2817
Apprch %	0	96.9	3	0.1		37.5	0	62.5	0		2.9	97.1	0	0		0	0	0	0		
Total %	0	39.4	1.2	0	40.6	0.4	0	0.7	0	1.1	1.7	56.5	0	0	58.3	0	0	0	0	0	
Cars	0	1084	32	1	1117	12	0	20	0	32	48	1537	0	0	1585	0	0	0	0	0	2734
% Cars	0	97.7	94.1	100	97.6	100	0	100	0	100	100	96.5	0	0	96.6	0	0	0	0	0	97.1
Trucks	0	14	0	0	14	0	0	0	0	0	0	27	0	0	27	0	0	0	0	0	41
% Trucks	0	1.3	0	0	1.2	0	0	0	0	0	0	1.7	0	0	1.6	0	0	0	0	0	1.5
Peds	0	11	2	0	13	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	42
% Peds	0	1	5.9	0	1.1	0	0	0	0	0	0	1.8	0	0	1.8	0	0	0	0	0	1.5

File Name : Novi Rd- Trans X 7-9 AM
Site Code : 00000000
Start Date : 3/1/2018
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	NOVI From North					TRANS X From East					NOVI From South					TRANS X From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	145	6	0	151	**2**	0	1	0	3	4	**214**	0	0	218	0	0	0	0	0	372
07:30 AM	0	**159**	2	0	161	0	0	2	0	2	2	189	0	0	191	0	0	0	0	0	354
07:45 AM	0	159	**10**	0	**169**	1	0	2	0	3	8	204	0	0	212	0	0	0	0	0	**384**
08:00 AM	0	131	2	0	133	1	0	**5**	0	**6**	**9**	211	0	0	**220**	0	0	0	0	0	359
Total Volume	0	594	20	0	614	4	0	10	0	14	23	818	0	0	841	0	0	0	0	0	1469
% App. Total	0	96.7	3.3	0		28.6	0	71.4	0		2.7	97.3	0	0		0	0	0	0		
PHF	.000	.934	.500	.000	.908	.500	.000	.500	.000	.583	.639	.956	.000	.000	.956	.000	.000	.000	.000	.000	.956
Cars	0	581	20	0	601	4	0	10	0	14	23	783	0	0	806	0	0	0	0	0	1421
% Cars	0	97.8	100	0	97.9	100	0	100	0	100	100	95.7	0	0	95.8	0	0	0	0	0	96.7
Trucks	0	8	0	0	8	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	25
% Trucks	0	1.3	0	0	1.3	0	0	0	0	0	0	2.1	0	0	2.0	0	0	0	0	0	1.7
Peds	0	5	0	0	5	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	23
% Peds	0	0.8	0	0	0.8	0	0	0	0	0	0	2.2	0	0	2.1	0	0	0	0	0	1.6

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27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : Novi Rd- Tran X 4-6 PM
Site Code : 00000000
Start Date : 2/28/2018
Page No : 1

Groups Printed- Cars - Trucks - Peds

	NOVI From North					TRANS X From East					NOVI From South					TRANS X From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	198	3	1	202	13	0	5	0	18	5	247	0	0	252	0	0	0	0	0	472
04:15 PM	0	232	0	0	232	5	0	3	0	8	5	224	0	1	230	0	0	0	0	0	470
04:30 PM	0	206	1	0	207	3	0	2	0	5	7	222	0	0	229	0	0	0	0	0	441
04:45 PM	0	250	1	1	252	3	0	6	0	9	5	256	0	0	261	0	0	0	0	0	522
Total	0	886	5	2	893	24	0	16	0	40	22	949	0	1	972	0	0	0	0	0	1905
05:00 PM	0	247	1	0	248	6	0	4	0	10	6	281	0	0	287	0	0	0	0	0	545
05:15 PM	0	247	0	0	247	2	0	4	0	6	3	233	0	0	236	0	0	0	0	0	489
05:30 PM	0	256	1	0	257	2	0	8	0	10	7	253	0	0	260	0	0	0	0	0	527
05:45 PM	0	239	1	0	240	2	0	3	0	5	4	231	0	0	235	0	0	0	0	0	480
Total	0	989	3	0	992	12	0	19	0	31	20	998	0	0	1018	0	0	0	0	0	2041
Grand Total	0	1875	8	2	1885	36	0	35	0	71	42	1947	0	1	1990	0	0	0	0	0	3946
Apprch %	0	99.5	0.4	0.1		50.7	0	49.3	0		2.1	97.8	0	0.1		0	0	0	0		
Total %	0	47.5	0.2	0.1	47.8	0.9	0	0.9	0	1.8	1.1	49.3	0	0	50.4	0	0	0	0	0	
Cars	0	1844	7	2	1853	34	0	33	0	67	40	1918	0	1	1959	0	0	0	0	0	3879
% Cars	0	98.3	87.5	100	98.3	94.4	0	94.3	0	94.4	95.2	98.5	0	100	98.4	0	0	0	0	0	98.3
Trucks	0	15	0	0	15	2	0	1	0	3	2	13	0	0	15	0	0	0	0	0	33
% Trucks	0	0.8	0	0	0.8	5.6	0	2.9	0	4.2	4.8	0.7	0	0	0.8	0	0	0	0	0	0.8
Peds	0	16	1	0	17	0	0	1	0	1	0	16	0	0	16	0	0	0	0	0	34
% Peds	0	0.9	12.5	0	0.9	0	0	2.9	0	1.4	0	0.8	0	0	0.8	0	0	0	0	0	0.9

File Name : Novi Rd- Tran X 4-6 PM
Site Code : 00000000
Start Date : 2/28/2018
Page No : 2

	NOVI From North					TRANS X From East					NOVI From South					TRANS X From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	250	**1**	**1**	252	3	0	6	0	9	5	256	0	0	261	0	0	0	0	0	522
05:00 PM	0	247	1	0	248	**6**	0	4	0	**10**	6	**281**	0	0	**287**	0	0	0	0	0	**545**
05:15 PM	0	247	0	0	247	2	0	4	0	6	3	233	0	0	236	0	0	0	0	0	489
05:30 PM	0	**256**	1	0	**257**	2	0	**8**	0	10	**7**	253	0	0	260	0	0	0	0	0	527
Total Volume	0	1000	3	1	1004	13	0	22	0	35	21	1023	0	0	1044	0	0	0	0	0	2083
% App. Total	0	99.6	0.3	0.1		37.1	0	62.9	0		2	98	0	0		0	0	0	0		
PHF	.000	.977	.750	.250	.977	.542	.000	.688	.000	.875	.750	.910	.000	.000	.909	.000	.000	.000	.000	.000	.956
Cars	0	986	3	1	990	13	0	20	0	33	21	1013	0	0	1034	0	0	0	0	0	2057
% Cars	0	98.6	100	100	98.6	100	0	90.9	0	94.3	100	99.0	0	0	99.0	0	0	0	0	0	98.8
Trucks	0	8	0	0	8	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	12
% Trucks	0	0.8	0	0	0.8	0	0	4.5	0	2.9	0	0.3	0	0	0.3	0	0	0	0	0	0.6
Peds	0	6	0	0	6	0	0	1	0	1	0	7	0	0	7	0	0	0	0	0	14
% Peds	0	0.6	0	0	0.6	0	0	4.5	0	2.9	0	0.7	0	0	0.7	0	0	0	0	0	0.7

AECOM

27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : Novi Rd- Trans X 1-3 PM (Weekend Count)
Site Code : 00000000
Start Date : 3/24/2018
Page No : 1

Groups Printed- Cars - Trucks - Pedestrians

	NOVI From North					TRANS X From East					NOVI From South					TRANS X From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
01:00 PM	0	213	1	0	214	0	0	4	1	5	6	285	0	0	291	0	0	0	0	0	510
01:15 PM	0	225	1	0	226	0	0	2	0	2	1	260	0	0	261	0	0	0	0	0	489
01:30 PM	0	227	0	0	227	1	0	7	0	8	1	272	0	0	273	0	0	0	0	0	508
01:45 PM	0	212	0	0	212	0	0	4	0	4	6	224	0	0	230	0	0	0	0	0	446
Total	0	877	2	0	879	1	0	17	1	19	14	1041	0	0	1055	0	0	0	0	0	1953
02:00 PM	0	229	2	0	231	0	0	3	0	3	3	229	0	0	232	0	0	0	0	0	466
02:15 PM	0	211	1	1	213	2	0	6	0	8	4	218	1	0	223	0	0	0	0	0	444
02:30 PM	0	250	0	1	251	1	0	2	0	3	2	239	0	1	242	0	0	0	0	0	496
02:45 PM	0	221	3	0	224	0	0	2	0	2	2	212	0	3	217	0	0	0	0	0	443
Total	0	911	6	2	919	3	0	13	0	16	11	898	1	4	914	0	0	0	0	0	1849
Grand Total	0	1788	8	2	1798	4	0	30	1	35	25	1939	1	4	1969	0	0	0	0	0	3802
Apprch %	0	99.4	0.4	0.1		11.4	0	85.7	2.9		1.3	98.5	0.1	0.2		0	0	0	0		
Total %	0	47	0.2	0.1	47.3	0.1	0	0.8	0	0.9	0.7	51	0	0.1	51.8	0	0	0	0	0	
Cars	0	1781	7	2	1790	4	0	30	1	35	25	1927	1	4	1957	0	0	0	0	0	3782
% Cars	0	99.6	87.5	100	99.6	100	0	100	100	100	100	99.4	100	100	99.4	0	0	0	0	0	99.5
Trucks	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
% Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0.2
Pedestrians	0	6	1	0	7	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	14
% Pedestrians	0	0.3	12.5	0	0.4	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0.4

File Name : Novi Rd- Trans X 1-3 PM (Weekend Count)
Site Code : 00000000
Start Date : 3/24/2018
Page No : 2

	NOVI From North					TRANS X From East					NOVI From South					TRANS X From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	0	213	**1**	0	214	0	0	4	**1**	5	**6**	**285**	0	0	**291**	0	0	0	0	0	**510**
01:15 PM	0	225	1	0	226	0	0	2	0	2	1	260	0	0	261	0	0	0	0	0	489
01:30 PM	0	**227**	0	0	**227**	**1**	0	**7**	0	**8**	1	272	0	0	273	0	0	0	0	0	508
01:45 PM	0	212	0	0	212	0	0	4	0	4	6	224	0	0	230	0	0	0	0	0	446
Total Volume	0	877	2	0	879	1	0	17	1	19	14	1041	0	0	1055	0	0	0	0	0	1953
% App. Total	0	99.8	0.2	0		5.3	0	89.5	5.3		1.3	98.7	0	0		0	0	0	0		
PHF	.000	.966	.500	.000	.968	.250	.000	.607	.250	.594	.583	.913	.000	.000	.906	.000	.000	.000	.000	.000	.957
Cars	0	874	2	0	876	1	0	17	1	19	14	1032	0	0	1046	0	0	0	0	0	1941
% Cars	0	99.7	100	0	99.7	100	0	100	100	100	100	99.1	0	0	99.1	0	0	0	0	0	99.4
Trucks	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
% Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.3
Pedestrians	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	6
% Pedestrians	0	0.2	0	0	0.2	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0.3

AECOM
2777 Franklin Road, Suite 2000
Southfield, MI 48034

File Name : Novi Rd- Post Office 1-3 PM (Weekend Count)
Site Code : 00000000
Start Date : 3/24/2018
Page No : 1

Groups Printed- Cars - Trucks - Pedestrians

	NOVI From North				POST OFFICE From East				NOVI From South				POST OFFICE From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:00 PM	19	205	4	0	0	0	0	1	1	262	17	0	19	0	8	0	536
01:15 PM	10	214	0	0	0	0	0	0	0	246	9	0	11	0	10	0	500
01:30 PM	11	213	2	0	1	0	0	0	0	240	22	0	13	0	14	0	516
01:45 PM	12	209	1	0	0	0	0	0	0	230	11	0	19	0	10	0	492
Total	52	841	7	0	1	0	0	1	1	978	59	0	62	0	42	0	2044
02:00 PM	11	197	0	0	0	0	0	0	0	214	10	0	7	0	8	0	447
02:15 PM	10	184	1	0	1	9	4	0	1	192	18	0	13	30	20	0	483
02:30 PM	10	220	1	0	1	0	1	0	0	219	9	0	14	0	13	0	488
02:45 PM	11	235	1	0	1	0	0	0	0	207	11	2	18	0	8	0	494
Total	42	836	3	0	3	9	5	0	1	832	48	2	52	30	49	0	1912
Grand Total	94	1677	10	0	4	9	5	1	2	1810	107	2	114	30	91	0	3956
Apprch %	5.3	94.2	0.6	0	21.1	47.4	26.3	5.3	0.1	94.2	5.6	0.1	48.5	12.8	38.7	0	
Total %	2.4	42.4	0.3	0	0.1	0.2	0.1	0	0.1	45.8	2.7	0.1	2.9	0.8	2.3	0	
Cars	94	1670	10	0	4	9	4	1	1	1806	106	2	113	30	91	0	3941
% Cars	100	99.6	100	0	100	100	80	100	50	99.8	99.1	100	99.1	100	100	0	99.6
Trucks	0	3	0	0	0	0	0	0	0	0	1	0	1	0	0	0	5
% Trucks	0	0.2	0	0	0	0	0	0	0	0	0.9	0	0.9	0	0	0	0.1
Pedestrians	0	4	0	0	0	0	1	0	1	4	0	0	0	0	0	0	10
% Pedestrians	0	0.2	0	0	0	0	20	0	50	0.2	0	0	0	0	0	0	0.3

File Name : Novi Rd- Post Office 1-3 PM (Weekend Count)
Site Code : 00000000
Start Date : 3/24/2018
Page No : 2

	NOVI From North					POST OFFICE From East					NOVI From South					POST OFFICE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	**19**	205	**4**	0	**228**	0	0	0	**1**	**1**	**1**	**262**	17	0	**280**	**19**	0	8	0	27	**536**
01:15 PM	10	**214**	0	0	224	0	0	0	0	0	0	246	9	0	255	11	0	10	0	21	500
01:30 PM	11	213	2	0	226	**1**	0	0	0	1	0	240	**22**	0	262	13	0	**14**	0	27	516
01:45 PM	12	209	1	0	222	0	0	0	0	0	0	230	11	0	241	19	0	10	0	**29**	492
Total Volume	52	841	7	0	900	1	0	0	1	2	1	978	59	0	1038	62	0	42	0	104	2044
% App. Total	5.8	93.4	0.8	0		50	0	0	50		0.1	94.2	5.7	0		59.6	0	40.4	0		
PHF	.684	.982	.438	.000	.987	.250	.000	.000	.250	.500	.250	.933	.670	.000	.927	.816	.000	.750	.000	.897	.953
Cars	52	835	7	0	894	1	0	0	1	2	1	975	58	0	1034	61	0	42	0	103	2033
% Cars	100	99.3	100	0	99.3	100	0	0	100	100	100	99.7	98.3	0	99.6	98.4	0	100	0	99.0	99.5
Trucks	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	5
% Trucks	0	0.4	0	0	0.3	0	0	0	0	0	0	0	1.7	0	0.1	1.6	0	0	0	1.0	0.2
Pedestrians	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6
% Pedestrians	0	0.4	0	0	0.3	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0.3

AECOM

27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : Novi Rd- 10 Mile Rd 7-9 AM & 4-6 PM
Site Code : 00000000
Start Date : 3/7/2018
Page No : 1

Groups Printed- Cars - Trucks - Pedestrians

	NOVI RD From North					10 MILE RD From East					NOVI RD From South					10 MILE RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	61	111	34	1	207	40	143	35	0	218	19	142	39	0	200	43	75	42	0	160	785
04:15 PM	72	160	27	0	259	37	146	37	0	220	20	117	43	0	180	50	80	40	0	170	829
04:30 PM	67	150	33	0	250	43	142	49	0	234	16	160	51	0	227	39	82	48	0	169	880
04:45 PM	64	157	25	0	246	42	138	39	0	219	18	144	47	0	209	29	90	53	0	172	846
Total	264	578	119	1	962	162	569	160	0	891	73	563	180	0	816	161	327	183	0	671	3340
05:00 PM	72	178	34	0	284	42	143	44	0	229	23	169	43	0	235	64	88	43	0	195	943
05:15 PM	56	170	25	1	252	30	145	51	3	229	23	173	54	0	250	58	70	41	0	169	900
05:30 PM	75	169	33	0	277	40	147	66	0	253	16	148	62	0	226	49	71	51	0	171	927
05:45 PM	77	160	28	0	265	39	130	62	0	231	19	135	47	0	201	47	68	47	0	162	859
Total	280	677	120	1	1078	151	565	223	3	942	81	625	206	0	912	218	297	182	0	697	3629
*** BREAK ***																					
07:00 AM	45	58	15	0	118	11	81	10	1	103	17	110	42	0	169	40	122	81	0	243	633
07:15 AM	11	102	15	0	128	17	50	14	0	81	30	98	28	0	156	42	129	90	0	261	626
07:30 AM	23	104	23	0	150	14	53	16	0	83	36	138	29	0	203	37	112	62	0	211	647
07:45 AM	22	94	25	0	141	30	61	17	0	108	39	145	33	0	217	45	148	84	0	277	743
Total	101	358	78	0	537	72	245	57	1	375	122	491	132	0	745	164	511	317	0	992	2649
08:00 AM	18	89	24	0	131	22	57	18	0	97	40	110	22	0	172	49	148	70	0	267	667
08:15 AM	22	75	18	0	115	27	45	28	0	100	48	120	36	1	205	38	103	77	2	220	640
08:30 AM	34	77	17	0	128	18	55	10	0	83	23	126	29	0	178	49	91	66	0	206	595
08:45 AM	13	85	28	0	126	14	52	23	0	89	27	115	30	0	172	49	124	67	0	240	627
Total	87	326	87	0	500	81	209	79	0	369	138	471	117	1	727	185	466	280	2	933	2529
Grand Total	732	1939	404	2	3077	466	1588	519	4	2577	414	2150	635	1	3200	728	1601	962	2	3293	12147
Apprch %	23.8	63	13.1	0.1		18.1	61.6	20.1	0.2		12.9	67.2	19.8	0		22.1	48.6	29.2	0.1		
Total %	6	16	3.3	0	25.3	3.8	13.1	4.3	0	21.2	3.4	17.7	5.2	0	26.3	6	13.2	7.9	0	27.1	
Cars	721	1900	398	2	3021	448	1564	514	4	2530	410	2109	628	1	3148	711	1575	955	2	3243	11942
% Cars	98.5	98	98.5	100	98.2	96.1	98.5	99	100	98.2	99	98.1	98.9	100	98.4	97.7	98.4	99.3	100	98.5	98.3
Trucks	10	23	5	0	38	12	21	5	0	38	3	30	7	0	40	16	21	6	0	43	159
% Trucks	1.4	1.2	1.2	0	1.2	2.6	1.3	1	0	1.5	0.7	1.4	1.1	0	1.2	2.2	1.3	0.6	0	1.3	1.3
Pedestrians	1	16	1	0	18	6	3	0	0	9	1	11	0	0	12	1	5	1	0	7	46
% Pedestrians	0.1	0.8	0.2	0	0.6	1.3	0.2	0	0	0.3	0.2	0.5	0	0	0.4	0.1	0.3	0.1	0	0.2	0.4

AECOM

27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : Novi Rd- 10 Mile Rd 7-9 AM & 4-6 PM
Site Code : 00000000
Start Date : 3/7/2018
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	NOVI RD From North					10 MILE RD From East					NOVI RD From South					10 MILE RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	72	**178**	**34**	0	**284**	**42**	143	44	0	229	**23**	169	43	0	235	**64**	**88**	43	0	**195**	**943**
05:15 PM	56	170	25	**1**	252	30	145	51	**3**	229	23	**173**	54	0	**250**	58	70	41	0	169	900
05:30 PM	75	169	33	0	277	40	**147**	**66**	0	**253**	16	148	**62**	0	226	49	71	**51**	0	171	927
05:45 PM	**77**	160	28	0	265	39	130	62	0	231	19	135	47	0	201	47	68	47	0	162	859
Total Volume	280	677	120	1	1078	151	565	223	3	942	81	625	206	0	912	218	297	182	0	697	3629
% App. Total	26	62.8	11.1	0.1		16	60	23.7	0.3		8.9	68.5	22.6	0		31.3	42.6	26.1	0		
PHF	.909	.951	.882	.250	.949	.899	.961	.845	.250	.931	.880	.903	.831	.000	.912	.852	.844	.892	.000	.894	.962
Cars	279	671	119	1	1070	151	563	222	3	939	79	620	206	0	905	216	295	180	0	691	3605
% Cars	99.6	99.1	99.2	100	99.3	100	99.6	99.6	100	99.7	97.5	99.2	100	0	99.2	99.1	99.3	98.9	0	99.1	99.3
Trucks	1	2	1	0	4	0	1	1	0	2	2	5	0	0	7	2	1	1	0	4	17
% Trucks	0.4	0.3	0.8	0	0.4	0	0.2	0.4	0	0.2	2.5	0.8	0	0	0.8	0.9	0.3	0.5	0	0.6	0.5
Pedestrians	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	7
% Pedestrians	0	0.6	0	0	0.4	0	0.2	0	0	0.1	0	0	0	0	0	0	0.3	0.5	0	0.3	0.2

File Name : Novi Rd- 10 Mile Rd 7-9 AM & 4-6 PM
Site Code : 00000000
Start Date : 3/7/2018
Page No : 3

	NOVI RD From North					10 MILE RD From East					NOVI RD From South					10 MILE RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**23**	**104**	23	0	**150**	14	53	16	0	83	36	138	29	0	203	37	112	62	0	211	647
07:45 AM	22	94	**25**	0	141	**30**	**61**	17	0	**108**	39	**145**	33	0	**217**	45	**148**	**84**	0	**277**	**743**
08:00 AM	18	89	24	0	131	22	57	18	0	97	40	110	22	0	172	**49**	148	70	0	267	667
08:15 AM	22	75	18	0	115	27	45	**28**	0	100	**48**	120	**36**	**1**	205	38	103	77	**2**	220	640
Total Volume	85	362	90	0	537	93	216	79	0	388	163	513	120	1	797	169	511	293	2	975	2697
% App. Total	15.8	67.4	16.8	0		24	55.7	20.4	0		20.5	64.4	15.1	0.1		17.3	52.4	30.1	0.2		
PHF	.924	.870	.900	.000	.895	.775	.885	.705	.000	.898	.849	.884	.833	.250	.918	.862	.863	.872	.250	.880	.907
Cars	83	353	88	0	524	81	206	75	0	362	162	497	116	1	776	163	499	291	2	955	2617
% Cars	97.6	97.5	97.8	0	97.6	87.1	95.4	94.9	0	93.3	99.4	96.9	96.7	100	97.4	96.4	97.7	99.3	100	97.9	97.0
Trucks	1	7	1	0	9	6	9	4	0	19	0	12	4	0	16	6	10	2	0	18	62
% Trucks	1.2	1.9	1.1	0	1.7	6.5	4.2	5.1	0	4.9	0	2.3	3.3	0	2.0	3.6	2.0	0.7	0	1.8	2.3
Pedestrians	1	2	1	0	4	6	1	0	0	7	1	4	0	0	5	0	2	0	0	2	18
% Pedestrians	1.2	0.6	1.1	0	0.7	6.5	0.5	0	0	1.8	0.6	0.8	0	0	0.6	0	0.4	0	0	0.2	0.7

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Rd @ 10 Mile Rd (Sat.)
Site Code:
Start Date: 04/07/2018

Turning Movement Data

Start Time	10 Mile Rd Eastbound					10 Mile Rd Westbound					Novi Rd Northbound					Novi Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	60	69	25	0	154	27	75	38	0	140	50	137	22	0	209	27	124	68	0	219	722
1:15 PM	55	77	36	0	168	17	59	45	0	121	30	138	26	0	194	28	110	58	0	196	679
1:30 PM	51	69	15	0	135	34	67	31	0	132	41	123	23	0	187	38	134	74	0	246	700
1:45 PM	53	58	24	0	135	21	80	33	0	134	25	118	18	0	161	34	130	55	0	219	649
Hourly Total	219	273	100	0	592	99	281	147	0	527	146	516	89	0	751	127	498	255	0	880	2750
2:00 PM	55	67	15	0	137	11	77	30	0	118	26	132	16	0	174	29	89	57	0	175	604
2:15 PM	65	63	24	0	152	20	80	20	1	120	38	98	24	0	160	29	101	50	0	180	612
2:30 PM	56	74	26	0	156	20	64	29	0	113	27	112	18	0	157	18	128	58	0	204	630
2:45 PM	51	59	44	0	154	29	90	21	0	140	23	113	19	0	155	41	122	55	0	218	667
Hourly Total	227	263	109	0	599	80	311	100	1	491	114	455	77	0	646	117	440	220	0	777	2513
Grand Total	446	536	209	0	1191	179	592	247	1	1018	260	971	166	0	1397	244	938	475	0	1657	5263
Approach %	37.4	45.0	17.5	-	-	17.6	58.2	24.3	-	-	18.6	69.5	11.9	-	-	14.7	56.6	28.7	-	-	-
Total %	8.5	10.2	4.0	-	22.6	3.4	11.2	4.7	-	19.3	4.9	18.4	3.2	-	26.5	4.6	17.8	9.0	-	31.5	-
Lights	443	535	207	-	1185	179	589	247	-	1015	258	965	166	-	1389	242	937	474	-	1653	5242
% Lights	99.3	99.8	99.0	-	99.5	100.0	99.5	100.0	-	99.7	99.2	99.4	100.0	-	99.4	99.2	99.9	99.8	-	99.8	99.6
Other Vehicles	3	1	2	-	6	0	3	0	-	3	2	6	0	-	8	2	1	1	-	4	21
% Other Vehicles	0.7	0.2	1.0	-	0.5	0.0	0.5	0.0	-	0.3	0.8	0.6	0.0	-	0.6	0.8	0.1	0.2	-	0.2	0.4
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Novi Rd @ 10 Mile Rd (Sat.)
Site Code:
Start Date: 04/07/2018

Turning Movement Peak Hour Data (1:00 PM)

Start Time	10 Mile Rd Eastbound					10 Mile Rd Westbound					Novi Rd Northbound					Novi Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	60	69	25	0	154	27	75	38	0	140	50	137	22	0	209	27	124	68	0	219	722
1:15 PM	55	77	36	0	168	17	59	45	0	121	30	138	26	0	194	28	110	58	0	196	679
1:30 PM	51	69	15	0	135	34	67	31	0	132	41	123	23	0	187	38	134	74	0	246	700
1:45 PM	53	58	24	0	135	21	80	33	0	134	25	118	18	0	161	34	130	55	0	219	649
Total	219	273	100	0	592	99	281	147	0	527	146	516	89	0	751	127	498	255	0	880	2750
Approach %	37.0	46.1	16.9	-	-	18.8	53.3	27.9	-	-	19.4	68.7	11.9	-	-	14.4	56.6	29.0	-	-	-
Total %	8.0	9.9	3.6	-	21.5	3.6	10.2	5.3	-	19.2	5.3	18.8	3.2	-	27.3	4.6	18.1	9.3	-	32.0	-
PHF	0.913	0.886	0.694	-	0.881	0.728	0.878	0.817	-	0.941	0.730	0.935	0.856	-	0.898	0.836	0.929	0.861	-	0.894	0.952
Lights	218	272	100	-	590	99	280	147	-	526	144	514	89	-	747	126	497	254	-	877	2740
% Lights	99.5	99.6	100.0	-	99.7	100.0	99.6	100.0	-	99.8	98.6	99.6	100.0	-	99.5	99.2	99.8	99.6	-	99.7	99.6
Other Vehicles	1	1	0	-	2	0	1	0	-	1	2	2	0	-	4	1	1	1	-	3	10
% Other Vehicles	0.5	0.4	0.0	-	0.3	0.0	0.4	0.0	-	0.2	1.4	0.4	0.0	-	0.5	0.8	0.2	0.4	-	0.3	0.4
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM
3950 Sparks Dr SE
Grand Rapids, MI 49546
616-574-8500

File Name : Grand River @ Comau AM
Site Code : 00000001
Start Date : 10/4/2018
Page No : 1

Groups Printed- Unshifted - Bank 1

	Comau Industrial Dr Southbound					Grand River Ave Westbound					Comau Industrial Dr Northbound					Grand River Ave Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	1	0	1	0	105	11	0	116	0	0	0	0	0	2	226	0	0	228	345
07:15 AM	1	0	1	0	2	0	137	9	0	146	1	0	1	0	2	0	279	1	0	280	430
07:30 AM	0	0	1	0	1	0	150	4	1	155	0	0	1	0	1	2	293	0	0	295	452
07:45 AM	1	0	0	0	1	1	157	4	0	162	0	0	0	0	0	0	355	0	0	355	518
Total	2	0	3	0	5	1	549	28	1	579	1	0	2	0	3	4	1153	1	0	1158	1745
08:00 AM	4	0	0	0	4	0	149	6	0	155	0	0	0	0	0	1	291	0	0	292	451
08:15 AM	2	0	0	0	2	0	140	0	0	140	0	0	2	0	2	2	296	0	0	298	442
08:30 AM	0	0	0	0	0	1	138	4	0	143	0	0	2	0	2	1	249	2	0	252	397
08:45 AM	0	0	1	0	1	2	170	4	0	176	0	0	3	0	3	0	268	1	2	271	451
Total	6	0	1	0	7	3	597	14	0	614	0	0	7	0	7	4	1104	3	2	1113	1741
Grand Total	8	0	4	0	12	4	1146	42	1	1193	1	0	9	0	10	8	2257	4	2	2271	3486
Apprch %	66.7	0	33.3	0		0.3	96.1	3.5	0.1		10	0	90	0		0.4	99.4	0.2	0.1		
Total %	0.2	0	0.1	0	0.3	0.1	32.9	1.2	0	34.2	0	0	0.3	0	0.3	0.2	64.7	0.1	0.1	65.1	
Unshifted	4	0	3	0	7	4	1105										2179				
% Unshifted	50	0	75	0	58.3	100	96.4	92.9	100	96.3	100	0	100	0	100	100	96.5	100	100	96.6	96.4
Bank 1	4	0	1	0	5	0	41	3	0	44	0	0	0	0	0	0	78	0	0	78	127
% Bank 1	50	0	25	0	41.7	0	3.6	7.1	0	3.7	0	0	0	0	0	0	3.5	0	0	3.4	3.6

	Comau Industrial Dr Southbound					Grand River Ave Westbound					Comau Industrial Dr Northbound					Grand River Ave Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	**1**	0	1	0	150	4	**1**	155	0	0	1	0	1	**2**	293	0	0	295	452
07:45 AM	1	0	0	0	1	**1**	**157**	4	0	**162**	0	0	0	0	0	0	**355**	0	0	**355**	**518**
08:00 AM	**4**	0	0	0	**4**	0	149	**6**	0	155	0	0	0	0	0	1	291	0	0	292	451
08:15 AM	2	0	0	0	2	0	140	0	0	140	0	0	**2**	0	**2**	2	296	0	0	298	442
Total Volume	7	0	1	0	8	1	596	14	1	612	0	0	3	0	3	5	1235	0	0	1240	1863
% App. Total	87.5	0	12.5	0		0.2	97.4	2.3	0.2		0	0	100	0		0.4	99.6	0	0		
PHF	.438	.000	.250	.000	.500	.250	.949	.583	.250	.944	.000	.000	.375	.000	.375	.625	.870	.000	.000	.873	.899
Unshifted	4	0	1	0	5	1	580	14	1	596	0	0	3	0	3	5	1188				
% Unshifted	57.1	0	100	0	62.5	100	97.3	100	100	97.4	0	0	100	0	100	100	96.2	0	0	96.2	96.5
Bank 1	3	0	0	0	3	0	16	0	0	16	0	0	0	0	0	0	47	0	0	47	66
% Bank 1	42.9	0	0	0	37.5	0	2.7	0	0	2.6	0	0	0	0	0	0	3.8	0	0	3.8	3.5

AECOM
3950 Sparks Dr SE
Grand Rapids, MI 49546
616-574-8500

File Name : Grand River @ Comau PM
Site Code : 00000002
Start Date : 10/4/2018
Page No : 1

Groups Printed- Unshifted - Bank 1

	Comau Industrial Dr Southbound					Grand River Ave Westbound					Comau Industrial Dr Northbound					Grand River Ave Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:45 PM	8	0	8	0	16	1	266	4	0	271	0	0	0	0	0	1	224	0	0	225	512
Total	8	0	8	0	16	1	266	4	0	271	0	0	0	0	0	1	224	0	0	225	512
04:00 PM	25	0	8	0	33	3	313	2	0	318	0	0	0	0	0	1	225	1	0	227	578
04:15 PM	37	0	11	0	48	0	333	2	0	335	0	0	1	0	1	0	195	2	0	197	581
04:30 PM	3	0	4	1	8	4	342	0	0	346	2	0	3	0	5	0	211	0	0	211	570
04:45 PM	3	0	0	0	3	1	384	0	0	385	0	0	1	0	1	0	217	0	0	217	606
Total	68	0	23	1	92	8	1372	4	0	1384	2	0	5	0	7	1	848	3	0	852	2335
05:00 PM	1	0	2	0	3	2	333	0	0	335	1	0	0	0	1	1	238	0	0	239	578
05:15 PM	4	0	1	0	5	1	330	0	0	331	0	0	2	0	2	0	213	1	0	214	552
05:30 PM	1	0	0	0	1	0	359	0	0	359	1	0	3	1	5	0	201	2	0	203	568
Grand Total	82	0	34	1	117	12	2660	8	0	2680	4	0	10	1	15	3	1724	6	0	1733	4545
Apprch %	70.1	0	29.1	0.9		0.4	99.3	0.3	0		26.7	0	66.7	6.7		0.2	99.5	0.3	0		
Total %	1.8	0	0.7	0	2.6	0.3	58.5	0.2	0	59	0.1	0	0.2	0	0.3	0.1	37.9	0.1	0	38.1	
Unshifted	82	0	34	1	117	12	2602										1700				
% Unshifted	100	0	100	100	100	100	97.8	100	0	97.8	100	0	100	100	100	100	98.6	100	0	98.6	98.2
Bank 1	0	0	0	0	0	0	58	0	0	58	0	0	0	0	0	0	24	0	0	24	82
% Bank 1	0	0	0	0	0	0	2.2	0	0	2.2	0	0	0	0	0	0	1.4	0	0	1.4	1.8

	Comau Industrial Dr Southbound					Grand River Ave Westbound					Comau Industrial Dr Northbound					Grand River Ave Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:45 PM to 05:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	25	0	8	0	33	3	313	**2**	0	318	0	0	0	0	0	**1**	**225**	1	0	**227**	578
04:15 PM	**37**	0	**11**	0	**48**	0	333	2	0	335	0	0	1	0	1	0	195	**2**	0	197	581
04:30 PM	3	0	4	**1**	8	**4**	342	0	0	346	**2**	0	**3**	0	**5**	0	211	0	0	211	570
04:45 PM	3	0	0	0	3	1	**384**	0	0	**385**	0	0	1	0	1	0	217	0	0	217	**606**
Total Volume	68	0	23	1	92	8	1372	4	0	1384	2	0	5	0	7	1	848	3	0	852	2335
% App. Total	73.9	0	25	1.1		0.6	99.1	0.3	0		28.6	0	71.4	0		0.1	99.5	0.4	0		
PHF	.459	.000	.523	.250	.479	.500	.893	.500	.000	.899	.250	.000	.417	.000	.350	.250	.942	.375	.000	.938	.963
Unshifted	68	0	23	1	92	8	1335														
% Unshifted	100	0	100	100	100	100	97.3	100	0	97.3	100	0	100	0	100	100	98.7	100	0	98.7	97.9
Bank 1	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	11	0	0	11	48
% Bank 1	0	0	0	0	0	0	2.7	0	0	2.7	0	0	0	0	0	0	1.3	0	0	1.3	2.1

AECOM
3950 Sparks Dr SE
Grand Rapids, MI 49546
616-574-8500

File Name : Grand River @ Comau (Sat)
Site Code : 00000011
Start Date : 10/6/2018
Page No : 1

Groups Printed- Unshifted - Bank 1

	Comau Industrial Dr Southbound					Grand River Ave Westbound					Comau Industrial Dr Northbound					Grand River Ave Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
01:00 PM	1	0	1	0	2	0	221	4	0	225	0	0	0	0	0	0	228	0	0	228	455
01:15 PM	0	0	2	0	2	0	215	2	0	217	0	0	0	0	0	1	261	0	0	262	481
01:30 PM	3	0	1	0	4	0	186	1	0	187	0	0	0	0	0	2	265	0	0	267	458
01:45 PM	1	0	0	0	1	0	199	3	0	202	0	0	0	0	0	0	231	0	0	231	434
Total	5	0	4	0	9	0	821	10	0	831	0	0	0	0	0	3	985	0	0	988	1828
02:00 PM	1	0	1	0	2	0	251	2	0	253	0	0	0	0	0	0	224	0	0	224	479
02:15 PM	6	0	3	0	9	0	235	2	0	237	0	0	0	0	0	1	94	92	0	187	433
02:30 PM	12	0	8	0	20	1	202	2	0	205	0	0	0	0	0	0	254	0	0	254	479
02:45 PM	7	0	3	0	10	0	219	1	0	220	0	0	0	0	0	0	292	0	0	292	522
Total	26	0	15	0	41	1	907	7	0	915	0	0	0	0	0	1	864	92	0	957	1913
Grand Total	31	0	19	0	50	1	1728	17	0	1746	0	0	0	0	0	4	1849	92	0	1945	3741
Apprch %	62	0	38	0		0.1	99	1	0		0	0	0	0		0.2	95.1	4.7	0		
Total %	0.8	0	0.5	0	1.3	0	46.2	0.5	0	46.7	0	0	0	0	0	0.1	49.4	2.5	0	52	
Unshifted	30	0	19	0	49	1	1715										1846				
% Unshifted	96.8	0	100	0	98	100	99.2	100	0	99.3	0	0	0	0	0	100	99.8	100	0	99.8	99.5
Bank 1	1	0	0	0	1	0	13	0	0	13	0	0	0	0	0	0	3	0	0	3	17
% Bank 1	3.2	0	0	0	2	0	0.8	0	0	0.7	0	0	0	0	0	0	0.2	0	0	0.2	0.5

	Comau Industrial Dr Southbound					Grand River Ave Westbound					Comau Industrial Dr Northbound					Grand River Ave Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	1	0	1	0	2	0	**251**	**2**	0	**253**	0	0	0	0	0	0	224	0	0	224	479
02:15 PM	6	0	3	0	9	0	235	2	0	237	0	0	0	0	0	**1**	94	**92**	0	187	433
02:30 PM	**12**	0	**8**	0	**20**	**1**	202	2	0	205	0	0	0	0	0	0	254	0	0	254	479
02:45 PM	7	0	3	0	10	0	219	1	0	220	0	0	0	0	0	0	**292**	0	0	**292**	**522**
Total Volume	26	0	15	0	41	1	907	7	0	915	0	0	0	0	0	1	864	92	0	957	1913
% App. Total	63.4	0	36.6	0		0.1	99.1	0.8	0		0	0	0	0		0.1	90.3	9.6	0		
PHF	.542	.000	.469	.000	.513	.250	.903	.875	.000	.904	.000	.000	.000	.000	.000	.250	.740	.250	.000	.819	.916
Unshifted	26	0	15	0	41	1	904	7	0	912	0	0	0	0	0	1	864	92	0	957	1910
% Unshifted							99.7	100	0	99.7	0	0	0	0	0	100	100	100	0	100	99.8
Bank 1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
% Bank 1	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.2

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Grand River Ave @ Flint St (Sat.)
Site Code:
Start Date: 04/07/2018

Turning Movement Data

Start Time	Grand River Ave Eastbound				Grand River Ave Westbound				Flint St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
1:00 PM	254	3	0	257	4	220	0	224	3	1	0	4	485
1:15 PM	202	6	0	208	3	212	0	215	5	2	0	7	430
1:30 PM	214	3	0	217	1	220	0	221	4	1	0	5	443
1:45 PM	208	3	0	211	3	211	0	214	2	1	0	3	428
Hourly Total	878	15	0	893	11	863	0	874	14	5	0	19	1786
2:00 PM	201	2	0	203	3	209	0	212	3	1	0	4	419
2:15 PM	223	2	0	225	1	204	0	205	3	3	0	6	436
2:30 PM	242	5	0	247	3	218	0	221	4	2	0	6	474
2:45 PM	225	2	0	227	7	251	0	258	6	1	0	7	492
Hourly Total	891	11	0	902	14	882	0	896	16	7	0	23	1821
Grand Total	1769	26	0	1795	25	1745	0	1770	30	12	0	42	3607
Approach %	98.6	1.4	-	-	1.4	98.6	-	-	71.4	28.6	-	-	-
Total %	49.0	0.7	-	49.8	0.7	48.4	-	49.1	0.8	0.3	-	1.2	-
Lights	1760	26	-	1786	23	1734	-	1757	29	11	-	40	3583
% Lights	99.5	100.0	-	99.5	92.0	99.4	-	99.3	96.7	91.7	-	95.2	99.3
Other Vehicles	9	0	-	9	2	11	-	13	1	1	-	2	24
% Other Vehicles	0.5	0.0	-	0.5	8.0	0.6	-	0.7	3.3	8.3	-	4.8	0.7
Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Grand River Ave @ Flint St (Sat.)
Site Code:
Start Date: 04/07/2018

Turning Movement Peak Hour Data (2:00 PM)

Start Time	Grand River Ave Eastbound				Grand River Ave Westbound				Flint St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
2:00 PM	201	2	0	203	3	209	0	212	3	1	0	4	419
2:15 PM	223	2	0	225	1	204	0	205	3	3	0	6	436
2:30 PM	242	5	0	247	3	218	0	221	4	2	0	6	474
2:45 PM	225	2	0	227	7	251	0	258	6	1	0	7	492
Total	891	11	0	902	14	882	0	896	16	7	0	23	1821
Approach %	98.8	1.2	-	-	1.6	98.4	-	-	69.6	30.4	-	-	-
Total %	48.9	0.6	-	49.5	0.8	48.4	-	49.2	0.9	0.4	-	1.3	-
PHF	0.920	0.550	-	0.913	0.500	0.878	-	0.868	0.667	0.583	-	0.821	0.925
Lights	888	11	-	899	13	876	-	889	16	7	-	23	1811
% Lights	99.7	100.0	-	99.7	92.9	99.3	-	99.2	100.0	100.0	-	100.0	99.5
Other Vehicles	3	0	-	3	1	6	-	7	0	0	-	0	10
% Other Vehicles	0.3	0.0	-	0.3	7.1	0.7	-	0.8	0.0	0.0	-	0.0	0.5
Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM

27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : Grand River Ave- Sixth Gate 7-9 AM & 4-6 PM Combo
Site Code : 00000000
Start Date : 3/1/2018

Groups Printed- Cars - Trucks - Pedestrians

	SIXTH GATE From North					GRAND8 RIVER AVE From East					SIXTH GATE From South					GRAND8 RIVER AVE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	89	0	0	89	0	0	0	0	0	0	139	0	0	139	228
07:15 AM	0	0	0	0	0	0	103	0	0	103	0	0	0	0	0	1	132	0	0	133	236
07:30 AM	0	0	0	0	0	0	103	0	0	103	0	0	0	0	0	2	200	0	0	202	305
07:45 AM	0	0	0	0	0	0	114	0	0	114	1	0	0	0	1	1	225	0	0	226	341
Total	0	0	0	0	0	0	409	0	0	409	1	0	0	0	1	4	696	0	0	700	1110
08:00 AM	0	0	0	0	0	0	99	0	0	99	1	0	0	0	1	2	182	0	0	184	284
08:15 AM	0	0	0	0	0	0	103	0	0	103	1	0	0	0	1	1	180	0	0	181	285
08:30 AM	0	0	0	0	0	0	110	0	0	110	0	0	0	0	0	5	178	0	0	183	293
08:45 AM	0	0	0	0	0	0	110	0	0	110	0	0	0	0	0	4	195	0	0	199	309
Total	0	0	0	0	0	0	422	0	0	422	2	0	0	0	2	12	735	0	0	747	1171
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	189	1	0	190	0	0	1	0	1	0	184	0	0	184	375
04:15 PM	0	0	0	0	0	0	210	13	0	223	1	0	1	0	2	0	173	0	0	173	398
04:30 PM	0	0	0	0	0	0	212	0	0	212	0	0	2	0	2	1	181	0	0	182	396
04:45 PM	0	0	0	0	0	0	208	0	0	208	0	0	1	0	1	1	182	0	0	183	392
Total	0	0	0	0	0	0	819	14	0	833	1	0	5	0	6	2	720	0	0	722	1561
05:00 PM	0	0	0	0	0	0	209	1	0	210	1	0	1	0	2	1	165	0	0	166	378
05:15 PM	0	0	0	0	0	0	208	0	0	208	1	0	3	0	4	0	143	0	0	143	355
05:30 PM	0	0	0	0	0	0	192	0	0	192	0	0	1	0	1	1	141	0	0	142	335
05:45 PM	0	0	0	0	0	0	178	0	0	178	0	0	0	0	0	0	115	0	0	115	293
Total	0	0	0	0	0	0	787	1	0	788	2	0	5	0	7	2	564	0	0	566	1361
Grand Total	0	0	0	0	0	0	2437	15	0	2452	6	0	10	0	16	20	2715	0	0	2735	5203
Apprch %	0	0	0	0		0	99.4	0.6	0		37.5	0	62.5	0		0.7	99.3	0	0		
Total %	0	0	0	0	0	0	46.8	0.3	0	47.1	0.1	0	0.2	0	0.3	0.4	52.2	0	0	52.6	
Cars	0	0	0	0	0	0	2380	15	0	2395	6	0	9	0	15	19	2644	0	0	2663	5073
% Cars	0	0	0	0	0	0	97.7	100	0	97.7	100	0	90	0	93.8	95	97.4	0	0	97.4	97.5
Trucks	0	0	0	0	0	0	36	0	0	36	0	0	1	0	1	1	35	0	0	36	73
% Trucks	0	0	0	0	0	0	1.5	0	0	1.5	0	0	10	0	6.2	5	1.3	0	0	1.3	1.4
Pedestrians	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	36	0	0	36	57
% Pedestrians	0	0	0	0	0	0	0.9	0	0	0.9	0	0	0	0	0	0	1.3	0	0	1.3	1.1

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File Name : Grand River Ave- Sixth Gate 7-9 AM & 4-6 PM Combo
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	SIXTH GATE From North					GRAND8 RIVER AVE From East					SIXTH GATE From South					GRAND8 RIVER AVE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	103	0	0	103	0	0	0	0	0	**2**	200	0	0	202	305
07:45 AM	0	0	0	0	0	0	**114**	0	0	**114**	**1**	0	0	0	**1**	1	**225**	0	0	**226**	**341**
08:00 AM	0	0	0	0	0	0	99	0	0	99	1	0	0	0	1	2	182	0	0	184	284
08:15 AM	0	0	0	0	0	0	103	0	0	103	1	0	0	0	1	1	180	0	0	181	285
Total Volume	0	0	0	0	0	0	419	0	0	419	3	0	0	0	3	6	787	0	0	793	1215
% App. Total	0	0	0	0		0	100	0	0		100	0	0	0		0.8	99.2	0	0		
PHF	.000	.000	.000	.000	.000	.000	.919	.000	.000	.919	.750	.000	.000	.000	.750	.750	.874	.000	.000	.877	.891
Cars	0	0	0	0	0	0	404	0	0	404	3	0	0	0	3	6	763	0	0	769	1176
% Cars	0	0	0	0	0	0	96.4	0	0	96.4	100	0	0	0	100	100	97.0	0	0	97.0	96.8
Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	9	0	0	9	17
% Trucks	0	0	0	0	0	0	1.9	0	0	1.9	0	0	0	0	0	0	1.1	0	0	1.1	1.4
Pedestrians	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	15	0	0	15	22
% Pedestrians	0	0	0	0	0	0	1.7	0	0	1.7	0	0	0	0	0	0	1.9	0	0	1.9	1.8

File Name : Grand River Ave- Sixth Gate 7-9 AM & 4-6 PM Combo
Site Code : 00000000
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	SIXTH GATE From North					GRAND8 RIVER AVE From East					SIXTH GATE From South					GRAND8 RIVER AVE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	0	210	**13**	0	**223**	**1**	0	1	0	**2**	0	173	0	0	173	**398**
04:30 PM	0	0	0	0	0	0	**212**	0	0	212	0	0	**2**	0	2	**1**	181	0	0	182	396
04:45 PM	0	0	0	0	0	0	208	0	0	208	0	0	1	0	1	1	**182**	0	0	**183**	392
05:00 PM	0	0	0	0	0	0	209	1	0	210	1	0	1	0	2	1	165	0	0	166	378
Total Volume	0	0	0	0	0	0	839	14	0	853	2	0	5	0	7	3	701	0	0	704	1564
% App. Total	0	0	0	0		0	98.4	1.6	0		28.6	0	71.4	0		0.4	99.6	0	0		
PHF	.000	.000	.000	.000	.000	.000	.989	.269	.000	.956	.500	.000	.625	.000	.875	.750	.963	.000	.000	.962	.982
Cars	0	0	0	0	0	0	830	14	0	844	2	0	5	0	7	3	682	0	0	685	1536
% Cars	0	0	0	0	0	0	98.9	100	0	98.9	100	0	100	0	100	100	97.3	0	0	97.3	98.2
Trucks	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	10	0	0	10	16
% Trucks	0	0	0	0	0	0	0.7	0	0	0.7	0	0	0	0	0	0	1.4	0	0	1.4	1.0
Pedestrians	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	9	0	0	9	12
% Pedestrians	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0	1.3	0	0	1.3	0.8

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File Name : Gd River and Sixth Gate - Saturday 1-3
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Groups Printed- Cars - Trucks - Pedestrians

	SIXTH GATE From North					GRAND RIVER From East					SIXTH GATE From South					GRAND RIVER From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
01:00 PM	0	0	0	0	0	0	237	0	0	237	1	0	0	0	1	0	157	0	0	157	395
01:15 PM	0	0	0	0	0	0	196	0	0	196	2	0	0	0	2	0	167	0	0	167	365
01:30 PM	0	0	0	0	0	0	218	0	0	218	0	0	2	0	2	2	171	0	0	173	393
01:45 PM	0	0	0	0	0	0	222	0	0	222	1	0	0	0	1	1	170	0	0	171	394
Total	0	0	0	0	0	0	873	0	0	873	4	0	2	0	6	3	665	0	0	668	1547
02:00 PM	0	0	0	0	0	0	238	1	0	239	2	0	0	0	2	0	162	0	0	162	403
02:15 PM	0	0	0	0	0	0	232	0	0	232	0	0	0	0	0	0	159	0	0	159	391
02:30 PM	0	0	0	0	0	0	195	0	0	195	1	0	0	0	1	0	168	0	0	168	364
02:45 PM	0	0	0	0	0	0	204	0	0	204	0	0	0	0	0	1	160	2	0	163	367
Total	0	0	0	0	0	0	869	1	0	870	3	0	0	0	3	1	649	2	0	652	1525
Grand Total	0	0	0	0	0	0	1742	1	0	1743	7	0	2	0	9	4	1314	2	0	1320	3072
Apprch %	0	0	0	0		0	99.9	0.1	0		77.8	0	22.2	0		0.3	99.5	0.2	0		
Total %	0	0	0	0	0	0	56.7	0	0	56.7	0.2	0	0.1	0	0.3	0.1	42.8	0.1	0	43	
Cars	0	0	0	0	0	0	1742	1	0	1743	7	0	2	0	9	4	1314	2	0	1320	3072
% Cars	0	0	0	0	0	0	100	100	0	100	100	0	100	0	100	100	100	100	0	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

File Name : Gd River and Sixth Gate - Saturday 1-3
Site Code : 00000000
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	SIXTH GATE From North					GRAND RIVER From East					SIXTH GATE From South					GRAND RIVER From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:30 PM																					
01:30 PM	0	0	0	0	0	0	218	0	0	218	0	0	**2**	0	**2**	**2**	**171**	0	0	**173**	393
01:45 PM	0	0	0	0	0	0	222	0	0	222	1	0	0	0	1	1	170	0	0	171	394
02:00 PM	0	0	0	0	0	0	**238**	**1**	0	**239**	**2**	0	0	0	2	0	162	0	0	162	**403**
02:15 PM	0	0	0	0	0	0	232	0	0	232	0	0	0	0	0	0	159	0	0	159	391
Total Volume	0	0	0	0	0	0	910	1	0	911	3	0	2	0	5	3	662	0	0	665	1581
% App. Total	0	0	0	0		0	99.9	0.1	0		60	0	40	0		0.5	99.5	0	0		
PHF	.000	.000	.000	.000	.000	.000	.956	.250	.000	.953	.375	.000	.250	.000	.625	.375	.968	.000	.000	.961	.981
Cars	0	0	0	0	0	0	910	1	0	911	3	0	2	0	5	3	662	0	0	665	1581
% Cars	0	0	0	0	0	0	100	100	0	100	100	0	100	0	100	100	100	0	0	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Default Comments
Change These in The Preferences Window
Select File/Preference in the Main Scree
Then Click the Comments Tab

File Name : Grand River and Main combined
Site Code : 00000000
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Groups Printed- Unshifted - Bank 1 - Bank 2

	MAIN ST From North					GRAND RIVER AVE From East					MAIN ST From South					GRAND RIVER AVE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	21	11	21	1	54	33	176	14	0	223	14	2	17	0	33	19	124	8	0	151	461
04:15 PM	25	6	27	0	58	24	191	15	0	230	11	7	17	0	35	11	116	4	0	131	454
04:30 PM	17	10	18	0	45	33	181	17	0	231	20	5	18	0	43	21	147	7	0	175	494
04:45 PM	23	8	24	0	55	34	220	6	1	261	9	14	19	0	42	11	126	10	0	147	505
Total	86	35	90	1	212	124	768	52	1	945	54	28	71	0	153	62	513	29	0	604	1914
05:00 PM	35	15	40	0	90	40	220	13	0	273	12	11	30	0	53	16	139	11	0	166	582
05:15 PM	33	24	28	0	85	36	219	14	0	269	14	11	25	0	50	16	143	14	0	173	577
05:30 PM	26	23	29	0	78	35	205	7	0	247	12	8	13	0	33	11	142	17	0	170	528
05:45 PM	21	29	47	3	100	30	209	15	0	254	15	6	21	2	44	28	140	19	0	187	585
Total	115	91	144	3	353	141	853	49	0	1043	53	36	89	2	180	71	564	61	0	696	2272
*** BREAK ***																					
07:00 AM	5	0	5	0	10	5	73	2	0	80	2	1	4	0	7	4	109	3	0	116	213
07:15 AM	5	1	7	0	13	3	88	2	0	93	9	6	6	0	21	5	149	17	0	171	298
07:30 AM	6	2	2	0	10	13	89	4	0	106	10	2	5	0	17	6	139	12	0	157	290
07:45 AM	6	3	5	0	14	8	110	7	0	125	13	10	8	0	31	8	191	20	0	219	389
Total	22	6	19	0	47	29	360	15	0	404	34	19	23	0	76	23	588	52	0	663	1190
08:00 AM	2	4	6	0	12	16	93	6	0	115	15	7	11	0	33	5	193	25	1	224	384
08:15 AM	8	2	5	0	15	10	100	3	0	113	18	6	8	0	32	10	195	22	0	227	387
08:30 AM	19	1	9	0	29	11	102	8	0	121	10	3	12	0	25	9	163	13	0	185	360
08:45 AM	20	1	4	0	25	20	117	8	0	145	9	6	11	0	26	10	165	19	0	194	390
Total	49	8	24	0	81	57	412	25	0	494	52	22	42	0	116	34	716	79	1	830	1521
Grand Total	272	140	277	4	693	351	2393	141	1	2886	193	105	225	2	525	190	2381	221	1	2793	6897
Apprch %	39.2	20.2	40	0.6		12.2	82.9	4.9	0		36.8	20	42.9	0.4		6.8	85.2	7.9	0		
Total %	3.9	2	4	0.1	10	5.1	34.7	2	0	41.8	2.8	1.5	3.3	0	7.6	2.8	34.5	3.2	0	40.5	
Unshifted	259	137	270	4	670	345	2341	139	1	2826	189	102	224	2	517	187	2327	210	1	2725	6738
% Unshifted	95.2	97.9	97.5	100	96.7	98.3	97.8	98.6	100	97.9	97.9	97.1	99.6	100	98.5	98.4	97.7	95	100	97.6	97.7
Bank 1	7	2	2	0	11	5	30	2	0	37	3	3	1	0	7	2	33	7	0	42	97
% Bank 1	2.6	1.4	0.7	0	1.6	1.4	1.3	1.4	0	1.3	1.6	2.9	0.4	0	1.3	1.1	1.4	3.2	0	1.5	1.4
Bank 2	6	1	5	0	12	1	22	0	0	23	1	0	0	0	1	1	21	4	0	26	62
% Bank 2	2.2	0.7	1.8	0	1.7	0.3	0.9	0	0	0.8	0.5	0	0	0	0.2	0.5	0.9	1.8	0	0.9	0.9

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	MAIN ST From North					GRAND RIVER AVE From East					MAIN ST From South					GRAND RIVER AVE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 08:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**35**	15	40	0	90	**40**	**220**	13	0	**273**	12	**11**	**30**	0	**53**	16	139	11	0	166	582
05:15 PM	33	24	28	0	85	36	219	14	0	269	14	11	25	0	50	16	**143**	14	0	173	577
05:30 PM	26	23	29	0	78	35	205	7	0	247	12	8	13	0	33	11	142	17	0	170	528
05:45 PM	21	**29**	**47**	**3**	**100**	30	209	**15**	0	254	**15**	6	21	**2**	44	**28**	140	**19**	0	**187**	**585**
Total Volume	115	91	144	3	353	141	853	49	0	1043	53	36	89	2	180	71	564	61	0	696	2272
% App. Total	32.6	25.8	40.8	0.8		13.5	81.8	4.7	0		29.4	20	49.4	1.1		10.2	81	8.8	0		
PHF	.821	.784	.766	.250	.883	.881	.969	.817	.000	.955	.883	.818	.742	.250	.849	.634	.986	.803	.000	.930	.971
Unshifted	115	91	144	3	353	141	847	49	0	1037	51	35	89	2	177	71	556	59	0	686	2253
% Unshifted	100	100	100	100	100	100	99.3	100	0	99.4	96.2	97.2	100	100	98.3	100	98.6	96.7	0	98.6	99.2
Bank 1	0	0	0	0	0	0	2	0	0	2	1	1	0	0	2	0	2	1	0	3	7
% Bank 1	0	0	0	0	0	0	0.2	0	0	0.2	1.9	2.8	0	0	1.1	0	0.4	1.6	0	0.4	0.3
Bank 2	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	0	6	1	0	7	12
% Bank 2	0	0	0	0	0	0	0.5	0	0	0.4	1.9	0	0	0	0.6	0	1.1	1.6	0	1.0	0.5

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	MAIN ST From North					GRAND RIVER AVE From East					MAIN ST From South					GRAND RIVER AVE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	2	**4**	6	0	12	16	93	6	0	115	15	**7**	11	0	**33**	5	193	**25**	**1**	224	384
08:15 AM	8	2	5	0	15	10	100	3	0	113	**18**	6	8	0	32	**10**	**195**	22	0	**227**	387
08:30 AM	19	1	**9**	0	**29**	11	102	**8**	0	121	10	3	**12**	0	25	9	163	13	0	185	360
08:45 AM	**20**	1	4	0	25	**20**	**117**	8	0	**145**	9	6	11	0	26	10	165	19	0	194	**390**
Total Volume	49	8	24	0	81	57	412	25	0	494	52	22	42	0	116	34	716	79	1	830	1521
% App. Total	60.5	9.9	29.6	0		11.5	83.4	5.1	0		44.8	19	36.2	0		4.1	86.3	9.5	0.1		
PHF	.613	.500	.667	.000	.698	.713	.880	.781	.000	.852	.722	.786	.875	.000	.879	.850	.918	.790	.250	.914	.975
Unshifted	42	8	20	0	70	53	389	24	0	466	51	21	41	0	113	33	695	71	1	800	1449
% Unshifted	85.7	100	83.3	0	86.4	93.0	94.4	96.0	0	94.3	98.1	95.5	97.6	0	97.4	97.1	97.1	89.9	100	96.4	95.3
Bank 1	4	0	2	0	6	3	13	1	0	17	1	1	1	0	3	0	15	5	0	20	46
% Bank 1	8.2	0	8.3	0	7.4	5.3	3.2	4.0	0	3.4	1.9	4.5	2.4	0	2.6	0	2.1	6.3	0	2.4	3.0
Bank 2	3	0	2	0	5	1	10	0	0	11	0	0	0	0	0	1	6	3	0	10	26
% Bank 2	6.1	0	8.3	0	6.2	1.8	2.4	0	0	2.2	0	0	0	0	0	2.9	0.8	3.8	0	1.2	1.7

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Grand River Ave @ Town Center Dr (Sat.)
Site Code:
Start Date: 04/07/2018

Turning Movement Data

Start Time	Grand River Ave Eastbound					Grand River Ave Westbound					Main St Northbound					Town Center Dr Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	9	154	14	0	177	6	154	50	0	210	15	8	17	0	40	28	10	11	0	49	476
1:15 PM	6	117	18	0	141	6	166	31	0	203	17	8	10	0	35	33	7	12	0	52	431
1:30 PM	15	140	14	0	169	10	183	35	0	228	17	10	11	0	38	35	12	12	0	59	494
1:45 PM	12	129	17	1	158	11	159	39	0	209	19	8	11	0	38	30	9	15	0	54	459
Hourly Total	42	540	63	1	645	33	662	155	0	850	68	34	49	0	151	126	38	50	0	214	1860
2:00 PM	11	144	15	0	170	5	164	31	0	200	26	8	9	0	43	27	7	9	0	43	456
2:15 PM	10	150	14	0	174	8	156	35	1	199	23	10	15	0	48	44	7	17	0	68	489
2:30 PM	9	146	13	0	168	8	140	44	1	192	16	8	14	0	38	42	4	14	0	60	458
2:45 PM	10	146	15	0	171	7	172	46	2	225	26	10	15	1	51	48	16	12	0	76	523
Hourly Total	40	586	57	0	683	28	632	156	4	816	91	36	53	1	180	161	34	52	0	247	1926
Grand Total	82	1126	120	1	1328	61	1294	311	4	1666	159	70	102	1	331	287	72	102	0	461	3786
Approach %	6.2	84.8	9.0	-	-	3.7	77.7	18.7	-	-	48.0	21.1	30.8	-	-	62.3	15.6	22.1	-	-	-
Total %	2.2	29.7	3.2	-	35.1	1.6	34.2	8.2	-	44.0	4.2	1.8	2.7	-	8.7	7.6	1.9	2.7	-	12.2	-
Lights	82	1121	120	-	1323	61	1284	311	-	1656	158	70	102	-	330	287	72	101	-	460	3769
% Lights	100.0	99.6	100.0	-	99.6	100.0	99.2	100.0	-	99.4	99.4	100.0	100.0	-	99.7	100.0	100.0	99.0	-	99.8	99.6
Other Vehicles	0	5	0	-	5	0	10	0	-	10	1	0	0	-	1	0	0	1	-	1	17
% Other Vehicles	0.0	0.4	0.0	-	0.4	0.0	0.8	0.0	-	0.6	0.6	0.0	0.0	-	0.3	0.0	0.0	1.0	-	0.2	0.4
Pedestrians	-	-	-	1	-	-	-	-	4	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Grand River Ave @ Town Center Dr (Sat.)
Site Code:
Start Date: 04/07/2018

Turning Movement Peak Hour Data (2:00 PM)

Start Time	Grand River Ave Eastbound					Grand River Ave Westbound					Main St Northbound					Town Center Dr Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
2:00 PM	11	144	15	0	170	5	164	31	0	200	26	8	9	0	43	27	7	9	0	43	456
2:15 PM	10	150	14	0	174	8	156	35	1	199	23	10	15	0	48	44	7	17	0	68	489
2:30 PM	9	146	13	0	168	8	140	44	1	192	16	8	14	0	38	42	4	14	0	60	458
2:45 PM	10	146	15	0	171	7	172	46	2	225	26	10	15	1	51	48	16	12	0	76	523
Total	40	586	57	0	683	28	632	156	4	816	91	36	53	1	180	161	34	52	0	247	1926
Approach %	5.9	85.8	8.3	-	-	3.4	77.5	19.1	-	-	50.6	20.0	29.4	-	-	65.2	13.8	21.1	-	-	-
Total %	2.1	30.4	3.0	-	35.5	1.5	32.8	8.1	-	42.4	4.7	1.9	2.8	-	9.3	8.4	1.8	2.7	-	12.8	-
PHF	0.909	0.977	0.950	-	0.981	0.875	0.919	0.848	-	0.907	0.875	0.900	0.883	-	0.882	0.839	0.531	0.765	-	0.813	0.921
Lights	40	583	57	-	680	28	632	156	-	816	90	36	53	-	179	161	34	52	-	247	1922
% Lights	100.0	99.5	100.0	-	99.6	100.0	100.0	100.0	-	100.0	98.9	100.0	100.0	-	99.4	100.0	100.0	100.0	-	100.0	99.8
Other Vehicles	0	3	0	-	3	0	0	0	-	0	1	0	0	-	1	0	0	0	-	0	4
% Other Vehicles	0.0	0.5	0.0	-	0.4	0.0	0.0	0.0	-	0.0	1.1	0.0	0.0	-	0.6	0.0	0.0	0.0	-	0.0	0.2
Pedestrians	-	-	-	0	-	-	-	-	4	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Grand River Ave @ Meadowbrook Rd (Sat.)
Site Code:
Start Date: 03/24/2018

Turning Movement Data

Start Time	Grand River Ave Eastbound					Grand River Ave Westbound					Meadowbrook Rd Northbound					Meadowbrook Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	18	117	37	0	172	9	166	18	0	193	50	27	9	0	86	17	47	22	0	86	537
1:15 PM	18	124	41	0	183	9	140	21	0	170	42	43	10	0	95	29	48	14	0	91	539
1:30 PM	16	100	44	0	160	11	140	24	0	175	45	55	6	0	106	14	55	18	1	87	528
1:45 PM	29	131	41	0	201	9	174	26	0	209	37	52	11	0	100	14	55	22	0	91	601
Hourly Total	81	472	163	0	716	38	620	89	0	747	174	177	36	0	387	74	205	76	1	355	2205
2:00 PM	13	130	47	0	190	13	166	26	0	205	53	36	10	0	99	27	55	25	1	107	601
2:15 PM	14	138	34	0	186	9	127	16	0	152	37	55	4	0	96	13	48	11	0	72	506
2:30 PM	14	114	41	0	169	12	144	13	0	169	43	43	12	0	98	11	50	17	0	78	514
2:45 PM	8	141	41	0	190	14	128	12	0	154	42	49	4	0	95	17	48	23	0	88	527
Hourly Total	49	523	163	0	735	48	565	67	0	680	175	183	30	0	388	68	201	76	1	345	2148
3:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	131	995	326	0	1452	86	1185	156	0	1427	349	360	66	0	775	142	406	152	2	700	4354
Approach %	9.0	68.5	22.5	-	-	6.0	83.0	10.9	-	-	45.0	46.5	8.5	-	-	20.3	58.0	21.7	-	-	-
Total %	3.0	22.9	7.5	-	33.3	2.0	27.2	3.6	-	32.8	8.0	8.3	1.5	-	17.8	3.3	9.3	3.5	-	16.1	-
Lights	130	984	325	-	1439	85	1179	156	-	1420	349	359	66	-	774	141	405	151	-	697	4330
% Lights	99.2	98.9	99.7	-	99.1	98.8	99.5	100.0	-	99.5	100.0	99.7	100.0	-	99.9	99.3	99.8	99.3	-	99.6	99.4
Other Vehicles	1	11	1	-	13	1	6	0	-	7	0	1	0	-	1	1	1	1	-	3	24
% Other Vehicles	0.8	1.1	0.3	-	0.9	1.2	0.5	0.0	-	0.5	0.0	0.3	0.0	-	0.1	0.7	0.2	0.7	-	0.4	0.6
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Grand River Ave @ Meadowbrook Rd (Sat.)
Site Code:
Start Date: 03/24/2018

Turning Movement Peak Hour Data (1:15 PM)

Start Time	Grand River Ave Eastbound					Grand River Ave Westbound					Meadowbrook Rd Northbound					Meadowbrook Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:15 PM	18	124	41	0	183	9	140	21	0	170	42	43	10	0	95	29	48	14	0	91	539
1:30 PM	16	100	44	0	160	11	140	24	0	175	45	55	6	0	106	14	55	18	1	87	528
1:45 PM	29	131	41	0	201	9	174	26	0	209	37	52	11	0	100	14	55	22	0	91	601
2:00 PM	13	130	47	0	190	13	166	26	0	205	53	36	10	0	99	27	55	25	1	107	601
Total	76	485	173	0	734	42	620	97	0	759	177	186	37	0	400	84	213	79	2	376	2269
Approach %	10.4	66.1	23.6	-	-	5.5	81.7	12.8	-	-	44.3	46.5	9.3	-	-	22.3	56.6	21.0	-	-	-
Total %	3.3	21.4	7.6	-	32.3	1.9	27.3	4.3	-	33.5	7.8	8.2	1.6	-	17.6	3.7	9.4	3.5	-	16.6	-
PHF	0.655	0.926	0.920	-	0.913	0.808	0.891	0.933	-	0.908	0.835	0.845	0.841	-	0.943	0.724	0.968	0.790	-	0.879	0.944
Lights	75	480	173	-	728	41	618	97	-	756	177	185	37	-	399	83	212	78	-	373	2256
% Lights	98.7	99.0	100.0	-	99.2	97.6	99.7	100.0	-	99.6	100.0	99.5	100.0	-	99.8	98.8	99.5	98.7	-	99.2	99.4
Other Vehicles	1	5	0	-	6	1	2	0	-	3	0	1	0	-	1	1	1	1	-	3	13
% Other Vehicles	1.3	1.0	0.0	-	0.8	2.4	0.3	0.0	-	0.4	0.0	0.5	0.0	-	0.3	1.2	0.5	1.3	-	0.8	0.6
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Grand River Avenue @ Meadowbrook Road
Site Code:
Start Date: 03/15/2018

Turning Movement Data

Start Time	Grand River Ave Eastbound					Grand River Ave Westbound					Meadowbrook Rd Northbound					Meadowbrook Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	17	95	10	0	122	1	50	30	0	81	23	44	14	0	81	22	10	5	0	37	321
7:15 AM	18	102	13	0	133	2	48	16	0	66	22	39	16	0	77	15	12	2	0	29	305
7:30 AM	29	137	13	0	179	2	55	26	0	83	24	62	16	0	102	33	21	5	0	59	423
7:45 AM	37	140	10	0	187	5	63	41	0	109	37	75	27	0	139	30	33	6	0	69	504
Hourly Total	101	474	46	0	621	10	216	113	0	339	106	220	73	0	399	100	76	18	0	194	1553
8:00 AM	32	133	9	0	174	1	76	69	0	146	27	66	17	0	110	30	25	14	0	69	499
8:15 AM	28	144	17	0	189	6	78	48	0	132	38	59	23	0	120	24	26	10	0	60	501
8:30 AM	31	119	16	1	166	7	70	37	0	114	28	70	23	0	121	32	30	17	0	79	480
8:45 AM	16	142	19	0	177	6	80	39	0	125	33	63	22	0	118	33	38	16	0	87	507
Hourly Total	107	538	61	1	706	20	304	193	0	517	126	258	85	0	469	119	119	57	0	295	1987
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	10	101	40	0	151	16	196	35	0	247	33	55	11	0	99	30	62	28	0	120	617
4:15 PM	24	112	46	0	182	13	191	14	0	218	35	36	13	0	84	30	79	25	0	134	618
4:30 PM	17	120	35	0	172	19	202	30	0	251	33	51	8	1	92	27	84	32	0	143	658
4:45 PM	15	100	50	0	165	8	221	25	0	254	48	44	11	0	103	27	58	36	0	121	643
Hourly Total	66	433	171	0	670	56	810	104	0	970	149	186	43	1	378	114	283	121	0	518	2536
5:00 PM	18	108	54	0	180	21	198	22	0	241	34	42	13	0	89	58	117	24	0	199	709
5:15 PM	25	104	52	0	181	12	189	26	0	227	59	54	11	0	124	45	95	31	1	171	703
5:30 PM	20	109	55	0	184	16	209	16	0	241	38	56	11	0	105	23	78	31	0	132	662
5:45 PM	22	88	41	0	151	19	191	33	0	243	59	56	8	0	123	36	78	42	1	156	673
Hourly Total	85	409	202	0	696	68	787	97	0	952	190	208	43	0	441	162	368	128	2	658	2747
Grand Total	359	1854	480	1	2693	154	2117	507	0	2778	571	872	244	1	1687	495	846	324	2	1665	8823
Approach %	13.3	68.8	17.8	-	-	5.5	76.2	18.3	-	-	33.8	51.7	14.5	-	-	29.7	50.8	19.5	-	-	-
Total %	4.1	21.0	5.4	-	30.5	1.7	24.0	5.7	-	31.5	6.5	9.9	2.8	-	19.1	5.6	9.6	3.7	-	18.9	-
Lights	355	1819	471	-	2645	151	2090	500	-	2741	563	865	241	-	1669	487	841	322	-	1650	8705
% Lights	98.9	98.1	98.1	-	98.2	98.1	98.7	98.6	-	98.7	98.6	99.2	98.8	-	98.9	98.4	99.4	99.4	-	99.1	98.7
Other Vehicles	4	35	9	-	48	3	27	7	-	37	8	7	3	-	18	8	5	2	-	15	118
% Other Vehicles	1.1	1.9	1.9	-	1.8	1.9	1.3	1.4	-	1.3	1.4	0.8	1.2	-	1.1	1.6	0.6	0.6	-	0.9	1.3
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	1	-	-	-	-	2	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Grand River Avenue @ Meadowbrook Road
Site Code:
Start Date: 03/15/2018

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Grand River Ave Eastbound					Grand River Ave Westbound					Meadowbrook Rd Northbound					Meadowbrook Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
8:00 AM	32	133	9	0	174	1	76	69	0	146	27	66	17	0	110	30	25	14	0	69	499
8:15 AM	28	144	17	0	189	6	78	48	0	132	38	59	23	0	120	24	26	10	0	60	501
8:30 AM	31	119	16	1	166	7	70	37	0	114	28	70	23	0	121	32	30	17	0	79	480
8:45 AM	16	142	19	0	177	6	80	39	0	125	33	63	22	0	118	33	38	16	0	87	507
Total	107	538	61	1	706	20	304	193	0	517	126	258	85	0	469	119	119	57	0	295	1987
Approach %	15.2	76.2	8.6	-	-	3.9	58.8	37.3	-	-	26.9	55.0	18.1	-	-	40.3	40.3	19.3	-	-	-
Total %	5.4	27.1	3.1	-	35.5	1.0	15.3	9.7	-	26.0	6.3	13.0	4.3	-	23.6	6.0	6.0	2.9	-	14.8	-
PHF	0.836	0.934	0.803	-	0.934	0.714	0.950	0.699	-	0.885	0.829	0.921	0.924	-	0.969	0.902	0.783	0.838	-	0.848	0.980
Lights	105	527	56	-	688	18	290	190	-	498	121	258	84	-	463	116	115	56	-	287	1936
% Lights	98.1	98.0	91.8	-	97.5	90.0	95.4	98.4	-	96.3	96.0	100.0	98.8	-	98.7	97.5	96.6	98.2	-	97.3	97.4
Other Vehicles	2	11	5	-	18	2	14	3	-	19	5	0	1	-	6	3	4	1	-	8	51
% Other Vehicles	1.9	2.0	8.2	-	2.5	10.0	4.6	1.6	-	3.7	4.0	0.0	1.2	-	1.3	2.5	3.4	1.8	-	2.7	2.6
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM Corp
3950 Sparks Drive SE

Grand Rapids, Michigan, United States 49546
(616) 574-8500

Count Name: Grand River Avenue @ Meadowbrook Road
Site Code:
Start Date: 03/15/2018

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Grand River Ave Eastbound					Grand River Ave Westbound					Meadowbrook Rd Northbound					Meadowbrook Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
5:00 PM	18	108	54	0	180	21	198	22	0	241	34	42	13	0	89	58	117	24	0	199	709
5:15 PM	25	104	52	0	181	12	189	26	0	227	59	54	11	0	124	45	95	31	1	171	703
5:30 PM	20	109	55	0	184	16	209	16	0	241	38	56	11	0	105	23	78	31	0	132	662
5:45 PM	22	88	41	0	151	19	191	33	0	243	59	56	8	0	123	36	78	42	1	156	673
Total	85	409	202	0	696	68	787	97	0	952	190	208	43	0	441	162	368	128	2	658	2747
Approach %	12.2	58.8	29.0	-	-	7.1	82.7	10.2	-	-	43.1	47.2	9.8	-	-	24.6	55.9	19.5	-	-	-
Total %	3.1	14.9	7.4	-	25.3	2.5	28.6	3.5	-	34.7	6.9	7.6	1.6	-	16.1	5.9	13.4	4.7	-	24.0	-
PHF	0.850	0.938	0.918	-	0.946	0.810	0.941	0.735	-	0.979	0.805	0.929	0.827	-	0.889	0.698	0.786	0.762	-	0.827	0.969
Lights	85	403	201	-	689	67	787	97	-	951	190	204	43	-	437	161	368	128	-	657	2734
% Lights	100.0	98.5	99.5	-	99.0	98.5	100.0	100.0	-	99.9	100.0	98.1	100.0	-	99.1	99.4	100.0	100.0	-	99.8	99.5
Other Vehicles	0	6	1	-	7	1	0	0	-	1	0	4	0	-	4	1	0	0	-	1	13
% Other Vehicles	0.0	1.5	0.5	-	1.0	1.5	0.0	0.0	-	0.1	0.0	1.9	0.0	-	0.9	0.6	0.0	0.0	-	0.2	0.5
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

AECOM

27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : 11 Mile Rd- Town Center Dr 7-9 AM & 4-6 PM Combo
Site Code : 00000000
Start Date : 2/27/2018
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Groups Printed- Cars - Trucks - Pedestrians

	TOWN CENTER DR From North					11 MILE RD From East					TOWN CENTER DR From South					11 MILE RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	2	8	1	11	4	2	0	2	8	6	3	4	1	14	0	16	1	0	17	50
07:15 AM	0	3	5	2	10	4	5	4	2	15	8	2	4	2	16	4	21	2	0	27	68
07:30 AM	2	3	7	2	14	6	4	3	2	15	19	8	4	0	31	4	24	1	1	30	90
07:45 AM	0	6	13	4	23	6	4	2	0	12	17	15	4	0	36	5	17	2	0	24	95
Total	2	14	33	9	58	20	15	9	6	50	50	28	16	3	97	13	78	6	1	98	303
08:00 AM	0	4	22	7	33	6	5	2	0	13	17	8	5	0	30	5	17	4	0	26	102
08:15 AM	1	10	12	0	23	9	5	13	0	27	9	7	3	0	19	7	17	2	0	26	95
08:30 AM	1	5	12	6	24	12	11	7	0	30	16	11	8	1	36	5	17	0	0	22	112
08:45 AM	1	3	12	2	18	6	6	6	2	20	15	15	7	0	37	5	13	7	0	25	100
Total	3	22	58	15	98	33	27	28	2	90	57	41	23	1	122	22	64	13	0	99	409
*** BREAK ***																					
04:00 PM	1	21	6	0	28	52	23	23	2	100	3	14	24	0	41	24	18	1	0	43	212
04:15 PM	4	18	8	0	30	19	18	11	0	48	3	7	18	0	28	25	9	2	0	36	142
04:30 PM	2	14	14	0	30	35	28	26	0	89	7	14	18	0	39	30	10	1	0	41	199
04:45 PM	4	14	8	0	26	23	29	27	0	79	4	11	27	1	43	33	12	2	0	47	195
Total	11	67	36	0	114	129	98	87	2	316	17	46	87	1	151	112	49	6	0	167	748
05:00 PM	2	21	5	0	28	64	34	39	0	137	7	22	27	3	59	23	18	0	0	41	265
05:15 PM	2	25	10	0	37	38	41	43	0	122	5	19	25	0	49	32	15	0	0	47	255
05:30 PM	4	24	8	0	36	32	33	33	0	98	4	14	24	2	44	37	16	2	0	55	233
05:45 PM	1	20	11	0	32	23	37	25	1	86	4	17	29	0	50	35	21	2	0	58	226
Total	9	90	34	0	133	157	145	140	1	443	20	72	105	5	202	127	70	4	0	201	979
Grand Total	25	193	161	24	403	339	285	264	11	899	144	187	231	10	572	274	261	29	1	565	2439
Apprch %	6.2	47.9	40	6		37.7	31.7	29.4	1.2		25.2	32.7	40.4	1.7		48.5	46.2	5.1	0.2		
Total %	1	7.9	6.6	1	16.5	13.9	11.7	10.8	0.5	36.9	5.9	7.7	9.5	0.4	23.5	11.2	10.7	1.2	0	23.2	
Cars	24	189	158	24	395	336	284	260	11	891	142	182	227	10	561	271	261	29	1	562	2409
% Cars	96	97.9	98.1	100	98	99.1	99.6	98.5	100	99.1	98.6	97.3	98.3	100	98.1	98.9	100	100	100	99.5	98.8
Trucks	1	2	1	0	4	3	0	4	0	7	1	4	3	0	8	2	0	0	0	2	21
% Trucks	4	1	0.6	0	1	0.9	0	1.5	0	0.8	0.7	2.1	1.3	0	1.4	0.7	0	0	0	0.4	0.9
Pedestrians	0	2	2	0	4	0	1	0	0	1	1	1	1	0	3	1	0	0	0	1	9
% Pedestrians	0	1	1.2	0	1	0	0.4	0	0	0.1	0.7	0.5	0.4	0	0.5	0.4	0	0	0	0.2	0.4

AECOM

27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : 11 Mile Rd- Town Center Dr 7-9 AM & 4-6 PM Combo
Site Code : 00000000
Start Date : 2/27/2018
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	TOWN CENTER DR From North					11 MILE RD From East					TOWN CENTER DR From South					11 MILE RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	4	**22**	**7**	**33**	6	5	2	0	13	**17**	8	5	0	30	5	**17**	4	0	**26**	102
08:15 AM	**1**	**10**	12	0	23	9	5	**13**	0	27	9	7	3	0	19	**7**	17	2	0	26	95
08:30 AM	1	5	12	6	24	**12**	**11**	7	0	**30**	16	11	**8**	**1**	36	5	17	0	0	22	**112**
08:45 AM	1	3	12	2	18	6	6	6	**2**	20	15	**15**	7	0	**37**	5	13	**7**	0	25	100
Total Volume	3	22	58	15	98	33	27	28	2	90	57	41	23	1	122	22	64	13	0	99	409
% App. Total	3.1	22.4	59.2	15.3		36.7	30	31.1	2.2		46.7	33.6	18.9	0.8		22.2	64.6	13.1	0		
PHF	.750	.550	.659	.536	.742	.688	.614	.538	.250	.750	.838	.683	.719	.250	.824	.786	.941	.464	.000	.952	.913
Cars	2	22	58	15	97	30	26	25	2	83	57	36	23	1	117	21	64	13	0	98	395
% Cars	66.7	100	100	100	99.0	90.9	96.3	89.3	100	92.2	100	87.8	100	100	95.9	95.5	100	100	0	99.0	96.6
Trucks	1	0	0	0	1	3	0	3	0	6	0	4	0	0	4	0	0	0	0	0	11
% Trucks	33.3	0	0	0	1.0	9.1	0	10.7	0	6.7	0	9.8	0	0	3.3	0	0	0	0	0	2.7
Pedestrians	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	3
% Pedestrians	0	0	0	0	0	0	3.7	0	0	1.1	0	2.4	0	0	0.8	4.5	0	0	0	1.0	0.7

File Name : 11 Mile Rd- Town Center Dr 7-9 AM & 4-6 PM Combo
Site Code : 00000000
Start Date : 2/27/2018
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	TOWN CENTER DR From North					11 MILE RD From East					TOWN CENTER DR From South					11 MILE RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	2	21	5	0	28	**64**	34	39	0	**137**	**7**	**22**	27	**3**	**59**	23	18	0	0	41	**265**
05:15 PM	2	**25**	10	0	**37**	38	**41**	**43**	0	122	5	19	25	0	49	32	15	0	0	47	255
05:30 PM	**4**	24	8	0	36	32	33	33	0	98	4	14	24	2	44	**37**	16	**2**	0	55	233
05:45 PM	1	20	**11**	0	32	23	37	25	**1**	86	4	17	**29**	0	50	35	**21**	2	0	**58**	226
Total Volume	9	90	34	0	133	157	145	140	1	443	20	72	105	5	202	127	70	4	0	201	979
% App. Total	6.8	67.7	25.6	0		35.4	32.7	31.6	0.2		9.9	35.6	52	2.5		63.2	34.8	2	0		
PHF	.563	.900	.773	.000	.899	.613	.884	.814	.250	.808	.714	.818	.905	.417	.856	.858	.833	.500	.000	.866	.924
Cars	9	89	32	0	130	157	145	139	1	442	20	72	102	5	199	127	70	4	0	201	972
% Cars	100	98.9	94.1	0	97.7	100	100	99.3	100	99.8	100	100	97.1	100	98.5	100	100	100	0	100	99.3
Trucks	0	1	0	0	1	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0	4
% Trucks	0	1.1	0	0	0.8	0	0	0.7	0	0.2	0	0	1.9	0	1.0	0	0	0	0	0	0.4
Pedestrians	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3
% Pedestrians	0	0	5.9	0	1.5	0	0	0	0	0	0	0	1.0	0	0.5	0	0	0	0	0	0.3

AECOM
2777 Franklin Road, Suite 2000
Southfield, MI 48034

File Name : 11 Mile Rd- Town Center Dr 1-3 PM (Weekend Count)
Site Code : 00000000
Start Date : 3/24/2018
Page No : 1

Groups Printed- Cars - Trucks - Pedestrians

	TOWN CENTER DR From North					11 MILE RD From East					TOWN CENTER DR From South					11 MILE RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
01:00 PM	4	16	12	0	32	7	18	3	0	28	7	15	45	0	67	34	15	1	0	50	177
01:15 PM	3	13	10	0	26	8	32	4	0	44	3	14	40	0	57	39	20	3	0	62	189
01:30 PM	4	13	4	0	21	10	13	3	0	26	7	15	46	0	68	60	17	2	0	79	194
01:45 PM	5	18	8	0	31	13	15	7	1	36	6	13	45	0	64	44	17	4	0	65	196
Total	16	60	34	0	110	38	78	17	1	134	23	57	176	0	256	177	69	10	0	256	756
02:00 PM	6	21	6	0	33	8	23	5	2	38	5	13	42	0	60	45	26	2	0	73	204
02:15 PM	3	10	8	0	21	9	20	5	4	38	6	22	40	0	68	49	20	2	0	71	198
02:30 PM	4	20	9	0	33	8	21	7	0	36	6	15	33	0	54	41	26	2	0	69	192
02:45 PM	10	28	14	0	52	10	19	7	0	36	1	14	38	0	53	45	18	3	0	66	207
Total	23	79	37	0	139	35	83	24	6	148	18	64	153	0	235	180	90	9	0	279	801
Grand Total	39	139	71	0	249	73	161	41	7	282	41	121	329	0	491	357	159	19	0	535	1557
Apprch %	15.7	55.8	28.5	0		25.9	57.1	14.5	2.5		8.4	24.6	67	0		66.7	29.7	3.6	0		
Total %	2.5	8.9	4.6	0	16	4.7	10.3	2.6	0.4	18.1	2.6	7.8	21.1	0	31.5	22.9	10.2	1.2	0	34.4	
Cars	38	138	68	0	244	72	159	40	7	278	41	120	329	0	490	357	157	18	0	532	1544
% Cars	97.4	99.3	95.8	0	98	98.6	98.8	97.6	100	98.6	100	99.2	100	0	99.8	100	98.7	94.7	0	99.4	99.2
Trucks	1	1	3	0	5	1	2	0	0	3	0	1	0	0	1	0	2	0	0	2	11
% Trucks	2.6	0.7	4.2	0	2	1.4	1.2	0	0	1.1	0	0.8	0	0	0.2	0	1.3	0	0	0.4	0.7
Pedestrians	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	2
% Pedestrians	0	0	0	0	0	0	0	2.4	0	0.4	0	0	0	0	0	0	0	5.3	0	0.2	0.1

File Name : 11 Mile Rd- Town Center Dr 1-3 PM (Weekend Count)
Site Code : 00000000
Start Date : 3/24/2018
Page No : 2

	TOWN CENTER DR From North					11 MILE RD From East					TOWN CENTER DR From South					11 MILE RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	6	21	6	0	33	8	**23**	5	2	**38**	5	13	**42**	0	60	45	**26**	2	0	**73**	204
02:15 PM	3	10	8	0	21	9	20	5	**4**	38	**6**	**22**	40	0	**68**	**49**	20	2	0	71	198
02:30 PM	4	20	9	0	33	8	21	**7**	0	36	6	15	33	0	54	41	26	2	0	69	192
02:45 PM	**10**	**28**	**14**	0	**52**	**10**	19	7	0	36	1	14	38	0	53	45	18	**3**	0	66	**207**
Total Volume	23	79	37	0	139	35	83	24	6	148	18	64	153	0	235	180	90	9	0	279	801
% App. Total	16.5	56.8	26.6	0		23.6	56.1	16.2	4.1		7.7	27.2	65.1	0		64.5	32.3	3.2	0		
PHF	.575	.705	.661	.000	.668	.875	.902	.857	.375	.974	.750	.727	.911	.000	.864	.918	.865	.750	.000	.955	.967
Cars	23	79	36	0	138	35	83	23	6	147	18	63	153	0	234	180	89	9	0	278	797
% Cars	100	100	97.3	0	99.3	100	100	95.8	100	99.3	100	98.4	100	0	99.6	100	98.9	100	0	99.6	99.5
Trucks	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	3
% Trucks	0	0	2.7	0	0.7	0	0	0	0	0	0	1.6	0	0	0.4	0	1.1	0	0	0.4	0.4
Pedestrians	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% Pedestrians	0	0	0	0	0	0	0	4.2	0	0.7	0	0	0	0	0	0	0	0	0	0	0.1

AECOM
2777 Franklin Road, Suite 2000
Southfield, MI 48034

File Name : Main and Potomac combined
Site Code : 00000000
Start Date : 2/27/2018
Page No : 1

Groups Printed- Cars - Trucks - Pedestrians

	MAIN AND POTOMAC From North					MAIN From East					MAIN AND POTOMAC From South					MAIN From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	16	11	0	0	27	0	0	0	1	1	0	3	6	0	9	11	0	9	0	20	57
04:15 PM	11	1	0	1	13	0	0	0	0	0	0	2	4	0	6	8	0	20	0	28	47
04:30 PM	20	13	0	0	33	0	0	0	0	0	0	0	4	0	4	6	0	30	0	36	73
04:45 PM	17	4	0	3	24	0	0	0	0	0	0	5	11	0	16	5	0	28	0	33	73
Total	64	29	0	4	97	0	0	0	1	1	0	10	25	0	35	30	0	87	0	117	250
05:00 PM	27	5	0	0	32	0	0	0	1	1	0	6	8	0	14	7	0	27	0	34	81
05:15 PM	27	10	1	2	40	0	0	0	0	0	0	10	1	0	11	5	0	26	0	31	82
05:30 PM	28	11	0	2	41	0	0	0	0	0	0	5	4	0	9	7	0	26	0	33	83
05:45 PM	27	15	0	0	42	0	0	0	0	0	0	7	7	0	14	4	0	27	0	31	87
Total	109	41	1	4	155	0	0	0	1	1	0	28	20	0	48	23	0	106	0	129	333
*** BREAK ***																					
07:00 AM	1	1	0	0	2	0	0	0	0	0	0	3	14	0	17	2	0	14	0	16	35
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	12	11	0	23	6	0	14	0	20	44
07:30 AM	2	4	0	0	6	0	0	0	0	0	0	7	16	0	23	2	0	12	0	14	43
07:45 AM	2	3	0	0	5	0	0	0	0	0	0	20	14	0	34	1	0	18	0	19	58
Total	6	8	0	0	14	0	0	0	0	0	0	42	55	0	97	11	0	58	0	69	180
08:00 AM	3	1	0	0	4	0	0	0	0	0	0	8	10	0	18	4	0	9	0	13	35
08:15 AM	4	2	0	0	6	0	0	0	0	0	0	10	12	0	22	0	0	18	0	18	46
08:30 AM	6	0	0	0	6	0	0	0	0	0	0	15	9	0	24	2	0	23	1	26	56
08:45 AM	4	4	0	0	8	0	0	0	1	1	0	14	10	0	24	4	0	19	1	24	57
Total	17	7	0	0	24	0	0	0	1	1	0	47	41	0	88	10	0	69	2	81	194
Grand Total	196	85	1	8	290	0	0	0	3	3	0	127	141	0	268	74	0	320	2	396	957
Apprch %	67.6	29.3	0.3	2.8		0	0	0	100		0	47.4	52.6	0		18.7	0	80.8	0.5		
Total %	20.5	8.9	0.1	0.8	30.3	0	0	0	0.3	0.3	0	13.3	14.7	0	28	7.7	0	33.4	0.2	41.4	
Cars	195	84	1	8	288	0	0	0	3	3	0	121	141	0	262	72	0	316	2	390	943
% Cars	99.5	98.8	100	100	99.3	0	0	0	100	100	0	95.3	100	0	97.8	97.3	0	98.8	100	98.5	98.5
Trucks	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	3	0	3	9
% Trucks	0	1.2	0	0	0.3	0	0	0	0	0	0	3.9	0	0	1.9	0	0	0.9	0	0.8	0.9
Pedestrians	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2	0	1	0	3	5
% Pedestrians	0.5	0	0	0	0.3	0	0	0	0	0	0	0.8	0	0	0.4	2.7	0	0.3	0	0.8	0.5

AECOM
2777 Franklin Road, Suite 2000
Southfield, MI 48034

File Name : Main and Potomac combined
Site Code : 00000000
Start Date : 2/27/2018
Page No : 2

	MAIN AND POTOMAC From North					MAIN From East					MAIN AND POTOMAC From South					MAIN From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 12:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	27	5	0	0	32	0	0	0	**1**	**1**	0	6	**8**	0	**14**	**7**	0	**27**	0	**34**	81
05:15 PM	27	10	**1**	**2**	40	0	0	0	0	0	0	**10**	1	0	11	5	0	26	0	31	82
05:30 PM	**28**	11	0	2	41	0	0	0	0	0	0	5	4	0	9	7	0	26	0	33	83
05:45 PM	27	**15**	0	0	**42**	0	0	0	0	0	0	7	7	0	14	4	0	27	0	31	**87**
Total Volume	109	41	1	4	155	0	0	0	1	1	0	28	20	0	48	23	0	106	0	129	333
% App. Total	70.3	26.5	0.6	2.6		0	0	0	100		0	58.3	41.7	0		17.8	0	82.2	0		
PHF	.973	.683	.250	.500	.923	.000	.000	.000	.250	.250	.000	.700	.625	.000	.857	.821	.000	.981	.000	.949	.957
Cars	108	41	1	4	154	0	0	0	1	1	0	26	20	0	46	22	0	104	0	126	327
% Cars	99.1	100	100	100	99.4	0	0	0	100	100	0	92.9	100	0	95.8	95.7	0	98.1	0	97.7	98.2
Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	3
% Trucks	0	0	0	0	0	0	0	0	0	0	0	3.6	0	0	2.1	0	0	1.9	0	1.6	0.9
Pedestrians	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3
% Pedestrians	0.9	0	0	0	0.6	0	0	0	0	0	0	3.6	0	0	2.1	4.3	0	0	0	0.8	0.9
Peak Hour Analysis From 12:45 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	2	3										20	14		34						58
08:00 AM	3	1	0	0	4	0	0	0	0	0	0	8	10	0	18	4	0	9	0	13	35
08:15 AM	4	2	0	0	6	0	0	0	0	0	0	10	12	0	22	0	0	18	0	18	46
08:30 AM	6	0	0	0	6	0	0	0	0	0	0	15	9	0	24	2	0	23	1	26	56
Total Volume	15	6	0	0	21	0	0	0	0	0	0	53	45	0	98	7	0	68	1	76	195
% App. Total	71.4	28.6	0	0		0	0	0	0		0	54.1	45.9	0		9.2	0	89.5	1.3		
PHF	.625	.500	.000	.000	.875	.000	.000	.000	.000	.000	.000	.663	.804	.000	.721	.438	.000	.739	.250	.731	.841
Cars	15	6	0	0	21	0	0	0	0	0	0	53	45	0	98	7	0	67	1	75	194
% Cars	100	100	0	0	100	0	0	0	0	0	0	100	100	0	100	100	0	98.5	100	98.7	99.5
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	1.3	0.5
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AECOM

27777 Franklin Road, Suite 2000
Southfield MI, 48034

File Name : Main St- Potomac+Main St 1-3 PM (Weekend Count)
Site Code : 00000000
Start Date : 3/24/2018
Page No : 1

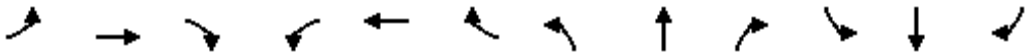
Groups Printed- Cars

	Main St From North					From East	Potomac St From South					Main St From West					
Start Time	Right	Thru	Left	Peds	App. Total	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
01:00 PM	26	7	0	0	33	0	0	7	3	0	10	8	0	48	0	56	99
01:15 PM	17	8	0	0	25	0	0	5	7	0	12	7	0	25	0	32	69
01:30 PM	20	3	0	0	23	0	0	9	6	0	15	11	0	22	0	33	71
01:45 PM	16	4	0	0	20	0	0	5	7	0	12	10	0	42	0	52	84
Total	79	22	0	0	101	0	0	26	23	0	49	36	0	137	0	173	323
02:00 PM	11	9	0	0	20	0	0	6	9	0	15	9	0	27	0	36	71
02:15 PM	17	5	0	0	22	0	0	7	5	0	12	3	0	22	0	25	59
02:30 PM	12	6	0	0	18	0	0	5	6	0	11	7	0	24	0	31	60
02:45 PM	17	7	0	0	24	0	0	9	6	0	15	10	0	18	0	28	67
Total	57	27	0	0	84	0	0	27	26	0	53	29	0	91	0	120	257
Grand Total	136	49	0	0	185	0	0	53	49	0	102	65	0	228	0	293	580
Apprch %	73.5	26.5	0	0			0	52	48	0		22.2	0	77.8	0		
Total %	23.4	8.4	0	0	31.9	0	0	9.1	8.4	0	17.6	11.2	0	39.3	0	50.5	

File Name : Main St- Potomac+Main St 1-3 PM (Weekend Count)
Site Code : 00000000
Start Date : 3/24/2018
Page No : 2

	Main St From North					From East	Potomac St From South					Main St From West					
Start Time	Right	Thru	Left	Peds	App. Total	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 02:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	**26**	7	0	0	**33**	0	0	7	3	0	10	8	0	**48**	0	**56**	**99**
01:15 PM	17	**8**	0	0	25	0	0	5	**7**	0	12	7	0	25	0	32	69
01:30 PM	20	3	0	0	23	0	0	**9**	6	0	**15**	**11**	0	22	0	33	71
01:45 PM	16	4	0	0	20	0	0	5	7	0	12	10	0	42	0	52	84
Total Volume	79	22	0	0	101	0	0	26	23	0	49	36	0	137	0	173	323
% App. Total	78.2	21.8	0	0			0	53.1	46.9	0		20.8	0	79.2	0		
PHF	.760	.688	.000	.000	.765	.000	.000	.722	.821	.000	.817	.818	.000	.714	.000	.772	.816

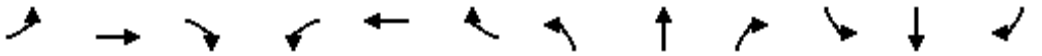
APPENDIX B-1. Existing (2018) Conditions Capacity Analysis Reports



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	511	169	79	216	93	120	513	163	90	362	85
Future Volume (vph)	293	511	169	79	216	93	120	513	163	90	362	85
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.95		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3574		1776	3391		1844	3556		1863	3609	
Flt Permitted	0.42	1.00		0.26	1.00		0.42	1.00		0.27	1.00	
Satd. Flow (perm)	831	3574		482	3391		809	3556		537	3609	
Peak-hour factor, PHF	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	333	581	192	88	240	103	130	558	177	100	402	94
RTOR Reduction (vph)	0	30	0	0	52	0	0	22	0	0	15	0
Lane Group Flow (vph)	333	743	0	88	291	0	130	713	0	100	481	0
Confl. Peds. (#/hr)			1	1			2					2
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	3%	3%	3%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	45.0	30.4		23.5	15.5		54.6	48.6		54.6	48.6	
Effective Green, g (s)	45.0	30.4		23.5	15.5		54.6	48.6		54.6	48.6	
Actuated g/C Ratio	0.38	0.26		0.20	0.13		0.46	0.41		0.46	0.41	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	512	913		182	441		423	1452		313	1473	
v/s Ratio Prot	c0.12	c0.21		0.03	0.09		0.02	c0.20		c0.02	0.13	
v/s Ratio Perm	0.12			0.06			0.13			0.13		
v/c Ratio	0.65	0.81		0.48	0.66		0.31	0.49		0.32	0.33	
Uniform Delay, d1	33.5	41.6		50.1	49.2		24.0	26.0		29.1	24.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.93	0.95	
Incremental Delay, d2	3.0	5.6		2.0	3.6		0.4	1.2		0.6	0.6	
Delay (s)	36.4	47.3		52.1	52.8		24.4	27.2		27.5	23.3	
Level of Service	D	D		D	D		C	C		C	C	
Approach Delay (s)		44.0			52.6			26.8			24.0	
Approach LOS		D			D			C			C	

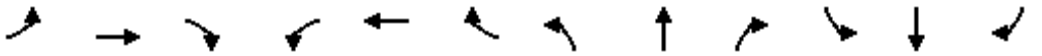
Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



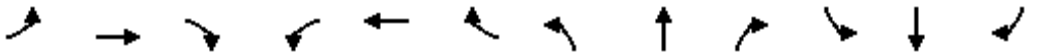
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	420	903	137	54	253	202	88	843	51	161	486	219
Future Volume (vph)	420	903	137	54	253	202	88	843	51	161	486	219
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1845	3617		1792	3585	1604	1845	3658		1845	3517	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1845	3617		1792	3585	1604	1845	3658		1845	3517	
Peak-hour factor, PHF	0.87	0.87	0.87	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	483	1038	157	64	298	238	96	916	55	177	534	241
RTOR Reduction (vph)	0	7	0	0	0	0	0	4	0	0	39	0
Lane Group Flow (vph)	483	1188	0	64	298	238	96	967	0	177	736	0
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	30.0	49.7		9.1	28.8	41.7	11.3	38.1		12.9	39.7	
Effective Green, g (s)	30.0	49.7		9.1	28.8	41.7	11.3	38.1		12.9	39.7	
Actuated g/C Ratio	0.22	0.37		0.07	0.21	0.31	0.08	0.28		0.10	0.30	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	413	1341		121	770	499	155	1040		177	1041	
v/s Ratio Prot	c0.26	c0.33		0.04	0.08	0.05	0.05	c0.26		c0.10	0.21	
v/s Ratio Perm						0.10						
v/c Ratio	1.17	0.89		0.53	0.39	0.48	0.62	0.93		1.00	0.71	
Uniform Delay, d1	52.0	39.5		60.4	45.0	37.3	59.3	46.7		60.5	42.0	
Progression Factor	1.00	1.00		1.15	0.81	0.83	0.87	0.86		1.26	0.57	
Incremental Delay, d2	99.4	8.9		4.3	1.4	0.8	6.9	13.6		66.2	2.2	
Delay (s)	151.4	48.4		73.7	37.9	31.6	58.5	53.7		142.8	26.1	
Level of Service	F	D		E	D	C	E	D		F	C	
Approach Delay (s)		78.0			39.2			54.2			47.8	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	60.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



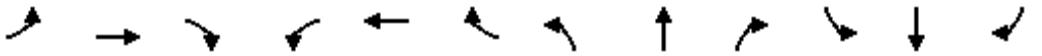
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	716	34	25	412	57	42	22	52	24	8	49
Future Volume (vph)	79	716	34	25	412	57	42	22	52	24	8	49
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1827	3629		1792	1887	1604	1841	1748	1650	1667	1754	1457
Flt Permitted	0.43	1.00		0.32	1.00	1.00	0.75	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	834	3629		597	1887	1604	1454	1748	1650	1300	1754	1457
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.88	0.88	0.88	0.70	0.70	0.70
Adj. Flow (vph)	87	787	37	29	485	67	48	25	59	34	11	70
RTOR Reduction (vph)	0	2	0	0	0	22	0	0	55	0	0	67
Lane Group Flow (vph)	87	822	0	29	485	45	48	25	4	34	11	3
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	14%	14%	14%
Parking (#/hr)								0				
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	102.3	94.1		92.9	89.4	89.4	14.7	8.5	8.5	9.3	5.8	5.8
Effective Green, g (s)	102.3	94.1		92.9	89.4	89.4	14.7	8.5	8.5	9.3	5.8	5.8
Actuated g/C Ratio	0.76	0.70		0.69	0.67	0.67	0.11	0.06	0.06	0.07	0.04	0.04
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	697	2548		445	1258	1070	177	110	104	99	75	63
v/s Ratio Prot	c0.01	0.23		0.00	c0.26		c0.01	0.01		0.01	0.01	
v/s Ratio Perm	0.09			0.04		0.03	c0.02		0.00	0.01		0.00
v/c Ratio	0.12	0.32		0.07	0.39	0.04	0.27	0.23	0.04	0.34	0.15	0.05
Uniform Delay, d1	7.2	7.7		8.8	10.0	7.6	54.9	59.6	58.9	59.6	61.7	61.5
Progression Factor	0.43	0.54		0.35	0.49	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.2		0.1	0.9	0.1	0.8	1.1	0.1	2.1	0.9	0.3
Delay (s)	3.2	4.3		3.1	5.7	7.7	55.7	60.7	59.0	61.7	62.6	61.8
Level of Service	A	A		A	A	A	E	E	E	E	E	E
Approach Delay (s)		4.2			5.8			58.2			61.8	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	2	78	31	2	3	77	432	89	1	671	14
Future Volume (vph)	5	2	78	31	2	3	77	432	89	1	671	14
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Peak-hour factor, PHF	0.73	0.73	0.73	0.69	0.69	0.69	0.79	0.79	0.79	0.83	0.83	0.83
Adj. Flow (vph)	7	3	107	45	3	4	97	547	113	1	808	17
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	33	0	0	6
Lane Group Flow (vph)	7	3	107	45	7	0	97	547	80	1	808	11
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	3%	3%	3%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	6.0	6.0	20.8	6.5	6.5		8.8	95.4	95.4	1.3	87.9	87.9
Effective Green, g (s)	6.0	6.0	20.8	6.5	6.5		8.8	95.4	95.4	1.3	87.9	87.9
Actuated g/C Ratio	0.04	0.04	0.16	0.05	0.05		0.07	0.71	0.71	0.01	0.66	0.66
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	81	85	442	161	79		235	3773	1174	18	3511	1093
v/s Ratio Prot	0.00	0.00	c0.04	c0.01	0.00		c0.03	0.10		0.00	c0.15	
v/s Ratio Perm									0.05			0.01
v/c Ratio	0.09	0.04	0.24	0.28	0.09		0.41	0.14	0.07	0.06	0.23	0.01
Uniform Delay, d1	61.4	61.2	49.7	61.5	60.9		60.1	6.2	5.8	65.7	9.3	8.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.45	0.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.3	1.1	0.6		1.2	0.1	0.1	1.3	0.2	0.0
Delay (s)	61.8	61.4	50.0	62.6	61.5		58.1	2.8	0.1	67.0	9.5	8.0
Level of Service	E	E	D	E	E		E	A	A	E	A	A
Approach Delay (s)		51.0			62.5			9.5			9.5	
Approach LOS		D			E			A			A	

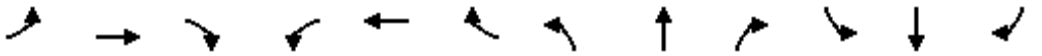
Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	538	61	20	304	193	126	258	85	119	119	57
Future Volume (vph)	107	538	61	20	304	193	126	258	85	119	119	57
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1845	1942	1650	1827	1923	1635	1860	1961	1667	1845	1942	1620
Flt Permitted	0.48	1.00	1.00	0.28	1.00	1.00	0.59	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	931	1942	1650	538	1923	1635	1150	1961	1667	503	1942	1620
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.85	0.85	0.85
Adj. Flow (vph)	115	578	66	22	342	217	133	272	89	140	140	67
RTOR Reduction (vph)	0	0	27	0	0	89	0	0	69	0	0	52
Lane Group Flow (vph)	115	578	39	22	342	128	133	272	20	140	140	15
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	72.7	67.2	78.9	72.7	67.2	79.2	36.0	24.3	29.8	36.6	24.6	30.1
Effective Green, g (s)	72.7	67.2	78.9	72.7	67.2	79.2	36.0	24.3	29.8	36.6	24.6	30.1
Actuated g/C Ratio	0.54	0.50	0.59	0.54	0.50	0.59	0.27	0.18	0.22	0.27	0.18	0.22
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	542	973	971	344	964	966	370	355	370	257	356	363
v/s Ratio Prot	c0.01	c0.30	0.00	0.00	0.18	0.01	0.03	c0.14	0.00	c0.05	0.07	0.00
v/s Ratio Perm	0.11		0.02	0.03		0.07	0.07		0.01	0.10		0.01
v/c Ratio	0.21	0.59	0.04	0.06	0.35	0.13	0.36	0.77	0.05	0.54	0.39	0.04
Uniform Delay, d1	15.3	23.7	11.6	16.6	20.3	12.2	38.6	52.1	41.0	39.1	48.1	40.7
Progression Factor	0.37	0.35	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	2.6	0.0	0.1	1.0	0.1	0.6	9.8	0.1	2.4	0.8	0.0
Delay (s)	5.8	11.0	10.1	16.7	21.3	12.2	39.2	61.9	41.1	41.5	49.0	40.7
Level of Service	A	B	B	B	C	B	D	E	D	D	D	D
Approach Delay (s)		10.1			17.7			52.1			44.4	
Approach LOS		B			B			D			D	

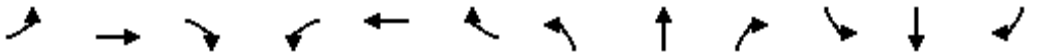
Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



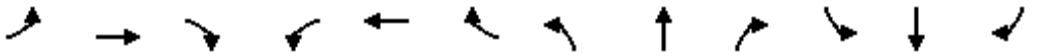
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	6	2	1	67	2	1229	15	191	948	12
Future Volume (vph)	8	0	6	2	1	67	2	1229	15	191	948	12
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3390	1667		1890	2933	1845	5292		3579	3689	1650
Flt Permitted	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3390	1667		1890	2933	1845	5292		3579	3689	1650
Peak-hour factor, PHF	0.60	0.60	0.60	0.73	0.73	0.73	0.86	0.86	0.86	0.88	0.88	0.88
Adj. Flow (vph)	13	0	10	3	1	92	2	1429	17	217	1077	14
RTOR Reduction (vph)	0	0	10	0	0	78	0	1	0	0	0	3
Lane Group Flow (vph)	6	7	0	0	4	14	2	1445	0	217	1077	11
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	3.6	3.6	6.0		1.2	20.6	2.4	85.0		19.4	102.0	105.6
Effective Green, g (s)	3.6	3.6	6.0		1.2	20.6	2.4	85.0		19.4	102.0	105.6
Actuated g/C Ratio	0.03	0.03	0.04		0.01	0.15	0.02	0.63		0.14	0.76	0.79
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	45	91	74		16	590	33	3356		518	2808	1300
v/s Ratio Prot	c0.00	0.00	0.00		c0.00	0.00	0.00	c0.27		0.06	c0.29	0.00
v/s Ratio Perm			0.00			0.00						0.01
v/c Ratio	0.13	0.08	0.01		0.25	0.02	0.06	0.43		0.42	0.38	0.01
Uniform Delay, d1	63.7	63.6	61.2		66.0	48.2	64.7	12.3		52.2	5.4	3.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.95	0.96		0.95	0.52	1.00
Incremental Delay, d2	1.3	0.4	0.0		10.9	0.0	0.3	0.2		0.6	0.4	0.0
Delay (s)	65.0	63.9	61.2		76.9	48.2	61.6	12.0		50.0	3.2	3.0
Level of Service	E	E	E		E	D	E	B		D	A	A
Approach Delay (s)		63.0			49.4			12.1			11.0	
Approach LOS		E			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



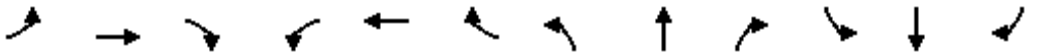
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	13	79	22	2	32	30	923	43	41	561	12
Future Volume (vph)	31	13	79	22	2	32	30	923	43	41	561	12
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.91		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.99		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1734		1863	1961	1667	1845	3665		1810	3608	
Flt Permitted		0.91		0.37	1.00	1.00	0.40	1.00		0.25	1.00	
Satd. Flow (perm)		1603		719	1961	1667	779	3665		469	3608	
Peak-hour factor, PHF	0.72	0.72	0.72	0.74	0.74	0.74	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	43	18	110	30	3	43	32	992	46	46	623	13
RTOR Reduction (vph)	0	57	0	0	0	38	0	2	0	0	1	0
Lane Group Flow (vph)	0	114	0	30	3	5	32	1036	0	46	635	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		14.5		14.5	14.5	14.5	99.2	95.8		103.8	98.1	
Effective Green, g (s)		14.5		14.5	14.5	14.5	99.2	95.8		103.8	98.1	
Actuated g/C Ratio		0.11		0.11	0.11	0.11	0.74	0.71		0.77	0.73	
Clearance Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		173		77	212	180	603	2620		420	2641	
v/s Ratio Prot					0.00		0.00	c0.28		c0.00	0.18	
v/s Ratio Perm		c0.07		0.04		0.00	0.04			0.08		
v/c Ratio		0.66		0.39	0.01	0.03	0.05	0.40		0.11	0.24	
Uniform Delay, d1		57.4		55.6	53.4	53.4	5.3	7.6		6.8	5.8	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		0.71	0.79	
Incremental Delay, d2		8.7		3.2	0.0	0.1	0.0	0.4		0.1	0.2	
Delay (s)		66.0		58.9	53.4	53.5	5.4	8.0		5.0	4.7	
Level of Service		E		E	D	D	A	A		A	A	
Approach Delay (s)		66.0			55.6			8.0			4.8	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



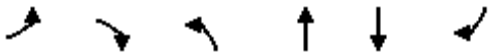
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	0	37	1	0	5	35	844	1	16	575	31
Future Volume (vph)	26	0	37	1	0	5	35	844	1	16	575	31
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.88		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1498		1845	3689		1845	3661	
Flt Permitted	0.75	1.00			0.95		0.38	1.00		0.30	1.00	
Satd. Flow (perm)	1475	1667			1431		740	3689		577	3661	
Peak-hour factor, PHF	0.72	0.72	0.72	0.75	0.75	0.75	0.89	0.89	0.89	0.85	0.85	0.85
Adj. Flow (vph)	36	0	51	1	0	7	39	948	1	19	676	36
RTOR Reduction (vph)	0	48	0	0	8	0	0	0	0	0	3	0
Lane Group Flow (vph)	36	3	0	0	0	0	39	949	0	19	709	0
Heavy Vehicles (%)	2%	2%	2%	17%	17%	17%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.0	7.0			7.0		100.2	100.2		100.2	100.2	
Effective Green, g (s)	7.0	7.0			7.0		100.2	100.2		100.2	100.2	
Actuated g/C Ratio	0.06	0.06			0.06		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	86	98			84		623	3106		485	3082	
v/s Ratio Prot		0.00						c0.26			0.19	
v/s Ratio Perm	c0.02				0.00		0.05			0.03		
v/c Ratio	0.42	0.03			0.01		0.06	0.31		0.04	0.23	
Uniform Delay, d1	54.0	52.8			52.7		1.6	2.0		1.5	1.8	
Progression Factor	1.00	1.00			1.00		0.07	0.07		1.00	1.00	
Incremental Delay, d2	3.3	0.1			0.0		0.2	0.2		0.2	0.2	
Delay (s)	57.3	52.9			52.7		0.3	0.3		1.7	2.0	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.7			52.7			0.3			2.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	567	58	348	0	407	0	0	711	105
Future Volume (vph)	0	0	0	567	58	348	0	407	0	0	711	105
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3544	1923	2877		5353			5301	1650
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3544	1923	2877		5353			5301	1650
Peak-hour factor, PHF	0.92	0.92	0.92	0.79	0.79	0.79	0.81	0.81	0.81	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	718	73	441	0	502	0	0	748	111
RTOR Reduction (vph)	0	0	0	0	0	270	0	0	0	0	0	31
Lane Group Flow (vph)	0	0	0	718	73	171	0	502	0	0	748	80
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				25.0	25.0	52.0		69.7			96.7	96.7
Effective Green, g (s)				25.0	25.0	52.0		69.7			96.7	96.7
Actuated g/C Ratio				0.19	0.19	0.39		0.52			0.72	0.72
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				661	358	1116		2784			3825	1190
v/s Ratio Prot				c0.20	0.04	0.06		0.09			c0.14	0.05
v/s Ratio Perm												
v/c Ratio				1.09	0.20	0.15		0.18			0.20	0.07
Uniform Delay, d1				54.5	46.1	26.7		17.0			6.0	5.5
Progression Factor				1.00	1.00	1.00		1.06			0.79	0.42
Incremental Delay, d2				60.7	0.3	0.1		0.1			0.1	0.1
Delay (s)				115.2	46.4	26.7		18.2			4.9	2.4
Level of Service				F	D	C		B			A	A
Approach Delay (s)		0.0			79.5			18.2			4.6	
Approach LOS		A			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	166	0	492	960	0
Future Volume (vph)	63	166	0	492	960	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.91	0.85		1.00	1.00	
Flt Protected	0.98	1.00		1.00	1.00	
Satd. Flow (prot)	3373	1502		3725	3689	
Flt Permitted	0.98	1.00		1.00	1.00	
Satd. Flow (perm)	3373	1502		3725	3689	
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.86	0.86
Adj. Flow (vph)	69	182	0	553	1116	0
RTOR Reduction (vph)	85	85	0	0	0	0
Lane Group Flow (vph)	75	6	0	553	1116	0
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	8.8	8.8		113.2	113.2	
Effective Green, g (s)	8.8	8.8		113.2	113.2	
Actuated g/C Ratio	0.07	0.07		0.84	0.84	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	221	98		3146	3116	
v/s Ratio Prot	c0.02	0.00		0.15	c0.30	
v/s Ratio Perm						
v/c Ratio	0.34	0.06		0.18	0.36	
Uniform Delay, d1	59.8	58.7		1.9	2.3	
Progression Factor	1.00	1.00		0.23	0.40	
Incremental Delay, d2	1.1	0.3		0.1	0.3	
Delay (s)	60.9	59.0		0.5	1.2	
Level of Service	E	E		A	A	
Approach Delay (s)	60.2			0.5	1.2	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1455	37	4	556	4	5
Future Volume (Veh/h)	1455	37	4	556	4	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.85	0.85	0.60	0.60
Hourly flow rate (vph)	1672	43	5	654	7	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				619		
pX, platoon unblocked					0.93	
vC, conflicting volume			1715		2030	858
vC1, stage 1 conf vol					1694	
vC2, stage 2 conf vol					337	
vCu, unblocked vol			1715		1963	858
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		95	97
cM capacity (veh/h)			366		130	300

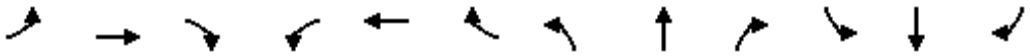
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1115	600	5	327	327	15
Volume Left	0	0	5	0	0	7
Volume Right	0	43	0	0	0	8
cSH	1700	1700	366	1700	1700	186
Volume to Capacity	0.66	0.35	0.01	0.19	0.19	0.08
Queue Length 95th (ft)	0	0	1	0	0	6
Control Delay (s)	0.0	0.0	15.0	0.0	0.0	26.0
Lane LOS			B			D
Approach Delay (s)	0.0		0.1			26.0
Approach LOS						D

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	787	6	0	419	0	3
Future Volume (Veh/h)	787	6	0	419	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.75	0.75
Hourly flow rate (vph)	894	7	0	455	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.77		0.82	0.77
vC, conflicting volume			901		1352	450
vC1, stage 1 conf vol					898	
vC2, stage 2 conf vol					455	
vCu, unblocked vol			278		638	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			977		498	836

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	596	305	0	455	4
Volume Left	0	0	0	0	0
Volume Right	0	7	0	0	4
cSH	1700	1700	1700	1700	836
Volume to Capacity	0.35	0.18	0.00	0.27	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	9.3
Lane LOS					A
Approach Delay (s)	0.0		0.0		9.3
Approach LOS					A

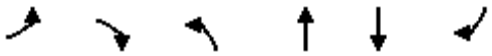
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	64	22	28	27	33	23	41	57	58	22	3
Future Volume (vph)	13	64	22	28	27	33	23	41	57	58	22	3
Peak Hour Factor	0.95	0.95	0.95	0.75	0.75	0.75	0.82	0.82	0.82	0.74	0.74	0.74
Hourly flow rate (vph)	14	67	23	37	36	44	28	50	70	78	30	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	14	90	37	80	28	120	78	34
Volume Left (vph)	14	0	37	0	28	0	78	0
Volume Right (vph)	0	23	0	44	0	70	0	4
Hadj (s)	0.53	-0.14	0.64	-0.25	0.57	-0.34	0.53	-0.05
Departure Headway (s)	5.8	5.1	5.9	5.0	5.7	4.8	5.7	5.2
Degree Utilization, x	0.02	0.13	0.06	0.11	0.04	0.16	0.12	0.05
Capacity (veh/h)	584	666	579	681	599	710	598	664
Control Delay (s)	7.7	7.7	8.1	7.4	7.8	7.6	8.3	7.2
Approach Delay (s)	7.7		7.6		7.6		8.0	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay	7.7			
Level of Service	A			
Intersection Capacity Utilization	26.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	68	7	45	53	6	15
Future Volume (vph)	68	7	45	53	6	15
Peak Hour Factor	0.73	0.73	0.72	0.72	0.88	0.88
Hourly flow rate (vph)	93	10	63	74	7	17

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	93	10	63	74	24
Volume Left (vph)	93	0	63	0	0
Volume Right (vph)	0	10	0	0	17
Hadj (s)	0.53	-0.67	0.53	0.03	-0.39
Departure Headway (s)	5.4	4.2	5.3	4.8	4.4
Degree Utilization, x	0.14	0.01	0.09	0.10	0.03
Capacity (veh/h)	635	814	655	722	801
Control Delay (s)	8.1	6.1	7.7	7.2	7.5
Approach Delay (s)	7.9		7.4		7.5
Approach LOS	A		A		A

Intersection Summary			
Delay	7.6		
Level of Service	A		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	4	818	23	20	594
Future Volume (Veh/h)	10	4	818	23	20	594
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	17	7	861	24	22	653
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.96					
vC, conflicting volume	1244	442			885	
vC1, stage 1 conf vol	873					
vC2, stage 2 conf vol	370					
vCu, unblocked vol	1168	442			885	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	99			97	
cM capacity (veh/h)	343	563			760	

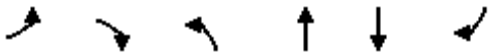
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	17	7	574	311	22	326	326
Volume Left	17	0	0	0	22	0	0
Volume Right	0	7	0	24	0	0	0
cSH	343	563	1700	1700	760	1700	1700
Volume to Capacity	0.05	0.01	0.34	0.18	0.03	0.19	0.19
Queue Length 95th (ft)	4	1	0	0	2	0	0
Control Delay (s)	16.0	11.5	0.0	0.0	9.9	0.0	0.0
Lane LOS	C	B			A		
Approach Delay (s)	14.7		0.0		0.3		
Approach LOS	B						

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	407	148	0	1278
Future Volume (Veh/h)	0	0	407	148	0	1278
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.81	0.81	0.95	0.95
Hourly flow rate (vph)	0	0	502	183	0	1345
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.96					
vC, conflicting volume	950	251			685	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	807	251			685	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	307	749			898	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	251	251	183	448	448	448
Volume Left	0	0	0	0	0	0
Volume Right	0	0	183	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.15	0.15	0.11	0.26	0.26	0.26
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	555	960	318
Future Volume (Veh/h)	0	0	0	555	960	318
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	0	624	1116	370
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.98	0.96	0.96			
vC, conflicting volume	1428	558	1486			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1277	468	1430			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	154	522	454			

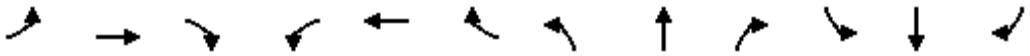
Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	312	312	558	558	370
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	370
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.18	0.18	0.33	0.33	0.22
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	41.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	492	807	0	1126
Future Volume (Veh/h)	0	0	492	807	0	1126
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	553	907	0	1309
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.94					
vC, conflicting volume	989	276			1460	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	777	276			1460	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	314	721			454	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	276	276	907	436	436	436
Volume Left	0	0	0	0	0	0
Volume Right	0	0	907	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.16	0.16	0.53	0.26	0.26	0.26
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

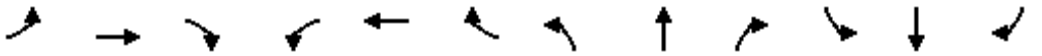
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	297	218	223	565	151	206	625	81	120	677	280
Future Volume (vph)	182	297	218	223	565	151	206	625	81	120	677	280
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.97		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3489		1863	3597		1863	3654		1862	3552	
Flt Permitted	0.19	1.00		0.21	1.00		0.10	1.00		0.21	1.00	
Satd. Flow (perm)	370	3489		418	3597		199	3654		416	3552	
Peak-hour factor, PHF	0.89	0.89	0.89	0.93	0.93	0.93	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	204	334	245	240	608	162	226	687	89	126	713	295
RTOR Reduction (vph)	0	121	0	0	20	0	0	8	0	0	35	0
Lane Group Flow (vph)	204	458	0	240	750	0	226	768	0	126	973	0
Confl. Peds. (#/hr)	1					1			3	3		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	34.1	21.2		48.9	29.4		54.7	42.4		54.7	42.4	
Effective Green, g (s)	34.1	21.2		48.9	29.4		54.7	42.4		54.7	42.4	
Actuated g/C Ratio	0.28	0.17		0.40	0.24		0.44	0.34		0.44	0.34	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	259	601		414	859		254	1259		329	1224	
v/s Ratio Prot	c0.08	0.13		c0.10	c0.21		c0.09	0.21		0.04	0.27	
v/s Ratio Perm	0.14			0.13			c0.31			0.13		
v/c Ratio	0.79	0.76		0.58	0.87		0.89	0.61		0.38	0.79	
Uniform Delay, d1	50.1	48.5		38.3	45.0		46.1	33.4		36.3	36.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.91	0.94	
Incremental Delay, d2	14.6	5.7		2.0	9.8		29.1	2.2		0.7	5.2	
Delay (s)	64.7	54.2		40.3	54.8		75.2	35.7		33.9	39.5	
Level of Service	E	D		D	D		E	D		C	D	
Approach Delay (s)		56.9			51.3			44.6			38.8	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

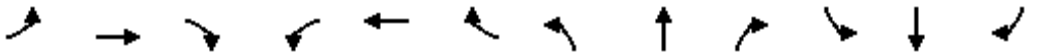
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	481	87	140	777	400	175	865	78	195	641	254
Future Volume (vph)	264	481	87	140	777	400	175	865	78	195	641	254
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3640		1863	3725	1667	1863	3679		1863	3567	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3640		1863	3725	1667	1863	3679		1863	3567	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	300	547	99	152	845	435	190	940	85	205	675	267
RTOR Reduction (vph)	0	10	0	0	0	0	0	5	0	0	31	0
Lane Group Flow (vph)	300	636	0	152	845	435	190	1020	0	205	911	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	25.7	36.2		16.5	27.0	46.2	18.4	38.9		19.2	39.7	
Effective Green, g (s)	25.7	36.2		16.5	27.0	46.2	18.4	38.9		19.2	39.7	
Actuated g/C Ratio	0.19	0.27		0.12	0.20	0.34	0.14	0.29		0.14	0.29	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	354	976		227	745	570	253	1060		264	1048	
v/s Ratio Prot	c0.16	0.17		0.08	c0.23	0.11	0.10	c0.28		c0.11	0.26	
v/s Ratio Perm						0.15						
v/c Ratio	0.85	0.65		0.67	1.13	0.76	0.75	0.96		0.78	0.87	
Uniform Delay, d1	52.8	43.8		56.6	54.0	39.5	56.1	47.3		55.8	45.2	
Progression Factor	1.00	1.00		1.09	1.03	0.85	0.91	0.84		1.10	1.02	
Incremental Delay, d2	17.0	3.4		6.9	75.6	5.7	11.1	18.1		11.9	6.9	
Delay (s)	69.8	47.2		68.8	131.3	39.2	62.2	58.1		73.3	52.9	
Level of Service	E	D		E	F	D	E	E		E	D	
Approach Delay (s)		54.4			96.7			58.7			56.6	
Approach LOS		D			F			E			E	

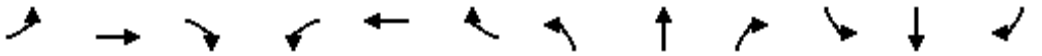
Intersection Summary			
HCM 2000 Control Delay	68.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	564	71	49	853	141	89	36	53	144	91	115
Future Volume (vph)	61	564	71	49	853	141	89	36	53	144	91	115
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3653		1862	1961	1619	1863	1961	1667	1863	1961	1667
Flt Permitted	0.15	1.00		0.36	1.00	1.00	0.58	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	297	3653		707	1961	1619	1142	1961	1667	1431	1961	1667
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.85	0.85	0.85	0.88	0.88	0.88
Adj. Flow (vph)	66	606	76	52	898	148	105	42	62	164	103	131
RTOR Reduction (vph)	0	6	0	0	0	57	0	0	58	0	0	119
Lane Group Flow (vph)	66	676	0	52	898	91	105	42	4	164	103	12
Confl. Peds. (#/hr)	3		2	2		3						
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	88.3	83.3		88.3	83.3	83.3	19.1	9.2	9.2	25.5	12.4	12.4
Effective Green, g (s)	88.3	83.3		88.3	83.3	83.3	19.1	9.2	9.2	25.5	12.4	12.4
Actuated g/C Ratio	0.65	0.62		0.65	0.62	0.62	0.14	0.07	0.07	0.19	0.09	0.09
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	252	2254		505	1210	998	214	133	113	312	180	153
v/s Ratio Prot	c0.01	0.19		0.00	c0.46		0.04	0.02		c0.05	c0.05	
v/s Ratio Perm	0.16			0.06		0.06	0.03		0.00	0.05		0.01
v/c Ratio	0.26	0.30		0.10	0.74	0.09	0.49	0.32	0.04	0.53	0.57	0.08
Uniform Delay, d1	34.9	12.1		11.3	18.3	10.5	54.5	59.9	58.8	49.6	58.8	56.1
Progression Factor	0.86	0.90		0.26	0.40	0.08	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.2		0.0	2.1	0.1	1.8	1.4	0.1	1.6	4.3	0.2
Delay (s)	30.4	11.2		3.0	9.4	0.9	56.3	61.3	58.9	51.1	63.1	56.3
Level of Service	C	B		A	A	A	E	E	E	D	E	E
Approach Delay (s)		12.9			7.9			58.1			55.9	
Approach LOS		B			A			E			E	

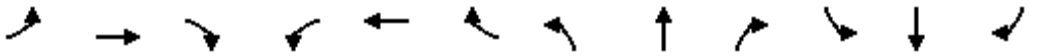
Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	25	412	354	49	43	360	695	211	10	921	58
Future Volume (vph)	56	25	412	354	49	43	360	695	211	10	921	58
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1823		3614	5353	1667	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1823		3614	5353	1667	1863	5353	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	59	26	434	385	53	47	396	764	232	11	969	61
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	101	0	0	34
Lane Group Flow (vph)	59	26	434	385	100	0	396	764	131	11	969	27
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	11.0	11.0	36.2	20.2	20.2		19.2	76.0	76.0	3.0	59.8	59.8
Effective Green, g (s)	11.0	11.0	36.2	20.2	20.2		19.2	76.0	76.0	3.0	59.8	59.8
Actuated g/C Ratio	0.08	0.08	0.27	0.15	0.15		0.14	0.56	0.56	0.02	0.44	0.44
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	151	159	786	540	272		513	3013	938	41	2371	738
v/s Ratio Prot	0.03	0.01	c0.15	c0.11	0.05		c0.11	0.14		0.01	c0.18	
v/s Ratio Perm									0.08			0.02
v/c Ratio	0.39	0.16	0.55	0.71	0.37		0.77	0.25	0.14	0.27	0.41	0.04
Uniform Delay, d1	58.8	57.7	42.4	54.6	51.7		55.8	15.0	14.0	64.9	25.6	21.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.70	0.69	2.03	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.5	0.8	4.6	1.0		6.7	0.2	0.3	3.5	0.5	0.1
Delay (s)	60.5	58.2	43.3	59.2	52.6		45.6	10.6	28.7	68.4	26.1	21.4
Level of Service	E	E	D	E	D		D	B	C	E	C	C
Approach Delay (s)		46.0			57.9			23.6			26.3	
Approach LOS		D			E			C			C	

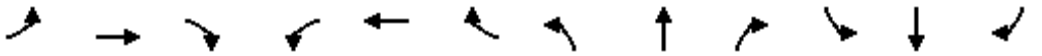
Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	409	202	68	787	97	190	208	43	162	368	128
Future Volume (vph)	85	409	202	68	787	97	190	208	43	162	368	128
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	1667	1863	1961	1633	1863	1961	1667	1863	1961	1667
Flt Permitted	0.07	1.00	1.00	0.37	1.00	1.00	0.13	1.00	1.00	0.43	1.00	1.00
Satd. Flow (perm)	134	1961	1667	719	1961	1633	255	1961	1667	850	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	89	431	213	72	828	102	213	234	48	195	443	154
RTOR Reduction (vph)	0	0	91	0	0	48	0	0	35	0	0	74
Lane Group Flow (vph)	89	431	122	72	828	54	213	234	13	195	443	80
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	65.8	58.5	74.1	63.0	57.1	71.9	46.4	30.8	36.7	44.8	30.0	37.3
Effective Green, g (s)	65.8	58.5	74.1	63.0	57.1	71.9	46.4	30.8	36.7	44.8	30.0	37.3
Actuated g/C Ratio	0.49	0.43	0.55	0.47	0.42	0.53	0.34	0.23	0.27	0.33	0.22	0.28
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	158	849	914	385	829	869	273	447	453	393	435	460
v/s Ratio Prot	c0.03	0.22	0.02	0.01	c0.42	0.01	c0.09	0.12	0.00	0.05	c0.23	0.01
v/s Ratio Perm	0.24		0.06	0.08		0.03	0.18		0.01	0.11		0.04
v/c Ratio	0.56	0.51	0.13	0.19	1.00	0.06	0.78	0.52	0.03	0.50	1.02	0.17
Uniform Delay, d1	30.1	27.8	14.8	21.0	38.9	15.3	35.8	45.7	36.1	34.0	52.5	37.1
Progression Factor	1.40	0.81	1.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	2.1	0.1	0.2	31.0	0.0	13.4	1.3	0.0	1.0	47.9	0.2
Delay (s)	46.4	24.6	27.4	21.3	69.9	15.3	49.2	46.9	36.1	35.0	100.4	37.3
Level of Service	D	C	C	C	E	B	D	D	D	C	F	D
Approach Delay (s)		28.1			60.8			46.9			72.0	
Approach LOS		C			E			D			E	

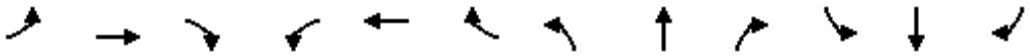
Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	14	38	48	15	479	35	1270	60	419	1278	63
Future Volume (vph)	75	14	38	48	15	479	35	1270	60	419	1278	63
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3442	1667		1888	2933	1863	5317		3614	3725	1667
Flt Permitted	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3442	1667		1888	2933	1863	5317		3614	3725	1667
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.89	0.89	0.89	0.95	0.95	0.95
Adj. Flow (vph)	93	17	47	56	17	557	39	1427	67	441	1345	66
RTOR Reduction (vph)	0	0	43	0	0	89	0	4	0	0	0	20
Lane Group Flow (vph)	46	64	4	0	73	468	39	1490	0	441	1345	46
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	6.0	6.0	12.8		8.6	41.5	6.8	62.7		32.9	88.8	94.8
Effective Green, g (s)	6.0	6.0	12.8		8.6	41.5	6.8	62.7		32.9	88.8	94.8
Actuated g/C Ratio	0.04	0.04	0.09		0.06	0.31	0.05	0.46		0.24	0.66	0.70
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	75	152	158		120	1040	93	2469		880	2450	1170
v/s Ratio Prot	c0.03	0.02	0.00		c0.04	0.11	0.02	c0.28		0.12	c0.36	0.00
v/s Ratio Perm			0.00			0.05						0.03
v/c Ratio	0.61	0.42	0.03		0.61	0.45	0.42	0.60		0.50	0.55	0.04
Uniform Delay, d1	63.4	62.8	55.5		61.6	37.6	62.2	26.9		44.0	12.4	6.2
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.16	0.70		0.91	0.80	1.46
Incremental Delay, d2	14.0	1.9	0.1		9.7	0.4	1.6	0.6		0.5	0.8	0.0
Delay (s)	77.3	64.7	55.5		71.3	37.9	73.5	19.3		40.6	10.7	9.0
Level of Service	E	E	E		E	D	E	B		D	B	A
Approach Delay (s)		65.6			41.8			20.7			17.8	
Approach LOS		E			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

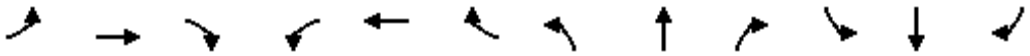
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	1	27	70	4	33	66	1047	50	53	762	11
Future Volume (vph)	17	1	27	70	4	33	66	1047	50	53	762	11
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.92		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1769		1863	1961	1667	1863	3700		1863	3718	
Flt Permitted		0.87		0.69	1.00	1.00	0.31	1.00		0.20	1.00	
Satd. Flow (perm)		1576		1362	1961	1667	611	3700		391	3718	
Peak-hour factor, PHF	0.60	0.60	0.60	0.72	0.72	0.72	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	28	2	45	97	6	46	73	1151	55	58	837	12
RTOR Reduction (vph)	0	40	0	0	0	41	0	2	0	0	1	0
Lane Group Flow (vph)	0	35	0	97	6	5	73	1204	0	58	848	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		14.6		14.6	14.6	14.6	102.4	97.8		102.4	97.8	
Effective Green, g (s)		14.6		14.6	14.6	14.6	102.4	97.8		102.4	97.8	
Actuated g/C Ratio		0.11		0.11	0.11	0.11	0.76	0.72		0.76	0.72	
Clearance Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		170		147	212	180	506	2680		346	2693	
v/s Ratio Prot					0.00		0.00	c0.33		c0.01	0.23	
v/s Ratio Perm		0.02		c0.07		0.00	0.10			0.12		
v/c Ratio		0.21		0.66	0.03	0.03	0.14	0.45		0.17	0.32	
Uniform Delay, d1		54.9		57.8	53.9	53.9	6.3	7.6		9.3	6.6	
Progression Factor		1.01		1.00	1.00	1.00	1.00	1.00		0.71	0.80	
Incremental Delay, d2		0.6		10.2	0.1	0.1	0.1	0.5		0.1	0.2	
Delay (s)		56.1		68.1	53.9	53.9	6.4	8.1		6.7	5.5	
Level of Service		E		E	D	D	A	A		A	A	
Approach Delay (s)		56.1			63.1			8.0			5.6	
Approach LOS		E			E			A			A	

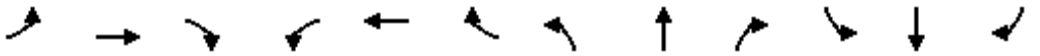
Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	0	57	7	0	34	41	1051	2	2	955	53
Future Volume (vph)	38	0	57	7	0	34	41	1051	2	2	955	53
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.89		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1601		1863	3725		1863	3696	
Flt Permitted	0.86	1.00			0.92		0.26	1.00		0.23	1.00	
Satd. Flow (perm)	1688	1667			1489		513	3725		454	3696	
Peak-hour factor, PHF	0.77	0.77	0.77	0.79	0.79	0.79	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	49	0	74	9	0	43	46	1168	2	2	1005	56
RTOR Reduction (vph)	0	69	0	0	40	0	0	0	0	0	2	0
Lane Group Flow (vph)	49	5	0	0	12	0	46	1170	0	2	1059	0
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	8.0	8.0			8.0		103.2	103.2		103.2	103.2	
Effective Green, g (s)	8.0	8.0			8.0		103.2	103.2		103.2	103.2	
Actuated g/C Ratio	0.07	0.07			0.07		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	109	108			96		430	3125		380	3101	
v/s Ratio Prot		0.00						c0.31			0.29	
v/s Ratio Perm	c0.03				0.01		0.09			0.00		
v/c Ratio	0.45	0.04			0.12		0.11	0.37		0.01	0.34	
Uniform Delay, d1	55.4	53.9			54.2		1.8	2.3		1.6	2.2	
Progression Factor	1.00	1.00			1.00		0.13	0.10		1.00	1.00	
Incremental Delay, d2	2.9	0.2			0.6		0.4	0.3		0.0	0.3	
Delay (s)	58.3	54.1			54.8		0.6	0.5		1.6	2.5	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		55.8			54.8			0.5			2.5	
Approach LOS		E			D			A			A	

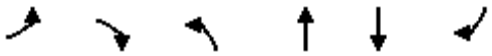
Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	506	397	332	0	1082	0	0	1301	456
Future Volume (vph)	0	0	0	506	397	332	0	1082	0	0	1301	456
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	533	418	349	0	1163	0	0	1369	480
RTOR Reduction (vph)	0	0	0	0	0	60	0	0	0	0	0	15
Lane Group Flow (vph)	0	0	0	533	418	289	0	1163	0	0	1369	465
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				25.0	25.0	52.0		70.7			97.7	97.7
Effective Green, g (s)				25.0	25.0	52.0		70.7			97.7	97.7
Actuated g/C Ratio				0.19	0.19	0.39		0.52			0.72	0.72
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				669	363	1129		2803			3873	1206
v/s Ratio Prot				0.15	c0.21	0.10		c0.22			0.26	c0.28
v/s Ratio Perm												
v/c Ratio				0.80	1.15	0.26		0.41			0.35	0.39
Uniform Delay, d1				52.6	55.0	28.3		19.6			6.9	7.1
Progression Factor				1.00	1.00	1.00		0.93			0.50	0.44
Incremental Delay, d2				6.6	95.2	0.1		0.4			0.2	0.8
Delay (s)				59.1	150.2	28.4		18.6			3.7	4.0
Level of Service				E	F	C		B			A	A
Approach Delay (s)		0.0			80.2			18.6			3.8	
Approach LOS		A			F			B			A	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	271	322	0	1213	1437	0
Future Volume (vph)	271	322	0	1213	1437	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.95	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	3497	1517		3725	3725	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	3497	1517		3725	3725	
Peak-hour factor, PHF	0.94	0.94	0.86	0.86	0.94	0.94
Adj. Flow (vph)	288	343	0	1410	1529	0
RTOR Reduction (vph)	49	49	0	0	0	0
Lane Group Flow (vph)	383	150	0	1410	1529	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	21.3	21.3		101.7	101.7	
Effective Green, g (s)	21.3	21.3		101.7	101.7	
Actuated g/C Ratio	0.16	0.16		0.75	0.75	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	551	239		2806	2806	
v/s Ratio Prot	c0.11	0.10		0.38	c0.41	
v/s Ratio Perm						
v/c Ratio	0.70	0.63		0.50	0.54	
Uniform Delay, d1	53.8	53.1		6.6	7.0	
Progression Factor	1.00	1.00		0.39	0.48	
Incremental Delay, d2	3.9	5.3		0.5	0.7	
Delay (s)	57.7	58.5		3.1	4.0	
Level of Service	E	E		A	A	
Approach Delay (s)	58.0			3.1	4.0	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	817	18	7	1199	15	15
Future Volume (Veh/h)	817	18	7	1199	15	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.63	0.63
Hourly flow rate (vph)	928	20	8	1303	24	24
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				619		
pX, platoon unblocked					0.80	
vC, conflicting volume			948		1606	474
vC1, stage 1 conf vol					938	
vC2, stage 2 conf vol					668	
vCu, unblocked vol			948		1266	474
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		92	96
cM capacity (veh/h)			720		315	537

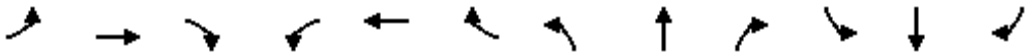
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	619	329	8	652	652	48
Volume Left	0	0	8	0	0	24
Volume Right	0	20	0	0	0	24
cSH	1700	1700	720	1700	1700	397
Volume to Capacity	0.36	0.19	0.01	0.38	0.38	0.12
Queue Length 95th (ft)	0	0	1	0	0	10
Control Delay (s)	0.0	0.0	10.1	0.0	0.0	15.3
Lane LOS			B			C
Approach Delay (s)	0.0		0.1			15.3
Approach LOS						C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	701	3	14	839	5	2
Future Volume (Veh/h)	701	3	14	839	5	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	738	3	15	883	6	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.88		0.71	0.88
vC, conflicting volume			741		1652	370
vC1, stage 1 conf vol					740	
vC2, stage 2 conf vol					913	
vCu, unblocked vol			428		1071	7
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		98	100
cM capacity (veh/h)			990		299	943

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	492	249	15	883	8
Volume Left	0	0	15	0	6
Volume Right	0	3	0	0	2
cSH	1700	1700	990	1700	361
Volume to Capacity	0.29	0.15	0.02	0.52	0.02
Queue Length 95th (ft)	0	0	1	0	2
Control Delay (s)	0.0	0.0	8.7	0.0	15.2
Lane LOS			A		C
Approach Delay (s)	0.0		0.1		15.2
Approach LOS					C

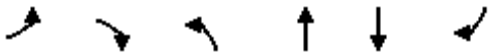
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	70	127	140	145	157	105	72	20	34	90	9
Future Volume (vph)	4	70	127	140	145	157	105	72	20	34	90	9
Peak Hour Factor	0.87	0.87	0.87	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Hourly flow rate (vph)	5	80	146	173	179	194	122	84	23	38	100	10

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	5	226	173	373	122	107	38	110
Volume Left (vph)	5	0	173	0	122	0	38	0
Volume Right (vph)	0	146	0	194	0	23	0	10
Hadj (s)	0.53	-0.42	0.53	-0.33	0.53	-0.12	0.53	-0.03
Departure Headway (s)	7.0	6.0	6.5	5.7	7.3	6.6	7.4	6.8
Degree Utilization, x	0.01	0.38	0.31	0.59	0.25	0.20	0.08	0.21
Capacity (veh/h)	485	570	531	618	466	508	449	487
Control Delay (s)	8.8	11.4	11.3	15.3	11.4	10.0	9.8	10.4
Approach Delay (s)	11.3		14.0		10.8		10.3	
Approach LOS	B		B		B		B	

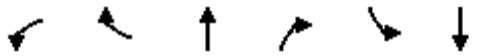
Intersection Summary				
Delay	12.4			
Level of Service	B			
Intersection Capacity Utilization	41.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	106	23	20	28	41	109
Future Volume (vph)	106	23	20	28	41	109
Peak Hour Factor	0.95	0.95	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	112	24	23	33	45	118

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	112	24	23	33	163
Volume Left (vph)	112	0	23	0	0
Volume Right (vph)	0	24	0	0	118
Hadj (s)	0.53	-0.67	0.57	0.07	-0.40
Departure Headway (s)	5.5	4.3	5.6	5.1	4.3
Degree Utilization, x	0.17	0.03	0.04	0.05	0.20
Capacity (veh/h)	619	787	620	679	795
Control Delay (s)	8.5	6.3	7.6	7.1	8.4
Approach Delay (s)	8.1		7.3		8.4
Approach LOS	A		A		A

Intersection Summary			
Delay	8.1		
Level of Service	A		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	13	1023	21	3	1000
Future Volume (Veh/h)	22	13	1023	21	3	1000
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	25	15	1124	23	3	1053
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.92					
vC, conflicting volume	1668	574			1147	
vC1, stage 1 conf vol	1136					
vC2, stage 2 conf vol	532					
vCu, unblocked vol	1548	574			1147	
tC, single (s)	6.9	7.0			4.1	
tC, 2 stage (s)	5.9					
tF (s)	3.6	3.4			2.2	
p0 queue free %	90	97			100	
cM capacity (veh/h)	243	451			605	

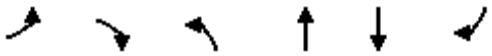
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	25	15	749	398	3	526	526
Volume Left	25	0	0	0	3	0	0
Volume Right	0	15	0	23	0	0	0
cSH	243	451	1700	1700	605	1700	1700
Volume to Capacity	0.10	0.03	0.44	0.23	0.00	0.31	0.31
Queue Length 95th (ft)	8	3	0	0	0	0	0
Control Delay (s)	21.5	13.3	0.0	0.0	11.0	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	18.4		0.0		0.0		
Approach LOS	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1082	402	0	1807
Future Volume (Veh/h)	0	0	1082	402	0	1807
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	0	0	1163	432	0	1902
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.93	0.88			0.88	
vC, conflicting volume	1797	582			1595	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1091	264			1410	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	195	649			424	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	582	582	432	634	634	634
Volume Left	0	0	0	0	0	0
Volume Right	0	0	432	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.34	0.34	0.25	0.37	0.37	0.37
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1484	1437	370
Future Volume (Veh/h)	0	0	0	1484	1437	370
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	0	1726	1529	394
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.90	0.89	0.89			
vC, conflicting volume	2392	764	1923			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1763	484	1788			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	68	470	304			

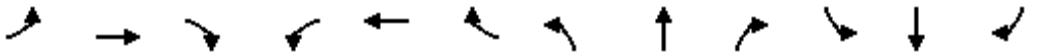
Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	863	863	764	764	394
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	394
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.51	0.51	0.45	0.45	0.23
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	60.4%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1213	582	0	1759
Future Volume (Veh/h)	0	0	1213	582	0	1759
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	1410	677	0	1871
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.87	0.79			0.79	
vC, conflicting volume	2034	705			2087	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	774	98			1845	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	292	743			257	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	705	705	677	624	624	624
Volume Left	0	0	0	0	0	0
Volume Right	0	0	677	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.41	0.41	0.40	0.37	0.37	0.37
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

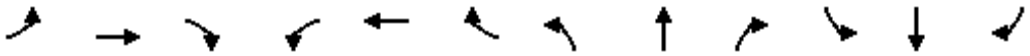
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	273	100	99	281	147	146	516	89	127	498	255
Future Volume (vph)	219	273	100	99	281	147	146	516	89	127	498	255
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3575		1863	3534		1863	3643		1863	3536	
Flt Permitted	0.27	1.00		0.31	1.00		0.22	1.00		0.31	1.00	
Satd. Flow (perm)	534	3575		617	3534		440	3643		616	3536	
Peak-hour factor, PHF	0.88	0.88	0.88	0.94	0.94	0.94	0.90	0.90	0.90	0.89	0.89	0.89
Adj. Flow (vph)	249	310	114	105	299	156	162	573	99	143	560	287
RTOR Reduction (vph)	0	38	0	0	67	0	0	11	0	0	51	0
Lane Group Flow (vph)	249	386	0	105	388	0	162	661	0	143	796	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	30.6	16.9		31.0	17.1		52.2	44.9		52.2	44.9	
Effective Green, g (s)	30.6	16.9		31.0	17.1		52.2	44.9		52.2	44.9	
Actuated g/C Ratio	0.28	0.16		0.28	0.16		0.48	0.41		0.48	0.41	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	316	554		334	554		306	1500		378	1456	
v/s Ratio Prot	c0.10	0.11		0.04	0.11		c0.04	0.18		0.03	c0.23	
v/s Ratio Perm	c0.12			0.05			0.22			0.16		
v/c Ratio	0.79	0.70		0.31	0.70		0.53	0.44		0.38	0.55	
Uniform Delay, d1	40.1	43.6		36.6	43.5		31.2	23.0		24.5	24.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.93	
Incremental Delay, d2	12.2	3.8		0.5	3.9		1.7	0.9		0.6	1.4	
Delay (s)	52.3	47.4		37.1	47.4		32.8	24.0		22.8	24.1	
Level of Service	D	D		D	D		C	C		C	C	
Approach Delay (s)		49.2			45.5			25.7			23.9	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

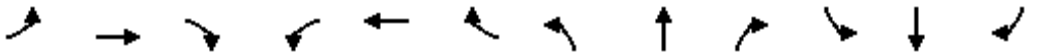
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	348	403	58	157	487	422	90	719	73	232	654	313
Future Volume (vph)	348	403	58	157	487	422	90	719	73	232	654	313
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3656		1863	3725	1667	1863	3674		1863	3545	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3656		1863	3725	1667	1863	3674		1863	3545	
Peak-hour factor, PHF	0.78	0.78	0.78	0.93	0.93	0.93	0.89	0.89	0.89	0.90	0.90	0.90
Adj. Flow (vph)	446	517	74	169	524	454	101	808	82	258	727	348
RTOR Reduction (vph)	0	7	0	0	0	0	0	6	0	0	42	0
Lane Group Flow (vph)	446	584	0	169	524	454	101	884	0	258	1033	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	28.0	35.4		17.4	24.8	43.7	12.7	36.1		18.9	42.3	
Effective Green, g (s)	28.0	35.4		17.4	24.8	43.7	12.7	36.1		18.9	42.3	
Actuated g/C Ratio	0.21	0.27		0.13	0.19	0.33	0.10	0.27		0.14	0.32	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	395	980		245	699	551	179	1004		266	1136	
v/s Ratio Prot	c0.24	0.16		0.09	0.14	c0.12	0.05	0.24		c0.14	c0.29	
v/s Ratio Perm						0.15						
v/c Ratio	1.13	0.60		0.69	0.75	0.82	0.56	0.88		0.97	0.91	
Uniform Delay, d1	52.0	42.1		54.7	50.7	40.6	57.0	45.9		56.3	43.0	
Progression Factor	1.00	1.00		0.92	1.17	1.12	1.19	0.83		0.90	0.69	
Incremental Delay, d2	85.3	2.7		7.5	6.9	9.3	3.9	8.7		42.9	9.5	
Delay (s)	137.3	44.7		57.7	66.2	54.9	71.5	46.9		93.3	39.0	
Level of Service	F	D		E	E	D	E	D		F	D	
Approach Delay (s)		84.5			60.5			49.4			49.5	
Approach LOS		F			E			D			D	

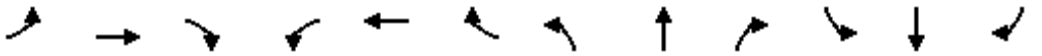
Intersection Summary			
HCM 2000 Control Delay	60.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	586	57	28	632	156	91	36	53	161	34	52
Future Volume (vph)	40	586	57	28	632	156	91	36	53	161	34	52
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3669		1862	1961	1667	1863	1961	1635	1854	1961	1667
Flt Permitted	0.30	1.00		0.37	1.00	1.00	0.73	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	582	3669		731	1961	1667	1431	1961	1635	1425	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.81	0.81	0.81
Adj. Flow (vph)	42	617	60	31	695	171	103	41	60	199	42	64
RTOR Reduction (vph)	0	5	0	0	0	60	0	0	57	0	0	61
Lane Group Flow (vph)	42	672	0	31	695	111	103	41	3	199	42	3
Confl. Peds. (#/hr)			1	1					4	4		
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	93.8	88.1		89.2	85.8	85.8	16.1	7.1	7.1	16.1	7.1	7.1
Effective Green, g (s)	93.8	88.1		89.2	85.8	85.8	16.1	7.1	7.1	16.1	7.1	7.1
Actuated g/C Ratio	0.71	0.67		0.68	0.65	0.65	0.12	0.05	0.05	0.12	0.05	0.05
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	468	2448		523	1274	1083	203	105	87	203	105	89
v/s Ratio Prot	c0.00	0.18		0.00	c0.35		0.03	0.02		c0.07	0.02	
v/s Ratio Perm	0.06			0.04		0.07	0.03		0.00	c0.05		0.00
v/c Ratio	0.09	0.27		0.06	0.55	0.10	0.51	0.39	0.04	0.98	0.40	0.04
Uniform Delay, d1	14.9	8.9		8.9	12.5	8.7	54.2	60.4	59.2	56.4	60.4	59.2
Progression Factor	0.27	0.26		0.24	0.27	0.05	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.2		0.0	1.3	0.1	2.0	2.4	0.2	57.3	2.5	0.2
Delay (s)	4.1	2.6		2.2	4.7	0.6	56.1	62.8	59.4	113.7	62.9	59.4
Level of Service	A	A		A	A	A	E	E	E	F	E	E
Approach Delay (s)		2.6			3.8			58.4			95.3	
Approach LOS		A			A			E			F	

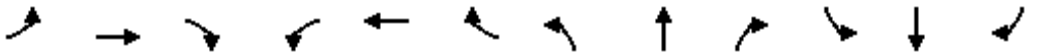
Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	120	740	646	146	39	680	782	488	23	1049	74
Future Volume (vph)	112	120	740	646	146	39	680	782	488	23	1049	74
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	119	128	787	710	160	43	716	823	514	24	1104	78
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	256	0	0	51
Lane Group Flow (vph)	119	128	787	710	203	0	716	823	258	24	1104	27
Confl. Peds. (#/hr)						2						2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	12.0	12.0	42.6	25.0	25.0		24.6	66.2	66.2	4.0	45.6	45.6
Effective Green, g (s)	12.0	12.0	42.6	25.0	25.0		24.6	66.2	66.2	4.0	45.6	45.6
Actuated g/C Ratio	0.09	0.09	0.32	0.19	0.19		0.19	0.50	0.50	0.03	0.35	0.35
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	178	946	684	357		673	2684	836	56	1849	567
v/s Ratio Prot	0.06	0.07	c0.27	c0.20	0.11		c0.20	0.15		0.01	c0.21	
v/s Ratio Perm									0.15			0.02
v/c Ratio	0.70	0.72	0.83	1.04	0.57		1.06	0.31	0.31	0.43	0.60	0.05
Uniform Delay, d1	58.3	58.4	41.4	53.5	48.6		53.7	19.4	19.4	62.9	35.6	28.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.09	0.63	0.30	1.00	1.00	1.00
Incremental Delay, d2	12.5	13.0	6.3	44.6	2.3		46.9	0.2	0.6	5.2	1.4	0.2
Delay (s)	70.8	71.4	47.7	98.1	50.9		105.4	12.5	6.6	68.1	37.1	28.9
Level of Service	E	E	D	F	D		F	B	A	E	D	C
Approach Delay (s)		53.3			87.6			43.4			37.1	
Approach LOS		D			F			D			D	

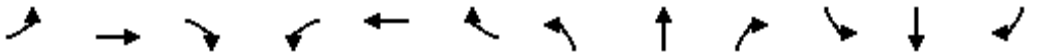
Intersection Summary					
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.86				
Actuated Cycle Length (s)	132.0	Sum of lost time (s)		24.8	
Intersection Capacity Utilization	87.6%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	485	173	42	620	97	177	186	37	84	213	79
Future Volume (vph)	76	485	173	42	620	97	177	186	37	84	213	79
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	1667	1863	1961	1630	1863	1961	1667	1863	1961	1667
Flt Permitted	0.20	1.00	1.00	0.33	1.00	1.00	0.26	1.00	1.00	0.51	1.00	1.00
Satd. Flow (perm)	388	1961	1667	644	1961	1630	512	1961	1667	1006	1961	1667
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.94	0.94	0.94	0.88	0.88	0.88
Adj. Flow (vph)	84	533	190	46	681	107	188	198	39	95	242	90
RTOR Reduction (vph)	0	0	74	0	0	45	0	0	30	0	0	71
Lane Group Flow (vph)	84	533	116	46	681	62	188	198	9	95	242	19
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	72.9	67.4	80.8	70.7	66.3	76.6	38.3	24.9	29.3	32.1	21.8	27.3
Effective Green, g (s)	72.9	67.4	80.8	70.7	66.3	76.6	38.3	24.9	29.3	32.1	21.8	27.3
Actuated g/C Ratio	0.55	0.51	0.61	0.54	0.50	0.58	0.29	0.19	0.22	0.24	0.17	0.21
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	275	1001	1020	385	984	945	285	369	370	311	323	344
v/s Ratio Prot	c0.01	0.27	0.01	0.00	c0.35	0.01	c0.07	0.10	0.00	0.02	c0.12	0.00
v/s Ratio Perm	0.16		0.06	0.06		0.03	c0.12		0.00	0.05		0.01
v/c Ratio	0.31	0.53	0.11	0.12	0.69	0.07	0.66	0.54	0.02	0.31	0.75	0.05
Uniform Delay, d1	18.9	21.7	10.7	16.1	25.1	12.1	37.9	48.3	40.2	39.9	52.5	42.0
Progression Factor	0.84	0.99	1.54	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.9	0.0	0.1	4.0	0.0	5.4	1.7	0.0	0.6	9.5	0.1
Delay (s)	16.5	23.3	16.5	16.3	29.1	12.1	43.3	50.0	40.2	40.5	62.0	42.1
Level of Service	B	C	B	B	C	B	D	D	D	D	E	D
Approach Delay (s)		21.0			26.2			46.2			53.0	
Approach LOS		C			C			D			D	

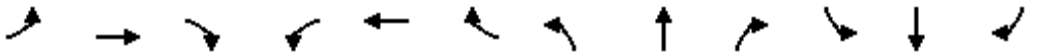
Intersection Summary			
HCM 2000 Control Delay	32.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	27	56	71	9	568	38	1436	85	597	1175	103
Future Volume (vph)	109	27	56	71	9	568	38	1436	85	597	1175	103
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3454	1667		1878	2933	1863	5308		3614	3725	1667
Flt Permitted	0.95	0.97	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3454	1667		1878	2933	1863	5308		3614	3725	1667
Peak-hour factor, PHF	0.83	0.83	0.83	0.94	0.94	0.94	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	131	33	67	76	10	604	40	1512	89	628	1237	108
RTOR Reduction (vph)	0	0	60	0	0	86	0	5	0	0	0	34
Lane Group Flow (vph)	65	99	7	0	86	518	40	1596	0	628	1237	74
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	7.7	7.7	14.5		10.3	45.2	6.8	54.3		34.9	82.4	90.1
Effective Green, g (s)	7.7	7.7	14.5		10.3	45.2	6.8	54.3		34.9	82.4	90.1
Actuated g/C Ratio	0.06	0.06	0.11		0.08	0.34	0.05	0.41		0.26	0.62	0.68
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	98	201	183		146	1146	95	2183		955	2325	1137
v/s Ratio Prot	c0.04	0.03	0.00		c0.05	0.12	0.02	c0.30		c0.17	0.33	0.00
v/s Ratio Perm			0.00			0.06						0.04
v/c Ratio	0.66	0.49	0.04		0.59	0.45	0.42	0.73		0.66	0.53	0.06
Uniform Delay, d1	60.9	60.3	52.5		58.8	33.8	60.7	32.7		43.2	14.0	7.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.90	1.06		0.86	0.60	0.33
Incremental Delay, d2	15.6	1.9	0.1		7.0	0.3	1.4	1.0		1.1	0.6	0.0
Delay (s)	76.5	62.2	52.6		65.8	34.1	56.3	35.7		38.2	8.9	2.3
Level of Service	E	E	D		E	C	E	D		D	A	A
Approach Delay (s)		63.4			38.1			36.2			17.9	
Approach LOS		E			D			D			B	

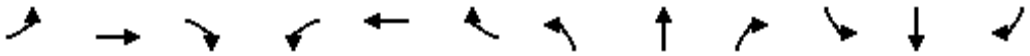
Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



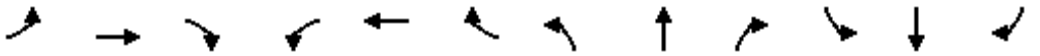
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	3	31	54	5	48	38	912	97	72	805	25
Future Volume (vph)	49	3	31	54	5	48	38	912	97	72	805	25
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.95		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.97		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1806		1863	1961	1643	1863	3672		1863	3709	
Flt Permitted		0.81		0.65	1.00	1.00	0.30	1.00		0.23	1.00	
Satd. Flow (perm)		1515		1274	1961	1643	595	3672		459	3709	
Peak-hour factor, PHF	0.74	0.74	0.74	0.72	0.72	0.72	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	66	4	42	75	7	67	41	981	104	76	847	26
RTOR Reduction (vph)	0	19	0	0	0	60	0	4	0	0	1	0
Lane Group Flow (vph)	0	93	0	75	7	7	41	1081	0	76	872	0
Confl. Peds. (#/hr)	1					1						
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		13.4		13.4	13.4	13.4	100.6	96.0		100.6	96.0	
Effective Green, g (s)		13.4		13.4	13.4	13.4	100.6	96.0		100.6	96.0	
Actuated g/C Ratio		0.10		0.10	0.10	0.10	0.76	0.73		0.76	0.73	
Clearance Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		153		129	199	166	497	2670		398	2697	
v/s Ratio Prot					0.00		0.00	c0.29		c0.01	0.24	
v/s Ratio Perm		c0.06		0.06		0.00	0.06			0.14		
v/c Ratio		0.61		0.58	0.04	0.04	0.08	0.40		0.19	0.32	
Uniform Delay, d1		56.8		56.6	53.5	53.5	5.8	7.0		7.9	6.4	
Progression Factor		1.09		1.00	1.00	1.00	1.00	1.00		0.16	0.21	
Incremental Delay, d2		6.7		6.5	0.1	0.1	0.1	0.5		0.1	0.2	
Delay (s)		68.7		63.1	53.5	53.6	5.8	7.4		1.4	1.5	
Level of Service		E		E	D	D	A	A		A	A	
Approach Delay (s)		68.7			58.4			7.4			1.5	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	62	0	0	1	59	978	1	7	841	52
Future Volume (vph)	42	0	62	0	0	1	59	978	1	7	841	52
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1696		1863	3725		1861	3693	
Flt Permitted	0.76	1.00			1.00		0.30	1.00		0.26	1.00	
Satd. Flow (perm)	1483	1667			1696		586	3725		515	3693	
Peak-hour factor, PHF	0.90	0.90	0.90	0.60	0.60	0.60	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	47	0	69	0	0	2	63	1052	1	7	885	55
RTOR Reduction (vph)	0	64	0	0	2	0	0	0	0	0	3	0
Lane Group Flow (vph)	47	5	0	0	0	0	63	1053	0	7	937	0
Confl. Peds. (#/hr)									1	1		
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.8	7.8			7.8		89.4	89.4		89.4	89.4	
Effective Green, g (s)	7.8	7.8			7.8		89.4	89.4		89.4	89.4	
Actuated g/C Ratio	0.07	0.07			0.07		0.82	0.82		0.82	0.82	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	106	119			121		480	3055		422	3028	
v/s Ratio Prot		0.00			0.00			c0.28			0.25	
v/s Ratio Perm	c0.03						0.11			0.01		
v/c Ratio	0.44	0.04			0.00		0.13	0.34		0.02	0.31	
Uniform Delay, d1	48.5	47.1			47.0		2.0	2.5		1.8	2.4	
Progression Factor	1.00	1.00			1.00		0.18	0.16		1.00	1.00	
Incremental Delay, d2	2.9	0.1			0.0		0.5	0.3		0.1	0.3	
Delay (s)	51.5	47.3			47.0		0.9	0.7		1.9	2.6	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		49.0			47.0			0.7			2.6	
Approach LOS		D			D			A			A	

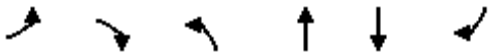
Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	615	170	985	0	1473	0	0	1782	467
Future Volume (vph)	0	0	0	615	170	985	0	1473	0	0	1782	467
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	699	193	1119	0	1551	0	0	1958	513
RTOR Reduction (vph)	0	0	0	0	0	20	0	0	0	0	0	82
Lane Group Flow (vph)	0	0	0	699	193	1099	0	1551	0	0	1958	431
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				25.0	25.0	51.0		68.7			94.7	94.7
Effective Green, g (s)				25.0	25.0	51.0		68.7			94.7	94.7
Actuated g/C Ratio				0.19	0.19	0.39		0.52			0.72	0.72
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				684	371	1133		2785			3840	1195
v/s Ratio Prot				0.19	0.10	c0.37		c0.29			0.37	0.26
v/s Ratio Perm												
v/c Ratio				1.02	0.52	0.97		0.56			0.51	0.36
Uniform Delay, d1				53.5	48.1	39.7		21.4			8.3	7.1
Progression Factor				1.00	1.00	1.00		0.75			0.81	0.78
Incremental Delay, d2				40.1	1.3	19.6		0.6			0.3	0.5
Delay (s)				93.6	49.4	59.3		16.6			7.1	6.1
Level of Service				F	D	E		B			A	A
Approach Delay (s)		0.0			70.3			16.6			6.8	
Approach LOS		A			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	457	366	0	1480	1808	0
Future Volume (vph)	457	366	0	1480	1808	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.97	0.85		1.00	1.00	
Flt Protected	0.96	1.00		1.00	1.00	
Satd. Flow (prot)	3552	1517		3725	3725	
Flt Permitted	0.96	1.00		1.00	1.00	
Satd. Flow (perm)	3552	1517		3725	3725	
Peak-hour factor, PHF	0.95	0.95	0.94	0.94	0.94	0.94
Adj. Flow (vph)	481	385	0	1574	1923	0
RTOR Reduction (vph)	17	18	0	0	0	0
Lane Group Flow (vph)	576	255	0	1574	1923	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	27.6	27.6		92.4	92.4	
Effective Green, g (s)	27.6	27.6		92.4	92.4	
Actuated g/C Ratio	0.21	0.21		0.70	0.70	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	742	317		2607	2607	
v/s Ratio Prot	0.16	c0.17		0.42	c0.52	
v/s Ratio Perm						
v/c Ratio	0.78	0.80		0.60	0.74	
Uniform Delay, d1	49.3	49.6		10.3	12.3	
Progression Factor	1.00	1.00		0.28	0.38	
Incremental Delay, d2	5.3	14.0		0.8	1.5	
Delay (s)	54.6	63.7		3.7	6.1	
Level of Service	D	E		A	A	
Approach Delay (s)	57.4			3.7	6.1	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	891	11	14	882	16	7
Future Volume (Veh/h)	891	11	14	882	16	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.87	0.87	0.82	0.82
Hourly flow rate (vph)	979	12	16	1014	20	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				619		
pX, platoon unblocked					0.87	
vC, conflicting volume			991		1524	496
vC1, stage 1 conf vol					985	
vC2, stage 2 conf vol					539	
vCu, unblocked vol			991		1300	496
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	98
cM capacity (veh/h)			693		301	520

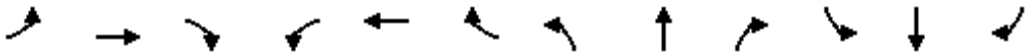
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	653	338	16	507	507	29
Volume Left	0	0	16	0	0	20
Volume Right	0	12	0	0	0	9
cSH	1700	1700	693	1700	1700	346
Volume to Capacity	0.38	0.20	0.02	0.30	0.30	0.08
Queue Length 95th (ft)	0	0	2	0	0	7
Control Delay (s)	0.0	0.0	10.3	0.0	0.0	16.4
Lane LOS			B			C
Approach Delay (s)	0.0		0.2			16.4
Approach LOS						C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	3	1	910	2	3
Future Volume (Veh/h)	662	3	1	910	2	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.63	0.63
Hourly flow rate (vph)	697	3	1	958	3	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.90		0.79	0.90
vC, conflicting volume			700		1658	350
vC1, stage 1 conf vol					698	
vC2, stage 2 conf vol					960	
vCu, unblocked vol			456		1246	69
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			995		282	886

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	465	235	1	958	8
Volume Left	0	0	1	0	3
Volume Right	0	3	0	0	5
cSH	1700	1700	995	1700	491
Volume to Capacity	0.27	0.14	0.00	0.56	0.02
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	8.6	0.0	12.5
Lane LOS			A		B
Approach Delay (s)	0.0		0.0		12.5
Approach LOS					B

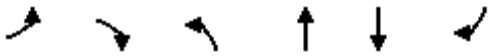
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	90	180	24	83	35	153	64	18	37	79	23
Future Volume (vph)	9	90	180	24	83	35	153	64	18	37	79	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	0.67	0.67	0.67
Hourly flow rate (vph)	9	95	189	25	87	37	178	74	21	55	118	34

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	9	284	25	124	178	95	55	152
Volume Left (vph)	9	0	25	0	178	0	55	0
Volume Right (vph)	0	189	0	37	0	21	0	34
Hadj (s)	0.53	-0.43	0.53	-0.17	0.53	-0.12	0.53	-0.12
Departure Headway (s)	6.6	5.6	6.8	6.1	6.6	5.9	6.7	6.0
Degree Utilization, x	0.02	0.44	0.05	0.21	0.32	0.16	0.10	0.25
Capacity (veh/h)	514	609	493	552	522	573	505	562
Control Delay (s)	8.5	11.9	8.9	9.5	11.5	8.8	9.2	9.8
Approach Delay (s)	11.8		9.4		10.5		9.7	
Approach LOS	B		A		B		A	

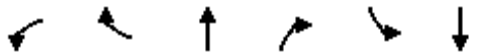
Intersection Summary				
Delay	10.6			
Level of Service	B			
Intersection Capacity Utilization	40.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	137	36	23	26	22	79
Future Volume (vph)	137	36	23	26	22	79
Peak Hour Factor	0.77	0.77	0.82	0.82	0.77	0.77
Hourly flow rate (vph)	178	47	28	32	29	103

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	178	47	28	32	132
Volume Left (vph)	178	0	28	0	0
Volume Right (vph)	0	47	0	0	103
Hadj (s)	0.53	-0.67	0.53	0.03	-0.43
Departure Headway (s)	5.5	4.3	5.8	5.3	4.6
Degree Utilization, x	0.27	0.06	0.04	0.05	0.17
Capacity (veh/h)	628	801	594	647	749
Control Delay (s)	9.3	6.4	7.8	7.3	8.5
Approach Delay (s)	8.7		7.6		8.5
Approach LOS	A		A		A

Intersection Summary			
Delay	8.5		
Level of Service	A		
Intersection Capacity Utilization	21.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	1	1041	14	2	877
Future Volume (Veh/h)	17	1	1041	14	2	877
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	28	2	1144	15	2	923
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.92					
vC, conflicting volume	1618	580			1160	
vC1, stage 1 conf vol	1152					
vC2, stage 2 conf vol	466					
vCu, unblocked vol	1496	580			1160	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	100			100	
cM capacity (veh/h)	248	457			597	

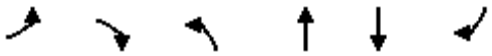
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	2	763	396	2	462	462
Volume Left	28	0	0	0	2	0	0
Volume Right	0	2	0	15	0	0	0
cSH	248	457	1700	1700	597	1700	1700
Volume to Capacity	0.11	0.00	0.45	0.23	0.00	0.27	0.27
Queue Length 95th (ft)	9	0	0	0	0	0	0
Control Delay (s)	21.3	12.9	0.0	0.0	11.0	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	20.8		0.0		0.0		
Approach LOS	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1473	464	0	2397
Future Volume (Veh/h)	0	0	1473	464	0	2397
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	0	0	1551	488	0	2634
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.88	0.80			0.80	
vC, conflicting volume	2429	776			2039	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1206	208			1794	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	155	636			271	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	776	776	488	878	878	878
Volume Left	0	0	0	0	0	0
Volume Right	0	0	488	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.46	0.46	0.29	0.52	0.52	0.52
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1937	1808	589
Future Volume (Veh/h)	0	0	0	1937	1808	589
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	2061	1923	627
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.86	0.82	0.82			
vC, conflicting volume	2954	962	2550			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1981	500	2448			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	46	421	153			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	1030	1030	962	962	627
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	627
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.61	0.61	0.57	0.57	0.37
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

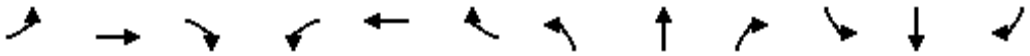
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1480	769	0	2174
Future Volume (Veh/h)	0	0	1480	769	0	2174
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	1574	818	0	2313
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.81	0.75			0.75	
vC, conflicting volume	2345	787			2392	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	229	40			2187	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	602	764			179	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	787	787	818	771	771	771
Volume Left	0	0	0	0	0	0
Volume Right	0	0	818	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.46	0.46	0.48	0.45	0.45	0.45
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

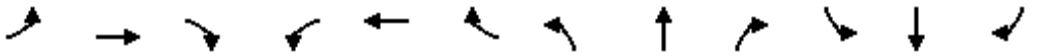
APPENDIX B-2. Existing (2018) Conditions (with Mitigation) Capacity Analysis Reports



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	511	169	79	216	93	120	513	163	90	362	85
Future Volume (vph)	293	511	169	79	216	93	120	513	163	90	362	85
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.95		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3574		1776	3391		1844	3556		1863	3609	
Flt Permitted	0.42	1.00		0.26	1.00		0.42	1.00		0.27	1.00	
Satd. Flow (perm)	831	3574		482	3391		809	3556		537	3609	
Peak-hour factor, PHF	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	333	581	192	88	240	103	130	558	177	100	402	94
RTOR Reduction (vph)	0	30	0	0	52	0	0	22	0	0	15	0
Lane Group Flow (vph)	333	743	0	88	291	0	130	713	0	100	481	0
Confl. Peds. (#/hr)			1	1			2					2
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	3%	3%	3%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	45.0	30.4		23.5	15.5		54.6	48.6		54.6	48.6	
Effective Green, g (s)	45.0	30.4		23.5	15.5		54.6	48.6		54.6	48.6	
Actuated g/C Ratio	0.38	0.26		0.20	0.13		0.46	0.41		0.46	0.41	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	512	913		182	441		423	1452		313	1473	
v/s Ratio Prot	c0.12	c0.21		0.03	0.09		0.02	c0.20		c0.02	0.13	
v/s Ratio Perm	0.12			0.06			0.13			0.13		
v/c Ratio	0.65	0.81		0.48	0.66		0.31	0.49		0.32	0.33	
Uniform Delay, d1	33.5	41.6		50.1	49.2		24.0	26.0		29.1	24.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.92	0.94	
Incremental Delay, d2	3.0	5.6		2.0	3.6		0.4	1.2		0.6	0.6	
Delay (s)	36.4	47.3		52.1	52.8		24.4	27.2		27.4	23.3	
Level of Service	D	D		D	D		C	C		C	C	
Approach Delay (s)		44.0			52.6			26.8			24.0	
Approach LOS		D			D			C			C	

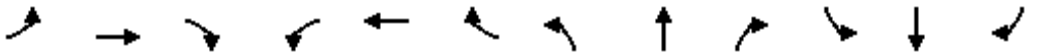
Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



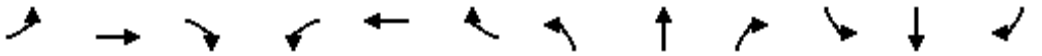
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	420	903	137	54	253	202	88	843	51	161	486	219
Future Volume (vph)	420	903	137	54	253	202	88	843	51	161	486	219
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1845	3617		1792	3585	1604	1845	3658		1845	3517	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1845	3617		1792	3585	1604	1845	3658		1845	3517	
Peak-hour factor, PHF	0.87	0.87	0.87	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	483	1038	157	64	298	238	96	916	55	177	534	241
RTOR Reduction (vph)	0	9	0	0	0	0	0	3	0	0	38	0
Lane Group Flow (vph)	483	1186	0	64	298	238	96	968	0	177	737	0
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	37.5	49.3		7.7	19.5	35.4	11.7	36.9		15.9	41.1	
Effective Green, g (s)	37.5	49.3		7.7	19.5	35.4	11.7	36.9		15.9	41.1	
Actuated g/C Ratio	0.28	0.37		0.06	0.15	0.26	0.09	0.28		0.12	0.31	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	516	1330		102	521	423	161	1007		218	1078	
v/s Ratio Prot	c0.26	c0.33		0.04	0.08	0.07	0.05	c0.26		c0.10	c0.21	
v/s Ratio Perm						0.08						
v/c Ratio	0.94	0.89		0.63	0.57	0.56	0.60	0.96		0.81	0.68	
Uniform Delay, d1	47.1	39.8		61.7	53.4	42.6	58.9	47.8		57.6	40.7	
Progression Factor	1.00	1.00		1.04	0.93	0.81	0.87	0.87		0.84	0.80	
Incremental Delay, d2	24.6	9.4		11.4	4.4	1.7	5.6	18.9		19.5	1.8	
Delay (s)	71.7	49.2		75.9	54.1	36.1	56.8	60.3		68.1	34.4	
Level of Service	E	D		E	D	D	E	E		E	C	
Approach Delay (s)		55.7			49.3			60.0			40.7	
Approach LOS		E			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	52.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



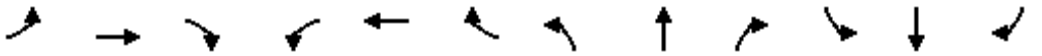
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	716	34	25	412	57	42	22	52	24	8	49
Future Volume (vph)	79	716	34	25	412	57	42	22	52	24	8	49
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1827	3629		1792	1887	1604	1841	1748	1650	1667	1754	1457
Flt Permitted	0.43	1.00		0.32	1.00	1.00	0.75	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	830	3629		595	1887	1604	1454	1748	1650	1300	1754	1457
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.88	0.88	0.88	0.70	0.70	0.70
Adj. Flow (vph)	87	787	37	29	485	67	48	25	59	34	11	70
RTOR Reduction (vph)	0	2	0	0	0	23	0	0	55	0	0	67
Lane Group Flow (vph)	87	822	0	29	485	44	48	25	4	34	11	3
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	14%	14%	14%
Parking (#/hr)								0				
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	101.5	93.3		92.1	88.6	88.6	14.7	8.5	8.5	10.9	6.6	6.6
Effective Green, g (s)	101.5	93.3		92.1	88.6	88.6	14.7	8.5	8.5	10.9	6.6	6.6
Actuated g/C Ratio	0.76	0.70		0.69	0.66	0.66	0.11	0.06	0.06	0.08	0.05	0.05
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	689	2526		440	1247	1060	177	110	104	117	86	71
v/s Ratio Prot	c0.01	0.23		0.00	c0.26		c0.01	0.01		0.01	0.01	
v/s Ratio Perm	0.09			0.04		0.03	c0.02		0.00	0.01		0.00
v/c Ratio	0.13	0.33		0.07	0.39	0.04	0.27	0.23	0.04	0.29	0.13	0.05
Uniform Delay, d1	7.6	8.0		9.2	10.4	7.9	54.9	59.6	58.9	58.1	60.9	60.7
Progression Factor	0.16	0.37		0.36	0.53	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.2		0.1	0.9	0.1	0.8	1.1	0.1	1.4	0.7	0.3
Delay (s)	1.3	3.1		3.4	6.3	8.0	55.7	60.7	59.0	59.4	61.6	61.0
Level of Service	A	A		A	A	A	E	E	E	E	E	E
Approach Delay (s)		2.9			6.4			58.2			60.6	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	2	78	31	2	3	77	432	89	1	671	14
Future Volume (vph)	5	2	78	31	2	3	77	432	89	1	671	14
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Peak-hour factor, PHF	0.73	0.73	0.73	0.69	0.69	0.69	0.79	0.79	0.79	0.83	0.83	0.83
Adj. Flow (vph)	7	3	107	45	3	4	97	547	113	1	808	17
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	33	0	0	6
Lane Group Flow (vph)	7	3	107	45	7	0	97	547	80	1	808	11
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	3%	3%	3%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	6.0	6.0	20.8	6.5	6.5		8.8	95.4	95.4	1.3	87.9	87.9
Effective Green, g (s)	6.0	6.0	20.8	6.5	6.5		8.8	95.4	95.4	1.3	87.9	87.9
Actuated g/C Ratio	0.04	0.04	0.16	0.05	0.05		0.07	0.71	0.71	0.01	0.66	0.66
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	81	85	442	161	79		235	3773	1174	18	3511	1093
v/s Ratio Prot	0.00	0.00	c0.04	c0.01	0.00		c0.03	0.10		0.00	c0.15	
v/s Ratio Perm									0.05			0.01
v/c Ratio	0.09	0.04	0.24	0.28	0.09		0.41	0.14	0.07	0.06	0.23	0.01
Uniform Delay, d1	61.4	61.2	49.7	61.5	60.9		60.1	6.2	5.8	65.7	9.3	8.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.18	0.57	0.29	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.3	1.1	0.6		1.2	0.1	0.1	1.3	0.2	0.0
Delay (s)	61.8	61.4	50.0	62.6	61.5		72.2	3.6	1.8	67.0	9.5	8.0
Level of Service	E	E	D	E	E		E	A	A	E	A	A
Approach Delay (s)		51.0			62.5			12.2			9.5	
Approach LOS		D			E			B			A	

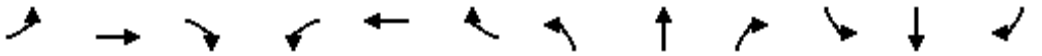
Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	538	61	20	304	193	126	258	85	119	119	57
Future Volume (vph)	107	538	61	20	304	193	126	258	85	119	119	57
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1845	1942	1650	1827	1923	1635	1860	1961	1667	1845	1942	1620
Flt Permitted	0.48	1.00	1.00	0.28	1.00	1.00	0.59	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	931	1942	1650	538	1923	1635	1150	1961	1667	503	1942	1620
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.85	0.85	0.85
Adj. Flow (vph)	115	578	66	22	342	217	133	272	89	140	140	67
RTOR Reduction (vph)	0	0	27	0	0	89	0	0	69	0	0	52
Lane Group Flow (vph)	115	578	39	22	342	128	133	272	20	140	140	15
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	72.7	67.2	78.9	72.7	67.2	79.2	36.0	24.3	29.8	36.6	24.6	30.1
Effective Green, g (s)	72.7	67.2	78.9	72.7	67.2	79.2	36.0	24.3	29.8	36.6	24.6	30.1
Actuated g/C Ratio	0.54	0.50	0.59	0.54	0.50	0.59	0.27	0.18	0.22	0.27	0.18	0.22
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	542	973	971	344	964	966	370	355	370	257	356	363
v/s Ratio Prot	c0.01	c0.30	0.00	0.00	0.18	0.01	0.03	c0.14	0.00	c0.05	0.07	0.00
v/s Ratio Perm	0.11		0.02	0.03		0.07	0.07		0.01	0.10		0.01
v/c Ratio	0.21	0.59	0.04	0.06	0.35	0.13	0.36	0.77	0.05	0.54	0.39	0.04
Uniform Delay, d1	15.3	23.7	11.6	16.6	20.3	12.2	38.6	52.1	41.0	39.1	48.1	40.7
Progression Factor	0.28	0.30	0.45	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	2.6	0.0	0.1	1.0	0.1	0.6	9.8	0.1	2.4	0.8	0.0
Delay (s)	4.5	9.6	5.2	16.7	21.3	12.2	39.2	61.9	41.1	41.5	49.0	40.7
Level of Service	A	A	A	B	C	B	D	E	D	D	D	D
Approach Delay (s)		8.5			17.7			52.1			44.4	
Approach LOS		A			B			D			D	

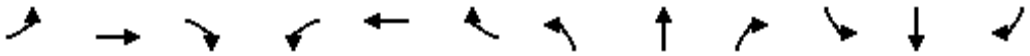
Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



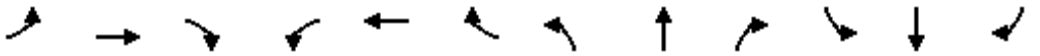
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	6	2	1	67	2	1229	15	191	948	12
Future Volume (vph)	8	0	6	2	1	67	2	1229	15	191	948	12
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3390	1667		1890	2933	1845	5292		3579	3689	1650
Flt Permitted	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3390	1667		1890	2933	1845	5292		3579	3689	1650
Peak-hour factor, PHF	0.60	0.60	0.60	0.73	0.73	0.73	0.86	0.86	0.86	0.88	0.88	0.88
Adj. Flow (vph)	13	0	10	3	1	92	2	1429	17	217	1077	14
RTOR Reduction (vph)	0	0	10	0	0	77	0	1	0	0	0	3
Lane Group Flow (vph)	6	7	0	0	4	15	2	1445	0	217	1077	11
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	3.9	3.9	6.1		1.4	21.8	2.2	83.5		20.4	101.7	105.6
Effective Green, g (s)	3.9	3.9	6.1		1.4	21.8	2.2	83.5		20.4	101.7	105.6
Actuated g/C Ratio	0.03	0.03	0.05		0.01	0.16	0.02	0.62		0.15	0.76	0.79
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	49	98	75		19	617	30	3297		544	2799	1300
v/s Ratio Prot	c0.00	0.00	0.00		c0.00	0.00	0.00	c0.27		0.06	c0.29	0.00
v/s Ratio Perm			0.00			0.00						0.01
v/c Ratio	0.12	0.07	0.01		0.21	0.02	0.07	0.44		0.40	0.38	0.01
Uniform Delay, d1	63.4	63.3	61.1		65.8	47.2	64.9	13.1		51.3	5.5	3.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.05	0.72		0.74	0.39	1.00
Incremental Delay, d2	1.1	0.3	0.0		7.4	0.0	0.4	0.2		0.5	0.4	0.0
Delay (s)	64.5	63.6	61.1		73.2	47.2	68.3	9.7		38.2	2.5	3.0
Level of Service	E	E	E		E	D	E	A		D	A	A
Approach Delay (s)		62.7			48.3			9.7			8.5	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



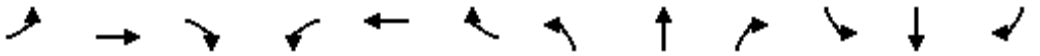
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	13	79	22	2	32	30	923	43	41	561	12
Future Volume (vph)	31	13	79	22	2	32	30	923	43	41	561	12
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.91		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.99		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1734		1863	1961	1667	1845	3665		1810	3608	
Flt Permitted		0.91		0.37	1.00	1.00	0.40	1.00		0.25	1.00	
Satd. Flow (perm)		1603		719	1961	1667	779	3665		469	3608	
Peak-hour factor, PHF	0.72	0.72	0.72	0.74	0.74	0.74	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	43	18	110	30	3	43	32	992	46	46	623	13
RTOR Reduction (vph)	0	57	0	0	0	38	0	2	0	0	1	0
Lane Group Flow (vph)	0	114	0	30	3	5	32	1036	0	46	635	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		14.5		14.5	14.5	14.5	99.2	95.8		103.8	98.1	
Effective Green, g (s)		14.5		14.5	14.5	14.5	99.2	95.8		103.8	98.1	
Actuated g/C Ratio		0.11		0.11	0.11	0.11	0.74	0.71		0.77	0.73	
Clearance Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		173		77	212	180	603	2620		420	2641	
v/s Ratio Prot					0.00		0.00	c0.28		c0.00	0.18	
v/s Ratio Perm		c0.07		0.04		0.00	0.04			0.08		
v/c Ratio		0.66		0.39	0.01	0.03	0.05	0.40		0.11	0.24	
Uniform Delay, d1		57.4		55.6	53.4	53.4	5.3	7.6		6.8	5.8	
Progression Factor		0.99		1.00	1.00	1.00	1.00	1.00		0.76	0.50	
Incremental Delay, d2		8.7		3.2	0.0	0.1	0.0	0.4		0.1	0.1	
Delay (s)		65.7		58.9	53.4	53.5	5.4	8.0		5.3	3.1	
Level of Service		E		E	D	D	A	A		A	A	
Approach Delay (s)		65.7			55.6			8.0			3.2	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



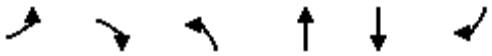
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	0	37	1	0	5	35	844	1	16	575	31
Future Volume (vph)	26	0	37	1	0	5	35	844	1	16	575	31
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.88		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1498		1845	3689		1845	3661	
Flt Permitted	0.75	1.00			0.95		0.38	1.00		0.30	1.00	
Satd. Flow (perm)	1475	1667			1433		740	3689		577	3661	
Peak-hour factor, PHF	0.72	0.72	0.72	0.75	0.75	0.75	0.89	0.89	0.89	0.85	0.85	0.85
Adj. Flow (vph)	36	0	51	1	0	7	39	948	1	19	676	36
RTOR Reduction (vph)	0	48	0	0	8	0	0	0	0	0	3	0
Lane Group Flow (vph)	36	3	0	0	0	0	39	949	0	19	709	0
Heavy Vehicles (%)	2%	2%	2%	17%	17%	17%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.2	7.2			7.2		100.0	100.0		100.0	100.0	
Effective Green, g (s)	7.2	7.2			7.2		100.0	100.0		100.0	100.0	
Actuated g/C Ratio	0.06	0.06			0.06		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	89	100			86		621	3100		484	3076	
v/s Ratio Prot		0.00						c0.26			0.19	
v/s Ratio Perm	c0.02				0.00		0.05			0.03		
v/c Ratio	0.40	0.03			0.01		0.06	0.31		0.04	0.23	
Uniform Delay, d1	53.8	52.6			52.5		1.6	2.0		1.6	1.9	
Progression Factor	1.00	1.00			1.00		0.07	0.07		1.00	1.00	
Incremental Delay, d2	3.0	0.1			0.0		0.2	0.2		0.2	0.2	
Delay (s)	56.8	52.7			52.6		0.3	0.4		1.7	2.1	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.4			52.6			0.4			2.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	567	58	348	0	407	0	0	711	105
Future Volume (vph)	0	0	0	567	58	348	0	407	0	0	711	105
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3544	1923	2877		5353			5301	1650
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3544	1923	2877		5353			5301	1650
Peak-hour factor, PHF	0.92	0.92	0.92	0.79	0.79	0.79	0.81	0.81	0.81	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	718	73	441	0	502	0	0	748	111
RTOR Reduction (vph)	0	0	0	0	0	275	0	0	0	0	0	39
Lane Group Flow (vph)	0	0	0	718	73	166	0	502	0	0	748	72
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				34.5	34.5	50.5		71.2			87.2	87.2
Effective Green, g (s)				34.5	34.5	50.5		71.2			87.2	87.2
Actuated g/C Ratio				0.26	0.26	0.38		0.53			0.65	0.65
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				912	495	1084		2844			3449	1073
v/s Ratio Prot				c0.20	0.04	0.06		0.09			c0.14	0.04
v/s Ratio Perm												
v/c Ratio				0.79	0.15	0.15		0.18			0.22	0.07
Uniform Delay, d1				46.3	38.4	27.6		16.2			9.5	8.5
Progression Factor				1.00	1.00	1.00		0.85			0.59	0.38
Incremental Delay, d2				4.5	0.1	0.1		0.1			0.1	0.1
Delay (s)				50.9	38.5	27.7		13.9			5.7	3.3
Level of Service				D	D	C		B			A	A
Approach Delay (s)		0.0			41.8			13.9			5.4	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	166	0	492	960	0
Future Volume (vph)	63	166	0	492	960	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.91	0.85		1.00	1.00	
Flt Protected	0.98	1.00		1.00	1.00	
Satd. Flow (prot)	3373	1502		3725	3689	
Flt Permitted	0.98	1.00		1.00	1.00	
Satd. Flow (perm)	3373	1502		3725	3689	
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.86	0.86
Adj. Flow (vph)	69	182	0	553	1116	0
RTOR Reduction (vph)	85	85	0	0	0	0
Lane Group Flow (vph)	75	6	0	553	1116	0
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	8.8	8.8		113.2	113.2	
Effective Green, g (s)	8.8	8.8		113.2	113.2	
Actuated g/C Ratio	0.07	0.07		0.84	0.84	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	221	98		3146	3116	
v/s Ratio Prot	c0.02	0.00		0.15	c0.30	
v/s Ratio Perm						
v/c Ratio	0.34	0.06		0.18	0.36	
Uniform Delay, d1	59.8	58.7		1.9	2.3	
Progression Factor	1.00	1.00		2.70	0.38	
Incremental Delay, d2	1.1	0.3		0.1	0.3	
Delay (s)	60.9	59.0		5.2	1.2	
Level of Service	E	E		A	A	
Approach Delay (s)	60.2			5.2	1.2	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1455	37	4	556	4	5
Future Volume (Veh/h)	1455	37	4	556	4	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.85	0.85	0.60	0.60
Hourly flow rate (vph)	1672	43	5	654	7	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				619		
pX, platoon unblocked					0.93	
vC, conflicting volume			1715		2030	858
vC1, stage 1 conf vol					1694	
vC2, stage 2 conf vol					337	
vCu, unblocked vol			1715		1955	858
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		95	97
cM capacity (veh/h)			366		130	300

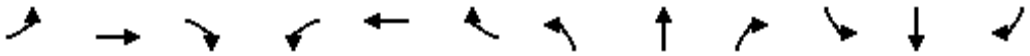
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1115	600	5	327	327	15
Volume Left	0	0	5	0	0	7
Volume Right	0	43	0	0	0	8
cSH	1700	1700	366	1700	1700	187
Volume to Capacity	0.66	0.35	0.01	0.19	0.19	0.08
Queue Length 95th (ft)	0	0	1	0	0	6
Control Delay (s)	0.0	0.0	15.0	0.0	0.0	26.0
Lane LOS			B			D
Approach Delay (s)	0.0		0.1			26.0
Approach LOS						D

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	787	6	0	419	0	3
Future Volume (Veh/h)	787	6	0	419	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.75	0.75
Hourly flow rate (vph)	894	7	0	455	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.77		0.82	0.77
vC, conflicting volume			901		1352	450
vC1, stage 1 conf vol					898	
vC2, stage 2 conf vol					455	
vCu, unblocked vol			273		629	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			980		500	835

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	596	305	0	455	4
Volume Left	0	0	0	0	0
Volume Right	0	7	0	0	4
cSH	1700	1700	1700	1700	835
Volume to Capacity	0.35	0.18	0.00	0.27	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	9.3
Lane LOS					A
Approach Delay (s)	0.0		0.0		9.3
Approach LOS					A

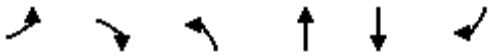
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	64	22	28	27	33	23	41	57	58	22	3
Future Volume (vph)	13	64	22	28	27	33	23	41	57	58	22	3
Peak Hour Factor	0.95	0.95	0.95	0.75	0.75	0.75	0.82	0.82	0.82	0.74	0.74	0.74
Hourly flow rate (vph)	14	67	23	37	36	44	28	50	70	78	30	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	14	90	37	80	28	120	78	34
Volume Left (vph)	14	0	37	0	28	0	78	0
Volume Right (vph)	0	23	0	44	0	70	0	4
Hadj (s)	0.53	-0.14	0.64	-0.25	0.57	-0.34	0.53	-0.05
Departure Headway (s)	5.8	5.1	5.9	5.0	5.7	4.8	5.7	5.2
Degree Utilization, x	0.02	0.13	0.06	0.11	0.04	0.16	0.12	0.05
Capacity (veh/h)	584	666	579	681	599	710	598	664
Control Delay (s)	7.7	7.7	8.1	7.4	7.8	7.6	8.3	7.2
Approach Delay (s)	7.7		7.6		7.6		8.0	
Approach LOS	A		A		A		A	

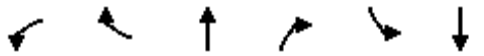
Intersection Summary				
Delay	7.7			
Level of Service	A			
Intersection Capacity Utilization	26.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	68	7	45	53	6	15
Future Volume (vph)	68	7	45	53	6	15
Peak Hour Factor	0.73	0.73	0.72	0.72	0.88	0.88
Hourly flow rate (vph)	93	10	63	74	7	17

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	93	10	63	74	24
Volume Left (vph)	93	0	63	0	0
Volume Right (vph)	0	10	0	0	17
Hadj (s)	0.53	-0.67	0.53	0.03	-0.39
Departure Headway (s)	5.4	4.2	5.3	4.8	4.4
Degree Utilization, x	0.14	0.01	0.09	0.10	0.03
Capacity (veh/h)	635	814	655	722	801
Control Delay (s)	8.1	6.1	7.7	7.2	7.5
Approach Delay (s)	7.9		7.4		7.5
Approach LOS	A		A		A

Intersection Summary			
Delay	7.6		
Level of Service	A		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	4	818	23	20	594
Future Volume (Veh/h)	10	4	818	23	20	594
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	17	7	861	24	22	653
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.96					
vC, conflicting volume	1244	442			885	
vC1, stage 1 conf vol	873					
vC2, stage 2 conf vol	370					
vCu, unblocked vol	1168	442			885	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	99			97	
cM capacity (veh/h)	343	563			760	

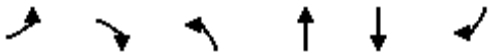
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	17	7	574	311	22	326	326
Volume Left	17	0	0	0	22	0	0
Volume Right	0	7	0	24	0	0	0
cSH	343	563	1700	1700	760	1700	1700
Volume to Capacity	0.05	0.01	0.34	0.18	0.03	0.19	0.19
Queue Length 95th (ft)	4	1	0	0	2	0	0
Control Delay (s)	16.0	11.5	0.0	0.0	9.9	0.0	0.0
Lane LOS	C	B			A		
Approach Delay (s)	14.7		0.0		0.3		
Approach LOS	B						

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	407	148	0	1278
Future Volume (Veh/h)	0	0	407	148	0	1278
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.81	0.81	0.95	0.95
Hourly flow rate (vph)	0	0	502	183	0	1345
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.95					
vC, conflicting volume	950	251			685	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	759	251			685	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	325	749			898	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	251	251	183	448	448	448
Volume Left	0	0	0	0	0	0
Volume Right	0	0	183	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.15	0.15	0.11	0.26	0.26	0.26
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	555	960	318
Future Volume (Veh/h)	0	0	0	555	960	318
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	0	624	1116	370
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.96	0.95	0.95			
vC, conflicting volume	1428	558	1486			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1251	429	1406			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	158	545	457			

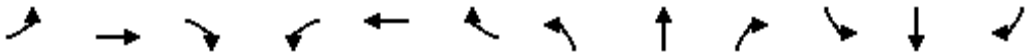
Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	312	312	558	558	370
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	370
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.18	0.18	0.33	0.33	0.22
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	492	807	0	1126
Future Volume (Veh/h)	0	0	492	807	0	1126
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	553	907	0	1309
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.94					
vC, conflicting volume	989	276			1460	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	777	276			1460	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	314	721			454	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	276	276	907	436	436	436
Volume Left	0	0	0	0	0	0
Volume Right	0	0	907	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.16	0.16	0.53	0.26	0.26	0.26
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

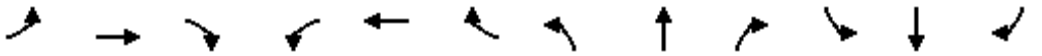
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	297	218	223	565	151	206	625	81	120	677	280
Future Volume (vph)	182	297	218	223	565	151	206	625	81	120	677	280
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.97		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3489		1863	3597		1863	3654		1862	3552	
Flt Permitted	0.19	1.00		0.21	1.00		0.10	1.00		0.21	1.00	
Satd. Flow (perm)	370	3489		418	3597		199	3654		416	3552	
Peak-hour factor, PHF	0.89	0.89	0.89	0.93	0.93	0.93	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	204	334	245	240	608	162	226	687	89	126	713	295
RTOR Reduction (vph)	0	121	0	0	20	0	0	8	0	0	35	0
Lane Group Flow (vph)	204	458	0	240	750	0	226	768	0	126	973	0
Confl. Peds. (#/hr)	1					1			3	3		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	34.1	21.2		48.9	29.4		54.7	42.4		54.7	42.4	
Effective Green, g (s)	34.1	21.2		48.9	29.4		54.7	42.4		54.7	42.4	
Actuated g/C Ratio	0.28	0.17		0.40	0.24		0.44	0.34		0.44	0.34	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	259	601		414	859		254	1259		329	1224	
v/s Ratio Prot	c0.08	0.13		c0.10	c0.21		c0.09	0.21		0.04	0.27	
v/s Ratio Perm	0.14			0.13			c0.31			0.13		
v/c Ratio	0.79	0.76		0.58	0.87		0.89	0.61		0.38	0.79	
Uniform Delay, d1	50.1	48.5		38.3	45.0		46.1	33.4		36.3	36.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.91	0.94	
Incremental Delay, d2	14.6	5.7		2.0	9.8		29.1	2.2		0.7	5.2	
Delay (s)	64.7	54.2		40.3	54.8		75.2	35.7		33.9	39.5	
Level of Service	E	D		D	D		E	D		C	D	
Approach Delay (s)		56.9			51.3			44.6			38.8	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

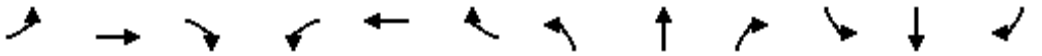
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	481	87	140	777	400	175	865	78	195	641	254
Future Volume (vph)	264	481	87	140	777	400	175	865	78	195	641	254
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3640		1863	3725	1667	1863	3679		1863	3567	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3640		1863	3725	1667	1863	3679		1863	3567	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	300	547	99	152	845	435	190	940	85	205	675	267
RTOR Reduction (vph)	0	10	0	0	0	0	0	5	0	0	31	0
Lane Group Flow (vph)	300	636	0	152	845	435	190	1020	0	205	911	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	23.0	40.6		14.1	31.7	47.6	16.3	40.2		15.9	39.8	
Effective Green, g (s)	23.0	40.6		14.1	31.7	47.6	16.3	40.2		15.9	39.8	
Actuated g/C Ratio	0.17	0.30		0.10	0.23	0.35	0.12	0.30		0.12	0.29	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	317	1094		194	874	587	224	1095		219	1051	
v/s Ratio Prot	c0.16	0.17		0.08	c0.23	0.09	0.10	c0.28		c0.11	0.26	
v/s Ratio Perm						0.17						
v/c Ratio	0.95	0.58		0.78	0.97	0.74	0.85	0.93		0.94	0.87	
Uniform Delay, d1	55.4	40.0		59.0	51.1	38.3	58.1	46.1		59.0	45.1	
Progression Factor	1.00	1.00		1.15	0.92	0.81	0.92	0.84		0.83	0.70	
Incremental Delay, d2	36.3	2.3		17.5	22.4	4.7	23.2	13.0		39.1	6.7	
Delay (s)	91.7	42.2		85.2	69.2	35.8	76.5	51.7		88.3	38.5	
Level of Service	F	D		F	E	D	E	D		F	D	
Approach Delay (s)		57.9			60.7			55.6			47.4	
Approach LOS		E			E			E			D	

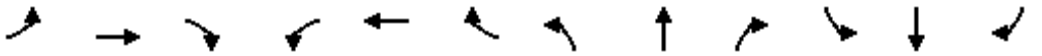
Intersection Summary			
HCM 2000 Control Delay	55.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	564	71	49	853	141	89	36	53	144	91	115
Future Volume (vph)	61	564	71	49	853	141	89	36	53	144	91	115
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3653		1862	1961	1619	1863	1961	1667	1863	1961	1667
Flt Permitted	0.16	1.00		0.36	1.00	1.00	0.57	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	307	3653		710	1961	1619	1122	1961	1667	1431	1961	1667
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.85	0.85	0.85	0.88	0.88	0.88
Adj. Flow (vph)	66	606	76	52	898	148	105	42	62	164	103	131
RTOR Reduction (vph)	0	6	0	0	0	56	0	0	58	0	0	119
Lane Group Flow (vph)	66	676	0	52	898	92	105	42	4	164	103	12
Confl. Peds. (#/hr)	3		2	2		3						
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	88.8	84.2		88.8	84.2	84.2	17.8	8.4	8.4	25.8	12.4	12.4
Effective Green, g (s)	88.8	84.2		88.8	84.2	84.2	17.8	8.4	8.4	25.8	12.4	12.4
Actuated g/C Ratio	0.66	0.62		0.66	0.62	0.62	0.13	0.06	0.06	0.19	0.09	0.09
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	254	2278		506	1223	1009	199	122	103	316	180	153
v/s Ratio Prot	c0.01	0.18		0.00	c0.46		0.04	0.02		c0.05	c0.05	
v/s Ratio Perm	0.16			0.06		0.06	0.03		0.00	0.05		0.01
v/c Ratio	0.26	0.30		0.10	0.73	0.09	0.53	0.34	0.04	0.52	0.57	0.08
Uniform Delay, d1	33.8	11.7		11.0	17.6	10.1	55.5	60.7	59.5	49.3	58.8	56.1
Progression Factor	1.00	0.96		0.29	0.43	0.11	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.2		0.0	1.8	0.1	2.5	1.7	0.1	1.4	4.3	0.2
Delay (s)	34.3	11.5		3.2	9.3	1.2	58.0	62.4	59.6	50.7	63.1	56.3
Level of Service	C	B		A	A	A	E	E	E	D	E	E
Approach Delay (s)		13.5			7.9			59.4			55.8	
Approach LOS		B			A			E			E	

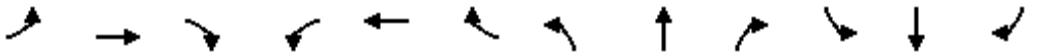
Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	25	412	354	49	43	360	695	211	10	921	58
Future Volume (vph)	56	25	412	354	49	43	360	695	211	10	921	58
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1823		3614	5353	1667	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1823		3614	5353	1667	1863	5353	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	59	26	434	385	53	47	396	764	232	11	969	61
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	110	0	0	37
Lane Group Flow (vph)	59	26	434	385	100	0	396	764	122	11	969	24
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	16.0	16.0	42.9	20.1	20.1		20.9	71.1	71.1	3.0	53.2	53.2
Effective Green, g (s)	16.0	16.0	42.9	20.1	20.1		20.9	71.1	71.1	3.0	53.2	53.2
Actuated g/C Ratio	0.12	0.12	0.32	0.15	0.15		0.15	0.53	0.53	0.02	0.39	0.39
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	220	232	932	538	271		559	2819	877	41	2109	656
v/s Ratio Prot	0.03	0.01	c0.15	c0.11	0.05		c0.11	0.14		0.01	c0.18	
v/s Ratio Perm									0.07			0.01
v/c Ratio	0.27	0.11	0.47	0.72	0.37		0.71	0.27	0.14	0.27	0.46	0.04
Uniform Delay, d1	54.2	53.2	36.9	54.7	51.7		54.2	17.6	16.3	64.9	30.3	25.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.61	0.53	0.44	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.4	4.7	1.0		3.9	0.2	0.3	3.5	0.7	0.1
Delay (s)	54.8	53.4	37.2	59.4	52.7		36.8	9.5	7.5	68.4	31.0	25.2
Level of Service	D	D	D	E	D		D	A	A	E	C	C
Approach Delay (s)		40.0			58.0			16.9			31.0	
Approach LOS		D			E			B			C	

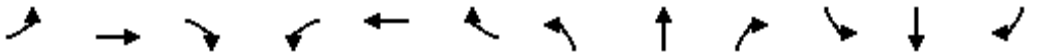
Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	409	202	68	787	97	190	208	43	162	368	128
Future Volume (vph)	85	409	202	68	787	97	190	208	43	162	368	128
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	1667	1863	1961	1632	1863	1961	1667	1863	1961	1667
Flt Permitted	0.07	1.00	1.00	0.37	1.00	1.00	0.12	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	133	1961	1667	722	1961	1632	239	1961	1667	875	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	89	431	213	72	828	102	213	234	48	195	443	154
RTOR Reduction (vph)	0	0	100	0	0	49	0	0	34	0	0	60
Lane Group Flow (vph)	89	431	113	72	828	53	213	234	14	195	443	94
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	66.1	58.8	71.8	63.3	57.4	69.9	45.8	32.8	38.7	44.8	32.3	39.6
Effective Green, g (s)	66.1	58.8	71.8	63.3	57.4	69.9	45.8	32.8	38.7	44.8	32.3	39.6
Actuated g/C Ratio	0.49	0.44	0.53	0.47	0.43	0.52	0.34	0.24	0.29	0.33	0.24	0.29
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	158	854	886	388	833	845	237	476	477	381	469	488
v/s Ratio Prot	c0.03	0.22	0.01	0.01	c0.42	0.01	c0.09	0.12	0.00	0.05	c0.23	0.01
v/s Ratio Perm	0.24		0.06	0.08		0.03	0.22		0.01	0.12		0.05
v/c Ratio	0.56	0.50	0.13	0.19	0.99	0.06	0.90	0.49	0.03	0.51	0.94	0.19
Uniform Delay, d1	30.1	27.6	15.9	20.8	38.6	16.2	36.6	43.9	34.6	34.0	50.5	35.7
Progression Factor	1.33	0.83	2.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	2.0	0.1	0.2	29.8	0.0	32.4	0.9	0.0	1.2	28.1	0.2
Delay (s)	44.3	25.0	45.2	21.1	68.4	16.3	69.1	44.9	34.7	35.2	78.6	35.9
Level of Service	D	C	D	C	E	B	E	D	C	D	E	D
Approach Delay (s)		33.2			59.7			54.3			59.6	
Approach LOS		C			E			D			E	

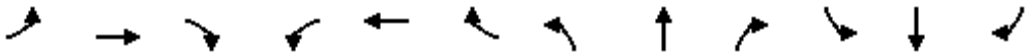
Intersection Summary			
HCM 2000 Control Delay	52.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	14	38	48	15	479	35	1270	60	419	1278	63
Future Volume (vph)	75	14	38	48	15	479	35	1270	60	419	1278	63
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3442	1667		1888	2933	1863	5317		3614	3725	1667
Flt Permitted	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3442	1667		1888	2933	1863	5317		3614	3725	1667
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.89	0.89	0.89	0.95	0.95	0.95
Adj. Flow (vph)	93	17	47	56	17	557	39	1427	67	441	1345	66
RTOR Reduction (vph)	0	0	42	0	0	87	0	3	0	0	0	20
Lane Group Flow (vph)	46	64	5	0	73	470	39	1491	0	441	1345	46
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	9.0	9.0	15.0		9.9	42.8	6.0	58.4		32.9	85.3	94.3
Effective Green, g (s)	9.0	9.0	15.0		9.9	42.8	6.0	58.4		32.9	85.3	94.3
Actuated g/C Ratio	0.07	0.07	0.11		0.07	0.32	0.04	0.43		0.24	0.63	0.70
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	113	229	185		138	1068	82	2300		880	2353	1164
v/s Ratio Prot	c0.03	0.02	0.00		0.04	c0.11	0.02	c0.28		0.12	c0.36	0.00
v/s Ratio Perm			0.00			0.05						0.03
v/c Ratio	0.41	0.28	0.03		0.53	0.44	0.48	0.65		0.50	0.57	0.04
Uniform Delay, d1	60.4	59.9	53.5		60.3	36.6	63.0	30.2		44.0	14.3	6.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.86	1.03		0.94	0.87	1.56
Incremental Delay, d2	2.4	0.7	0.1		4.7	0.3	2.1	0.7		0.5	0.9	0.0
Delay (s)	62.8	60.6	53.6		65.0	36.9	56.4	31.8		41.6	13.3	9.9
Level of Service	E	E	D		E	D	E	C		D	B	A
Approach Delay (s)		59.1			40.2			32.5			19.9	
Approach LOS		E			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

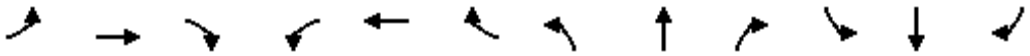
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	1	27	70	4	33	66	1047	50	53	762	11
Future Volume (vph)	17	1	27	70	4	33	66	1047	50	53	762	11
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt		0.92		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1769		1863	1961	1667	1863	3700		1863	3718	
Flt Permitted		0.87		0.69	1.00	1.00	0.31	1.00		0.20	1.00	
Satd. Flow (perm)		1576		1362	1961	1667	611	3700		391	3718	
Peak-hour factor, PHF	0.60	0.60	0.60	0.72	0.72	0.72	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	28	2	45	97	6	46	73	1151	55	58	837	12
RTOR Reduction (vph)	0	40	0	0	0	41	0	2	0	0	1	0
Lane Group Flow (vph)	0	35	0	97	6	5	73	1204	0	58	848	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		14.6		14.6	14.6	14.6	102.4	97.8		102.4	97.8	
Effective Green, g (s)		14.6		14.6	14.6	14.6	102.4	97.8		102.4	97.8	
Actuated g/C Ratio		0.11		0.11	0.11	0.11	0.76	0.72		0.76	0.72	
Clearance Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		170		147	212	180	506	2680		346	2693	
v/s Ratio Prot					0.00		0.00	c0.33		c0.01	0.23	
v/s Ratio Perm		0.02		c0.07		0.00	0.10			0.12		
v/c Ratio		0.21		0.66	0.03	0.03	0.14	0.45		0.17	0.32	
Uniform Delay, d1		54.9		57.8	53.9	53.9	6.3	7.6		9.3	6.6	
Progression Factor		1.01		1.00	1.00	1.00	1.00	1.00		0.81	0.81	
Incremental Delay, d2		0.6		10.2	0.1	0.1	0.1	0.5		0.1	0.2	
Delay (s)		56.1		68.1	53.9	53.9	6.4	8.1		7.6	5.5	
Level of Service		E		E	D	D	A	A		A	A	
Approach Delay (s)		56.1			63.1			8.0			5.7	
Approach LOS		E			E			A			A	

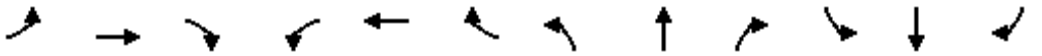
Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	0	57	7	0	34	41	1051	2	2	955	53
Future Volume (vph)	38	0	57	7	0	34	41	1051	2	2	955	53
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.89		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1601		1863	3725		1863	3696	
Flt Permitted	0.86	1.00			0.92		0.26	1.00		0.23	1.00	
Satd. Flow (perm)	1688	1667			1489		513	3725		454	3696	
Peak-hour factor, PHF	0.77	0.77	0.77	0.79	0.79	0.79	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	49	0	74	9	0	43	46	1168	2	2	1005	56
RTOR Reduction (vph)	0	69	0	0	40	0	0	0	0	0	3	0
Lane Group Flow (vph)	49	5	0	0	12	0	46	1170	0	2	1058	0
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	8.0	8.0			8.0		103.2	103.2		103.2	103.2	
Effective Green, g (s)	8.0	8.0			8.0		103.2	103.2		103.2	103.2	
Actuated g/C Ratio	0.07	0.07			0.07		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	109	108			96		430	3125		380	3101	
v/s Ratio Prot		0.00						c0.31			0.29	
v/s Ratio Perm	c0.03				0.01		0.09			0.00		
v/c Ratio	0.45	0.04			0.12		0.11	0.37		0.01	0.34	
Uniform Delay, d1	55.4	53.9			54.2		1.8	2.3		1.6	2.2	
Progression Factor	1.00	1.00			1.00		0.13	0.10		1.00	1.00	
Incremental Delay, d2	2.9	0.2			0.6		0.4	0.3		0.0	0.3	
Delay (s)	58.3	54.1			54.8		0.6	0.5		1.6	2.5	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		55.8			54.8			0.5			2.5	
Approach LOS		E			D			A			A	

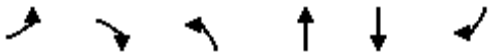
Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	506	397	332	0	1082	0	0	1301	456
Future Volume (vph)	0	0	0	506	397	332	0	1082	0	0	1301	456
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	533	418	349	0	1163	0	0	1369	480
RTOR Reduction (vph)	0	0	0	0	0	44	0	0	0	0	0	79
Lane Group Flow (vph)	0	0	0	533	418	305	0	1163	0	0	1369	401
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				36.4	36.4	49.4		73.3			86.3	86.3
Effective Green, g (s)				36.4	36.4	49.4		73.3			86.3	86.3
Actuated g/C Ratio				0.27	0.27	0.37		0.54			0.64	0.64
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				974	528	1073		2906			3421	1065
v/s Ratio Prot				0.15	c0.21	0.10		0.22			c0.26	0.24
v/s Ratio Perm												
v/c Ratio				0.55	0.79	0.28		0.40			0.40	0.38
Uniform Delay, d1				42.2	45.8	30.3		18.0			11.8	11.6
Progression Factor				1.00	1.00	1.00		0.80			0.80	0.73
Incremental Delay, d2				0.6	8.0	0.1		0.4			0.3	0.9
Delay (s)				42.9	53.7	30.4		14.8			9.8	9.4
Level of Service				D	D	C		B			A	A
Approach Delay (s)		0.0			43.0			14.8			9.7	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	271	322	0	1213	1437	0
Future Volume (vph)	271	322	0	1213	1437	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.95	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	3497	1517		3725	3725	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	3497	1517		3725	3725	
Peak-hour factor, PHF	0.94	0.94	0.86	0.86	0.94	0.94
Adj. Flow (vph)	288	343	0	1410	1529	0
RTOR Reduction (vph)	49	49	0	0	0	0
Lane Group Flow (vph)	383	150	0	1410	1529	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	21.3	21.3		101.7	101.7	
Effective Green, g (s)	21.3	21.3		101.7	101.7	
Actuated g/C Ratio	0.16	0.16		0.75	0.75	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	551	239		2806	2806	
v/s Ratio Prot	c0.11	0.10		0.38	c0.41	
v/s Ratio Perm						
v/c Ratio	0.70	0.63		0.50	0.54	
Uniform Delay, d1	53.8	53.1		6.6	7.0	
Progression Factor	1.00	1.00		0.22	0.60	
Incremental Delay, d2	3.9	5.3		0.5	0.7	
Delay (s)	57.7	58.5		2.0	4.9	
Level of Service	E	E		A	A	
Approach Delay (s)	58.0			2.0	4.9	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	817	18	7	1199	15	15
Future Volume (Veh/h)	817	18	7	1199	15	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.63	0.63
Hourly flow rate (vph)	928	20	8	1303	24	24
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				619		
pX, platoon unblocked					0.78	
vC, conflicting volume			948		1606	474
vC1, stage 1 conf vol					938	
vC2, stage 2 conf vol					668	
vCu, unblocked vol			948		1206	474
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		92	96
cM capacity (veh/h)			720		319	537

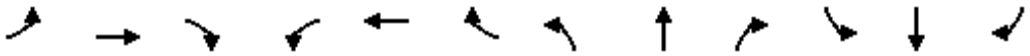
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	619	329	8	652	652	48
Volume Left	0	0	8	0	0	24
Volume Right	0	20	0	0	0	24
cSH	1700	1700	720	1700	1700	400
Volume to Capacity	0.36	0.19	0.01	0.38	0.38	0.12
Queue Length 95th (ft)	0	0	1	0	0	10
Control Delay (s)	0.0	0.0	10.1	0.0	0.0	15.2
Lane LOS			B			C
Approach Delay (s)	0.0		0.1			15.2
Approach LOS						C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	701	3	14	839	5	2
Future Volume (Veh/h)	701	3	14	839	5	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	738	3	15	883	6	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.89		0.71	0.89
vC, conflicting volume			741		1652	370
vC1, stage 1 conf vol					740	
vC2, stage 2 conf vol					913	
vCu, unblocked vol			449		1110	31
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		98	100
cM capacity (veh/h)			981		297	918

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	492	249	15	883	8
Volume Left	0	0	15	0	6
Volume Right	0	3	0	0	2
cSH	1700	1700	981	1700	357
Volume to Capacity	0.29	0.15	0.02	0.52	0.02
Queue Length 95th (ft)	0	0	1	0	2
Control Delay (s)	0.0	0.0	8.7	0.0	15.3
Lane LOS			A		C
Approach Delay (s)	0.0		0.1		15.3
Approach LOS					C

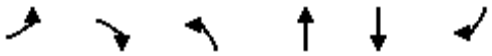
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	70	127	140	145	157	105	72	20	34	90	9
Future Volume (vph)	4	70	127	140	145	157	105	72	20	34	90	9
Peak Hour Factor	0.87	0.87	0.87	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Hourly flow rate (vph)	5	80	146	173	179	194	122	84	23	38	100	10

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	5	226	173	373	122	107	38	110
Volume Left (vph)	5	0	173	0	122	0	38	0
Volume Right (vph)	0	146	0	194	0	23	0	10
Hadj (s)	0.53	-0.42	0.53	-0.33	0.53	-0.12	0.53	-0.03
Departure Headway (s)	7.0	6.0	6.5	5.7	7.3	6.6	7.4	6.8
Degree Utilization, x	0.01	0.38	0.31	0.59	0.25	0.20	0.08	0.21
Capacity (veh/h)	485	570	531	618	466	508	449	487
Control Delay (s)	8.8	11.4	11.3	15.3	11.4	10.0	9.8	10.4
Approach Delay (s)	11.3		14.0		10.8		10.3	
Approach LOS	B		B		B		B	

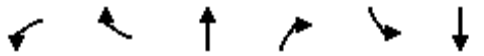
Intersection Summary				
Delay	12.4			
Level of Service	B			
Intersection Capacity Utilization	41.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	106	23	20	28	41	109
Future Volume (vph)	106	23	20	28	41	109
Peak Hour Factor	0.95	0.95	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	112	24	23	33	45	118

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	112	24	23	33	163
Volume Left (vph)	112	0	23	0	0
Volume Right (vph)	0	24	0	0	118
Hadj (s)	0.53	-0.67	0.57	0.07	-0.40
Departure Headway (s)	5.5	4.3	5.6	5.1	4.3
Degree Utilization, x	0.17	0.03	0.04	0.05	0.20
Capacity (veh/h)	619	787	620	679	795
Control Delay (s)	8.5	6.3	7.6	7.1	8.4
Approach Delay (s)	8.1		7.3		8.4
Approach LOS	A		A		A

Intersection Summary			
Delay	8.1		
Level of Service	A		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	13	1023	21	3	1000
Future Volume (Veh/h)	22	13	1023	21	3	1000
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	25	15	1124	23	3	1053
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.92					
vC, conflicting volume	1668	574			1147	
vC1, stage 1 conf vol	1136					
vC2, stage 2 conf vol	532					
vCu, unblocked vol	1548	574			1147	
tC, single (s)	6.9	7.0			4.1	
tC, 2 stage (s)	5.9					
tF (s)	3.6	3.4			2.2	
p0 queue free %	90	97			100	
cM capacity (veh/h)	243	451			605	

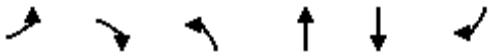
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	25	15	749	398	3	526	526
Volume Left	25	0	0	0	3	0	0
Volume Right	0	15	0	23	0	0	0
cSH	243	451	1700	1700	605	1700	1700
Volume to Capacity	0.10	0.03	0.44	0.23	0.00	0.31	0.31
Queue Length 95th (ft)	8	3	0	0	0	0	0
Control Delay (s)	21.5	13.3	0.0	0.0	11.0	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	18.4		0.0		0.0		
Approach LOS	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1082	402	0	1807
Future Volume (Veh/h)	0	0	1082	402	0	1807
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	0	0	1163	432	0	1902
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.93	0.88			0.88	
vC, conflicting volume	1797	582			1595	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	950	264			1410	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	241	649			424	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	582	582	432	634	634	634
Volume Left	0	0	0	0	0	0
Volume Right	0	0	432	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.34	0.34	0.25	0.37	0.37	0.37
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1484	1437	370
Future Volume (Veh/h)	0	0	0	1484	1437	370
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	0	1726	1529	394
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.91	0.86	0.86			
vC, conflicting volume	2392	764	1923			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1635	396	1745			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	84	518	305			

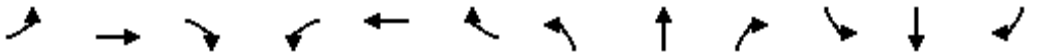
Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	863	863	764	764	394
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	394
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.51	0.51	0.45	0.45	0.23
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	60.4%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1213	582	0	1759
Future Volume (Veh/h)	0	0	1213	582	0	1759
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	1410	677	0	1871
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.86	0.78			0.78	
vC, conflicting volume	2034	705			2087	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	742	51			1827	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	302	783			257	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	705	705	677	624	624	624
Volume Left	0	0	0	0	0	0
Volume Right	0	0	677	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.41	0.41	0.40	0.37	0.37	0.37
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

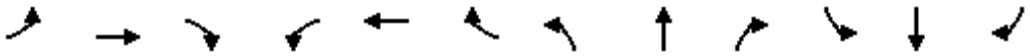
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	273	100	99	281	147	146	516	89	127	498	255
Future Volume (vph)	219	273	100	99	281	147	146	516	89	127	498	255
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3575		1863	3534		1863	3643		1863	3536	
Flt Permitted	0.27	1.00		0.32	1.00		0.23	1.00		0.32	1.00	
Satd. Flow (perm)	536	3575		618	3534		449	3643		624	3536	
Peak-hour factor, PHF	0.88	0.88	0.88	0.94	0.94	0.94	0.90	0.90	0.90	0.89	0.89	0.89
Adj. Flow (vph)	249	310	114	105	299	156	162	573	99	143	560	287
RTOR Reduction (vph)	0	36	0	0	66	0	0	12	0	0	53	0
Lane Group Flow (vph)	249	388	0	105	389	0	162	660	0	143	794	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	30.6	17.0		30.8	17.1		52.3	45.9		52.3	45.9	
Effective Green, g (s)	30.6	17.0		30.8	17.1		52.3	45.9		52.3	45.9	
Actuated g/C Ratio	0.28	0.16		0.28	0.16		0.48	0.42		0.48	0.42	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	316	557		331	554		298	1534		372	1489	
v/s Ratio Prot	c0.10	0.11		0.04	0.11		c0.03	0.18		0.02	0.22	
v/s Ratio Perm	c0.12			0.05			c0.23			0.16		
v/c Ratio	0.79	0.70		0.32	0.70		0.54	0.43		0.38	0.53	
Uniform Delay, d1	40.1	43.6		36.7	43.5		30.8	22.3		24.3	23.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.88	0.91	
Incremental Delay, d2	12.2	3.8		0.6	4.0		2.0	0.9		0.6	1.3	
Delay (s)	52.3	47.3		37.3	47.6		32.8	23.2		22.1	22.7	
Level of Service	D	D		D	D		C	C		C	C	
Approach Delay (s)		49.2			45.6			25.1			22.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

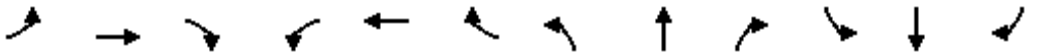
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	348	403	58	157	487	422	90	719	73	232	654	313
Future Volume (vph)	348	403	58	157	487	422	90	719	73	232	654	313
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3656		1863	3725	1667	1863	3674		1863	3545	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3656		1863	3725	1667	1863	3674		1863	3545	
Peak-hour factor, PHF	0.78	0.78	0.78	0.93	0.93	0.93	0.89	0.89	0.89	0.90	0.90	0.90
Adj. Flow (vph)	446	517	74	169	524	454	101	808	82	258	727	348
RTOR Reduction (vph)	0	8	0	0	0	0	0	6	0	0	43	0
Lane Group Flow (vph)	446	583	0	169	524	454	101	884	0	258	1032	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	33.3	39.0		15.6	21.3	41.0	11.4	33.5		19.7	41.8	
Effective Green, g (s)	33.3	39.0		15.6	21.3	41.0	11.4	33.5		19.7	41.8	
Actuated g/C Ratio	0.25	0.30		0.12	0.16	0.31	0.09	0.25		0.15	0.32	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	469	1080		220	601	517	160	932		278	1122	
v/s Ratio Prot	c0.24	0.16		0.09	0.14	c0.13	0.05	0.24		c0.14	c0.29	
v/s Ratio Perm						0.14						
v/c Ratio	0.95	0.54		0.77	0.87	0.88	0.63	0.95		0.93	0.92	
Uniform Delay, d1	48.5	39.0		56.4	54.0	43.1	58.3	48.4		55.5	43.5	
Progression Factor	1.00	1.00		1.14	0.90	0.79	1.20	0.84		0.79	0.73	
Incremental Delay, d2	29.5	1.9		14.2	15.2	14.9	7.6	17.4		32.1	10.7	
Delay (s)	78.0	40.9		78.4	63.6	48.9	77.4	58.2		75.6	42.2	
Level of Service	E	D		E	E	D	E	E		E	D	
Approach Delay (s)		56.9			59.9			60.2			48.7	
Approach LOS		E			E			E			D	

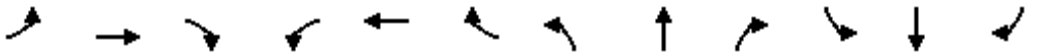
Intersection Summary			
HCM 2000 Control Delay	56.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	586	57	28	632	156	91	36	53	161	34	52
Future Volume (vph)	40	586	57	28	632	156	91	36	53	161	34	52
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3669		1862	1961	1667	1863	1961	1635	1854	1961	1667
Flt Permitted	0.28	1.00		0.37	1.00	1.00	0.73	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	542	3669		717	1961	1667	1431	1961	1635	1425	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.81	0.81	0.81
Adj. Flow (vph)	42	617	60	31	695	171	103	41	60	199	42	64
RTOR Reduction (vph)	0	4	0	0	0	66	0	0	57	0	0	61
Lane Group Flow (vph)	42	673	0	31	695	105	103	41	4	199	42	3
Confl. Peds. (#/hr)			1	1					4	4		
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	89.0	83.3		84.4	81.0	81.0	21.5	7.7	7.7	20.3	7.1	7.1
Effective Green, g (s)	89.0	83.3		84.4	81.0	81.0	21.5	7.7	7.7	20.3	7.1	7.1
Actuated g/C Ratio	0.67	0.63		0.64	0.61	0.61	0.16	0.06	0.06	0.15	0.05	0.05
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	422	2315		487	1203	1022	278	114	95	262	105	89
v/s Ratio Prot	c0.00	0.18		0.00	c0.35		0.04	0.02		c0.08	0.02	
v/s Ratio Perm	0.06			0.04		0.06	0.02		0.00	c0.04		0.00
v/c Ratio	0.10	0.29		0.06	0.58	0.10	0.37	0.36	0.04	0.76	0.40	0.04
Uniform Delay, d1	19.0	11.0		11.3	15.3	10.5	49.5	59.8	58.7	52.4	60.4	59.2
Progression Factor	1.29	1.01		0.29	0.39	0.11	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.2		0.0	1.6	0.2	0.8	1.9	0.2	11.9	2.5	0.2
Delay (s)	24.6	11.4		3.4	7.6	1.3	50.4	61.7	58.8	64.3	62.9	59.4
Level of Service	C	B		A	A	A	D	E	E	E	E	E
Approach Delay (s)		12.2			6.2			55.1			63.1	
Approach LOS		B			A			E			E	

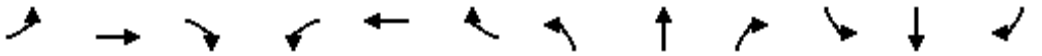
Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	120	740	646	146	39	680	782	488	23	1049	74
Future Volume (vph)	112	120	740	646	146	39	680	782	488	23	1049	74
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	119	128	787	710	160	43	716	823	514	24	1104	78
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	268	0	0	57
Lane Group Flow (vph)	119	128	787	710	203	0	716	823	246	24	1104	21
Confl. Peds. (#/hr)						2						2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	12.0	12.0	50.4	27.9	27.9		32.4	63.3	63.3	4.0	34.9	34.9
Effective Green, g (s)	12.0	12.0	50.4	27.9	27.9		32.4	63.3	63.3	4.0	34.9	34.9
Actuated g/C Ratio	0.09	0.09	0.38	0.21	0.21		0.25	0.48	0.48	0.03	0.26	0.26
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	178	1119	763	399		887	2567	799	56	1415	434
v/s Ratio Prot	0.06	0.07	c0.27	c0.20	0.11		c0.20	0.15		0.01	c0.21	
v/s Ratio Perm									0.15			0.01
v/c Ratio	0.70	0.72	0.70	0.93	0.51		0.81	0.32	0.31	0.43	0.78	0.05
Uniform Delay, d1	58.3	58.4	34.5	51.1	46.0		46.9	21.1	21.0	62.9	45.0	36.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.76	0.76	0.69	1.00	1.00	1.00
Incremental Delay, d2	12.5	13.0	2.0	18.1	1.2		3.7	0.2	0.7	5.2	4.3	0.2
Delay (s)	70.8	71.4	36.5	69.2	47.2		39.4	16.3	15.2	68.1	49.3	36.4
Level of Service	E	E	D	E	D		D	B	B	E	D	D
Approach Delay (s)		44.8			64.3			24.1			48.9	
Approach LOS		D			E			C			D	

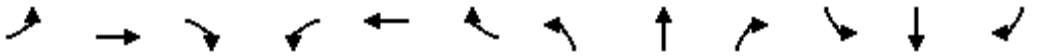
Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	485	173	42	620	97	177	186	37	84	213	79
Future Volume (vph)	76	485	173	42	620	97	177	186	37	84	213	79
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	1667	1863	1961	1630	1863	1961	1667	1863	1961	1667
Flt Permitted	0.20	1.00	1.00	0.33	1.00	1.00	0.27	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	398	1961	1667	651	1961	1630	527	1961	1667	961	1961	1667
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.94	0.94	0.94	0.88	0.88	0.88
Adj. Flow (vph)	84	533	190	46	681	107	188	198	39	95	242	90
RTOR Reduction (vph)	0	0	74	0	0	44	0	0	31	0	0	71
Lane Group Flow (vph)	84	533	116	46	681	63	188	198	8	95	242	19
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	73.7	68.2	80.8	71.5	67.1	77.3	36.8	24.2	28.6	32.0	21.8	27.3
Effective Green, g (s)	73.7	68.2	80.8	71.5	67.1	77.3	36.8	24.2	28.6	32.0	21.8	27.3
Actuated g/C Ratio	0.56	0.52	0.61	0.54	0.51	0.59	0.28	0.18	0.22	0.24	0.17	0.21
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	283	1013	1020	393	996	954	274	359	361	302	323	344
v/s Ratio Prot	c0.01	0.27	0.01	0.00	c0.35	0.01	c0.07	0.10	0.00	0.02	0.12	0.00
v/s Ratio Perm	0.15		0.06	0.06		0.03	c0.13		0.00	0.05		0.01
v/c Ratio	0.30	0.53	0.11	0.12	0.68	0.07	0.69	0.55	0.02	0.31	0.75	0.05
Uniform Delay, d1	18.4	21.2	10.7	15.7	24.5	11.8	39.0	49.0	40.7	40.0	52.5	42.0
Progression Factor	0.84	0.97	3.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.8	0.0	0.1	3.8	0.0	7.0	2.0	0.0	0.6	9.5	0.1
Delay (s)	16.0	22.3	32.8	15.8	28.3	11.8	46.0	51.0	40.7	40.6	62.0	42.1
Level of Service	B	C	C	B	C	B	D	D	D	D	E	D
Approach Delay (s)		24.1			25.5			47.8			53.0	
Approach LOS		C			C			D			D	

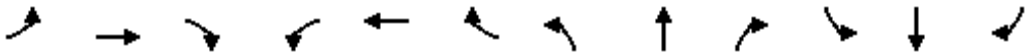
Intersection Summary			
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	27	56	71	9	568	38	1436	85	597	1175	103
Future Volume (vph)	109	27	56	71	9	568	38	1436	85	597	1175	103
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3454	1667		1878	2933	1863	5308		3614	3725	1667
Flt Permitted	0.95	0.97	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3454	1667		1878	2933	1863	5308		3614	3725	1667
Peak-hour factor, PHF	0.83	0.83	0.83	0.94	0.94	0.94	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	131	33	67	76	10	604	40	1512	89	628	1237	108
RTOR Reduction (vph)	0	0	59	0	0	86	0	5	0	0	0	36
Lane Group Flow (vph)	65	99	8	0	86	518	40	1596	0	628	1237	72
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	8.5	8.5	15.3		12.2	45.1	6.8	53.6		32.9	79.7	88.2
Effective Green, g (s)	8.5	8.5	15.3		12.2	45.1	6.8	53.6		32.9	79.7	88.2
Actuated g/C Ratio	0.06	0.06	0.12		0.09	0.34	0.05	0.41		0.25	0.60	0.67
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	109	222	193		173	1144	95	2155		900	2249	1113
v/s Ratio Prot	c0.04	0.03	0.00		0.05	c0.11	0.02	c0.30		c0.17	0.33	0.00
v/s Ratio Perm			0.00			0.06						0.04
v/c Ratio	0.60	0.45	0.04		0.50	0.45	0.42	0.74		0.70	0.55	0.06
Uniform Delay, d1	60.1	59.5	51.8		57.0	33.8	60.7	33.3		45.0	15.5	7.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.91	1.03		1.00	0.95	1.38
Incremental Delay, d2	8.5	1.4	0.1		3.0	0.3	1.3	1.0		1.7	0.7	0.0
Delay (s)	68.6	60.9	51.9		60.0	34.2	56.4	35.4		46.5	15.4	10.5
Level of Service	E	E	D		E	C	E	D		D	B	B
Approach Delay (s)		60.5			37.4			35.9			25.0	
Approach LOS		E			D			D			C	

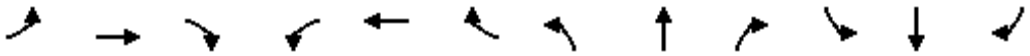
Intersection Summary					
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	132.0	Sum of lost time (s)		24.8	
Intersection Capacity Utilization	70.9%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group



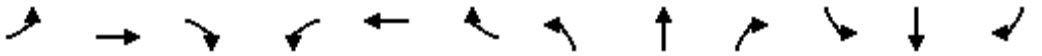
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	3	31	54	5	48	38	912	97	72	805	25
Future Volume (vph)	49	3	31	54	5	48	38	912	97	72	805	25
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.95		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.97		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1806		1863	1961	1643	1863	3672		1863	3709	
Flt Permitted		0.81		0.65	1.00	1.00	0.30	1.00		0.23	1.00	
Satd. Flow (perm)		1515		1274	1961	1643	595	3672		459	3709	
Peak-hour factor, PHF	0.74	0.74	0.74	0.72	0.72	0.72	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	66	4	42	75	7	67	41	981	104	76	847	26
RTOR Reduction (vph)	0	19	0	0	0	60	0	4	0	0	1	0
Lane Group Flow (vph)	0	93	0	75	7	7	41	1081	0	76	872	0
Confl. Peds. (#/hr)	1					1						
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		13.4		13.4	13.4	13.4	100.6	96.0		100.6	96.0	
Effective Green, g (s)		13.4		13.4	13.4	13.4	100.6	96.0		100.6	96.0	
Actuated g/C Ratio		0.10		0.10	0.10	0.10	0.76	0.73		0.76	0.73	
Clearance Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		153		129	199	166	497	2670		398	2697	
v/s Ratio Prot					0.00		0.00	c0.29		c0.01	0.24	
v/s Ratio Perm		c0.06		0.06		0.00	0.06			0.14		
v/c Ratio		0.61		0.58	0.04	0.04	0.08	0.40		0.19	0.32	
Uniform Delay, d1		56.8		56.6	53.5	53.5	5.8	7.0		7.9	6.4	
Progression Factor		1.09		1.00	1.00	1.00	1.00	1.00		0.10	0.19	
Incremental Delay, d2		6.7		6.5	0.1	0.1	0.1	0.5		0.1	0.2	
Delay (s)		68.4		63.1	53.5	53.6	5.8	7.4		0.9	1.4	
Level of Service		E		E	D	D	A	A		A	A	
Approach Delay (s)		68.4			58.4			7.4			1.3	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	62	0	0	1	59	978	1	7	841	52
Future Volume (vph)	42	0	62	0	0	1	59	978	1	7	841	52
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1696		1863	3725		1861	3693	
Flt Permitted	0.76	1.00			1.00		0.30	1.00		0.26	1.00	
Satd. Flow (perm)	1483	1667			1696		586	3725		515	3693	
Peak-hour factor, PHF	0.90	0.90	0.90	0.60	0.60	0.60	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	47	0	69	0	0	2	63	1052	1	7	885	55
RTOR Reduction (vph)	0	64	0	0	2	0	0	0	0	0	3	0
Lane Group Flow (vph)	47	5	0	0	0	0	63	1053	0	7	937	0
Confl. Peds. (#/hr)									1	1		
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.8	7.8			7.8		89.4	89.4		89.4	89.4	
Effective Green, g (s)	7.8	7.8			7.8		89.4	89.4		89.4	89.4	
Actuated g/C Ratio	0.07	0.07			0.07		0.82	0.82		0.82	0.82	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	106	119			121		480	3055		422	3028	
v/s Ratio Prot		0.00			0.00			c0.28			0.25	
v/s Ratio Perm	c0.03						0.11			0.01		
v/c Ratio	0.44	0.04			0.00		0.13	0.34		0.02	0.31	
Uniform Delay, d1	48.5	47.1			47.0		2.0	2.5		1.8	2.4	
Progression Factor	1.00	1.00			1.00		0.41	0.35		1.00	1.00	
Incremental Delay, d2	2.9	0.1			0.0		0.5	0.3		0.1	0.3	
Delay (s)	51.5	47.3			47.0		1.3	1.1		1.9	2.6	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		49.0			47.0			1.2			2.6	
Approach LOS		D			D			A			A	

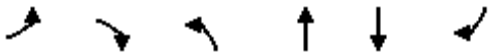
Intersection Summary			
HCM 2000 Control Delay	4.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	615	170	985	0	1473	0	0	1782	467
Future Volume (vph)	0	0	0	615	170	985	0	1473	0	0	1782	467
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	699	193	1119	0	1551	0	0	1958	513
RTOR Reduction (vph)	0	0	0	0	0	16	0	0	0	0	0	145
Lane Group Flow (vph)	0	0	0	699	193	1103	0	1551	0	0	1958	368
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				33.7	33.7	55.7		64.0			86.0	86.0
Effective Green, g (s)				33.7	33.7	55.7		64.0			86.0	86.0
Actuated g/C Ratio				0.26	0.26	0.42		0.48			0.65	0.65
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				922	500	1237		2595			3487	1086
v/s Ratio Prot				0.19	0.10	c0.38		c0.29			0.37	0.22
v/s Ratio Perm												
v/c Ratio				0.76	0.39	0.89		0.60			0.56	0.34
Uniform Delay, d1				45.4	40.6	35.4		24.7			12.6	10.3
Progression Factor				1.00	1.00	1.00		0.95			0.90	1.42
Incremental Delay, d2				3.6	0.5	8.4		0.8			0.4	0.5
Delay (s)				49.0	41.1	43.8		24.1			11.7	15.1
Level of Service				D	D	D		C			B	B
Approach Delay (s)		0.0			45.3			24.1			12.4	
Approach LOS		A			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	457	366	0	1480	1808	0
Future Volume (vph)	457	366	0	1480	1808	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.97	0.85		1.00	1.00	
Flt Protected	0.96	1.00		1.00	1.00	
Satd. Flow (prot)	3552	1517		3725	3725	
Flt Permitted	0.96	1.00		1.00	1.00	
Satd. Flow (perm)	3552	1517		3725	3725	
Peak-hour factor, PHF	0.95	0.95	0.94	0.94	0.94	0.94
Adj. Flow (vph)	481	385	0	1574	1923	0
RTOR Reduction (vph)	12	12	0	0	0	0
Lane Group Flow (vph)	581	261	0	1574	1923	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	30.0	30.0		90.0	90.0	
Effective Green, g (s)	30.0	30.0		90.0	90.0	
Actuated g/C Ratio	0.23	0.23		0.68	0.68	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	807	344		2539	2539	
v/s Ratio Prot	0.16	c0.17		0.42	c0.52	
v/s Ratio Perm						
v/c Ratio	0.72	0.76		0.62	0.76	
Uniform Delay, d1	47.1	47.6		11.6	13.8	
Progression Factor	1.00	1.00		0.54	0.99	
Incremental Delay, d2	3.3	9.6		0.9	1.7	
Delay (s)	50.4	57.2		7.1	15.4	
Level of Service	D	E		A	B	
Approach Delay (s)	52.6			7.1	15.4	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	891	11	14	882	16	7
Future Volume (Veh/h)	891	11	14	882	16	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.87	0.87	0.82	0.82
Hourly flow rate (vph)	979	12	16	1014	20	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				619		
pX, platoon unblocked					0.86	
vC, conflicting volume			991		1524	496
vC1, stage 1 conf vol					985	
vC2, stage 2 conf vol					539	
vCu, unblocked vol			991		1291	496
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	98
cM capacity (veh/h)			693		301	520

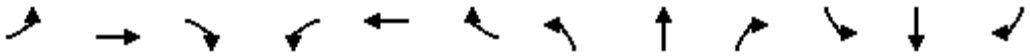
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	653	338	16	507	507	29
Volume Left	0	0	16	0	0	20
Volume Right	0	12	0	0	0	9
cSH	1700	1700	693	1700	1700	346
Volume to Capacity	0.38	0.20	0.02	0.30	0.30	0.08
Queue Length 95th (ft)	0	0	2	0	0	7
Control Delay (s)	0.0	0.0	10.3	0.0	0.0	16.3
Lane LOS			B			C
Approach Delay (s)	0.0		0.2			16.3
Approach LOS						C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	3	1	910	2	3
Future Volume (Veh/h)	662	3	1	910	2	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.63	0.63
Hourly flow rate (vph)	697	3	1	958	3	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.91		0.77	0.91
vC, conflicting volume			700		1658	350
vC1, stage 1 conf vol					698	
vC2, stage 2 conf vol					960	
vCu, unblocked vol			472		1265	87
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			988		279	868

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	465	235	1	958	8
Volume Left	0	0	1	0	3
Volume Right	0	3	0	0	5
cSH	1700	1700	988	1700	484
Volume to Capacity	0.27	0.14	0.00	0.56	0.02
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	8.6	0.0	12.6
Lane LOS			A		B
Approach Delay (s)	0.0		0.0		12.6
Approach LOS					B

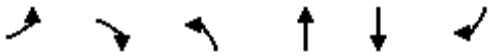
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	90	180	24	83	35	153	64	18	37	79	23
Future Volume (vph)	9	90	180	24	83	35	153	64	18	37	79	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	0.67	0.67	0.67
Hourly flow rate (vph)	9	95	189	25	87	37	178	74	21	55	118	34

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	9	284	25	124	178	95	55	152
Volume Left (vph)	9	0	25	0	178	0	55	0
Volume Right (vph)	0	189	0	37	0	21	0	34
Hadj (s)	0.53	-0.43	0.53	-0.17	0.53	-0.12	0.53	-0.12
Departure Headway (s)	6.6	5.6	6.8	6.1	6.6	5.9	6.7	6.0
Degree Utilization, x	0.02	0.44	0.05	0.21	0.32	0.16	0.10	0.25
Capacity (veh/h)	514	609	493	552	522	573	505	562
Control Delay (s)	8.5	11.9	8.9	9.5	11.5	8.8	9.2	9.8
Approach Delay (s)	11.8		9.4		10.5		9.7	
Approach LOS	B		A		B		A	

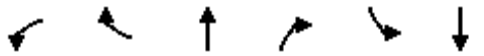
Intersection Summary				
Delay	10.6			
Level of Service	B			
Intersection Capacity Utilization	40.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	137	36	23	26	22	79
Future Volume (vph)	137	36	23	26	22	79
Peak Hour Factor	0.77	0.77	0.82	0.82	0.77	0.77
Hourly flow rate (vph)	178	47	28	32	29	103

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	178	47	28	32	132
Volume Left (vph)	178	0	28	0	0
Volume Right (vph)	0	47	0	0	103
Hadj (s)	0.53	-0.67	0.53	0.03	-0.43
Departure Headway (s)	5.5	4.3	5.8	5.3	4.6
Degree Utilization, x	0.27	0.06	0.04	0.05	0.17
Capacity (veh/h)	628	801	594	647	749
Control Delay (s)	9.3	6.4	7.8	7.3	8.5
Approach Delay (s)	8.7		7.6		8.5
Approach LOS	A		A		A

Intersection Summary			
Delay	8.5		
Level of Service	A		
Intersection Capacity Utilization	21.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	1	1041	14	2	877
Future Volume (Veh/h)	17	1	1041	14	2	877
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	28	2	1144	15	2	923
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.92					
vC, conflicting volume	1618	580			1160	
vC1, stage 1 conf vol	1152					
vC2, stage 2 conf vol	466					
vCu, unblocked vol	1496	580			1160	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	100			100	
cM capacity (veh/h)	248	457			597	

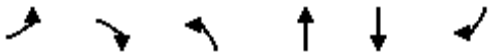
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	2	763	396	2	462	462
Volume Left	28	0	0	0	2	0	0
Volume Right	0	2	0	15	0	0	0
cSH	248	457	1700	1700	597	1700	1700
Volume to Capacity	0.11	0.00	0.45	0.23	0.00	0.27	0.27
Queue Length 95th (ft)	9	0	0	0	0	0	0
Control Delay (s)	21.3	12.9	0.0	0.0	11.0	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	20.8		0.0		0.0		
Approach LOS	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1473	464	0	2397
Future Volume (Veh/h)	0	0	1473	464	0	2397
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	0	0	1551	488	0	2634
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.89	0.78			0.78	
vC, conflicting volume	2429	776			2039	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	961	161			1773	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	225	670			272	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	776	776	488	878	878	878
Volume Left	0	0	0	0	0	0
Volume Right	0	0	488	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.46	0.46	0.29	0.52	0.52	0.52
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1937	1808	589
Future Volume (Veh/h)	0	0	0	1937	1808	589
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	2061	1923	627
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.87	0.78	0.78			
vC, conflicting volume	2954	962	2550			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1789	377	2421			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	63	482	150			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	1030	1030	962	962	627
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	627
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.61	0.61	0.57	0.57	0.37
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

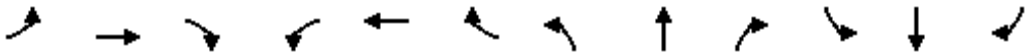
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	73.5%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1480	769	0	2174
Future Volume (Veh/h)	0	0	1480	769	0	2174
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	1574	818	0	2313
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.80	0.75			0.75	
vC, conflicting volume	2345	787			2392	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	116	31			2184	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	691	772			178	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	787	787	818	771	771	771
Volume Left	0	0	0	0	0	0
Volume Right	0	0	818	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.46	0.46	0.48	0.45	0.45	0.45
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

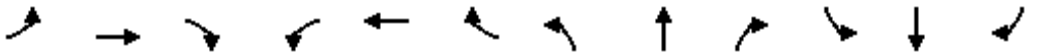
APPENDIX B-3. Background (2028) Conditions Capacity Analysis Reports



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	329	547	178	87	231	114	126	560	181	121	413	120
Future Volume (vph)	329	547	178	87	231	114	126	560	181	121	413	120
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.95		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3576		1776	3375		1844	3554		1863	3588	
Flt Permitted	0.38	1.00		0.24	1.00		0.35	1.00		0.23	1.00	
Satd. Flow (perm)	745	3576		453	3375		672	3554		443	3588	
Peak-hour factor, PHF	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	374	622	202	97	257	127	137	609	197	134	459	133
RTOR Reduction (vph)	0	28	0	0	66	0	0	23	0	0	20	0
Lane Group Flow (vph)	374	796	0	97	318	0	137	783	0	134	572	0
Confl. Peds. (#/hr)			1	1			2					2
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	3%	3%	3%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	47.3	32.1		25.1	16.5		52.3	46.1		52.3	46.1	
Effective Green, g (s)	47.3	32.1		25.1	16.5		52.3	46.1		52.3	46.1	
Actuated g/C Ratio	0.40	0.27		0.21	0.14		0.44	0.39		0.44	0.39	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	523	964		191	467		356	1376		268	1389	
v/s Ratio Prot	c0.15	c0.22		0.04	0.09		0.02	c0.22		c0.03	0.16	
v/s Ratio Perm	0.14			0.07			0.15			0.19		
v/c Ratio	0.72	0.83		0.51	0.68		0.38	0.57		0.50	0.41	
Uniform Delay, d1	33.7	40.8		49.6	48.7		28.7	28.6		35.8	26.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.93	0.94	
Incremental Delay, d2	4.6	5.8		2.1	4.1		0.7	1.7		1.4	0.9	
Delay (s)	38.3	46.7		51.8	52.8		29.4	30.4		34.7	25.8	
Level of Service	D	D		D	D		C	C		C	C	
Approach Delay (s)		44.0			52.6			30.2			27.4	
Approach LOS		D			D			C			C	

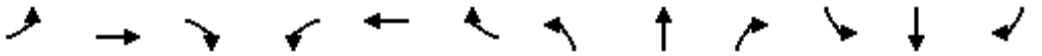
Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



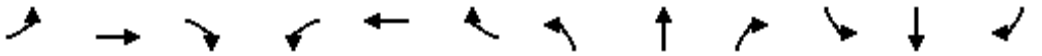
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	420	988	131	112	296	241	95	916	109	196	522	199
Future Volume (vph)	420	988	131	112	296	241	95	916	109	196	522	199
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1845	3624		1792	3585	1604	1845	3631		1845	3536	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1845	3624		1792	3585	1604	1845	3631		1845	3536	
Peak-hour factor, PHF	0.87	0.87	0.87	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	483	1136	151	132	348	284	103	996	118	215	574	219
RTOR Reduction (vph)	0	8	0	0	0	0	0	7	0	0	29	0
Lane Group Flow (vph)	483	1279	0	132	348	284	103	1107	0	215	764	0
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	37.5	46.0		10.0	18.5	35.4	12.0	36.9		16.9	41.8	
Effective Green, g (s)	37.5	46.0		10.0	18.5	35.4	12.0	36.9		16.9	41.8	
Actuated g/C Ratio	0.28	0.34		0.07	0.14	0.26	0.09	0.28		0.13	0.31	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	516	1244		133	494	423	165	999		232	1103	
v/s Ratio Prot	c0.26	c0.35		0.07	0.10	0.08	0.06	c0.31		c0.12	c0.22	
v/s Ratio Perm						0.09						
v/c Ratio	0.94	1.03		0.99	0.70	0.67	0.62	1.11		0.93	0.69	
Uniform Delay, d1	47.1	44.0		62.0	55.1	44.1	58.8	48.5		57.9	40.5	
Progression Factor	0.92	0.91		1.04	0.98	0.81	0.87	0.91		0.86	0.81	
Incremental Delay, d2	21.6	30.8		73.5	7.8	4.0	6.8	62.3		38.0	1.8	
Delay (s)	65.0	71.0		137.9	62.0	39.9	57.8	106.6		87.6	34.6	
Level of Service	E	E		F	E	D	E	F		F	C	
Approach Delay (s)		69.4			66.9			102.5			45.9	
Approach LOS		E			E			F			D	

Intersection Summary			
HCM 2000 Control Delay	72.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



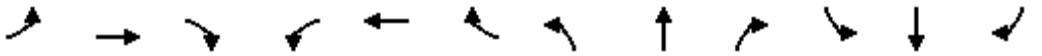
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	830	36	26	513	83	44	23	55	42	8	86
Future Volume (vph)	127	830	36	26	513	83	44	23	55	42	8	86
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1827	3631		1792	1887	1604	1841	1748	1650	1667	1754	1457
Flt Permitted	0.36	1.00		0.27	1.00	1.00	0.75	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	686	3631		505	1887	1604	1454	1748	1650	1299	1754	1457
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.88	0.88	0.88	0.70	0.70	0.70
Adj. Flow (vph)	140	912	40	31	604	98	50	26	62	60	11	123
RTOR Reduction (vph)	0	2	0	0	0	33	0	0	60	0	0	116
Lane Group Flow (vph)	140	950	0	31	604	65	50	26	3	60	11	7
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	14%	14%	14%
Parking (#/hr)								0				
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	101.3	92.9		91.9	88.2	88.2	11.6	6.5	6.5	14.4	7.9	7.9
Effective Green, g (s)	101.3	92.9		91.9	88.2	88.2	11.6	6.5	6.5	14.4	7.9	7.9
Actuated g/C Ratio	0.76	0.69		0.69	0.66	0.66	0.09	0.05	0.05	0.11	0.06	0.06
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	590	2517		381	1242	1055	140	84	80	157	103	85
v/s Ratio Prot	c0.01	0.26		0.00	c0.32		0.01	0.01		c0.02	0.01	
v/s Ratio Perm	0.16			0.05		0.04	0.02		0.00	c0.02		0.00
v/c Ratio	0.24	0.38		0.08	0.49	0.06	0.36	0.31	0.04	0.38	0.11	0.09
Uniform Delay, d1	11.0	8.5		10.6	11.5	8.2	57.9	61.6	60.8	56.0	59.7	59.6
Progression Factor	0.22	0.42		0.43	0.60	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0		0.1	1.3	0.1	1.6	2.1	0.2	1.6	0.5	0.4
Delay (s)	2.4	3.7		4.6	8.2	0.8	59.5	63.7	61.0	57.5	60.2	60.1
Level of Service	A	A		A	A	A	E	E	E	E	E	E
Approach Delay (s)		3.5			7.1			60.9			59.3	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	2	82	33	2	3	81	477	94	1	724	15
Future Volume (vph)	5	2	82	33	2	3	81	477	94	1	724	15
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Peak-hour factor, PHF	0.73	0.73	0.73	0.69	0.69	0.69	0.79	0.79	0.79	0.83	0.83	0.83
Adj. Flow (vph)	7	3	112	48	3	4	103	604	119	1	872	18
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	34	0	0	6
Lane Group Flow (vph)	7	3	112	48	7	0	103	604	85	1	872	12
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	3%	3%	3%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	6.0	6.0	21.0	6.6	6.6		9.0	95.3	95.3	1.3	87.6	87.6
Effective Green, g (s)	6.0	6.0	21.0	6.6	6.6		9.0	95.3	95.3	1.3	87.6	87.6
Actuated g/C Ratio	0.04	0.04	0.16	0.05	0.05		0.07	0.71	0.71	0.01	0.65	0.65
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	81	85	446	163	81		240	3770	1173	18	3499	1089
v/s Ratio Prot	0.00	0.00	c0.04	c0.01	0.00		c0.03	0.11		0.00	c0.16	
v/s Ratio Perm									0.05			0.01
v/c Ratio	0.09	0.04	0.25	0.29	0.09		0.43	0.16	0.07	0.06	0.25	0.01
Uniform Delay, d1	61.4	61.2	49.6	61.5	60.8		60.0	6.3	5.9	65.7	9.6	8.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.16	0.59	0.40	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.3	1.2	0.5		1.2	0.1	0.1	1.3	0.2	0.0
Delay (s)	61.8	61.4	49.9	62.6	61.4		70.8	3.8	2.5	67.0	9.8	8.1
Level of Service	E	E	D	E	E		E	A	A	E	A	A
Approach Delay (s)		50.9			62.5			12.0			9.8	
Approach LOS		D			E			B			A	

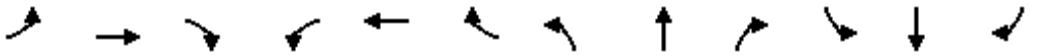
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	594	79	29	336	203	153	273	90	125	131	74
Future Volume (vph)	133	594	79	29	336	203	153	273	90	125	131	74
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1845	1942	1650	1827	1923	1635	1861	1961	1667	1845	1942	1620
Flt Permitted	0.44	1.00	1.00	0.23	1.00	1.00	0.54	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	861	1942	1650	433	1923	1635	1067	1961	1667	482	1942	1620
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.85	0.85	0.85
Adj. Flow (vph)	143	639	85	33	378	228	161	287	95	147	154	87
RTOR Reduction (vph)	0	0	35	0	0	95	0	0	73	0	0	67
Lane Group Flow (vph)	143	639	50	33	378	133	161	287	22	147	154	20
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	71.6	66.1	78.4	71.6	66.1	78.2	37.6	25.3	30.8	37.2	25.1	30.6
Effective Green, g (s)	71.6	66.1	78.4	71.6	66.1	78.2	37.6	25.3	30.8	37.2	25.1	30.6
Actuated g/C Ratio	0.53	0.49	0.59	0.53	0.49	0.58	0.28	0.19	0.23	0.28	0.19	0.23
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	500	957	965	288	948	954	372	370	383	256	363	369
v/s Ratio Prot	c0.01	c0.33	0.00	0.00	0.20	0.01	0.04	c0.15	0.00	c0.05	0.08	0.00
v/s Ratio Perm	0.14		0.03	0.06		0.07	0.08		0.01	0.11		0.01
v/c Ratio	0.29	0.67	0.05	0.11	0.40	0.14	0.43	0.78	0.06	0.57	0.42	0.05
Uniform Delay, d1	16.3	25.7	11.9	18.5	21.4	12.6	38.0	51.7	40.3	38.9	48.1	40.4
Progression Factor	0.36	0.43	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	3.5	0.0	0.2	1.3	0.1	0.8	10.1	0.1	3.1	0.9	0.1
Delay (s)	6.2	14.5	7.2	18.7	22.7	12.7	38.9	61.7	40.3	42.0	49.0	40.5
Level of Service	A	B	A	B	C	B	D	E	D	D	D	D
Approach Delay (s)		12.4			18.9			51.2			44.4	
Approach LOS		B			B			D			D	

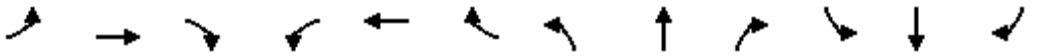
Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



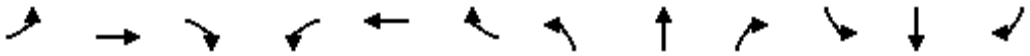
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	0	6	2	1	85	2	1316	16	222	999	48
Future Volume (vph)	38	0	6	2	1	85	2	1316	16	222	999	48
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3390	1667		1890	2933	1845	5291		3579	3689	1650
Flt Permitted	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3390	1667		1890	2933	1845	5291		3579	3689	1650
Peak-hour factor, PHF	0.60	0.60	0.60	0.73	0.73	0.73	0.86	0.86	0.86	0.88	0.88	0.88
Adj. Flow (vph)	63	0	10	3	1	116	2	1530	19	252	1135	55
RTOR Reduction (vph)	0	0	9	0	0	97	0	1	0	0	0	12
Lane Group Flow (vph)	31	32	1	0	4	19	2	1548	0	252	1135	43
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	5.5	5.5	7.7		1.4	21.8	2.2	81.9		20.4	100.1	105.6
Effective Green, g (s)	5.5	5.5	7.7		1.4	21.8	2.2	81.9		20.4	100.1	105.6
Actuated g/C Ratio	0.04	0.04	0.06		0.01	0.16	0.02	0.61		0.15	0.75	0.79
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	69	139	95		19	617	30	3233		544	2755	1300
v/s Ratio Prot	c0.02	0.01	0.00		c0.00	0.00	0.00	c0.29		c0.07	0.31	0.00
v/s Ratio Perm			0.00			0.00						0.02
v/c Ratio	0.45	0.23	0.01		0.21	0.03	0.07	0.48		0.46	0.41	0.03
Uniform Delay, d1	62.8	62.2	59.5		65.8	47.2	64.9	14.3		51.8	6.2	3.1
Progression Factor	1.01	1.02	1.00		1.00	1.00	0.97	0.83		0.73	0.43	0.01
Incremental Delay, d2	4.6	0.8	0.0		7.4	0.0	0.3	0.2		0.7	0.4	0.0
Delay (s)	68.0	64.0	59.6		73.2	47.2	63.0	12.0		38.6	3.1	0.1
Level of Service	E	E	E		E	D	E	B		D	A	A
Approach Delay (s)		65.1			48.1			12.1			9.2	
Approach LOS		E			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



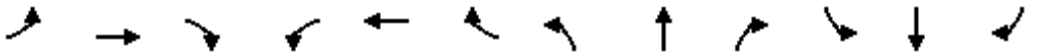
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	14	118	23	2	34	45	1040	45	43	637	19
Future Volume (vph)	50	14	118	23	2	34	45	1040	45	43	637	19
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.87		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1827	1665		1863	1961	1667	1845	3667		1810	3603	
Flt Permitted	0.76	1.00		0.34	1.00	1.00	0.36	1.00		0.21	1.00	
Satd. Flow (perm)	1454	1665		665	1961	1667	703	3667		408	3603	
Peak-hour factor, PHF	0.72	0.72	0.72	0.74	0.74	0.74	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	69	19	164	31	3	46	48	1118	48	48	708	21
RTOR Reduction (vph)	0	150	0	0	0	42	0	1	0	0	1	0
Lane Group Flow (vph)	69	33	0	31	3	4	48	1165	0	48	728	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	11.8	11.8		11.8	11.8	11.8	104.2	99.7		104.2	99.7	
Effective Green, g (s)	11.8	11.8		11.8	11.8	11.8	104.2	99.7		104.2	99.7	
Actuated g/C Ratio	0.09	0.09		0.09	0.09	0.09	0.78	0.74		0.78	0.74	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	128	146		58	172	146	585	2728		364	2680	
v/s Ratio Prot		0.02			0.00		0.00	c0.32		c0.00	0.20	
v/s Ratio Perm	c0.05			0.05		0.00	0.06			0.10		
v/c Ratio	0.54	0.23		0.53	0.02	0.03	0.08	0.43		0.13	0.27	
Uniform Delay, d1	58.5	56.9		58.5	55.8	55.9	4.4	6.4		7.2	5.5	
Progression Factor	1.02	1.06		1.00	1.00	1.00	1.00	1.00		1.27	0.70	
Incremental Delay, d2	4.3	0.8		9.1	0.0	0.1	0.1	0.5		0.1	0.1	
Delay (s)	63.8	60.8		67.6	55.8	55.9	4.4	6.9		9.2	4.0	
Level of Service	E	E		E	E	E	A	A		A	A	
Approach Delay (s)		61.6			60.5			6.8			4.3	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



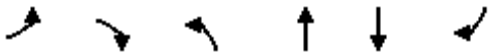
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	0	39	1	0	5	37	970	1	17	686	33
Future Volume (vph)	27	0	39	1	0	5	37	970	1	17	686	33
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.88		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1498		1845	3689		1845	3664	
Flt Permitted	0.75	1.00			0.95		0.33	1.00		0.25	1.00	
Satd. Flow (perm)	1475	1667			1433		645	3689		492	3664	
Peak-hour factor, PHF	0.72	0.72	0.72	0.75	0.75	0.75	0.89	0.89	0.89	0.85	0.85	0.85
Adj. Flow (vph)	38	0	54	1	0	7	42	1090	1	20	807	39
RTOR Reduction (vph)	0	51	0	0	8	0	0	0	0	0	2	0
Lane Group Flow (vph)	38	3	0	0	0	0	42	1091	0	20	844	0
Heavy Vehicles (%)	2%	2%	2%	17%	17%	17%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.3	7.3			7.3		99.9	99.9		99.9	99.9	
Effective Green, g (s)	7.3	7.3			7.3		99.9	99.9		99.9	99.9	
Actuated g/C Ratio	0.06	0.06			0.06		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	90	102			87		541	3096		413	3075	
v/s Ratio Prot		0.00						c0.30			0.23	
v/s Ratio Perm	c0.03				0.00		0.07			0.04		
v/c Ratio	0.42	0.03			0.01		0.08	0.35		0.05	0.27	
Uniform Delay, d1	53.8	52.5			52.4		1.6	2.2		1.6	2.0	
Progression Factor	1.00	1.00			1.00		0.10	0.09		1.00	1.00	
Incremental Delay, d2	3.2	0.1			0.0		0.2	0.3		0.2	0.2	
Delay (s)	57.0	52.7			52.5		0.4	0.4		1.8	2.2	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.4			52.5			0.4			2.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	625	61	366	0	451	0	0	766	110
Future Volume (vph)	0	0	0	625	61	366	0	451	0	0	766	110
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3544	1923	2877		5353			5301	1650
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3544	1923	2877		5353			5301	1650
Peak-hour factor, PHF	0.92	0.92	0.92	0.79	0.79	0.79	0.81	0.81	0.81	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	791	77	463	0	557	0	0	806	116
RTOR Reduction (vph)	0	0	0	0	0	252	0	0	0	0	0	42
Lane Group Flow (vph)	0	0	0	791	77	211	0	557	0	0	806	74
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				36.7	36.7	52.7		69.0			85.0	85.0
Effective Green, g (s)				36.7	36.7	52.7		69.0			85.0	85.0
Actuated g/C Ratio				0.27	0.27	0.39		0.51			0.63	0.63
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				970	526	1131		2756			3362	1046
v/s Ratio Prot				c0.22	0.04	0.07		0.10			c0.15	0.04
v/s Ratio Perm												
v/c Ratio				0.82	0.15	0.19		0.20			0.24	0.07
Uniform Delay, d1				45.5	36.8	26.6		17.6			10.6	9.4
Progression Factor				1.00	1.00	1.00		0.82			0.60	0.35
Incremental Delay, d2				5.4	0.1	0.1		0.2			0.2	0.1
Delay (s)				50.8	36.9	26.7		14.5			6.5	3.4
Level of Service				D	D	C		B			A	A
Approach Delay (s)		0.0			41.6			14.5			6.1	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	66	185	0	554	1057	0
Future Volume (vph)	66	185	0	554	1057	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.91	0.85		1.00	1.00	
Flt Protected	0.98	1.00		1.00	1.00	
Satd. Flow (prot)	3367	1502		3725	3689	
Flt Permitted	0.98	1.00		1.00	1.00	
Satd. Flow (perm)	3367	1502		3725	3689	
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.86	0.86
Adj. Flow (vph)	73	203	0	622	1229	0
RTOR Reduction (vph)	95	94	0	0	0	0
Lane Group Flow (vph)	80	7	0	622	1229	0
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	9.0	9.0		113.0	113.0	
Effective Green, g (s)	9.0	9.0		113.0	113.0	
Actuated g/C Ratio	0.07	0.07		0.84	0.84	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	226	100		3141	3110	
v/s Ratio Prot	c0.02	0.00		0.17	c0.33	
v/s Ratio Perm						
v/c Ratio	0.35	0.07		0.20	0.40	
Uniform Delay, d1	59.7	58.6		2.0	2.5	
Progression Factor	1.00	1.00		3.05	0.38	
Incremental Delay, d2	1.1	0.3		0.1	0.3	
Delay (s)	60.8	58.9		6.2	1.3	
Level of Service	E	E		A	A	
Approach Delay (s)	60.1			6.2	1.3	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1534	39	4	586	4	5
Future Volume (Veh/h)	1534	39	4	586	4	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.85	0.85	0.60	0.60
Hourly flow rate (vph)	1763	45	5	689	7	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	370			619		
pX, platoon unblocked			0.79		0.84	0.79
vC, conflicting volume			1808		2140	904
vC1, stage 1 conf vol					1786	
vC2, stage 2 conf vol					354	
vCu, unblocked vol			1495		1496	353
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		95	98
cM capacity (veh/h)			352		138	509

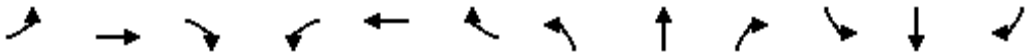
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1175	633	5	344	344	15
Volume Left	0	0	5	0	0	7
Volume Right	0	45	0	0	0	8
cSH	1700	1700	352	1700	1700	225
Volume to Capacity	0.69	0.37	0.01	0.20	0.20	0.07
Queue Length 95th (ft)	0	0	1	0	0	5
Control Delay (s)	0.0	0.0	15.4	0.0	0.0	22.1
Lane LOS			C			C
Approach Delay (s)	0.0		0.1			22.1
Approach LOS						C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	948	6	0	554	0	3
Future Volume (Veh/h)	948	6	0	554	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.75	0.75
Hourly flow rate (vph)	1077	7	0	602	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.72		0.79	0.72
vC, conflicting volume			1084		1682	542
vC1, stage 1 conf vol					1080	
vC2, stage 2 conf vol					602	
vCu, unblocked vol			320		771	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			874		422	775

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	718	366	0	602	4
Volume Left	0	0	0	0	0
Volume Right	0	7	0	0	4
cSH	1700	1700	1700	1700	775
Volume to Capacity	0.42	0.22	0.00	0.35	0.01
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	9.7
Lane LOS					A
Approach Delay (s)	0.0		0.0		9.7
Approach LOS					A

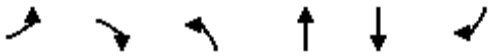
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	67	23	31	28	37	24	106	64	63	72	3
Future Volume (vph)	14	67	23	31	28	37	24	106	64	63	72	3
Peak Hour Factor	0.95	0.95	0.95	0.75	0.75	0.75	0.82	0.82	0.82	0.74	0.74	0.74
Hourly flow rate (vph)	15	71	24	41	37	49	29	129	78	85	97	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	15	95	41	86	29	207	85	101
Volume Left (vph)	15	0	41	0	29	0	85	0
Volume Right (vph)	0	24	0	49	0	78	0	4
Hadj (s)	0.53	-0.14	0.64	-0.26	0.57	-0.20	0.53	0.01
Departure Headway (s)	6.3	5.6	6.3	5.4	5.9	5.2	5.9	5.4
Degree Utilization, x	0.03	0.15	0.07	0.13	0.05	0.30	0.14	0.15
Capacity (veh/h)	536	604	532	619	582	670	580	636
Control Delay (s)	8.2	8.3	8.6	8.0	8.0	9.1	8.7	8.2
Approach Delay (s)	8.3		8.2		9.0		8.4	
Approach LOS	A		A		A		A	

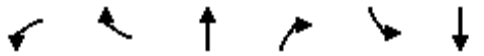
Intersection Summary				
Delay	8.6			
Level of Service	A			
Intersection Capacity Utilization	33.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	71	7	47	56	6	16
Future Volume (vph)	71	7	47	56	6	16
Peak Hour Factor	0.73	0.73	0.72	0.72	0.88	0.88
Hourly flow rate (vph)	97	10	65	78	7	18

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	97	10	65	78	25
Volume Left (vph)	97	0	65	0	0
Volume Right (vph)	0	10	0	0	18
Hadj (s)	0.53	-0.67	0.53	0.03	-0.40
Departure Headway (s)	5.5	4.3	5.4	4.9	4.4
Degree Utilization, x	0.15	0.01	0.10	0.11	0.03
Capacity (veh/h)	632	810	653	719	797
Control Delay (s)	8.2	6.1	7.7	7.2	7.5
Approach Delay (s)	8.0		7.5		7.5
Approach LOS	A		A		A

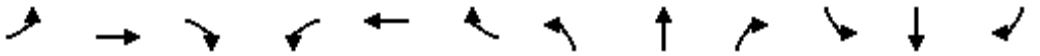
Intersection Summary			
Delay	7.7		
Level of Service	A		
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	4	943	24	21	706
Future Volume (Veh/h)	11	4	943	24	21	706
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	18	7	993	25	23	776
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.95					
vC, conflicting volume	1440	509			1018	
vC1, stage 1 conf vol	1006					
vC2, stage 2 conf vol	434					
vCu, unblocked vol	1358	509			1018	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	99			97	
cM capacity (veh/h)	292	509			677	

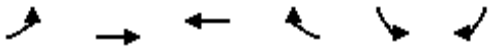
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	18	7	662	356	23	388	388
Volume Left	18	0	0	0	23	0	0
Volume Right	0	7	0	25	0	0	0
cSH	292	509	1700	1700	677	1700	1700
Volume to Capacity	0.06	0.01	0.39	0.21	0.03	0.23	0.23
Queue Length 95th (ft)	5	1	0	0	3	0	0
Control Delay (s)	18.1	12.2	0.0	0.0	10.5	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	16.5		0.0		0.3		
Approach LOS	C						

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1558	18	3	572	15	15	5	10	5	2	24
Future Volume (vph)	30	1558	18	3	572	15	15	5	10	5	2	24
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.90		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1827	3647		1845	3675		1863	1759		1863	1687	
Flt Permitted	0.41	1.00		0.10	1.00		0.73	1.00		0.75	1.00	
Satd. Flow (perm)	793	3647		191	3675		1429	1759		1465	1687	
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.92	0.92	0.92	0.60	0.60	0.60
Adj. Flow (vph)	34	1791	21	3	609	16	16	5	11	8	3	40
RTOR Reduction (vph)	0	0	0	0	1	0	0	10	0	0	38	0
Lane Group Flow (vph)	34	1812	0	3	624	0	16	6	0	8	5	0
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	114.3	108.6		105.1	104.0		6.3	6.3		6.3	6.3	
Effective Green, g (s)	114.3	108.6		105.1	104.0		6.3	6.3		6.3	6.3	
Actuated g/C Ratio	0.85	0.81		0.78	0.78		0.05	0.05		0.05	0.05	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	720	2955		163	2852		67	82		68	79	
v/s Ratio Prot	c0.00	c0.50		0.00	0.17			0.00			0.00	
v/s Ratio Perm	0.04			0.01			c0.01			0.01		
v/c Ratio	0.05	0.61		0.02	0.22		0.24	0.07		0.12	0.06	
Uniform Delay, d1	1.6	4.8		10.0	4.0		61.5	61.0		61.2	61.0	
Progression Factor	1.00	1.00		0.90	0.93		0.98	0.94		0.96	0.93	
Incremental Delay, d2	0.0	1.0		0.0	0.1		1.8	0.3		0.8	0.3	
Delay (s)	1.7	5.7		9.1	3.9		61.9	57.6		59.4	57.0	
Level of Service	A	A		A	A		E	E		E	E	
Approach Delay (s)		5.7			3.9			59.8			57.4	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	23	30	9	43	0
Future Volume (Veh/h)	0	23	30	9	43	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	25	33	10	47	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		550	1165			
pX, platoon unblocked						
vC, conflicting volume	43				63	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43				63	38
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	100
cM capacity (veh/h)	1566				943	1034

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	25	43	47
Volume Left	0	0	47
Volume Right	0	10	0
cSH	1566	1700	943
Volume to Capacity	0.00	0.03	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.0	9.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	60	6	10	20	19	28
Future Volume (Veh/h)	60	6	10	20	19	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	7	11	22	21	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	750			965		
pX, platoon unblocked						
vC, conflicting volume			72		112	68
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			72		112	68
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	97
cM capacity (veh/h)			1528		878	995

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	72	33	51
Volume Left	0	11	21
Volume Right	7	0	30
cSH	1700	1528	943
Volume to Capacity	0.04	0.01	0.05
Queue Length 95th (ft)	0	1	4
Control Delay (s)	0.0	2.5	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	2.5	9.0
Approach LOS			A

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	173	2	4	62	6	9
Future Volume (Veh/h)	173	2	4	62	6	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	188	2	4	67	7	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				200		
pX, platoon unblocked						
vC, conflicting volume			190		264	189
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			190		264	189
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1384		723	853

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	190	71	17
Volume Left	0	4	7
Volume Right	2	0	10
cSH	1700	1384	794
Volume to Capacity	0.11	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.5	9.6
Lane LOS		A	A
Approach Delay (s)	0.0	0.5	9.6
Approach LOS			A

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		18.8%	ICU Level of Service A
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	3	1331	17	5	1002
Future Volume (Veh/h)	9	3	1331	17	5	1002
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.88	0.88
Hourly flow rate (vph)	10	3	1548	20	6	1139
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			587			395
pX, platoon unblocked	0.84	0.78			0.78	
vC, conflicting volume	2140	526			1568	
vC1, stage 1 conf vol	1558					
vC2, stage 2 conf vol	582					
vCu, unblocked vol	950	0			737	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	328	845			669	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	13	619	619	330	6	570	570
Volume Left	10	0	0	0	6	0	0
Volume Right	3	0	0	20	0	0	0
cSH	382	1700	1700	1700	669	1700	1700
Volume to Capacity	0.03	0.36	0.36	0.19	0.01	0.34	0.34
Queue Length 95th (ft)	3	0	0	0	1	0	0
Control Delay (s)	14.8	0.0	0.0	0.0	10.4	0.0	0.0
Lane LOS	B				B		
Approach Delay (s)	14.8	0.0			0.1		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	819	17	5	558	57	18
Future Volume (Veh/h)	819	17	5	558	57	18
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.89	0.89	0.92	0.92
Hourly flow rate (vph)	881	18	6	627	62	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1105		
pX, platoon unblocked					0.80	
vC, conflicting volume			899		1520	881
vC1, stage 1 conf vol					881	
vC2, stage 2 conf vol					639	
vCu, unblocked vol			899		1525	881
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		81	94
cM capacity (veh/h)			747		328	346

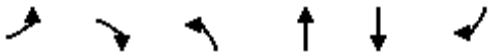
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	881	18	6	627	82
Volume Left	0	0	6	0	62
Volume Right	0	18	0	0	20
cSH	1700	1700	747	1700	433
Volume to Capacity	0.52	0.01	0.01	0.37	0.19
Queue Length 95th (ft)	0	0	1	0	17
Control Delay (s)	0.0	0.0	9.9	0.0	17.9
Lane LOS			A		C
Approach Delay (s)	0.0		0.1		17.9
Approach LOS					C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	804	33	0	563	0	2
Future Volume (Veh/h)	804	33	0	563	0	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.89	0.89	0.92	0.92
Hourly flow rate (vph)	865	35	0	633	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				300		
pX, platoon unblocked					0.80	
vC, conflicting volume			900		1516	450
vC1, stage 1 conf vol					882	
vC2, stage 2 conf vol					633	
vCu, unblocked vol			900		1519	450
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			738		300	556

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	577	323	633	2
Volume Left	0	0	0	0
Volume Right	0	35	0	2
cSH	1700	1700	1700	556
Volume to Capacity	0.34	0.19	0.37	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	11.5
Lane LOS				B
Approach Delay (s)	0.0		0.0	11.5
Approach LOS				B

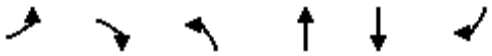
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	13	33	501	225	14
Future Volume (Veh/h)	15	13	33	501	225	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	16	14	35	527	265	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					400	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	870	273	281			
vC1, stage 1 conf vol	273					
vC2, stage 2 conf vol	597					
vCu, unblocked vol	823	181	189			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	98	97			
cM capacity (veh/h)	494	802	1288			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	16	14	35	527	281
Volume Left	16	0	35	0	0
Volume Right	0	14	0	0	16
cSH	494	802	1288	1700	1700
Volume to Capacity	0.03	0.02	0.03	0.31	0.17
Queue Length 95th (ft)	3	1	2	0	0
Control Delay (s)	12.5	9.6	7.9	0.0	0.0
Lane LOS	B	A	A		
Approach Delay (s)	11.2		0.5		0.0
Approach LOS	B				

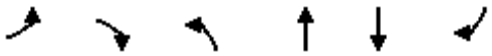
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	15	5	978	718	8
Future Volume (Veh/h)	30	15	5	978	718	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	33	16	6	1099	845	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					285	
pX, platoon unblocked	0.95	0.95	0.95			
vC, conflicting volume	1411	427	854			
vC1, stage 1 conf vol	850					
vC2, stage 2 conf vol	562					
vCu, unblocked vol	1333	300	748			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	98	99			
cM capacity (veh/h)	342	663	810			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	33	16	6	550	550	563	291
Volume Left	33	0	6	0	0	0	0
Volume Right	0	16	0	0	0	0	9
cSH	342	663	810	1700	1700	1700	1700
Volume to Capacity	0.10	0.02	0.01	0.32	0.32	0.33	0.17
Queue Length 95th (ft)	8	2	1	0	0	0	0
Control Delay (s)	16.7	10.6	9.5	0.0	0.0	0.0	0.0
Lane LOS	C	B	A				
Approach Delay (s)	14.7		0.1			0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	6	23	27	25	10
Future Volume (Veh/h)	3	6	23	27	25	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Hourly flow rate (vph)	5	10	38	45	42	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				527	809	
pX, platoon unblocked						
vC, conflicting volume	149	30	59			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	149	30	59			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	98			
cM capacity (veh/h)	808	1038	1543			

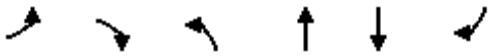
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	5	10	38	22	22	28	31
Volume Left	5	0	38	0	0	0	0
Volume Right	0	10	0	0	0	0	17
cSH	808	1038	1543	1700	1700	1700	1700
Volume to Capacity	0.01	0.01	0.02	0.01	0.01	0.02	0.02
Queue Length 95th (ft)	0	1	2	0	0	0	0
Control Delay (s)	9.5	8.5	7.4	0.0	0.0	0.0	0.0
Lane LOS	A	A	A				
Approach Delay (s)	8.8		3.4			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	451	169	0	1391
Future Volume (Veh/h)	0	0	451	169	0	1391
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.81	0.81	0.95	0.95
Hourly flow rate (vph)	0	0	557	209	0	1464
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.94					
vC, conflicting volume	1045	278			766	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	826	278			766	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	292	719			837	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	278	278	209	488	488	488
Volume Left	0	0	0	0	0	0
Volume Right	0	0	209	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.16	0.16	0.12	0.29	0.29	0.29
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	620	1057	334
Future Volume (Veh/h)	0	0	0	620	1057	334
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	0	697	1229	388
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.95	0.94	0.94			
vC, conflicting volume	1578	614	1617			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1367	459	1527			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	132	515	406			

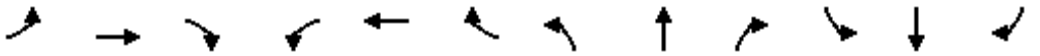
Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	348	348	614	614	388
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	388
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.20	0.36	0.36	0.23
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	554	881	0	1242
Future Volume (Veh/h)	0	0	554	881	0	1242
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	622	990	0	1444
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.93					
vC, conflicting volume	1103	311			1612	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	855	311			1612	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	277	685			396	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	311	311	990	481	481	481
Volume Left	0	0	0	0	0	0
Volume Right	0	0	990	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.18	0.18	0.58	0.28	0.28	0.28
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

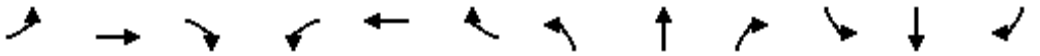
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	317	229	243	602	190	217	692	91	151	741	319
Future Volume (vph)	222	317	229	243	602	190	217	692	91	151	741	319
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.96		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3491		1863	3580		1863	3653		1863	3547	
Flt Permitted	0.18	1.00		0.20	1.00		0.10	1.00		0.15	1.00	
Satd. Flow (perm)	346	3491		393	3580		195	3653		303	3547	
Peak-hour factor, PHF	0.89	0.89	0.89	0.93	0.93	0.93	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	249	356	257	261	647	204	238	760	100	159	780	336
RTOR Reduction (vph)	0	116	0	0	25	0	0	8	0	0	39	0
Lane Group Flow (vph)	249	497	0	261	826	0	238	852	0	159	1077	0
Confl. Peds. (#/hr)	1					1			3	3		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	36.1	22.7		50.7	30.7		52.9	40.3		52.9	40.3	
Effective Green, g (s)	36.1	22.7		50.7	30.7		52.9	40.3		52.9	40.3	
Actuated g/C Ratio	0.29	0.18		0.41	0.25		0.43	0.33		0.43	0.33	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	266	644		417	893		254	1196		290	1162	
v/s Ratio Prot	c0.10	0.14		c0.11	c0.23		c0.10	0.23		0.06	0.30	
v/s Ratio Perm	0.17			0.15			c0.31			0.18		
v/c Ratio	0.94	0.77		0.63	0.93		0.94	0.71		0.55	0.93	
Uniform Delay, d1	50.9	47.7		38.4	45.0		50.2	36.3		41.6	39.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.93	0.94	
Incremental Delay, d2	37.9	5.7		2.9	15.0		39.3	3.6		2.0	13.3	
Delay (s)	88.8	53.4		41.3	60.1		89.4	39.9		40.6	50.9	
Level of Service	F	D		D	E		F	D		D	D	
Approach Delay (s)		63.6			55.7			50.6			49.6	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

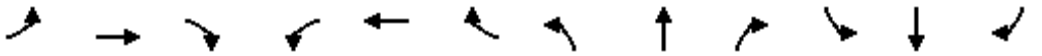
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	540	86	208	855	462	178	939	140	249	714	240
Future Volume (vph)	228	540	86	208	855	462	178	939	140	249	714	240
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3649		1863	3725	1667	1863	3653		1863	3585	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3649		1863	3725	1667	1863	3653		1863	3585	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	259	614	98	226	929	502	193	1021	152	262	752	253
RTOR Reduction (vph)	0	9	0	0	0	0	0	9	0	0	25	0
Lane Group Flow (vph)	259	703	0	226	929	502	193	1164	0	262	981	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	21.6	39.0		15.0	32.4	48.3	16.3	40.9		15.9	40.5	
Effective Green, g (s)	21.6	39.0		15.0	32.4	48.3	16.3	40.9		15.9	40.5	
Actuated g/C Ratio	0.16	0.29		0.11	0.24	0.36	0.12	0.30		0.12	0.30	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	298	1054		207	894	596	224	1106		219	1075	
v/s Ratio Prot	0.14	c0.19		c0.12	c0.25	0.10	0.10	c0.32		c0.14	0.27	
v/s Ratio Perm						0.20						
v/c Ratio	0.87	0.67		1.09	1.04	0.84	0.86	1.05		1.20	0.91	
Uniform Delay, d1	55.3	42.3		60.0	51.3	39.8	58.2	47.0		59.5	45.5	
Progression Factor	1.04	0.89		1.14	0.95	0.84	0.95	0.85		0.87	0.68	
Incremental Delay, d2	22.2	3.2		85.0	38.7	9.3	25.1	40.6		118.8	9.8	
Delay (s)	79.6	40.8		153.4	87.4	42.6	80.5	80.4		170.7	40.6	
Level of Service	E	D		F	F	D	F	F		F	D	
Approach Delay (s)		51.2			82.9			80.4			67.5	
Approach LOS		D			F			F			E	

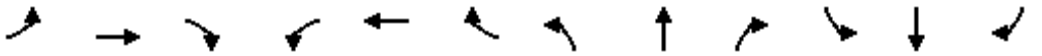
Intersection Summary			
HCM 2000 Control Delay	72.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	694	75	52	994	169	94	38	56	175	96	165
Future Volume (vph)	99	694	75	52	994	169	94	38	56	175	96	165
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3661		1862	1961	1619	1863	1961	1667	1863	1961	1667
Flt Permitted	0.05	1.00		0.30	1.00	1.00	0.53	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	95	3661		580	1961	1619	1048	1961	1667	1427	1961	1667
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.85	0.85	0.85	0.88	0.88	0.88
Adj. Flow (vph)	106	746	81	55	1046	178	111	45	66	199	109	188
RTOR Reduction (vph)	0	5	0	0	0	72	0	0	62	0	0	170
Lane Group Flow (vph)	106	822	0	55	1046	106	111	45	4	199	109	18
Confl. Peds. (#/hr)	3		2	2		3						
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	90.6	82.8		85.8	80.4	80.4	18.2	8.5	8.5	26.6	12.7	12.7
Effective Green, g (s)	90.6	82.8		85.8	80.4	80.4	18.2	8.5	8.5	26.6	12.7	12.7
Actuated g/C Ratio	0.67	0.61		0.64	0.60	0.60	0.13	0.06	0.06	0.20	0.09	0.09
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	165	2245		419	1167	964	199	123	104	326	184	156
v/s Ratio Prot	c0.04	0.22		0.01	c0.53		0.04	0.02		c0.06	0.06	
v/s Ratio Perm	0.39			0.08		0.07	0.03		0.00	c0.06		0.01
v/c Ratio	0.64	0.37		0.13	0.90	0.11	0.56	0.37	0.04	0.61	0.59	0.11
Uniform Delay, d1	54.4	13.0		14.4	23.7	11.8	55.6	60.7	59.4	49.1	58.7	56.0
Progression Factor	0.78	1.04		0.33	0.50	0.15	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.2		0.0	3.2	0.1	3.4	1.8	0.2	3.4	5.0	0.3
Delay (s)	46.9	13.8		4.8	15.1	1.8	58.9	62.5	59.6	52.4	63.7	56.3
Level of Service	D	B		A	B	A	E	E	E	D	E	E
Approach Delay (s)		17.5			12.8			59.9			56.4	
Approach LOS		B			B			E			E	

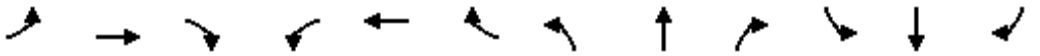
Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	26	433	372	52	45	378	769	222	11	1009	61
Future Volume (vph)	59	26	433	372	52	45	378	769	222	11	1009	61
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1825		3614	5353	1667	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1825		3614	5353	1667	1863	5353	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	62	27	456	404	57	49	415	845	244	12	1062	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	116	0	0	39
Lane Group Flow (vph)	62	27	456	404	106	0	415	845	128	12	1062	25
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	16.0	16.0	43.4	20.6	20.6		21.4	70.6	70.6	3.0	52.2	52.2
Effective Green, g (s)	16.0	16.0	43.4	20.6	20.6		21.4	70.6	70.6	3.0	52.2	52.2
Actuated g/C Ratio	0.12	0.12	0.32	0.15	0.15		0.16	0.52	0.52	0.02	0.39	0.39
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	220	232	942	551	278		572	2799	871	41	2069	644
v/s Ratio Prot	0.03	0.01	c0.16	c0.11	0.06		c0.11	0.16		0.01	c0.20	
v/s Ratio Perm									0.08			0.01
v/c Ratio	0.28	0.12	0.48	0.73	0.38		0.73	0.30	0.15	0.29	0.51	0.04
Uniform Delay, d1	54.3	53.2	36.8	54.6	51.5		54.0	18.2	16.6	65.0	31.7	25.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.63	0.51	0.35	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.4	5.2	1.0		4.2	0.3	0.3	3.9	0.9	0.1
Delay (s)	55.0	53.4	37.2	59.8	52.5		38.3	9.5	6.2	68.9	32.6	25.9
Level of Service	D	D	D	E	D		D	A	A	E	C	C
Approach Delay (s)		40.0			58.3			16.9			32.6	
Approach LOS		D			E			B			C	

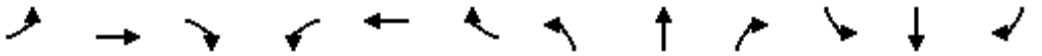
Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	461	227	77	858	102	252	223	47	170	390	153
Future Volume (vph)	104	461	227	77	858	102	252	223	47	170	390	153
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	1667	1863	1961	1632	1863	1961	1667	1863	1961	1667
Flt Permitted	0.07	1.00	1.00	0.30	1.00	1.00	0.12	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	138	1961	1667	581	1961	1632	234	1961	1667	827	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	109	485	239	81	903	107	283	251	53	205	470	184
RTOR Reduction (vph)	0	0	89	0	0	52	0	0	37	0	0	54
Lane Group Flow (vph)	109	485	150	81	903	55	283	251	16	205	470	130
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	64.2	56.8	69.8	63.8	56.6	69.1	46.5	33.5	40.7	45.5	33.0	40.4
Effective Green, g (s)	64.2	56.8	69.8	63.8	56.6	69.1	46.5	33.5	40.7	45.5	33.0	40.4
Actuated g/C Ratio	0.48	0.42	0.52	0.47	0.42	0.51	0.34	0.25	0.30	0.34	0.24	0.30
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	160	825	861	342	822	835	237	486	502	374	479	498
v/s Ratio Prot	c0.04	0.25	0.02	0.01	c0.46	0.01	c0.11	0.13	0.00	0.05	0.24	0.01
v/s Ratio Perm	0.29		0.07	0.10		0.03	c0.30		0.01	0.13		0.06
v/c Ratio	0.68	0.59	0.17	0.24	1.10	0.07	1.19	0.52	0.03	0.55	0.98	0.26
Uniform Delay, d1	30.7	30.1	17.3	21.6	39.2	16.6	37.2	43.8	33.3	33.8	50.7	36.0
Progression Factor	1.10	0.82	1.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.6	2.9	0.1	0.4	61.8	0.0	121.1	1.1	0.0	1.6	36.2	0.3
Delay (s)	44.4	27.5	32.0	22.0	101.0	16.7	158.3	44.8	33.3	35.4	86.8	36.2
Level of Service	D	C	C	C	F	B	F	D	C	D	F	D
Approach Delay (s)		31.0			86.9			98.5			63.7	
Approach LOS		C			F			F			E	

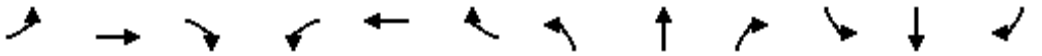
Intersection Summary			
HCM 2000 Control Delay	69.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	15	40	50	16	528	37	1347	63	461	1390	104
Future Volume (vph)	139	15	40	50	16	528	37	1347	63	461	1390	104
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3428	1667		1890	2933	1863	5317		3614	3725	1667
Flt Permitted	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3428	1667		1890	2933	1863	5317		3614	3725	1667
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.89	0.89	0.89	0.95	0.95	0.95
Adj. Flow (vph)	172	19	49	58	19	614	42	1513	71	485	1463	109
RTOR Reduction (vph)	0	0	43	0	0	87	0	3	0	0	0	33
Lane Group Flow (vph)	86	105	6	0	77	527	42	1581	0	485	1463	76
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	10.7	10.7	16.7		10.1	43.0	6.0	56.5		32.9	83.4	94.1
Effective Green, g (s)	10.7	10.7	16.7		10.1	43.0	6.0	56.5		32.9	83.4	94.1
Actuated g/C Ratio	0.08	0.08	0.12		0.07	0.32	0.04	0.42		0.24	0.62	0.70
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	134	271	206		141	1073	82	2225		880	2301	1161
v/s Ratio Prot	c0.05	0.03	0.00		0.04	c0.12	0.02	c0.30		0.13	c0.39	0.01
v/s Ratio Perm			0.00			0.06						0.04
v/c Ratio	0.64	0.39	0.03		0.55	0.49	0.51	0.71		0.55	0.64	0.07
Uniform Delay, d1	60.3	59.0	52.0		60.2	37.2	63.1	32.5		44.6	16.2	6.5
Progression Factor	1.01	1.01	1.00		1.00	1.00	0.85	1.07		0.92	0.85	1.28
Incremental Delay, d2	10.1	0.9	0.1		5.3	0.4	2.0	0.7		0.7	1.1	0.0
Delay (s)	70.8	60.3	52.1		65.6	37.6	55.8	35.5		41.8	14.8	8.3
Level of Service	E	E	D		E	D	E	D		D	B	A
Approach Delay (s)		62.4			40.7			36.0			20.8	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

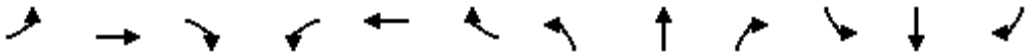
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	1	62	74	4	35	110	1159	53	56	867	42
Future Volume (vph)	42	1	62	74	4	35	110	1159	53	56	867	42
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1672		1863	1961	1667	1863	3701		1863	3700	
Flt Permitted	0.75	1.00		0.63	1.00	1.00	0.25	1.00		0.16	1.00	
Satd. Flow (perm)	1478	1672		1234	1961	1667	499	3701		323	3700	
Peak-hour factor, PHF	0.60	0.60	0.60	0.72	0.72	0.72	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	70	2	103	103	6	49	121	1274	58	62	953	46
RTOR Reduction (vph)	0	91	0	0	0	43	0	2	0	0	2	0
Lane Group Flow (vph)	70	14	0	103	6	6	121	1330	0	62	997	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	15.9	15.9		15.9	15.9	15.9	103.4	96.3		98.8	94.0	
Effective Green, g (s)	15.9	15.9		15.9	15.9	15.9	103.4	96.3		98.8	94.0	
Actuated g/C Ratio	0.12	0.12		0.12	0.12	0.12	0.77	0.71		0.73	0.70	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	174	196		145	230	196	453	2640		291	2576	
v/s Ratio Prot		0.01			0.00		c0.01	c0.36		0.01	0.27	
v/s Ratio Perm	0.05			c0.08		0.00	0.19			0.15		
v/c Ratio	0.40	0.07		0.71	0.03	0.03	0.27	0.50		0.21	0.39	
Uniform Delay, d1	55.1	53.0		57.3	52.7	52.7	8.5	8.7		13.2	8.5	
Progression Factor	1.03	1.13		1.00	1.00	1.00	1.00	1.00		0.93	0.91	
Incremental Delay, d2	1.5	0.2		15.1	0.0	0.1	0.3	0.7		0.1	0.2	
Delay (s)	58.1	60.0		72.4	52.7	52.8	8.8	9.4		12.4	7.9	
Level of Service	E	E		E	D	D	A	A		B	A	
Approach Delay (s)		59.2			65.6			9.3			8.2	
Approach LOS		E			E			A			A	

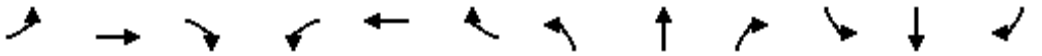
Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	60	7	0	36	43	1204	2	2	1104	56
Future Volume (vph)	40	0	60	7	0	36	43	1204	2	2	1104	56
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.89		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1600		1863	3725		1863	3698	
Flt Permitted	0.83	1.00			0.93		0.22	1.00		0.19	1.00	
Satd. Flow (perm)	1632	1667			1492		427	3725		372	3698	
Peak-hour factor, PHF	0.77	0.77	0.77	0.79	0.79	0.79	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	52	0	78	9	0	46	48	1338	2	2	1162	59
RTOR Reduction (vph)	0	73	0	0	43	0	0	0	0	0	2	0
Lane Group Flow (vph)	52	5	0	0	12	0	48	1340	0	2	1219	0
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	8.3	8.3			8.3		102.9	102.9		102.9	102.9	
Effective Green, g (s)	8.3	8.3			8.3		102.9	102.9		102.9	102.9	
Actuated g/C Ratio	0.07	0.07			0.07		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	110	112			100		357	3116		311	3093	
v/s Ratio Prot		0.00						c0.36			0.33	
v/s Ratio Perm	c0.03				0.01		0.11			0.01		
v/c Ratio	0.47	0.05			0.12		0.13	0.43		0.01	0.39	
Uniform Delay, d1	55.2	53.7			53.9		1.9	2.6		1.7	2.4	
Progression Factor	1.00	1.00			1.00		0.12	0.10		1.00	1.00	
Incremental Delay, d2	3.2	0.2			0.5		0.6	0.3		0.0	0.4	
Delay (s)	58.4	53.8			54.5		0.8	0.6		1.7	2.8	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		55.7			54.5			0.6			2.8	
Approach LOS		E			D			A			A	

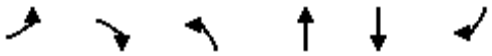
Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	576	417	349	0	1175	0	0	1409	479
Future Volume (vph)	0	0	0	576	417	349	0	1175	0	0	1409	479
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	606	439	367	0	1263	0	0	1483	504
RTOR Reduction (vph)	0	0	0	0	0	32	0	0	0	0	0	75
Lane Group Flow (vph)	0	0	0	606	439	335	0	1263	0	0	1483	429
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				37.8	37.8	50.8		71.9			84.9	84.9
Effective Green, g (s)				37.8	37.8	50.8		71.9			84.9	84.9
Actuated g/C Ratio				0.28	0.28	0.38		0.53			0.63	0.63
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				1011	549	1103		2850			3366	1048
v/s Ratio Prot				0.17	c0.22	0.11		0.24			c0.28	0.26
v/s Ratio Perm												
v/c Ratio				0.60	0.80	0.30		0.44			0.44	0.41
Uniform Delay, d1				42.0	45.1	29.6		19.3			12.9	12.5
Progression Factor				1.00	1.00	1.00		0.82			0.89	0.88
Incremental Delay, d2				1.0	8.0	0.2		0.4			0.4	1.0
Delay (s)				43.0	53.1	29.8		16.2			11.8	12.0
Level of Service				D	D	C		B			B	B
Approach Delay (s)		0.0			42.7			16.2			11.8	
Approach LOS		A			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	285	359	0	1333	1596	0
Future Volume (vph)	285	359	0	1333	1596	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.95	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	3490	1517		3725	3725	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	3490	1517		3725	3725	
Peak-hour factor, PHF	0.94	0.94	0.86	0.86	0.94	0.94
Adj. Flow (vph)	303	382	0	1550	1698	0
RTOR Reduction (vph)	34	34	0	0	0	0
Lane Group Flow (vph)	433	184	0	1550	1698	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	23.1	23.1		99.9	99.9	
Effective Green, g (s)	23.1	23.1		99.9	99.9	
Actuated g/C Ratio	0.17	0.17		0.74	0.74	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	597	259		2756	2756	
v/s Ratio Prot	c0.12	0.12		0.42	c0.46	
v/s Ratio Perm						
v/c Ratio	0.73	0.71		0.56	0.62	
Uniform Delay, d1	52.9	52.8		7.8	8.4	
Progression Factor	1.00	1.00		0.26	0.65	
Incremental Delay, d2	4.5	9.1		0.6	0.9	
Delay (s)	57.5	61.9		2.7	6.4	
Level of Service	E	E		A	A	
Approach Delay (s)	58.9			2.7	6.4	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	838	19	7	1266	16	16
Future Volume (Veh/h)	838	19	7	1266	16	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.63	0.63
Hourly flow rate (vph)	952	22	8	1376	25	25
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	370			619		
pX, platoon unblocked			0.92		0.80	0.92
vC, conflicting volume			974		1668	487
vC1, stage 1 conf vol					963	
vC2, stage 2 conf vol					705	
vCu, unblocked vol			804		906	276
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		93	96
cM capacity (veh/h)			753		357	665

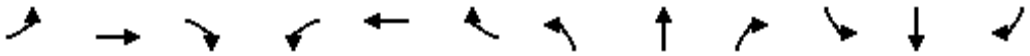
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	635	339	8	688	688	50
Volume Left	0	0	8	0	0	25
Volume Right	0	22	0	0	0	25
cSH	1700	1700	753	1700	1700	465
Volume to Capacity	0.37	0.20	0.01	0.40	0.40	0.11
Queue Length 95th (ft)	0	0	1	0	0	9
Control Delay (s)	0.0	0.0	9.8	0.0	0.0	13.7
Lane LOS			A			B
Approach Delay (s)	0.0		0.1			13.7
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	873	3	15	1023	5	2
Future Volume (Veh/h)	873	3	15	1023	5	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	919	3	16	1077	6	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.86		0.56	0.86
vC, conflicting volume			922		2030	461
vC1, stage 1 conf vol					920	
vC2, stage 2 conf vol					1109	
vCu, unblocked vol			579		1496	41
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		97	100
cM capacity (veh/h)			851		197	876

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	613	309	16	1077	8
Volume Left	0	0	16	0	6
Volume Right	0	3	0	0	2
cSH	1700	1700	851	1700	244
Volume to Capacity	0.36	0.18	0.02	0.63	0.03
Queue Length 95th (ft)	0	0	1	0	3
Control Delay (s)	0.0	0.0	9.3	0.0	20.2
Lane LOS			A		C
Approach Delay (s)	0.0		0.1		20.2
Approach LOS					C

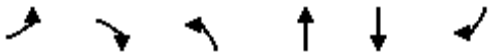
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	75	133	158	153	168	110	124	29	39	152	9
Future Volume (vph)	4	75	133	158	153	168	110	124	29	39	152	9
Peak Hour Factor	0.87	0.87	0.87	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Hourly flow rate (vph)	5	86	153	195	189	207	128	144	34	43	169	10

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	5	239	195	396	128	178	43	179
Volume Left (vph)	5	0	195	0	128	0	43	0
Volume Right (vph)	0	153	0	207	0	34	0	10
Hadj (s)	0.53	-0.41	0.53	-0.33	0.53	-0.10	0.53	-0.01
Departure Headway (s)	7.7	6.7	7.2	6.3	7.7	7.1	7.9	7.4
Degree Utilization, x	0.01	0.45	0.39	0.69	0.28	0.35	0.09	0.37
Capacity (veh/h)	440	510	486	552	442	480	427	462
Control Delay (s)	9.6	13.8	13.4	21.1	12.5	12.7	10.5	13.3
Approach Delay (s)	13.7		18.6		12.6		12.8	
Approach LOS	B		C		B		B	

Intersection Summary				
Delay	15.4			
Level of Service	C			
Intersection Capacity Utilization	48.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	111	24	21	29	43	115
Future Volume (vph)	111	24	21	29	43	115
Peak Hour Factor	0.95	0.95	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	117	25	24	34	47	125

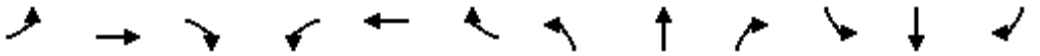
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	117	25	24	34	172
Volume Left (vph)	117	0	24	0	0
Volume Right (vph)	0	25	0	0	125
Hadj (s)	0.53	-0.67	0.57	0.07	-0.40
Departure Headway (s)	5.6	4.4	5.6	5.1	4.4
Degree Utilization, x	0.18	0.03	0.04	0.05	0.21
Capacity (veh/h)	616	781	616	675	790
Control Delay (s)	8.6	6.3	7.6	7.2	8.5
Approach Delay (s)	8.2		7.4		8.5
Approach LOS	A		A		A

Intersection Summary			
Delay	8.2		
Level of Service	A		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	14	1174	22	3	1151
Future Volume (Veh/h)	23	14	1174	22	3	1151
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	26	16	1290	24	3	1212
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.89					
vC, conflicting volume	1914	658			1314	
vC1, stage 1 conf vol	1302					
vC2, stage 2 conf vol	612					
vCu, unblocked vol	1775	658			1314	
tC, single (s)	6.9	7.0			4.1	
tC, 2 stage (s)	5.9					
tF (s)	3.6	3.4			2.2	
p0 queue free %	87	96			99	
cM capacity (veh/h)	199	397			522	

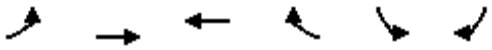
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	26	16	860	454	3	606	606
Volume Left	26	0	0	0	3	0	0
Volume Right	0	16	0	24	0	0	0
cSH	199	397	1700	1700	522	1700	1700
Volume to Capacity	0.13	0.04	0.51	0.27	0.01	0.36	0.36
Queue Length 95th (ft)	11	3	0	0	0	0	0
Control Delay (s)	25.8	14.4	0.0	0.0	11.9	0.0	0.0
Lane LOS	D	B			B		
Approach Delay (s)	21.5		0.0		0.0		
Approach LOS	C						

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	786	22	16	1262	4	19	7	12	59	8	61
Future Volume (vph)	16	786	22	16	1262	4	19	7	12	59	8	61
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3711		1845	3688		1863	1779		1863	1700	
Flt Permitted	0.16	1.00		0.31	1.00		0.57	1.00		0.74	1.00	
Satd. Flow (perm)	307	3711		605	3688		1125	1779		1458	1700	
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.92	0.92	0.92	0.60	0.60	0.60
Adj. Flow (vph)	17	836	23	18	1402	4	21	8	13	98	13	102
RTOR Reduction (vph)	0	1	0	0	0	0	0	12	0	0	91	0
Lane Group Flow (vph)	17	858	0	18	1406	0	21	9	0	98	24	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	102.9	100.7		102.9	100.7		14.1	14.1		14.1	14.1	
Effective Green, g (s)	102.9	100.7		102.9	100.7		14.1	14.1		14.1	14.1	
Actuated g/C Ratio	0.76	0.75		0.76	0.75		0.10	0.10		0.10	0.10	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	259	2768		481	2750		117	185		152	177	
v/s Ratio Prot	c0.00	0.23		0.00	c0.38			0.01			0.01	
v/s Ratio Perm	0.05			0.03			0.02			c0.07		
v/c Ratio	0.07	0.31		0.04	0.51		0.18	0.05		0.64	0.13	
Uniform Delay, d1	9.7	5.7		5.4	7.0		55.2	54.4		58.0	54.9	
Progression Factor	1.00	1.00		0.64	0.64		0.97	0.95		1.04	1.14	
Incremental Delay, d2	0.1	0.3		0.0	0.2		0.7	0.1		9.0	0.3	
Delay (s)	9.8	6.0		3.4	4.7		54.0	51.7		69.1	63.1	
Level of Service	A	A		A	A		D	D		E	E	
Approach Delay (s)		6.0			4.7			52.8			65.9	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	46	38	32	26	0
Future Volume (Veh/h)	0	46	38	32	26	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	50	41	35	28	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		550	1165			
pX, platoon unblocked						
vC, conflicting volume	76				108	58
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	76				108	58
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1523				889	1007

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	50	76	28
Volume Left	0	0	28
Volume Right	0	35	0
cSH	1523	1700	889
Volume to Capacity	0.00	0.04	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	9.2
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	13.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	45	27	46	48	22	36
Future Volume (Veh/h)	45	27	46	48	22	36
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	29	50	52	24	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	750			965		
pX, platoon unblocked						
vC, conflicting volume			78		216	64
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			78		216	64
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	96
cM capacity (veh/h)			1520		747	1001

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	78	102	63
Volume Left	0	50	24
Volume Right	29	0	39
cSH	1700	1520	886
Volume to Capacity	0.05	0.03	0.07
Queue Length 95th (ft)	0	3	6
Control Delay (s)	0.0	3.8	9.4
Lane LOS		A	A
Approach Delay (s)	0.0	3.8	9.4
Approach LOS			A

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	93	9	16	140	7	12
Future Volume (Veh/h)	93	9	16	140	7	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	101	10	17	152	8	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				200		
pX, platoon unblocked					0.99	
vC, conflicting volume			111		292	106
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			111		276	106
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			1479		696	948

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	111	169	21
Volume Left	0	17	8
Volume Right	10	0	13
cSH	1700	1479	833
Volume to Capacity	0.07	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.8	9.4
Lane LOS		A	A
Approach Delay (s)	0.0	0.8	9.4
Approach LOS			A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	9	1438	19	9	1471
Future Volume (Veh/h)	19	9	1438	19	9	1471
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	21	10	1616	21	9	1548
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			587			395
pX, platoon unblocked	0.86	0.77			0.77	
vC, conflicting volume	2418	549			1637	
vC1, stage 1 conf vol	1626					
vC2, stage 2 conf vol	792					
vCu, unblocked vol	704	0			771	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	99			99	
cM capacity (veh/h)	318	833			644	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	31	646	646	344	9	774	774
Volume Left	21	0	0	0	9	0	0
Volume Right	10	0	0	21	0	0	0
cSH	397	1700	1700	1700	644	1700	1700
Volume to Capacity	0.08	0.38	0.38	0.20	0.01	0.46	0.46
Queue Length 95th (ft)	6	0	0	0	1	0	0
Control Delay (s)	14.8	0.0	0.0	0.0	10.7	0.0	0.0
Lane LOS	B				B		
Approach Delay (s)	14.8	0.0			0.1		
Approach LOS	B						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	799	57	15	1248	32	10
Future Volume (Veh/h)	799	57	15	1248	32	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	841	60	16	1314	35	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1105		
pX, platoon unblocked					0.45	
vC, conflicting volume			901		2187	841
vC1, stage 1 conf vol					841	
vC2, stage 2 conf vol					1346	
vCu, unblocked vol			901		3021	841
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		71	97
cM capacity (veh/h)			754		121	365

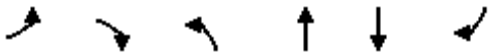
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	841	60	16	1314	46
Volume Left	0	0	16	0	35
Volume Right	0	60	0	0	11
cSH	1700	1700	754	1700	159
Volume to Capacity	0.49	0.04	0.02	0.77	0.29
Queue Length 95th (ft)	0	0	2	0	28
Control Delay (s)	0.0	0.0	9.9	0.0	39.0
Lane LOS			A		E
Approach Delay (s)	0.0		0.1		39.0
Approach LOS					E

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	786	23	0	1263	0	6
Future Volume (Veh/h)	786	23	0	1263	0	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	827	24	0	1329	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				300		
pX, platoon unblocked					0.45	
vC, conflicting volume			851		2168	426
vC1, stage 1 conf vol					839	
vC2, stage 2 conf vol					1329	
vCu, unblocked vol			851		2994	426
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			783		112	577

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	551	300	1329	7
Volume Left	0	0	0	0
Volume Right	0	24	0	7
cSH	1700	1700	1700	577
Volume to Capacity	0.32	0.18	0.78	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	11.3
Lane LOS				B
Approach Delay (s)	0.0		0.0	11.3
Approach LOS				B

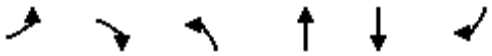
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	30	19	482	685	9
Future Volume (Veh/h)	40	30	19	482	685	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.83	0.83
Hourly flow rate (vph)	43	33	21	542	825	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					400	
pX, platoon unblocked	0.74	0.74	0.74			
vC, conflicting volume	1414	830	836			
vC1, stage 1 conf vol	830					
vC2, stage 2 conf vol	584					
vCu, unblocked vol	1385	597	604			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	91	97			
cM capacity (veh/h)	335	373	722			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	43	33	21	542	836
Volume Left	43	0	21	0	0
Volume Right	0	33	0	0	11
cSH	335	373	722	1700	1700
Volume to Capacity	0.13	0.09	0.03	0.32	0.49
Queue Length 95th (ft)	11	7	2	0	0
Control Delay (s)	17.3	15.6	10.1	0.0	0.0
Lane LOS	C	C	B		
Approach Delay (s)	16.6		0.4		0.0
Approach LOS	C				

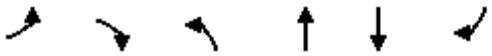
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	9	15	1232	1141	30
Future Volume (Veh/h)	17	9	15	1232	1141	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.95	0.95
Hourly flow rate (vph)	18	10	17	1369	1201	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					285	
pX, platoon unblocked	0.92	0.92	0.92			
vC, conflicting volume	1936	616	1233			
vC1, stage 1 conf vol	1217					
vC2, stage 2 conf vol	718					
vCu, unblocked vol	1840	403	1074			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	98	97			
cM capacity (veh/h)	229	548	592			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	18	10	17	684	684	801	432
Volume Left	18	0	17	0	0	0	0
Volume Right	0	10	0	0	0	0	32
cSH	229	548	592	1700	1700	1700	1700
Volume to Capacity	0.08	0.02	0.03	0.40	0.40	0.47	0.25
Queue Length 95th (ft)	6	1	2	0	0	0	0
Control Delay (s)	22.0	11.7	11.3	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	18.3		0.1			0.0	
Approach LOS	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	93	6	21	35	3
Future Volume (Veh/h)	39	93	6	21	35	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Hourly flow rate (vph)	65	155	10	35	58	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				527	809	
pX, platoon unblocked						
vC, conflicting volume	98	32	63			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	98	32	63			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	85	99			
cM capacity (veh/h)	885	1035	1538			

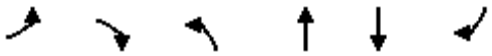
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	65	155	10	18	18	39	24
Volume Left	65	0	10	0	0	0	0
Volume Right	0	155	0	0	0	0	5
cSH	885	1035	1538	1700	1700	1700	1700
Volume to Capacity	0.07	0.15	0.01	0.01	0.01	0.02	0.01
Queue Length 95th (ft)	6	13	0	0	0	0	0
Control Delay (s)	9.4	9.1	7.4	0.0	0.0	0.0	0.0
Lane LOS	A	A	A				
Approach Delay (s)	9.2		1.6			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	15.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1175	443	0	1985
Future Volume (Veh/h)	0	0	1175	443	0	1985
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	0	0	1263	476	0	2089
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.92	0.85			0.85	
vC, conflicting volume	1959	632			1739	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	931	208			1514	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	245	677			371	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	632	632	476	696	696	696
Volume Left	0	0	0	0	0	0
Volume Right	0	0	476	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.37	0.37	0.28	0.41	0.41	0.41
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1618	1596	389
Future Volume (Veh/h)	0	0	0	1618	1596	389
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	0	1881	1698	414
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.89	0.84	0.84			
vC, conflicting volume	2638	849	2112			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1760	428	1938			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	67	481	250			

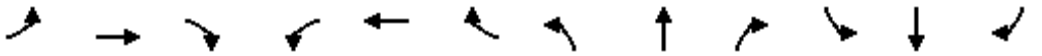
Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	940	940	849	849	414
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	414
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.55	0.55	0.50	0.50	0.24
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	66.0%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1333	651	0	1955
Future Volume (Veh/h)	0	0	1333	651	0	1955
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	1550	757	0	2080
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.86	0.75			0.75	
vC, conflicting volume	2243	775			2307	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	656	45			2080	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	341	764			198	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	775	775	757	693	693	693
Volume Left	0	0	0	0	0	0
Volume Right	0	0	757	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.46	0.46	0.45	0.41	0.41	0.41
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

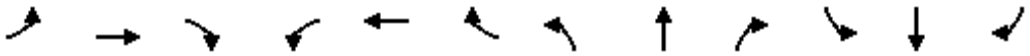
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	296	105	113	304	177	153	564	103	154	545	289
Future Volume (vph)	252	296	105	113	304	177	153	564	103	154	545	289
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.94		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3579		1863	3520		1863	3640		1863	3532	
Flt Permitted	0.22	1.00		0.29	1.00		0.17	1.00		0.27	1.00	
Satd. Flow (perm)	438	3579		571	3520		342	3640		527	3532	
Peak-hour factor, PHF	0.88	0.88	0.88	0.94	0.94	0.94	0.90	0.90	0.90	0.89	0.89	0.89
Adj. Flow (vph)	286	336	119	120	323	188	170	627	114	173	612	325
RTOR Reduction (vph)	0	34	0	0	80	0	0	13	0	0	59	0
Lane Group Flow (vph)	286	421	0	120	431	0	170	728	0	173	878	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	33.0	17.9		33.6	18.2		49.7	43.1		49.7	43.1	
Effective Green, g (s)	33.0	17.9		33.6	18.2		49.7	43.1		49.7	43.1	
Actuated g/C Ratio	0.30	0.16		0.31	0.17		0.46	0.40		0.46	0.40	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	330	587		358	587		248	1439		321	1396	
v/s Ratio Prot	c0.12	0.12		0.05	0.12		c0.04	0.20		0.03	0.25	
v/s Ratio Perm	c0.14			0.06			c0.27			0.21		
v/c Ratio	0.87	0.72		0.34	0.73		0.69	0.51		0.54	0.63	
Uniform Delay, d1	40.5	43.1		35.6	43.1		36.8	24.9		30.5	26.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.89	0.90	
Incremental Delay, d2	20.5	4.2		0.6	4.7		7.6	1.3		1.7	2.1	
Delay (s)	61.0	47.3		36.2	47.8		44.4	26.2		28.8	26.1	
Level of Service	E	D		D	D		D	C		C	C	
Approach Delay (s)		52.6			45.6			29.6			26.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

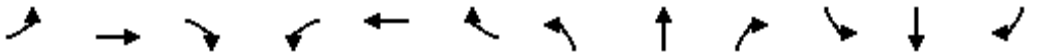
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	462	60	211	549	541	96	804	125	341	736	296
Future Volume (vph)	340	462	60	211	549	541	96	804	125	341	736	296
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3661		1863	3725	1667	1863	3650		1863	3565	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3661		1863	3725	1667	1863	3650		1863	3565	
Peak-hour factor, PHF	0.78	0.78	0.78	0.93	0.93	0.93	0.89	0.89	0.89	0.90	0.90	0.90
Adj. Flow (vph)	436	592	77	227	590	582	108	903	140	379	818	329
RTOR Reduction (vph)	0	8	0	0	0	0	0	10	0	0	32	0
Lane Group Flow (vph)	436	661	0	227	590	582	108	1033	0	379	1115	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	33.0	37.0		17.0	21.0	40.9	11.6	33.9		19.9	42.2	
Effective Green, g (s)	33.0	37.0		17.0	21.0	40.9	11.6	33.9		19.9	42.2	
Actuated g/C Ratio	0.25	0.28		0.13	0.16	0.31	0.09	0.26		0.15	0.32	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	465	1026		239	592	516	163	937		280	1139	
v/s Ratio Prot	c0.23	0.18		0.12	0.16	c0.17	0.06	c0.28		c0.20	0.31	
v/s Ratio Perm						0.18						
v/c Ratio	0.94	0.64		0.95	1.00	1.13	0.66	1.10		1.35	0.98	
Uniform Delay, d1	48.5	41.7		57.1	55.5	45.5	58.3	49.0		56.0	44.5	
Progression Factor	0.91	0.91		1.12	0.99	0.83	1.20	0.84		0.83	0.70	
Incremental Delay, d2	25.8	3.0		40.1	33.5	77.3	9.0	60.6		177.1	19.0	
Delay (s)	69.9	40.8		103.9	88.4	115.0	79.1	102.0		223.5	50.1	
Level of Service	E	D		F	F	F	E	F		F	D	
Approach Delay (s)		52.3			102.0			99.8			93.1	
Approach LOS		D			F			F			F	

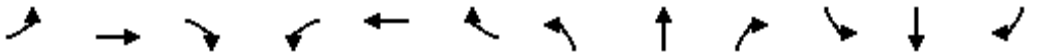
Intersection Summary			
HCM 2000 Control Delay	88.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	788	60	29	836	174	96	38	56	177	36	63
Future Volume (vph)	53	788	60	29	836	174	96	38	56	177	36	63
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3680		1862	1961	1667	1863	1961	1635	1854	1961	1667
Flt Permitted	0.14	1.00		0.27	1.00	1.00	0.73	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	267	3680		537	1961	1667	1428	1961	1635	1423	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.81	0.81	0.81
Adj. Flow (vph)	56	829	63	32	919	191	109	43	64	219	44	78
RTOR Reduction (vph)	0	3	0	0	0	75	0	0	60	0	0	74
Lane Group Flow (vph)	56	889	0	32	919	116	109	43	4	219	44	4
Confl. Peds. (#/hr)			1	1					4	4		
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	88.5	82.5		83.7	80.1	80.1	22.1	7.8	7.8	20.9	7.2	7.2
Effective Green, g (s)	88.5	82.5		83.7	80.1	80.1	22.1	7.8	7.8	20.9	7.2	7.2
Actuated g/C Ratio	0.67	0.62		0.63	0.61	0.61	0.17	0.06	0.06	0.16	0.05	0.05
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	251	2300		376	1189	1011	286	115	96	270	106	90
v/s Ratio Prot	c0.01	0.24		0.00	c0.47		0.04	0.02		c0.08	0.02	
v/s Ratio Perm	0.14			0.05		0.07	0.02		0.00	c0.04		0.00
v/c Ratio	0.22	0.39		0.09	0.77	0.11	0.38	0.37	0.04	0.81	0.42	0.05
Uniform Delay, d1	34.7	12.2		14.2	19.2	11.0	49.1	59.8	58.6	52.4	60.4	59.1
Progression Factor	1.39	1.09		0.44	0.54	0.10	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2		0.1	3.4	0.2	0.9	2.0	0.2	16.7	2.6	0.2
Delay (s)	48.6	13.5		6.4	13.7	1.3	49.9	61.8	58.7	69.1	63.0	59.4
Level of Service	D	B		A	B	A	D	E	E	E	E	E
Approach Delay (s)		15.6			11.4			54.9			66.1	
Approach LOS		B			B			D			E	

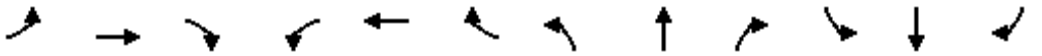
Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	126	778	679	153	41	715	876	513	24	1158	78
Future Volume (vph)	118	126	778	679	153	41	715	876	513	24	1158	78
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	134	828	746	168	45	753	922	540	25	1219	82
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	281	0	0	61
Lane Group Flow (vph)	126	134	828	746	213	0	753	922	259	25	1219	21
Confl. Peds. (#/hr)						2						2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	12.0	12.0	51.1	28.0	28.0		33.1	63.2	63.2	4.0	34.1	34.1
Effective Green, g (s)	12.0	12.0	51.1	28.0	28.0		33.1	63.2	63.2	4.0	34.1	34.1
Actuated g/C Ratio	0.09	0.09	0.39	0.21	0.21		0.25	0.48	0.48	0.03	0.26	0.26
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	178	1135	766	400		906	2562	798	56	1382	424
v/s Ratio Prot	0.07	0.07	c0.28	c0.21	0.11		c0.21	0.17		0.01	c0.23	
v/s Ratio Perm									0.16			0.01
v/c Ratio	0.75	0.75	0.73	0.97	0.53		0.83	0.36	0.32	0.45	0.88	0.05
Uniform Delay, d1	58.5	58.6	34.5	51.6	46.2		46.8	21.7	21.2	62.9	47.0	36.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.82	0.72	0.47	1.00	1.00	1.00
Incremental Delay, d2	16.3	16.4	2.4	26.1	1.5		4.1	0.2	0.7	5.6	8.4	0.2
Delay (s)	74.8	74.9	36.9	77.7	47.7		42.4	15.8	10.6	68.5	55.4	37.0
Level of Service	E	E	D	E	D		D	B	B	E	E	D
Approach Delay (s)		46.0			71.1			23.6			54.5	
Approach LOS		D			E			C			D	

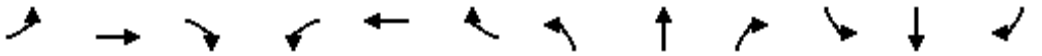
Intersection Summary			
HCM 2000 Control Delay	43.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	537	199	54	674	102	271	203	44	88	231	101
Future Volume (vph)	97	537	199	54	674	102	271	203	44	88	231	101
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	1667	1863	1961	1630	1863	1961	1667	1863	1961	1667
Flt Permitted	0.15	1.00	1.00	0.28	1.00	1.00	0.24	1.00	1.00	0.46	1.00	1.00
Satd. Flow (perm)	291	1961	1667	547	1961	1630	464	1961	1667	910	1961	1667
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.94	0.94	0.94	0.88	0.88	0.88
Adj. Flow (vph)	107	590	219	59	741	112	288	216	47	100	262	115
RTOR Reduction (vph)	0	0	87	0	0	48	0	0	36	0	0	90
Lane Group Flow (vph)	107	590	132	59	741	64	288	216	11	100	263	25
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	72.3	66.8	79.8	70.1	65.7	76.0	38.5	25.5	29.9	33.1	22.8	28.3
Effective Green, g (s)	72.3	66.8	79.8	70.1	65.7	76.0	38.5	25.5	29.9	33.1	22.8	28.3
Actuated g/C Ratio	0.55	0.51	0.60	0.53	0.50	0.58	0.29	0.19	0.23	0.25	0.17	0.21
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	224	992	1007	334	976	938	273	378	377	302	338	357
v/s Ratio Prot	c0.02	0.30	0.01	0.01	c0.38	0.01	c0.10	0.11	0.00	0.03	0.13	0.00
v/s Ratio Perm	0.24		0.07	0.09		0.03	c0.20		0.01	0.06		0.01
v/c Ratio	0.48	0.59	0.13	0.18	0.76	0.07	1.05	0.57	0.03	0.33	0.78	0.07
Uniform Delay, d1	21.7	23.0	11.2	17.4	26.8	12.4	42.8	48.3	39.7	39.3	52.2	41.3
Progression Factor	0.75	0.91	3.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	2.4	0.1	0.3	5.5	0.0	69.7	2.2	0.0	0.6	11.1	0.1
Delay (s)	17.9	23.4	33.9	17.6	32.3	12.4	112.5	50.5	39.8	39.9	63.2	41.4
Level of Service	B	C	C	B	C	B	F	D	D	D	E	D
Approach Delay (s)		25.3			28.9			82.0			53.1	
Approach LOS		C			C			F			D	

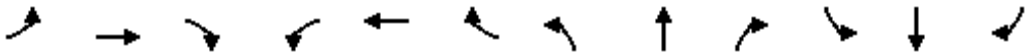
Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	28	59	75	9	603	40	1624	89	637	1346	155
Future Volume (vph)	156	28	59	75	9	603	40	1624	89	637	1346	155
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3442	1667		1877	2933	1863	5311		3614	3725	1667
Flt Permitted	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3442	1667		1877	2933	1863	5311		3614	3725	1667
Peak-hour factor, PHF	0.83	0.83	0.83	0.94	0.94	0.94	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	188	34	71	80	10	641	42	1709	94	671	1417	163
RTOR Reduction (vph)	0	0	62	0	0	86	0	4	0	0	0	54
Lane Group Flow (vph)	94	128	9	0	90	555	42	1799	0	671	1417	109
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	9.0	9.0	15.9		12.4	45.2	6.9	53.0		32.8	78.9	87.9
Effective Green, g (s)	9.0	9.0	15.9		12.4	45.2	6.9	53.0		32.8	78.9	87.9
Actuated g/C Ratio	0.07	0.07	0.12		0.09	0.34	0.05	0.40		0.25	0.60	0.67
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	115	234	200		176	1146	97	2132		898	2226	1110
v/s Ratio Prot	c0.06	0.04	0.00		0.05	c0.12	0.02	c0.34		c0.19	0.38	0.01
v/s Ratio Perm			0.00			0.07						0.06
v/c Ratio	0.82	0.55	0.04		0.51	0.48	0.43	0.84		0.75	0.64	0.10
Uniform Delay, d1	60.7	59.5	51.3		56.9	34.2	60.7	35.8		45.8	17.2	7.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.90	1.09		0.98	0.89	1.25
Incremental Delay, d2	34.4	2.6	0.1		3.3	0.4	0.3	0.4		1.9	0.7	0.0
Delay (s)	95.1	62.2	51.4		60.2	34.6	54.9	39.4		46.5	16.1	9.9
Level of Service	F	E	D		E	C	D	D		D	B	A
Approach Delay (s)		70.1			37.7			39.7			24.7	
Approach LOS		E			D			D			C	

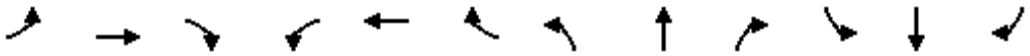
Intersection Summary			
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



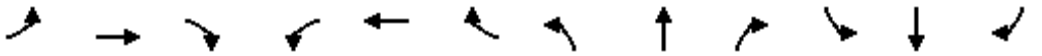
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	3	62	57	5	50	67	1024	102	76	907	59
Future Volume (vph)	84	3	62	57	5	50	67	1024	102	76	907	59
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1859	1680		1863	1961	1643	1863	3675		1863	3691	
Flt Permitted	0.75	1.00		0.70	1.00	1.00	0.25	1.00		0.19	1.00	
Satd. Flow (perm)	1474	1680		1372	1961	1643	491	3675		377	3691	
Peak-hour factor, PHF	0.74	0.74	0.74	0.72	0.72	0.72	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	114	4	84	79	7	69	72	1101	110	80	955	62
RTOR Reduction (vph)	0	74	0	0	0	61	0	4	0	0	2	0
Lane Group Flow (vph)	114	14	0	79	7	8	72	1207	0	80	1015	0
Confl. Peds. (#/hr)	1					1						
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	15.5	15.5		15.5	15.5	15.5	96.2	91.6		100.8	93.9	
Effective Green, g (s)	15.5	15.5		15.5	15.5	15.5	96.2	91.6		100.8	93.9	
Actuated g/C Ratio	0.12	0.12		0.12	0.12	0.12	0.73	0.69		0.76	0.71	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	173	197		161	230	192	405	2550		365	2625	
v/s Ratio Prot		0.01			0.00		0.01	c0.33		c0.01	0.27	
v/s Ratio Perm	c0.08			0.06		0.00	0.12			0.16		
v/c Ratio	0.66	0.07		0.49	0.03	0.04	0.18	0.47		0.22	0.39	
Uniform Delay, d1	55.7	51.8		54.6	51.6	51.7	9.2	9.2		10.3	7.6	
Progression Factor	1.01	0.98		1.00	1.00	1.00	1.00	1.00		0.09	0.16	
Incremental Delay, d2	8.7	0.2		2.3	0.1	0.1	0.2	0.6		0.1	0.1	
Delay (s)	64.8	51.2		56.9	51.6	51.8	9.4	9.8		1.0	1.4	
Level of Service	E	D		E	D	D	A	A		A	A	
Approach Delay (s)		58.9			54.4			9.8			1.3	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	0	65	0	0	1	62	1120	1	7	974	55
Future Volume (vph)	44	0	65	0	0	1	62	1120	1	7	974	55
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1696		1863	3725		1862	3696	
Flt Permitted	0.76	1.00			1.00		0.25	1.00		0.22	1.00	
Satd. Flow (perm)	1483	1667			1696		498	3725		432	3696	
Peak-hour factor, PHF	0.90	0.90	0.90	0.60	0.60	0.60	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	49	0	72	0	0	2	67	1204	1	7	1025	58
RTOR Reduction (vph)	0	67	0	0	2	0	0	0	0	0	3	0
Lane Group Flow (vph)	49	5	0	0	0	0	67	1205	0	7	1080	0
Confl. Peds. (#/hr)									1	1		
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.9	7.9			7.9		89.3	89.3		89.3	89.3	
Effective Green, g (s)	7.9	7.9			7.9		89.3	89.3		89.3	89.3	
Actuated g/C Ratio	0.07	0.07			0.07		0.82	0.82		0.82	0.82	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	107	120			122		407	3051		353	3028	
v/s Ratio Prot		0.00			0.00			c0.32			0.29	
v/s Ratio Perm	c0.03						0.13			0.02		
v/c Ratio	0.46	0.04			0.00		0.16	0.39		0.02	0.36	
Uniform Delay, d1	48.5	47.0			46.9		2.1	2.6		1.8	2.5	
Progression Factor	1.00	1.00			1.00		0.40	0.34		1.00	1.00	
Incremental Delay, d2	3.1	0.1			0.0		0.8	0.3		0.1	0.3	
Delay (s)	51.6	47.2			46.9		1.6	1.2		1.9	2.8	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		49.0			46.9			1.2			2.8	
Approach LOS		D			D			A			A	

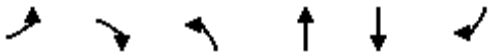
Intersection Summary			
HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	718	179	1035	0	1602	0	0	1928	491
Future Volume (vph)	0	0	0	718	179	1035	0	1602	0	0	1928	491
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	816	203	1176	0	1686	0	0	2119	540
RTOR Reduction (vph)	0	0	0	0	0	16	0	0	0	0	0	138
Lane Group Flow (vph)	0	0	0	816	203	1160	0	1686	0	0	2119	402
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				34.0	34.0	56.0		63.7			85.7	85.7
Effective Green, g (s)				34.0	34.0	56.0		63.7			85.7	85.7
Actuated g/C Ratio				0.26	0.26	0.42		0.48			0.65	0.65
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				930	505	1244		2583			3475	1082
v/s Ratio Prot				0.23	0.10	c0.40		c0.31			0.40	0.24
v/s Ratio Perm												
v/c Ratio				0.88	0.40	0.93		0.65			0.61	0.37
Uniform Delay, d1				47.0	40.6	36.2		25.8			13.4	10.7
Progression Factor				1.00	1.00	1.00		0.90			0.94	1.31
Incremental Delay, d2				9.4	0.5	12.6		0.9			0.4	0.5
Delay (s)				56.4	41.1	48.8		24.2			13.0	14.5
Level of Service				E	D	D		C			B	B
Approach Delay (s)		0.0			50.9			24.2			13.3	
Approach LOS		A			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	480	425	0	1650	2027	0
Future Volume (vph)	480	425	0	1650	2027	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.97	0.85		1.00	1.00	
Flt Protected	0.96	1.00		1.00	1.00	
Satd. Flow (prot)	3538	1517		3725	3725	
Flt Permitted	0.96	1.00		1.00	1.00	
Satd. Flow (perm)	3538	1517		3725	3725	
Peak-hour factor, PHF	0.95	0.95	0.94	0.94	0.94	0.94
Adj. Flow (vph)	505	447	0	1755	2156	0
RTOR Reduction (vph)	7	7	0	0	0	0
Lane Group Flow (vph)	646	292	0	1755	2156	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	32.3	32.3		87.7	87.7	
Effective Green, g (s)	32.3	32.3		87.7	87.7	
Actuated g/C Ratio	0.24	0.24		0.66	0.66	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	865	371		2474	2474	
v/s Ratio Prot	0.18	c0.19		0.47	c0.58	
v/s Ratio Perm						
v/c Ratio	0.75	0.79		0.71	0.87	
Uniform Delay, d1	46.1	46.6		14.1	17.7	
Progression Factor	1.00	1.00		0.48	0.99	
Incremental Delay, d2	3.7	10.9		1.2	3.4	
Delay (s)	49.7	57.5		8.0	20.8	
Level of Service	D	E		A	C	
Approach Delay (s)	52.2			8.0	20.8	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	948	12	15	932	17	7
Future Volume (Veh/h)	948	12	15	932	17	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.87	0.87	0.82	0.82
Hourly flow rate (vph)	1042	13	17	1071	21	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	370			619		
pX, platoon unblocked			0.90		0.89	0.90
vC, conflicting volume			1055		1618	528
vC1, stage 1 conf vol					1048	
vC2, stage 2 conf vol					570	
vCu, unblocked vol			846		967	262
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		94	99
cM capacity (veh/h)			710		333	665

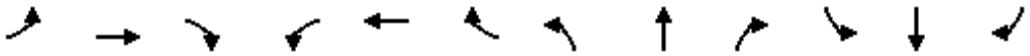
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	695	360	17	536	536	30
Volume Left	0	0	17	0	0	21
Volume Right	0	13	0	0	0	9
cSH	1700	1700	710	1700	1700	392
Volume to Capacity	0.41	0.21	0.02	0.32	0.32	0.08
Queue Length 95th (ft)	0	0	2	0	0	6
Control Delay (s)	0.0	0.0	10.2	0.0	0.0	15.0
Lane LOS			B			B
Approach Delay (s)	0.0		0.2			15.0
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	879	3	1	1137	2	3
Future Volume (Veh/h)	879	3	1	1137	2	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.63	0.63
Hourly flow rate (vph)	925	3	1	1197	3	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.88		0.61	0.88
vC, conflicting volume			928		2126	464
vC1, stage 1 conf vol					926	
vC2, stage 2 conf vol					1199	
vCu, unblocked vol			639		1771	110
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	99
cM capacity (veh/h)			826		168	809

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	617	311	1	1197	8
Volume Left	0	0	1	0	3
Volume Right	0	3	0	0	5
cSH	1700	1700	826	1700	333
Volume to Capacity	0.36	0.18	0.00	0.70	0.02
Queue Length 95th (ft)	0	0	0	0	2
Control Delay (s)	0.0	0.0	9.4	0.0	16.1
Lane LOS			A		C
Approach Delay (s)	0.0		0.0		16.1
Approach LOS					C

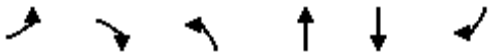
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	96	189	31	88	37	161	82	25	39	93	24
Future Volume (vph)	9	96	189	31	88	37	161	82	25	39	93	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	0.67	0.67	0.67
Hourly flow rate (vph)	9	101	199	33	93	39	187	95	29	58	139	36

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	9	300	33	132	187	124	58	175
Volume Left (vph)	9	0	33	0	187	0	58	0
Volume Right (vph)	0	199	0	39	0	29	0	36
Hadj (s)	0.53	-0.43	0.53	-0.17	0.53	-0.13	0.53	-0.11
Departure Headway (s)	6.8	5.9	7.0	6.3	6.8	6.1	6.9	6.2
Degree Utilization, x	0.02	0.49	0.06	0.23	0.35	0.21	0.11	0.30
Capacity (veh/h)	495	585	475	529	508	557	489	543
Control Delay (s)	8.7	13.1	9.3	10.0	12.2	9.5	9.5	10.7
Approach Delay (s)	13.0		9.9		11.1		10.4	
Approach LOS	B		A		B		B	

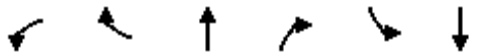
Intersection Summary				
Delay	11.3			
Level of Service	B			
Intersection Capacity Utilization	44.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	144	38	24	27	23	83
Future Volume (vph)	144	38	24	27	23	83
Peak Hour Factor	0.77	0.77	0.82	0.82	0.77	0.77
Hourly flow rate (vph)	187	49	29	33	30	108

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	187	49	29	33	138
Volume Left (vph)	187	0	29	0	0
Volume Right (vph)	0	49	0	0	108
Hadj (s)	0.53	-0.67	0.53	0.03	-0.44
Departure Headway (s)	5.5	4.3	5.8	5.3	4.6
Degree Utilization, x	0.29	0.06	0.05	0.05	0.18
Capacity (veh/h)	626	797	589	641	744
Control Delay (s)	9.5	6.4	7.9	7.4	8.6
Approach Delay (s)	8.9		7.6		8.6
Approach LOS	A		A		A

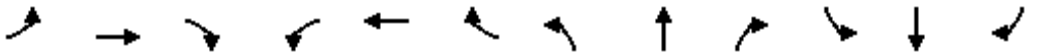
Intersection Summary			
Delay	8.6		
Level of Service	A		
Intersection Capacity Utilization	22.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	1	1186	15	2	1012
Future Volume (Veh/h)	18	1	1186	15	2	1012
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	30	2	1303	16	2	1065
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.89					
vC, conflicting volume	1848	660			1320	
vC1, stage 1 conf vol	1312					
vC2, stage 2 conf vol	536					
vCu, unblocked vol	1712	660			1320	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	100			100	
cM capacity (veh/h)	205	405			519	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	30	2	869	450	2	532	532
Volume Left	30	0	0	0	2	0	0
Volume Right	0	2	0	16	0	0	0
cSH	205	405	1700	1700	519	1700	1700
Volume to Capacity	0.15	0.00	0.51	0.26	0.00	0.31	0.31
Queue Length 95th (ft)	13	0	0	0	0	0	0
Control Delay (s)	25.6	13.9	0.0	0.0	12.0	0.0	0.0
Lane LOS	D	B			B		
Approach Delay (s)	24.8		0.0		0.0		
Approach LOS	C						

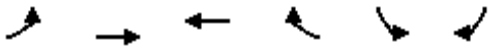
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	932	18	12	933	4	16	11	12	16	11	49
Future Volume (vph)	20	932	18	12	933	4	16	11	12	16	11	49
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.92		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3715		1863	3723		1863	1808		1863	1720	
Flt Permitted	0.25	1.00		0.22	1.00		0.59	1.00		0.74	1.00	
Satd. Flow (perm)	500	3715		438	3723		1159	1808		1453	1720	
Peak-hour factor, PHF	0.82	0.82	0.82	0.90	0.90	0.90	0.92	0.92	0.92	0.60	0.60	0.60
Adj. Flow (vph)	24	1137	22	13	1037	4	17	12	13	27	18	82
RTOR Reduction (vph)	0	1	0	0	0	0	0	12	0	0	77	0
Lane Group Flow (vph)	24	1158	0	13	1041	0	17	13	0	27	23	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	107.7	103.2		103.1	100.9		8.6	8.6		8.6	8.6	
Effective Green, g (s)	107.7	103.2		103.1	100.9		8.6	8.6		8.6	8.6	
Actuated g/C Ratio	0.82	0.78		0.78	0.76		0.07	0.07		0.07	0.07	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	454	2904		365	2845		75	117		94	112	
v/s Ratio Prot	c0.00	c0.31		0.00	0.28			0.01			0.01	
v/s Ratio Perm	0.04			0.03			0.01			c0.02		
v/c Ratio	0.05	0.40		0.04	0.37		0.23	0.11		0.29	0.21	
Uniform Delay, d1	4.0	4.6		5.5	5.1		58.5	58.1		58.8	58.5	
Progression Factor	1.00	1.00		1.03	0.72		1.09	1.14		0.94	0.86	
Incremental Delay, d2	0.0	0.4		0.0	0.2		1.5	0.4		1.7	0.9	
Delay (s)	4.1	5.0		5.7	3.8		65.4	66.8		57.0	51.3	
Level of Service	A	A		A	A		E	E		E	D	
Approach Delay (s)		5.0			3.8			66.3			52.5	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	41	39	24	27	0
Future Volume (Veh/h)	0	41	39	24	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	45	42	26	29	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		550	1165			
pX, platoon unblocked						
vC, conflicting volume	68				100	55
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	68				100	55
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1533				899	1012

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	45	68	29
Volume Left	0	0	29
Volume Right	0	26	0
cSH	1533	1700	899
Volume to Capacity	0.00	0.04	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	9.1
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	43	25	41	38	25	40
Future Volume (Veh/h)	43	25	41	38	25	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	47	27	45	41	27	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	750			965		
pX, platoon unblocked						
vC, conflicting volume			74		192	60
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			74		192	60
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	96
cM capacity (veh/h)			1526		774	1005

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	74	86	70
Volume Left	0	45	27
Volume Right	27	0	43
cSH	1700	1526	901
Volume to Capacity	0.04	0.03	0.08
Queue Length 95th (ft)	0	2	6
Control Delay (s)	0.0	4.0	9.3
Lane LOS		A	A
Approach Delay (s)	0.0	4.0	9.3
Approach LOS			A

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	135	9	14	117	9	14
Future Volume (Veh/h)	135	9	14	117	9	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	10	15	127	10	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				200		
pX, platoon unblocked					1.00	
vC, conflicting volume			157		309	152
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			157		308	152
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1423		676	894

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	157	142	25
Volume Left	0	15	10
Volume Right	10	0	15
cSH	1700	1423	792
Volume to Capacity	0.09	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.9	9.7
Lane LOS		A	A
Approach Delay (s)	0.0	0.9	9.7
Approach LOS			A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	12	1741	16	13	1467
Future Volume (Veh/h)	15	12	1741	16	13	1467
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	13	1833	17	14	1544
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			587			395
pX, platoon unblocked	0.85	0.79			0.79	
vC, conflicting volume	2642	620			1850	
vC1, stage 1 conf vol	1842					
vC2, stage 2 conf vol	800					
vCu, unblocked vol	1074	0			1130	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	98			97	
cM capacity (veh/h)	210	853			483	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	29	733	733	384	14	772	772
Volume Left	16	0	0	0	14	0	0
Volume Right	13	0	0	17	0	0	0
cSH	317	1700	1700	1700	483	1700	1700
Volume to Capacity	0.09	0.43	0.43	0.23	0.03	0.45	0.45
Queue Length 95th (ft)	7	0	0	0	2	0	0
Control Delay (s)	17.5	0.0	0.0	0.0	12.7	0.0	0.0
Lane LOS	C				B		
Approach Delay (s)	17.5	0.0			0.1		
Approach LOS	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	875	77	20	1026	77	20
Future Volume (Veh/h)	875	77	20	1026	77	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	962	85	22	1127	84	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1105		
pX, platoon unblocked					0.52	
vC, conflicting volume			1047		2133	962
vC1, stage 1 conf vol					962	
vC2, stage 2 conf vol					1171	
vCu, unblocked vol			1047		2712	962
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			97		51	93
cM capacity (veh/h)			665		171	310

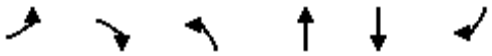
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	962	85	22	1127	106
Volume Left	0	0	22	0	84
Volume Right	0	85	0	0	22
cSH	1700	1700	665	1700	216
Volume to Capacity	0.57	0.05	0.03	0.66	0.49
Queue Length 95th (ft)	0	0	3	0	61
Control Delay (s)	0.0	0.0	10.6	0.0	39.0
Lane LOS			B		E
Approach Delay (s)	0.0		0.2		39.0
Approach LOS					E

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	828	67	0	1046	0	5
Future Volume (Veh/h)	828	67	0	1046	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	910	74	0	1149	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				300		
pX, platoon unblocked					0.54	
vC, conflicting volume			984		2096	492
vC1, stage 1 conf vol					947	
vC2, stage 2 conf vol					1149	
vCu, unblocked vol			984		2609	492
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			698		165	522

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	607	377	1149	5
Volume Left	0	0	0	0
Volume Right	0	74	0	5
cSH	1700	1700	1700	522
Volume to Capacity	0.36	0.22	0.68	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	12.0
Lane LOS				B
Approach Delay (s)	0.0		0.0	12.0
Approach LOS				B

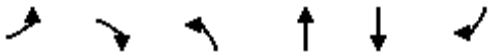
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	34	34	439	467	17
Future Volume (Veh/h)	79	34	34	439	467	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.88	0.88
Hourly flow rate (vph)	86	37	36	467	531	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					400	
pX, platoon unblocked	0.87	0.87	0.87			
vC, conflicting volume	1080	540	550			
vC1, stage 1 conf vol	540					
vC2, stage 2 conf vol	539					
vCu, unblocked vol	1014	391	402			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	93	96			
cM capacity (veh/h)	447	569	1001			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	86	37	36	467	550
Volume Left	86	0	36	0	0
Volume Right	0	37	0	0	19
cSH	447	569	1001	1700	1700
Volume to Capacity	0.19	0.07	0.04	0.27	0.32
Queue Length 95th (ft)	18	5	3	0	0
Control Delay (s)	15.0	11.8	8.7	0.0	0.0
Lane LOS	B	B	A		
Approach Delay (s)	14.0		0.6		0.0
Approach LOS	B				

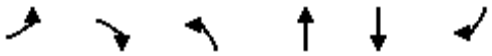
Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	37.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	12	12	1145	1001	38
Future Volume (Veh/h)	38	12	12	1145	1001	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	41	13	13	1231	1054	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					285	
pX, platoon unblocked	0.92	0.92	0.92			
vC, conflicting volume	1716	547	1094			
vC1, stage 1 conf vol	1074					
vC2, stage 2 conf vol	642					
vCu, unblocked vol	1610	346	938			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	98	98			
cM capacity (veh/h)	273	601	671			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	41	13	13	616	616	703	391
Volume Left	41	0	13	0	0	0	0
Volume Right	0	13	0	0	0	0	40
cSH	273	601	671	1700	1700	1700	1700
Volume to Capacity	0.15	0.02	0.02	0.36	0.36	0.41	0.23
Queue Length 95th (ft)	13	2	1	0	0	0	0
Control Delay (s)	20.5	11.1	10.5	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	18.3		0.1			0.0	
Approach LOS	C						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	32	5	30	44	3
Future Volume (Veh/h)	11	32	5	30	44	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Hourly flow rate (vph)	18	53	8	50	73	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				527	809	
pX, platoon unblocked						
vC, conflicting volume	116	39	78			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	116	39	78			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	95	99			
cM capacity (veh/h)	863	1024	1518			

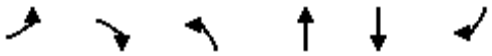
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	18	53	8	25	25	49	29
Volume Left	18	0	8	0	0	0	0
Volume Right	0	53	0	0	0	0	5
cSH	863	1024	1518	1700	1700	1700	1700
Volume to Capacity	0.02	0.05	0.01	0.01	0.01	0.03	0.02
Queue Length 95th (ft)	2	4	0	0	0	0	0
Control Delay (s)	9.3	8.7	7.4	0.0	0.0	0.0	0.0
Lane LOS	A	A	A				
Approach Delay (s)	8.8		1.0			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	13.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1602	528	0	2646
Future Volume (Veh/h)	0	0	1602	528	0	2646
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	0	0	1686	556	0	2908
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.83	0.72			0.72	
vC, conflicting volume	2655	843			2242	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	885	0			1942	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	237	777			214	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	843	843	556	969	969	969
Volume Left	0	0	0	0	0	0
Volume Right	0	0	556	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.50	0.50	0.33	0.57	0.57	0.57
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	2130	2027	619
Future Volume (Veh/h)	0	0	0	2130	2027	619
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	2266	2156	659
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.81	0.74	0.74			
vC, conflicting volume	3289	1078	2815			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1918	404	2750			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	48	441	106			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	1133	1133	1078	1078	659
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	659
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.67	0.67	0.63	0.63	0.39
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

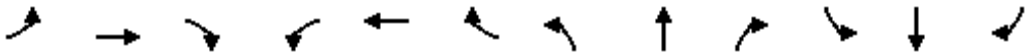
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	80.5%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1650	876	0	2452
Future Volume (Veh/h)	0	0	1650	876	0	2452
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	1755	932	0	2609
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.70	0.69			0.69	
vC, conflicting volume	2625	878			2687	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0			2548	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	716	751			119	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	878	878	932	870	870	870
Volume Left	0	0	0	0	0	0
Volume Right	0	0	932	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.52	0.52	0.55	0.51	0.51	0.51
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

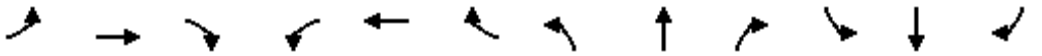
APPENDIX B-4. Future (2028) Conditions Capacity Analysis Reports



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	374	547	178	87	231	153	126	605	181	156	455	161
Future Volume (vph)	374	547	178	87	231	153	126	605	181	156	455	161
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.94		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3576		1776	3339		1844	3562		1863	3565	
Flt Permitted	0.32	1.00		0.25	1.00		0.29	1.00		0.20	1.00	
Satd. Flow (perm)	635	3576		464	3339		561	3562		393	3565	
Peak-hour factor, PHF	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	425	622	202	97	257	170	137	658	197	173	506	179
RTOR Reduction (vph)	0	28	0	0	121	0	0	21	0	0	26	0
Lane Group Flow (vph)	425	796	0	97	306	0	137	834	0	173	659	0
Confl. Peds. (#/hr)			1	1			2					2
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	3%	3%	3%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	47.3	32.1		24.7	16.1		52.3	45.7		52.3	45.7	
Effective Green, g (s)	47.3	32.1		24.7	16.1		52.3	45.7		52.3	45.7	
Actuated g/C Ratio	0.40	0.27		0.21	0.14		0.44	0.38		0.44	0.38	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	506	964		191	451		317	1367		254	1369	
v/s Ratio Prot	c0.17	0.22		0.04	0.09		0.02	0.23		c0.04	0.18	
v/s Ratio Perm	c0.16			0.07			0.17			c0.26		
v/c Ratio	0.84	0.83		0.51	0.68		0.43	0.61		0.68	0.48	
Uniform Delay, d1	36.2	40.8		49.6	49.0		31.7	29.5		40.2	27.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.93	0.93	
Incremental Delay, d2	11.7	5.8		2.1	4.0		0.9	2.0		7.1	1.2	
Delay (s)	47.9	46.7		51.8	53.0		32.7	31.5		44.6	26.9	
Level of Service	D	D		D	D		C	C		D	C	
Approach Delay (s)		47.1			52.8			31.7			30.5	
Approach LOS		D			D			C			C	

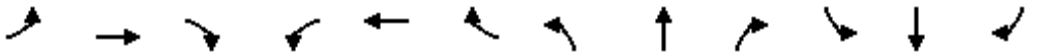
Intersection Summary			
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



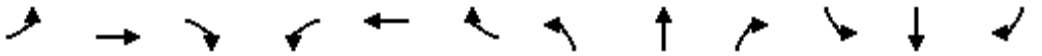
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	420	1042	147	151	344	274	117	983	168	235	562	199
Future Volume (vph)	420	1042	147	151	344	274	117	983	168	235	562	199
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1845	3621		1792	3585	1604	1845	3608		1845	3545	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1845	3621		1792	3585	1604	1845	3608		1845	3545	
Peak-hour factor, PHF	0.87	0.87	0.87	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	483	1198	169	178	405	322	127	1068	183	258	618	219
RTOR Reduction (vph)	0	9	0	0	0	0	0	10	0	0	26	0
Lane Group Flow (vph)	483	1358	0	178	405	322	127	1241	0	258	811	0
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	37.5	46.0		10.0	18.5	35.4	12.8	36.9		16.9	41.0	
Effective Green, g (s)	37.5	46.0		10.0	18.5	35.4	12.8	36.9		16.9	41.0	
Actuated g/C Ratio	0.28	0.34		0.07	0.14	0.26	0.10	0.28		0.13	0.31	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	516	1243		133	494	423	176	993		232	1084	
v/s Ratio Prot	0.26	c0.38		c0.10	0.11	0.10	0.07	c0.34		c0.14	c0.23	
v/s Ratio Perm						0.10						
v/c Ratio	0.94	1.09		1.34	0.82	0.76	0.72	1.25		1.11	0.75	
Uniform Delay, d1	47.1	44.0		62.0	56.1	45.4	58.9	48.5		58.5	41.8	
Progression Factor	0.94	0.90		1.02	1.03	0.84	0.93	0.87		0.85	0.80	
Incremental Delay, d2	21.3	52.8		191.4	13.1	7.4	12.5	120.0		90.3	2.7	
Delay (s)	65.4	92.3		254.4	70.8	45.7	67.4	162.2		140.0	36.2	
Level of Service	E	F		F	E	D	E	F		F	D	
Approach Delay (s)		85.3			98.0			153.5			60.7	
Approach LOS		F			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	100.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



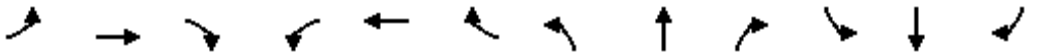
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	927	36	39	591	92	44	25	75	55	9	119
Future Volume (vph)	187	927	36	39	591	92	44	25	75	55	9	119
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1827	3633		1792	1887	1604	1841	1748	1650	1667	1754	1457
Flt Permitted	0.29	1.00		0.23	1.00	1.00	0.75	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	566	3633		428	1887	1604	1451	1748	1650	1296	1754	1457
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.88	0.88	0.88	0.70	0.70	0.70
Adj. Flow (vph)	205	1019	40	46	695	108	50	28	85	79	13	170
RTOR Reduction (vph)	0	2	0	0	0	38	0	0	80	0	0	157
Lane Group Flow (vph)	205	1057	0	46	695	70	50	28	5	79	13	13
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	14%	14%	14%
Parking (#/hr)								0				
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	96.5	89.0		91.7	86.6	86.6	12.8	7.7	7.7	18.2	10.4	10.4
Effective Green, g (s)	96.5	89.0		91.7	86.6	86.6	12.8	7.7	7.7	18.2	10.4	10.4
Actuated g/C Ratio	0.72	0.66		0.68	0.65	0.65	0.10	0.06	0.06	0.14	0.08	0.08
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	478	2412		344	1219	1036	153	100	94	197	136	113
v/s Ratio Prot	c0.02	0.29		0.01	c0.37		0.01	0.02		c0.02	0.01	
v/s Ratio Perm	0.28			0.09		0.04	0.02		0.00	c0.03		0.01
v/c Ratio	0.43	0.44		0.13	0.57	0.07	0.33	0.28	0.05	0.40	0.10	0.12
Uniform Delay, d1	19.0	10.7		13.0	13.3	8.8	56.8	60.5	59.7	53.3	57.4	57.5
Progression Factor	0.32	0.51		0.49	0.70	0.11	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1		0.2	1.9	0.1	1.3	1.5	0.2	1.3	0.3	0.5
Delay (s)	6.2	5.5		6.6	11.2	1.0	58.0	62.0	59.9	54.6	57.7	58.0
Level of Service	A	A		A	B	A	E	E	E	D	E	E
Approach Delay (s)		5.6			9.6			59.7			57.0	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	2	82	33	2	3	81	504	94	1	755	15
Future Volume (vph)	5	2	82	33	2	3	81	504	94	1	755	15
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Peak-hour factor, PHF	0.73	0.73	0.73	0.69	0.69	0.69	0.79	0.79	0.79	0.83	0.83	0.83
Adj. Flow (vph)	7	3	112	48	3	4	103	638	119	1	910	18
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	34	0	0	6
Lane Group Flow (vph)	7	3	112	48	7	0	103	638	85	1	910	12
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	3%	3%	3%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	6.0	6.0	21.0	6.6	6.6		9.0	95.3	95.3	1.3	87.6	87.6
Effective Green, g (s)	6.0	6.0	21.0	6.6	6.6		9.0	95.3	95.3	1.3	87.6	87.6
Actuated g/C Ratio	0.04	0.04	0.16	0.05	0.05		0.07	0.71	0.71	0.01	0.65	0.65
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	81	85	446	163	81		240	3770	1173	18	3499	1089
v/s Ratio Prot	0.00	0.00	c0.04	c0.01	0.00		c0.03	0.12		0.00	c0.17	
v/s Ratio Perm									0.05			0.01
v/c Ratio	0.09	0.04	0.25	0.29	0.09		0.43	0.17	0.07	0.06	0.26	0.01
Uniform Delay, d1	61.4	61.2	49.6	61.5	60.8		60.0	6.4	5.9	65.7	9.7	8.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.14	0.60	0.51	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.3	1.2	0.5		1.2	0.1	0.1	1.3	0.2	0.0
Delay (s)	61.8	61.4	49.9	62.6	61.4		69.8	3.9	3.1	67.0	9.9	8.1
Level of Service	E	E	D	E	E		E	A	A	E	A	A
Approach Delay (s)		50.9			62.5			11.7			9.9	
Approach LOS		D			E			B			A	

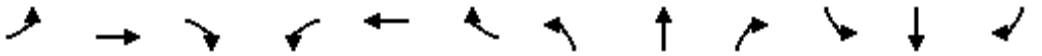
Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	629	98	29	375	203	176	273	90	125	131	104
Future Volume (vph)	160	629	98	29	375	203	176	273	90	125	131	104
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1845	1942	1650	1827	1923	1635	1861	1961	1667	1845	1942	1620
Flt Permitted	0.41	1.00	1.00	0.20	1.00	1.00	0.54	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	788	1942	1650	378	1923	1635	1049	1961	1667	485	1942	1620
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.85	0.85	0.85
Adj. Flow (vph)	172	676	105	33	421	228	185	287	95	147	154	122
RTOR Reduction (vph)	0	0	43	0	0	95	0	0	73	0	0	95
Lane Group Flow (vph)	172	676	62	33	421	133	185	287	22	147	154	27
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	71.7	66.2	78.8	71.7	66.2	78.3	37.8	25.2	30.7	36.8	24.7	30.2
Effective Green, g (s)	71.7	66.2	78.8	71.7	66.2	78.3	37.8	25.2	30.7	36.8	24.7	30.2
Actuated g/C Ratio	0.54	0.49	0.59	0.54	0.49	0.58	0.28	0.19	0.23	0.27	0.18	0.23
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	465	959	970	261	950	955	372	368	381	256	357	365
v/s Ratio Prot	c0.02	c0.35	0.01	0.01	0.22	0.01	0.05	c0.15	0.00	c0.05	0.08	0.00
v/s Ratio Perm	0.18		0.03	0.06		0.07	0.09		0.01	0.11		0.01
v/c Ratio	0.37	0.70	0.06	0.13	0.44	0.14	0.50	0.78	0.06	0.57	0.43	0.08
Uniform Delay, d1	18.0	26.3	11.8	19.3	22.0	12.6	38.4	51.8	40.3	39.2	48.4	40.9
Progression Factor	0.38	0.50	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	4.1	0.0	0.2	1.5	0.1	1.0	10.3	0.1	3.1	1.0	0.1
Delay (s)	7.2	17.1	10.1	19.5	23.5	12.7	39.5	62.1	40.4	42.3	49.4	41.0
Level of Service	A	B	B	B	C	B	D	E	D	D	D	D
Approach Delay (s)		14.6			19.7			51.1			44.5	
Approach LOS		B			B			D			D	

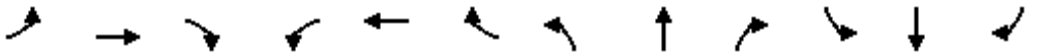
Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



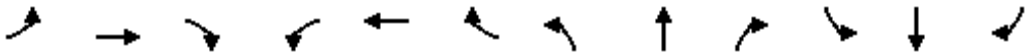
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	0	31	8	1	93	32	1370	32	240	1047	73
Future Volume (vph)	58	0	31	8	1	93	32	1370	32	240	1047	73
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3390	1667		1875	2933	1845	5283		3579	3689	1650
Flt Permitted	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3390	1667		1875	2933	1845	5283		3579	3689	1650
Peak-hour factor, PHF	0.60	0.60	0.60	0.73	0.73	0.73	0.86	0.86	0.86	0.88	0.88	0.88
Adj. Flow (vph)	97	0	52	11	1	127	37	1593	37	273	1190	83
RTOR Reduction (vph)	0	0	48	0	0	107	0	2	0	0	0	20
Lane Group Flow (vph)	48	49	4	0	12	20	37	1628	0	273	1190	63
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	6.7	6.7	11.2		2.8	20.7	4.5	81.8		17.9	95.2	101.9
Effective Green, g (s)	6.7	6.7	11.2		2.8	20.7	4.5	81.8		17.9	95.2	101.9
Actuated g/C Ratio	0.05	0.05	0.08		0.02	0.15	0.03	0.61		0.13	0.71	0.76
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	84	169	139		39	593	61	3224		478	2620	1254
v/s Ratio Prot	c0.03	0.01	0.00		c0.01	0.00	0.02	c0.31		c0.08	0.32	0.00
v/s Ratio Perm			0.00			0.00						0.04
v/c Ratio	0.57	0.29	0.03		0.31	0.03	0.61	0.51		0.57	0.45	0.05
Uniform Delay, d1	62.2	61.4	56.4		64.6	48.1	63.9	14.7		54.4	8.3	4.0
Progression Factor	1.01	1.00	1.00		1.00	1.00	0.85	0.97		0.73	0.43	0.13
Incremental Delay, d2	9.1	1.0	0.1		6.0	0.0	1.5	0.1		1.7	0.5	0.0
Delay (s)	71.7	62.6	56.5		70.7	48.2	56.0	14.3		41.4	4.1	0.5
Level of Service	E	E	E		E	D	E	B		D	A	A
Approach Delay (s)		63.4			50.1			15.3			10.5	
Approach LOS		E			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



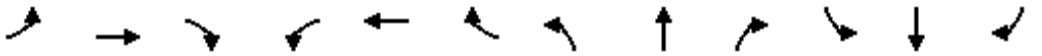
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	14	119	64	2	72	46	1150	66	67	708	19
Future Volume (vph)	50	14	119	64	2	72	46	1150	66	67	708	19
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.87		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1827	1664		1863	1961	1667	1845	3659		1810	3605	
Flt Permitted	0.76	1.00		0.35	1.00	1.00	0.32	1.00		0.17	1.00	
Satd. Flow (perm)	1454	1664		687	1961	1667	630	3659		325	3605	
Peak-hour factor, PHF	0.72	0.72	0.72	0.74	0.74	0.74	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	69	19	165	86	3	97	49	1237	71	74	787	21
RTOR Reduction (vph)	0	145	0	0	0	85	0	2	0	0	1	0
Lane Group Flow (vph)	69	39	0	86	3	12	49	1306	0	74	807	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	16.3	16.3		16.3	16.3	16.3	99.7	95.1		99.7	95.1	
Effective Green, g (s)	16.3	16.3		16.3	16.3	16.3	99.7	95.1		99.7	95.1	
Actuated g/C Ratio	0.12	0.12		0.12	0.12	0.12	0.74	0.71		0.74	0.71	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	176	202		83	238	202	510	2596		292	2558	
v/s Ratio Prot		0.02			0.00		0.00	c0.36		c0.01	0.22	
v/s Ratio Perm	0.05			c0.13		0.01	0.07			0.18		
v/c Ratio	0.39	0.19		1.04	0.01	0.06	0.10	0.50		0.25	0.32	
Uniform Delay, d1	54.3	52.9		58.9	51.8	52.1	6.5	8.8		12.6	7.3	
Progression Factor	1.02	1.07		1.00	1.00	1.00	1.00	1.00		1.24	0.84	
Incremental Delay, d2	1.4	0.5		109.0	0.0	0.1	0.1	0.7		0.2	0.1	
Delay (s)	56.9	57.2		167.9	51.8	52.2	6.6	9.5		15.7	6.2	
Level of Service	E	E		F	D	D	A	A		B	A	
Approach Delay (s)		57.1			105.7			9.4			7.0	
Approach LOS		E			F			A			A	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



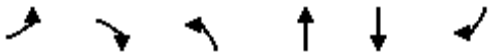
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	0	39	1	0	5	37	1099	1	17	804	33
Future Volume (vph)	27	0	39	1	0	5	37	1099	1	17	804	33
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.88		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1498		1845	3689		1845	3667	
Flt Permitted	0.75	1.00			0.95		0.29	1.00		0.22	1.00	
Satd. Flow (perm)	1475	1667			1433		554	3689		418	3667	
Peak-hour factor, PHF	0.72	0.72	0.72	0.75	0.75	0.75	0.89	0.89	0.89	0.85	0.85	0.85
Adj. Flow (vph)	38	0	54	1	0	7	42	1235	1	20	946	39
RTOR Reduction (vph)	0	51	0	0	8	0	0	0	0	0	2	0
Lane Group Flow (vph)	38	3	0	0	0	0	42	1236	0	20	983	0
Heavy Vehicles (%)	2%	2%	2%	17%	17%	17%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.3	7.3			7.3		99.9	99.9		99.9	99.9	
Effective Green, g (s)	7.3	7.3			7.3		99.9	99.9		99.9	99.9	
Actuated g/C Ratio	0.06	0.06			0.06		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	90	102			87		465	3096		350	3078	
v/s Ratio Prot		0.00						c0.34			0.27	
v/s Ratio Perm	c0.03				0.00		0.08			0.05		
v/c Ratio	0.42	0.03			0.01		0.09	0.40		0.06	0.32	
Uniform Delay, d1	53.8	52.5			52.4		1.7	2.3		1.6	2.1	
Progression Factor	1.00	1.00			1.00		0.10	0.09		1.00	1.00	
Incremental Delay, d2	3.2	0.1			0.0		0.3	0.3		0.3	0.3	
Delay (s)	57.0	52.7			52.5		0.5	0.5		1.9	2.4	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.4			52.5			0.5			2.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	670	61	366	0	478	0	0	797	110
Future Volume (vph)	0	0	0	670	61	366	0	478	0	0	797	110
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3544	1923	2877		5353			5301	1650
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3544	1923	2877		5353			5301	1650
Peak-hour factor, PHF	0.92	0.92	0.92	0.79	0.79	0.79	0.81	0.81	0.81	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	848	77	463	0	590	0	0	839	116
RTOR Reduction (vph)	0	0	0	0	0	225	0	0	0	0	0	44
Lane Group Flow (vph)	0	0	0	848	77	238	0	590	0	0	839	72
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				38.4	38.4	54.4		67.3			83.3	83.3
Effective Green, g (s)				38.4	38.4	54.4		67.3			83.3	83.3
Actuated g/C Ratio				0.29	0.29	0.41		0.50			0.62	0.62
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				1015	551	1167		2688			3295	1025
v/s Ratio Prot				c0.24	0.04	0.08		0.11			c0.16	0.04
v/s Ratio Perm												
v/c Ratio				0.84	0.14	0.20		0.22			0.25	0.07
Uniform Delay, d1				44.8	35.5	25.8		18.7			11.4	10.0
Progression Factor				1.00	1.00	1.00		0.74			0.62	0.35
Incremental Delay, d2				6.1	0.1	0.1		0.2			0.2	0.1
Delay (s)				50.9	35.6	25.9		13.9			7.3	3.6
Level of Service				D	D	C		B			A	A
Approach Delay (s)		0.0			41.7			13.9			6.8	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	66	200	0	594	1133	0
Future Volume (vph)	66	200	0	594	1133	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.91	0.85		1.00	1.00	
Flt Protected	0.98	1.00		1.00	1.00	
Satd. Flow (prot)	3360	1502		3725	3689	
Flt Permitted	0.98	1.00		1.00	1.00	
Satd. Flow (perm)	3360	1502		3725	3689	
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.86	0.86
Adj. Flow (vph)	73	220	0	667	1317	0
RTOR Reduction (vph)	93	93	0	0	0	0
Lane Group Flow (vph)	90	17	0	667	1317	0
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	9.5	9.5		112.5	112.5	
Effective Green, g (s)	9.5	9.5		112.5	112.5	
Actuated g/C Ratio	0.07	0.07		0.84	0.84	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	238	106		3127	3097	
v/s Ratio Prot	c0.03	0.01		0.18	c0.36	
v/s Ratio Perm						
v/c Ratio	0.38	0.16		0.21	0.43	
Uniform Delay, d1	59.4	58.5		2.1	2.7	
Progression Factor	1.00	1.00		3.00	0.38	
Incremental Delay, d2	1.2	0.8		0.1	0.4	
Delay (s)	60.6	59.4		6.4	1.4	
Level of Service	E	E		A	A	
Approach Delay (s)	60.1			6.4	1.4	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1604	39	4	656	4	5
Future Volume (Veh/h)	1604	39	4	656	4	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.85	0.85	0.60	0.60
Hourly flow rate (vph)	1844	45	5	772	7	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	370			619		
pX, platoon unblocked			0.76		0.81	0.76
vC, conflicting volume			1889		2262	944
vC1, stage 1 conf vol					1866	
vC2, stage 2 conf vol					396	
vCu, unblocked vol			1533		1501	286
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		94	99
cM capacity (veh/h)			326		126	539

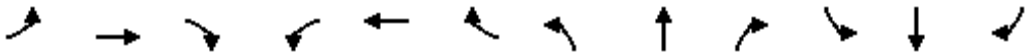
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1229	660	5	386	386	15
Volume Left	0	0	5	0	0	7
Volume Right	0	45	0	0	0	8
cSH	1700	1700	326	1700	1700	213
Volume to Capacity	0.72	0.39	0.02	0.23	0.23	0.07
Queue Length 95th (ft)	0	0	1	0	0	6
Control Delay (s)	0.0	0.0	16.2	0.0	0.0	23.2
Lane LOS			C			C
Approach Delay (s)	0.0		0.1			23.2
Approach LOS						C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1096	10	3	662	12	12
Future Volume (Veh/h)	1096	10	3	662	12	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.75	0.75
Hourly flow rate (vph)	1245	11	3	720	16	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.70		0.80	0.70
vC, conflicting volume			1256		1976	628
vC1, stage 1 conf vol					1250	
vC2, stage 2 conf vol					726	
vCu, unblocked vol			504		978	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	98
cM capacity (veh/h)			729		337	758

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	830	426	3	720	32
Volume Left	0	0	3	0	16
Volume Right	0	11	0	0	16
cSH	1700	1700	729	1700	467
Volume to Capacity	0.49	0.25	0.00	0.42	0.07
Queue Length 95th (ft)	0	0	0	0	5
Control Delay (s)	0.0	0.0	10.0	0.0	13.3
Lane LOS			A		B
Approach Delay (s)	0.0		0.0		13.3
Approach LOS					B

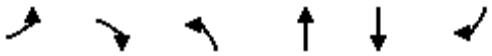
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	67	23	34	28	43	24	131	79	71	83	3
Future Volume (vph)	14	67	23	34	28	43	24	131	79	71	83	3
Peak Hour Factor	0.95	0.95	0.95	0.75	0.75	0.75	0.82	0.82	0.82	0.74	0.74	0.74
Hourly flow rate (vph)	15	71	24	45	37	57	29	160	96	96	112	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	15	95	45	94	29	256	96	116
Volume Left (vph)	15	0	45	0	29	0	96	0
Volume Right (vph)	0	24	0	57	0	96	0	4
Hadj (s)	0.53	-0.14	0.64	-0.29	0.57	-0.19	0.53	0.01
Departure Headway (s)	6.5	5.8	6.5	5.6	6.0	5.2	6.0	5.5
Degree Utilization, x	0.03	0.15	0.08	0.15	0.05	0.37	0.16	0.18
Capacity (veh/h)	514	575	514	595	573	660	569	623
Control Delay (s)	8.4	8.6	8.9	8.4	8.1	10.1	9.0	8.5
Approach Delay (s)	8.6		8.5		9.9		8.7	
Approach LOS	A		A		A		A	

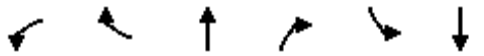
Intersection Summary				
Delay	9.1			
Level of Service	A			
Intersection Capacity Utilization	35.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	93	7	47	56	6	30
Future Volume (vph)	93	7	47	56	6	30
Peak Hour Factor	0.73	0.73	0.72	0.72	0.88	0.88
Hourly flow rate (vph)	127	10	65	78	7	34

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	127	10	65	78	41
Volume Left (vph)	127	0	65	0	0
Volume Right (vph)	0	10	0	0	34
Hadj (s)	0.53	-0.67	0.53	0.03	-0.46
Departure Headway (s)	5.5	4.3	5.5	5.0	4.4
Degree Utilization, x	0.19	0.01	0.10	0.11	0.05
Capacity (veh/h)	627	801	639	702	777
Control Delay (s)	8.6	6.1	7.9	7.4	7.6
Approach Delay (s)	8.4		7.6		7.6
Approach LOS	A		A		A

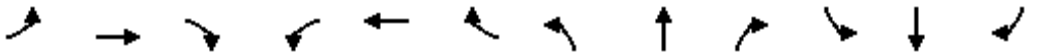
Intersection Summary			
Delay	7.9		
Level of Service	A		
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	10	1069	27	22	818
Future Volume (Veh/h)	17	10	1069	27	22	818
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	28	17	1125	28	24	899
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.93					
vC, conflicting volume	1636	576			1153	
vC1, stage 1 conf vol	1139					
vC2, stage 2 conf vol	498					
vCu, unblocked vol	1532	576			1153	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	96			96	
cM capacity (veh/h)	249	460			602	

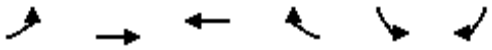
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	17	750	403	24	450	450
Volume Left	28	0	0	0	24	0	0
Volume Right	0	17	0	28	0	0	0
cSH	249	460	1700	1700	602	1700	1700
Volume to Capacity	0.11	0.04	0.44	0.24	0.04	0.26	0.26
Queue Length 95th (ft)	9	3	0	0	3	0	0
Control Delay (s)	21.3	13.1	0.0	0.0	11.2	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	18.2		0.0		0.3		
Approach LOS	C						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	1601	19	3	612	45	16	5	10	32	2	38
Future Volume (vph)	47	1601	19	3	612	45	16	5	10	32	2	38
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.90		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1827	3647		1845	3651		1863	1759		1863	1680	
Flt Permitted	0.37	1.00		0.09	1.00		0.71	1.00		0.75	1.00	
Satd. Flow (perm)	720	3647		167	3651		1400	1759		1465	1680	
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.92	0.92	0.92	0.60	0.60	0.60
Adj. Flow (vph)	54	1840	22	3	651	48	17	5	11	53	3	63
RTOR Reduction (vph)	0	0	0	0	3	0	0	10	0	0	59	0
Lane Group Flow (vph)	54	1862	0	3	696	0	17	6	0	53	7	0
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	113.0	105.8		100.0	98.8		9.0	9.0		9.0	9.0	
Effective Green, g (s)	113.0	105.8		100.0	98.8		9.0	9.0		9.0	9.0	
Actuated g/C Ratio	0.84	0.79		0.75	0.74		0.07	0.07		0.07	0.07	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	674	2879		139	2691		94	118		98	112	
v/s Ratio Prot	c0.00	c0.51		0.00	0.19			0.00			0.00	
v/s Ratio Perm	0.06			0.02			0.01			c0.04		
v/c Ratio	0.08	0.65		0.02	0.26		0.18	0.05		0.54	0.06	
Uniform Delay, d1	2.3	6.1		14.4	5.7		59.0	58.5		60.5	58.6	
Progression Factor	1.00	1.00		1.05	0.96		0.96	0.92		1.01	1.06	
Incremental Delay, d2	0.1	1.1		0.0	0.2		0.9	0.2		6.0	0.2	
Delay (s)	2.4	7.2		15.2	5.7		57.7	53.9		67.0	62.1	
Level of Service	A	A		B	A		E	D		E	E	
Approach Delay (s)		7.1			5.7			55.9			64.3	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	24	31	9	43	0
Future Volume (Veh/h)	0	24	31	9	43	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	26	34	10	47	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		550	1165			
pX, platoon unblocked						
vC, conflicting volume	44				65	39
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44				65	39
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	100
cM capacity (veh/h)	1564				941	1033

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	44	47
Volume Left	0	0	47
Volume Right	0	10	0
cSH	1564	1700	941
Volume to Capacity	0.00	0.03	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.0	9.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	61	6	10	21	19	28
Future Volume (Veh/h)	61	6	10	21	19	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	7	11	23	21	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	750			965		
pX, platoon unblocked						
vC, conflicting volume			73		114	70
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			73		114	70
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	97
cM capacity (veh/h)			1527		876	993

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	73	34	51
Volume Left	0	11	21
Volume Right	7	0	30
cSH	1700	1527	941
Volume to Capacity	0.04	0.01	0.05
Queue Length 95th (ft)	0	1	4
Control Delay (s)	0.0	2.4	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	2.4	9.0
Approach LOS			A

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	174	2	4	63	6	9
Future Volume (Veh/h)	174	2	4	63	6	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	189	2	4	68	7	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				200		
pX, platoon unblocked						
vC, conflicting volume			191		266	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			191		266	190
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1383		721	852

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	191	72	17
Volume Left	0	4	7
Volume Right	2	0	10
cSH	1700	1383	793
Volume to Capacity	0.11	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.4	9.6
Lane LOS		A	A
Approach Delay (s)	0.0	0.4	9.6
Approach LOS			A

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		18.8%	ICU Level of Service A
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	3	1431	17	5	1081
Future Volume (Veh/h)	9	3	1431	17	5	1081
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.88	0.88
Hourly flow rate (vph)	10	3	1664	20	6	1228
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			587			395
pX, platoon unblocked	0.83	0.76			0.76	
vC, conflicting volume	2300	565			1684	
vC1, stage 1 conf vol	1674					
vC2, stage 2 conf vol	626					
vCu, unblocked vol	965	0			806	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	298	827			616	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	13	666	666	353	6	614	614
Volume Left	10	0	0	0	6	0	0
Volume Right	3	0	0	20	0	0	0
cSH	350	1700	1700	1700	616	1700	1700
Volume to Capacity	0.04	0.39	0.39	0.21	0.01	0.36	0.36
Queue Length 95th (ft)	3	0	0	0	1	0	0
Control Delay (s)	15.7	0.0	0.0	0.0	10.9	0.0	0.0
Lane LOS	C				B		
Approach Delay (s)	15.7	0.0			0.1		
Approach LOS	C						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	900	17	5	650	57	18
Future Volume (Veh/h)	900	17	5	650	57	18
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.89	0.89	0.92	0.92
Hourly flow rate (vph)	968	18	6	730	62	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1105		
pX, platoon unblocked					0.77	
vC, conflicting volume			986		1710	968
vC1, stage 1 conf vol					968	
vC2, stage 2 conf vol					742	
vCu, unblocked vol			986		1773	968
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		78	94
cM capacity (veh/h)			693		286	308

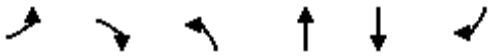
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	968	18	6	730	82
Volume Left	0	0	6	0	62
Volume Right	0	18	0	0	20
cSH	1700	1700	693	1700	379
Volume to Capacity	0.57	0.01	0.01	0.43	0.22
Queue Length 95th (ft)	0	0	1	0	20
Control Delay (s)	0.0	0.0	10.2	0.0	20.2
Lane LOS			B		C
Approach Delay (s)	0.0		0.1		20.2
Approach LOS					C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	885	33	0	655	0	2
Future Volume (Veh/h)	885	33	0	655	0	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.89	0.89	0.92	0.92
Hourly flow rate (vph)	952	35	0	736	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				300		
pX, platoon unblocked					0.77	
vC, conflicting volume			987		1706	494
vC1, stage 1 conf vol					970	
vC2, stage 2 conf vol					736	
vCu, unblocked vol			987		1768	494
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			684		260	521

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	635	352	736	2
Volume Left	0	0	0	0
Volume Right	0	35	0	2
cSH	1700	1700	1700	521
Volume to Capacity	0.37	0.21	0.43	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	11.9
Lane LOS				B
Approach Delay (s)	0.0		0.0	11.9
Approach LOS				B

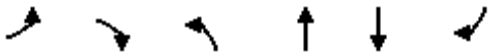
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	13	33	524	244	14
Future Volume (Veh/h)	15	13	33	524	244	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	16	14	35	552	287	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					400	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	917	295	303			
vC1, stage 1 conf vol	295					
vC2, stage 2 conf vol	622					
vCu, unblocked vol	873	204	212			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	98	97			
cM capacity (veh/h)	478	778	1262			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	16	14	35	552	303
Volume Left	16	0	35	0	0
Volume Right	0	14	0	0	16
cSH	478	778	1262	1700	1700
Volume to Capacity	0.03	0.02	0.03	0.32	0.18
Queue Length 95th (ft)	3	1	2	0	0
Control Delay (s)	12.8	9.7	7.9	0.0	0.0
Lane LOS	B	A	A		
Approach Delay (s)	11.4		0.5		0.0
Approach LOS	B				

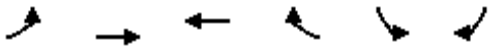
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	15	5	1107	836	8
Future Volume (Veh/h)	30	15	5	1107	836	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	33	16	6	1244	984	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					285	
pX, platoon unblocked	0.94	0.94	0.94			
vC, conflicting volume	1622	496	993			
vC1, stage 1 conf vol	988					
vC2, stage 2 conf vol	634					
vCu, unblocked vol	1536	339	867			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	97	99			
cM capacity (veh/h)	293	618	721			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	33	16	6	622	622	656	337
Volume Left	33	0	6	0	0	0	0
Volume Right	0	16	0	0	0	0	9
cSH	293	618	721	1700	1700	1700	1700
Volume to Capacity	0.11	0.03	0.01	0.37	0.37	0.39	0.20
Queue Length 95th (ft)	9	2	1	0	0	0	0
Control Delay (s)	18.8	11.0	10.0	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	16.3		0.0			0.0	
Approach LOS	C						

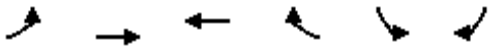
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	44	51	55	45	41
Future Volume (Veh/h)	47	44	51	55	45	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.60	0.60	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	78	73	70	75	49	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		853	483			
pX, platoon unblocked						
vC, conflicting volume	145				300	72
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	145				300	72
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				92	95
cM capacity (veh/h)	1435				631	975

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	78	36	36	47	98	49	45
Volume Left	78	0	0	0	0	49	0
Volume Right	0	0	0	0	75	0	45
cSH	1435	1700	1700	1700	1700	631	975
Volume to Capacity	0.05	0.02	0.02	0.03	0.06	0.08	0.05
Queue Length 95th (ft)	4	0	0	0	0	6	4
Control Delay (s)	7.7	0.0	0.0	0.0	0.0	11.2	8.9
Lane LOS	A					B	A
Approach Delay (s)	4.0			0.0		10.1	
Approach LOS						B	

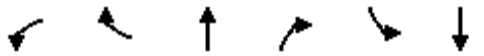
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	985	664	50	23	58
Future Volume (Veh/h)	72	985	664	50	23	58
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.92	0.92
Hourly flow rate (vph)	79	1082	781	59	25	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		480				
pX, platoon unblocked					0.87	
vC, conflicting volume	840				1510	420
vC1, stage 1 conf vol					810	
vC2, stage 2 conf vol					699	
vCu, unblocked vol	840				1278	420
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	90				92	89
cM capacity (veh/h)	778				332	582

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	79	541	541	521	319	25	63
Volume Left	79	0	0	0	0	25	0
Volume Right	0	0	0	0	59	0	63
cSH	778	1700	1700	1700	1700	332	582
Volume to Capacity	0.10	0.32	0.32	0.31	0.19	0.08	0.11
Queue Length 95th (ft)	8	0	0	0	0	6	9
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	16.7	11.9
Lane LOS	B					C	B
Approach Delay (s)	0.7			0.0		13.3	
Approach LOS						B	

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	41	6	228	37	8	132
Future Volume (Veh/h)	41	6	228	37	8	132
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.82	0.82	0.74	0.74
Hourly flow rate (vph)	45	7	278	45	11	178
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			386			
pX, platoon unblocked	0.97	0.97			0.97	
vC, conflicting volume	500	300			323	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	466	259			282	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	99			99	
cM capacity (veh/h)	532	754			1237	

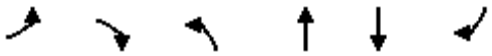
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	7	323	11	178
Volume Left	45	0	0	11	0
Volume Right	0	7	45	0	0
cSH	532	754	1700	1237	1700
Volume to Capacity	0.08	0.01	0.19	0.01	0.10
Queue Length 95th (ft)	7	1	0	1	0
Control Delay (s)	12.4	9.8	0.0	7.9	0.0
Lane LOS	B	A		A	
Approach Delay (s)	12.0		0.0	0.5	
Approach LOS	B				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	23.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	198	19	4	100	5	2
Future Volume (Veh/h)	198	19	4	100	5	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.75	0.75	0.92	0.92
Hourly flow rate (vph)	208	20	5	133	5	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			228		361	218
vC1, stage 1 conf vol					218	
vC2, stage 2 conf vol					143	
vCu, unblocked vol			228		361	218
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.3		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1306		756	822

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	228	5	133	5	2
Volume Left	0	5	0	5	0
Volume Right	20	0	0	0	2
cSH	1700	1306	1700	756	822
Volume to Capacity	0.13	0.00	0.08	0.01	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	7.8	0.0	9.8	9.4
Lane LOS		A		A	A
Approach Delay (s)	0.0	0.3		9.7	
Approach LOS				A	

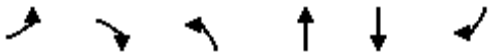
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1112	851	0
Future Volume (Veh/h)	0	0	0	1112	851	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	0	0	0	1249	1001	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				900	1216	
pX, platoon unblocked	0.85	0.96	0.96			
vC, conflicting volume	1626	500	1001			
vC1, stage 1 conf vol	1001					
vC2, stage 2 conf vol	624					
vCu, unblocked vol	1186	398	919			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	315	577	703			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	624	624	667	334
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.37	0.37	0.39	0.20
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A					
Approach Delay (s)	0.0		0.0			0.0	
Approach LOS	A						

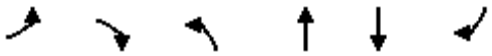
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1112	851	0
Future Volume (Veh/h)	0	0	0	1112	851	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	0	0	0	1249	1001	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				1150	966	
pX, platoon unblocked	0.87	0.95	0.95			
vC, conflicting volume	1626	500	1001			
vC1, stage 1 conf vol	1001					
vC2, stage 2 conf vol	624					
vCu, unblocked vol	1166	375	900			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	319	593	708			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	624	624	500	500
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.37	0.37	0.29	0.29
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.0	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	6	23	74	66	10
Future Volume (Veh/h)	3	6	23	74	66	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Hourly flow rate (vph)	5	10	38	123	110	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				527	809	
pX, platoon unblocked						
vC, conflicting volume	256	64	127			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	256	64	127			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	97			
cM capacity (veh/h)	692	988	1457			

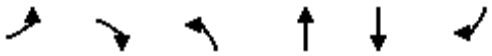
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	5	10	38	62	62	73	54
Volume Left	5	0	38	0	0	0	0
Volume Right	0	10	0	0	0	0	17
cSH	692	988	1457	1700	1700	1700	1700
Volume to Capacity	0.01	0.01	0.03	0.04	0.04	0.04	0.03
Queue Length 95th (ft)	1	1	2	0	0	0	0
Control Delay (s)	10.2	8.7	7.5	0.0	0.0	0.0	0.0
Lane LOS	B	A	A				
Approach Delay (s)	9.2		1.8			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	478	182	0	1467
Future Volume (Veh/h)	0	0	478	182	0	1467
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.81	0.81	0.95	0.95
Hourly flow rate (vph)	0	0	590	225	0	1544
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.93					
vC, conflicting volume	1105	295			815	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	868	295			815	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	273	701			802	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	295	295	225	515	515	515
Volume Left	0	0	0	0	0	0
Volume Right	0	0	225	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.17	0.17	0.13	0.30	0.30	0.30
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	660	1133	334
Future Volume (Veh/h)	0	0	0	660	1133	334
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	0	742	1317	388
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.95	0.93	0.93			
vC, conflicting volume	1688	658	1705			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1453	485	1609			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	115	491	374			

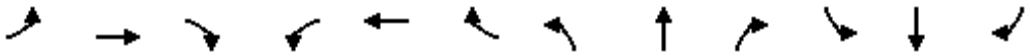
Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	371	371	658	658	388
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	388
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.22	0.22	0.39	0.39	0.23
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	594	923	0	1333
Future Volume (Veh/h)	0	0	594	923	0	1333
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	667	1037	0	1550
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.92					
vC, conflicting volume	1184	334			1704	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	899	334			1704	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	256	662			365	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	334	334	1037	517	517	517
Volume Left	0	0	0	0	0	0
Volume Right	0	0	1037	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.20	0.61	0.30	0.30	0.30
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

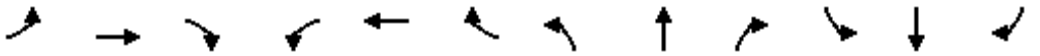
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	278	317	229	243	602	246	217	763	91	202	803	370
Future Volume (vph)	278	317	229	243	602	246	217	763	91	202	803	370
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.96		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3491		1863	3549		1863	3659		1863	3538	
Flt Permitted	0.18	1.00		0.20	1.00		0.10	1.00		0.11	1.00	
Satd. Flow (perm)	346	3491		393	3549		198	3659		219	3538	
Peak-hour factor, PHF	0.89	0.89	0.89	0.93	0.93	0.93	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	312	356	257	261	647	265	238	838	100	213	845	389
RTOR Reduction (vph)	0	116	0	0	36	0	0	7	0	0	44	0
Lane Group Flow (vph)	312	497	0	261	876	0	238	931	0	213	1190	0
Confl. Peds. (#/hr)	1					1			3	3		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	36.1	22.7		51.4	31.4		52.2	39.6		52.2	39.6	
Effective Green, g (s)	36.1	22.7		51.4	31.4		52.2	39.6		52.2	39.6	
Actuated g/C Ratio	0.29	0.18		0.42	0.26		0.42	0.32		0.42	0.32	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	266	644		428	906		254	1178		261	1139	
v/s Ratio Prot	c0.13	0.14		0.11	c0.25		c0.10	0.25		0.08	c0.34	
v/s Ratio Perm	c0.22			0.15			0.30			0.26		
v/c Ratio	1.17	0.77		0.61	0.97		0.94	0.79		0.82	1.04	
Uniform Delay, d1	51.4	47.7		37.8	45.3		51.3	37.9		45.7	41.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.94	0.94	
Incremental Delay, d2	110.2	5.7		2.5	22.0		39.3	5.4		16.6	38.3	
Delay (s)	161.6	53.4		40.3	67.3		90.6	43.4		59.6	77.4	
Level of Service	F	D		D	E		F	D		E	E	
Approach Delay (s)		89.9			61.3			52.9			74.8	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	69.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

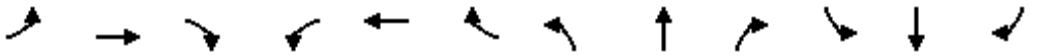
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	594	117	277	918	515	212	1035	215	300	815	240
Future Volume (vph)	228	594	117	277	918	515	212	1035	215	300	815	240
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3634		1863	3725	1667	1863	3629		1863	3598	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3634		1863	3725	1667	1863	3629		1863	3598	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	259	675	133	301	998	560	230	1125	234	316	858	253
RTOR Reduction (vph)	0	12	0	0	0	0	0	13	0	0	20	0
Lane Group Flow (vph)	259	796	0	301	998	560	230	1346	0	316	1091	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	21.6	39.0		15.0	32.4	48.3	16.9	40.9		15.9	39.9	
Effective Green, g (s)	21.6	39.0		15.0	32.4	48.3	16.9	40.9		15.9	39.9	
Actuated g/C Ratio	0.16	0.29		0.11	0.24	0.36	0.13	0.30		0.12	0.30	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	298	1049		207	894	596	233	1099		219	1063	
v/s Ratio Prot	0.14	c0.22		c0.16	c0.27	0.11	0.12	c0.37		c0.17	0.30	
v/s Ratio Perm						0.23						
v/c Ratio	0.87	0.76		1.45	1.12	0.94	0.99	1.22		1.44	1.03	
Uniform Delay, d1	55.3	43.7		60.0	51.3	41.9	58.9	47.0		59.5	47.6	
Progression Factor	1.09	0.85		1.12	0.98	0.86	1.11	0.75		0.90	0.65	
Incremental Delay, d2	21.5	4.8		224.4	64.7	19.4	48.9	107.8		217.4	30.5	
Delay (s)	82.0	41.9		291.7	115.1	55.6	114.1	143.2		270.8	61.6	
Level of Service	F	D		F	F	E	F	F		F	E	
Approach Delay (s)		51.7			125.8			139.0			107.9	
Approach LOS		D			F			F			F	

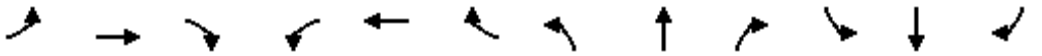
Intersection Summary			
HCM 2000 Control Delay	111.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	802	75	73	1119	169	94	42	68	203	101	226
Future Volume (vph)	166	802	75	73	1119	169	94	42	68	203	101	226
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3669		1862	1961	1619	1863	1961	1667	1863	1961	1667
Flt Permitted	0.05	1.00		0.25	1.00	1.00	0.52	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	93	3669		498	1961	1619	1023	1961	1667	1422	1961	1667
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.85	0.85	0.85	0.88	0.88	0.88
Adj. Flow (vph)	178	862	81	77	1178	178	111	49	80	231	115	257
RTOR Reduction (vph)	0	5	0	0	0	49	0	0	74	0	0	161
Lane Group Flow (vph)	178	938	0	77	1178	129	111	49	6	231	115	96
Confl. Peds. (#/hr)	3		2	2		3						
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	92.0	84.0		86.8	81.4	81.4	17.8	9.8	9.8	24.6	13.2	13.2
Effective Green, g (s)	92.0	84.0		86.8	81.4	81.4	17.8	9.8	9.8	24.6	13.2	13.2
Actuated g/C Ratio	0.68	0.62		0.64	0.60	0.60	0.13	0.07	0.07	0.18	0.10	0.10
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	168	2282		374	1182	976	184	142	121	296	191	162
v/s Ratio Prot	c0.06	0.26		0.01	0.60		0.04	0.02		c0.07	0.06	
v/s Ratio Perm	c0.66			0.12		0.08	0.04		0.00	c0.08		0.06
v/c Ratio	1.06	0.41		0.21	1.00	0.13	0.60	0.35	0.05	0.78	0.60	0.60
Uniform Delay, d1	60.2	12.9		16.0	26.7	11.6	56.6	59.5	58.3	51.5	58.4	58.3
Progression Factor	0.83	1.20		0.40	0.59	0.16	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	38.7	0.0		0.1	12.4	0.1	5.5	1.5	0.2	12.5	5.3	5.8
Delay (s)	89.0	15.5		6.4	28.2	2.0	62.0	61.0	58.4	64.0	63.6	64.1
Level of Service	F	B		A	C	A	E	E	E	E	E	E
Approach Delay (s)		27.2			23.8			60.6			64.0	
Approach LOS		C			C			E			E	

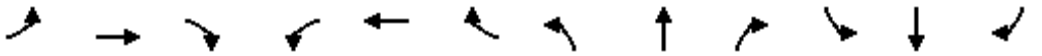
Intersection Summary			
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	26	433	372	52	45	378	830	222	11	1079	61
Future Volume (vph)	59	26	433	372	52	45	378	830	222	11	1079	61
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1825		3614	5353	1667	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1825		3614	5353	1667	1863	5353	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	62	27	456	404	57	49	415	912	244	12	1136	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	116	0	0	39
Lane Group Flow (vph)	62	27	456	404	106	0	415	912	128	12	1136	25
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	16.0	16.0	43.4	20.6	20.6		21.4	70.6	70.6	3.0	52.2	52.2
Effective Green, g (s)	16.0	16.0	43.4	20.6	20.6		21.4	70.6	70.6	3.0	52.2	52.2
Actuated g/C Ratio	0.12	0.12	0.32	0.15	0.15		0.16	0.52	0.52	0.02	0.39	0.39
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	220	232	942	551	278		572	2799	871	41	2069	644
v/s Ratio Prot	0.03	0.01	c0.16	c0.11	0.06		c0.11	0.17		0.01	c0.21	
v/s Ratio Perm									0.08			0.01
v/c Ratio	0.28	0.12	0.48	0.73	0.38		0.73	0.33	0.15	0.29	0.55	0.04
Uniform Delay, d1	54.3	53.2	36.8	54.6	51.5		54.0	18.5	16.6	65.0	32.2	25.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.67	0.49	0.31	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.4	5.2	1.0		4.2	0.3	0.3	3.9	1.1	0.1
Delay (s)	55.0	53.4	37.2	59.8	52.5		40.5	9.3	5.5	68.9	33.3	25.9
Level of Service	D	D	D	E	D		D	A	A	E	C	C
Approach Delay (s)		40.0			58.3			17.0			33.3	
Approach LOS		D			E			B			C	

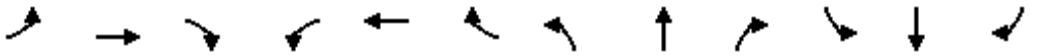
Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	513	256	77	915	102	284	223	47	170	390	186
Future Volume (vph)	133	513	256	77	915	102	284	223	47	170	390	186
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	1667	1863	1961	1632	1863	1961	1667	1863	1961	1667
Flt Permitted	0.07	1.00	1.00	0.24	1.00	1.00	0.12	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	138	1961	1667	478	1961	1632	234	1961	1667	827	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	140	540	269	81	963	107	319	251	53	205	470	224
RTOR Reduction (vph)	0	0	85	0	0	52	0	0	37	0	0	54
Lane Group Flow (vph)	140	540	184	81	963	55	319	251	16	205	470	170
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	64.3	56.8	69.8	63.7	56.5	69.0	46.5	33.5	40.7	45.5	33.0	40.5
Effective Green, g (s)	64.3	56.8	69.8	63.7	56.5	69.0	46.5	33.5	40.7	45.5	33.0	40.5
Actuated g/C Ratio	0.48	0.42	0.52	0.47	0.42	0.51	0.34	0.25	0.30	0.34	0.24	0.30
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	161	825	861	299	820	834	237	486	502	374	479	500
v/s Ratio Prot	c0.05	0.28	0.02	0.01	c0.49	0.01	c0.13	0.13	0.00	0.05	0.24	0.02
v/s Ratio Perm	0.36		0.09	0.11		0.03	c0.33		0.01	0.13		0.08
v/c Ratio	0.87	0.65	0.21	0.27	1.17	0.07	1.35	0.52	0.03	0.55	0.98	0.34
Uniform Delay, d1	31.6	31.3	17.7	22.6	39.2	16.7	37.2	43.8	33.3	33.8	50.7	36.8
Progression Factor	0.99	0.85	1.62	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	33.7	3.7	0.1	0.5	91.2	0.0	181.1	1.1	0.0	1.6	36.2	0.4
Delay (s)	64.9	30.2	28.8	23.1	130.4	16.7	218.3	44.8	33.3	35.4	86.8	37.2
Level of Service	E	C	C	C	F	B	F	D	C	D	F	D
Approach Delay (s)		34.9			112.3			132.7			62.8	
Approach LOS		C			F			F			E	

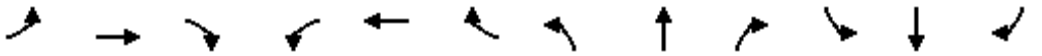
Intersection Summary			
HCM 2000 Control Delay	83.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	108.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	15	87	60	16	547	95	1432	69	476	1485	168
Future Volume (vph)	185	15	87	60	16	547	95	1432	69	476	1485	168
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3422	1667		1887	2933	1863	5316		3614	3725	1667
Flt Permitted	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3422	1667		1887	2933	1863	5316		3614	3725	1667
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.89	0.89	0.89	0.95	0.95	0.95
Adj. Flow (vph)	228	19	107	70	19	636	107	1609	78	501	1563	177
RTOR Reduction (vph)	0	0	92	0	0	86	0	4	0	0	0	58
Lane Group Flow (vph)	114	133	15	0	89	550	107	1683	0	501	1563	119
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	11.5	11.5	19.1		12.2	43.8	7.6	54.9		31.6	78.9	90.4
Effective Green, g (s)	11.5	11.5	19.1		12.2	43.8	7.6	54.9		31.6	78.9	90.4
Actuated g/C Ratio	0.09	0.09	0.14		0.09	0.32	0.06	0.41		0.23	0.58	0.67
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	144	291	235		170	1090	104	2161		845	2177	1116
v/s Ratio Prot	c0.07	0.04	0.00		0.05	c0.12	0.06	c0.32		0.14	c0.42	0.01
v/s Ratio Perm			0.01			0.07						0.06
v/c Ratio	0.79	0.46	0.06		0.52	0.50	1.03	0.78		0.59	0.72	0.11
Uniform Delay, d1	60.6	58.8	50.2		58.6	36.8	63.7	34.8		46.0	20.1	7.9
Progression Factor	1.01	1.01	1.43		1.00	1.00	0.84	1.10		0.93	0.86	1.19
Incremental Delay, d2	24.9	1.1	0.1		3.8	0.4	34.1	0.3		0.9	1.5	0.0
Delay (s)	86.4	60.5	71.8		62.4	37.3	87.6	38.4		43.5	18.8	9.5
Level of Service	F	E	E		E	D	F	D		D	B	A
Approach Delay (s)		72.2			40.3			41.4			23.6	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

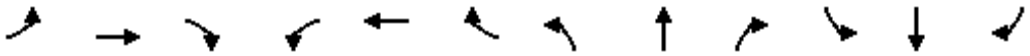
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	1	65	103	4	64	112	1335	93	108	1016	42
Future Volume (vph)	42	1	65	103	4	64	112	1335	93	108	1016	42
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1672		1863	1961	1667	1863	3689		1863	3703	
Flt Permitted	0.75	1.00		0.63	1.00	1.00	0.20	1.00		0.10	1.00	
Satd. Flow (perm)	1478	1672		1244	1961	1667	386	3689		203	3703	
Peak-hour factor, PHF	0.60	0.60	0.60	0.72	0.72	0.72	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	70	2	108	143	6	89	123	1467	102	119	1116	46
RTOR Reduction (vph)	0	92	0	0	0	76	0	3	0	0	2	0
Lane Group Flow (vph)	70	18	0	143	6	13	123	1566	0	119	1160	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	19.9	19.9		19.9	19.9	19.9	97.1	89.8		97.1	89.8	
Effective Green, g (s)	19.9	19.9		19.9	19.9	19.9	97.1	89.8		97.1	89.8	
Actuated g/C Ratio	0.15	0.15		0.15	0.15	0.15	0.72	0.67		0.72	0.67	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	217	246		183	289	245	357	2453		235	2463	
v/s Ratio Prot		0.01			0.00		0.02	c0.42		c0.03	0.31	
v/s Ratio Perm	0.05			c0.11		0.01	0.23			0.34		
v/c Ratio	0.32	0.07		0.78	0.02	0.05	0.34	0.64		0.51	0.47	
Uniform Delay, d1	51.5	49.6		55.5	49.2	49.5	15.2	13.2		29.2	11.0	
Progression Factor	1.04	1.14		1.00	1.00	1.00	1.00	1.00		0.71	0.90	
Incremental Delay, d2	0.9	0.1		19.2	0.0	0.1	0.6	1.3		0.2	0.1	
Delay (s)	54.3	56.6		74.6	49.2	49.5	15.8	14.4		20.8	10.0	
Level of Service	D	E		E	D	D	B	B		C	B	
Approach Delay (s)		55.7			64.6			14.5			11.0	
Approach LOS		E			E			B			B	

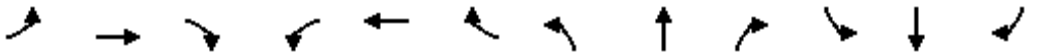
Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	60	7	0	36	43	1424	2	2	1283	56
Future Volume (vph)	40	0	60	7	0	36	43	1424	2	2	1283	56
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.89		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1600		1863	3725		1863	3702	
Flt Permitted	0.83	1.00			0.93		0.17	1.00		0.14	1.00	
Satd. Flow (perm)	1632	1667			1492		342	3725		277	3702	
Peak-hour factor, PHF	0.77	0.77	0.77	0.79	0.79	0.79	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	52	0	78	9	0	46	48	1582	2	2	1351	59
RTOR Reduction (vph)	0	73	0	0	43	0	0	0	0	0	2	0
Lane Group Flow (vph)	52	5	0	0	12	0	48	1584	0	2	1408	0
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	8.3	8.3			8.3		102.9	102.9		102.9	102.9	
Effective Green, g (s)	8.3	8.3			8.3		102.9	102.9		102.9	102.9	
Actuated g/C Ratio	0.07	0.07			0.07		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	110	112			100		286	3116		231	3097	
v/s Ratio Prot		0.00						c0.43			0.38	
v/s Ratio Perm	c0.03				0.01		0.14			0.01		
v/c Ratio	0.47	0.05			0.12		0.17	0.51		0.01	0.45	
Uniform Delay, d1	55.2	53.7			53.9		1.9	2.9		1.7	2.7	
Progression Factor	1.00	1.00			1.00		0.14	0.10		1.00	1.00	
Incremental Delay, d2	3.2	0.2			0.5		0.8	0.4		0.1	0.5	
Delay (s)	58.4	53.8			54.5		1.1	0.7		1.7	3.1	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		55.7			54.5			0.7			3.1	
Approach LOS		E			D			A			A	

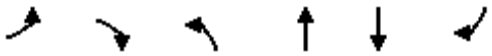
Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	646	417	349	0	1236	0	0	1479	479
Future Volume (vph)	0	0	0	646	417	349	0	1236	0	0	1479	479
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	680	439	367	0	1329	0	0	1557	504
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	0	0	75
Lane Group Flow (vph)	0	0	0	680	439	341	0	1329	0	0	1557	429
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				38.0	38.0	51.0		71.7			84.7	84.7
Effective Green, g (s)				38.0	38.0	51.0		71.7			84.7	84.7
Actuated g/C Ratio				0.28	0.28	0.38		0.53			0.63	0.63
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				1017	551	1108		2843			3358	1045
v/s Ratio Prot				0.19	c0.22	0.12		0.25			c0.29	0.26
v/s Ratio Perm												
v/c Ratio				0.67	0.80	0.31		0.47			0.46	0.41
Uniform Delay, d1				42.9	44.9	29.6		19.7			13.2	12.6
Progression Factor				1.00	1.00	1.00		0.75			0.93	0.97
Incremental Delay, d2				1.7	7.9	0.2		0.4			0.4	1.0
Delay (s)				44.6	52.8	29.7		15.3			12.7	13.2
Level of Service				D	D	C		B			B	B
Approach Delay (s)		0.0			43.3			15.3			12.8	
Approach LOS		A			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	285	393	0	1423	1736	0
Future Volume (vph)	285	393	0	1423	1736	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.94	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	3478	1517		3725	3725	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	3478	1517		3725	3725	
Peak-hour factor, PHF	0.94	0.94	0.86	0.86	0.94	0.94
Adj. Flow (vph)	303	418	0	1655	1847	0
RTOR Reduction (vph)	25	25	0	0	0	0
Lane Group Flow (vph)	466	205	0	1655	1847	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	24.2	24.2		98.8	98.8	
Effective Green, g (s)	24.2	24.2		98.8	98.8	
Actuated g/C Ratio	0.18	0.18		0.73	0.73	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	623	271		2726	2726	
v/s Ratio Prot	0.13	c0.14		0.44	c0.50	
v/s Ratio Perm						
v/c Ratio	0.75	0.76		0.61	0.68	
Uniform Delay, d1	52.5	52.6		8.7	9.6	
Progression Factor	1.00	1.00		0.24	0.69	
Incremental Delay, d2	5.1	11.8		0.7	1.2	
Delay (s)	57.6	64.4		2.8	7.9	
Level of Service	E	E		A	A	
Approach Delay (s)	59.8			2.8	7.9	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	923	19	7	1363	16	16
Future Volume (Veh/h)	923	19	7	1363	16	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.63	0.63
Hourly flow rate (vph)	1049	22	8	1482	25	25
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	370			619		
pX, platoon unblocked			0.91		0.81	0.91
vC, conflicting volume			1071		1818	536
vC1, stage 1 conf vol					1060	
vC2, stage 2 conf vol					758	
vCu, unblocked vol			872		1023	282
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		92	96
cM capacity (veh/h)			697		322	648

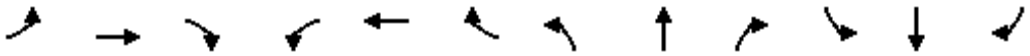
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	699	372	8	741	741	50
Volume Left	0	0	8	0	0	25
Volume Right	0	22	0	0	0	25
cSH	1700	1700	697	1700	1700	431
Volume to Capacity	0.41	0.22	0.01	0.44	0.44	0.12
Queue Length 95th (ft)	0	0	1	0	0	10
Control Delay (s)	0.0	0.0	10.2	0.0	0.0	14.5
Lane LOS			B			B
Approach Delay (s)	0.0		0.1			14.5
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1042	14	23	1201	12	8
Future Volume (Veh/h)	1042	14	23	1201	12	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	1097	15	24	1264	14	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.83		0.46	0.83
vC, conflicting volume			1112		2416	556
vC1, stage 1 conf vol					1104	
vC2, stage 2 conf vol					1312	
vCu, unblocked vol			725		2106	55
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			97		87	99
cM capacity (veh/h)			725		107	830

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	731	381	24	1264	23
Volume Left	0	0	24	0	14
Volume Right	0	15	0	0	9
cSH	1700	1700	725	1700	162
Volume to Capacity	0.43	0.22	0.03	0.74	0.14
Queue Length 95th (ft)	0	0	3	0	12
Control Delay (s)	0.0	0.0	10.1	0.0	30.8
Lane LOS			B		D
Approach Delay (s)	0.0		0.2		30.8
Approach LOS					D

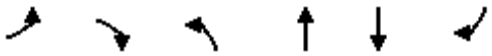
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	75	133	172	153	177	110	134	53	49	169	9
Future Volume (vph)	4	75	133	172	153	177	110	134	53	49	169	9
Peak Hour Factor	0.87	0.87	0.87	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Hourly flow rate (vph)	5	86	153	212	189	219	128	156	62	54	188	10

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	5	239	212	408	128	218	54	198
Volume Left (vph)	5	0	212	0	128	0	54	0
Volume Right (vph)	0	153	0	219	0	62	0	10
Hadj (s)	0.53	-0.41	0.53	-0.34	0.53	-0.17	0.53	0.00
Departure Headway (s)	8.0	7.0	7.4	6.6	8.0	7.3	8.1	7.6
Degree Utilization, x	0.01	0.47	0.44	0.74	0.28	0.44	0.12	0.42
Capacity (veh/h)	423	487	471	534	433	475	418	452
Control Delay (s)	9.9	14.9	14.9	24.9	12.9	14.6	11.0	14.7
Approach Delay (s)	14.8		21.5		14.0		13.9	
Approach LOS	B		C		B		B	

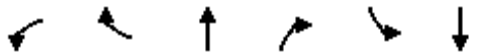
Intersection Summary				
Delay	17.3			
Level of Service	C			
Intersection Capacity Utilization	49.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	127	24	21	29	43	141
Future Volume (vph)	127	24	21	29	43	141
Peak Hour Factor	0.95	0.95	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	134	25	24	34	47	153

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	134	25	24	34	200
Volume Left (vph)	134	0	24	0	0
Volume Right (vph)	0	25	0	0	153
Hadj (s)	0.53	-0.67	0.57	0.07	-0.42
Departure Headway (s)	5.6	4.4	5.7	5.2	4.4
Degree Utilization, x	0.21	0.03	0.04	0.05	0.24
Capacity (veh/h)	608	767	605	661	783
Control Delay (s)	8.9	6.4	7.7	7.3	8.8
Approach Delay (s)	8.5		7.4		8.8
Approach LOS	A		A		A

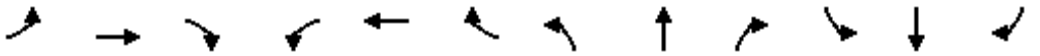
Intersection Summary			
Delay	8.5		
Level of Service	A		
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	28	22	1384	32	10	1325
Future Volume (Veh/h)	28	22	1384	32	10	1325
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	32	25	1521	35	11	1395
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.84					
vC, conflicting volume	2258	779			1556	
vC1, stage 1 conf vol	1538					
vC2, stage 2 conf vol	720					
vCu, unblocked vol	2120	779			1556	
tC, single (s)	6.9	7.0			4.1	
tC, 2 stage (s)	5.9					
tF (s)	3.6	3.4			2.2	
p0 queue free %	78	92			97	
cM capacity (veh/h)	148	330			421	

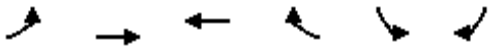
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	32	25	1014	542	11	698	698
Volume Left	32	0	0	0	11	0	0
Volume Right	0	25	0	35	0	0	0
cSH	148	330	1700	1700	421	1700	1700
Volume to Capacity	0.22	0.08	0.60	0.32	0.03	0.41	0.41
Queue Length 95th (ft)	20	6	0	0	2	0	0
Control Delay (s)	35.8	16.8	0.0	0.0	13.8	0.0	0.0
Lane LOS	E	C			B		
Approach Delay (s)	27.5		0.0		0.1		
Approach LOS	D						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	825	25	16	1296	67	21	7	12	105	8	84
Future Volume (vph)	43	825	25	16	1296	67	21	7	12	105	8	84
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3709		1845	3662		1863	1779		1863	1692	
Flt Permitted	0.12	1.00		0.29	1.00		0.49	1.00		0.74	1.00	
Satd. Flow (perm)	237	3709		559	3662		952	1779		1458	1692	
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.92	0.92	0.92	0.60	0.60	0.60
Adj. Flow (vph)	46	878	27	18	1440	74	23	8	13	175	13	140
RTOR Reduction (vph)	0	1	0	0	3	0	0	11	0	0	111	0
Lane Group Flow (vph)	46	904	0	18	1511	0	23	10	0	175	42	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	103.3	96.4		94.1	91.8		18.3	18.3		18.3	18.3	
Effective Green, g (s)	103.3	96.4		94.1	91.8		18.3	18.3		18.3	18.3	
Actuated g/C Ratio	0.77	0.71		0.70	0.68		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	264	2648		411	2490		129	241		197	229	
v/s Ratio Prot	c0.01	0.24		0.00	c0.41			0.01			0.03	
v/s Ratio Perm	0.12			0.03			0.02			c0.12		
v/c Ratio	0.17	0.34		0.04	0.61		0.18	0.04		0.89	0.18	
Uniform Delay, d1	15.5	7.3		9.1	11.8		51.7	50.7		57.3	51.7	
Progression Factor	1.00	1.00		0.59	0.67		1.01	1.02		1.02	1.17	
Incremental Delay, d2	0.3	0.4		0.0	0.1		0.7	0.1		34.6	0.4	
Delay (s)	15.8	7.6		5.4	8.0		53.0	52.0		93.1	61.0	
Level of Service	B	A		A	A		D	D		F	E	
Approach Delay (s)		8.0			8.0			52.5			78.1	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	49	40	32	26	0
Future Volume (Veh/h)	0	49	40	32	26	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	53	43	35	28	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		550	1165			
pX, platoon unblocked						
vC, conflicting volume	78				114	60
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	78				114	60
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1520				883	1005

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	53	78	28
Volume Left	0	0	28
Volume Right	0	35	0
cSH	1520	1700	883
Volume to Capacity	0.00	0.05	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	9.2
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	13.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	48	27	46	50	22	36
Future Volume (Veh/h)	48	27	46	50	22	36
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	29	50	54	24	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	750			965		
pX, platoon unblocked						
vC, conflicting volume			81		220	66
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			81		220	66
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	96
cM capacity (veh/h)			1517		742	997

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	81	104	63
Volume Left	0	50	24
Volume Right	29	0	39
cSH	1700	1517	882
Volume to Capacity	0.05	0.03	0.07
Queue Length 95th (ft)	0	3	6
Control Delay (s)	0.0	3.7	9.4
Lane LOS		A	A
Approach Delay (s)	0.0	3.7	9.4
Approach LOS			A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	96	9	16	142	7	12
Future Volume (Veh/h)	96	9	16	142	7	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	104	10	17	154	8	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				200		
pX, platoon unblocked					0.98	
vC, conflicting volume			114		297	109
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			114		275	109
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			1475		694	945

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	114	171	21
Volume Left	0	17	8
Volume Right	10	0	13
cSH	1700	1475	830
Volume to Capacity	0.07	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.8	9.4
Lane LOS		A	A
Approach Delay (s)	0.0	0.8	9.4
Approach LOS			A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	9	1587	19	9	1623
Future Volume (Veh/h)	19	9	1587	19	9	1623
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	21	10	1783	21	9	1708
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			587			395
pX, platoon unblocked	0.82	0.74			0.74	
vC, conflicting volume	2666	605			1804	
vC1, stage 1 conf vol	1794					
vC2, stage 2 conf vol	872					
vCu, unblocked vol	664	0			838	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	99			98	
cM capacity (veh/h)	281	798			583	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	31	713	713	378	9	854	854
Volume Left	21	0	0	0	9	0	0
Volume Right	10	0	0	21	0	0	0
cSH	356	1700	1700	1700	583	1700	1700
Volume to Capacity	0.09	0.42	0.42	0.22	0.02	0.50	0.50
Queue Length 95th (ft)	7	0	0	0	1	0	0
Control Delay (s)	16.1	0.0	0.0	0.0	11.3	0.0	0.0
Lane LOS	C				B		
Approach Delay (s)	16.1	0.0			0.1		
Approach LOS	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	909	57	15	1370	32	10
Future Volume (Veh/h)	909	57	15	1370	32	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	957	60	16	1442	35	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1105		
pX, platoon unblocked					0.43	
vC, conflicting volume			1017		2431	957
vC1, stage 1 conf vol					957	
vC2, stage 2 conf vol					1474	
vCu, unblocked vol			1017		3663	957
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		59	96
cM capacity (veh/h)			682		86	313

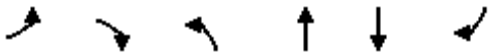
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	957	60	16	1442	46
Volume Left	0	0	16	0	35
Volume Right	0	60	0	0	11
cSH	1700	1700	682	1700	113
Volume to Capacity	0.56	0.04	0.02	0.85	0.41
Queue Length 95th (ft)	0	0	2	0	43
Control Delay (s)	0.0	0.0	10.4	0.0	59.9
Lane LOS			B		F
Approach Delay (s)	0.0		0.1		59.9
Approach LOS					F

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	896	23	0	1385	0	6
Future Volume (Veh/h)	896	23	0	1385	0	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	943	24	0	1458	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				300		
pX, platoon unblocked					0.43	
vC, conflicting volume			967		2413	484
vC1, stage 1 conf vol					955	
vC2, stage 2 conf vol					1458	
vCu, unblocked vol			967		3638	484
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			708		77	529

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	629	338	1458	7
Volume Left	0	0	0	0
Volume Right	0	24	0	7
cSH	1700	1700	1700	529
Volume to Capacity	0.37	0.20	0.86	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	11.9
Lane LOS				B
Approach Delay (s)	0.0		0.0	11.9
Approach LOS				B

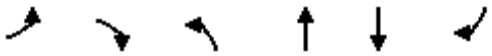
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	30	19	514	714	9
Future Volume (Veh/h)	40	30	19	514	714	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.83	0.83
Hourly flow rate (vph)	43	33	21	578	860	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					400	
pX, platoon unblocked	0.74	0.74	0.74			
vC, conflicting volume	1486	866	871			
vC1, stage 1 conf vol	866					
vC2, stage 2 conf vol	620					
vCu, unblocked vol	1480	644	651			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	91	97			
cM capacity (veh/h)	317	350	693			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	43	33	21	578	871
Volume Left	43	0	21	0	0
Volume Right	0	33	0	0	11
cSH	317	350	693	1700	1700
Volume to Capacity	0.14	0.09	0.03	0.34	0.51
Queue Length 95th (ft)	12	8	2	0	0
Control Delay (s)	18.1	16.3	10.4	0.0	0.0
Lane LOS	C	C	B		
Approach Delay (s)	17.3		0.4		0.0
Approach LOS	C				

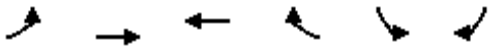
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	9	15	1452	1320	30
Future Volume (Veh/h)	17	9	15	1452	1320	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.95	0.95
Hourly flow rate (vph)	18	10	17	1613	1389	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					285	
pX, platoon unblocked	0.90	0.90	0.90			
vC, conflicting volume	2246	710	1421			
vC1, stage 1 conf vol	1405					
vC2, stage 2 conf vol	840					
vCu, unblocked vol	2157	443	1236			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	98	97			
cM capacity (veh/h)	184	504	501			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	18	10	17	806	806	926	495
Volume Left	18	0	17	0	0	0	0
Volume Right	0	10	0	0	0	0	32
cSH	184	504	501	1700	1700	1700	1700
Volume to Capacity	0.10	0.02	0.03	0.47	0.47	0.54	0.29
Queue Length 95th (ft)	8	2	3	0	0	0	0
Control Delay (s)	26.7	12.3	12.4	0.0	0.0	0.0	0.0
Lane LOS	D	B	B				
Approach Delay (s)	21.6		0.1			0.0	
Approach LOS	C						

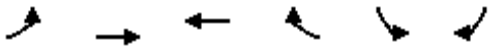
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	90	194	157	122	93	69
Future Volume (Veh/h)	90	194	157	122	93	69
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	111	240	183	142	101	75
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		853	483			
pX, platoon unblocked						
vC, conflicting volume	325				596	162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	325				596	162
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				74	91
cM capacity (veh/h)	1231				396	854

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	111	120	120	122	203	101	75
Volume Left	111	0	0	0	0	101	0
Volume Right	0	0	0	0	142	0	75
cSH	1231	1700	1700	1700	1700	396	854
Volume to Capacity	0.09	0.07	0.07	0.07	0.12	0.26	0.09
Queue Length 95th (ft)	7	0	0	0	0	25	7
Control Delay (s)	8.2	0.0	0.0	0.0	0.0	17.2	9.6
Lane LOS	A					C	A
Approach Delay (s)	2.6			0.0		14.0	
Approach LOS						B	

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	986	1264	73	49	97
Future Volume (Veh/h)	87	986	1264	73	49	97
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	94	1060	1331	77	53	105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		480				
pX, platoon unblocked					0.88	
vC, conflicting volume	1408				2088	704
vC1, stage 1 conf vol					1370	
vC2, stage 2 conf vol					718	
vCu, unblocked vol	1408				1959	704
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	80				71	72
cM capacity (veh/h)	481				181	379

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	94	530	530	887	521	53	105
Volume Left	94	0	0	0	0	53	0
Volume Right	0	0	0	0	77	0	105
cSH	481	1700	1700	1700	1700	181	379
Volume to Capacity	0.20	0.31	0.31	0.52	0.31	0.29	0.28
Queue Length 95th (ft)	18	0	0	0	0	29	28
Control Delay (s)	14.3	0.0	0.0	0.0	0.0	32.9	18.1
Lane LOS	B					D	C
Approach Delay (s)	1.2			0.0		23.1	
Approach LOS						C	

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	72	9	288	46	9	465
Future Volume (Veh/h)	72	9	288	46	9	465
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.90	0.90
Hourly flow rate (vph)	78	10	335	53	10	517
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			386			
pX, platoon unblocked	0.96	0.96			0.96	
vC, conflicting volume	898	362			388	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	871	309			337	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	74	99			99	
cM capacity (veh/h)	305	699			1169	

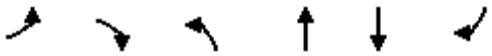
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	78	10	388	10	517
Volume Left	78	0	0	10	0
Volume Right	0	10	53	0	0
cSH	305	699	1700	1169	1700
Volume to Capacity	0.26	0.01	0.23	0.01	0.30
Queue Length 95th (ft)	25	1	0	1	0
Control Delay (s)	20.8	10.2	0.0	8.1	0.0
Lane LOS	C	B		A	
Approach Delay (s)	19.6		0.0	0.2	
Approach LOS	C				

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	157	20	7	493	9	7
Future Volume (Veh/h)	157	20	7	493	9	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.81	0.81	0.92	0.92
Hourly flow rate (vph)	180	23	9	609	10	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			203		818	192
vC1, stage 1 conf vol					192	
vC2, stage 2 conf vol					627	
vCu, unblocked vol			203		818	192
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	99
cM capacity (veh/h)			1369		500	850

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	203	9	609	10	8
Volume Left	0	9	0	10	0
Volume Right	23	0	0	0	8
cSH	1700	1369	1700	500	850
Volume to Capacity	0.12	0.01	0.36	0.02	0.01
Queue Length 95th (ft)	0	0	0	2	1
Control Delay (s)	0.0	7.6	0.0	12.4	9.3
Lane LOS		A		B	A
Approach Delay (s)	0.0	0.1		11.0	
Approach LOS				B	

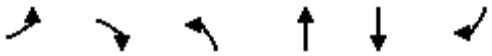
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	67	39	30	1400	1275	61
Future Volume (Veh/h)	67	39	30	1400	1275	61
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.95	0.95
Hourly flow rate (vph)	73	42	33	1556	1342	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				900	1216	
pX, platoon unblocked	0.83	0.90	0.90			
vC, conflicting volume	2218	703	1406			
vC1, stage 1 conf vol	1374					
vC2, stage 2 conf vol	844					
vCu, unblocked vol	1491	438	1222			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	66	92	94			
cM capacity (veh/h)	213	508	508			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	73	42	33	778	778	895	511
Volume Left	73	0	33	0	0	0	0
Volume Right	0	42	0	0	0	0	64
cSH	213	508	508	1700	1700	1700	1700
Volume to Capacity	0.34	0.08	0.06	0.46	0.46	0.53	0.30
Queue Length 95th (ft)	36	7	5	0	0	0	0
Control Delay (s)	30.5	12.7	12.6	0.0	0.0	0.0	0.0
Lane LOS	D	B	B				
Approach Delay (s)	24.0		0.3			0.0	
Approach LOS	C						

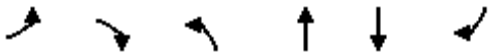
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	7	0	1467	1329	0
Future Volume (Veh/h)	0	7	0	1467	1329	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.95	0.95
Hourly flow rate (vph)	0	8	0	1630	1399	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				1150	966	
pX, platoon unblocked	0.83	0.89	0.89			
vC, conflicting volume	2214	700	1399			
vC1, stage 1 conf vol	1399					
vC2, stage 2 conf vol	815					
vCu, unblocked vol	1481	428	1210			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	209	514	512			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	8	815	815	700	700
Volume Left	0	0	0	0	0
Volume Right	8	0	0	0	0
cSH	514	1700	1700	1700	1700
Volume to Capacity	0.02	0.48	0.48	0.41	0.41
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	12.1	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	12.1	0.0		0.0	
Approach LOS	B				

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	44.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	93	6	111	104	3
Future Volume (Veh/h)	39	93	6	111	104	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Hourly flow rate (vph)	65	155	10	185	173	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				527	809	
pX, platoon unblocked						
vC, conflicting volume	288	89	178			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288	89	178			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	84	99			
cM capacity (veh/h)	674	951	1395			

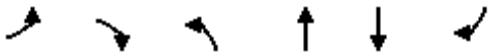
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	65	155	10	92	92	115	63
Volume Left	65	0	10	0	0	0	0
Volume Right	0	155	0	0	0	0	5
cSH	674	951	1395	1700	1700	1700	1700
Volume to Capacity	0.10	0.16	0.01	0.05	0.05	0.07	0.04
Queue Length 95th (ft)	8	15	1	0	0	0	0
Control Delay (s)	10.9	9.5	7.6	0.0	0.0	0.0	0.0
Lane LOS	B	A	A				
Approach Delay (s)	9.9		0.4			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	15.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1236	472	0	2125
Future Volume (Veh/h)	0	0	1236	472	0	2125
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	0	0	1329	508	0	2237
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.90	0.82			0.82	
vC, conflicting volume	2075	664			1837	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	930	149			1580	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	239	714			338	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	664	664	508	746	746	746
Volume Left	0	0	0	0	0	0
Volume Right	0	0	508	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.39	0.39	0.30	0.44	0.44	0.44
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1708	1736	389
Future Volume (Veh/h)	0	0	0	1708	1736	389
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	0	1986	1847	414
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.86	0.82	0.82			
vC, conflicting volume	2840	924	2261			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1884	475	2101			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	54	441	212			

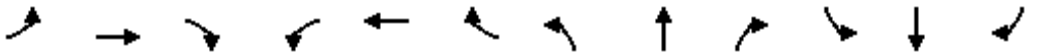
Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	993	993	924	924	414
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	414
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.58	0.58	0.54	0.54	0.24
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	71.0%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1423	711	0	2129
Future Volume (Veh/h)	0	0	1423	711	0	2129
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	1655	827	0	2265
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.85	0.72			0.72	
vC, conflicting volume	2410	828			2482	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	509	0			2284	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	420	785			158	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	828	828	827	755	755	755
Volume Left	0	0	0	0	0	0
Volume Right	0	0	827	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.49	0.49	0.49	0.44	0.44	0.44
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

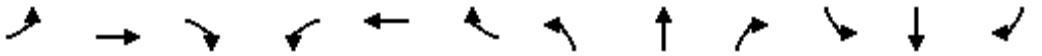
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	296	105	113	304	221	153	610	103	195	587	330
Future Volume (vph)	297	296	105	113	304	221	153	610	103	195	587	330
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.94		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3579		1863	3490		1863	3645		1863	3524	
Flt Permitted	0.22	1.00		0.29	1.00		0.13	1.00		0.24	1.00	
Satd. Flow (perm)	438	3579		569	3490		252	3645		463	3524	
Peak-hour factor, PHF	0.88	0.88	0.88	0.94	0.94	0.94	0.90	0.90	0.90	0.89	0.89	0.89
Adj. Flow (vph)	338	336	119	120	323	235	170	678	114	219	660	371
RTOR Reduction (vph)	0	34	0	0	128	0	0	12	0	0	67	0
Lane Group Flow (vph)	338	421	0	120	430	0	170	780	0	219	964	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	34.3	17.9		34.7	18.1		48.5	41.9		48.5	41.9	
Effective Green, g (s)	34.3	17.9		34.7	18.1		48.5	41.9		48.5	41.9	
Actuated g/C Ratio	0.31	0.16		0.32	0.17		0.44	0.38		0.44	0.38	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	352	587		378	579		209	1401		290	1354	
v/s Ratio Prot	c0.14	0.12		0.05	0.12		c0.05	0.21		0.05	0.27	
v/s Ratio Perm	c0.16			0.05			c0.31			0.29		
v/c Ratio	0.96	0.72		0.32	0.74		0.81	0.56		0.76	0.71	
Uniform Delay, d1	41.4	43.1		34.7	43.2		39.9	26.3		35.2	28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.90	
Incremental Delay, d2	37.4	4.2		0.5	5.1		20.9	1.6		10.1	3.0	
Delay (s)	78.8	47.3		35.2	48.4		60.8	27.9		41.9	28.7	
Level of Service	E	D		D	D		E	C		D	C	
Approach Delay (s)		60.7			46.0			33.7			31.0	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

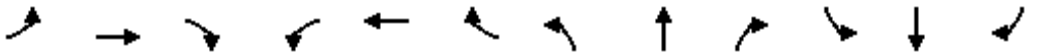
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	518	91	262	604	597	126	909	171	400	849	296
Future Volume (vph)	340	518	91	262	604	597	126	909	171	400	849	296
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3642		1863	3725	1667	1863	3637		1863	3581	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3642		1863	3725	1667	1863	3637		1863	3581	
Peak-hour factor, PHF	0.78	0.78	0.78	0.93	0.93	0.93	0.89	0.89	0.89	0.90	0.90	0.90
Adj. Flow (vph)	436	664	117	282	649	642	142	1021	192	444	943	329
RTOR Reduction (vph)	0	11	0	0	0	0	0	12	0	0	26	0
Lane Group Flow (vph)	436	770	0	282	649	642	142	1201	0	444	1246	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	33.0	37.0		17.0	21.0	40.9	12.5	33.9		19.9	41.3	
Effective Green, g (s)	33.0	37.0		17.0	21.0	40.9	12.5	33.9		19.9	41.3	
Actuated g/C Ratio	0.25	0.28		0.13	0.16	0.31	0.09	0.26		0.15	0.31	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	465	1020		239	592	516	176	934		280	1120	
v/s Ratio Prot	c0.23	0.21		c0.15	0.17	c0.19	0.08	c0.33		c0.24	0.35	
v/s Ratio Perm						0.20						
v/c Ratio	0.94	0.76		1.18	1.10	1.24	0.81	1.29		1.59	1.11	
Uniform Delay, d1	48.5	43.4		57.5	55.5	45.5	58.6	49.0		56.0	45.4	
Progression Factor	0.95	0.86		1.10	1.02	0.83	1.17	0.92		0.85	0.66	
Incremental Delay, d2	25.4	4.9		108.6	61.6	121.9	20.6	135.8		275.9	60.4	
Delay (s)	71.6	42.1		171.8	118.5	159.7	89.3	181.0		323.6	90.4	
Level of Service	E	D		F	F	F	F	F		F	F	
Approach Delay (s)		52.6			144.9			171.4			150.7	
Approach LOS		D			F			F			F	

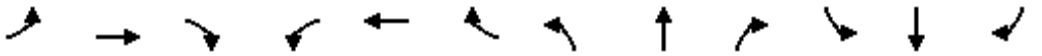
Intersection Summary			
HCM 2000 Control Delay	133.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	898	60	46	953	174	96	41	73	192	39	105
Future Volume (vph)	102	898	60	46	953	174	96	41	73	192	39	105
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3685		1863	1961	1667	1863	1961	1635	1854	1961	1667
Flt Permitted	0.05	1.00		0.23	1.00	1.00	0.73	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	98	3685		445	1961	1667	1423	1961	1635	1417	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.81	0.81	0.81
Adj. Flow (vph)	107	945	63	51	1047	191	109	47	83	237	48	130
RTOR Reduction (vph)	0	3	0	0	0	52	0	0	77	0	0	121
Lane Group Flow (vph)	107	1005	0	51	1047	139	109	47	6	237	48	9
Confl. Peds. (#/hr)			1	1					4	4		
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Actuated Green, G (s)	87.6	79.9		82.8	77.5	77.5	22.7	9.0	9.0	22.1	8.7	8.7
Effective Green, g (s)	87.6	79.9		82.8	77.5	77.5	22.7	9.0	9.0	22.1	8.7	8.7
Actuated g/C Ratio	0.66	0.61		0.63	0.59	0.59	0.17	0.07	0.07	0.17	0.07	0.07
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	167	2230		336	1151	978	290	133	111	281	129	109
v/s Ratio Prot	c0.04	0.27		0.01	c0.53		0.04	0.02		c0.09	0.02	
v/s Ratio Perm	0.38			0.09		0.08	0.03		0.00	c0.06		0.01
v/c Ratio	0.64	0.45		0.15	0.91	0.14	0.38	0.35	0.05	0.84	0.37	0.08
Uniform Delay, d1	54.3	14.1		17.5	24.1	12.3	49.0	58.7	57.5	51.9	59.0	57.9
Progression Factor	1.03	1.18		0.49	0.65	0.30	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.1		0.1	8.5	0.2	0.8	1.6	0.2	20.0	1.8	0.3
Delay (s)	57.0	16.7		8.7	24.3	3.9	49.8	60.3	57.7	71.9	60.8	58.2
Level of Service	E	B		A	C	A	D	E	E	E	E	E
Approach Delay (s)		20.5			20.7			54.6			66.3	
Approach LOS		C			C			D			E	

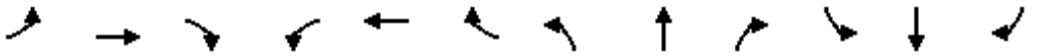
Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	126	778	679	153	41	715	945	513	24	1235	78
Future Volume (vph)	118	126	778	679	153	41	715	945	513	24	1235	78
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	134	828	746	168	45	753	995	540	25	1300	82
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	281	0	0	61
Lane Group Flow (vph)	126	134	828	746	213	0	753	995	259	25	1300	21
Confl. Peds. (#/hr)						2						2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	12.0	12.0	51.1	28.0	28.0		33.1	63.2	63.2	4.0	34.1	34.1
Effective Green, g (s)	12.0	12.0	51.1	28.0	28.0		33.1	63.2	63.2	4.0	34.1	34.1
Actuated g/C Ratio	0.09	0.09	0.39	0.21	0.21		0.25	0.48	0.48	0.03	0.26	0.26
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	178	1135	766	400		906	2562	798	56	1382	424
v/s Ratio Prot	0.07	0.07	c0.28	c0.21	0.11		c0.21	0.19		0.01	c0.24	
v/s Ratio Perm									0.16			0.01
v/c Ratio	0.75	0.75	0.73	0.97	0.53		0.83	0.39	0.32	0.45	0.94	0.05
Uniform Delay, d1	58.5	58.6	34.5	51.6	46.2		46.8	22.0	21.2	62.9	48.0	36.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.85	0.69	0.36	1.00	1.00	1.00
Incremental Delay, d2	16.3	16.4	2.4	26.1	1.5		4.0	0.3	0.6	5.6	13.7	0.2
Delay (s)	74.8	74.9	36.9	77.7	47.7		43.9	15.5	8.2	68.5	61.6	37.0
Level of Service	E	E	D	E	D		D	B	A	E	E	D
Approach Delay (s)		46.0			71.1			23.1			60.3	
Approach LOS		D			E			C			E	

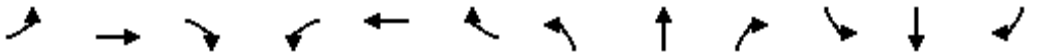
Intersection Summary					
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.92				
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.8		
Intersection Capacity Utilization	89.7%	ICU Level of Service	E		
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	585	229	54	718	102	304	203	44	88	231	134
Future Volume (vph)	127	585	229	54	718	102	304	203	44	88	231	134
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	1667	1863	1961	1630	1863	1961	1667	1863	1961	1667
Flt Permitted	0.11	1.00	1.00	0.24	1.00	1.00	0.24	1.00	1.00	0.46	1.00	1.00
Satd. Flow (perm)	220	1961	1667	465	1961	1630	464	1961	1667	910	1961	1667
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.94	0.94	0.94	0.88	0.88	0.88
Adj. Flow (vph)	140	643	252	59	789	112	323	216	47	100	262	152
RTOR Reduction (vph)	0	0	100	0	0	48	0	0	36	0	0	80
Lane Group Flow (vph)	140	643	152	59	789	64	323	216	11	100	263	72
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	1
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	72.3	66.8	79.8	70.1	65.7	76.0	38.5	25.5	29.9	33.1	22.8	28.3
Effective Green, g (s)	72.3	66.8	79.8	70.1	65.7	76.0	38.5	25.5	29.9	33.1	22.8	28.3
Actuated g/C Ratio	0.55	0.51	0.60	0.53	0.50	0.58	0.29	0.19	0.23	0.25	0.17	0.21
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	188	992	1007	293	976	938	273	378	377	302	338	357
v/s Ratio Prot	c0.03	0.33	0.01	0.01	c0.40	0.01	c0.12	0.11	0.00	0.03	0.13	0.01
v/s Ratio Perm	0.37		0.08	0.10		0.03	c0.23		0.01	0.06		0.03
v/c Ratio	0.74	0.65	0.15	0.20	0.81	0.07	1.18	0.57	0.03	0.33	0.78	0.20
Uniform Delay, d1	24.7	24.0	11.4	18.3	27.9	12.4	42.8	48.3	39.7	39.3	52.2	42.6
Progression Factor	0.78	0.86	2.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.3	2.9	0.1	0.3	7.2	0.0	113.4	2.2	0.0	0.6	11.1	0.3
Delay (s)	32.6	23.6	31.5	18.7	35.0	12.4	156.2	50.5	39.8	39.9	63.2	42.9
Level of Service	C	C	C	B	D	B	F	D	D	D	E	D
Approach Delay (s)		26.7			31.4			107.9			52.7	
Approach LOS		C			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	47.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	28	107	79	9	620	90	1731	93	654	1466	249
Future Volume (vph)	241	28	107	79	9	620	90	1731	93	654	1466	249
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3430	1667		1877	2933	1863	5312		3614	3725	1667
Flt Permitted	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3430	1667		1877	2933	1863	5312		3614	3725	1667
Peak-hour factor, PHF	0.83	0.83	0.83	0.94	0.94	0.94	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	290	34	129	84	10	660	95	1822	98	688	1543	262
RTOR Reduction (vph)	0	0	111	0	0	87	0	4	0	0	0	91
Lane Group Flow (vph)	145	179	18	0	94	573	95	1916	0	688	1543	171
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	9.0	9.0	18.3		12.6	44.2	9.3	54.0		31.6	76.3	85.3
Effective Green, g (s)	9.0	9.0	18.3		12.6	44.2	9.3	54.0		31.6	76.3	85.3
Actuated g/C Ratio	0.07	0.07	0.14		0.10	0.33	0.07	0.41		0.24	0.58	0.65
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	115	233	231		179	1124	131	2173		865	2153	1077
v/s Ratio Prot	c0.09	0.05	0.01		0.05	c0.12	0.05	c0.36		c0.19	0.41	0.01
v/s Ratio Perm			0.01			0.07						0.09
v/c Ratio	1.26	1.21dl	0.08		0.53	0.51	0.73	0.88		0.80	0.72	0.16
Uniform Delay, d1	61.5	60.5	49.5		56.9	35.2	60.1	36.0		47.2	20.1	9.2
Progression Factor	1.02	1.02	1.30		1.00	1.00	0.89	1.12		0.96	0.88	1.30
Incremental Delay, d2	169.7	14.1	0.1		3.6	0.4	1.8	0.5		2.1	0.8	0.0
Delay (s)	232.3	75.7	64.5		60.4	35.6	55.4	40.9		47.3	18.5	12.0
Level of Service	F	E	E		E	D	E	D		D	B	B
Approach Delay (s)		122.6			38.7			41.6			25.8	
Approach LOS		F			D			D			C	

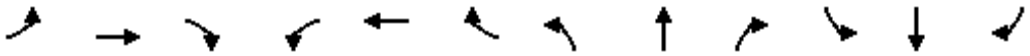
Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

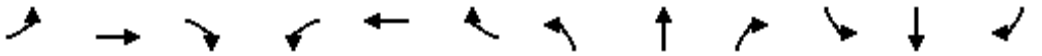
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	3	65	88	5	103	69	1152	130	130	1048	59
Future Volume (vph)	84	3	65	88	5	103	69	1152	130	130	1048	59
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1859	1679		1863	1961	1643	1863	3669		1863	3696	
Flt Permitted	0.75	1.00		0.69	1.00	1.00	0.20	1.00		0.15	1.00	
Satd. Flow (perm)	1474	1679		1352	1961	1643	396	3669		287	3696	
Peak-hour factor, PHF	0.74	0.74	0.74	0.72	0.72	0.72	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	114	4	88	122	7	143	74	1239	140	137	1103	62
RTOR Reduction (vph)	0	77	0	0	0	125	0	5	0	0	2	0
Lane Group Flow (vph)	114	15	0	122	7	18	74	1374	0	137	1163	0
Confl. Peds. (#/hr)	1					1						
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	17.0	17.0		17.0	17.0	17.0	94.7	88.9		99.3	91.2	
Effective Green, g (s)	17.0	17.0		17.0	17.0	17.0	94.7	88.9		99.3	91.2	
Actuated g/C Ratio	0.13	0.13		0.13	0.13	0.13	0.72	0.67		0.75	0.69	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	189	216		174	252	211	348	2471		312	2553	
v/s Ratio Prot		0.01			0.00		0.01	c0.37		c0.03	0.31	
v/s Ratio Perm	0.08			c0.09		0.01	0.14			0.30		
v/c Ratio	0.60	0.07		0.70	0.03	0.09	0.21	0.56		0.44	0.46	
Uniform Delay, d1	54.3	50.6		55.1	50.3	50.7	12.3	11.2		18.3	9.2	
Progression Factor	1.00	0.99		1.00	1.00	1.00	1.00	1.00		0.75	0.21	
Incremental Delay, d2	5.3	0.1		12.0	0.0	0.2	0.3	0.9		0.1	0.1	
Delay (s)	59.9	50.4		67.1	50.3	50.8	12.6	12.2		13.9	2.0	
Level of Service	E	D		E	D	D	B	B		B	A	
Approach Delay (s)		55.7			58.1			12.2			3.2	
Approach LOS		E			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	0	65	0	0	1	62	1273	1	7	1146	55
Future Volume (vph)	44	0	65	0	0	1	62	1273	1	7	1146	55
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1696		1863	3725		1862	3700	
Flt Permitted	0.76	1.00			1.00		0.21	1.00		0.18	1.00	
Satd. Flow (perm)	1483	1667			1696		404	3725		356	3700	
Peak-hour factor, PHF	0.90	0.90	0.90	0.60	0.60	0.60	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	49	0	72	0	0	2	67	1369	1	7	1206	58
RTOR Reduction (vph)	0	67	0	0	2	0	0	0	0	0	2	0
Lane Group Flow (vph)	49	5	0	0	0	0	67	1370	0	7	1262	0
Confl. Peds. (#/hr)									1	1		
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.9	7.9			7.9		89.3	89.3		89.3	89.3	
Effective Green, g (s)	7.9	7.9			7.9		89.3	89.3		89.3	89.3	
Actuated g/C Ratio	0.07	0.07			0.07		0.82	0.82		0.82	0.82	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	107	120			122		330	3051		291	3031	
v/s Ratio Prot		0.00			0.00			c0.37			0.34	
v/s Ratio Perm	c0.03						0.17			0.02		
v/c Ratio	0.46	0.04			0.00		0.20	0.45		0.02	0.42	
Uniform Delay, d1	48.5	47.0			46.9		2.1	2.8		1.8	2.7	
Progression Factor	1.00	1.00			1.00		0.38	0.32		1.00	1.00	
Incremental Delay, d2	3.1	0.1			0.0		1.1	0.4		0.2	0.4	
Delay (s)	51.6	47.2			46.9		1.9	1.3		2.0	3.1	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		49.0			46.9			1.3			3.1	
Approach LOS		D			D			A			A	

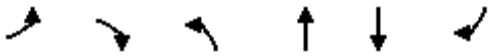
Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	814	179	1035	0	1671	0	0	2005	491
Future Volume (vph)	0	0	0	814	179	1035	0	1671	0	0	2005	491
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	925	203	1176	0	1759	0	0	2203	540
RTOR Reduction (vph)	0	0	0	0	0	16	0	0	0	0	0	138
Lane Group Flow (vph)	0	0	0	925	203	1160	0	1759	0	0	2203	402
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				34.0	34.0	56.0		63.7			85.7	85.7
Effective Green, g (s)				34.0	34.0	56.0		63.7			85.7	85.7
Actuated g/C Ratio				0.26	0.26	0.42		0.48			0.65	0.65
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				930	505	1244		2583			3475	1082
v/s Ratio Prot				0.26	0.10	c0.40		c0.33			0.41	0.24
v/s Ratio Perm												
v/c Ratio				0.99	0.40	0.93		0.68			0.63	0.37
Uniform Delay, d1				48.9	40.6	36.2		26.3			13.8	10.7
Progression Factor				1.00	1.00	1.00		0.88			0.96	1.34
Incremental Delay, d2				28.0	0.5	12.6		0.9			0.4	0.4
Delay (s)				76.9	41.1	48.8		24.0			13.6	14.8
Level of Service				E	D	D		C			B	B
Approach Delay (s)		0.0			59.4			24.0			13.8	
Approach LOS		A			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	480	483	0	1770	2200	0
Future Volume (vph)	480	483	0	1770	2200	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.96	0.85		1.00	1.00	
Flt Protected	0.96	1.00		1.00	1.00	
Satd. Flow (prot)	3521	1517		3725	3725	
Flt Permitted	0.96	1.00		1.00	1.00	
Satd. Flow (perm)	3521	1517		3725	3725	
Peak-hour factor, PHF	0.95	0.95	0.94	0.94	0.94	0.94
Adj. Flow (vph)	505	508	0	1883	2340	0
RTOR Reduction (vph)	4	4	0	0	0	0
Lane Group Flow (vph)	689	316	0	1883	2340	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	33.8	33.8		86.2	86.2	
Effective Green, g (s)	33.8	33.8		86.2	86.2	
Actuated g/C Ratio	0.26	0.26		0.65	0.65	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	901	388		2432	2432	
v/s Ratio Prot	0.20	c0.21		0.51	c0.63	
v/s Ratio Perm						
v/c Ratio	0.76	0.81		0.77	0.96	
Uniform Delay, d1	45.4	46.1		16.1	21.4	
Progression Factor	1.00	1.00		0.43	0.95	
Incremental Delay, d2	4.0	12.6		1.5	8.3	
Delay (s)	49.4	58.7		8.3	28.5	
Level of Service	D	E		A	C	
Approach Delay (s)	52.4			8.3	28.5	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1035	12	15	1017	17	7
Future Volume (Veh/h)	1035	12	15	1017	17	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.87	0.87	0.82	0.82
Hourly flow rate (vph)	1137	13	17	1169	21	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	370			619		
pX, platoon unblocked			0.87		0.91	0.87
vC, conflicting volume			1150		1762	575
vC1, stage 1 conf vol					1144	
vC2, stage 2 conf vol					618	
vCu, unblocked vol			883		1011	225
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			97		93	99
cM capacity (veh/h)			666		309	680

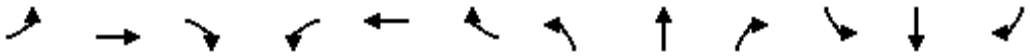
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	758	392	17	584	584	30
Volume Left	0	0	17	0	0	21
Volume Right	0	13	0	0	0	9
cSH	1700	1700	666	1700	1700	369
Volume to Capacity	0.45	0.23	0.03	0.34	0.34	0.08
Queue Length 95th (ft)	0	0	2	0	0	7
Control Delay (s)	0.0	0.0	10.5	0.0	0.0	15.6
Lane LOS			B			C
Approach Delay (s)	0.0		0.2			15.6
Approach LOS						C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1030	13	8	1289	12	11
Future Volume (Veh/h)	1030	13	8	1289	12	11
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.63	0.63
Hourly flow rate (vph)	1084	14	8	1357	19	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.85		0.46	0.85
vC, conflicting volume			1098		2464	549
vC1, stage 1 conf vol					1091	
vC2, stage 2 conf vol					1373	
vCu, unblocked vol			754		2352	105
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		79	98
cM capacity (veh/h)			722		91	787

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	723	375	8	1357	36
Volume Left	0	0	8	0	19
Volume Right	0	14	0	0	17
cSH	1700	1700	722	1700	157
Volume to Capacity	0.43	0.22	0.01	0.80	0.23
Queue Length 95th (ft)	0	0	1	0	21
Control Delay (s)	0.0	0.0	10.0	0.0	34.7
Lane LOS			B		D
Approach Delay (s)	0.0		0.1		34.7
Approach LOS					D

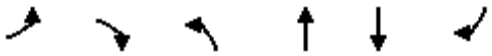
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	96	189	40	88	45	161	92	42	47	103	24
Future Volume (vph)	9	96	189	40	88	45	161	92	42	47	103	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	0.67	0.67	0.67
Hourly flow rate (vph)	9	101	199	42	93	47	187	107	49	70	154	36

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	9	300	42	140	187	156	70	190
Volume Left (vph)	9	0	42	0	187	0	70	0
Volume Right (vph)	0	199	0	47	0	49	0	36
Hadj (s)	0.53	-0.43	0.53	-0.20	0.53	-0.19	0.53	-0.10
Departure Headway (s)	7.0	6.1	7.2	6.5	6.9	6.2	7.0	6.4
Degree Utilization, x	0.02	0.51	0.08	0.25	0.36	0.27	0.14	0.34
Capacity (veh/h)	481	566	463	516	488	551	481	531
Control Delay (s)	9.0	13.9	9.7	10.5	12.5	10.2	9.9	11.4
Approach Delay (s)	13.8		10.3		11.4		11.0	
Approach LOS	B		B		B		B	

Intersection Summary				
Delay	11.8			
Level of Service	B			
Intersection Capacity Utilization	47.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	164	38	24	27	23	103
Future Volume (vph)	164	38	24	27	23	103
Peak Hour Factor	0.77	0.77	0.82	0.82	0.77	0.77
Hourly flow rate (vph)	213	49	29	33	30	134

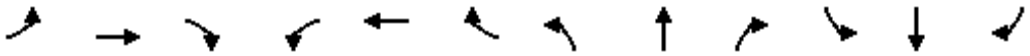
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	213	49	29	33	164
Volume Left (vph)	213	0	29	0	0
Volume Right (vph)	0	49	0	0	134
Hadj (s)	0.53	-0.67	0.53	0.03	-0.46
Departure Headway (s)	5.6	4.4	5.9	5.4	4.6
Degree Utilization, x	0.33	0.06	0.05	0.05	0.21
Capacity (veh/h)	618	783	575	625	732
Control Delay (s)	10.1	6.5	8.0	7.5	8.9
Approach Delay (s)	9.4		7.8		8.9
Approach LOS	A		A		A

Intersection Summary			
Delay	9.0		
Level of Service	A		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	15	1330	24	12	1177
Future Volume (Veh/h)	25	15	1330	24	12	1177
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	42	25	1462	26	13	1239
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.86					
vC, conflicting volume	2122	745			1489	
vC1, stage 1 conf vol	1476					
vC2, stage 2 conf vol	646					
vCu, unblocked vol	1978	745			1489	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	93			97	
cM capacity (veh/h)	167	356			447	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	42	25	975	513	13	620	620
Volume Left	42	0	0	0	13	0	0
Volume Right	0	25	0	26	0	0	0
cSH	167	356	1700	1700	447	1700	1700
Volume to Capacity	0.25	0.07	0.57	0.30	0.03	0.36	0.36
Queue Length 95th (ft)	24	6	0	0	2	0	0
Control Delay (s)	33.7	15.9	0.0	0.0	13.3	0.0	0.0
Lane LOS	D	C			B		
Approach Delay (s)	27.0		0.0		0.1		
Approach LOS	D						

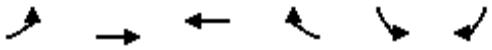
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	965	21	12	962	60	18	11	12	70	11	78
Future Volume (vph)	50	965	21	12	962	60	18	11	12	70	11	78
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.92		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3713		1863	3693		1863	1808		1863	1702	
Flt Permitted	0.21	1.00		0.20	1.00		0.47	1.00		0.74	1.00	
Satd. Flow (perm)	420	3713		393	3693		918	1808		1453	1702	
Peak-hour factor, PHF	0.82	0.82	0.82	0.90	0.90	0.90	0.92	0.92	0.92	0.60	0.60	0.60
Adj. Flow (vph)	61	1177	26	13	1069	67	20	12	13	117	18	130
RTOR Reduction (vph)	0	1	0	0	3	0	0	12	0	0	115	0
Lane Group Flow (vph)	61	1202	0	13	1133	0	20	13	0	117	33	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	103.5	96.5		94.1	91.8		15.2	15.2		15.2	15.2	
Effective Green, g (s)	103.5	96.5		94.1	91.8		15.2	15.2		15.2	15.2	
Actuated g/C Ratio	0.78	0.73		0.71	0.70		0.12	0.12		0.12	0.12	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	405	2714		305	2568		105	208		167	195	
v/s Ratio Prot	c0.01	c0.32		0.00	0.31			0.01			0.02	
v/s Ratio Perm	0.11			0.03			0.02			c0.08		
v/c Ratio	0.15	0.44		0.04	0.44		0.19	0.06		0.70	0.17	
Uniform Delay, d1	7.8	7.1		10.2	8.8		52.8	52.1		56.2	52.7	
Progression Factor	1.00	1.00		0.97	0.78		1.16	1.24		0.97	1.04	
Incremental Delay, d2	0.2	0.5		0.0	0.1		0.9	0.1		12.3	0.4	
Delay (s)	8.0	7.6		10.0	7.0		62.1	64.7		66.7	55.2	
Level of Service	A	A		A	A		E	E		E	E	
Approach Delay (s)		7.6			7.1			63.6			60.3	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	44	41	24	27	0
Future Volume (Veh/h)	0	44	41	24	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	48	45	26	29	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		550	1165			
pX, platoon unblocked						
vC, conflicting volume	71				106	58
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	71				106	58
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1529				892	1008

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	48	71	29
Volume Left	0	0	29
Volume Right	0	26	0
cSH	1529	1700	892
Volume to Capacity	0.00	0.04	0.03
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	9.2
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	13.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	46	25	41	40	25	40
Future Volume (Veh/h)	46	25	41	40	25	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	27	45	43	27	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	750			965		
pX, platoon unblocked						
vC, conflicting volume			77		196	64
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			77		196	64
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		96	96
cM capacity (veh/h)			1522		769	1001

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	77	88	70
Volume Left	0	45	27
Volume Right	27	0	43
cSH	1700	1522	897
Volume to Capacity	0.05	0.03	0.08
Queue Length 95th (ft)	0	2	6
Control Delay (s)	0.0	3.9	9.4
Lane LOS		A	A
Approach Delay (s)	0.0	3.9	9.4
Approach LOS			A

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	138	9	14	119	9	14
Future Volume (Veh/h)	138	9	14	119	9	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	150	10	15	129	10	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				200		
pX, platoon unblocked					1.00	
vC, conflicting volume			160		314	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			160		310	155
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1419		673	891

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	160	144	25
Volume Left	0	15	10
Volume Right	10	0	15
cSH	1700	1419	789
Volume to Capacity	0.09	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.9	9.7
Lane LOS		A	A
Approach Delay (s)	0.0	0.9	9.7
Approach LOS			A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	12	1902	16	13	1639
Future Volume (Veh/h)	15	12	1902	16	13	1639
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	13	2002	17	14	1725
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			587			395
pX, platoon unblocked	0.80	0.78			0.78	
vC, conflicting volume	2901	676			2019	
vC1, stage 1 conf vol	2010					
vC2, stage 2 conf vol	890					
vCu, unblocked vol	1202	0			1302	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	98			97	
cM capacity (veh/h)	168	841			409	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	29	801	801	417	14	862	862
Volume Left	16	0	0	0	14	0	0
Volume Right	13	0	0	17	0	0	0
cSH	262	1700	1700	1700	409	1700	1700
Volume to Capacity	0.11	0.47	0.47	0.25	0.03	0.51	0.51
Queue Length 95th (ft)	9	0	0	0	3	0	0
Control Delay (s)	20.5	0.0	0.0	0.0	14.1	0.0	0.0
Lane LOS	C				B		
Approach Delay (s)	20.5	0.0			0.1		
Approach LOS	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	983	77	20	1136	77	20
Future Volume (Veh/h)	983	77	20	1136	77	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	1080	85	22	1248	84	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1105		
pX, platoon unblocked					0.46	
vC, conflicting volume			1165		2372	1080
vC1, stage 1 conf vol					1080	
vC2, stage 2 conf vol					1292	
vCu, unblocked vol			1165		3390	1080
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			96		35	92
cM capacity (veh/h)			600		129	265

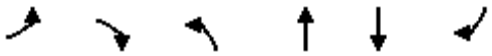
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1080	85	22	1248	106
Volume Left	0	0	22	0	84
Volume Right	0	85	0	0	22
cSH	1700	1700	600	1700	156
Volume to Capacity	0.64	0.05	0.04	0.73	0.68
Queue Length 95th (ft)	0	0	3	0	98
Control Delay (s)	0.0	0.0	11.2	0.0	66.5
Lane LOS			B		F
Approach Delay (s)	0.0		0.2		66.5
Approach LOS					F

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	936	67	0	1156	0	5
Future Volume (Veh/h)	936	67	0	1156	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	1029	74	0	1270	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				300		
pX, platoon unblocked					0.48	
vC, conflicting volume			1103		2336	552
vC1, stage 1 conf vol					1066	
vC2, stage 2 conf vol					1270	
vCu, unblocked vol			1103		3239	552
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			629		124	478

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	686	417	1270	5
Volume Left	0	0	0	0
Volume Right	0	74	0	5
cSH	1700	1700	1700	478
Volume to Capacity	0.40	0.25	0.75	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	12.6
Lane LOS				B
Approach Delay (s)	0.0		0.0	12.6
Approach LOS				B

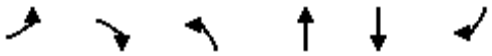
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	34	34	472	497	17
Future Volume (Veh/h)	79	34	34	472	497	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.88	0.88
Hourly flow rate (vph)	86	37	36	502	565	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					400	
pX, platoon unblocked	0.87	0.87	0.87			
vC, conflicting volume	1148	574	584			
vC1, stage 1 conf vol	574					
vC2, stage 2 conf vol	574					
vCu, unblocked vol	1094	430	441			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	93	96			
cM capacity (veh/h)	425	541	968			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	86	37	36	502	584
Volume Left	86	0	36	0	0
Volume Right	0	37	0	0	19
cSH	425	541	968	1700	1700
Volume to Capacity	0.20	0.07	0.04	0.30	0.34
Queue Length 95th (ft)	19	5	3	0	0
Control Delay (s)	15.6	12.1	8.9	0.0	0.0
Lane LOS	C	B	A		
Approach Delay (s)	14.6		0.6		0.0
Approach LOS	B				

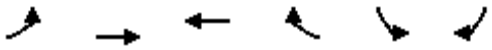
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	12	12	1298	1173	38
Future Volume (Veh/h)	38	12	12	1298	1173	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	41	13	13	1396	1235	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					285	
pX, platoon unblocked	0.90	0.90	0.90			
vC, conflicting volume	1979	638	1275			
vC1, stage 1 conf vol	1255					
vC2, stage 2 conf vol	724					
vCu, unblocked vol	1869	384	1090			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	98	98			
cM capacity (veh/h)	224	555	574			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	41	13	13	698	698	823	452
Volume Left	41	0	13	0	0	0	0
Volume Right	0	13	0	0	0	0	40
cSH	224	555	574	1700	1700	1700	1700
Volume to Capacity	0.18	0.02	0.02	0.41	0.41	0.48	0.27
Queue Length 95th (ft)	16	2	2	0	0	0	0
Control Delay (s)	24.7	11.6	11.4	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	21.5		0.1			0.0	
Approach LOS	C						

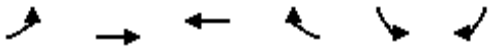
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	86	243	204	144	133	83
Future Volume (Veh/h)	86	243	204	144	133	83
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	104	293	217	153	145	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		853	483			
pX, platoon unblocked						
vC, conflicting volume	370				648	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	370				648	185
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				61	89
cM capacity (veh/h)	1185				368	826

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	104	146	146	145	225	145	90
Volume Left	104	0	0	0	0	145	0
Volume Right	0	0	0	0	153	0	90
cSH	1185	1700	1700	1700	1700	368	826
Volume to Capacity	0.09	0.09	0.09	0.09	0.13	0.39	0.11
Queue Length 95th (ft)	7	0	0	0	0	46	9
Control Delay (s)	8.3	0.0	0.0	0.0	0.0	21.0	9.9
Lane LOS	A					C	A
Approach Delay (s)	2.2			0.0		16.8	
Approach LOS						C	

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	1100	1105	44	29	68
Future Volume (Veh/h)	63	1100	1105	44	29	68
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	66	1158	1214	48	32	74
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		480				
pX, platoon unblocked					0.86	
vC, conflicting volume	1262				1949	631
vC1, stage 1 conf vol					1238	
vC2, stage 2 conf vol					711	
vCu, unblocked vol	1262				1773	631
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	88				85	83
cM capacity (veh/h)	547				214	424

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	66	579	579	809	453	32	74
Volume Left	66	0	0	0	0	32	0
Volume Right	0	0	0	0	48	0	74
cSH	547	1700	1700	1700	1700	214	424
Volume to Capacity	0.12	0.34	0.34	0.48	0.27	0.15	0.17
Queue Length 95th (ft)	10	0	0	0	0	13	16
Control Delay (s)	12.5	0.0	0.0	0.0	0.0	24.7	15.3
Lane LOS	B					C	C
Approach Delay (s)	0.7			0.0		18.1	
Approach LOS						C	

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	9	286	34	9	323
Future Volume (Veh/h)	50	9	286	34	9	323
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.67	0.67
Hourly flow rate (vph)	54	10	333	40	13	482
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			386			
pX, platoon unblocked	0.98	0.98			0.98	
vC, conflicting volume	861	353			373	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	846	325			346	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	99			99	
cM capacity (veh/h)	321	699			1185	

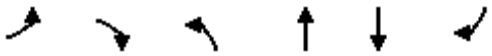
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	54	10	373	13	482
Volume Left	54	0	0	13	0
Volume Right	0	10	40	0	0
cSH	321	699	1700	1185	1700
Volume to Capacity	0.17	0.01	0.22	0.01	0.28
Queue Length 95th (ft)	15	1	0	1	0
Control Delay (s)	18.4	10.2	0.0	8.1	0.0
Lane LOS	C	B		A	
Approach Delay (s)	17.2		0.0	0.2	
Approach LOS	C				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	26.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	168	17	3	165	8	2
Future Volume (Veh/h)	168	17	3	165	8	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	177	18	3	174	9	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			195		366	186
vC1, stage 1 conf vol					186	
vC2, stage 2 conf vol					180	
vCu, unblocked vol			195		366	186
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1378		757	856

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	195	3	174	9	2
Volume Left	0	3	0	9	0
Volume Right	18	0	0	0	2
cSH	1700	1378	1700	757	856
Volume to Capacity	0.11	0.00	0.10	0.01	0.00
Queue Length 95th (ft)	0	0	0	1	0
Control Delay (s)	0.0	7.6	0.0	9.8	9.2
Lane LOS		A		A	A
Approach Delay (s)	0.0	0.1		9.7	
Approach LOS				A	

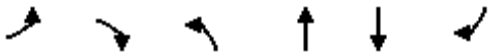
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	15	21	1271	1122	66
Future Volume (Veh/h)	39	15	21	1271	1122	66
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	42	16	23	1367	1181	69
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				900	1216	
pX, platoon unblocked	0.89	0.91	0.91			
vC, conflicting volume	1945	625	1250			
vC1, stage 1 conf vol	1216					
vC2, stage 2 conf vol	730					
vCu, unblocked vol	1375	399	1083			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	97	96			
cM capacity (veh/h)	255	549	584			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	42	16	23	684	684	787	463
Volume Left	42	0	23	0	0	0	0
Volume Right	0	16	0	0	0	0	69
cSH	255	549	584	1700	1700	1700	1700
Volume to Capacity	0.16	0.03	0.04	0.40	0.40	0.46	0.27
Queue Length 95th (ft)	14	2	3	0	0	0	0
Control Delay (s)	21.9	11.8	11.4	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	19.1		0.2			0.0	
Approach LOS	C						

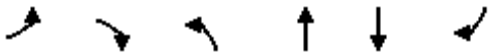
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3	0	1310	1185	0
Future Volume (Veh/h)	0	3	0	1310	1185	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	0	3	0	1409	1247	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				1150	966	
pX, platoon unblocked	0.90	0.91	0.91			
vC, conflicting volume	1952	624	1247			
vC1, stage 1 conf vol	1247					
vC2, stage 2 conf vol	704					
vCu, unblocked vol	1371	383	1069			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	250	559	588			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	3	704	704	624	624
Volume Left	0	0	0	0	0
Volume Right	3	0	0	0	0
cSH	559	1700	1700	1700	1700
Volume to Capacity	0.01	0.41	0.41	0.37	0.37
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	11.5	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	11.5	0.0		0.0	
Approach LOS	B				

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	41.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	32	5	116	127	3
Future Volume (Veh/h)	11	32	5	116	127	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Hourly flow rate (vph)	18	53	8	193	212	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				527	809	
pX, platoon unblocked						
vC, conflicting volume	327	108	217			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327	108	217			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	94	99			
cM capacity (veh/h)	638	924	1350			

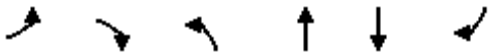
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	18	53	8	96	96	141	76
Volume Left	18	0	8	0	0	0	0
Volume Right	0	53	0	0	0	0	5
cSH	638	924	1350	1700	1700	1700	1700
Volume to Capacity	0.03	0.06	0.01	0.06	0.06	0.08	0.04
Queue Length 95th (ft)	2	5	0	0	0	0	0
Control Delay (s)	10.8	9.1	7.7	0.0	0.0	0.0	0.0
Lane LOS	B	A	A				
Approach Delay (s)	9.6		0.3			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	13.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1671	579	0	2819
Future Volume (Veh/h)	0	0	1671	579	0	2819
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	0	0	1759	609	0	3098
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.79	0.66			0.66	
vC, conflicting volume	2792	880			2368	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	804	0			2043	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	252	716			180	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	880	880	609	1033	1033	1033
Volume Left	0	0	0	0	0	0
Volume Right	0	0	609	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.52	0.52	0.36	0.61	0.61	0.61
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	2250	2200	619
Future Volume (Veh/h)	0	0	0	2250	2200	619
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	2394	2340	659
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.76	0.72	0.72			
vC, conflicting volume	3537	1170	2999			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2032	450	2999			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	38	400	81			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	1197	1197	1170	1170	659
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	659
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.70	0.70	0.69	0.69	0.39
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1770	965	0	2683
Future Volume (Veh/h)	0	0	1770	965	0	2683
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	1883	1027	0	2854
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.59	0.67			0.67	
vC, conflicting volume	2834	942			2910	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0			2865	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	601	722			85	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	942	942	1027	951	951	951
Volume Left	0	0	0	0	0	0
Volume Right	0	0	1027	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.55	0.55	0.60	0.56	0.56	0.56
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

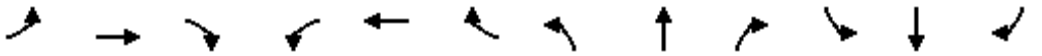
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

APPENDIX B-5. Future (2028) Conditions (with Mitigation) Capacity Analysis Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	374	547	178	87	231	153	126	605	181	156	455	161
Future Volume (vph)	374	547	178	87	231	153	126	605	181	156	455	161
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95		0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.94		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3614	3576		3445	3339		3579	3562		3614	3725	1650
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3614	3576		3445	3339		3579	3562		3614	3725	1650
Peak-hour factor, PHF	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	425	622	202	97	257	170	137	658	197	173	506	179
RTOR Reduction (vph)	0	29	0	0	119	0	0	21	0	0	0	77
Lane Group Flow (vph)	425	795	0	97	308	0	137	834	0	173	506	102
Confl. Peds. (#/hr)			1	1			2					2
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	8		7	4		5	2		1	6	3
Permitted Phases												6
Actuated Green, G (s)	24.6	32.0		8.8	16.2		9.3	42.9		9.3	42.9	67.5
Effective Green, g (s)	24.6	32.0		8.8	16.2		9.3	42.9		9.3	42.9	67.5
Actuated g/C Ratio	0.21	0.27		0.07	0.14		0.08	0.36		0.08	0.36	0.57
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	6.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	747	961		254	454		279	1284		282	1342	1027
v/s Ratio Prot	c0.12	c0.22		0.03	0.09		0.04	c0.23		c0.05	0.14	0.02
v/s Ratio Perm												0.04
v/c Ratio	0.57	0.83		0.38	0.68		0.49	0.65		0.61	0.38	0.10
Uniform Delay, d1	42.4	40.9		52.5	48.9		52.6	31.8		53.1	28.2	11.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.96	0.94	0.99
Incremental Delay, d2	1.0	6.0		1.0	4.0		1.4	2.6		3.8	0.8	0.0
Delay (s)	43.4	46.9		53.5	52.9		53.9	34.3		54.8	27.2	11.8
Level of Service	D	D		D	D		D	C		D	C	B
Approach Delay (s)		45.7			53.0			37.0			29.5	
Approach LOS		D			D			D			C	

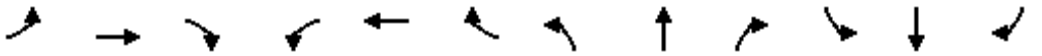
Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



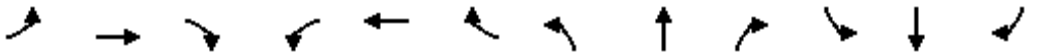
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	420	1042	147	151	344	274	117	983	168	235	562	199
Future Volume (vph)	420	1042	147	151	344	274	117	983	168	235	562	199
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1845	3621		1792	3585	1604	1845	3608		1845	3545	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1845	3621		1792	3585	1604	1845	3608		1845	3545	
Peak-hour factor, PHF	0.87	0.87	0.87	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	483	1198	169	178	405	322	127	1068	183	258	618	219
RTOR Reduction (vph)	0	8	0	0	0	0	0	10	0	0	26	0
Lane Group Flow (vph)	483	1359	0	178	405	322	127	1241	0	258	811	0
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	37.9	47.0		9.0	18.1	31.0	12.3	40.9		12.9	41.5	
Effective Green, g (s)	37.9	47.0		9.0	18.1	31.0	12.3	40.9		12.9	41.5	
Actuated g/C Ratio	0.28	0.35		0.07	0.14	0.23	0.09	0.31		0.10	0.31	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	521	1270		120	484	371	169	1101		177	1097	
v/s Ratio Prot	0.26	c0.38		c0.10	0.11	0.08	0.07	c0.34		c0.14	0.23	
v/s Ratio Perm						0.12						
v/c Ratio	0.93	1.07		1.48	0.84	0.87	0.75	1.13		1.46	0.74	
Uniform Delay, d1	46.7	43.5		62.5	56.5	49.5	59.4	46.5		60.5	41.4	
Progression Factor	0.93	0.90		1.04	0.93	0.90	0.95	0.86		0.82	0.95	
Incremental Delay, d2	19.6	44.0		255.6	15.3	18.5	15.7	68.0		232.3	2.5	
Delay (s)	63.3	83.0		320.5	68.0	63.3	72.2	108.0		282.3	41.8	
Level of Service	E	F		F	E	E	E	F		F	D	
Approach Delay (s)		77.8			116.0			104.7			98.5	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	95.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



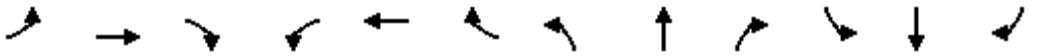
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	927	36	39	591	92	44	25	75	55	9	119
Future Volume (vph)	187	927	36	39	591	92	44	25	75	55	9	119
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2		6.0	6.0	6.2	6.0	6.0	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1827	3633		1792	3513		1842	1748	1650	1667	1754	1484
Flt Permitted	0.32	1.00		0.23	1.00		0.75	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	611	3633		428	3513		1464	1748	1650	1671	1754	1484
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.88	0.88	0.88	0.70	0.70	0.70
Adj. Flow (vph)	205	1019	40	46	695	108	50	28	85	79	13	170
RTOR Reduction (vph)	0	2	0	0	7	0	0	0	77	0	0	155
Lane Group Flow (vph)	205	1057	0	46	796	0	50	28	8	79	13	15
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	14%	14%	14%
Parking (#/hr)								0				
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	96.1	88.4		96.1	88.4		14.6	5.3	13.0	12.4	4.2	11.9
Effective Green, g (s)	96.1	88.4		96.1	88.4		14.6	5.3	13.0	12.4	4.2	11.9
Actuated g/C Ratio	0.72	0.66		0.72	0.66		0.11	0.04	0.10	0.09	0.03	0.09
Clearance Time (s)	6.2	6.2		6.2	6.2		6.0	6.0	6.2	6.0	6.0	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	508	2396		385	2317		185	69	236	154	54	200
v/s Ratio Prot	c0.02	c0.29		0.01	0.23		0.02	0.02	0.00	c0.03	0.01	0.00
v/s Ratio Perm	0.27			0.08			0.01		0.00	c0.02		0.01
v/c Ratio	0.40	0.44		0.12	0.34		0.27	0.41	0.03	0.51	0.24	0.08
Uniform Delay, d1	11.2	10.9		11.2	10.0		55.1	62.8	54.8	57.3	63.3	56.0
Progression Factor	0.26	0.72		0.40	0.46		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1		0.1	0.4		0.8	3.9	0.1	2.9	2.3	0.2
Delay (s)	3.0	7.9		4.6	5.0		55.9	66.7	54.9	60.2	65.7	56.2
Level of Service	A	A		A	A		E	E	D	E	E	E
Approach Delay (s)		7.1			5.0			57.2			57.9	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	2	82	33	2	3	81	504	94	1	755	15
Future Volume (vph)	5	2	82	33	2	3	81	504	94	1	755	15
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1810	1905	2850	3321	1647		3579	5301	1650	1863	5353	1667
Peak-hour factor, PHF	0.73	0.73	0.73	0.69	0.69	0.69	0.79	0.79	0.79	0.83	0.83	0.83
Adj. Flow (vph)	7	3	112	48	3	4	103	638	119	1	910	18
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	34	0	0	6
Lane Group Flow (vph)	7	3	112	48	7	0	103	638	85	1	910	12
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	3%	3%	3%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	6.0	6.0	21.2	6.6	6.6		9.2	95.3	95.3	1.3	87.4	87.4
Effective Green, g (s)	6.0	6.0	21.2	6.6	6.6		9.2	95.3	95.3	1.3	87.4	87.4
Actuated g/C Ratio	0.04	0.04	0.16	0.05	0.05		0.07	0.71	0.71	0.01	0.65	0.65
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	81	85	450	163	81		245	3770	1173	18	3491	1087
v/s Ratio Prot	0.00	0.00	c0.04	c0.01	0.00		c0.03	0.12		0.00	c0.17	
v/s Ratio Perm									0.05			0.01
v/c Ratio	0.09	0.04	0.25	0.29	0.09		0.42	0.17	0.07	0.06	0.26	0.01
Uniform Delay, d1	61.4	61.2	49.4	61.5	60.8		59.8	6.4	5.9	65.7	9.8	8.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.14	0.57	0.49	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.3	1.2	0.5		1.1	0.1	0.1	1.3	0.2	0.0
Delay (s)	61.8	61.4	49.7	62.6	61.4		69.6	3.7	3.0	67.0	9.9	8.2
Level of Service	E	E	D	E	E		E	A	A	E	A	A
Approach Delay (s)		50.7			62.5			11.5			10.0	
Approach LOS		D			E			B			A	

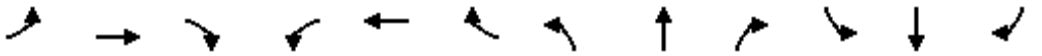
Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	629	98	29	375	203	176	273	90	125	131	104
Future Volume (vph)	160	629	98	29	375	203	176	273	90	125	131	104
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5		6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1845	1942	1650	1827	3461		3614	1961	1667	1845	1942	1632
Flt Permitted	0.34	1.00	1.00	0.19	1.00		0.95	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)	670	1942	1650	362	3461		3614	1961	1667	459	1942	1632
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.85	0.85	0.85
Adj. Flow (vph)	172	676	105	33	421	228	185	287	95	147	154	122
RTOR Reduction (vph)	0	0	45	0	47	0	0	0	73	0	0	93
Lane Group Flow (vph)	172	676	60	33	602	0	185	287	22	147	154	29
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Prot	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2		3	8	5	7	4	1
Permitted Phases	6		6	2					8	4		4
Actuated Green, G (s)	70.5	65.0	77.1	70.5	65.0		12.1	25.3	30.8	39.6	26.4	31.9
Effective Green, g (s)	70.5	65.0	77.1	70.5	65.0		12.1	25.3	30.8	39.6	26.4	31.9
Actuated g/C Ratio	0.53	0.49	0.58	0.53	0.49		0.09	0.19	0.23	0.30	0.20	0.24
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5		6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5		3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	400	942	949	250	1678		326	370	383	272	382	388
v/s Ratio Prot	c0.02	c0.35	0.01	0.01	0.17		0.05	c0.15	0.00	c0.05	0.08	0.00
v/s Ratio Perm	0.21		0.03	0.06					0.01	0.11		0.01
v/c Ratio	0.43	0.72	0.06	0.13	0.36		0.57	0.78	0.06	0.54	0.40	0.07
Uniform Delay, d1	18.0	27.3	12.5	20.1	21.5		58.4	51.7	40.3	37.2	46.9	39.6
Progression Factor	0.47	0.61	1.15	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	4.4	0.0	0.2	0.6		2.3	10.1	0.1	2.2	0.8	0.1
Delay (s)	9.2	21.1	14.5	20.3	22.1		60.7	61.7	40.3	39.4	47.8	39.7
Level of Service	A	C	B	C	C		E	E	D	D	D	D
Approach Delay (s)		18.2			22.0			57.8			42.5	
Approach LOS		B			C			E			D	

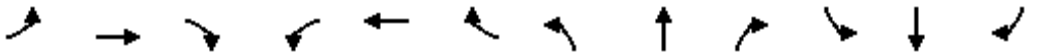
Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



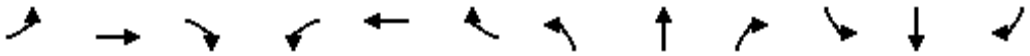
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	0	31	8	1	93	32	1370	32	240	1047	73
Future Volume (vph)	58	0	31	8	1	93	32	1370	32	240	1047	73
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3390	1667		1875	2933	1845	5283		3579	3689	1650
Flt Permitted	0.95	0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3390	1667		1875	2933	1845	5283		3579	3689	1650
Peak-hour factor, PHF	0.60	0.60	0.60	0.73	0.73	0.73	0.86	0.86	0.86	0.88	0.88	0.88
Adj. Flow (vph)	97	0	52	11	1	127	37	1593	37	273	1190	83
RTOR Reduction (vph)	0	0	46	0	0	108	0	2	0	0	0	21
Lane Group Flow (vph)	48	49	6	0	12	19	37	1628	0	273	1190	62
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	9.0	9.0	14.9		3.2	20.0	5.9	80.2		16.8	91.1	100.1
Effective Green, g (s)	9.0	9.0	14.9		3.2	20.0	5.9	80.2		16.8	91.1	100.1
Actuated g/C Ratio	0.07	0.07	0.11		0.02	0.15	0.04	0.60		0.13	0.68	0.75
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	113	227	185		44	577	81	3161		448	2507	1232
v/s Ratio Prot	c0.03	0.01	0.00		c0.01	0.00	0.02	c0.31		c0.08	0.32	0.00
v/s Ratio Perm			0.00			0.00						0.03
v/c Ratio	0.42	0.22	0.03		0.27	0.03	0.46	0.52		0.61	0.47	0.05
Uniform Delay, d1	60.0	59.2	53.1		64.3	48.7	62.5	15.6		55.5	10.1	4.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.85	0.98		0.82	0.77	1.44
Incremental Delay, d2	2.6	0.5	0.1		4.5	0.0	1.0	0.1		2.3	0.6	0.0
Delay (s)	62.5	59.7	53.2		68.8	48.8	54.3	15.4		47.7	8.4	6.4
Level of Service	E	E	D		E	D	D	B		D	A	A
Approach Delay (s)		58.4			50.5			16.2			15.3	
Approach LOS		E			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



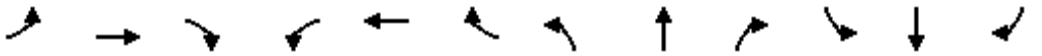
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	14	119	64	2	72	46	1150	66	67	708	19
Future Volume (vph)	50	14	119	64	2	72	46	1150	66	67	708	19
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.87		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1827	1664		1863	1961	1667	1845	3659		1810	3605	
Flt Permitted	0.76	1.00		0.35	1.00	1.00	0.32	1.00		0.17	1.00	
Satd. Flow (perm)	1454	1664		687	1961	1667	630	3659		325	3605	
Peak-hour factor, PHF	0.72	0.72	0.72	0.74	0.74	0.74	0.93	0.93	0.93	0.90	0.90	0.90
Adj. Flow (vph)	69	19	165	86	3	97	49	1237	71	74	787	21
RTOR Reduction (vph)	0	145	0	0	0	85	0	2	0	0	1	0
Lane Group Flow (vph)	69	39	0	86	3	12	49	1306	0	74	807	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	16.3	16.3		16.3	16.3	16.3	99.7	95.1		99.7	95.1	
Effective Green, g (s)	16.3	16.3		16.3	16.3	16.3	99.7	95.1		99.7	95.1	
Actuated g/C Ratio	0.12	0.12		0.12	0.12	0.12	0.74	0.71		0.74	0.71	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	176	202		83	238	202	510	2596		292	2558	
v/s Ratio Prot		0.02			0.00		0.00	c0.36		c0.01	0.22	
v/s Ratio Perm	0.05			c0.13		0.01	0.07			0.18		
v/c Ratio	0.39	0.19		1.04	0.01	0.06	0.10	0.50		0.25	0.32	
Uniform Delay, d1	54.3	52.9		58.9	51.8	52.1	6.5	8.8		12.6	7.3	
Progression Factor	1.02	1.07		1.00	1.00	1.00	1.00	1.00		1.15	0.83	
Incremental Delay, d2	1.4	0.5		109.0	0.0	0.1	0.1	0.7		0.2	0.1	
Delay (s)	56.9	57.2		167.9	51.8	52.2	6.6	9.5		14.6	6.1	
Level of Service	E	E		F	D	D	A	A		B	A	
Approach Delay (s)		57.1			105.7			9.4			6.9	
Approach LOS		E			F			A			A	

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



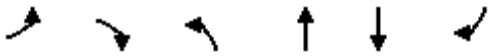
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	0	39	1	0	5	37	1099	1	17	804	33
Future Volume (vph)	27	0	39	1	0	5	37	1099	1	17	804	33
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.88		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1498		1845	3689		1845	3667	
Flt Permitted	0.75	1.00			0.95		0.29	1.00		0.21	1.00	
Satd. Flow (perm)	1475	1667			1434		554	3689		417	3667	
Peak-hour factor, PHF	0.72	0.72	0.72	0.75	0.75	0.75	0.89	0.89	0.89	0.85	0.85	0.85
Adj. Flow (vph)	38	0	54	1	0	7	42	1235	1	20	946	39
RTOR Reduction (vph)	0	51	0	0	8	0	0	0	0	0	2	0
Lane Group Flow (vph)	38	3	0	0	0	0	42	1236	0	20	983	0
Heavy Vehicles (%)	2%	2%	2%	17%	17%	17%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.4	7.4			7.4		99.8	99.8		99.8	99.8	
Effective Green, g (s)	7.4	7.4			7.4		99.8	99.8		99.8	99.8	
Actuated g/C Ratio	0.06	0.06			0.06		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	91	103			89		464	3093		349	3075	
v/s Ratio Prot		0.00						c0.34			0.27	
v/s Ratio Perm	c0.03				0.00		0.08			0.05		
v/c Ratio	0.42	0.03			0.01		0.09	0.40		0.06	0.32	
Uniform Delay, d1	53.7	52.4			52.3		1.7	2.3		1.6	2.1	
Progression Factor	1.00	1.00			1.00		0.08	0.08		1.00	1.00	
Incremental Delay, d2	3.1	0.1			0.0		0.3	0.3		0.3	0.3	
Delay (s)	56.8	52.6			52.4		0.4	0.5		1.9	2.4	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.3			52.4			0.5			2.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	670	61	366	0	478	0	0	797	110
Future Volume (vph)	0	0	0	670	61	366	0	478	0	0	797	110
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3544	1923	2877		5353			5301	1650
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3544	1923	2877		5353			5301	1650
Peak-hour factor, PHF	0.92	0.92	0.92	0.79	0.79	0.79	0.81	0.81	0.81	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	848	77	463	0	590	0	0	839	116
RTOR Reduction (vph)	0	0	0	0	0	225	0	0	0	0	0	44
Lane Group Flow (vph)	0	0	0	848	77	238	0	590	0	0	839	72
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				38.4	38.4	54.4		67.3			83.3	83.3
Effective Green, g (s)				38.4	38.4	54.4		67.3			83.3	83.3
Actuated g/C Ratio				0.29	0.29	0.41		0.50			0.62	0.62
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				1015	551	1167		2688			3295	1025
v/s Ratio Prot				c0.24	0.04	0.08		0.11			c0.16	0.04
v/s Ratio Perm												
v/c Ratio				0.84	0.14	0.20		0.22			0.25	0.07
Uniform Delay, d1				44.8	35.5	25.8		18.7			11.4	10.0
Progression Factor				1.00	1.00	1.00		0.90			0.62	0.37
Incremental Delay, d2				6.1	0.1	0.1		0.2			0.2	0.1
Delay (s)				50.9	35.6	25.9		16.9			7.3	3.9
Level of Service				D	D	C		B			A	A
Approach Delay (s)		0.0			41.7			16.9			6.9	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	66	200	0	594	1133	0
Future Volume (vph)	66	200	0	594	1133	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.91	0.85		1.00	1.00	
Flt Protected	0.98	1.00		1.00	1.00	
Satd. Flow (prot)	3360	1502		3725	3689	
Flt Permitted	0.98	1.00		1.00	1.00	
Satd. Flow (perm)	3360	1502		3725	3689	
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.86	0.86
Adj. Flow (vph)	73	220	0	667	1317	0
RTOR Reduction (vph)	93	93	0	0	0	0
Lane Group Flow (vph)	90	17	0	667	1317	0
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	9.5	9.5		112.5	112.5	
Effective Green, g (s)	9.5	9.5		112.5	112.5	
Actuated g/C Ratio	0.07	0.07		0.84	0.84	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	238	106		3127	3097	
v/s Ratio Prot	c0.03	0.01		0.18	c0.36	
v/s Ratio Perm						
v/c Ratio	0.38	0.16		0.21	0.43	
Uniform Delay, d1	59.4	58.5		2.1	2.7	
Progression Factor	1.00	1.00		2.96	0.38	
Incremental Delay, d2	1.2	0.8		0.1	0.4	
Delay (s)	60.6	59.4		6.4	1.4	
Level of Service	E	E		A	A	
Approach Delay (s)	60.1			6.4	1.4	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1604	39	4	656	4	5
Future Volume (Veh/h)	1604	39	4	656	4	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.85	0.85	0.60	0.60
Hourly flow rate (vph)	1844	45	5	772	7	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	370			619		
pX, platoon unblocked			0.76		0.81	0.76
vC, conflicting volume			1889		2262	944
vC1, stage 1 conf vol					1866	
vC2, stage 2 conf vol					396	
vCu, unblocked vol			1533		1499	286
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		94	99
cM capacity (veh/h)			326		126	539

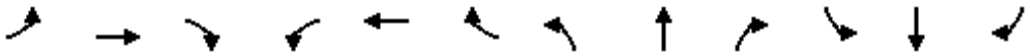
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1229	660	5	386	386	15
Volume Left	0	0	5	0	0	7
Volume Right	0	45	0	0	0	8
cSH	1700	1700	326	1700	1700	213
Volume to Capacity	0.72	0.39	0.02	0.23	0.23	0.07
Queue Length 95th (ft)	0	0	1	0	0	6
Control Delay (s)	0.0	0.0	16.2	0.0	0.0	23.2
Lane LOS			C			C
Approach Delay (s)	0.0		0.1			23.2
Approach LOS						C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1096	10	3	662	12	12
Future Volume (Veh/h)	1096	10	3	662	12	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.75	0.75
Hourly flow rate (vph)	1245	11	3	720	16	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.69		0.72	0.69
vC, conflicting volume			1256		1616	628
vC1, stage 1 conf vol					1250	
vC2, stage 2 conf vol					366	
vCu, unblocked vol			489		729	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	98
cM capacity (veh/h)			734		389	753

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	830	426	3	360	360	32
Volume Left	0	0	3	0	0	16
Volume Right	0	11	0	0	0	16
cSH	1700	1700	734	1700	1700	513
Volume to Capacity	0.49	0.25	0.00	0.21	0.21	0.06
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	9.9	0.0	0.0	12.5
Lane LOS			A			B
Approach Delay (s)	0.0		0.0			12.5
Approach LOS						B

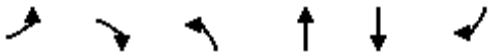
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	39.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	67	23	34	28	43	24	131	79	71	83	3
Future Volume (vph)	14	67	23	34	28	43	24	131	79	71	83	3
Peak Hour Factor	0.95	0.95	0.95	0.75	0.75	0.75	0.82	0.82	0.82	0.74	0.74	0.74
Hourly flow rate (vph)	15	71	24	45	37	57	29	160	96	96	112	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	15	95	45	94	29	256	96	116
Volume Left (vph)	15	0	45	0	29	0	96	0
Volume Right (vph)	0	24	0	57	0	96	0	4
Hadj (s)	0.53	-0.14	0.64	-0.29	0.57	-0.19	0.53	0.01
Departure Headway (s)	6.5	5.8	6.5	5.6	6.0	5.2	6.0	5.5
Degree Utilization, x	0.03	0.15	0.08	0.15	0.05	0.37	0.16	0.18
Capacity (veh/h)	514	575	514	595	573	660	569	623
Control Delay (s)	8.4	8.6	8.9	8.4	8.1	10.1	9.0	8.5
Approach Delay (s)	8.6		8.5		9.9		8.7	
Approach LOS	A		A		A		A	

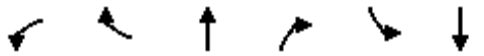
Intersection Summary				
Delay	9.1			
Level of Service	A			
Intersection Capacity Utilization	35.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	93	7	47	56	6	30
Future Volume (vph)	93	7	47	56	6	30
Peak Hour Factor	0.73	0.73	0.72	0.72	0.88	0.88
Hourly flow rate (vph)	127	10	65	78	7	34

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	127	10	65	78	41
Volume Left (vph)	127	0	65	0	0
Volume Right (vph)	0	10	0	0	34
Hadj (s)	0.53	-0.67	0.53	0.03	-0.46
Departure Headway (s)	5.5	4.3	5.5	5.0	4.4
Degree Utilization, x	0.19	0.01	0.10	0.11	0.05
Capacity (veh/h)	627	801	639	702	777
Control Delay (s)	8.6	6.1	7.9	7.4	7.6
Approach Delay (s)	8.4		7.6		7.6
Approach LOS	A		A		A

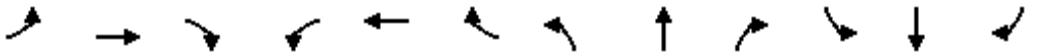
Intersection Summary			
Delay	7.9		
Level of Service	A		
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	10	1069	27	22	818
Future Volume (Veh/h)	17	10	1069	27	22	818
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	28	17	1125	28	24	899
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.93					
vC, conflicting volume	1636	576			1153	
vC1, stage 1 conf vol	1139					
vC2, stage 2 conf vol	498					
vCu, unblocked vol	1532	576			1153	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	96			96	
cM capacity (veh/h)	249	460			602	

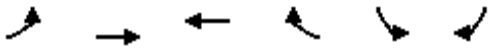
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	17	750	403	24	450	450
Volume Left	28	0	0	0	24	0	0
Volume Right	0	17	0	28	0	0	0
cSH	249	460	1700	1700	602	1700	1700
Volume to Capacity	0.11	0.04	0.44	0.24	0.04	0.26	0.26
Queue Length 95th (ft)	9	3	0	0	3	0	0
Control Delay (s)	21.3	13.1	0.0	0.0	11.2	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	18.2		0.0		0.3		
Approach LOS	C						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	1601	19	3	612	45	16	5	10	32	2	38
Future Volume (vph)	47	1601	19	3	612	45	16	5	10	32	2	38
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.90		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1827	3647		1845	3651		1863	1759		1863	1680	
Flt Permitted	0.37	1.00		0.09	1.00		0.71	1.00		0.75	1.00	
Satd. Flow (perm)	720	3647		167	3651		1400	1759		1465	1680	
Peak-hour factor, PHF	0.87	0.87	0.87	0.94	0.94	0.94	0.92	0.92	0.92	0.60	0.60	0.60
Adj. Flow (vph)	54	1840	22	3	651	48	17	5	11	53	3	63
RTOR Reduction (vph)	0	0	0	0	3	0	0	10	0	0	59	0
Lane Group Flow (vph)	54	1862	0	3	696	0	17	6	0	53	7	0
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	113.0	105.8		100.0	98.8		9.0	9.0		9.0	9.0	
Effective Green, g (s)	113.0	105.8		100.0	98.8		9.0	9.0		9.0	9.0	
Actuated g/C Ratio	0.84	0.79		0.75	0.74		0.07	0.07		0.07	0.07	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	674	2879		139	2691		94	118		98	112	
v/s Ratio Prot	c0.00	c0.51		0.00	0.19			0.00			0.00	
v/s Ratio Perm	0.06			0.02			0.01			c0.04		
v/c Ratio	0.08	0.65		0.02	0.26		0.18	0.05		0.54	0.06	
Uniform Delay, d1	2.3	6.1		14.4	5.7		59.0	58.5		60.5	58.6	
Progression Factor	1.00	1.00		0.99	1.06		0.97	0.92		1.01	1.06	
Incremental Delay, d2	0.1	1.1		0.0	0.1		0.9	0.2		6.0	0.2	
Delay (s)	2.4	7.2		14.3	6.2		57.9	54.3		67.2	62.2	
Level of Service	A	A		B	A		E	D		E	E	
Approach Delay (s)		7.1			6.2			56.2			64.5	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	24	31	9	43	0
Future Volume (Veh/h)	0	24	31	9	43	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	26	34	10	47	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		550	1165			
pX, platoon unblocked						
vC, conflicting volume	44				65	39
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44				65	39
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	100
cM capacity (veh/h)	1564				941	1033

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	44	47
Volume Left	0	0	47
Volume Right	0	10	0
cSH	1564	1700	941
Volume to Capacity	0.00	0.03	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.0	9.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	61	6	10	21	19	28
Future Volume (Veh/h)	61	6	10	21	19	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	7	11	23	21	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	750			965		
pX, platoon unblocked						
vC, conflicting volume			73		114	70
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			73		114	70
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	97
cM capacity (veh/h)			1527		876	993

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	73	34	51
Volume Left	0	11	21
Volume Right	7	0	30
cSH	1700	1527	941
Volume to Capacity	0.04	0.01	0.05
Queue Length 95th (ft)	0	1	4
Control Delay (s)	0.0	2.4	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	2.4	9.0
Approach LOS			A

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	174	2	4	63	6	9
Future Volume (Veh/h)	174	2	4	63	6	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	189	2	4	68	7	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				200		
pX, platoon unblocked						
vC, conflicting volume			191		266	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			191		266	190
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1383		721	852

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	191	72	17
Volume Left	0	4	7
Volume Right	2	0	10
cSH	1700	1383	793
Volume to Capacity	0.11	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.4	9.6
Lane LOS		A	A
Approach Delay (s)	0.0	0.4	9.6
Approach LOS			A

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		18.8%	ICU Level of Service A
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	3	1431	17	5	1081
Future Volume (Veh/h)	9	3	1431	17	5	1081
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.88	0.88
Hourly flow rate (vph)	10	3	1664	20	6	1228
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			587			395
pX, platoon unblocked	0.84	0.76			0.76	
vC, conflicting volume	2300	565			1684	
vC1, stage 1 conf vol	1674					
vC2, stage 2 conf vol	626					
vCu, unblocked vol	884	0			782	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	307	821			625	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	13	666	666	353	6	614	614
Volume Left	10	0	0	0	6	0	0
Volume Right	3	0	0	20	0	0	0
cSH	359	1700	1700	1700	625	1700	1700
Volume to Capacity	0.04	0.39	0.39	0.21	0.01	0.36	0.36
Queue Length 95th (ft)	3	0	0	0	1	0	0
Control Delay (s)	15.4	0.0	0.0	0.0	10.8	0.0	0.0
Lane LOS	C				B		
Approach Delay (s)	15.4	0.0			0.1		
Approach LOS	C						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	900	17	5	650	57	18
Future Volume (Veh/h)	900	17	5	650	57	18
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.89	0.89	0.92	0.92
Hourly flow rate (vph)	968	18	6	730	62	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1105		
pX, platoon unblocked					0.95	
vC, conflicting volume			986		1345	484
vC1, stage 1 conf vol					968	
vC2, stage 2 conf vol					377	
vCu, unblocked vol			986		1263	484
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		80	96
cM capacity (veh/h)			684		310	529

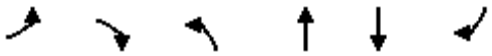
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	484	484	18	6	365	365	82
Volume Left	0	0	0	6	0	0	62
Volume Right	0	0	18	0	0	0	20
cSH	1700	1700	1700	684	1700	1700	410
Volume to Capacity	0.28	0.28	0.01	0.01	0.21	0.21	0.20
Queue Length 95th (ft)	0	0	0	1	0	0	18
Control Delay (s)	0.0	0.0	0.0	10.3	0.0	0.0	17.7
Lane LOS				B			C
Approach Delay (s)	0.0			0.1			17.7
Approach LOS							C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	885	33	0	655	0	2
Future Volume (Veh/h)	885	33	0	655	0	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.89	0.89	0.92	0.92
Hourly flow rate (vph)	952	35	0	736	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				300		
pX, platoon unblocked					0.90	
vC, conflicting volume			987		1338	494
vC1, stage 1 conf vol					970	
vC2, stage 2 conf vol					368	
vCu, unblocked vol			987		1162	494
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			684		314	521

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	635	352	368	368	2
Volume Left	0	0	0	0	0
Volume Right	0	35	0	0	2
cSH	1700	1700	1700	1700	521
Volume to Capacity	0.37	0.21	0.22	0.22	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	11.9
Lane LOS					B
Approach Delay (s)	0.0		0.0		11.9
Approach LOS					B

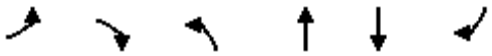
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	13	33	524	244	14
Future Volume (Veh/h)	15	13	33	524	244	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	16	14	35	552	287	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					400	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	917	295	303			
vC1, stage 1 conf vol	295					
vC2, stage 2 conf vol	622					
vCu, unblocked vol	874	205	214			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	98	97			
cM capacity (veh/h)	478	777	1262			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	16	14	35	552	303
Volume Left	16	0	35	0	0
Volume Right	0	14	0	0	16
cSH	478	777	1262	1700	1700
Volume to Capacity	0.03	0.02	0.03	0.32	0.18
Queue Length 95th (ft)	3	1	2	0	0
Control Delay (s)	12.8	9.7	7.9	0.0	0.0
Lane LOS	B	A	A		
Approach Delay (s)	11.4		0.5		0.0
Approach LOS	B				

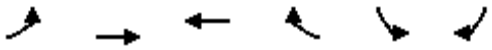
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	15	5	1107	836	8
Future Volume (Veh/h)	30	15	5	1107	836	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	33	16	6	1244	984	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					285	
pX, platoon unblocked	0.94	0.94	0.94			
vC, conflicting volume	1622	496	993			
vC1, stage 1 conf vol	988					
vC2, stage 2 conf vol	634					
vCu, unblocked vol	1535	338	866			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	97	99			
cM capacity (veh/h)	293	618	721			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	33	16	6	622	622	656	337
Volume Left	33	0	6	0	0	0	0
Volume Right	0	16	0	0	0	0	9
cSH	293	618	721	1700	1700	1700	1700
Volume to Capacity	0.11	0.03	0.01	0.37	0.37	0.39	0.20
Queue Length 95th (ft)	9	2	1	0	0	0	0
Control Delay (s)	18.8	11.0	10.0	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	16.3		0.0			0.0	
Approach LOS	C						

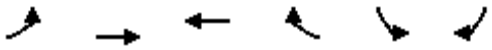
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	44	51	55	45	41
Future Volume (Veh/h)	47	44	51	55	45	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.60	0.60	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	78	73	70	75	49	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		853	483			
pX, platoon unblocked						
vC, conflicting volume	145				300	72
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	145				300	72
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				92	95
cM capacity (veh/h)	1435				631	975

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	78	36	36	47	98	49	45
Volume Left	78	0	0	0	0	49	0
Volume Right	0	0	0	0	75	0	45
cSH	1435	1700	1700	1700	1700	631	975
Volume to Capacity	0.05	0.02	0.02	0.03	0.06	0.08	0.05
Queue Length 95th (ft)	4	0	0	0	0	6	4
Control Delay (s)	7.7	0.0	0.0	0.0	0.0	11.2	8.9
Lane LOS	A					B	A
Approach Delay (s)	4.0			0.0		10.1	
Approach LOS						B	

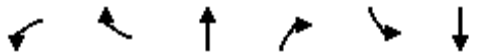
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	985	664	50	23	58
Future Volume (Veh/h)	72	985	664	50	23	58
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.92	0.92
Hourly flow rate (vph)	79	1082	781	59	25	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		480				
pX, platoon unblocked					0.86	
vC, conflicting volume	840				1510	420
vC1, stage 1 conf vol					810	
vC2, stage 2 conf vol					699	
vCu, unblocked vol	840				1274	420
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	90				92	89
cM capacity (veh/h)	778				333	582

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	79	541	541	521	319	25	63
Volume Left	79	0	0	0	0	25	0
Volume Right	0	0	0	0	59	0	63
cSH	778	1700	1700	1700	1700	333	582
Volume to Capacity	0.10	0.32	0.32	0.31	0.19	0.08	0.11
Queue Length 95th (ft)	8	0	0	0	0	6	9
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	16.7	11.9
Lane LOS	B					C	B
Approach Delay (s)	0.7			0.0		13.3	
Approach LOS						B	

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	41	6	228	37	8	132
Future Volume (Veh/h)	41	6	228	37	8	132
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.82	0.82	0.74	0.74
Hourly flow rate (vph)	45	7	278	45	11	178
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			386			
pX, platoon unblocked	0.97	0.97			0.97	
vC, conflicting volume	500	300			323	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	465	258			281	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	99			99	
cM capacity (veh/h)	532	754			1237	

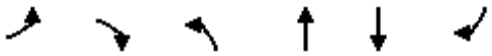
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	7	323	11	178
Volume Left	45	0	0	11	0
Volume Right	0	7	45	0	0
cSH	532	754	1700	1237	1700
Volume to Capacity	0.08	0.01	0.19	0.01	0.10
Queue Length 95th (ft)	7	1	0	1	0
Control Delay (s)	12.4	9.8	0.0	7.9	0.0
Lane LOS	B	A		A	
Approach Delay (s)	12.0		0.0	0.5	
Approach LOS	B				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	23.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	198	19	4	100	5	2
Future Volume (Veh/h)	198	19	4	100	5	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.75	0.75	0.92	0.92
Hourly flow rate (vph)	208	20	5	133	5	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			228		361	218
vC1, stage 1 conf vol					218	
vC2, stage 2 conf vol					143	
vCu, unblocked vol			228		361	218
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.3		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1306		756	822

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	228	5	133	5	2
Volume Left	0	5	0	5	0
Volume Right	20	0	0	0	2
cSH	1700	1306	1700	756	822
Volume to Capacity	0.13	0.00	0.08	0.01	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	7.8	0.0	9.8	9.4
Lane LOS		A		A	A
Approach Delay (s)	0.0	0.3		9.7	
Approach LOS				A	

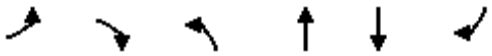
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1112	851	0
Future Volume (Veh/h)	0	0	0	1112	851	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	0	0	0	1249	1001	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				900	1216	
pX, platoon unblocked	0.85	0.96	0.96			
vC, conflicting volume	1626	500	1001			
vC1, stage 1 conf vol	1001					
vC2, stage 2 conf vol	624					
vCu, unblocked vol	1168	397	918			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	316	578	703			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	624	624	667	334
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.37	0.37	0.39	0.20
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A					
Approach Delay (s)	0.0		0.0			0.0	
Approach LOS	A						

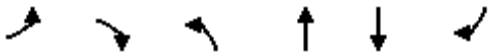
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1112	851	0
Future Volume (Veh/h)	0	0	0	1112	851	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	0	0	0	1249	1001	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				1150	966	
pX, platoon unblocked	0.86	0.95	0.95			
vC, conflicting volume	1626	500	1001			
vC1, stage 1 conf vol	1001					
vC2, stage 2 conf vol	624					
vCu, unblocked vol	1148	374	899			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	320	594	709			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	624	624	500	500
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.37	0.37	0.29	0.29
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.0	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	6	23	74	66	10
Future Volume (Veh/h)	3	6	23	74	66	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Hourly flow rate (vph)	5	10	38	123	110	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				527	809	
pX, platoon unblocked						
vC, conflicting volume	256	64	127			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	256	64	127			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	97			
cM capacity (veh/h)	692	988	1457			

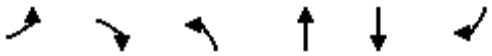
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	5	10	38	62	62	73	54
Volume Left	5	0	38	0	0	0	0
Volume Right	0	10	0	0	0	0	17
cSH	692	988	1457	1700	1700	1700	1700
Volume to Capacity	0.01	0.01	0.03	0.04	0.04	0.04	0.03
Queue Length 95th (ft)	1	1	2	0	0	0	0
Control Delay (s)	10.2	8.7	7.5	0.0	0.0	0.0	0.0
Lane LOS	B	A	A				
Approach Delay (s)	9.2		1.8			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	478	182	0	1467
Future Volume (Veh/h)	0	0	478	182	0	1467
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.81	0.81	0.95	0.95
Hourly flow rate (vph)	0	0	590	225	0	1544
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.93					
vC, conflicting volume	1105	295			815	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	868	295			815	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	273	701			802	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	295	295	225	515	515	515
Volume Left	0	0	0	0	0	0
Volume Right	0	0	225	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.17	0.17	0.13	0.30	0.30	0.30
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	660	1133	334
Future Volume (Veh/h)	0	0	0	660	1133	334
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	0	742	1317	388
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.95	0.93	0.93			
vC, conflicting volume	1688	658	1705			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1453	485	1609			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	115	491	374			

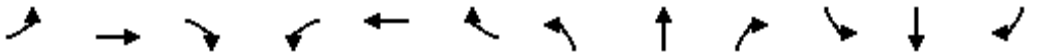
Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	371	371	658	658	388
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	388
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.22	0.22	0.39	0.39	0.23
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	594	923	0	1333
Future Volume (Veh/h)	0	0	594	923	0	1333
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.89	0.89	0.86	0.86
Hourly flow rate (vph)	0	0	667	1037	0	1550
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.92					
vC, conflicting volume	1184	334			1704	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	899	334			1704	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	256	662			365	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	334	334	1037	517	517	517
Volume Left	0	0	0	0	0	0
Volume Right	0	0	1037	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.20	0.61	0.30	0.30	0.30
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

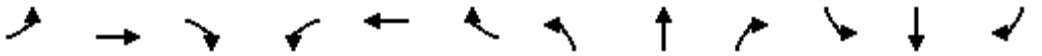
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	278	317	229	243	602	246	217	763	91	202	803	370
Future Volume (vph)	278	317	229	243	602	246	217	763	91	202	803	370
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95		0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.96		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3614	3491		3614	3549		3614	3659		3614	3725	1650
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3614	3491		3614	3549		3614	3659		3614	3725	1650
Peak-hour factor, PHF	0.89	0.89	0.89	0.93	0.93	0.93	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	312	356	257	261	647	265	238	838	100	213	845	389
RTOR Reduction (vph)	0	122	0	0	37	0	0	7	0	0	0	52
Lane Group Flow (vph)	312	491	0	261	875	0	238	931	0	213	845	337
Confl. Peds. (#/hr)	1					1			3	3		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	8		7	4		5	2		1	6	3
Permitted Phases												6
Actuated Green, G (s)	13.2	22.6		24.3	33.7		11.9	38.2		11.9	38.2	51.4
Effective Green, g (s)	13.2	22.6		24.3	33.7		11.9	38.2		11.9	38.2	51.4
Actuated g/C Ratio	0.11	0.18		0.20	0.27		0.10	0.31		0.10	0.31	0.42
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	6.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	387	641		713	972		349	1136		349	1156	778
v/s Ratio Prot	c0.09	0.14		0.07	c0.25		c0.07	c0.25		0.06	0.23	0.05
v/s Ratio Perm												0.16
v/c Ratio	0.81	0.77		0.37	0.90		0.68	0.82		0.61	0.73	0.43
Uniform Delay, d1	53.7	47.7		42.7	43.0		53.7	39.2		53.3	37.8	25.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.95	0.94	0.95
Incremental Delay, d2	11.6	5.5		0.3	11.2		5.4	6.7		2.9	3.8	0.4
Delay (s)	65.3	53.2		43.0	54.3		59.1	45.9		53.7	39.2	24.7
Level of Service	E	D		D	D		E	D		D	D	C
Approach Delay (s)		57.2			51.8			48.6			37.4	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

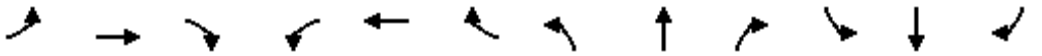
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	594	117	277	918	515	212	1035	215	300	815	240
Future Volume (vph)	228	594	117	277	918	515	212	1035	215	300	815	240
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3634		1863	3725	1667	1863	3629		1863	3598	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3634		1863	3725	1667	1863	3629		1863	3598	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	259	675	133	301	998	560	230	1125	234	316	858	253
RTOR Reduction (vph)	0	12	0	0	0	0	0	13	0	0	20	0
Lane Group Flow (vph)	259	796	0	301	998	560	230	1346	0	316	1091	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	17.0	31.0		21.0	35.0	49.9	15.9	43.9		14.9	42.9	
Effective Green, g (s)	17.0	31.0		21.0	35.0	49.9	15.9	43.9		14.9	42.9	
Actuated g/C Ratio	0.13	0.23		0.16	0.26	0.37	0.12	0.33		0.11	0.32	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	234	834		289	965	616	219	1180		205	1143	
v/s Ratio Prot	0.14	0.22		c0.16	c0.27	0.10	0.12	c0.37		c0.17	0.30	
v/s Ratio Perm						0.24						
v/c Ratio	1.11	0.95		1.04	1.03	0.91	1.05	1.14		1.54	0.95	
Uniform Delay, d1	59.0	51.3		57.0	50.0	40.4	59.5	45.5		60.0	45.1	
Progression Factor	1.18	0.87		1.22	0.88	0.75	1.11	0.74		0.93	0.70	
Incremental Delay, d2	88.7	20.9		62.1	37.1	16.4	68.3	72.1		260.1	13.0	
Delay (s)	158.6	65.6		131.8	80.9	46.5	134.2	105.8		315.9	44.5	
Level of Service	F	E		F	F	D	F	F		F	D	
Approach Delay (s)		88.2			78.8			109.9			104.6	
Approach LOS		F			E			F			F	

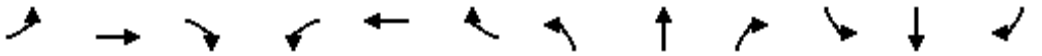
Intersection Summary			
HCM 2000 Control Delay	95.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	802	75	73	1119	169	94	42	68	203	101	226
Future Volume (vph)	166	802	75	73	1119	169	94	42	68	203	101	226
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2		6.0	6.0	6.2	6.0	6.0	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3669		1862	3638		1863	1961	1667	1863	1961	1667
Flt Permitted	0.12	1.00		0.25	1.00		0.50	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	241	3669		481	3638		981	1961	1667	1422	1961	1667
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.85	0.85	0.85	0.88	0.88	0.88
Adj. Flow (vph)	178	862	81	77	1178	178	111	49	80	231	115	257
RTOR Reduction (vph)	0	5	0	0	8	0	0	0	70	0	0	86
Lane Group Flow (vph)	178	938	0	77	1348	0	111	49	10	231	115	171
Confl. Peds. (#/hr)	3		2	2		3						
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	87.8	79.0		87.8	79.0		18.5	8.7	17.5	27.1	13.0	21.8
Effective Green, g (s)	87.8	79.0		87.8	79.0		18.5	8.7	17.5	27.1	13.0	21.8
Actuated g/C Ratio	0.65	0.59		0.65	0.59		0.14	0.06	0.13	0.20	0.10	0.16
Clearance Time (s)	6.2	6.2		6.2	6.2		6.0	6.0	6.2	6.0	6.0	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	262	2147		402	2128		198	126	292	331	188	345
v/s Ratio Prot	0.04	0.26		0.01	0.37		0.04	0.02	0.00	c0.07	0.06	c0.03
v/s Ratio Perm	c0.40			0.11			0.04		0.00	c0.07		0.07
v/c Ratio	0.68	0.44		0.19	0.63		0.56	0.39	0.04	0.70	0.61	0.50
Uniform Delay, d1	36.7	15.6		16.5	18.5		55.7	60.6	51.4	49.2	58.6	51.6
Progression Factor	0.85	1.78		0.36	0.46		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.1		0.2	1.1		3.6	2.0	0.0	6.3	5.8	1.1
Delay (s)	31.8	27.8		6.1	9.5		59.3	62.6	51.4	55.5	64.4	52.7
Level of Service	C	C		A	A		E	E	D	E	E	D
Approach Delay (s)		28.4			9.4			57.3			56.0	
Approach LOS		C			A			E			E	

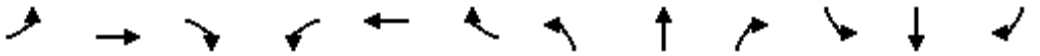
Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	26	433	372	52	45	378	830	222	11	1079	61
Future Volume (vph)	59	26	433	372	52	45	378	830	222	11	1079	61
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1825		3614	5353	1667	1863	5353	1667
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1825		3614	5353	1667	1863	5353	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	62	27	456	404	57	49	415	912	244	12	1136	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	116	0	0	39
Lane Group Flow (vph)	62	27	456	404	106	0	415	912	128	12	1136	25
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	16.0	16.0	43.4	20.6	20.6		21.4	71.0	71.0	2.6	52.2	52.2
Effective Green, g (s)	16.0	16.0	43.4	20.6	20.6		21.4	71.0	71.0	2.6	52.2	52.2
Actuated g/C Ratio	0.12	0.12	0.32	0.15	0.15		0.16	0.53	0.53	0.02	0.39	0.39
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	220	232	942	551	278		572	2815	876	35	2069	644
v/s Ratio Prot	0.03	0.01	c0.16	c0.11	0.06		c0.11	0.17		0.01	c0.21	
v/s Ratio Perm									0.08			0.01
v/c Ratio	0.28	0.12	0.48	0.73	0.38		0.73	0.32	0.15	0.34	0.55	0.04
Uniform Delay, d1	54.3	53.2	36.8	54.6	51.5		54.0	18.3	16.4	65.4	32.2	25.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.64	0.49	0.32	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.4	5.2	1.0		4.2	0.3	0.3	5.8	1.1	0.1
Delay (s)	55.0	53.4	37.2	59.8	52.5		39.0	9.3	5.6	71.1	33.3	25.9
Level of Service	D	D	D	E	D		D	A	A	E	C	C
Approach Delay (s)		40.0			58.3			16.6			33.3	
Approach LOS		D			E			B			C	

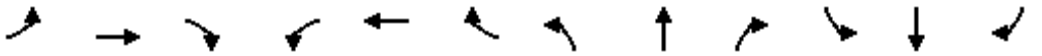
Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	513	256	77	915	102	284	223	47	170	390	186
Future Volume (vph)	133	513	256	77	915	102	284	223	47	170	390	186
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5		6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	1667	1863	3660		3614	1961	1667	1863	1961	1667
Flt Permitted	0.10	1.00	1.00	0.20	1.00		0.95	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	203	1961	1667	401	3660		3614	1961	1667	890	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	140	540	269	81	963	107	319	251	53	205	470	224
RTOR Reduction (vph)	0	0	91	0	6	0	0	0	36	0	0	52
Lane Group Flow (vph)	140	540	178	81	1064	0	319	251	17	205	470	172
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Prot	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2		3	8	5	7	4	1
Permitted Phases	6		6	2					8	4		4
Actuated Green, G (s)	59.4	51.9	67.2	58.8	51.6		15.3	36.7	43.9	49.8	35.6	43.1
Effective Green, g (s)	59.4	51.9	67.2	58.8	51.6		15.3	36.7	43.9	49.8	35.6	43.1
Actuated g/C Ratio	0.44	0.38	0.50	0.44	0.38		0.11	0.27	0.33	0.37	0.26	0.32
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5		6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5		3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	181	753	829	252	1398		409	533	542	430	517	532
v/s Ratio Prot	c0.04	0.28	0.02	0.02	0.29		c0.09	0.13	0.00	0.05	c0.24	0.02
v/s Ratio Perm	c0.30		0.08	0.12					0.01	0.13		0.09
v/c Ratio	0.77	0.72	0.21	0.32	0.76		0.78	0.47	0.03	0.48	0.91	0.32
Uniform Delay, d1	28.0	35.3	19.1	25.9	36.3		58.2	41.0	31.1	30.6	48.1	34.9
Progression Factor	1.06	1.05	1.51	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.9	5.3	0.1	0.7	4.0		9.1	0.8	0.0	0.8	20.1	0.4
Delay (s)	46.6	42.5	28.9	26.6	40.3		67.3	41.8	31.1	31.4	68.2	35.2
Level of Service	D	D	C	C	D		E	D	C	C	E	D
Approach Delay (s)		39.3			39.3			54.0			51.6	
Approach LOS		D			D			D			D	

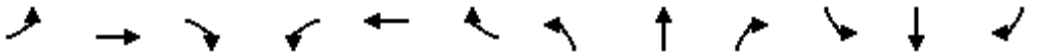
Intersection Summary			
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	15	87	60	16	547	95	1432	69	476	1485	168
Future Volume (vph)	185	15	87	60	16	547	95	1432	69	476	1485	168
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3422	1667		1887	2933	1863	5316		3614	3725	1667
Flt Permitted	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3422	1667		1887	2933	1863	5316		3614	3725	1667
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.89	0.89	0.89	0.95	0.95	0.95
Adj. Flow (vph)	228	19	107	70	19	636	107	1609	78	501	1563	177
RTOR Reduction (vph)	0	0	89	0	0	90	0	3	0	0	0	60
Lane Group Flow (vph)	114	133	18	0	89	546	107	1684	0	501	1563	117
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	12.7	12.7	22.9		11.9	40.5	10.2	57.0		28.6	75.4	88.1
Effective Green, g (s)	12.7	12.7	22.9		11.9	40.5	10.2	57.0		28.6	75.4	88.1
Actuated g/C Ratio	0.09	0.09	0.17		0.09	0.30	0.08	0.42		0.21	0.56	0.65
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	159	321	282		166	1018	140	2244		765	2080	1087
v/s Ratio Prot	c0.07	0.04	0.00		0.05	c0.11	0.06	c0.32		0.14	c0.42	0.01
v/s Ratio Perm			0.01			0.07						0.06
v/c Ratio	0.72	0.41	0.06		0.54	0.54	0.76	0.75		0.65	0.75	0.11
Uniform Delay, d1	59.4	57.6	47.1		58.9	39.4	61.2	33.0		48.7	22.7	8.8
Progression Factor	1.01	1.01	1.54		1.00	1.00	0.84	1.05		0.92	0.86	1.54
Incremental Delay, d2	14.3	0.9	0.1		4.2	0.6	2.3	0.2		1.6	1.9	0.0
Delay (s)	74.5	59.2	72.3		63.1	40.0	53.8	34.9		46.4	21.4	13.5
Level of Service	E	E	E		E	D	D	C		D	C	B
Approach Delay (s)		68.1			42.9			36.0			26.4	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

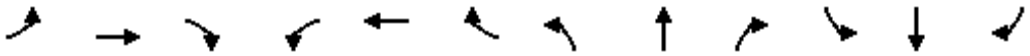
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	1	65	103	4	64	112	1335	93	108	1016	42
Future Volume (vph)	42	1	65	103	4	64	112	1335	93	108	1016	42
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1672		1863	1961	1667	1863	3689		1863	3703	
Flt Permitted	0.75	1.00		0.64	1.00	1.00	0.20	1.00		0.10	1.00	
Satd. Flow (perm)	1478	1672		1246	1961	1667	385	3689		202	3703	
Peak-hour factor, PHF	0.60	0.60	0.60	0.72	0.72	0.72	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	70	2	108	143	6	89	123	1467	102	119	1116	46
RTOR Reduction (vph)	0	92	0	0	0	76	0	3	0	0	2	0
Lane Group Flow (vph)	70	18	0	143	6	13	123	1566	0	119	1160	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	20.1	20.1		20.1	20.1	20.1	96.9	89.5		96.9	89.5	
Effective Green, g (s)	20.1	20.1		20.1	20.1	20.1	96.9	89.5		96.9	89.5	
Actuated g/C Ratio	0.15	0.15		0.15	0.15	0.15	0.72	0.66		0.72	0.66	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	220	248		185	291	248	357	2445		236	2454	
v/s Ratio Prot		0.01			0.00		0.02	c0.42		c0.03	0.31	
v/s Ratio Perm	0.05			c0.11		0.01	0.23			0.33		
v/c Ratio	0.32	0.07		0.77	0.02	0.05	0.34	0.64		0.50	0.47	
Uniform Delay, d1	51.3	49.4		55.3	49.0	49.3	15.4	13.3		29.6	11.2	
Progression Factor	1.04	1.16		1.00	1.00	1.00	1.00	1.00		0.78	0.87	
Incremental Delay, d2	0.8	0.1		18.0	0.0	0.1	0.6	1.3		0.5	0.2	
Delay (s)	54.2	57.3		73.2	49.1	49.4	16.0	14.6		23.7	9.9	
Level of Service	D	E		E	D	D	B	B		C	A	
Approach Delay (s)		56.1			63.7			14.7			11.2	
Approach LOS		E			E			B			B	

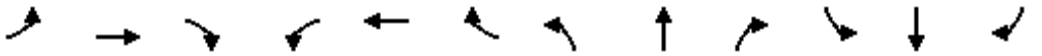
Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	60	7	0	36	43	1424	2	2	1283	56
Future Volume (vph)	40	0	60	7	0	36	43	1424	2	2	1283	56
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85			0.89		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1600		1863	3725		1863	3702	
Flt Permitted	0.83	1.00			0.93		0.17	1.00		0.14	1.00	
Satd. Flow (perm)	1632	1667			1492		342	3725		277	3702	
Peak-hour factor, PHF	0.77	0.77	0.77	0.79	0.79	0.79	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	52	0	78	9	0	46	48	1582	2	2	1351	59
RTOR Reduction (vph)	0	73	0	0	43	0	0	0	0	0	2	0
Lane Group Flow (vph)	52	5	0	0	12	0	48	1584	0	2	1408	0
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	8.3	8.3			8.3		102.9	102.9		102.9	102.9	
Effective Green, g (s)	8.3	8.3			8.3		102.9	102.9		102.9	102.9	
Actuated g/C Ratio	0.07	0.07			0.07		0.84	0.84		0.84	0.84	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	110	112			100		286	3116		231	3097	
v/s Ratio Prot		0.00						c0.43			0.38	
v/s Ratio Perm	c0.03				0.01		0.14			0.01		
v/c Ratio	0.47	0.05			0.12		0.17	0.51		0.01	0.45	
Uniform Delay, d1	55.2	53.7			53.9		1.9	2.9		1.7	2.7	
Progression Factor	1.00	1.00			1.00		0.15	0.13		1.00	1.00	
Incremental Delay, d2	3.2	0.2			0.5		0.9	0.4		0.1	0.5	
Delay (s)	58.4	53.8			54.5		1.2	0.8		1.7	3.1	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		55.7			54.5			0.8			3.1	
Approach LOS		E			D			A			A	

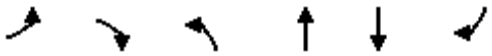
Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	646	417	349	0	1236	0	0	1479	479
Future Volume (vph)	0	0	0	646	417	349	0	1236	0	0	1479	479
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	680	439	367	0	1329	0	0	1557	504
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	0	0	75
Lane Group Flow (vph)	0	0	0	680	439	341	0	1329	0	0	1557	429
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				38.0	38.0	51.0		71.7			84.7	84.7
Effective Green, g (s)				38.0	38.0	51.0		71.7			84.7	84.7
Actuated g/C Ratio				0.28	0.28	0.38		0.53			0.63	0.63
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				1017	551	1108		2843			3358	1045
v/s Ratio Prot				0.19	c0.22	0.12		0.25			c0.29	0.26
v/s Ratio Perm												
v/c Ratio				0.67	0.80	0.31		0.47			0.46	0.41
Uniform Delay, d1				42.9	44.9	29.6		19.7			13.2	12.6
Progression Factor				1.00	1.00	1.00		0.85			0.93	0.97
Incremental Delay, d2				1.7	7.9	0.2		0.4			0.4	1.0
Delay (s)				44.6	52.8	29.7		17.2			12.7	13.2
Level of Service				D	D	C		B			B	B
Approach Delay (s)		0.0			43.3			17.2			12.8	
Approach LOS		A			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	285	393	0	1423	1736	0
Future Volume (vph)	285	393	0	1423	1736	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.94	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	3478	1517		3725	3725	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	3478	1517		3725	3725	
Peak-hour factor, PHF	0.94	0.94	0.86	0.86	0.94	0.94
Adj. Flow (vph)	303	418	0	1655	1847	0
RTOR Reduction (vph)	19	19	0	0	0	0
Lane Group Flow (vph)	472	211	0	1655	1847	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	25.8	25.8		97.2	97.2	
Effective Green, g (s)	25.8	25.8		97.2	97.2	
Actuated g/C Ratio	0.19	0.19		0.72	0.72	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	664	289		2682	2682	
v/s Ratio Prot	0.14	c0.14		0.44	c0.50	
v/s Ratio Perm						
v/c Ratio	0.71	0.73		0.62	0.69	
Uniform Delay, d1	51.1	51.3		9.5	10.5	
Progression Factor	1.00	1.00		0.37	0.71	
Incremental Delay, d2	3.7	9.5		0.8	1.3	
Delay (s)	54.8	60.8		4.3	8.7	
Level of Service	D	E		A	A	
Approach Delay (s)	56.7			4.3	8.7	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	923	19	7	1363	16	16
Future Volume (Veh/h)	923	19	7	1363	16	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.63	0.63
Hourly flow rate (vph)	1049	22	8	1482	25	25
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	370			619		
pX, platoon unblocked			0.90		0.79	0.90
vC, conflicting volume			1071		1818	536
vC1, stage 1 conf vol					1060	
vC2, stage 2 conf vol					758	
vCu, unblocked vol			865		960	272
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		92	96
cM capacity (veh/h)			699		327	656

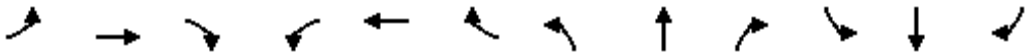
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	699	372	8	741	741	50
Volume Left	0	0	8	0	0	25
Volume Right	0	22	0	0	0	25
cSH	1700	1700	699	1700	1700	436
Volume to Capacity	0.41	0.22	0.01	0.44	0.44	0.11
Queue Length 95th (ft)	0	0	1	0	0	10
Control Delay (s)	0.0	0.0	10.2	0.0	0.0	14.3
Lane LOS			B			B
Approach Delay (s)	0.0		0.1			14.3
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1042	14	23	1201	12	8
Future Volume (Veh/h)	1042	14	23	1201	12	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	1097	15	24	1264	14	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.81		0.87	0.81
vC, conflicting volume			1112		1784	556
vC1, stage 1 conf vol					1104	
vC2, stage 2 conf vol					680	
vCu, unblocked vol			683		656	1
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			97		96	99
cM capacity (veh/h)			738		372	883

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	731	381	24	632	632	23
Volume Left	0	0	24	0	0	14
Volume Right	0	15	0	0	0	9
cSH	1700	1700	738	1700	1700	481
Volume to Capacity	0.43	0.22	0.03	0.37	0.37	0.05
Queue Length 95th (ft)	0	0	3	0	0	4
Control Delay (s)	0.0	0.0	10.0	0.0	0.0	12.9
Lane LOS			B			B
Approach Delay (s)	0.0		0.2			12.9
Approach LOS						B

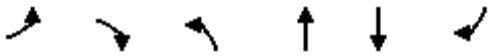
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	75	133	172	153	177	110	134	53	49	169	9
Future Volume (vph)	4	75	133	172	153	177	110	134	53	49	169	9
Peak Hour Factor	0.87	0.87	0.87	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Hourly flow rate (vph)	5	86	153	212	189	219	128	156	62	54	188	10

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	5	239	212	408	128	218	54	198
Volume Left (vph)	5	0	212	0	128	0	54	0
Volume Right (vph)	0	153	0	219	0	62	0	10
Hadj (s)	0.53	-0.41	0.53	-0.34	0.53	-0.17	0.53	0.00
Departure Headway (s)	8.0	7.0	7.4	6.6	8.0	7.3	8.1	7.6
Degree Utilization, x	0.01	0.47	0.44	0.74	0.28	0.44	0.12	0.42
Capacity (veh/h)	423	487	471	534	433	475	418	452
Control Delay (s)	9.9	14.9	14.9	24.9	12.9	14.6	11.0	14.7
Approach Delay (s)	14.8		21.5		14.0		13.9	
Approach LOS	B		C		B		B	

Intersection Summary				
Delay	17.3			
Level of Service	C			
Intersection Capacity Utilization	49.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	127	24	21	29	43	141
Future Volume (vph)	127	24	21	29	43	141
Peak Hour Factor	0.95	0.95	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	134	25	24	34	47	153

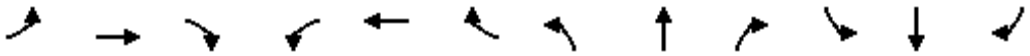
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	134	25	24	34	200
Volume Left (vph)	134	0	24	0	0
Volume Right (vph)	0	25	0	0	153
Hadj (s)	0.53	-0.67	0.57	0.07	-0.42
Departure Headway (s)	5.6	4.4	5.7	5.2	4.4
Degree Utilization, x	0.21	0.03	0.04	0.05	0.24
Capacity (veh/h)	608	767	605	661	783
Control Delay (s)	8.9	6.4	7.7	7.3	8.8
Approach Delay (s)	8.5		7.4		8.8
Approach LOS	A		A		A

Intersection Summary			
Delay	8.5		
Level of Service	A		
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	28	22	1384	32	10	1325
Future Volume (Veh/h)	28	22	1384	32	10	1325
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	32	25	1521	35	11	1395
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.84					
vC, conflicting volume	2258	779			1556	
vC1, stage 1 conf vol	1538					
vC2, stage 2 conf vol	720					
vCu, unblocked vol	2119	779			1556	
tC, single (s)	6.9	7.0			4.1	
tC, 2 stage (s)	5.9					
tF (s)	3.6	3.4			2.2	
p0 queue free %	78	92			97	
cM capacity (veh/h)	148	330			421	

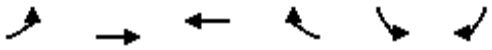
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	32	25	1014	542	11	698	698
Volume Left	32	0	0	0	11	0	0
Volume Right	0	25	0	35	0	0	0
cSH	148	330	1700	1700	421	1700	1700
Volume to Capacity	0.22	0.08	0.60	0.32	0.03	0.41	0.41
Queue Length 95th (ft)	20	6	0	0	2	0	0
Control Delay (s)	35.8	16.8	0.0	0.0	13.8	0.0	0.0
Lane LOS	E	C			B		
Approach Delay (s)	27.5		0.0		0.1		
Approach LOS	D						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	825	25	16	1296	67	21	7	12	105	8	84
Future Volume (vph)	43	825	25	16	1296	67	21	7	12	105	8	84
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3709		1845	3662		1863	1779		1863	1692	
Flt Permitted	0.12	1.00		0.29	1.00		0.50	1.00		0.74	1.00	
Satd. Flow (perm)	231	3709		555	3662		984	1779		1458	1692	
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.92	0.92	0.92	0.60	0.60	0.60
Adj. Flow (vph)	46	878	27	18	1440	74	23	8	13	175	13	140
RTOR Reduction (vph)	0	1	0	0	3	0	0	11	0	0	106	0
Lane Group Flow (vph)	46	904	0	18	1511	0	23	10	0	175	47	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	101.9	95.0		92.7	90.4		19.7	19.7		19.7	19.7	
Effective Green, g (s)	101.9	95.0		92.7	90.4		19.7	19.7		19.7	19.7	
Actuated g/C Ratio	0.75	0.70		0.69	0.67		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	257	2610		403	2452		143	259		212	246	
v/s Ratio Prot	c0.01	0.24		0.00	c0.41			0.01			0.03	
v/s Ratio Perm	0.13			0.03			0.02			c0.12		
v/c Ratio	0.18	0.35		0.04	0.62		0.16	0.04		0.83	0.19	
Uniform Delay, d1	16.8	7.8		9.8	12.5		50.4	49.5		56.0	50.7	
Progression Factor	1.00	1.00		0.50	0.60		1.00	1.02		1.02	1.16	
Incremental Delay, d2	0.3	0.4		0.0	0.3		0.5	0.1		22.2	0.4	
Delay (s)	17.1	8.2		5.0	7.8		51.0	50.6		79.5	59.0	
Level of Service	B	A		A	A		D	D		E	E	
Approach Delay (s)		8.6			7.8			50.8			69.9	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	49	40	32	26	0
Future Volume (Veh/h)	0	49	40	32	26	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	53	43	35	28	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		550	1165			
pX, platoon unblocked						
vC, conflicting volume	78				114	60
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	78				114	60
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1520				883	1005

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	53	78	28
Volume Left	0	0	28
Volume Right	0	35	0
cSH	1520	1700	883
Volume to Capacity	0.00	0.05	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	9.2
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	13.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	48	27	46	50	22	36
Future Volume (Veh/h)	48	27	46	50	22	36
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	29	50	54	24	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	750			965		
pX, platoon unblocked						
vC, conflicting volume			81		220	66
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			81		220	66
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	96
cM capacity (veh/h)			1517		742	997

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	81	104	63
Volume Left	0	50	24
Volume Right	29	0	39
cSH	1700	1517	882
Volume to Capacity	0.05	0.03	0.07
Queue Length 95th (ft)	0	3	6
Control Delay (s)	0.0	3.7	9.4
Lane LOS		A	A
Approach Delay (s)	0.0	3.7	9.4
Approach LOS			A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	96	9	16	142	7	12
Future Volume (Veh/h)	96	9	16	142	7	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	104	10	17	154	8	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				200		
pX, platoon unblocked					0.98	
vC, conflicting volume			114		297	109
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			114		275	109
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			1475		694	945

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	114	171	21
Volume Left	0	17	8
Volume Right	10	0	13
cSH	1700	1475	830
Volume to Capacity	0.07	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.8	9.4
Lane LOS		A	A
Approach Delay (s)	0.0	0.8	9.4
Approach LOS			A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	9	1587	19	9	1623
Future Volume (Veh/h)	19	9	1587	19	9	1623
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	21	10	1783	21	9	1708
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			587			395
pX, platoon unblocked	0.81	0.73			0.73	
vC, conflicting volume	2666	605			1804	
vC1, stage 1 conf vol	1794					
vC2, stage 2 conf vol	872					
vCu, unblocked vol	569	0			804	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	99			98	
cM capacity (veh/h)	293	791			595	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	31	713	713	378	9	854	854
Volume Left	21	0	0	0	9	0	0
Volume Right	10	0	0	21	0	0	0
cSH	368	1700	1700	1700	595	1700	1700
Volume to Capacity	0.08	0.42	0.42	0.22	0.02	0.50	0.50
Queue Length 95th (ft)	7	0	0	0	1	0	0
Control Delay (s)	15.7	0.0	0.0	0.0	11.1	0.0	0.0
Lane LOS	C				B		
Approach Delay (s)	15.7	0.0			0.1		
Approach LOS	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	909	57	15	1370	32	10
Future Volume (Veh/h)	909	57	15	1370	32	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	957	60	16	1442	35	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1105		
pX, platoon unblocked					0.75	
vC, conflicting volume			1017		1710	478
vC1, stage 1 conf vol					957	
vC2, stage 2 conf vol					753	
vCu, unblocked vol			1017		1289	478
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		89	98
cM capacity (veh/h)			678		308	533

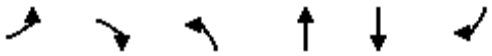
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	478	478	60	16	721	721	46
Volume Left	0	0	0	16	0	0	35
Volume Right	0	0	60	0	0	0	11
cSH	1700	1700	1700	678	1700	1700	404
Volume to Capacity	0.28	0.28	0.04	0.02	0.42	0.42	0.11
Queue Length 95th (ft)	0	0	0	2	0	0	10
Control Delay (s)	0.0	0.0	0.0	10.4	0.0	0.0	16.7
Lane LOS				B			C
Approach Delay (s)	0.0			0.1			16.7
Approach LOS							C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	896	23	0	1385	0	6
Future Volume (Veh/h)	896	23	0	1385	0	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	943	24	0	1458	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				300		
pX, platoon unblocked					0.75	
vC, conflicting volume			967		1684	484
vC1, stage 1 conf vol					955	
vC2, stage 2 conf vol					729	
vCu, unblocked vol			967		1239	484
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			708		311	529

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	629	338	729	729	7
Volume Left	0	0	0	0	0
Volume Right	0	24	0	0	7
cSH	1700	1700	1700	1700	529
Volume to Capacity	0.37	0.20	0.43	0.43	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	11.9
Lane LOS					B
Approach Delay (s)	0.0		0.0		11.9
Approach LOS					B

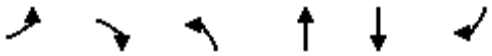
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	30	19	514	714	9
Future Volume (Veh/h)	40	30	19	514	714	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.89	0.89	0.83	0.83
Hourly flow rate (vph)	43	33	21	578	860	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					400	
pX, platoon unblocked	0.74	0.74	0.74			
vC, conflicting volume	1486	866	871			
vC1, stage 1 conf vol	866					
vC2, stage 2 conf vol	620					
vCu, unblocked vol	1480	643	650			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	91	97			
cM capacity (veh/h)	317	351	693			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	43	33	21	578	871
Volume Left	43	0	21	0	0
Volume Right	0	33	0	0	11
cSH	317	351	693	1700	1700
Volume to Capacity	0.14	0.09	0.03	0.34	0.51
Queue Length 95th (ft)	12	8	2	0	0
Control Delay (s)	18.1	16.3	10.4	0.0	0.0
Lane LOS	C	C	B		
Approach Delay (s)	17.3		0.4		0.0
Approach LOS	C				

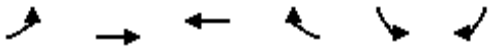
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	9	15	1452	1320	30
Future Volume (Veh/h)	17	9	15	1452	1320	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.95	0.95
Hourly flow rate (vph)	18	10	17	1613	1389	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					285	
pX, platoon unblocked	0.90	0.90	0.90			
vC, conflicting volume	2246	710	1421			
vC1, stage 1 conf vol	1405					
vC2, stage 2 conf vol	840					
vCu, unblocked vol	2157	443	1236			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	98	97			
cM capacity (veh/h)	184	504	501			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	18	10	17	806	806	926	495
Volume Left	18	0	17	0	0	0	0
Volume Right	0	10	0	0	0	0	32
cSH	184	504	501	1700	1700	1700	1700
Volume to Capacity	0.10	0.02	0.03	0.47	0.47	0.54	0.29
Queue Length 95th (ft)	8	2	3	0	0	0	0
Control Delay (s)	26.7	12.3	12.4	0.0	0.0	0.0	0.0
Lane LOS	D	B	B				
Approach Delay (s)	21.6		0.1			0.0	
Approach LOS	C						

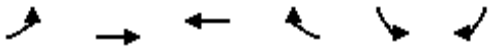
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	90	194	157	122	93	69
Future Volume (Veh/h)	90	194	157	122	93	69
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	111	240	183	142	101	75
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		853	483			
pX, platoon unblocked						
vC, conflicting volume	325				596	162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	325				596	162
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				74	91
cM capacity (veh/h)	1231				396	854

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	111	120	120	122	203	101	75
Volume Left	111	0	0	0	0	101	0
Volume Right	0	0	0	0	142	0	75
cSH	1231	1700	1700	1700	1700	396	854
Volume to Capacity	0.09	0.07	0.07	0.07	0.12	0.26	0.09
Queue Length 95th (ft)	7	0	0	0	0	25	7
Control Delay (s)	8.2	0.0	0.0	0.0	0.0	17.2	9.6
Lane LOS	A					C	A
Approach Delay (s)	2.6			0.0		14.0	
Approach LOS						B	

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	986	1264	73	49	97
Future Volume (Veh/h)	87	986	1264	73	49	97
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	94	1060	1331	77	53	105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		480				
pX, platoon unblocked					0.86	
vC, conflicting volume	1408				2088	704
vC1, stage 1 conf vol					1370	
vC2, stage 2 conf vol					718	
vCu, unblocked vol	1408				1944	704
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	80				71	72
cM capacity (veh/h)	481				182	379

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	94	530	530	887	521	53	105
Volume Left	94	0	0	0	0	53	0
Volume Right	0	0	0	0	77	0	105
cSH	481	1700	1700	1700	1700	182	379
Volume to Capacity	0.20	0.31	0.31	0.52	0.31	0.29	0.28
Queue Length 95th (ft)	18	0	0	0	0	29	28
Control Delay (s)	14.3	0.0	0.0	0.0	0.0	32.7	18.1
Lane LOS	B					D	C
Approach Delay (s)	1.2			0.0		23.0	
Approach LOS						C	

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	72	9	288	46	9	465
Future Volume (Veh/h)	72	9	288	46	9	465
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.90	0.90
Hourly flow rate (vph)	78	10	335	53	10	517
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			386			
pX, platoon unblocked	0.95	0.95			0.95	
vC, conflicting volume	898	362			388	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	868	303			331	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	74	99			99	
cM capacity (veh/h)	305	701			1169	

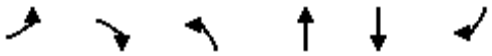
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	78	10	388	10	517
Volume Left	78	0	0	10	0
Volume Right	0	10	53	0	0
cSH	305	701	1700	1169	1700
Volume to Capacity	0.26	0.01	0.23	0.01	0.30
Queue Length 95th (ft)	25	1	0	1	0
Control Delay (s)	20.8	10.2	0.0	8.1	0.0
Lane LOS	C	B		A	
Approach Delay (s)	19.6		0.0	0.2	
Approach LOS	C				

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	157	20	7	493	9	7
Future Volume (Veh/h)	157	20	7	493	9	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.81	0.81	0.92	0.92
Hourly flow rate (vph)	180	23	9	609	10	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			203		818	192
vC1, stage 1 conf vol					192	
vC2, stage 2 conf vol					627	
vCu, unblocked vol			203		818	192
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	99
cM capacity (veh/h)			1369		500	850

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	203	9	609	10	8
Volume Left	0	9	0	10	0
Volume Right	23	0	0	0	8
cSH	1700	1369	1700	500	850
Volume to Capacity	0.12	0.01	0.36	0.02	0.01
Queue Length 95th (ft)	0	0	0	2	1
Control Delay (s)	0.0	7.6	0.0	12.4	9.3
Lane LOS		A		B	A
Approach Delay (s)	0.0	0.1		11.0	
Approach LOS				B	

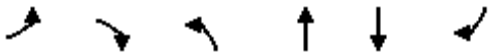
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	67	39	30	1400	1275	61
Future Volume (Veh/h)	67	39	30	1400	1275	61
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.95	0.95
Hourly flow rate (vph)	73	42	33	1556	1342	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				900	1216	
pX, platoon unblocked	0.82	0.90	0.90			
vC, conflicting volume	2218	703	1406			
vC1, stage 1 conf vol	1374					
vC2, stage 2 conf vol	844					
vCu, unblocked vol	1484	438	1222			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	66	92	94			
cM capacity (veh/h)	213	508	508			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	73	42	33	778	778	895	511
Volume Left	73	0	33	0	0	0	0
Volume Right	0	42	0	0	0	0	64
cSH	213	508	508	1700	1700	1700	1700
Volume to Capacity	0.34	0.08	0.06	0.46	0.46	0.53	0.30
Queue Length 95th (ft)	36	7	5	0	0	0	0
Control Delay (s)	30.4	12.7	12.6	0.0	0.0	0.0	0.0
Lane LOS	D	B	B				
Approach Delay (s)	24.0		0.3			0.0	
Approach LOS	C						

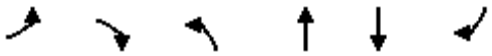
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	7	0	1467	1329	0
Future Volume (Veh/h)	0	7	0	1467	1329	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.95	0.95
Hourly flow rate (vph)	0	8	0	1630	1399	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				1150	966	
pX, platoon unblocked	0.83	0.89	0.89			
vC, conflicting volume	2214	700	1399			
vC1, stage 1 conf vol	1399					
vC2, stage 2 conf vol	815					
vCu, unblocked vol	1474	428	1210			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	209	514	512			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	8	815	815	700	700
Volume Left	0	0	0	0	0
Volume Right	8	0	0	0	0
cSH	514	1700	1700	1700	1700
Volume to Capacity	0.02	0.48	0.48	0.41	0.41
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	12.1	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	12.1	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	93	6	111	104	3
Future Volume (Veh/h)	39	93	6	111	104	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Hourly flow rate (vph)	65	155	10	185	173	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				527	809	
pX, platoon unblocked						
vC, conflicting volume	288	89	178			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288	89	178			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	84	99			
cM capacity (veh/h)	674	951	1395			

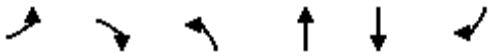
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	65	155	10	92	92	115	63
Volume Left	65	0	10	0	0	0	0
Volume Right	0	155	0	0	0	0	5
cSH	674	951	1395	1700	1700	1700	1700
Volume to Capacity	0.10	0.16	0.01	0.05	0.05	0.07	0.04
Queue Length 95th (ft)	8	15	1	0	0	0	0
Control Delay (s)	10.9	9.5	7.6	0.0	0.0	0.0	0.0
Lane LOS	B	A	A				
Approach Delay (s)	9.9		0.4			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	15.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1236	472	0	2125
Future Volume (Veh/h)	0	0	1236	472	0	2125
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	0	0	1329	508	0	2237
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.89	0.81			0.81	
vC, conflicting volume	2075	664			1837	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	908	115			1564	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	244	741			339	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	664	664	508	746	746	746
Volume Left	0	0	0	0	0	0
Volume Right	0	0	508	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.39	0.39	0.30	0.44	0.44	0.44
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

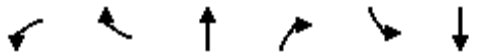
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	1708	1736	389
Future Volume (Veh/h)	0	0	0	1708	1736	389
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	0	1986	1847	414
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.85	0.82	0.82			
vC, conflicting volume	2840	924	2261			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1872	475	2101			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	54	441	212			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	993	993	924	924	414
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	414
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.58	0.58	0.54	0.54	0.24
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

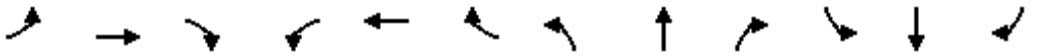
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	71.0%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1423	711	0	2129
Future Volume (Veh/h)	0	0	1423	711	0	2129
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	1655	827	0	2265
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.86	0.73			0.73	
vC, conflicting volume	2410	828			2482	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	466	28			2291	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	454	760			159	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	828	828	827	755	755	755
Volume Left	0	0	0	0	0	0
Volume Right	0	0	827	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.49	0.49	0.49	0.44	0.44	0.44
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

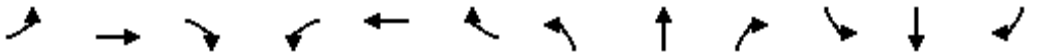
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	296	105	113	304	221	153	610	103	195	587	330
Future Volume (vph)	297	296	105	113	304	221	153	610	103	195	587	330
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.96		1.00	0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3614	3579		3614	3490		3614	3645		3614	3725	1667
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3614	3579		3614	3490		3614	3645		3614	3725	1667
Peak-hour factor, PHF	0.88	0.88	0.88	0.94	0.94	0.94	0.90	0.90	0.90	0.89	0.89	0.89
Adj. Flow (vph)	338	336	119	120	323	235	170	678	114	219	660	371
RTOR Reduction (vph)	0	35	0	0	130	0	0	11	0	0	0	69
Lane Group Flow (vph)	338	420	0	120	428	0	170	781	0	219	660	302
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	8		7	4		5	2		1	6	3
Permitted Phases												6
Actuated Green, G (s)	14.9	17.9		15.3	18.3		9.4	40.4		9.4	40.4	55.3
Effective Green, g (s)	14.9	17.9		15.3	18.3		9.4	40.4		9.4	40.4	55.3
Actuated g/C Ratio	0.14	0.16		0.14	0.17		0.09	0.37		0.09	0.37	0.51
Clearance Time (s)	6.6	6.6		6.6	6.6		6.4	6.4		6.4	6.4	6.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	494	587		507	585		311	1350		311	1380	946
v/s Ratio Prot	c0.09	0.12		0.03	c0.12		0.05	c0.21		c0.06	0.18	0.04
v/s Ratio Perm												0.14
v/c Ratio	0.68	0.72		0.24	0.73		0.55	0.58		0.70	0.48	0.32
Uniform Delay, d1	44.8	43.1		41.7	43.0		47.8	27.5		48.4	26.2	15.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.95	0.92	1.00
Incremental Delay, d2	3.9	4.1		0.2	4.7		2.0	1.8		6.7	1.1	0.2
Delay (s)	48.7	47.3		41.9	47.7		49.7	29.3		52.5	25.3	15.9
Level of Service	D	D		D	D		D	C		D	C	B
Approach Delay (s)		47.9			46.7			32.9			27.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

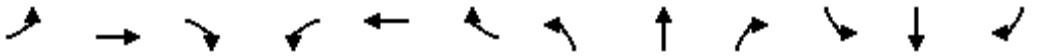
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	518	91	262	604	597	126	909	171	400	849	296
Future Volume (vph)	340	518	91	262	604	597	126	909	171	400	849	296
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3642		1863	3725	1667	1863	3637		1863	3581	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1863	3642		1863	3725	1667	1863	3637		1863	3581	
Peak-hour factor, PHF	0.78	0.78	0.78	0.93	0.93	0.93	0.89	0.89	0.89	0.90	0.90	0.90
Adj. Flow (vph)	436	664	117	282	649	642	142	1021	192	444	943	329
RTOR Reduction (vph)	0	11	0	0	0	0	0	12	0	0	26	0
Lane Group Flow (vph)	436	770	0	282	649	642	142	1201	0	444	1246	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	23.0	29.0		18.0	24.0	47.9	10.9	36.9		23.9	49.9	
Effective Green, g (s)	23.0	29.0		18.0	24.0	47.9	10.9	36.9		23.9	49.9	
Actuated g/C Ratio	0.17	0.22		0.14	0.18	0.36	0.08	0.28		0.18	0.38	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.1	6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.2	3.0		3.2	3.0	3.2	3.2	3.2		3.2	3.2	
Lane Grp Cap (vph)	324	800		254	677	604	153	1016		337	1353	
v/s Ratio Prot	c0.23	c0.21		0.15	0.17	0.19	0.08	c0.33		c0.24	0.35	
v/s Ratio Perm						0.19						
v/c Ratio	1.35	0.96		1.11	0.96	1.06	0.93	1.18		1.32	0.92	
Uniform Delay, d1	54.5	51.0		57.0	53.5	42.0	60.2	47.5		54.0	39.2	
Progression Factor	0.89	0.90		1.25	0.88	0.75	1.17	0.85		0.81	0.70	
Incremental Delay, d2	173.7	23.0		87.0	24.5	53.0	47.2	91.1		156.9	7.8	
Delay (s)	222.4	69.0		158.2	71.5	84.5	117.5	131.6		200.5	35.3	
Level of Service	F	E		F	E	F	F	F		F	D	
Approach Delay (s)		123.9			92.4			130.2			78.0	
Approach LOS		F			F			F			E	

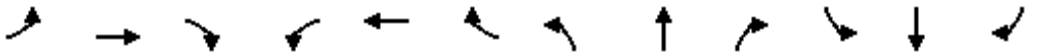
Intersection Summary			
HCM 2000 Control Delay	103.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	898	60	46	953	174	96	41	73	192	39	105
Future Volume (vph)	102	898	60	46	953	174	96	41	73	192	39	105
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.2	6.2		6.2	6.2		6.0	6.0	6.2	6.0	6.0	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3685		1863	3639		1863	1961	1649	1854	1961	1667
Flt Permitted	0.15	1.00		0.22	1.00		0.73	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	303	3685		439	3639		1423	1961	1649	1417	1961	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.81	0.81	0.81
Adj. Flow (vph)	107	945	63	51	1047	191	109	47	83	237	48	130
RTOR Reduction (vph)	0	3	0	0	10	0	0	0	74	0	0	117
Lane Group Flow (vph)	107	1005	0	51	1228	0	109	47	9	237	48	13
Confl. Peds. (#/hr)			1	1					4	4		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	83.8	77.7		83.8	77.7		23.8	7.5	13.6	23.8	7.5	13.6
Effective Green, g (s)	83.8	77.7		83.8	77.7		23.8	7.5	13.6	23.8	7.5	13.6
Actuated g/C Ratio	0.63	0.59		0.63	0.59		0.18	0.06	0.10	0.18	0.06	0.10
Clearance Time (s)	6.2	6.2		6.2	6.2		6.0	6.0	6.2	6.0	6.0	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	264	2169		344	2142		310	111	247	309	111	250
v/s Ratio Prot	c0.02	0.27		0.01	c0.34		0.04	0.02	0.00	c0.09	0.02	0.00
v/s Ratio Perm	0.24			0.09			0.02		0.00	c0.04		0.01
v/c Ratio	0.41	0.46		0.15	0.57		0.35	0.42	0.03	0.77	0.43	0.05
Uniform Delay, d1	26.5	15.4		17.4	16.9		47.5	60.2	53.3	50.2	60.2	53.4
Progression Factor	1.18	1.74		0.35	0.53		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1		0.2	1.0		0.7	2.6	0.1	10.8	2.7	0.1
Delay (s)	31.5	26.9		6.3	9.9		48.2	62.8	53.3	61.1	62.9	53.5
Level of Service	C	C		A	A		D	E	D	E	E	D
Approach Delay (s)		27.3			9.8			52.9			58.9	
Approach LOS		C			A			D			E	

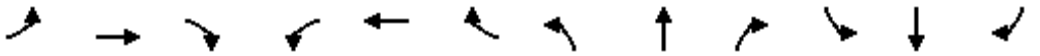
Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	126	778	679	153	41	715	945	513	24	1235	78
Future Volume (vph)	118	126	778	679	153	41	715	945	513	24	1235	78
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		0.97	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1863	1961	2933	3614	1889		3614	5353	1667	1863	5353	1642
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	134	828	746	168	45	753	995	540	25	1300	82
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	281	0	0	60
Lane Group Flow (vph)	126	134	828	746	213	0	753	995	259	25	1300	22
Confl. Peds. (#/hr)						2						2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 5	4	4		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	12.0	12.0	49.1	28.0	28.0		31.1	63.2	63.2	4.0	36.1	36.1
Effective Green, g (s)	12.0	12.0	49.1	28.0	28.0		31.1	63.2	63.2	4.0	36.1	36.1
Actuated g/C Ratio	0.09	0.09	0.37	0.21	0.21		0.24	0.48	0.48	0.03	0.27	0.27
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4	6.4	6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.5	3.5		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	178	1090	766	400		851	2562	798	56	1463	449
v/s Ratio Prot	0.07	0.07	c0.28	c0.21	0.11		c0.21	0.19		0.01	c0.24	
v/s Ratio Perm									0.16			0.01
v/c Ratio	0.75	0.75	0.76	0.97	0.53		0.88	0.39	0.32	0.45	0.89	0.05
Uniform Delay, d1	58.5	58.6	36.3	51.6	46.2		48.7	22.0	21.2	62.9	46.0	35.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.86	0.73	0.29	1.00	1.00	1.00
Incremental Delay, d2	16.3	16.4	3.1	26.1	1.5		6.9	0.3	0.6	5.6	8.4	0.2
Delay (s)	74.8	74.9	39.4	77.7	47.7		48.8	16.2	6.8	68.5	54.4	35.5
Level of Service	E	E	D	E	D		D	B	A	E	D	D
Approach Delay (s)		47.9			71.1			24.7			53.6	
Approach LOS		D			E			C			D	

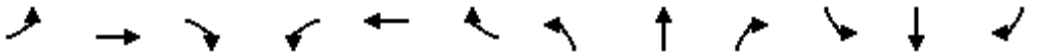
Intersection Summary			
HCM 2000 Control Delay	43.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	585	229	54	718	102	304	203	44	88	231	134
Future Volume (vph)	127	585	229	54	718	102	304	203	44	88	231	134
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.5	6.5	6.0	6.5	6.5		6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1862	1961	1667	1863	3644		3614	1961	1667	1863	1961	1667
Flt Permitted	0.20	1.00	1.00	0.20	1.00		0.95	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	400	1961	1667	390	3644		3614	1961	1667	1176	1961	1667
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.94	0.94	0.94	0.88	0.88	0.88
Adj. Flow (vph)	140	643	252	59	789	112	323	216	47	100	262	152
RTOR Reduction (vph)	0	0	103	0	8	0	0	0	34	0	0	61
Lane Group Flow (vph)	140	643	149	59	893	0	323	216	13	100	263	91
Confl. Peds. (#/hr)	2					2						
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Prot	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	1	6	3	5	2		3	8	5	7	4	1
Permitted Phases	6		6	2					8	4		4
Actuated Green, G (s)	69.1	60.9	78.2	65.1	58.9		17.3	29.7	35.9	32.8	22.6	30.8
Effective Green, g (s)	69.1	60.9	78.2	65.1	58.9		17.3	29.7	35.9	32.8	22.6	30.8
Actuated g/C Ratio	0.52	0.46	0.59	0.49	0.45		0.13	0.22	0.27	0.25	0.17	0.23
Clearance Time (s)	6.5	6.5	6.0	6.5	6.5		6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5		3.0	3.5	3.0	3.0	3.5	3.0
Lane Grp Cap (vph)	300	904	987	261	1625		473	441	453	345	335	388
v/s Ratio Prot	c0.03	c0.33	0.02	0.01	0.25		c0.09	0.11	0.00	0.02	c0.13	0.01
v/s Ratio Perm	0.22		0.07	0.10					0.01	0.05		0.04
v/c Ratio	0.47	0.71	0.15	0.23	0.55		0.68	0.49	0.03	0.29	0.79	0.24
Uniform Delay, d1	18.5	28.5	12.0	21.4	26.8		54.7	44.6	35.3	39.4	52.4	41.1
Progression Factor	0.66	0.86	2.29	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	4.3	0.1	0.4	1.3		4.0	1.0	0.0	0.5	11.8	0.3
Delay (s)	13.3	28.7	27.7	21.9	28.2		58.8	45.6	35.3	39.9	64.1	41.4
Level of Service	B	C	C	C	C		E	D	D	D	E	D
Approach Delay (s)		26.3			27.8			52.0			52.7	
Approach LOS		C			C			D			D	

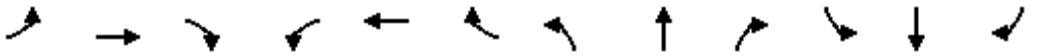
Intersection Summary			
HCM 2000 Control Delay	36.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	28	107	79	9	620	90	1731	93	654	1466	249
Future Volume (vph)	241	28	107	79	9	620	90	1731	93	654	1466	249
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Lane Util. Factor	0.91	0.91	1.00		1.00	0.88	1.00	0.91		0.97	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1695	3430	1667		1877	2933	1863	5312		3614	3725	1667
Flt Permitted	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1695	3430	1667		1877	2933	1863	5312		3614	3725	1667
Peak-hour factor, PHF	0.83	0.83	0.83	0.94	0.94	0.94	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	290	34	129	84	10	660	95	1822	98	688	1543	262
RTOR Reduction (vph)	0	0	105	0	0	91	0	4	0	0	0	88
Lane Group Flow (vph)	145	179	24	0	94	569	95	1916	0	688	1543	174
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8	5	4	4	1	5	2		1	6	8
Permitted Phases			8			4						6
Actuated Green, G (s)	14.6	14.6	24.6		9.7	40.4	10.0	52.2		30.7	72.9	87.5
Effective Green, g (s)	14.6	14.6	24.6		9.7	40.4	10.0	52.2		30.7	72.9	87.5
Actuated g/C Ratio	0.11	0.11	0.19		0.07	0.31	0.08	0.40		0.23	0.55	0.66
Clearance Time (s)	6.0	6.0	6.4		6.0	6.4	6.4	6.4		6.4	6.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0		4.0	3.5	3.0	3.0		3.5	3.0	3.0
Lane Grp Cap (vph)	187	379	310		137	1039	141	2100		840	2057	1105
v/s Ratio Prot	c0.09	0.05	0.01		0.05	c0.13	0.05	c0.36		c0.19	0.41	0.02
v/s Ratio Perm			0.01			0.07						0.09
v/c Ratio	0.78	0.47	0.08		0.69	0.55	0.67	0.91		0.82	0.75	0.16
Uniform Delay, d1	57.1	55.1	44.3		59.7	38.2	59.4	37.7		48.0	22.6	8.4
Progression Factor	1.05	1.05	1.03		1.00	1.00	0.90	0.98		0.96	0.90	1.60
Incremental Delay, d2	18.0	0.9	0.1		14.4	0.7	1.2	0.8		2.7	1.0	0.0
Delay (s)	78.2	58.9	45.7		74.1	38.8	54.4	37.9		48.7	21.4	13.4
Level of Service	E	E	D		E	D	D	D		D	C	B
Approach Delay (s)		61.3			43.2			38.7			28.1	
Approach LOS		E			D			D			C	

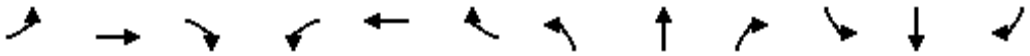
Intersection Summary			
HCM 2000 Control Delay	36.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



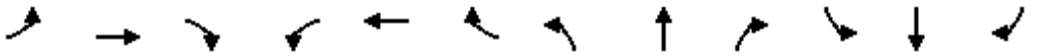
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	3	65	88	5	103	69	1152	130	130	1048	59
Future Volume (vph)	84	3	65	88	5	103	69	1152	130	130	1048	59
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1859	1679		1863	1961	1643	1863	3669		1863	3696	
Flt Permitted	0.75	1.00		0.69	1.00	1.00	0.20	1.00		0.15	1.00	
Satd. Flow (perm)	1474	1679		1352	1961	1643	395	3669		286	3696	
Peak-hour factor, PHF	0.74	0.74	0.74	0.72	0.72	0.72	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	114	4	88	122	7	143	74	1239	140	137	1103	62
RTOR Reduction (vph)	0	77	0	0	0	124	0	5	0	0	2	0
Lane Group Flow (vph)	114	15	0	122	7	19	74	1374	0	137	1163	0
Confl. Peds. (#/hr)	1					1						
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	17.1	17.1		17.1	17.1	17.1	94.6	88.7		99.2	91.0	
Effective Green, g (s)	17.1	17.1		17.1	17.1	17.1	94.6	88.7		99.2	91.0	
Actuated g/C Ratio	0.13	0.13		0.13	0.13	0.13	0.72	0.67		0.75	0.69	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	217		175	254	212	348	2465		312	2548	
v/s Ratio Prot		0.01			0.00		0.01	c0.37		c0.03	0.31	
v/s Ratio Perm	0.08			c0.09		0.01	0.14			0.30		
v/c Ratio	0.60	0.07		0.70	0.03	0.09	0.21	0.56		0.44	0.46	
Uniform Delay, d1	54.2	50.5		55.0	50.2	50.6	12.4	11.4		18.5	9.3	
Progression Factor	1.00	0.99		1.00	1.00	1.00	1.00	1.00		0.53	0.24	
Incremental Delay, d2	5.0	0.1		11.4	0.0	0.2	0.3	0.9		0.3	0.2	
Delay (s)	59.5	49.9		66.4	50.2	50.8	12.7	12.3		10.1	2.4	
Level of Service	E	D		E	D	D	B	B		B	A	
Approach Delay (s)		55.2			57.8			12.3			3.3	
Approach LOS		E			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	0	65	0	0	1	62	1273	1	7	1146	55
Future Volume (vph)	44	0	65	0	0	1	62	1273	1	7	1146	55
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	1667			1696		1863	3725		1862	3700	
Flt Permitted	0.76	1.00			1.00		0.21	1.00		0.18	1.00	
Satd. Flow (perm)	1483	1667			1696		404	3725		356	3700	
Peak-hour factor, PHF	0.90	0.90	0.90	0.60	0.60	0.60	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	49	0	72	0	0	2	67	1369	1	7	1206	58
RTOR Reduction (vph)	0	67	0	0	2	0	0	0	0	0	2	0
Lane Group Flow (vph)	49	5	0	0	0	0	67	1370	0	7	1262	0
Confl. Peds. (#/hr)									1	1		
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	7.9	7.9			7.9		89.3	89.3		89.3	89.3	
Effective Green, g (s)	7.9	7.9			7.9		89.3	89.3		89.3	89.3	
Actuated g/C Ratio	0.07	0.07			0.07		0.82	0.82		0.82	0.82	
Clearance Time (s)	6.0	6.0			6.0		5.8	5.8		5.8	5.8	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	107	120			122		330	3051		291	3031	
v/s Ratio Prot		0.00			0.00			c0.37			0.34	
v/s Ratio Perm	c0.03						0.17			0.02		
v/c Ratio	0.46	0.04			0.00		0.20	0.45		0.02	0.42	
Uniform Delay, d1	48.5	47.0			46.9		2.1	2.8		1.8	2.7	
Progression Factor	1.00	1.00			1.00		0.26	0.23		1.00	1.00	
Incremental Delay, d2	3.1	0.1			0.0		1.2	0.4		0.2	0.4	
Delay (s)	51.6	47.2			46.9		1.8	1.1		2.0	3.1	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		49.0			46.9			1.1			3.1	
Approach LOS		D			D			A			A	

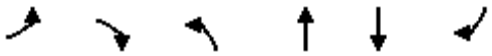
Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	814	179	1035	0	1671	0	0	2005	491
Future Volume (vph)	0	0	0	814	179	1035	0	1671	0	0	2005	491
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)				6.0	6.0	6.3		6.3			6.3	6.3
Lane Util. Factor				0.97	1.00	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)				3614	1961	2933		5353			5353	1667
Flt Permitted				0.95	1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)				3614	1961	2933		5353			5353	1667
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	925	203	1176	0	1759	0	0	2203	540
RTOR Reduction (vph)	0	0	0	0	0	15	0	0	0	0	0	167
Lane Group Flow (vph)	0	0	0	925	203	1161	0	1759	0	0	2203	373
Turn Type				Split	NA	custom		NA			NA	Prot
Protected Phases				4	4	1 4		2			6	6
Permitted Phases												
Actuated Green, G (s)				38.8	38.8	58.8		60.9			80.9	80.9
Effective Green, g (s)				38.8	38.8	58.8		60.9			80.9	80.9
Actuated g/C Ratio				0.29	0.29	0.45		0.46			0.61	0.61
Clearance Time (s)				6.0	6.0			6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)				1062	576	1306		2469			3280	1021
v/s Ratio Prot				0.26	0.10	c0.40		0.33			c0.41	0.22
v/s Ratio Perm												
v/c Ratio				0.87	0.35	0.89		0.71			0.67	0.37
Uniform Delay, d1				44.2	36.7	33.6		28.5			16.8	12.7
Progression Factor				1.00	1.00	1.00		0.88			1.06	1.82
Incremental Delay, d2				8.0	0.4	7.7		1.1			0.5	0.5
Delay (s)				52.2	37.1	41.3		26.1			18.4	23.6
Level of Service				D	D	D		C			B	C
Approach Delay (s)		0.0			45.3			26.1			19.4	
Approach LOS		A			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	480	483	0	1770	2200	0
Future Volume (vph)	480	483	0	1770	2200	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	0.91		0.95	0.95	
Frt	0.96	0.85		1.00	1.00	
Flt Protected	0.96	1.00		1.00	1.00	
Satd. Flow (prot)	3521	1517		3725	3725	
Flt Permitted	0.96	1.00		1.00	1.00	
Satd. Flow (perm)	3521	1517		3725	3725	
Peak-hour factor, PHF	0.95	0.95	0.94	0.94	0.94	0.94
Adj. Flow (vph)	505	508	0	1883	2340	0
RTOR Reduction (vph)	6	6	0	0	0	0
Lane Group Flow (vph)	687	314	0	1883	2340	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	6	
Permitted Phases						
Actuated Green, G (s)	31.2	31.2		88.8	88.8	
Effective Green, g (s)	31.2	31.2		88.8	88.8	
Actuated g/C Ratio	0.24	0.24		0.67	0.67	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	832	358		2505	2505	
v/s Ratio Prot	0.20	c0.21		0.51	c0.63	
v/s Ratio Perm						
v/c Ratio	0.83	0.88		0.75	0.93	
Uniform Delay, d1	47.8	48.5		14.3	19.0	
Progression Factor	1.00	1.00		0.51	0.96	
Incremental Delay, d2	6.9	21.1		1.3	5.7	
Delay (s)	54.7	69.6		8.6	23.9	
Level of Service	D	E		A	C	
Approach Delay (s)	59.4			8.6	23.9	
Approach LOS	E			A	C	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1035	12	15	1017	17	7
Future Volume (Veh/h)	1035	12	15	1017	17	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.87	0.87	0.82	0.82
Hourly flow rate (vph)	1137	13	17	1169	21	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	370			619		
pX, platoon unblocked			0.87		0.89	0.87
vC, conflicting volume			1150		1762	575
vC1, stage 1 conf vol					1144	
vC2, stage 2 conf vol					618	
vCu, unblocked vol			876		967	216
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			97		93	99
cM capacity (veh/h)			668		312	687

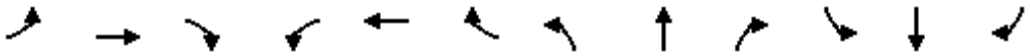
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	758	392	17	584	584	30
Volume Left	0	0	17	0	0	21
Volume Right	0	13	0	0	0	9
cSH	1700	1700	668	1700	1700	373
Volume to Capacity	0.45	0.23	0.03	0.34	0.34	0.08
Queue Length 95th (ft)	0	0	2	0	0	7
Control Delay (s)	0.0	0.0	10.5	0.0	0.0	15.5
Lane LOS			B			C
Approach Delay (s)	0.0		0.2			15.5
Approach LOS						C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1030	13	8	1289	12	11
Future Volume (Veh/h)	1030	13	8	1289	12	11
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.63	0.63
Hourly flow rate (vph)	1084	14	8	1357	19	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	1059			710		
pX, platoon unblocked			0.83		0.88	0.83
vC, conflicting volume			1098		1786	549
vC1, stage 1 conf vol					1091	
vC2, stage 2 conf vol					694	
vCu, unblocked vol			714		762	54
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		95	98
cM capacity (veh/h)			734		364	834

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	723	375	8	678	678	36
Volume Left	0	0	8	0	0	19
Volume Right	0	14	0	0	0	17
cSH	1700	1700	734	1700	1700	496
Volume to Capacity	0.43	0.22	0.01	0.40	0.40	0.07
Queue Length 95th (ft)	0	0	1	0	0	6
Control Delay (s)	0.0	0.0	10.0	0.0	0.0	12.8
Lane LOS			A			B
Approach Delay (s)	0.0		0.1			12.8
Approach LOS						B

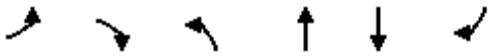
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	96	189	40	88	45	161	92	42	47	103	24
Future Volume (vph)	9	96	189	40	88	45	161	92	42	47	103	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	0.67	0.67	0.67
Hourly flow rate (vph)	9	101	199	42	93	47	187	107	49	70	154	36

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	9	300	42	140	187	156	70	190
Volume Left (vph)	9	0	42	0	187	0	70	0
Volume Right (vph)	0	199	0	47	0	49	0	36
Hadj (s)	0.53	-0.43	0.53	-0.20	0.53	-0.19	0.53	-0.10
Departure Headway (s)	7.0	6.1	7.2	6.5	6.9	6.2	7.0	6.4
Degree Utilization, x	0.02	0.51	0.08	0.25	0.36	0.27	0.14	0.34
Capacity (veh/h)	481	566	463	516	488	551	481	531
Control Delay (s)	9.0	13.9	9.7	10.5	12.5	10.2	9.9	11.4
Approach Delay (s)	13.8		10.3		11.4		11.0	
Approach LOS	B		B		B		B	

Intersection Summary				
Delay	11.8			
Level of Service	B			
Intersection Capacity Utilization	47.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	164	38	24	27	23	103
Future Volume (vph)	164	38	24	27	23	103
Peak Hour Factor	0.77	0.77	0.82	0.82	0.77	0.77
Hourly flow rate (vph)	213	49	29	33	30	134

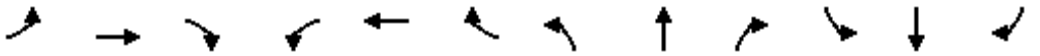
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	213	49	29	33	164
Volume Left (vph)	213	0	29	0	0
Volume Right (vph)	0	49	0	0	134
Hadj (s)	0.53	-0.67	0.53	0.03	-0.46
Departure Headway (s)	5.6	4.4	5.9	5.4	4.6
Degree Utilization, x	0.33	0.06	0.05	0.05	0.21
Capacity (veh/h)	618	783	575	625	732
Control Delay (s)	10.1	6.5	8.0	7.5	8.9
Approach Delay (s)	9.4		7.8		8.9
Approach LOS	A		A		A

Intersection Summary			
Delay	9.0		
Level of Service	A		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	15	1330	24	12	1177
Future Volume (Veh/h)	25	15	1330	24	12	1177
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.91	0.91	0.95	0.95
Hourly flow rate (vph)	42	25	1462	26	13	1239
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						708
pX, platoon unblocked	0.86					
vC, conflicting volume	2122	745			1489	
vC1, stage 1 conf vol	1476					
vC2, stage 2 conf vol	646					
vCu, unblocked vol	1977	745			1489	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	93			97	
cM capacity (veh/h)	167	356			447	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	42	25	975	513	13	620	620
Volume Left	42	0	0	0	13	0	0
Volume Right	0	25	0	26	0	0	0
cSH	167	356	1700	1700	447	1700	1700
Volume to Capacity	0.25	0.07	0.57	0.30	0.03	0.36	0.36
Queue Length 95th (ft)	24	6	0	0	2	0	0
Control Delay (s)	33.7	15.9	0.0	0.0	13.3	0.0	0.0
Lane LOS	D	C			B		
Approach Delay (s)	27.0		0.0		0.1		
Approach LOS	D						

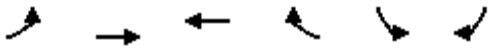
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	965	21	12	962	60	18	11	12	70	11	78
Future Volume (vph)	50	965	21	12	962	60	18	11	12	70	11	78
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.92		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3713		1863	3693		1863	1808		1863	1702	
Flt Permitted	0.21	1.00		0.20	1.00		0.48	1.00		0.74	1.00	
Satd. Flow (perm)	417	3713		390	3693		943	1808		1453	1702	
Peak-hour factor, PHF	0.82	0.82	0.82	0.90	0.90	0.90	0.92	0.92	0.92	0.60	0.60	0.60
Adj. Flow (vph)	61	1177	26	13	1069	67	20	12	13	117	18	130
RTOR Reduction (vph)	0	1	0	0	2	0	0	11	0	0	114	0
Lane Group Flow (vph)	61	1202	0	13	1134	0	20	14	0	117	34	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	102.7	95.7		93.3	91.0		16.0	16.0		16.0	16.0	
Effective Green, g (s)	102.7	95.7		93.3	91.0		16.0	16.0		16.0	16.0	
Actuated g/C Ratio	0.78	0.73		0.71	0.69		0.12	0.12		0.12	0.12	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	401	2691		301	2545		114	219		176	206	
v/s Ratio Prot	c0.01	c0.32		0.00	0.31			0.01			0.02	
v/s Ratio Perm	0.11			0.03			0.02			c0.08		
v/c Ratio	0.15	0.45		0.04	0.45		0.18	0.06		0.66	0.16	
Uniform Delay, d1	8.3	7.4		10.7	9.2		52.1	51.4		55.4	52.0	
Progression Factor	1.00	1.00		0.97	1.02		1.04	1.05		0.94	0.88	
Incremental Delay, d2	0.2	0.5		0.0	0.3		0.7	0.1		9.0	0.4	
Delay (s)	8.4	7.9		10.4	9.7		54.9	54.1		61.1	46.3	
Level of Service	A	A		B	A		D	D		E	D	
Approach Delay (s)		7.9			9.7			54.5			52.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	44	41	24	27	0
Future Volume (Veh/h)	0	44	41	24	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	48	45	26	29	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		550	1165			
pX, platoon unblocked						
vC, conflicting volume	71				106	58
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	71				106	58
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1529				892	1008

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	48	71	29
Volume Left	0	0	29
Volume Right	0	26	0
cSH	1529	1700	892
Volume to Capacity	0.00	0.04	0.03
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	9.2
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	13.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	46	25	41	40	25	40
Future Volume (Veh/h)	46	25	41	40	25	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	27	45	43	27	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	750			965		
pX, platoon unblocked						
vC, conflicting volume			77		196	64
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			77		196	64
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		96	96
cM capacity (veh/h)			1522		769	1001

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	77	88	70
Volume Left	0	45	27
Volume Right	27	0	43
cSH	1700	1522	897
Volume to Capacity	0.05	0.03	0.08
Queue Length 95th (ft)	0	2	6
Control Delay (s)	0.0	3.9	9.4
Lane LOS		A	A
Approach Delay (s)	0.0	3.9	9.4
Approach LOS			A

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	138	9	14	119	9	14
Future Volume (Veh/h)	138	9	14	119	9	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	150	10	15	129	10	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				200		
pX, platoon unblocked					1.00	
vC, conflicting volume			160		314	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			160		310	155
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1419		673	891

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	160	144	25
Volume Left	0	15	10
Volume Right	10	0	15
cSH	1700	1419	789
Volume to Capacity	0.09	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.9	9.7
Lane LOS		A	A
Approach Delay (s)	0.0	0.9	9.7
Approach LOS			A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	12	1902	16	13	1639
Future Volume (Veh/h)	15	12	1902	16	13	1639
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	13	2002	17	14	1725
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			587			395
pX, platoon unblocked	0.79	0.76			0.76	
vC, conflicting volume	2901	676			2019	
vC1, stage 1 conf vol	2010					
vC2, stage 2 conf vol	890					
vCu, unblocked vol	1044	0			1225	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	98			97	
cM capacity (veh/h)	180	822			428	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	29	801	801	417	14	862	862
Volume Left	16	0	0	0	14	0	0
Volume Right	13	0	0	17	0	0	0
cSH	277	1700	1700	1700	428	1700	1700
Volume to Capacity	0.10	0.47	0.47	0.25	0.03	0.51	0.51
Queue Length 95th (ft)	9	0	0	0	3	0	0
Control Delay (s)	19.5	0.0	0.0	0.0	13.7	0.0	0.0
Lane LOS	C				B		
Approach Delay (s)	19.5	0.0			0.1		
Approach LOS	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	983	77	20	1136	77	20
Future Volume (Veh/h)	983	77	20	1136	77	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	1080	85	22	1248	84	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1105		
pX, platoon unblocked					0.83	
vC, conflicting volume			1165		1748	540
vC1, stage 1 conf vol					1080	
vC2, stage 2 conf vol					668	
vCu, unblocked vol			1165		1492	540
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			96		68	95
cM capacity (veh/h)			595		265	486

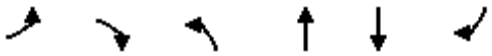
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	540	540	85	22	624	624	106
Volume Left	0	0	0	22	0	0	84
Volume Right	0	0	85	0	0	0	22
cSH	1700	1700	1700	595	1700	1700	334
Volume to Capacity	0.32	0.32	0.05	0.04	0.37	0.37	0.32
Queue Length 95th (ft)	0	0	0	3	0	0	33
Control Delay (s)	0.0	0.0	0.0	11.3	0.0	0.0	22.3
Lane LOS				B			C
Approach Delay (s)	0.0			0.2			22.3
Approach LOS							C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	936	67	0	1156	0	5
Future Volume (Veh/h)	936	67	0	1156	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	1029	74	0	1270	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				300		
pX, platoon unblocked					0.82	
vC, conflicting volume			1103		1701	552
vC1, stage 1 conf vol					1066	
vC2, stage 2 conf vol					635	
vCu, unblocked vol			1103		1419	552
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			629		273	478

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	686	417	635	635	5
Volume Left	0	0	0	0	0
Volume Right	0	74	0	0	5
cSH	1700	1700	1700	1700	478
Volume to Capacity	0.40	0.25	0.37	0.37	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	12.6
Lane LOS					B
Approach Delay (s)	0.0		0.0		12.6
Approach LOS					B

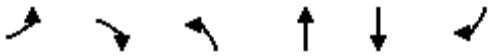
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	34	34	472	497	17
Future Volume (Veh/h)	79	34	34	472	497	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.88	0.88
Hourly flow rate (vph)	86	37	36	502	565	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					400	
pX, platoon unblocked	0.86	0.86	0.86			
vC, conflicting volume	1148	574	584			
vC1, stage 1 conf vol	574					
vC2, stage 2 conf vol	574					
vCu, unblocked vol	1092	427	438			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	93	96			
cM capacity (veh/h)	425	541	968			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	86	37	36	502	584
Volume Left	86	0	36	0	0
Volume Right	0	37	0	0	19
cSH	425	541	968	1700	1700
Volume to Capacity	0.20	0.07	0.04	0.30	0.34
Queue Length 95th (ft)	19	5	3	0	0
Control Delay (s)	15.6	12.1	8.9	0.0	0.0
Lane LOS	C	B	A		
Approach Delay (s)	14.6		0.6		0.0
Approach LOS	B				

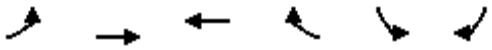
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	12	12	1298	1173	38
Future Volume (Veh/h)	38	12	12	1298	1173	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	41	13	13	1396	1235	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					285	
pX, platoon unblocked	0.90	0.90	0.90			
vC, conflicting volume	1979	638	1275			
vC1, stage 1 conf vol	1255					
vC2, stage 2 conf vol	724					
vCu, unblocked vol	1869	384	1090			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	98	98			
cM capacity (veh/h)	224	555	574			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	41	13	13	698	698	823	452
Volume Left	41	0	13	0	0	0	0
Volume Right	0	13	0	0	0	0	40
cSH	224	555	574	1700	1700	1700	1700
Volume to Capacity	0.18	0.02	0.02	0.41	0.41	0.48	0.27
Queue Length 95th (ft)	16	2	2	0	0	0	0
Control Delay (s)	24.7	11.6	11.4	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	21.5		0.1			0.0	
Approach LOS	C						

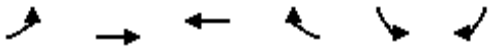
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	86	243	204	144	133	83
Future Volume (Veh/h)	86	243	204	144	133	83
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	104	293	217	153	145	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		853	483			
pX, platoon unblocked						
vC, conflicting volume	370				648	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	370				648	185
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				61	89
cM capacity (veh/h)	1185				368	826

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	104	146	146	145	225	145	90
Volume Left	104	0	0	0	0	145	0
Volume Right	0	0	0	0	153	0	90
cSH	1185	1700	1700	1700	1700	368	826
Volume to Capacity	0.09	0.09	0.09	0.09	0.13	0.39	0.11
Queue Length 95th (ft)	7	0	0	0	0	46	9
Control Delay (s)	8.3	0.0	0.0	0.0	0.0	21.0	9.9
Lane LOS	A					C	A
Approach Delay (s)	2.2			0.0		16.8	
Approach LOS						C	

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	1100	1105	44	29	68
Future Volume (Veh/h)	63	1100	1105	44	29	68
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	66	1158	1214	48	32	74
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		480				
pX, platoon unblocked					0.85	
vC, conflicting volume	1262				1949	631
vC1, stage 1 conf vol					1238	
vC2, stage 2 conf vol					711	
vCu, unblocked vol	1262				1764	631
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	88				85	83
cM capacity (veh/h)	547				215	424

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	66	579	579	809	453	32	74
Volume Left	66	0	0	0	0	32	0
Volume Right	0	0	0	0	48	0	74
cSH	547	1700	1700	1700	1700	215	424
Volume to Capacity	0.12	0.34	0.34	0.48	0.27	0.15	0.17
Queue Length 95th (ft)	10	0	0	0	0	13	16
Control Delay (s)	12.5	0.0	0.0	0.0	0.0	24.7	15.3
Lane LOS	B					C	C
Approach Delay (s)	0.7			0.0		18.1	
Approach LOS						C	

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	9	286	34	9	323
Future Volume (Veh/h)	50	9	286	34	9	323
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.67	0.67
Hourly flow rate (vph)	54	10	333	40	13	482
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			386			
pX, platoon unblocked	0.97	0.97			0.97	
vC, conflicting volume	861	353			373	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	844	323			343	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	99			99	
cM capacity (veh/h)	321	700			1185	

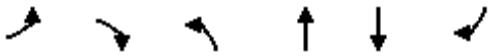
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	54	10	373	13	482
Volume Left	54	0	0	13	0
Volume Right	0	10	40	0	0
cSH	321	700	1700	1185	1700
Volume to Capacity	0.17	0.01	0.22	0.01	0.28
Queue Length 95th (ft)	15	1	0	1	0
Control Delay (s)	18.5	10.2	0.0	8.1	0.0
Lane LOS	C	B		A	
Approach Delay (s)	17.2		0.0	0.2	
Approach LOS	C				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	26.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	168	17	3	165	8	2
Future Volume (Veh/h)	168	17	3	165	8	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	177	18	3	174	9	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			195		366	186
vC1, stage 1 conf vol					186	
vC2, stage 2 conf vol					180	
vCu, unblocked vol			195		366	186
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1378		757	856

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	195	3	174	9	2
Volume Left	0	3	0	9	0
Volume Right	18	0	0	0	2
cSH	1700	1378	1700	757	856
Volume to Capacity	0.11	0.00	0.10	0.01	0.00
Queue Length 95th (ft)	0	0	0	1	0
Control Delay (s)	0.0	7.6	0.0	9.8	9.2
Lane LOS		A		A	A
Approach Delay (s)	0.0	0.1		9.7	
Approach LOS				A	

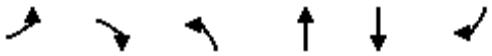
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	15	21	1271	1122	66
Future Volume (Veh/h)	39	15	21	1271	1122	66
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	42	16	23	1367	1181	69
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				900	1216	
pX, platoon unblocked	0.89	0.91	0.91			
vC, conflicting volume	1945	625	1250			
vC1, stage 1 conf vol	1216					
vC2, stage 2 conf vol	730					
vCu, unblocked vol	1368	399	1083			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	97	96			
cM capacity (veh/h)	255	549	584			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	42	16	23	684	684	787	463
Volume Left	42	0	23	0	0	0	0
Volume Right	0	16	0	0	0	0	69
cSH	255	549	584	1700	1700	1700	1700
Volume to Capacity	0.16	0.03	0.04	0.40	0.40	0.46	0.27
Queue Length 95th (ft)	14	2	3	0	0	0	0
Control Delay (s)	21.9	11.8	11.4	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	19.1		0.2			0.0	
Approach LOS	C						

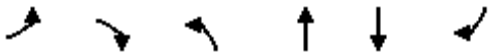
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3	0	1310	1185	0
Future Volume (Veh/h)	0	3	0	1310	1185	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	0	3	0	1409	1247	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				1150	966	
pX, platoon unblocked	0.89	0.91	0.91			
vC, conflicting volume	1952	624	1247			
vC1, stage 1 conf vol	1247					
vC2, stage 2 conf vol	704					
vCu, unblocked vol	1364	383	1069			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	250	559	588			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	3	704	704	624	624
Volume Left	0	0	0	0	0
Volume Right	3	0	0	0	0
cSH	559	1700	1700	1700	1700
Volume to Capacity	0.01	0.41	0.41	0.37	0.37
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	11.5	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	11.5	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	32	5	116	127	3
Future Volume (Veh/h)	11	32	5	116	127	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Hourly flow rate (vph)	18	53	8	193	212	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				527	809	
pX, platoon unblocked						
vC, conflicting volume	327	108	217			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327	108	217			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	94	99			
cM capacity (veh/h)	638	924	1350			

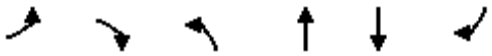
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	18	53	8	96	96	141	76
Volume Left	18	0	8	0	0	0	0
Volume Right	0	53	0	0	0	0	5
cSH	638	924	1350	1700	1700	1700	1700
Volume to Capacity	0.03	0.06	0.01	0.06	0.06	0.08	0.04
Queue Length 95th (ft)	2	5	0	0	0	0	0
Control Delay (s)	10.8	9.1	7.7	0.0	0.0	0.0	0.0
Lane LOS	B	A	A				
Approach Delay (s)	9.6		0.3			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	13.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1671	579	0	2819
Future Volume (Veh/h)	0	0	1671	579	0	2819
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.95	0.95	0.91	0.91
Hourly flow rate (vph)	0	0	1759	609	0	3098
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			853			422
pX, platoon unblocked	0.82	0.68			0.68	
vC, conflicting volume	2792	880			2368	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	706	0			2071	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	304	738			181	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	880	880	609	1033	1033	1033
Volume Left	0	0	0	0	0	0
Volume Right	0	0	609	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.52	0.52	0.36	0.61	0.61	0.61
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	2250	2200	619
Future Volume (Veh/h)	0	0	0	2250	2200	619
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	2394	2340	659
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				362	913	
pX, platoon unblocked	0.79	0.69	0.69			
vC, conflicting volume	3537	1170	2999			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1927	356	2999			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	46	443	78			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	1197	1197	1170	1170	659
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	659
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.70	0.70	0.69	0.69	0.39
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					
Approach Delay (s)	0.0		0.0		
Approach LOS					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1770	965	0	2683
Future Volume (Veh/h)	0	0	1770	965	0	2683
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	1883	1027	0	2854
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			476			150
pX, platoon unblocked	0.62	0.66			0.66	
vC, conflicting volume	2834	942			2910	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0			2863	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	639	713			84	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	942	942	1027	951	951	951
Volume Left	0	0	0	0	0	0
Volume Right	0	0	1027	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.55	0.55	0.60	0.56	0.56	0.56
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

APPENDIX C. Bond Street and Crescent Boulevard Draft Plans

INDEX OF SHEETS

	SHEET NO.
TITLE	1
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CITY OF NOVI

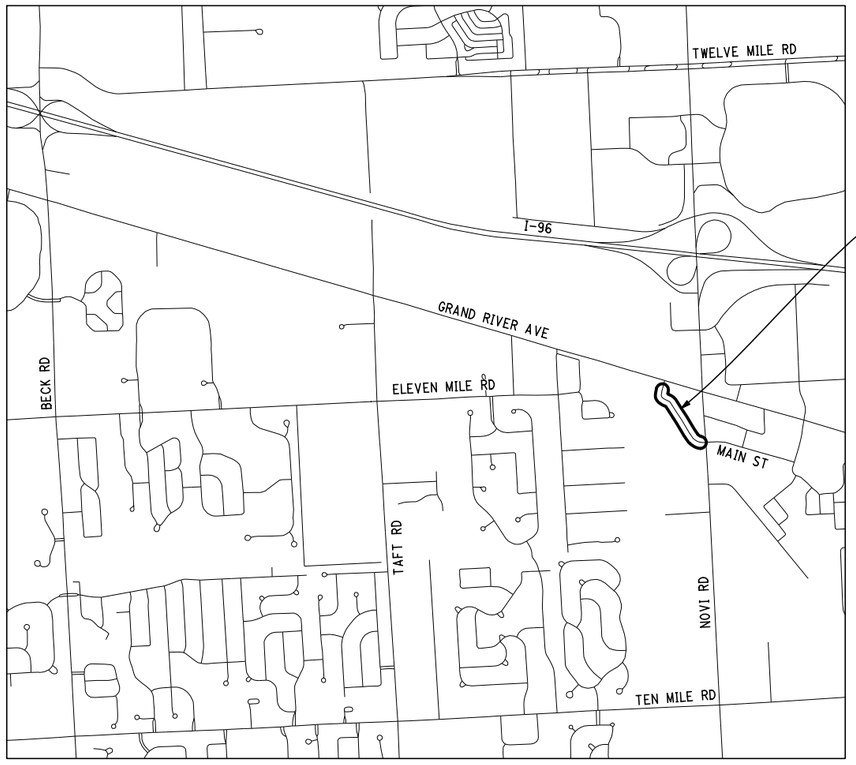
BOND STREET CONSTRUCTION

CITY OF NOVI
OAKLAND COUNTY, MI

30% (BASE) PLANS
OCTOBER 12, 2018

GENERAL NOTES

1) MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CITY OF NOVI STANDARDS AND SPECIFICATIONS AND THE PROJECT MANUAL.
2) THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE AASHTO; A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2011.
3) THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.



LOCATION MAP (NTS)

UTILITIES

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BRIGHTHOUSE NETWORKS ATTN: BOB HENDZELL 31889 INDUSTRIAL ROAD LIVONIA, MI 48150-1821 734-293-1258 bob.hendzell@mybrighthouse.com	CABLE
CONSUMER'S ENERGY ATTN: CHRIS SCHNEIDER 11801 FARMINGTON ROAD LIVONIA, MI 48150 734-513-6277 christopher.schneider@cmsenergy.com	NATURAL GAS
DTE ENERGY ATTN: SE PLANNING AND DESIGN ONE ENERGY PLAZA, 570 SB DETROIT, MI 48226 313-235-5632 SEPD@dteenergy.com	ELECTRIC
CITY OF NOVI ATTN: MATT WIKTOROWSKI 26300 LEE BEGOLE DR NOVI, MI 48375 248-735-5640 mwiktorowski@cityofnovi.org	ROADS & DRAINS
CITY OF NOVI ATTN: SCOTT ROSELLE 26300 LEE BEGOLE DR NOVI, MI 48375 248-735-5644 sroselle@cityofnovi.org	WATER & SEWER

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GWEN MARKHAM
KELLY BREEN

ENGINEERING SENIOR MANAGER
GEORGE D. MELISTAS

CONTRACT FOR:
CONSTRUCTION OF 0.35 MILES OF BOND STREET AND RECONSTRUCTION OF FLINT ST

PREPARED UNDER THE SUPERVISION OF:

Approved _____ _____
PROFESSIONAL ENGINEER Date

AECOM

FILE: 82577_Bond_title.DGN
AUTH | DATE | REVISION

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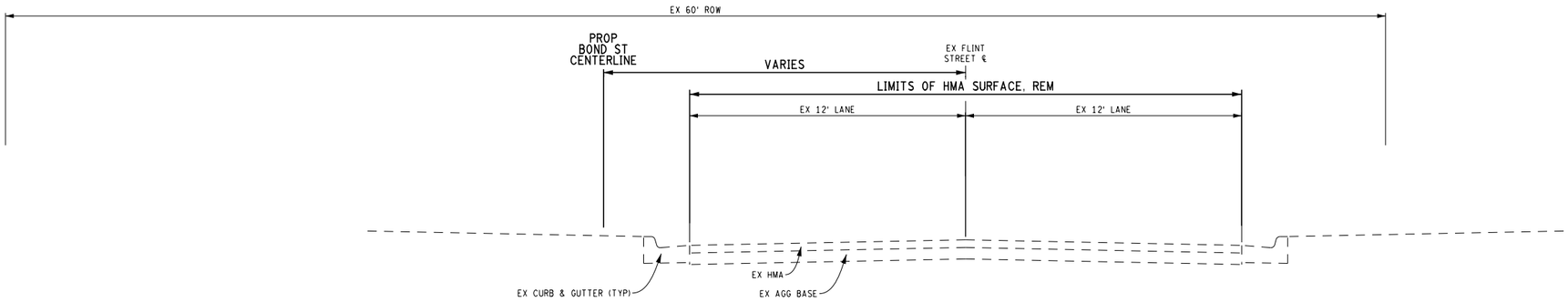
CITY OF NOVI

BOND ST CONSTRUCTION

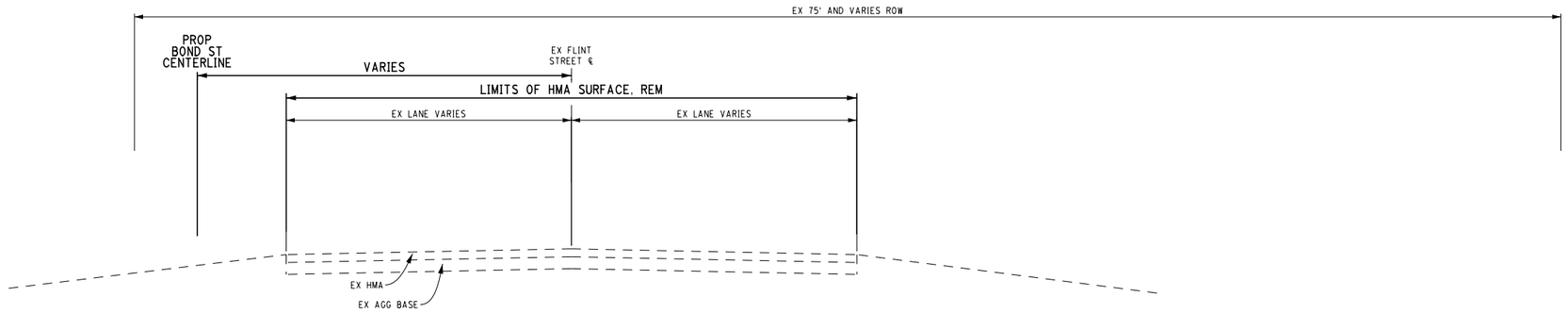
TITLE SHEET

JOB 60582577
DATE 10/12/18
SHEET 1



EXISTING FLINT STREET TYPICAL SECTION

STA 22+13.00 (POB) TO STA 23+98.66



EXISTING FLINT STREET TYPICAL SECTION

STA 23+98.66 TO END OF EX FLINT ST

0 VERT. (FT) 6

0 HORZ. (FT) 6

FILE: 82577_typ_01.dgn

AUTH	DATE	REVISION

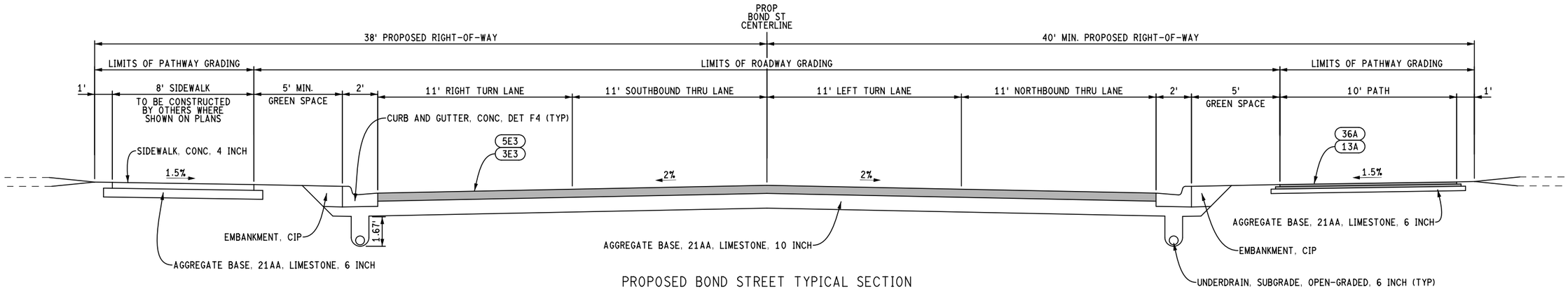
AECOM

CITY OF NOVI

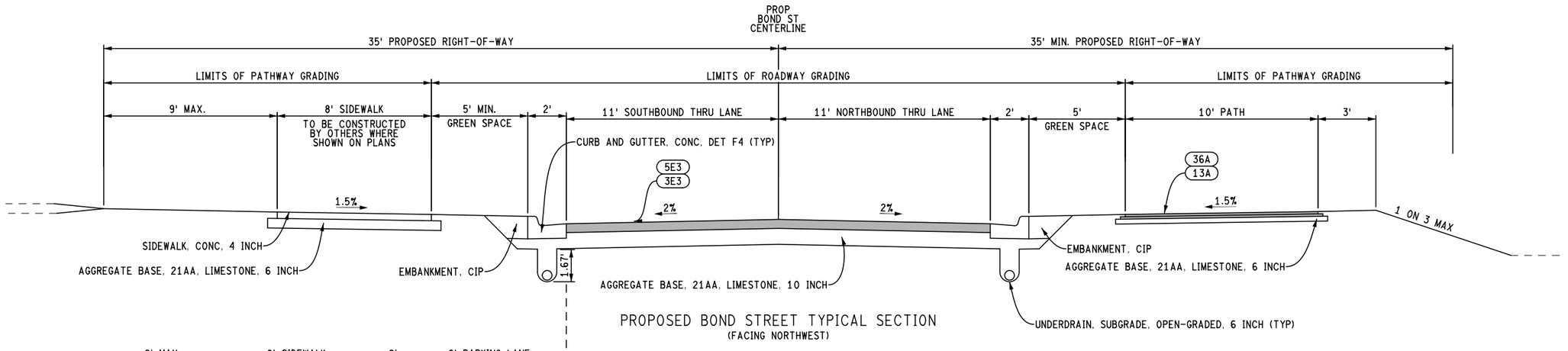
BOND ST CONSTRUCTION

EXISTING TYPICAL SECTIONS

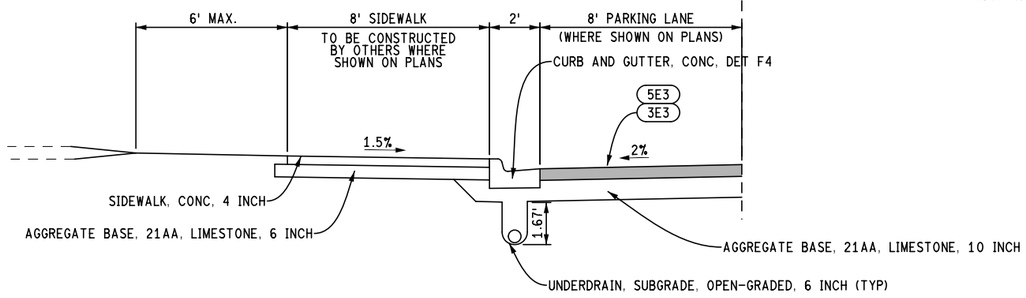
JOB
60582577
DATE
10/12/18
SHEET
2



PROPOSED BOND STREET TYPICAL SECTION
(AT NOVI ROAD INTERSECTION, FACING NORTHWEST)



PROPOSED BOND STREET TYPICAL SECTION
(FACING NORTHWEST)



PROPOSED BOND STREET HALF TYPICAL SECTION
WHERE ON-STREET PARKING IS PROVIDED
(AS SHOWN ON PLANS)

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE PER SYD	PERFORMANCE GRADE	REMARKS
5E3	HMA, 5E3	220 lb	64-28	(2 INCHES) TOP COURSE (AWI=260)
3E3	HMA, 3E3	550 lb	64-22	(5 INCHES) LEVELING AND BASE COURSE
36A	HMA, BIKE PATH	220 lb	64-22	(2 INCHES) BIKE PATH TOP COURSE
13A	HMA, BIKE PATH	220 lb	64-22	(2 INCHES) BIKE PATH LEVELING AND BASE COURSE
APP	HMA APPROACH (DRIVEWAYS)	770 lb	64-22	(2 INCHES HMA, 5E3) TOP COURSE (5 INCHES HMA, 3E3) LEVELING AND BASE COURSE
	*BOND COAT	0-0.10 GAL		

*FOR INFORMATION ONLY

FILE: 82577_typ_02.dgn
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CITY OF NOVI

BOND ST CONSTRUCTION

PROPOSED TYPICAL SECTIONS

JOB
60582577

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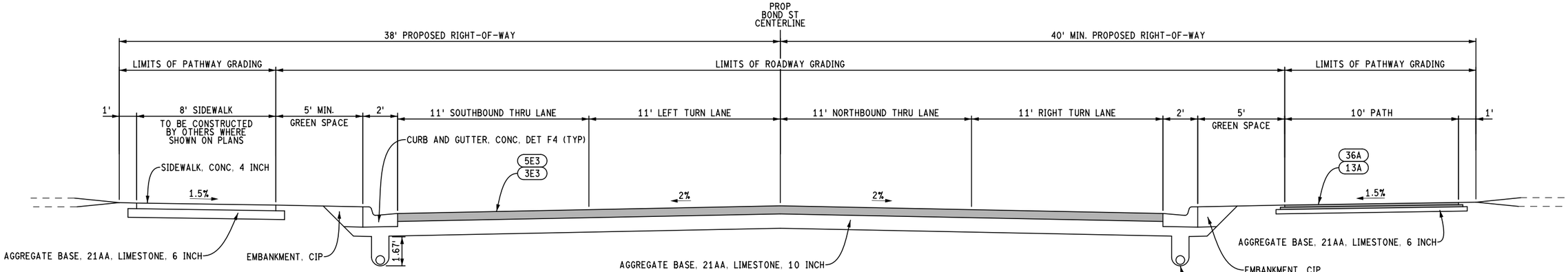
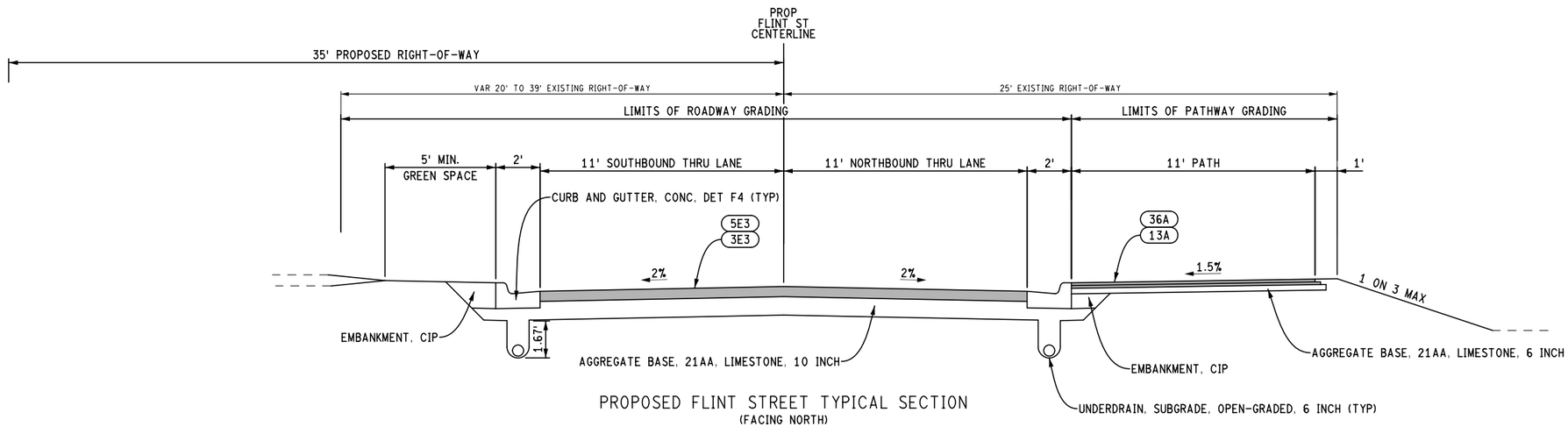
10/12/18

SHEET
3

0 VERT. (FT) 6
0 HORZ. (FT) 6



PROPOSED BOND STREET TYPICAL SECTION
(AT GRAND RIVER INTERSECTION, FACING NORTHWEST)



PROPOSED FLINT STREET TYPICAL SECTION
(FACING NORTH)

FILE: 82577_typ_03.dgn

AUTH	DATE	REVISION

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BOND ST CONSTRUCTION

PROPOSED TYPICAL SECTIONS

JOB
60582577
DATE
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SHEET
4

0 VERT. (FT) 6

0 HORZ. (FT) 6

GENERAL NOTES

STANDARDS AND SPECIFICATIONS
All work must be completed in accordance with the City of Novi Standards and Specifications.

MAINTAINING TRAFFIC
Construct Flint Street under a full road closure.

UNDERGROUND UTILITIES / MISS DIG
For protection of underground utilities and in conformance with Public Act 53, 1974, the Contractor shall dial 1-800-482-7171 a minimum of three full working days, excluding Saturdays, Sundays, and holidays prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the Contractor of the responsibility of notifying utility owners who may not be a part of the "Miss Dig" alert system.

If plan information indicates an existing underground utility is or will be out of service within the limits of this contract. The Contractor is cautioned to treat such a line as if it were still in service and notify "Miss Dig" when working in the area of the out of service facility.

All utility information is approximate and is based on information provided by the owners.

Underground utilities within landscaped entrance islands are not part of MISS DIG's system. Use extreme caution in these areas.

EXISTING WATER MAINS AND SEWERS
The Contractor shall be responsible for any damage to properly identified existing water mains and/or existing sewers during the construction of this project.

TRASH COLLECTION
When access by refuse collection vehicles is not provided, Contractor shall collect, deliver and return refuse containers from individual driveways and deliver to a central location for pickup by refuse haulers. Refuse in the City of Novi is collected by various private firms on scheduled days.

MAIL COLLECTION AND DELIVERY
Mail collection and delivery must be maintained during construction. If access for mail delivery is interrupted, Contractor shall furnish and assemble temporary collection and delivery boxes for each affected property at a central location, which will be determined by the Novi Postmaster. Mailboxes to be a type approved for use the U.S. Postmaster.

CONTRACTOR PARKING
Contractor parking areas will be limited to public ROW areas only. Do not occupy open roadways with parked vehicles.

HYDRANT USE
The Contractor is required to contact the City's DPW facility at 248-735-5640 to make arrangements prior to use.

SAWCUTS
The Contractor shall sawcut the existing pavement at all removal limits as shown on plans or directed by Engineer to provide a smooth vertical edge. This will not be paid for separately.

OPEN EXCAVATION
Protective fencing around all open excavations is required. This will not be paid for separately.

DETECTABLE WARNING SURFACE
Sidewalk ramps with detectable warning surface shall be constructed in accordance with the MDOT Standard Plan R-28 Series.

SLOPES
Class A slopes shall be constructed on this project.

DUST CONTROL
The Contractor is responsible for controlling dust on the project by spraying water on any aggregate or surfaces not restored as requested by the Engineer. This will not be paid for separately.

SURFACE RESTORATION
Surface restoration will be paid on a Lump Sum basis. Limits of restoration are to ROW along each side of Taft Rd centerline and any easements shown on plans. Seeding Mixture THM shall be used for all areas.

TREE PROTECTION NOTES

ROOT PROTECTION
1. Any damage to tree roots is to be reported to the on-site construction observer or owner.
2. Do not drive or park any vehicle or equipment, store any materials, or wash any equipment or materials within the drip line of any tree. These or other actions within the drip line may be considered damage by the Engineer.
3. Conduct operations to minimize excavations adjacent to trees. Where required work exposes tree roots, place wet mulch or other approved materials as soon as possible. Consult with Engineer or City Forester prior to beginning work.

TREE PROTECTION BARRIER
1. All trees within the work zone shall have tree protection barrier installed prior to construction unless otherwise directed by the Engineer. Tree protection barrier ordered by the Engineer will be measured and paid for as silt fence.
2. Barrier to be silt fence material and placed for use as visual and physical tree protection barrier. It is not required that toe be buried or sections be overlapped as for soil erosion control.
3. Any damage to any tree is to be reported to the on-site construction observer or owner.
4. Contractor is responsible for any tree damage. Trees determined to be damaged in the opinion of the Engineer shall be replaced at the Contractor's expense.

SOIL EROSION AND SEDIMENTATION CONTROL

SEQUENCE OF CONSTRUCTION
1. Prior to removing pavement, sidewalk, or driveways, or commencing grading operation; place temporary SESC measures (inlet filters and silt fence). Engineer's approval of SESC measures must be obtained prior to excavation. Approval by the Engineer is also required for material stockpile and staging area locations. Material stockpiles shall be ringed with silt fence.
2. Installation of silt fencing or tree protection fencing shall not occur prior to the initial city pre-construction meeting. When natural features exist on the site, inspection of staking may be required prior to the installation of the fencing.
3. During construction, maintain all temporary SESC measures. When inlet convers are removed, inlet filters shall be lowered and remain on the structures at all times. Address any deficiencies in SESC measures immediately.
4. Within five days of the completion of paving, permanent seeding shall be placed.
5. Remove temporary SESC measures within one week of placing permanent seeding.

SESC NOTES
1. Contractor is responsible for installation and maintenance of all soil erosion and sedimentation control measures and for full compliance with the soil erosion and sedimentation control permit to be issued for the project.
2. Temporary soil erosion and sedimentation control measures shall include inlet filters and silt fence in this project. Inlet filters shall be ACF Environmental Silt Sack or approved equal. Silt Fencing shall be Synthetic Industries "Terra Tex", Exxon "GTF-180", or approved equal.
3. All SESC measures shall be constructed in accordance with the Oakland County details included in the plans.
4. Inlet filters shall be installed on all drainage inlet structures within the reconstruction limits and on structures downstream of the reconstruction area which, in the opinion of the Engineer, may receive runoff from the work area.
5. Silt fencing shall be installed at locations determined by the Engineer.
6. Temporary pumps, if required, shall be discharged into a filter bag or similar device. Contractor shall obtain advance approval from the Engineer for all dewatering operations and filter devices to be used.
7. Street sweeping and dust control shall be the responsibility of the Contractor, and shall be completed daily or as directed by the Engineer.
8. All drainage ditches shall be stabilized with erosion control blanket and shall utilize check dams as necessary. Drainage ditches steeper than 3% shall be sodded.
9. Permanent seeding, including topsoil, fertilizer, and mulch blankets shall be placed on all unpaved disturbed areas in accordance with the MDOT Standard Specifications. Seeding work shall be completed on each roadway within five days of the completion of paving work on that roadway.
10. Stockpile locations shall be ringed with silt fence. All stockpile locations shall be approved by the Engineer.

SOIL SURVEY
The soils in the proposed Bond St. Construction area include
- Urban land

IRRIGATION AND LANDSCAPE LIGHTING SYSTEMS

Contractor shall protect irrigation and landscape lighting systems from damage. If damaged, the Contractor shall restore all irrigation and landscape lighting systems at the Contractor's expense.

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CITY OF NOVI

BOND ST CONSTRUCTION

GENERAL NOTES

JOB
60582577
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SHEET
5

QUANTITY SHEET

FILE:NOV12.CEL

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CITY OF NOVI

BOND ST CONSTRUCTION

QUANTITY SHEET

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60582577

DATE
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SURVEY

- ALIGNMENT POINT MONUMENT
- MONUMENT BOX
- CP CONTROL POINT
- BM BENCHMARK

BOUNDARY

- CITY LIMIT
- PARCEL-L — PARCEL - LEGAL
- PARCEL-NL — PARCEL - NON-LEGAL
- PLAT-L — PLAT - LEGAL
- PLAT-NL — PLAT - NON-LEGAL
- ROW - FREE ACCESS
- ROW - LIMITED ACCESS
- SEC — SECTION LINE
- SEC 1/4 — SECTION LINE - QUARTER
- SEC 1/8 — SECTION LINE - EIGHTH
- SEC 1/16 — SECTION LINE - SIXTEENTH
- CONCRETE MONUMENT
- PARCEL CORNER
- PLAT CORNER
- ROW MONUMENT
- SECTION CORNER - CENTER
- SECTION CORNER - MEANDER
- SECTION CORNER - QUARTER
- SECTION CORNER - QUARTER-HALF
- SECTION CORNER - SECTION
- SECTION CORNER - SECTION-HALF
- SECTION CORNER - SIXTEENTH
- SECTION CORNER - WITNESS

MONUMENT PRESERVATION

- PRESERVE — PRESERVE MONUMENT
- PROTECT — PROTECT MONUMENT

SIGNS

- POST - DOUBLE
- POST - SINGLE

BARRIERS

- CONCRETE BARRIER - DOUBLE FACE
- CONCRETE BARRIER - SINGLE FACE
- FENCE
- GUARDRAIL - NOT TO SCALE
- GUARDRAIL - TRUE SCALE
- NOISE BARRIER
- FENCE POST
- 123 — GUARDRAIL RUN NUMBER
- IMPACT ATTENUATOR
- POST - MAILBOX
- POST - NO ID

UTILITIES

- U — UNKNOWN UTILITY
- U — UTILITY - OUT OF SERVICE
- U — UTILITY - TO BE REMOVED
- U — UTILITY - TO BE TAKEN OUT OF SERVICE
- CATCH BASIN COVER
- MANHOLE COVER
- MARKER
- PEDESTAL
- SEWER CLEANOUT ACCESS
- STRUCTURE BOTTOM (DIA VARIES)
- UNKNOWN UTILITY BOX
- FO — FIBER OPTIC
- FO-OH — FIBER OPTIC - OVERHEAD
- FIBER OPTIC MARKER
- C — CABLE
- C-OH — CABLE - OVERHEAD
- CABLE MARKER
- CABLE PEDESTAL
- T — TELEPHONE
- T-OH — TELEPHONE - OVERHEAD
- TELEPHONE BOX
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- PETRO — PETROLEUM PIPELINE
- GASOLINE FILLER PIPE
- GASOLINE PUMP
- GASOLINE UNDERGROUND TANK
- PETROLEUM PIPELINE MARKER
- PETROLEUM WELL
- PROPANE TANK
- G — NATURAL GAS LINE
- NATURAL GAS MARKER
- NATURAL GAS VALVE
- NATURAL GAS WELL
- SANITARY SEWER
- SANITARY SEWER MANHOLE WITH COVER (DIA VARIES)
- I — IRRIGATION
- W — WATER MAIN
- FIRE HYDRANT
- GATE VALVE AND BOX
- GATE VALVE IN WELL
- IRRIGATION CONTROL VALVE
- IRRIGATION SPRINKLER HEAD
- SERVICE METER
- SERVICE SHUTOFF
- WATER WELL

UTILITIES

- E — ELECTRICAL CABLE
- E-OH — ELECTRICAL CABLE OVERHEAD
- E — ELECTRICAL CABLE IN CONDUIT
- ELECTRICAL CABLE IN CONDUIT - DIRECTIONAL BORE
- ELECTRICAL CONTROLLER CABINET - PAD MOUNTED
- HH — ELECTRICAL HANDHOLE
- MH — ELECTRICAL MANHOLE
- ELECTRICAL POLE UTILITY - EXISTING
- ELECTRICAL POLE UTILITY - PROPOSED
- T — ELECTRICAL TRANSFORMER - PAD MOUNTED
- LIGHTING CONTROL PANEL
- LIGHT POST
- R&S — LIGHT STANDARD EXISTING - TO BE REMOVED & SALVAGED

VEGETATION

- BRUSH LINE
- HEDGE LINE
- TREE LINE - CANOPY OR TRUNK
- TREE LINE - TRUNK
- TRUNK LINE
- SHRUB
- TREE - CONIFER
- TREE - DECIDUOUS
- TREE - STUMP

ROADSIDE / SITE

- ANTENNA
- BIG ROCK
- FLAG POLE
- PICNIC STOVE
- PICNIC TABLE
- SATELLITE DISH

RAILROAD

- TRACK
- CROSSING - GATE
- RR — CROSSING - SIGNAL BOX
- CROSSING - SIGNAL FLASHING
- CROSSING - SYMBOL

ENVIRONMENTAL

- 26 — EROSION CONTROL - SILT FENCE
- WETLAND
- WETLAND - SPOT EL
- CONTAMINATION - MONITORING WELL
- 12 — EROSION CONTROL NUMBER
- EROSION CONTROL - RIPRAP
- W.T. 12' — WATER TABLE - PLAN NOTE
- POTENTIALLY CONTAMINATED SITE

GENERAL LABELING

- LEFT TURN ARROW
- TRAFFIC FLOW ARROW
- A — ABANDON
- B — BULKHEAD
- C — CLEARING
- R — REMOVE
- SALV — SALVAGE
- S — SAVE
- ADJ — ADJUST
- ADJ-B — ADJUST - STRUC COVER WITH TYPE
- ADJ-B/O — ADJUST - BY OTHERS
- REL-1 — RELOCATE - WITH CASE NUMBER
- REL-B/O — RELOCATE - BY OTHERS
- SSL — SSL — SLOPE STAKE LINE
- BH# — BORING

DRAINAGE

- CATCH BASIN W/ COVER (DIA VARIES)
- 12 — DRAINAGE STRUCTURE NUMBER
- DRAIN CASTING
- DROP INLET
- END SECTION (SIZE VARIES)
- FLOW DIRECTION ARROW
- HEADWALL (SIZE VARIES)
- MANHOLE W/ COVER (DIA VARIES)
- MANHOLE BASE W/ COVER (SIZE VARIES)
- MANHOLE TEE W/ COVER (SIZE VARIES)
- OUTLET HEADWALL (SIZE VARIES)
- CULVERT - EXISTING
- CULVERT (SIZE VARIES)
- DITCH CENTERLINE
- STORM SEWER - EXISTING
- STORM SEWER
- STORM SEWER - TO BE REMOVED
- UNDERDRAIN
- WATER EDGE

SURFACING

REMOVAL

- CONCRETE RUBBLIZING OR HMA CRUSH & SHAPE
- HMA COLDMILLING
- HMA SURFACE REMOVAL AND / OR PAVEMENT REMOVAL

PROPOSED

- AGGREGATE APPROACH
- BRIDGE APPROACH
- HMA APPROACH
- MISCELLANEOUS CONCRETE
- CURB & GUTTER REMOVAL

SIDEWALK & NON-MOTORIZED

- SIDEWALK - REMOVAL
- SIDEWALK - CONCRETE RAMP
- NON-MOTORIZED HMA PATH
- NON-MOTORIZED BOARDWALK
- SIDEWALK - DETECT. WARNING SURF.
- SIDEWALK - LANDING
- SWR-F — SIDEWALK - RAMP LABEL

TYPICAL SECTION

- CONCRETE - PROPOSED
- HMA - PROPOSED

MAINTAINING TRAFFIC

- TYPE III BARRICADE
- CHANNELIZING DEVICE - CONE
- CHANNELIZING DEVICE - DRUM
- LIGHT - HIGH INTENSITY TYPE B
- LIGHT - STEADY BURN TYPE C
- LIGHTED ARROW PANEL - BAR
- LIGHTED ARROW PANEL
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC REGULATOR
- TEMPORARY SIGN
- TEMPORARY TRAFFIC SIGNAL
- WORK AREA

NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

FILE: 82577_Novi_LEGEND.DGN
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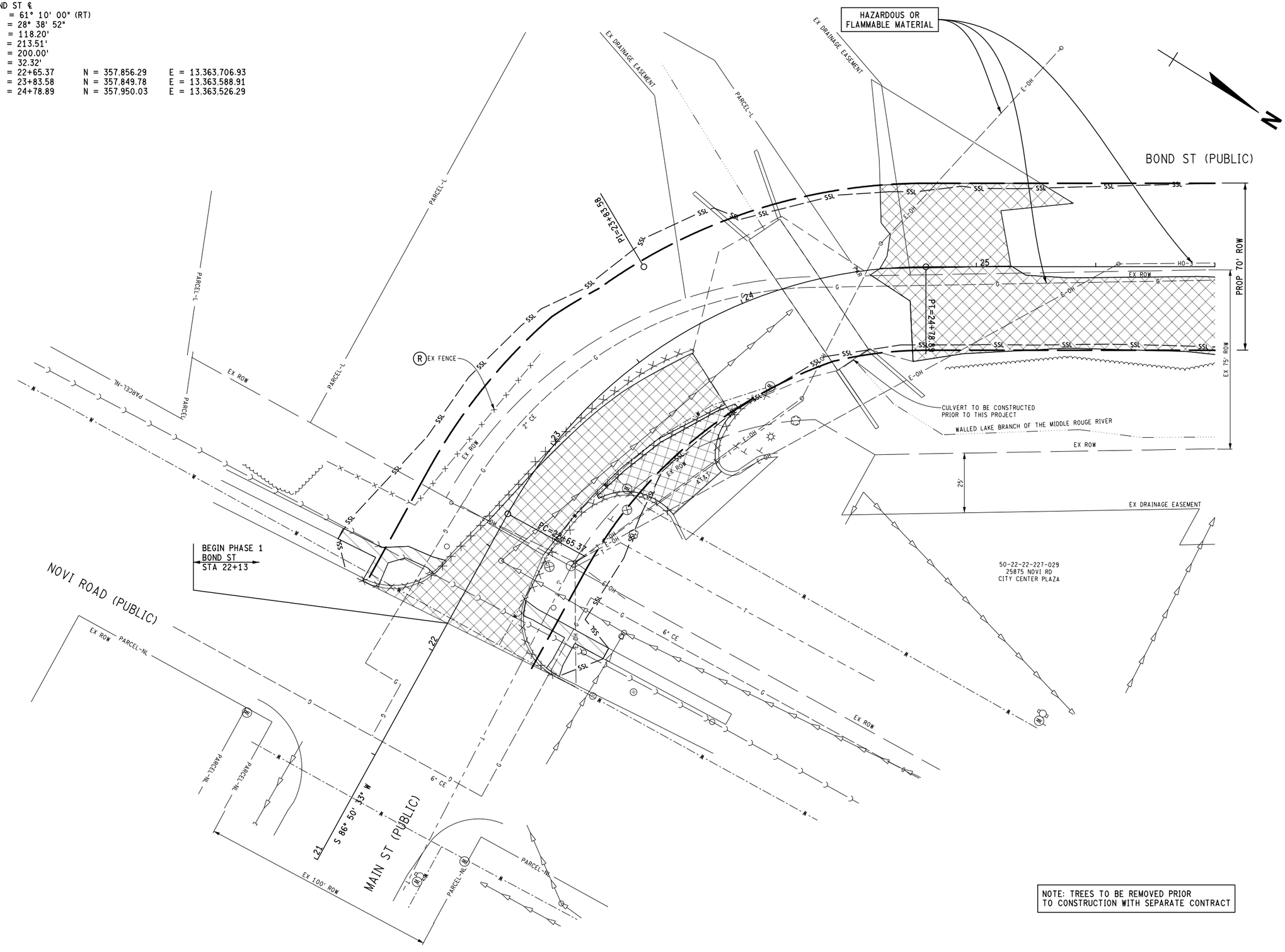
CITY OF NOVI

BOND ST CONSTRUCTION

LEGEND SHEET

JOB 60582577
DATE 10/12/18
SHEET 7

BOND ST ℄
Δ = 61° 10' 00" (RT)
D = 28° 38' 52"
T = 118.20'
L = 213.51'
R = 200.00'
E = 32.32'
PC = 22+65.37 N = 357,856.29 E = 13,363,706.93
PI = 23+83.58 N = 357,849.78 E = 13,363,588.91
PT = 24+78.89 N = 357,950.03 E = 13,363,526.29



FILE: 82577_2100.dgn

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CITY OF NOVI

BOND ST CONSTRUCTION

REMOVAL SHEET STA 21+00 TO STA 26+00

JOB
60582577
DATE
10/12/18
SHEET
8

BOND ST ℄
Δ = 61° 10' 00" (RT)
D = 28° 38' 52"
T = 118.20'
L = 213.51'
R = 200.00'
E = 32.32'
PC = 22+65.37 N = 357,856.29 E = 13,363,706.93
PI = 23+83.58 N = 357,849.78 E = 13,363,588.91
PT = 24+78.89 N = 357,950.03 E = 13,363,526.29

HAZARDOUS OR FLAMMABLE MATERIAL

PROPOSED WATERMAIN AND SANITARY TO BE CONSTRUCTED BY 'THE BOND' DEVELOPMENT

N

BOND ST (PUBLIC)

PROP 70' ROW

EX 75' ROW

PROP DRIVEWAY (CONSTRUCTED BY OTHERS)

8' SIDEWALK, CONC, 4 INCH (CONSTRUCTED BY OTHERS)

EX DRAINAGE EASEMENT

PARCEL-L

REL-B/O

PI=23+83.58

PT=24+78.89

PROP CONCRETE IN CULVERT AREA

ADJ

10' HMA PATH

CURB AND GUTTER, CONC, DET F4 (TYP)

CULVERT TO BE CONSTRUCTED PRIOR TO THIS PROJECT

WALLED LAKE BRANCH OF THE MIDDLE ROUGE RIVER

EX ROW

PROP 8' SIDEWALK BY NOVI

PC=22+65.37

BEGIN PHASE 1 BOND ST STA 22+13

NOVI ROAD (PUBLIC)

MAIN ST (PUBLIC)

S 86° 50' 33" W

EX 100' ROW

PARCEL-NL

AT&T

50-22-22-227-029
25875 NOVI RD
CITY CENTER PLAZA

0 HORZ. (FT) 40

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CITY OF NOVI

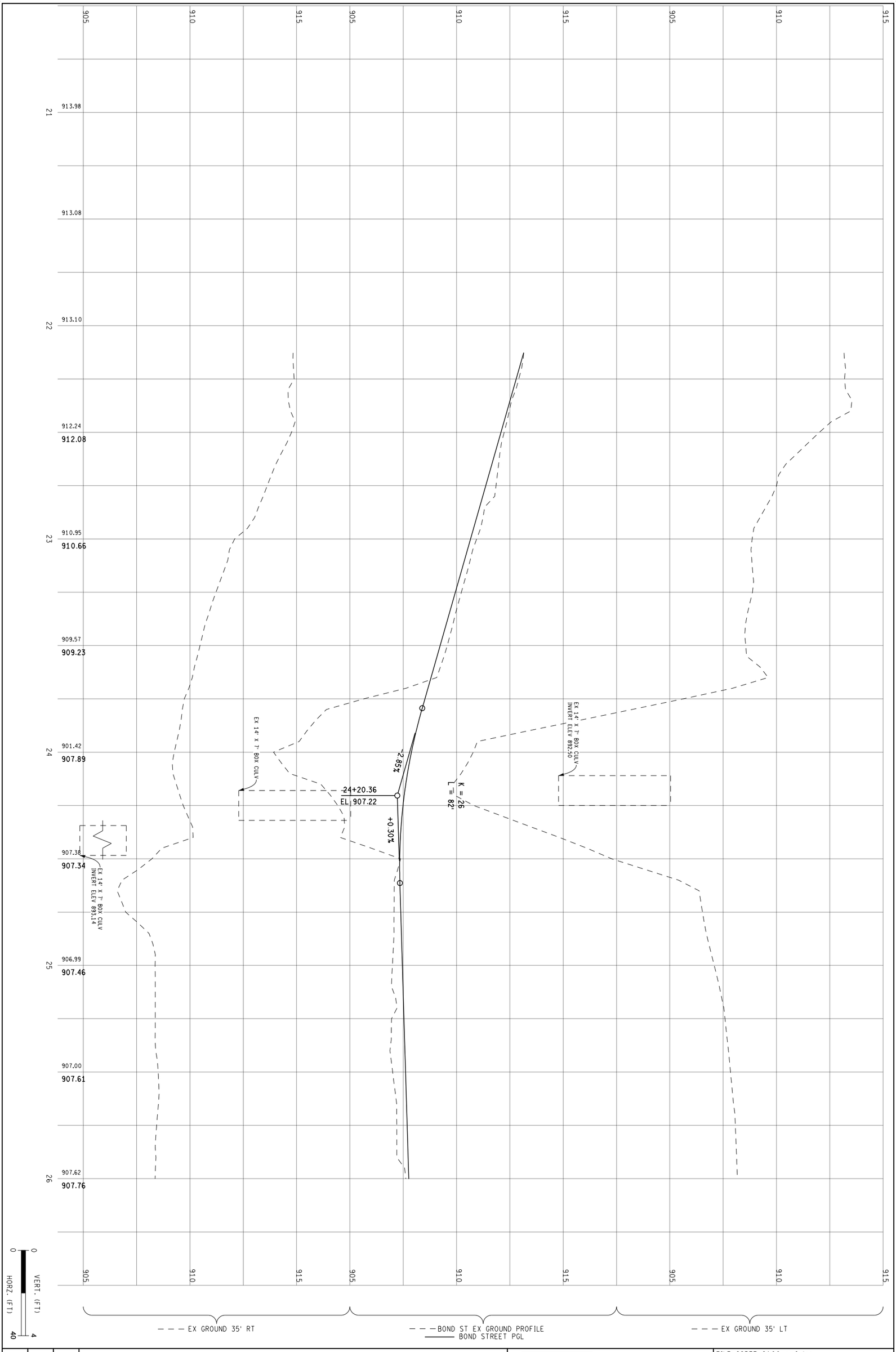
BOND ST CONSTRUCTION

CONSTRUCTION SHEET STA 21+00 TO STA 26+00

JOB 60582577

DATE 10/12/18

SHEET 9



SHEET 10	DATE 10/12/18	JOB 60582577	BOND ST CONSTRUCTION	FILE: 82577_2100_prf.dgn
			PROFILE SHEET STA 21+00 TO STA 26+00	AUTH / DATE / REVISION

HAZARDOUS OR FLAMMABLE MATERIAL

50-22-22-226-003
43443 FLINT ST
HUNTER DEVELOPMENT CO

50-22-22-226-005
FLINT ST
HUNTER DEVELOPMENT CO

BOND ST (PUBLIC)

PC=30+91.58

N 31° 59' 28" W

PROP 70' ROW

EX 75' ROW

EX ROW

HO-3

E-OH

15" SAN

SSL

26 27 28 29 30

EXPIRED EX EASEMENT

EX EASEMENT

PARCEL 1

WALLED LAKE BRANCH OF THE MIDDLE ROUGE RIVER

EX DRAINAGE EASEMENT

NOTE: TREES TO BE REMOVED PRIOR TO CONSTRUCTION WITH SEPARATE CONTRACT

0 HORZ. (FT) 40

FILE: 82577_2600.dgn

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CITY OF NOVI

BOND ST CONSTRUCTION

REMOVAL SHEET STA 26+00 TO STA 31+00

JOB 60582577

DATE 10/12/18

SHEET 11

PROPOSED WATERMAIN AND SANITARY
TO BE CONSTRUCTED BY
'THE BOND' DEVELOPMENT

HAZARDOUS OR
FLAMMABLE MATERIAL

50-22-22-226-003
43443 FLINT ST
HUNTER DEVELOPMENT CO

8' SIDEWALK, CONC, 4 INCH
(CONSTRUCTED BY OTHERS)

REL-B/O

50-22-22-226-005
FLINT ST
HUNTER DEVELOPMENT CO

PROP DRIVEWAY
(CONSTRUCTED BY OTHERS)

BOND ST (PUBLIC)

EX EASEMENT

EX EASEMENT

PARCEL-L

PC=30+98.58

PROP 70' ROW

EX 75' ROW

26 EX ROW HO-3 30' 27 HO-3 E-OH 28 E-OH 30' 22' 29 E-OH HO-3 30 HO-3 EX ROW 22'

ADJ

N 31° 59' 28" W

15" SAN

REL-B/O

REL-B/O

ADJ

10'

10' HMA PATH

CURB AND GUTTER, CONC, DET F4 (TYP)

WALLED LAKE BRANCH OF THE MIDDLE ROUGE RIVER

EX ROW

EX ROW

EX EASEMENT

EX EASEMENT

PARCEL-L

EX EASEMENT

EX DRAINAGE EASEMENT

0 HORZ. (FT) 40

FILE: 82577_2600.dgn

AUTH	DATE	REVISION

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CITY OF NOVI

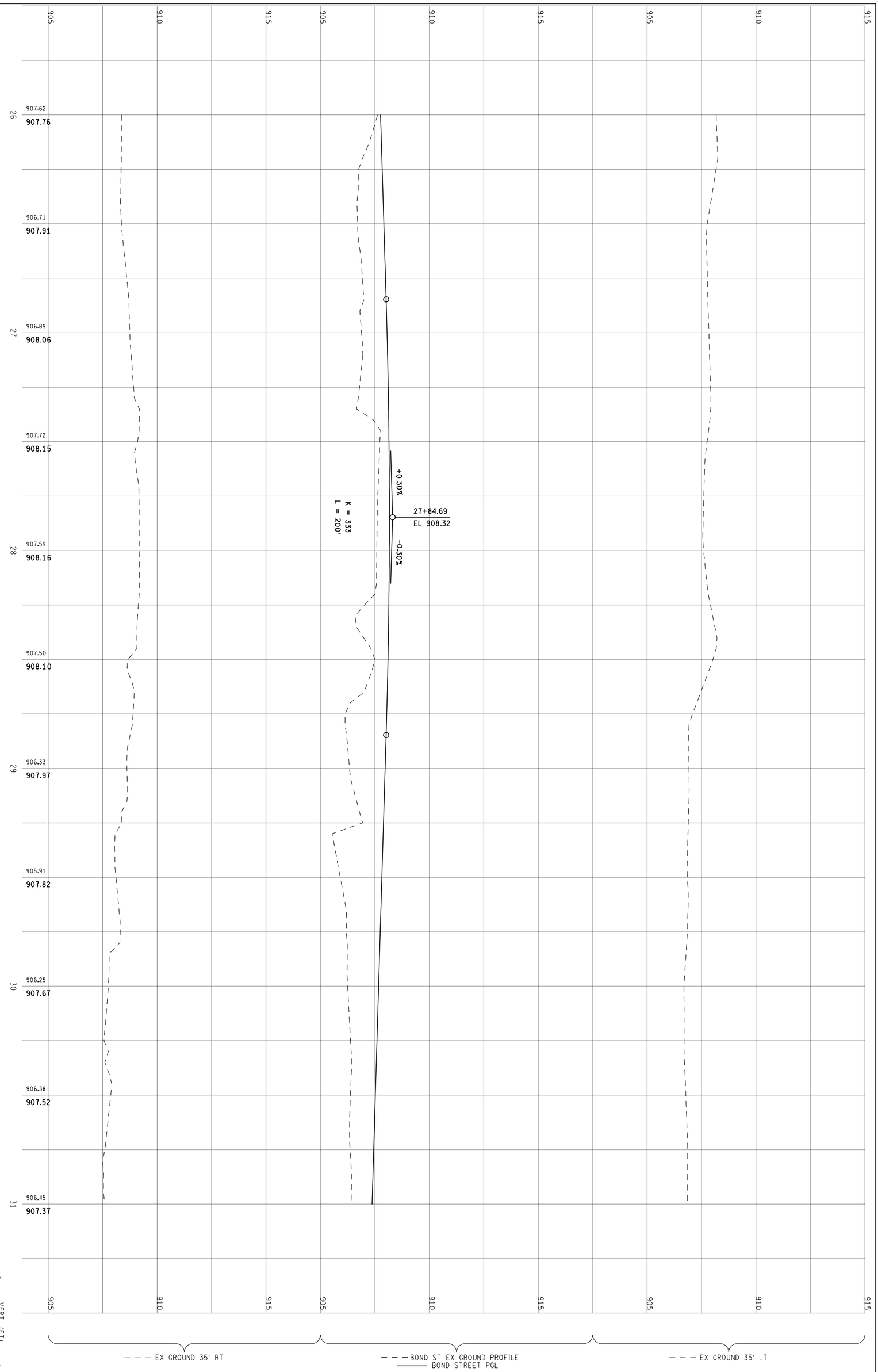
BOND ST CONSTRUCTION

CONSTRUCTION SHEET STA 26+00 TO STA 31+00

JOB
60582577

DATE
10/12/18

SHEET
12



SHEET 13	DATE 10/12/18	JOB 60582577	BOND ST CONSTRUCTION PROFILE SHEET STA 26+00 TO STA 31+00	CITY OF NOVI	AECOM

FILE: 82577_2600_prf.dgn

AUTH	DATE	REVISION

BOND ST ℄
Δ = 40° 49' 10" (LT)
D = 27° 09' 16"
T = 78.51'
L = 150.32'
R = 211.00'
E = 14.13'
PC = 30+91.53 N = 358,469.63 E = 13,363,201.72
PI = 31+70.04 N = 358,536.21 E = 13,363,160.13
PT = 32+41.85 N = 358,559.42 E = 13,363,085.12

50-22-226-005
FLINT ST
CENTER DEVELOPMENT CO

END PHASE 1
BOND ST
STA 35+70

BEGIN PHASE 2
BOND ST
STA 35+70

BOND ST (PUBLIC)

PROP 70' ROW

EX 175' ROW

PI=32+41.85

POT=50+00.00

N 72° 48' 37" W

PC=34+29.49

PROP 70.5' ROW

EX FENCE (R)

EX DETENTION POND
TO BE RELOCATED

WALLED LAKE BRANCH OF THE MIDDLE ROUGE RIVER

PI=31+70.04

EX ROW

EX EASEMENT

PARCEL-L

PARCEL-NL

HAZARDOUS OR
FLAMMABLE MATERIAL

CAUTION - CRITICAL
UTILITY

50-22-22-227-029
25875 NOVI RD
CITY CENTER PLAZA

50-22-22-227-001
43601 GRAND RIVER AVE
GL INVESTMENTS

50-22-22-477-001
GRAND RIVER AVE
GEORGE S KEROS

50-22-22-477-012
43707 GRAND RIVER AVE
LEE BEGOLE

FLINT ST (PUBLIC)

N 16° 12' 06" E

END CONST
FLINT ST
STA 52+12

HAZARDOUS OR
FLAMMABLE MATERIAL

NOTE: TREES TO BE REMOVED PRIOR
TO CONSTRUCTION WITH SEPARATE CONTRACT

PROP ROW VARIES

POT=53+16.18

GRAND RIVER AVE (PUBLIC)

N

0 HORZ. (FT) 40

FILE: 82577_3100.dgn
AUTH | DATE | REVISION

AECOM

CITY OF NOVI

BOND ST CONSTRUCTION

REMOVAL SHEET STA 31+00 TO STA 36+00

JOB
60582577

DATE
10/12/18

SHEET
14

BOND ST ℄
Δ = 40° 49' 10" (LT)
D = 27° 09' 16"
T = 78.51'
L = 150.32'
R = 211.00'
E = 14.13'
PC = 30+91.53 N = 358,469.63 E = 13,363,201.72
PI = 31+70.04 N = 358,536.21 E = 13,363,160.13
PT = 32+41.85 N = 358,559.42 E = 13,363,085.12

PROPOSED WATERMAIN AND SANITARY TO BE CONSTRUCTED BY 'THE BOND' DEVELOPMENT

22-226-005
FLINT ST
CENTER DEVELOPMENT CO

PROP DRIVEWAY (CONSTRUCTED BY OTHERS)

8' SIDEWALK, CONC, 4 INCH (CONSTRUCTED BY OTHERS)

END PHASE 1 BOND ST STA 35+70

BEGIN PHASE 2 BOND ST STA 35+70

8' SIDEWALK, CONC, 4 INCH

BOND ST (PUBLIC)

REL-B/O

ADJ

PROP 70' ROW

EX 75' ROW

EX ROW

PARCEL-L

PARCEL-NL

POT=50+00.00

N 72° 48' 37" W

PC=34+29.49

10' HMA PATH

PROP 70.5' ROW

EX DETENTION POND TO BE RELOCATED

WALLED LAKE BRANCH OF THE MIDDLE ROUGE RIVER

EX EASEMENT

PI=31+70.04

PROP GUARDRAIL

HAZARDOUS OR FLAMMABLE MATERIAL

CAUTION - CRITICAL UTILITY

50-22-22-227-029
25875 NOVI RD
CITY CENTER PLAZA

FLINT ST (PUBLIC)

N 16° 12' 06" E

REPAIR EX CULVERT

11' HMA PATH

END CONST FLINT ST STA 52+12

50-22-22-227-001
43601 GRAND RIVER AVE
GL INVESTMENTS

50-22-22-477-001
GRAND RIVER AVE
GEORGE S KEROS

50-22-22-477-012
43707 GRAND RIVER AVE
LEE BEGOLE

PROP ROW VARIES

POT=53+16.18

GRAND RIVER AVE (PUBLIC)

N

0 HORZ. (FT) 40

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CITY OF NOVI

BOND ST CONSTRUCTION

CONSTRUCTION SHEET STA 31+00 TO STA 36+00

JOB 60582577
DATE 10/12/18
SHEET 15

910
905
910
905
910
905
900

K = 119
L = 123'

-0.30%

+0.74%

+0.74%

31+70.00
EL 907.16

END PHASE 1
BOND ST
STA 35+70

BEGIN PHASE 2
BOND ST
STA 35+70

906.45 907.37
906.52 907.29
907.27 907.42
907.74 907.75
908.12
908.49
908.86
909.23
909.60
909.96
910.06

31
32
33
34
35
36

— — EX GROUND 35' LT

— — BOND ST EX GROUND PROFILE
BOND STREET POL

— — EX GROUND 35' RT

VERT. (FT) 0 4
HORZ. (FT) 0 40

FILE: 82577_3100_prf.dgn

AUTH	DATE	REVISION

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CITY OF NOVI

BOND ST CONSTRUCTION

PROFILE SHEET STA 31+00 TO STA 36+00

JOB
60582577

DATE
10/12/18

SHEET
16

910
905
910
905
910
905
910
905
915
910
915
905
915
910
905
910
915
905
910
915
905
910

EX 84" CULV
APPROX INV ELEV 897.9

END CONST
FLINT ST
STA 52+12

908.00

51+49.24
EL 907.48

-0.35%

-2.17%

K = 48
L = 88'

EX 84" CULV
APPROX INV ELEV 894.6

907.59 **908.00**
907.69 **907.82**
907.55 **907.65**
907.21 **907.27**
906.39 **906.38**
905.30

50
51
52

--- EX GROUND 35' LT

--- BOND ST EX GROUND PROFILE
BOND STREET POL

--- EX GROUND 35' RT

0 VERT. (FT) 4
0 HORZ. (FT) 40

FILE: 82577_Flint_prf.dgn

AUTH	DATE	REVISION

AECOM

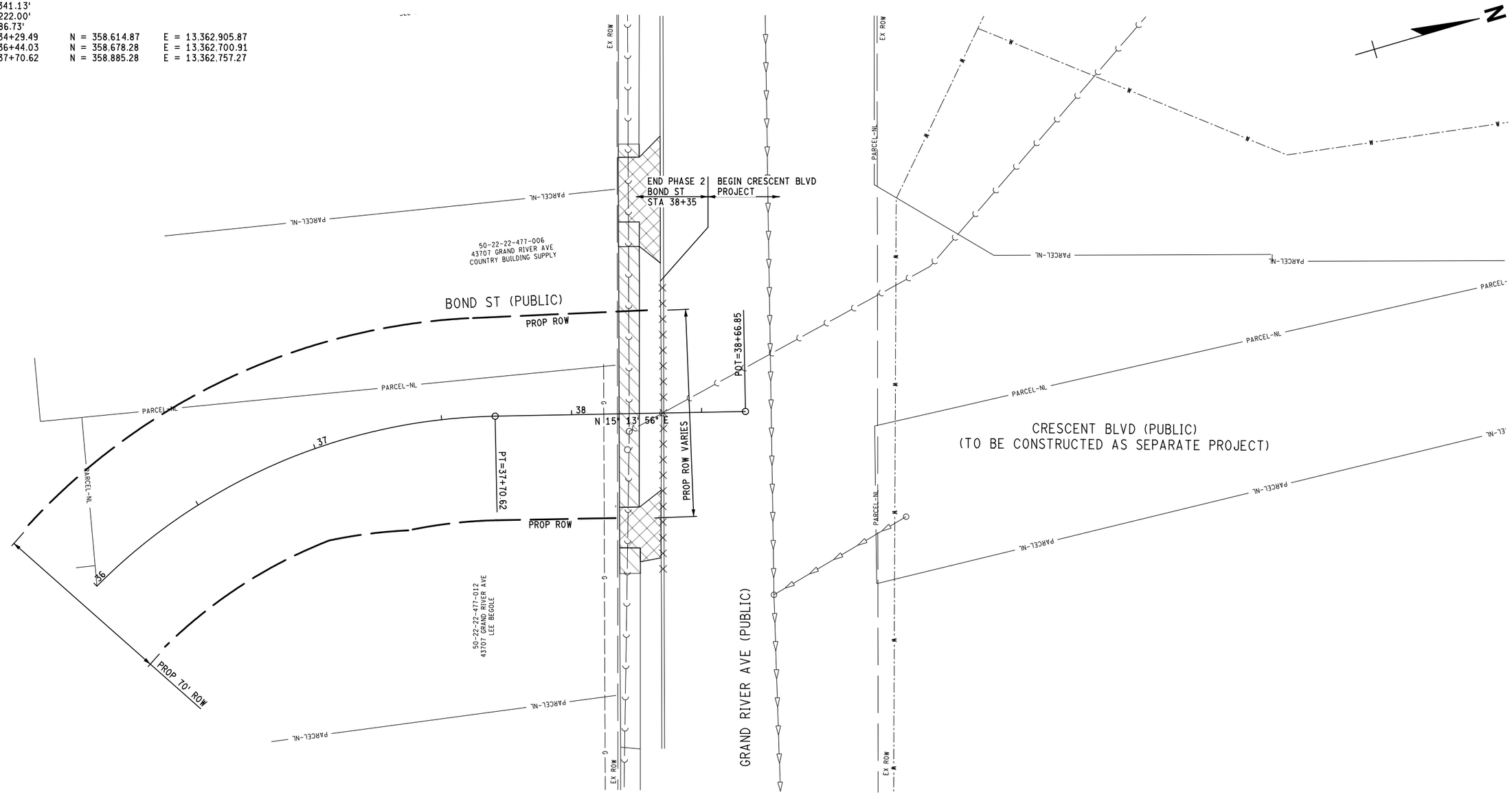
CITY OF NOVI

BOND ST CONSTRUCTION

PROFILE SHEET FLINT STREET

JOB
60582577
DATE
10/12/18
SHEET
17

BOND ST ℄
Δ = 88° 02' 34" (RT)
D = 25° 48' 32"
T = 214.54'
L = 341.13'
R = 222.00'
E = 86.73'
PC = 34+29.49 N = 358,614.87 E = 13,362,905.87
PI = 36+44.03 N = 358,678.28 E = 13,362,700.91
PT = 37+70.62 N = 358,885.28 E = 13,362,757.27



NOTE: TREES TO BE REMOVED PRIOR TO CONSTRUCTION WITH SEPARATE CONTRACT

0 HORZ. (FT) 40

FILE: 82577_3600.dgn
AUTH | DATE | REVISION

AECOM

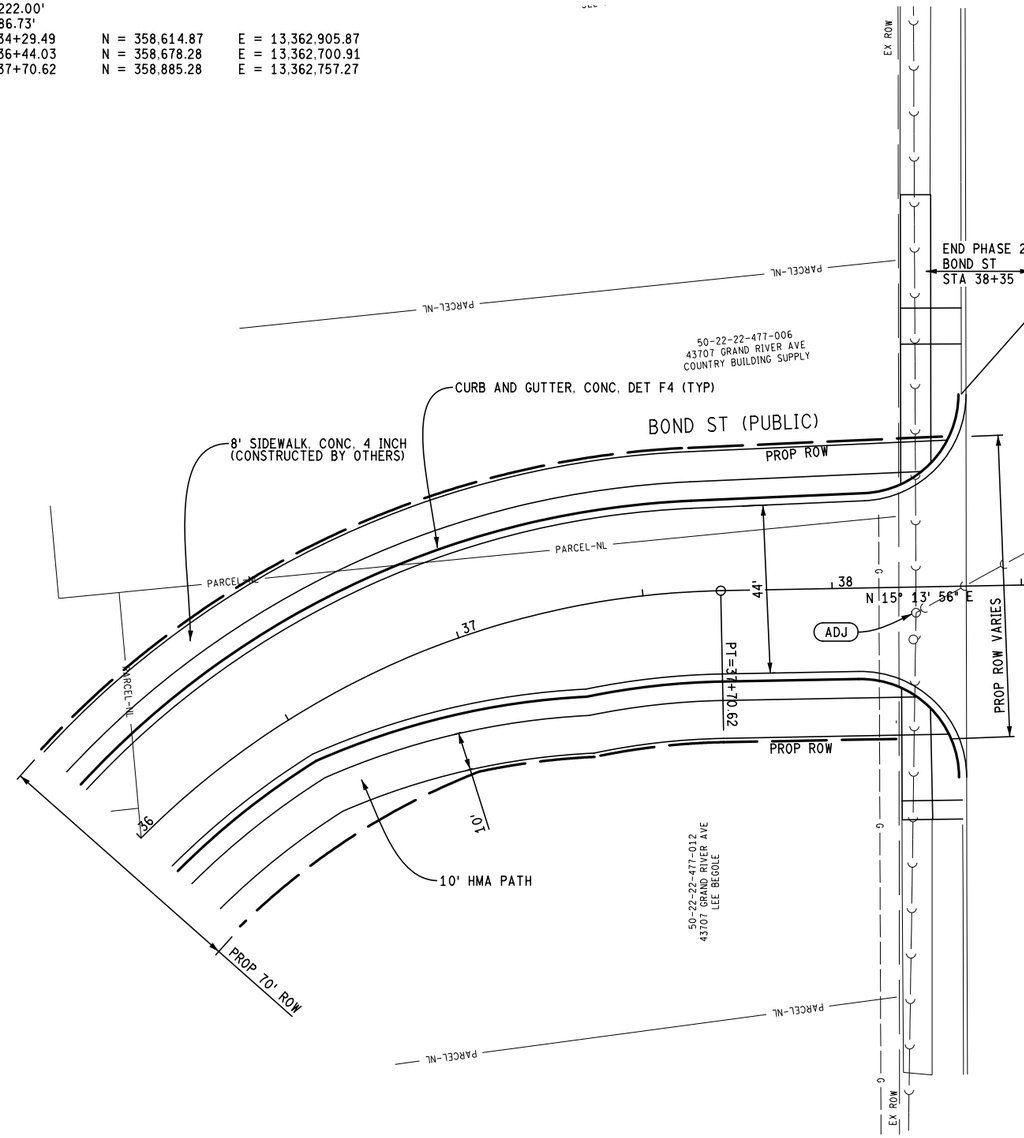
CITY OF NOVI

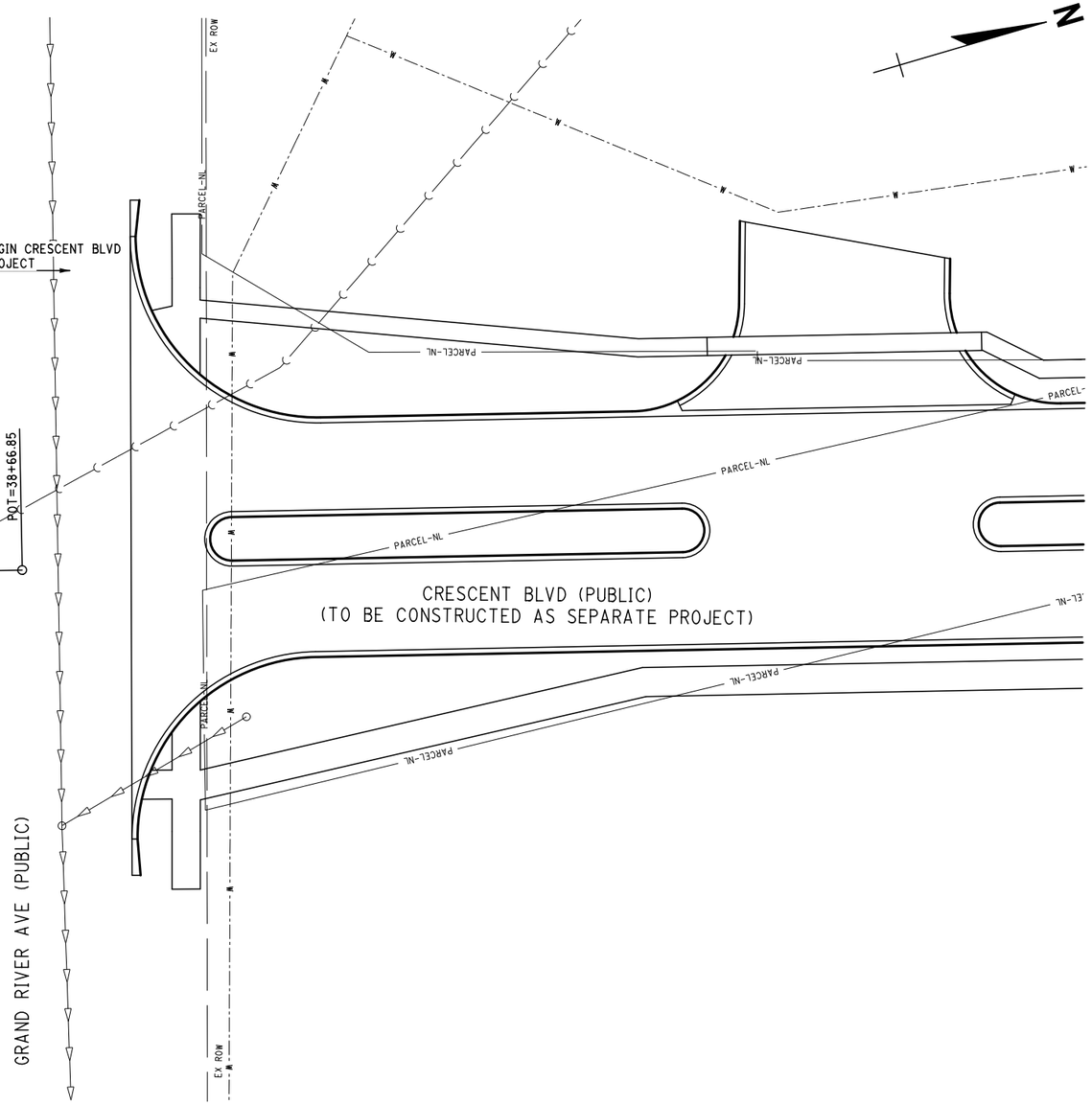
BOND ST CONSTRUCTION

REMOVAL SHEET STA 36+00 TO STA POE

JOB 60582577
DATE 10/12/18
SHEET 18

BOND ST ℄
Δ = 88° 02' 34" (RT)
D = 25° 48' 32"
T = 214.54'
L = 341.13'
R = 222.00'
E = 86.73'
PC = 34+29.49 N = 358,614.87 E = 13,362,905.87
PI = 36+44.03 N = 358,678.28 E = 13,362,700.91
PT = 37+70.62 N = 358,885.28 E = 13,362,757.27





NOTE: TREES TO BE REMOVED PRIOR TO CONSTRUCTION WITH SEPARATE CONTRACT

0 HORZ. (FT) 40

FILE: 82577_3600.dgn
AUTH | DATE | REVISION

AECOM

CITY OF NOVI

BOND ST CONSTRUCTION

CONSTRUCTION SHEET STA 36+00 TO STA POE

JOB 60582577
DATE 10/12/18
SHEET 19

910
905
910
905
910
905
900

36+01.83
EL 910.35

-1.30%

K = 56
L = 114'

907.49

910.06
909.72
909.08
908.43
907.78

36
37
38

— — — EX GROUND 35' LT

— — — BOND ST EX GROUND PROFILE
BOND STREET POL

— — — EX GROUND 35' RT

0 VERT. (FT) 4
0 HORZ. (FT) 40

FILE: 82577_3600_prf.dgn

AUTH	DATE	REVISION

AECOM

CITY OF NOVI

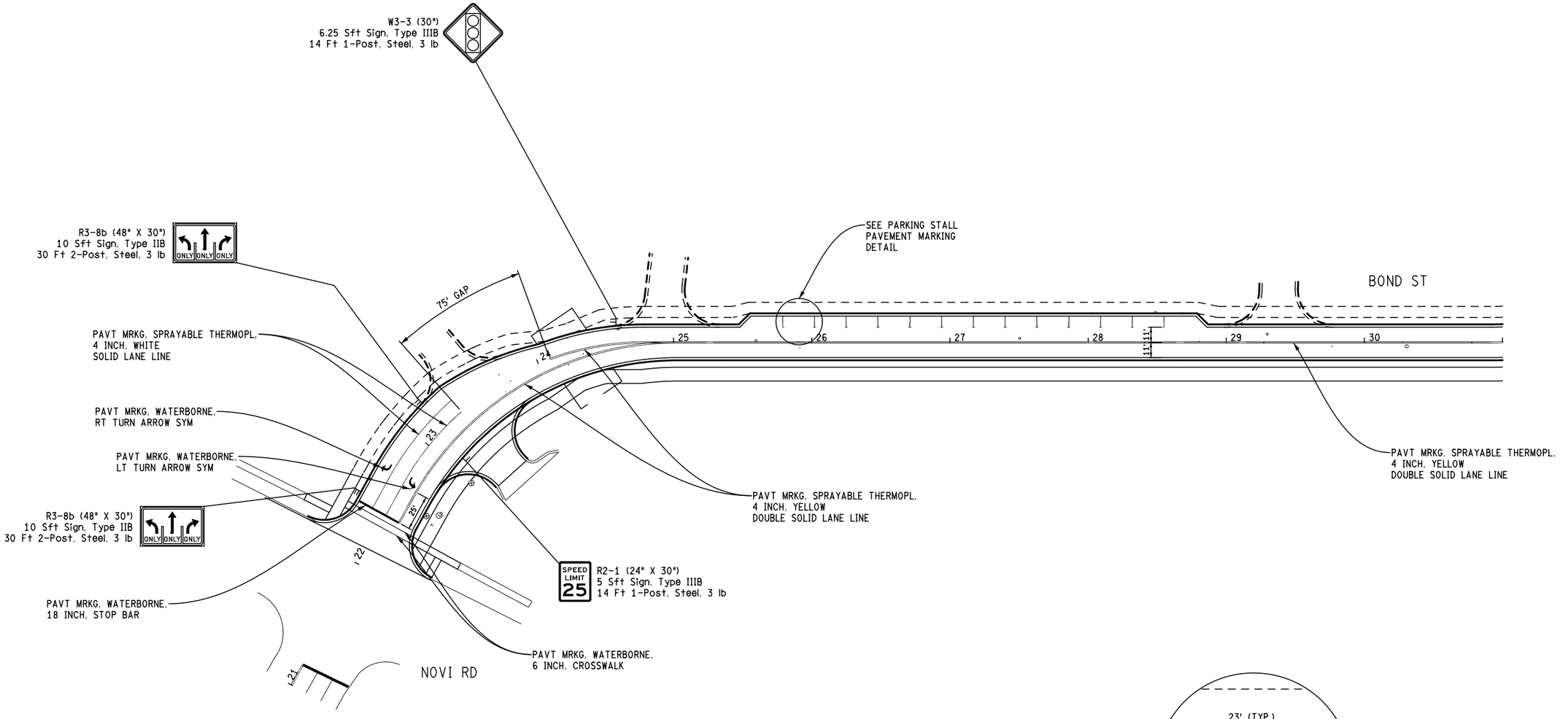
BOND ST CONSTRUCTION

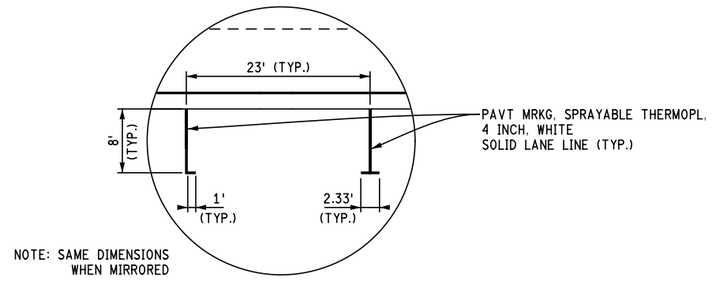
PROFILE SHEET STA 36+00 TO STA POE

JOB
60582577

DATE
10/12/18

SHEET
20





NOTE: SAME DIMENSIONS WHEN MIRRORED

PARKING STALL PAVEMENT MARKING DETAIL

0 8 80
HORZ. (FT)

FILE: 82577_2100_Sign-PVMK.dgn

AUTH	DATE	REVISION

AECOM

CITY OF NOVI

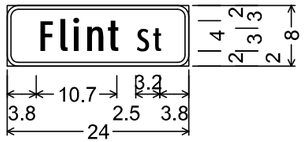
BOND ST CONSTRUCTION

PERMANENT SIGNING AND PAVEMENT MARKING STA 21+00 TO STA 31+00

JOB 60582577

DATE 10/12/18

SHEET 21

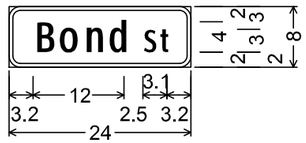


D3-1;
1.5" Radius, 0.5" Border, White on Green;
[Flint] ClearviewHwy-2-W;
[St] ClearviewHwy-2-W;
Table of widths and spaces.

3.8	F 1.8	0.9	l 1.0	0.8	i 0.7	1.0	n 2.2	0.8	t 1.5

2.5	S 1.6	0.5	t 1.1	3.8

SPECIAL SIGN #1

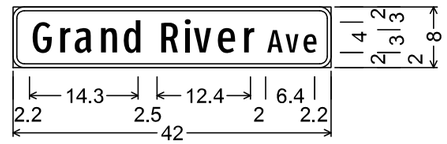


D3-1;
1.5" Radius, 0.5" Border, White on Green;
[Bond] ClearviewHwy-2-W;
[St] ClearviewHwy-2-W;
Table of widths and spaces.

3.2	B 2.3	0.8	o 2.4	1.0	n 2.2	1.0	d 2.3	

2.5	S 1.6	0.5	t 1.0	3.2

SPECIAL SIGN #2



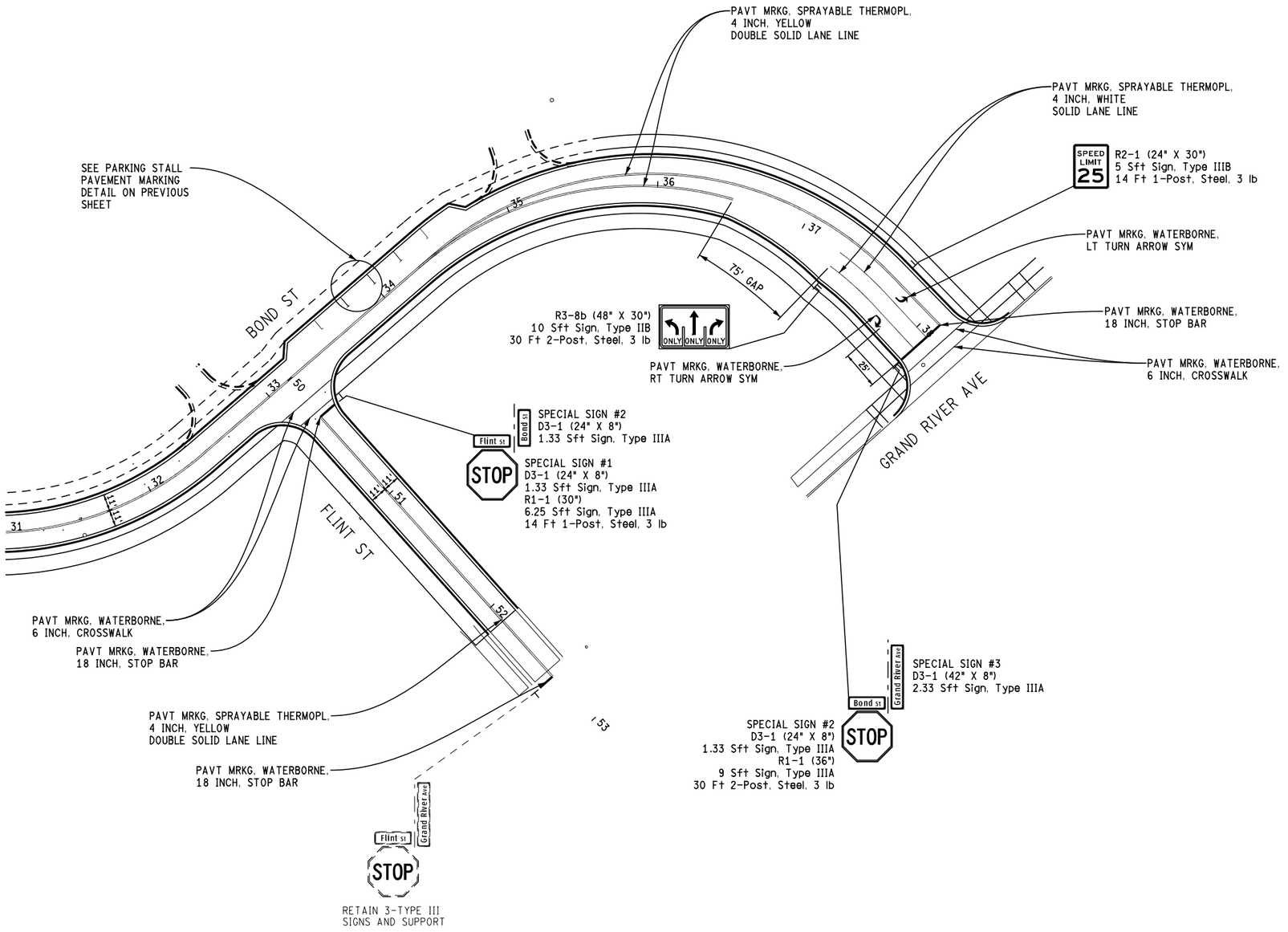
D3-1;
1.5" Radius, 0.5" Border, White on Green;
[Grand] ClearviewHwy-2-W;
[River] ClearviewHwy-2-W;
[Ave] ClearviewHwy-2-W;
Table of widths and spaces.

2.2	G 2.5	1.0	r 1.4	0.7	a 2.3	1.0	n 2.2	0.9	d 2.3

2.5	R 2.3	0.9	i 0.8	0.7	v 2.3	0.7	e 2.3	1.0	r 1.4

2.0	A 2.1	0.3	v 1.8	0.5	e 1.7	2.2

SPECIAL SIGN #3



0 8 80 HORZ. (FT)

FILE: 82577_3100_Sign-PVMK.dgn

AUTH	DATE	REVISION

AECOM

CITY OF NOVI

BOND ST CONSTRUCTION

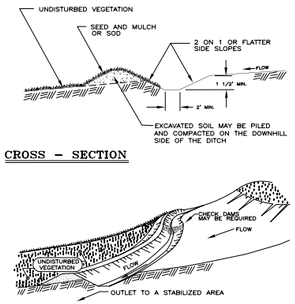
PERMANENT SIGNING AND PAVEMENT MARKING STA 31+00 TO STA POE

JOB 60582577

DATE 10/12/18

SHEET 22

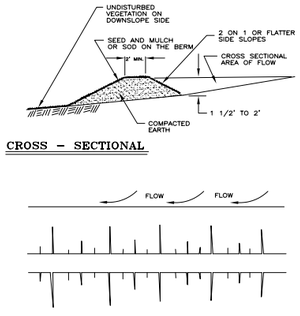
EARTH DIVERSION BERM (E-1)



CROSS – SECTION

ISOMETRIC VIEW

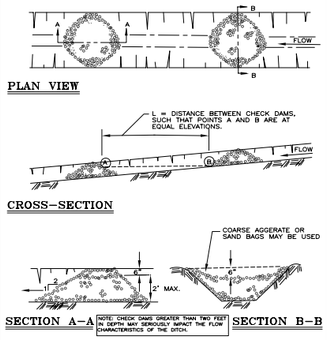
EARTH DIVERSION BERM (E-2)



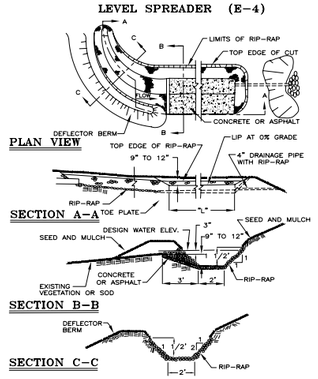
CROSS – SECTIONAL

PLAN VIEW

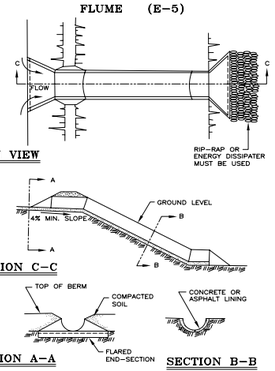
CHECK DAMS (E-3)



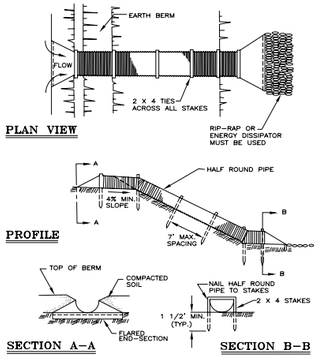
LEVEL SPREADER (E-4)



FLUME (E-5)



SECTIONAL DOWNDRAIN (E-6)

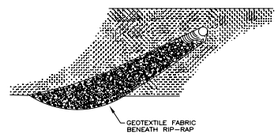


RIP-RAP (E-7)

DEFINITION — RIP-RAP IS A ROCK-TYPE MATERIAL PLACED ON THE LAND SURFACE TO RESIST THE ACTIONS OF FLOWING WATER.

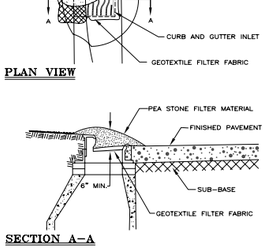
PURPOSE — THE PURPOSE OF RIP-RAP IS (1) TO DISSIPATE ENERGY RESULTING FROM FLOWING WATER, THUS REDUCING THE FLOW VELOCITY TO A LEVEL THAT IS NON-EROSIVE, AND (2) TO PROTECT THE LAND SURFACE FROM EROSION RESULTING FROM THE ENERGY FORCES GENERATED BY FLOWING WATER.

WHERE APPLICABLE — RIP-RAP IS USED (1) AT THE OUTLET OF A STORM DRAIN, (2) AS A CHANNEL LINING WHEN FLOW VELOCITIES AND CONCENTRATION ARE HIGH AND/OR THE CHANNEL SLOPE IS STEEP, (3) ON THE BANKS OF CHANNELS AT CHANGES IN FLOW DIRECTION, AND (4) TO STABILIZE ERODIBLE SLOPES.



SURFACE ROUGHENING (E-8) AND SCARIFICATION

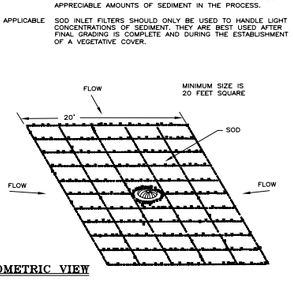
THIS IS AN EASY AND ECONOMICAL WAY TO REDUCE SOIL EROSION. IT IS SIMPLY THE PLACING OF HORIZONTAL GROOVES IN A SLOPE PERPENDICULAR TO THE FLOW OF RUNOFF. THIS CAN BE DONE BY EITHER DISC HARROWING, BACK BLADING OR JUST RUNNING THE TREADS OF A CRAWLER TRACTOR PERPENDICULAR TO THE SLOPE AS SHOWN BELOW.



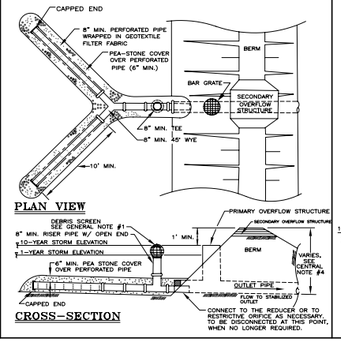
VEGETATIVE BUFFER ZONE (SP-1)

THE GRAPH LISTED BELOW IS USED TO DETERMINE THE ADEQUACY OF AN EXISTING VEGETATIVE BUFFER ZONE FOR USE AS A SEDIMENT FILTER. THIS GRAPH IS ONLY APPLICABLE IF THE VEGETATION IS A DENSE WELL-GROWN STAND OF GROUND COVER, AT LEAST 4" IN LENGTH. AN AREA COVERED WITH BUSHES AND TREES WITHOUT A GOOD GROUND COVER IS NOT ACCEPTABLE.

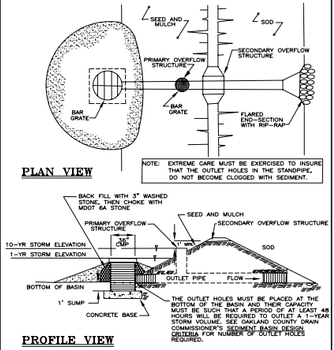
EXAMPLE



SILT FENCE (SP-2)

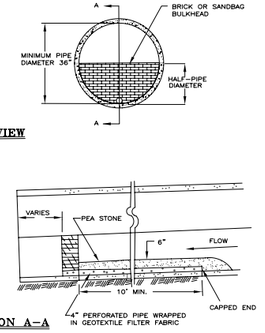


STRAW BALE DIVERSION BERM (SP-3)



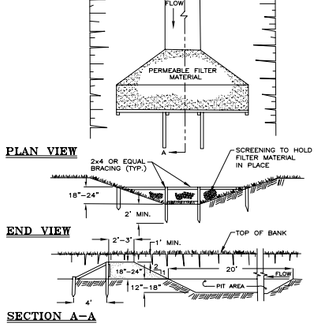
STRAW BALE DIVERSION BERM (SP-4)

STONE OUTLET FILTER

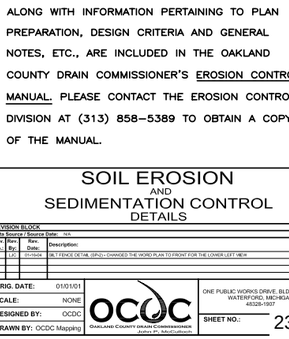


EARTH DIVERSION BERM (SP-5)

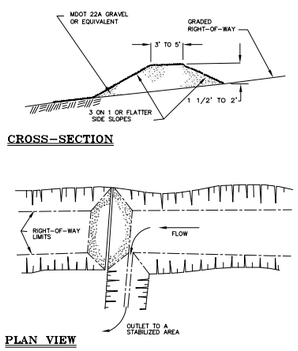
STONE OUTLET FILTER



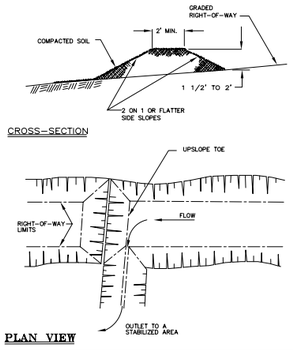
STONE FILTER BERM (SP-7)



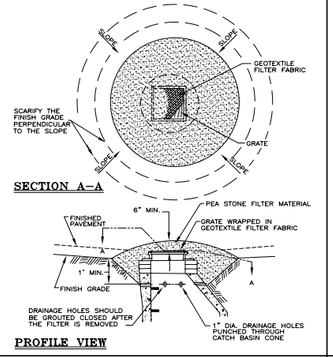
GRAVEL INTERCEPTOR DIKE (SP-8)



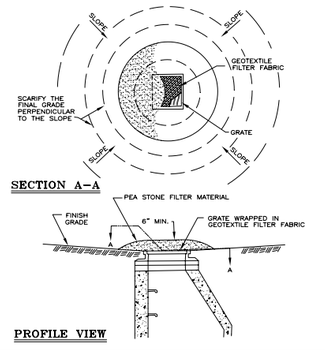
SOIL INTERCEPTOR DIKE (SP-9)



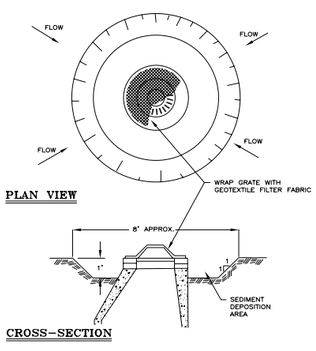
PARKING LOT INLET FILTER (SI-1)



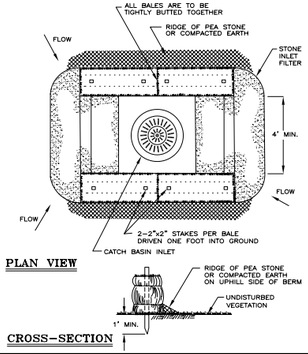
LOW POINT INLET FILTER (SI-2)



INLET SEDIMENT PIT (SI-3)

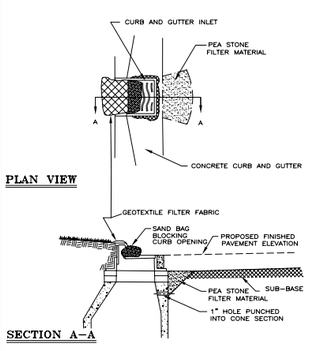


STRAW BALE INLET FILTER (SI-4)



CURB AND GUTTER INLET FILTER (SI-5)

(BEFORE PAVING)



CURB AND GUTTER INLET FILTER (SI-6)

(AFTER PAVING)

SOD INLET FILTER (SI-8)

DEFINITION — SOD INLET FILTER ARE PADS OF SOD PLACED AROUND A STORM DRAIN INLET OR CATCH BASIN.

PURPOSE — SOD INLET FILTERS ARE INSTALLED TO SLOW THE FLOW OF WATER INTO AN INLET OR CATCH BASIN AND TO FILTER OUT APPRECIABLE AMOUNTS OF SEDIMENT IN THE PROCESS.

WHERE APPLICABLE — SOD INLET FILTERS SHOULD ONLY BE USED TO HANDLE LIGHT CONCENTRATIONS OF SEDIMENT. THEY ARE BEST USED AFTER FINAL GRADING IS COMPLETE AND DURING THE ESTABLISHMENT OF A VEGETATIVE COVER.

DETENTION BASIN OUTLET FILTER(PVC) (SO-1)

DETENTION BASIN OUTLET FILTER(CMP) (SO-2)

PIPE SEDIMENT BARRIER (SO-3)

DITCH SEDIMENT TRAP (SO-5)

NOTE:

ALL OF THE DETAILS SHOWN ON THIS SHEET, ALONG WITH INFORMATION PERTAINING TO PLAN PREPARATION, DESIGN CRITERIA AND GENERAL NOTES, ETC., ARE INCLUDED IN THE OAKLAND COUNTY DRAIN COMMISSIONER'S EROSION CONTROL MANUAL. PLEASE CONTACT THE EROSION CONTROL DIVISION AT (313) 858-5389 TO OBTAIN A COPY OF THE MANUAL.

SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

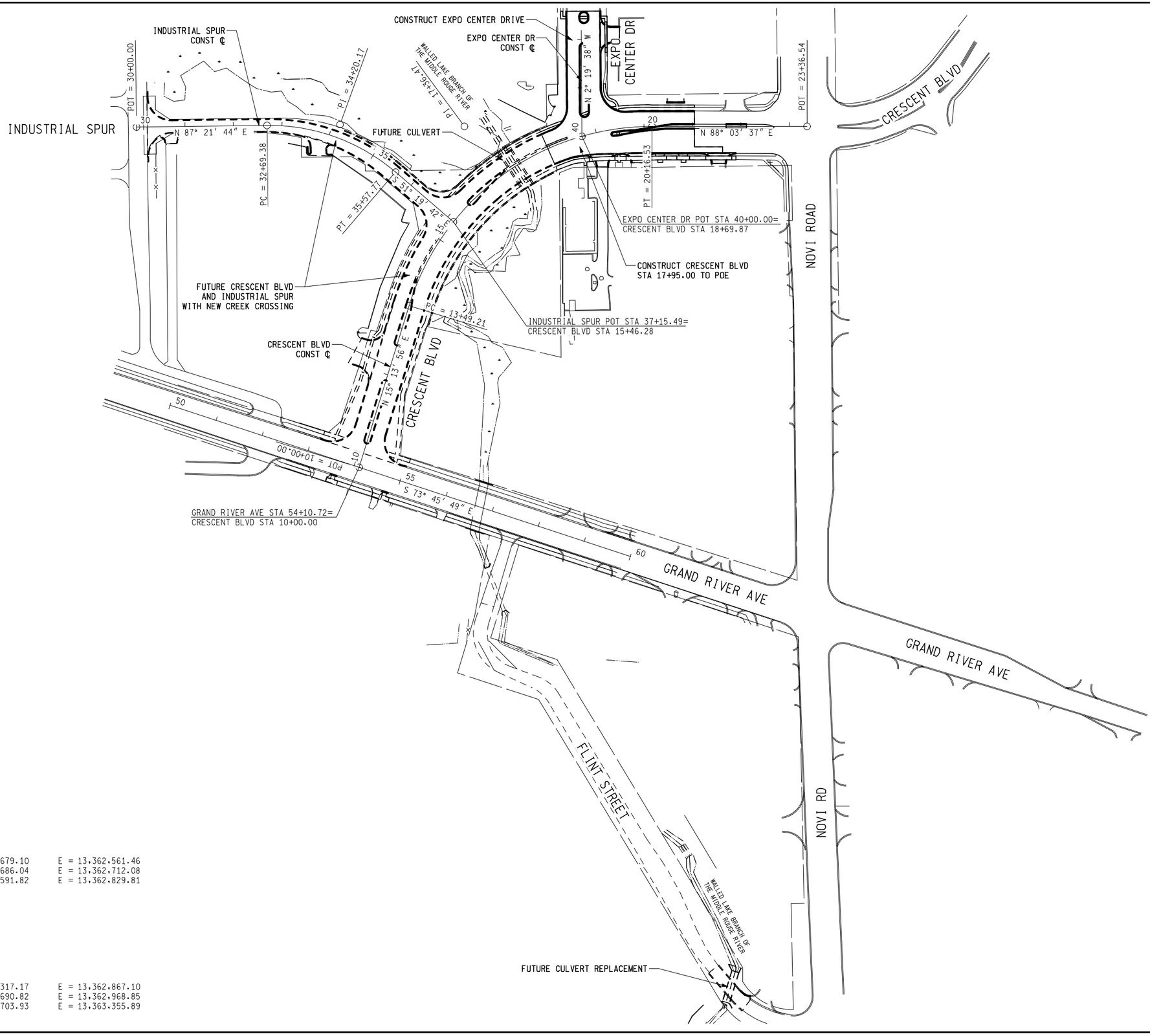
REVISION BLOCK				
Date Source / Source Date: N/A				
Rev. No.	Rev. By:	Rev. Date:	Description:	
1	LJC	01-10-06	SILT FENCE DETAIL (SP-2) - CHANGED THE WORD PLAN TO FRONT FOR THE LOWER LEFT VIEW	
2				
3				
4				

ORIG. DATE: 01/01/01
SCALE: NONE
DESIGNED BY: OCDC
DRAWN BY: OCDC Mapping

OCDC — OAKLAND COUNTY DRAIN COMMISSIONER — Jim Nash, Auditor/Controller

ONE PUBLIC WORKS DRIVE, BLDG 95 WEST
WATERFORD, MICHIGAN
48328-1907

SHEET NO.: 23



INDUSTRIAL SPUR CURVE ℄
Δ = 41° 18′ 34″ (RT)
D = 14° 19′ 26″
T = 150.79′
L = 288.40′
R = 400.00′
E = 27.48′
PC = 32+69.38 N = 359,679.10 E = 13,362,561.46
PI = 34+20.17 N = 359,686.04 E = 13,362,712.08
PT = 35+57.77 N = 359,591.82 E = 13,362,829.81
PR. SUPER = NC

CRESCENT BLVD CURVE ℄
Δ = 72° 49′ 40″ (RT)
D = 10° 54′ 49″
T = 387.26′
L = 667.32′
R = 525.00′
E = 127.38′
PC = 13+49.21 N = 359,317.17 E = 13,362,867.10
PI = 17+36.47 N = 359,690.82 E = 13,362,968.85
PT = 20+16.53 N = 359,703.93 E = 13,363,355.89
PR. SUPER = NC

PLAN
1"=100' 0 50 100

AUTH	DATE	NO.	REVISION
			FINAL R.O.W.

URS
Surface Transportation
Grand Rapids - Southfield - Traverse City

CITY OF NOVI

CITY OF NOVI RING ROAD PHASE 1

VICINITY SHEET

JOB NO. 12941940

DATE 06/07/11

SHEET NO. 2

DATE: 06/07/11

WORKED ON BY: TRW

CHECKED BY: SNK

FILE NAME: 41940.VIC