Kimley»Horn

Exhibit 7

Memorandum

To: Matt Villalobos, RainTree Investment Corporation

From: Matt Weir, P.E., T.E., PTOE

Re: **Traffic Evaluation**
White Rock Springs Ranch (Gragg Ranch) – Folsom, California

Date: September 3, 2015

Per your request, we have prepared this traffic evaluation for your Gragg Ranch project in Folsom.

Introduction

Comprehensive environmental documentation was previously prepared and certified for the entire Folsom Plan Area. As time has passed, the availability of updated regional forecasts and several land use modifications within the Plan Area have necessitated an update to the Plan Area's Cumulative traffic conditions. The City of Folsom recently completed a comprehensive Plan Area traffic analysis update in which updated regional forecasts, Plan Area land uses (including the proposed project), and multiple development phases are understood to have been used to establish new interim year and Cumulative (2035) conditions[1]. This recently completed analysis incorporates the Plan Area's effect on a variety of transportation facilities including US-50 and a total of twenty-four intersections, nine of which are included in this focused analysis for the proposed project. The purpose of this study is strictly to evaluate the near-term effect of the proposed project on the existing transportation network. The cumulative effect of the proposed project and the other Plan Area developments is understood to be included in the City's analyses.

Project Understanding

During our June 5, 2015, conference call, the project team specified the following primary assumptions for use in the evaluation:

- 3-5 year build-out assumption for 395 single-family detached dwelling units
- Near-term condition assumes a single project access point at the Placerville Road intersection with Street "A".

At your request, Kimley-Horn consulted with the City of Folsom Public Works Department[2]. This coordination assisted in defining the required off-site study facilities, and a general outline of tasks to be completed by this traffic evaluation. The following is a summary of the outcome of this discussion:

- Analysis scenarios:
  - Existing (2015) Conditions[+]
  - Near-Term Conditions[++]
  - Near-Term plus Proposed Project Conditions[+++]

[+] Established using readily available traffic count data from the City of Folsom and/or other sources.
[++] Approximated as year 2020. Incorporates Mangini Ranch (including the elementary school) and Russell Ranch absorption per the City of Folsom's Capital SouthEast Connector fee spreadsheet (508 and 750-units, respectively). These volumes were manually added to Existing Conditions.
[+++] Established by manually adding the full Proposed Project (395-units) to Near-Term Conditions.

[1] *Russell Ranch Project Draft Environmental Impact Report*, Raney Planning and Management, December 2014.
[2] Telephone conversation with Mark Rackovan, City of Folsom, June 8, 2015.

- Study intersections:
    1. East Bidwell Street @ Iron Point Road
    2. East Bidwell Street @ Placerville Road
    3. East Bidwell Street @ US-50 Westbound Ramps
    4. Scott Road @ US-50 Eastbound Ramps
    5. Scott Road @ Easton Valley Parkway (future)
    6. Scott Road @ White Rock Road
    7. Placerville Road @ Easton Valley Parkway (future)
    8. Placerville Road @ Street "A" (future)
    9. White Rock Road @ Placerville Road

Exhibit 1 depicts the project vicinity and study facilities.

Assessment of Proposed Project

Trip Generation

The number of trips anticipated to be generated by the proposed project were approximated using *Trip Generation Manual, 9th Edition* published by the Institute of Transportation Engineers (ITE). **Table 1** presents the trip generation data for the proposed project.

Table 1 – Proposed Project Trip Generation

Land Use (ITE Code)	Size (# units)	Daily Trips	AM Peak-Hour					PM Peak-Hour				
			Total Trips	IN		OUT		Total Trips	IN		OUT	
				%	Trips	%	Trips		%	Trips	%	Trips
Single-Family Detached Housing (210)	395	3,718	286	25%	72	75%	214	362	63%	228	37%	134
Net New External Trips:		***3,718***	***286***		***72***		***214***	***362***		***228***		***134***

Source: *Trip Generation Manual, 9th Edition* , ITE.

As reflected in **Table 1**, the proposed project is anticipated to generate 286 AM peak-hour and 362 PM peak-hour trips.

Trip Distribution

The distribution of project traffic was developed based on the near-term roadway network, project area roadway volumes, general knowledge of project area traffic patterns, and engineering judgment. The project trip distribution percentages and resulting AM and PM peak-hour traffic volumes are illustrated in **Exhibit 2**.

Traffic Impact Analysis Methodology

Analysis of transportation facility significant environmental impacts is based on the concept of Level of Service (LOS). The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual, 2010* (HCM), using appropriate traffic analysis software.

The HCM includes procedures for analyzing side-street stop controlled (SSSC), all-way stop controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection as a whole. **Table 2** presents intersection LOS definitions as defined in the HCM.

Table 2 – Intersection Level of Service Criteria

Level of Service (LOS)	Un-Signalized	Signalized
	Average Control Delay* (sec/veh)	Control Delay per Vehicle (sec/veh)
A	≤ 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

Source: Highway Capacity Manual, 2010
* Applied to the worst lane/lane group(s) for SSSC

Level of Services Analyses

Intersection levels of service were determined for the three analysis scenarios previously defined. The following is a summary of the primary assumptions associated with each of the conditions:

- Existing (2015) Conditions
  Reflects existing, year 2015 geometry and volumes. Year 2014 volumes for Intersections #6 and #9 were conservatively grown by 1.5-percent to reflect 2015 conditions.
- Near-Term Conditions
  Adds traffic associated with Mangini Ranch's 508-units and an elementary school, and Russell Ranch's 750-units were manually added to the existing traffic volumes, geometry, and traffic control.
- Near-Term plus Proposed Project Conditions
  Adds traffic associated with the 395-units to the Near-Term traffic volumes, geometry, and traffic control. The initial geometry for the project access (Street "A", Intersection #8) was assumed to be unsignalized with side-street stop control (SSSC) as the base condition.

Peak-hour intersection volumes are presented in **Exhibit 3**, **Exhibit 4**, and **Exhibit 5**. **Table 3** presents the intersection operating conditions. Analysis worksheets are provided in **Appendix A**.

A planning level assessment of the need for traffic signalization was performed for the un-signalized study intersections. This evaluation was performed consistently with the peak-hour warrant methodologies noted in Section 4C of the *California Manual on Uniform Traffic Control Devices (CMUTCD)*, *2014 Edition*. A summary of the peak-hour warrant results are presented in **Table 4**. As shown in **Table 4**, the addition of the proposed project results in the peak-hour signal warrant being satisfied at the Scott Road intersections with Easton Valley Parkway (Intersection #5) and White Rock Road (Intersection #6), as well as the White Rock Road intersection with Placerville Road (Intersection #9). Detailed results of this analysis are presented in **Appendix A**.

Table 3 – Existing (2014) Intersection Levels of Service

#	Intersection (Traffic Control) & Analysis Scenario	AM Peak-Hour		PM Peak-Hour	
		Delay+ (seconds)	LOS	Delay+ (seconds)	LOS
1	**E Bidwell St @ Iron Point Rd (Signalized)**				
	Existing (2015) Conditions	**598.4**	**F**	**626.5**	**F**
	Near-Term Conditions	**621.9**	**F**	**653.7**	**F**
	Near-Term plus Proposed Project Conditions	**629.7**	**F**	**662.9**	**F**
2	**E Bidwell St @ Placerville Rd (Signalized)**				
	Existing (2015) Conditions	10.0	A	20.3	C
	Near-Term Conditions	11.7	B	22.5	C
	Near-Term plus Proposed Project Conditions	12.7	B	23.7	C
3	**E Bidwell St @ US-50 WB Ramps (Signalized)**				
	Existing (2015) Conditions	17.6	B	32.9	C
	Near-Term Conditions	21.5	C	**52.1**	**D**
	Near-Term plus Proposed Project Conditions	23.3	C	**58.7**	**E**
4	**Scott Rd @ US-50 EB Ramps (Signalized)**				
	Existing (2015) Conditions	7.5	A	10.3	B
	Near-Term Conditions	9.7	A	12.8	B
	Near-Term plus Proposed Project Conditions	10.5	B	13.5	B
5	**Scott Rd @ Easton Valley Pkwy (AWSC)**				
	Existing (2015) Conditions	*Near-Term Conditions Only*			
	Near-Term Conditions	**42.8**	**E**	**49.4**	**E**
	Near-Term plus Proposed Project Conditions	**47.3**	**E**	**48.6**	**E**
6	**Scott Rd @ White Rock Rd (AWSC)**				
	Existing (2015) Conditions	17.8	C	**35.8**	**E**
	Near-Term Conditions	**38.9**	**E**	**51.6**	**F**
	Near-Term plus Proposed Project Conditions	**40.8**	**E**	**53.5**	**F**
7	**Placerville Rd @ Easton Valley Pkwy (AWSC)**				
	Existing (2015) Conditions	*Near-Term Conditions Only*			
	Near-Term Conditions	10.7	B	14.8	B
	Near-Term plus Proposed Project Conditions	12.0	B	22.4	C
8	**Placerville Rd @ Street "A" (SSSC)**				
	Existing (2015) Conditions	*Plus Project Conditions Only*			
	Near-Term Conditions				
	Near-Term plus Proposed Project Conditions	4.6 (10.8 WB)	B	3.9 (14.7 WB)	C
9	**White Rock Rd @ Placerville Rd (SSSC)**				
	Existing (2015) Conditions	3.1 (20.4 SB)	C	**7.1 (54.9 SB)**	**F**
	Near-Term Conditions	**10.6 (51.2 SB)**	**F**	**33.0 (225.1 SB)**	**F**
	Near-Term plus Proposed Project Conditions	**32.4 (123.3 SB)**	**F**	**83.2 (488.4 SB)**	**F**

Notes:
+ Delay reported for overall intersection (worst minor approach movement) for SSSC
BOLD signifies substandard operating conditions (LOS D, E, or F)
SSSC = Side-Street Stop Control, AWSC = All-Way Stop Control

Table 4 – Traffic Signal Warrant Analysis Results

#	Intersection (Traffic Control) & Analysis Scenario	AM Peak-Hour	PM Peak-Hour
5	**Scott Rd @ Easton Valley Pkwy (ASWC)**		
	Existing (2015) Conditions	*Near-Term Conditions Only*	
	Near-Term Conditions	No	No
	Near-Term plus Proposed Project Conditions	**Yes**	**Yes**
6	**Scott Rd @ White Rock Rd (AWSC)**		
	Existing (2015) Conditions	**Yes**	**Yes**
	Near-Term Conditions	**Yes**	**Yes**
	Near-Term plus Proposed Project Conditions	**Yes**	**Yes**
7	**Placerville Rd @ Easton Valley Pkwy (AWSC)**		
	Existing (2015) Conditions	*Near-Term Conditions Only*	
	Near-Term Conditions	No	No
	Near-Term plus Proposed Project Conditions	No	No
8	**Placerville Rd @ Street "A" (SSSC)**		
	Existing (2015) Conditions	*Plus Project Conditions Only*	
	Near-Term Conditions		
	Near-Term plus Proposed Project Conditions	No	No
9	**White Rock Rd @ Placerville Rd (SSSC)**		
	Existing (2015) Conditions	No	No
	Near-Term Conditions	No	No
	Near-Term plus Proposed Project Conditions	**Yes**	**Yes**

Note: Peak-hour warrant is satisfied if warrant condition A or B is satisfied.

Impacts and Mitigation

Standards of Significance

Project impacts were determined by comparing conditions without the proposed project to those with the project. Impacts are created when traffic from the proposed project causes the LOS of an intersection or roadway segment to fall below a specific threshold. The City's standards[3] specify the following:

> *"The City should strive to achieve at least a traffic **Level of Service 'C'** throughout the City. During the course of Plan buildout it may occur that temporarily higher Levels of Service result where roadway improvements have not been adequately phased as development proceeds. However, this situation will be minimized based on annual traffic studies and monitoring programs."*

In addition, the Plan Area's environmental documentation[4] states the following:

> *"For roadways within the project boundaries (south of US 50), **LOS D** conditions can be considered acceptable if improvements required to meet LOS C exceeds the City's 'normally accepted maximum' improvements."*

[3] Policy 17.17, *City of Folsom General Plan*.

[4] Page 3A.15-8, *Folsom South of U.S. Highway 50 Specific Plan DEIR/DEIS*, City of Folsom and USACE.

The City has further specified that an increase of five or more seconds of control delay at an intersection operating at an unacceptable level requires mitigation to achieve "no project" conditions.

Near-Term plus Proposed Project Conditions

As reflected in **Table 3**, the addition of the proposed project results in a significant impact as defined by the City at the East Bidwell Street intersections with Iron Point Road (Intersection #1) and the US-50 Westbound Ramps (Intersection #3), as well as the White Rock Road intersection with Placerville Road (Intersection #9). Regarding Intersection #1, East Bidwell Street @ Iron Point Road, as noted in the aforementioned environmental documentation, the Plan Area's impact (including the effect of the proposed project) at this intersection is considered to be ***significant and unavoidable***. As such, the proposed project's payment of fees is considered as adequate mitigation. Independently, the City may elect to pursue an operational analysis of this location, however this effort is considered to be beyond the scope of this study. The following is a discussion of the other impacts and their associated mitigations.

Impacts:

I1. Intersection #3, East Bidwell Street @ US-50 Westbound Ramps
This intersection operates at LOS D during the PM peak-hour without the project, and operates at LOS E during the PM peak-hour with the project. ***This is a significant impact.***

I2. Intersection #9, White Rock Road @ Placerville Road
This intersection operates at LOS F during the AM and PM peak-hours without the project, and operates at LOS F (adding more than five seconds of delay) during the AM and PM peak-hours with the project. ***This is a significant impact.***

Mitigations:

M1. Intersection #3, East Bidwell Street @ US-50 Westbound Ramps
The significant impact at this intersection during the PM peak-hour can be mitigated with signal cycle length optimization and reallocation of the green time for this isolated intersection. Because this intersection is understood to operate in an actuated, uncoordinated fashion, these signal timing modifications are not anticipated to affect operations at the adjacent intersections. As shown in **Table 5**, this mitigation measure results in the intersection operating at LOS B and LOS D (with less delay than the no project conditions) during the AM and PM peak-hours, respectively. Therefore, this impact is considered to be ***less than significant***.

Table 5 – Intersection Levels of Service with **Mitigation M1**

#	Intersection (Traffic Control) & Analysis Scenario	AM Peak-Hour		PM Peak-Hour	
		Delay (seconds)	LOS	Delay (seconds)	LOS
3	**E Bidwell St @ US-50 WB Ramps (Signalized)**				
	Existing (2015) Conditions	17.6	B	32.9	C
	Near-Term Conditions	21.5	C	**52.1**	**D**
	Near-Term plus Proposed Project Conditions	23.3	C	**58.7**	**E**
	Near-Term plus Proposed Project plus Signal Optimization	19.1	B	**43.0**	**D**

Note:
BOLD signifies substandard operating conditions (LOS D, E, or F)

M2. Intersection #9, White Rock Road @ Placerville Road

The significant impact at this intersection during the peak-hours can be mitigated differently, depending on the condition assumed for the adjacent Capital SouthEast Connector Segment D3/E1. If the Connector Segment D3/E1 is assumed to not be constructed, the significant impact at this intersection can be mitigated by the addition of all-way stop control (AWSC). As shown in **Table 6**, this mitigation measure results in the intersection operating at LOS C and LOS E (with less delay than the no project conditions) during the AM and PM peak-hours, respectively. Therefore, this impact is considered to be ***less than significant***.

Table 6 – Intersection Levels of Service with **Mitigation M2** (without Connector D3/E1 Condition)

#	Intersection (Traffic Control) & Analysis Scenario	AM Peak-Hour		PM Peak-Hour	
		Delay+ (seconds)	LOS	Delay+ (seconds)	LOS
9	**White Rock Rd @ Placerville Rd (SSSC)**				
	Existing (2015) Conditions	3.1 (20.4 SB)	C	**7.1 (54.9 SB)**	**F**
	Near-Term Conditions	**10.6 (51.2 SB)**	**F**	**33.0 (225.1 SB)**	**F**
	Near-Term plus Proposed Project Conditions	**32.4 (123.3 SB)**	**F**	**83.2 (488.4 SB)**	**F**
	Near-Term plus Proposed Project plus **AWSC**	24.2	C	**46.5**	**E**

Notes:
+ Delay reported for overall intersection (worst minor approach movement) for SSSC
BOLD signifies substandard operating conditions (LOS D, E, or F)
SSSC = Side-Street Stop Control, AWSC = All-Way Stop Control

Alternatively, if the initial phase of Segment D3/E1 is assumed to be constructed within the timeframe of this study's near-term conditions, the following access modifications would be reasonably assumed to be in place (see **Exhibit 6**):

- White Rock Road would be upgraded to a 4-lane expressway with limited access
- White Rock Road intersection with Placerville Road (Intersection #9) would be converted to rights-in/rights-out
- White Rock Road intersection with Scott Road (Intersection #6) would be converted to signalized traffic control
- Street "A" would extend from Scott Road (new Intersection #10), through the Mangini Ranch project, to Placerville Road at the project site access intersection.

The resulting redistribution of project traffic, re-routed background traffic, re-routed near-term traffic (without the project), and the combination of re-routed near-term and re-routed project traffic are depicted in **Exhibits 7-10**. As shown in **Table 7**, this assumed access condition does not result in any significant impacts during the AM and PM peak-hours. Therefore, this impact is considered to be ***less than significant***.

Conclusions

The proposed project is one of several components of the Folsom Plan Area. The project's contribution to the documented unacceptable operations at the East Bidwell Street intersection with Iron Point Road is consistent with the Plan Area environmental documentation's impact and mitigation measure 3A.15-4d. Accordingly, the project should "pay a fair share to fund the construction of improvements" at this location. Because the ultimate improvements were determined by the environmental documentation to be infeasible, the project's impact at this intersection remains significant and unavoidable.

Table 7 – Intersection Levels of Service with **Mitigation M2** (with Connector D3/E1 Condition)

#	Intersection (Traffic Control) & Analysis Scenario	AM Peak-Hour		PM Peak-Hour	
		Delay+ (seconds)	LOS	Delay+ (seconds)	LOS
2	**E Bidwell St @ Placerville Rd (Signalized)**				
	Existing (2015) Conditions	10.0	A	20.3	C
	Near-Term Conditions	11.7	B	22.5	C
	Near-Term plus Proposed Project Conditions	12.7	B	23.7	C
3	**E Bidwell St @ US-50 WB Ramps (Signalized)**				
	Existing (2015) Conditions	17.6	B	32.9	C
	Near-Term Conditions	21.6	C	**52.4**	**D**
	Near-Term plus Proposed Project Conditions	22.9	C	**45.8**	**D**
4	**Scott Rd @ US-50 EB Ramps (Signalized)**				
	Existing (2015) Conditions	7.5	A	10.3	B
	Near-Term Conditions	9.8	A	12.8	B
	Near-Term plus Proposed Project Conditions	10.5	B	13.4	B
5	**Scott Rd @ Easton Valley Pkwy (AWSC)**				
	Existing (2015) Conditions	*Near-Term Conditions Only*			
	Near-Term Conditions	**49.2**	**E**	**49.9**	**E**
	Near-Term plus Proposed Project Conditions	**48.0**	**E**	**49.2**	**E**
6	**Scott Rd @ White Rock Rd (Signalized)**				
	Existing (2015) Conditions (AWSC)	17.8	C	**35.8**	**E**
	Near-Term Conditions	14.8	B	25.7	C
	Near-Term plus Proposed Project Conditions	15.9	B	29.2	C
7	**Placerville Rd @ Easton Valley Pkwy (AWSC)**				
	Existing (2015) Conditions	*Near-Term Conditions Only*			
	Near-Term Conditions	13.0	B	15.4	C
	Near-Term plus Proposed Project Conditions	15.1	C	24.4	C
8	**Placerville Rd @ Street "A" (SSSC)**				
	Existing (2015) Conditions	*Near-Term Conditions Only*			
	Near-Term Conditions	1.6 (1.7 NB)	A	1.2 (1.3 NB)	A
	Near-Term plus Proposed Project Conditions	7.1 (11.6 EB)	B	6.4 (21.7 EB)	C
9	**White Rock Rd @ Placerville Rd (RI/RO)**				
	Existing (2015) Conditions (SSSC)	3.1 (20.4 SB)	C	**7.1 (54.9 SB)**	**F**
	Near-Term Conditions	0.1 (10.0 SB)	A	0.0 (11.2 SB)	B
	Near-Term plus Proposed Project Conditions	0.4 (10.3 SB)	B	0.2 (11.8 SB)	B
10	**Scott Rd @ Street "A" (Signalized)**				
	Existing (2015) Conditions	*Near-Term Conditions Only*			
	Near-Term Conditions	12.2	B	5.7	A
	Near-Term plus Proposed Project Conditions	13.0	B	6.3	A

Notes:
+ Delay reported for overall intersection (worst minor approach movement) for SSSC
BOLD signifies substandard operating conditions (LOS D, E, or F)
SSSC = Side-Street Stop Control, AWSC = All-Way Stop Control, RI/RO = Right-In/Right-Out

As for the project's impact at the East Bidwell Street intersection with the US-50 Westbound Ramps (Intersection #3) and the White Rock Road intersection with Placerville Road (Intersection #9), impact and mitigation measure 3A.15-3 from the environmental documentation provides context. Accordingly, project applicants are required to "fully fund all improvements only required by" the subject project or alternative. Measure W specified that all Plan Area mitigations, on both sides of US-50, be funded by the Plan Area's development. The timing of this mitigation is specified as being "a condition of project approval and/or as a development agreement for all project phases." Because the timing of the full funding for these improvements was difficult to identify, these impacts were considered significant and unavoidable in the environmental documentation.

A Development Agreement and Public Facilities Financing Plan (PFFP) have been approved by the Folsom City Council for the Folsom Plan Area. The identified mitigations documented for the East Bidwell Street intersection with the US-50 Westbound Ramps (Intersection #3) and the White Rock Road intersection with Placerville Road (Intersection #9) (M1 and M2 above) have been included in the PFFP, and are fully funded by the Folsom Plan Area. The Folsom Plan Area's contribution to these, and all necessary transportation improvements, is through the payment of fees at the building permit or, alternatively, conditioned as improvements to be constructed are part of discretionary approvals to mitigate project impacts (such as improvements M1 and M2 herein). These improvements conditioned on the project, therefore, are understood to be subject to a credit and reimbursement agreement to be negotiated between the applicant and the City.

Finally, the environmental document's Mitigation Measure 3A.15-4 identified a significant and unavoidable impact at the East Bidwell Street intersection with Iron Point Road due to the timing and uncertainty in guaranteeing the improvements would be constructed. The document further recognized that if the City was able to ultimately fully fund the fee program through fair-share contributions, the impacts would be reduced to less-than-significant levels. As discussed above, since the PFFP fully funds the impacts identified in Mitigation Measure 3A.15-4 and further, since the project is proposed to be conditioned with improvements M1 and M2, these impacts are considered to be reduced to a level that is less-than-significant. With the implementation of these improvements with the White Rock Springs Ranch (Gragg Ranch) project, Mitigation Measure 3A.15-3 is considered to be satisfied.

Attachments:

Exhibit 1 – Project Vicinity Map
Exhibit 2 – Project Trip Distribution and Peak-Hour Volumes
Exhibit 3 – Existing (2015) Traffic Control, Lane Geometries, and Peak-Hour Volumes
Exhibit 4 – Near-Term Traffic Control, Lane Geometries, and Peak-Hour Volumes
Exhibit 5 – Near-Term plus Proposed Project Traffic Control, Lane Geometries, and Peak-Hour Volumes
Exhibit 6 – Project Vicinity Map (with Connector D3/E1 Phase I)
Exhibit 7 – Project Trip Distribution and Peak-hour Volumes (with Connector D3/E1 Phase I)
Exhibit 8 – Background Peak-Hour Volumes (with Connector D3/E1 Phase I)
Exhibit 9 – Near-Term Traffic Control, Lane Geometries, and Peak-Hour Volumes (with Connector D3/E1 Phase I)
Exhibit 10 – Near-Term plus Proposed Project Traffic Control, Lane Geometries, and Peak-Hour Volumes (with Connector D3/E1 Phase I)

Appendix A – Analysis Worksheets

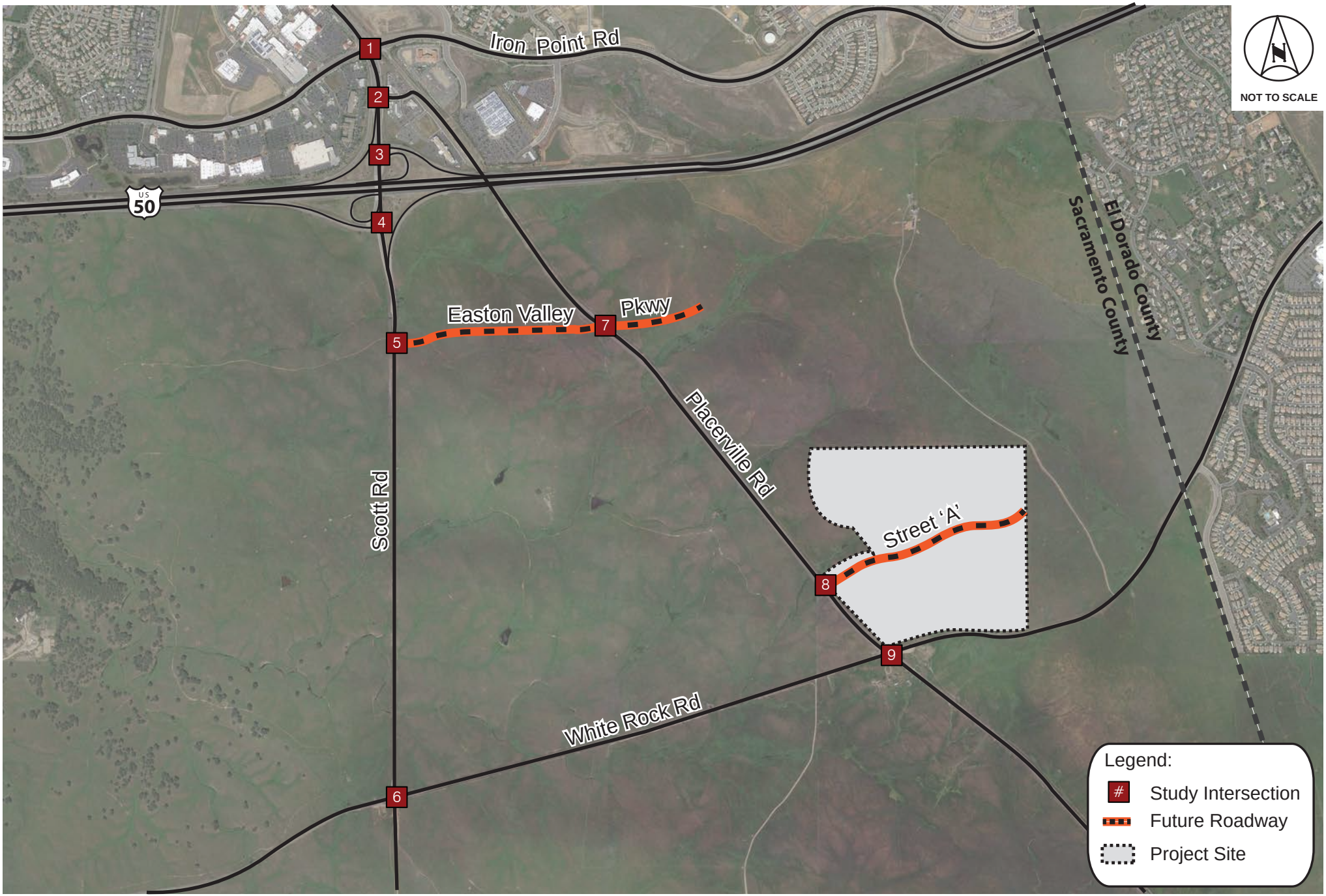

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Exhibit 1
Project Vicinity Map

White Rock Springs Ranch (Gragg Ranch) - Traffic Impact Analysis

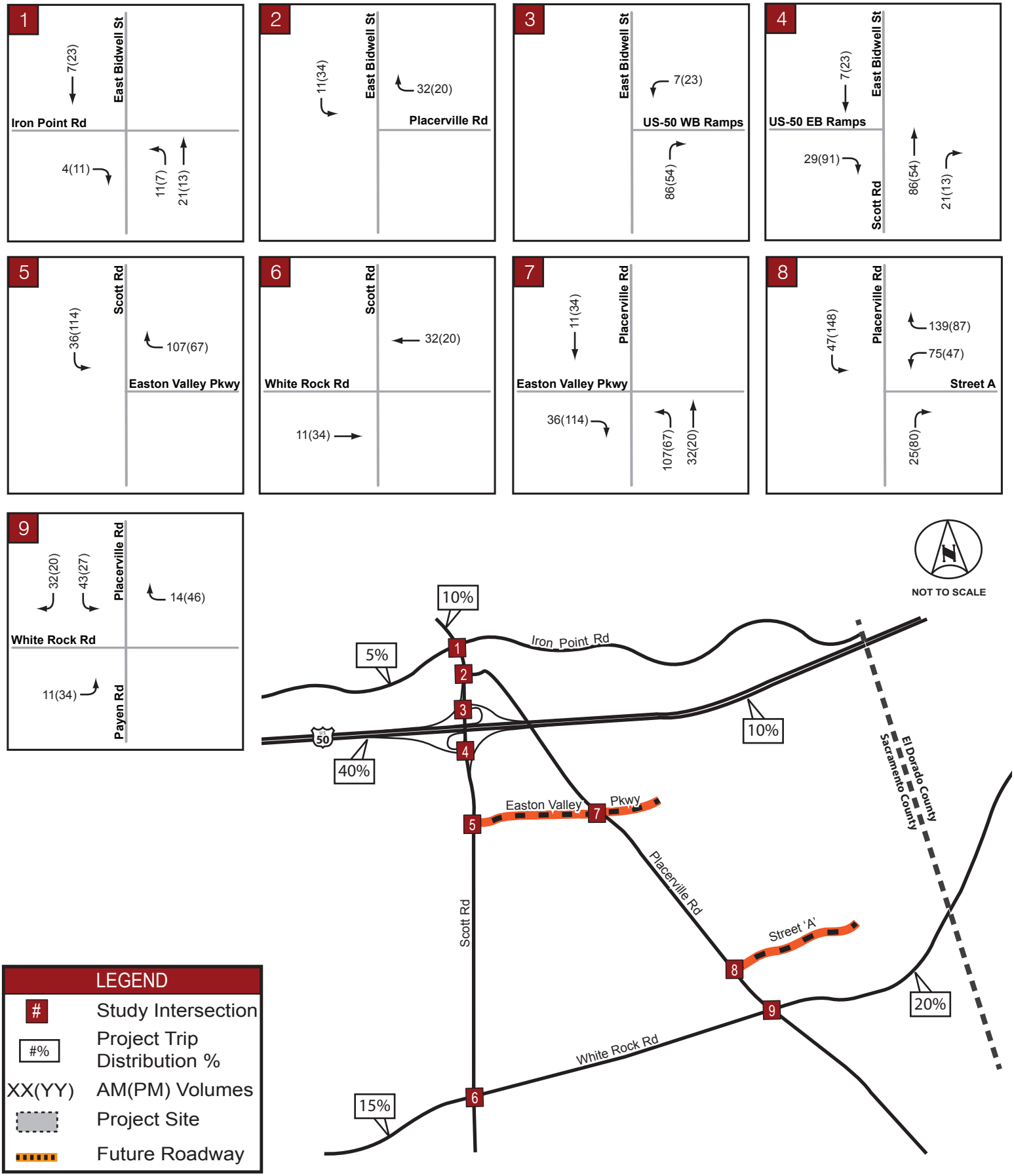

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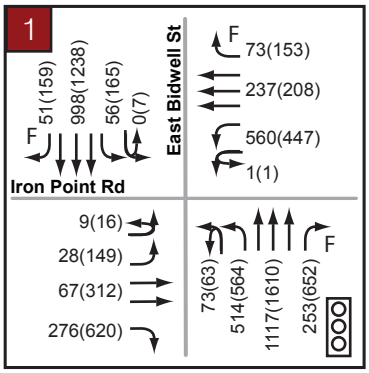
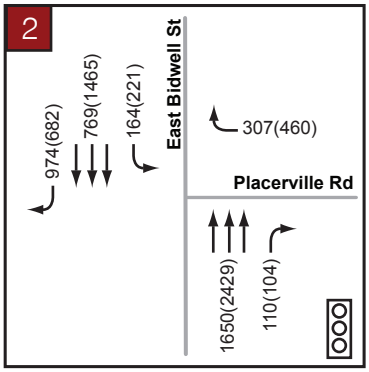
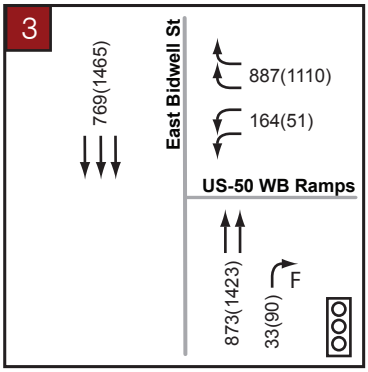
Exhibit 2

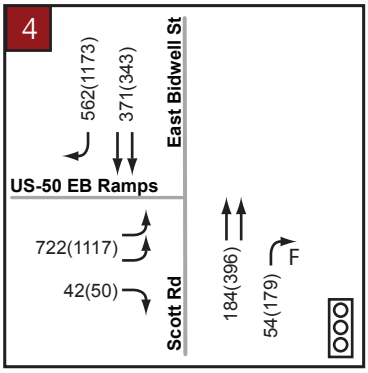
Project Trip Distribution and Peak-Hour Volumes

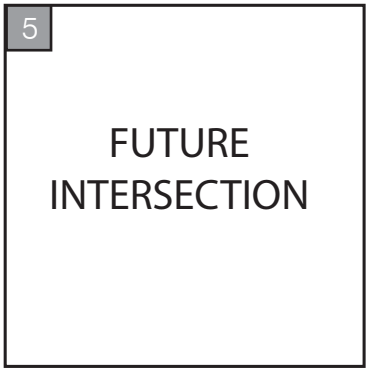
White Rock Springs Ranch (Gragg Ranch) - Traffic Impact Analysis

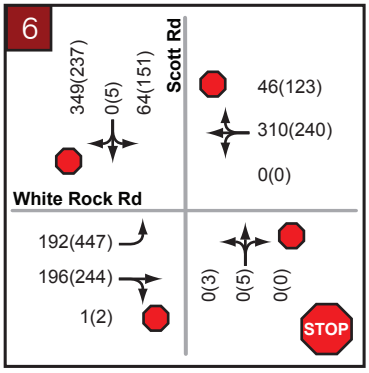


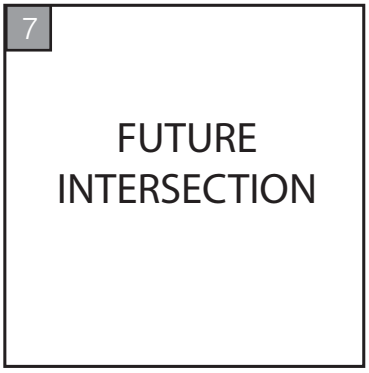


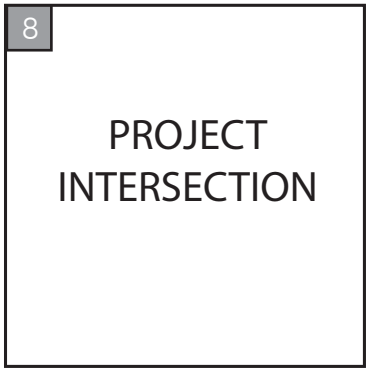


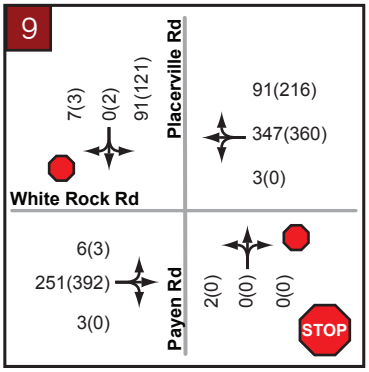


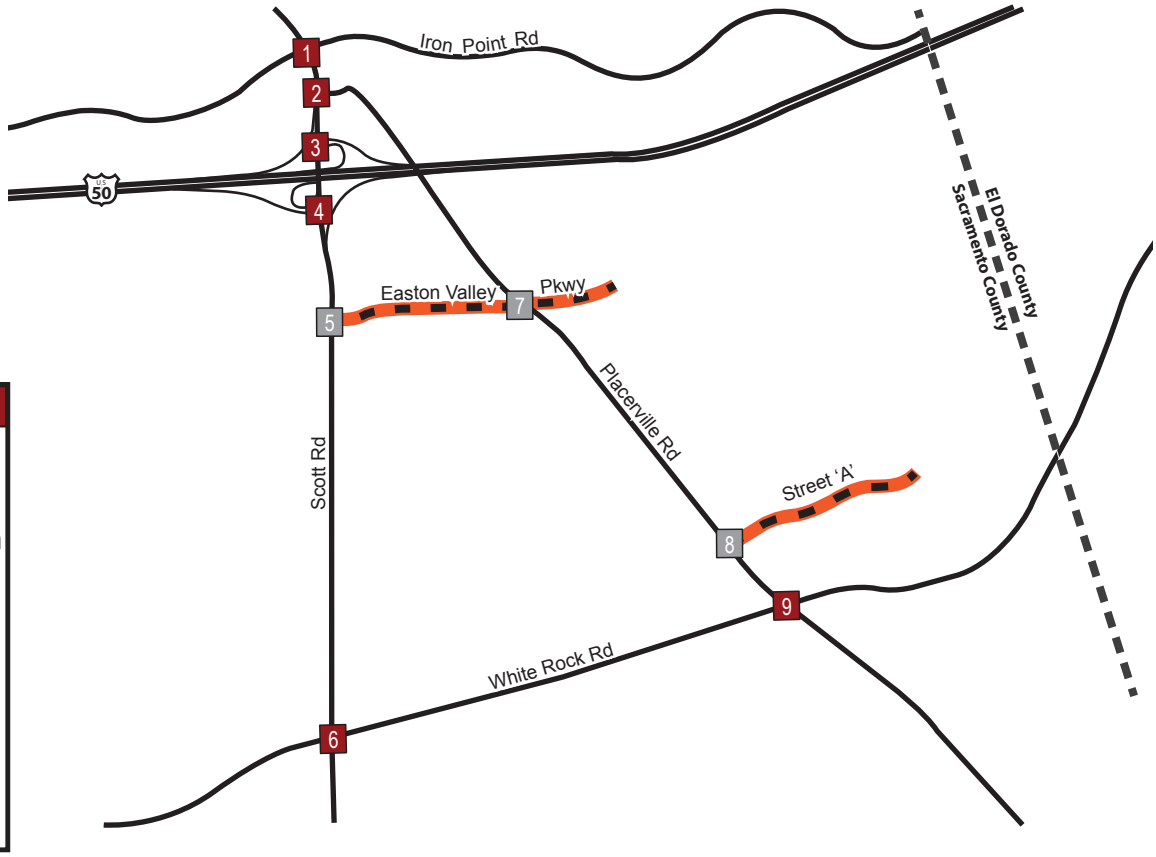












LEGEND	
#	Study Intersection
STOP	Stop Controlled Study Intersection
	Signalized Study Intersection
F	Free Right Turn
XX(YY)	AM(PM) Volumes
	Project Site
	Future Roadway

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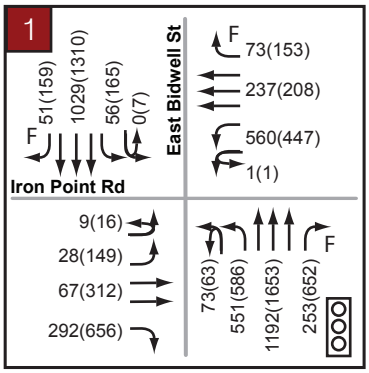
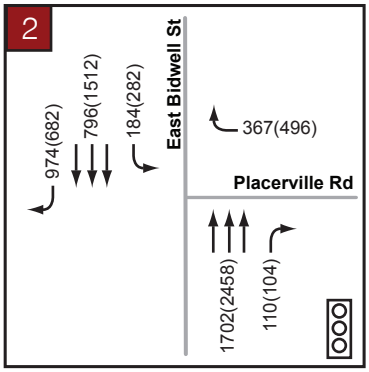
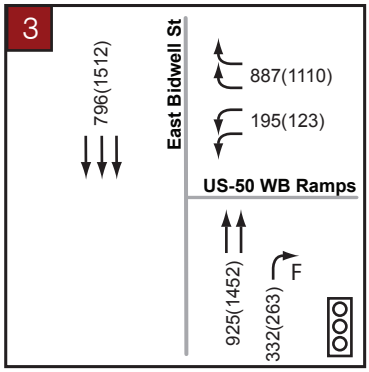
Exhibit 3

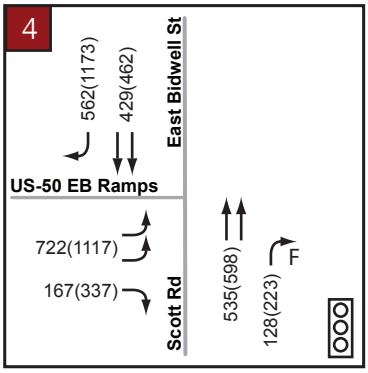
Existing (2015) Traffic Control, Lane Geometries, and Peak-Hour Volumes

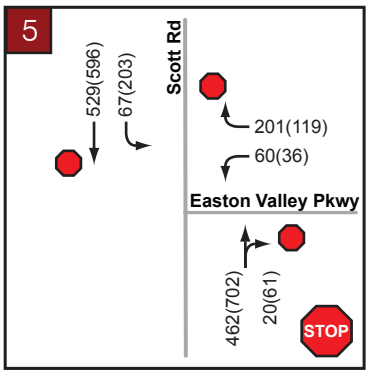
White Rock Springs Ranch (Gragg Ranch) - Traffic Impact Analysis

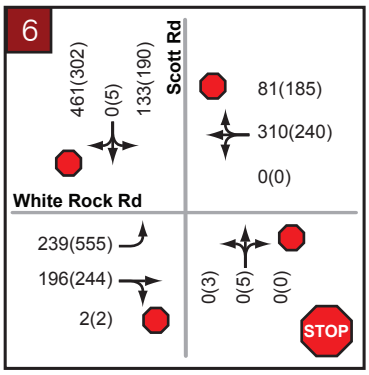


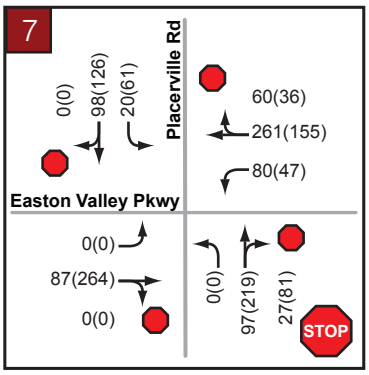


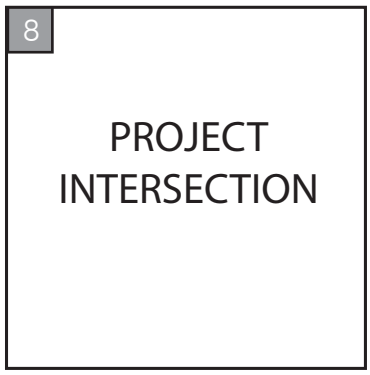


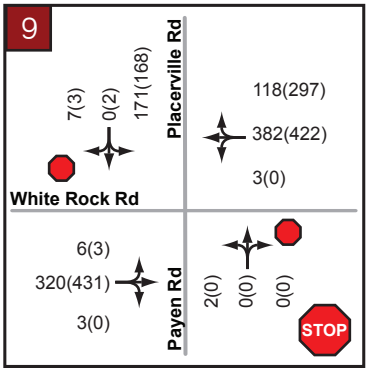




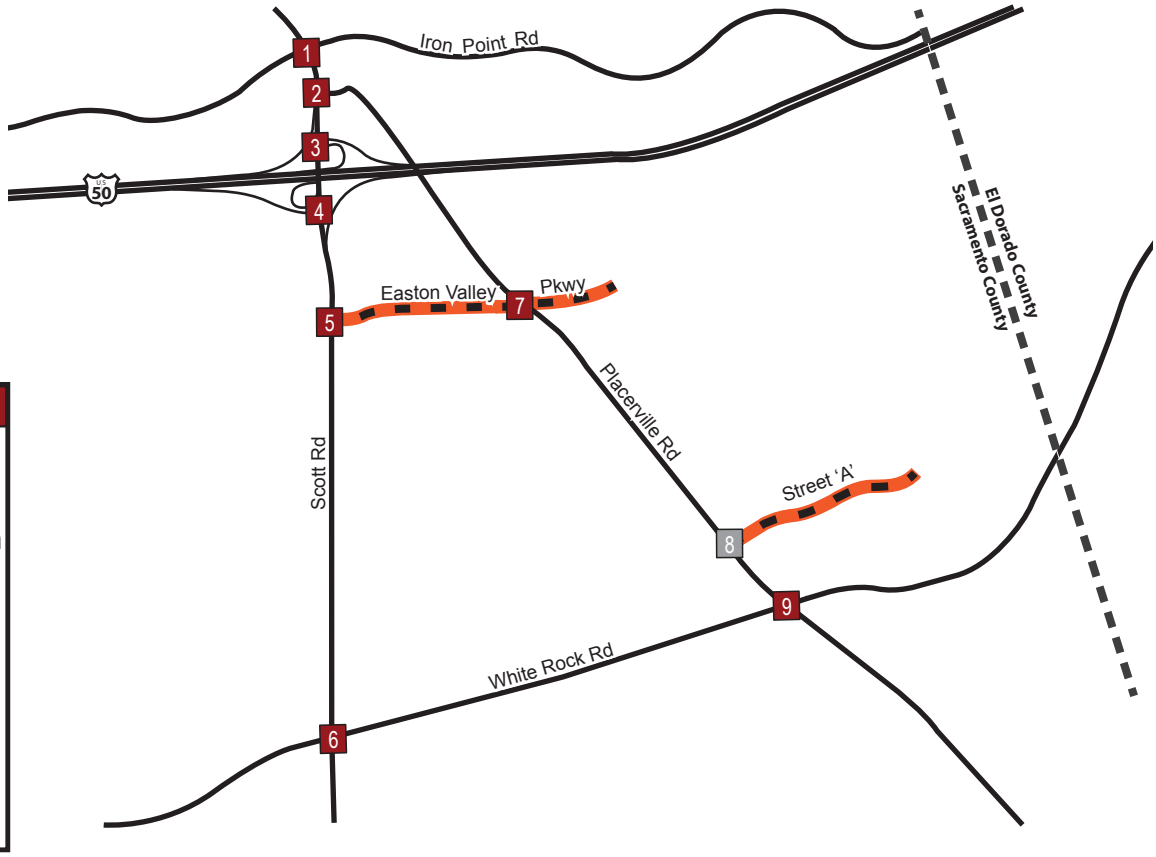








NOT TO SCALE



LEGEND	
#	Study Intersection
STOP	Stop Controlled Study Intersection
	Signalized Study Intersection
F	Free Right Turn
XX(YY)	AM(PM) Volumes
	Project Site
	Future Roadway

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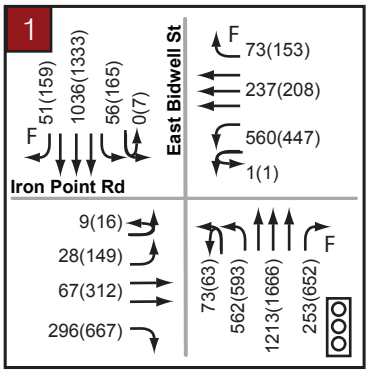
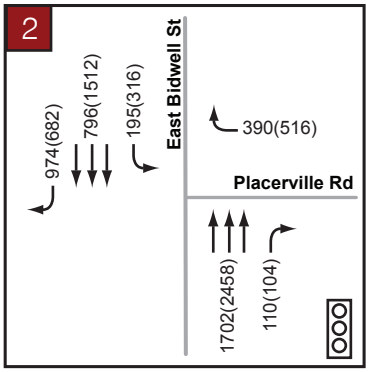
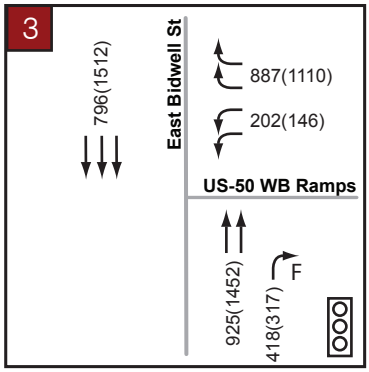
Exhibit 4

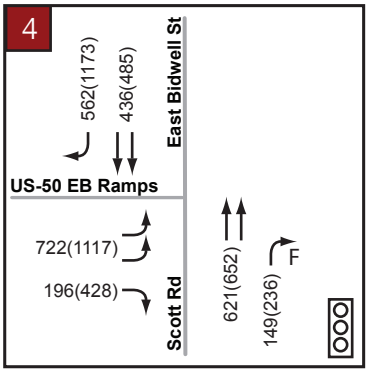
Near-Term Traffic Control, Lane Geometries, and Peak-Hour Volumes

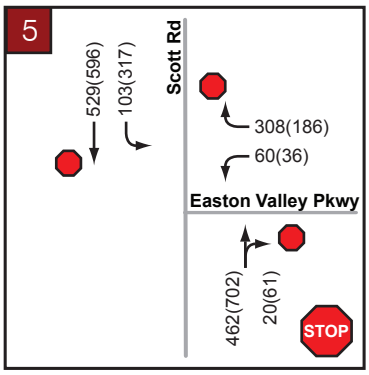
White Rock Springs Ranch (Gragg Ranch) - Traffic Impact Analysis

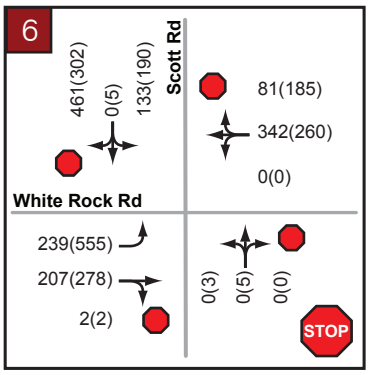


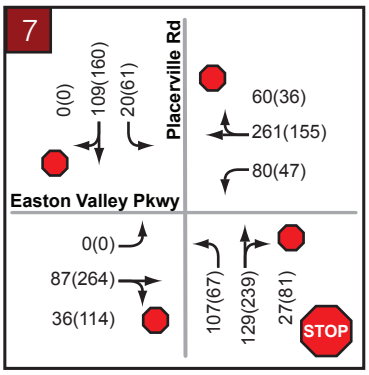


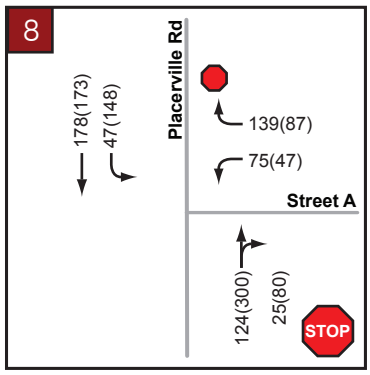


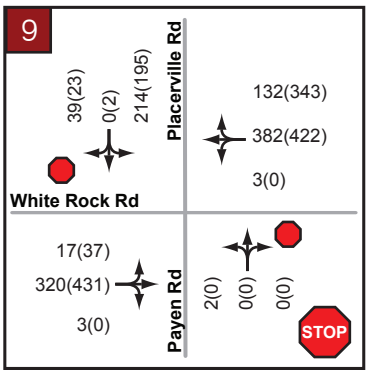


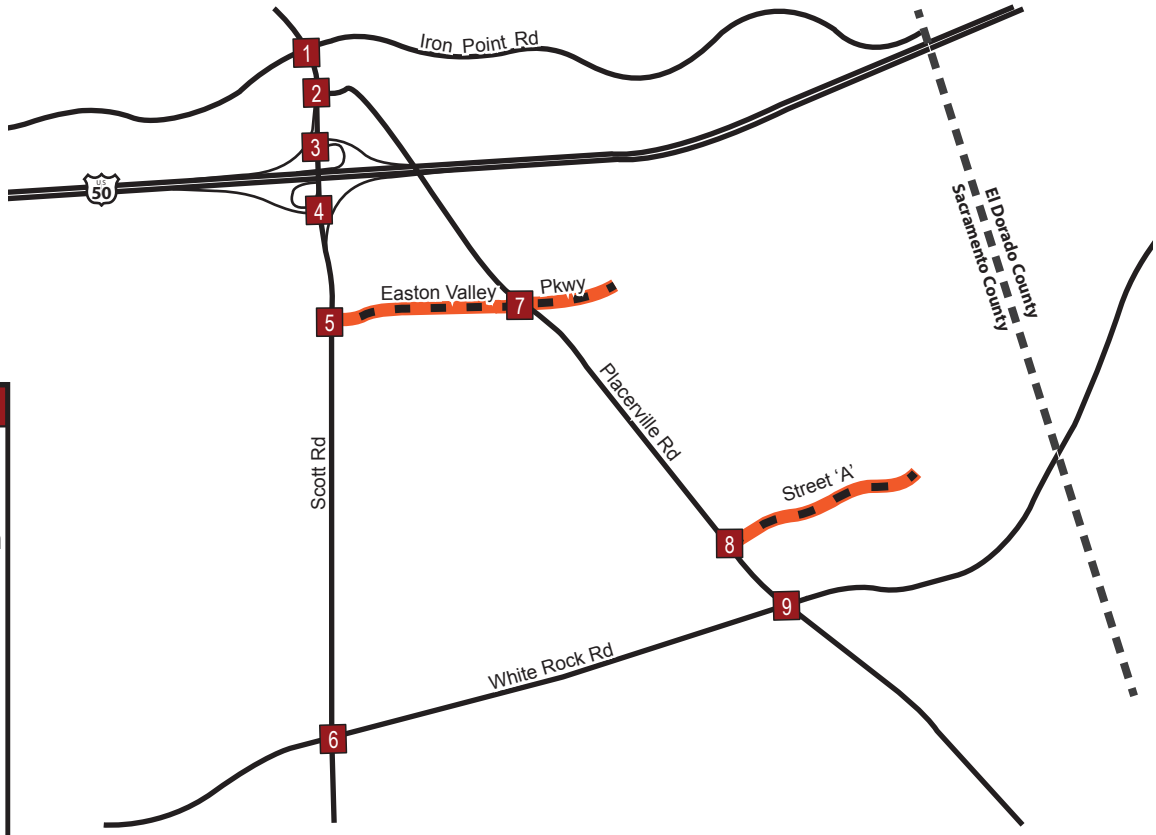












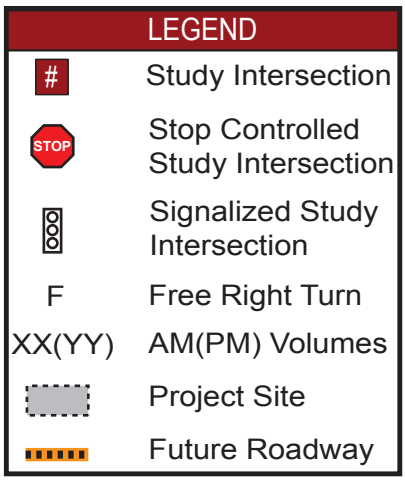


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Exhibit 5

Near-Term Plus Proposed Project Traffic Control, Lane Geometries, and Peak-Hour Volumes

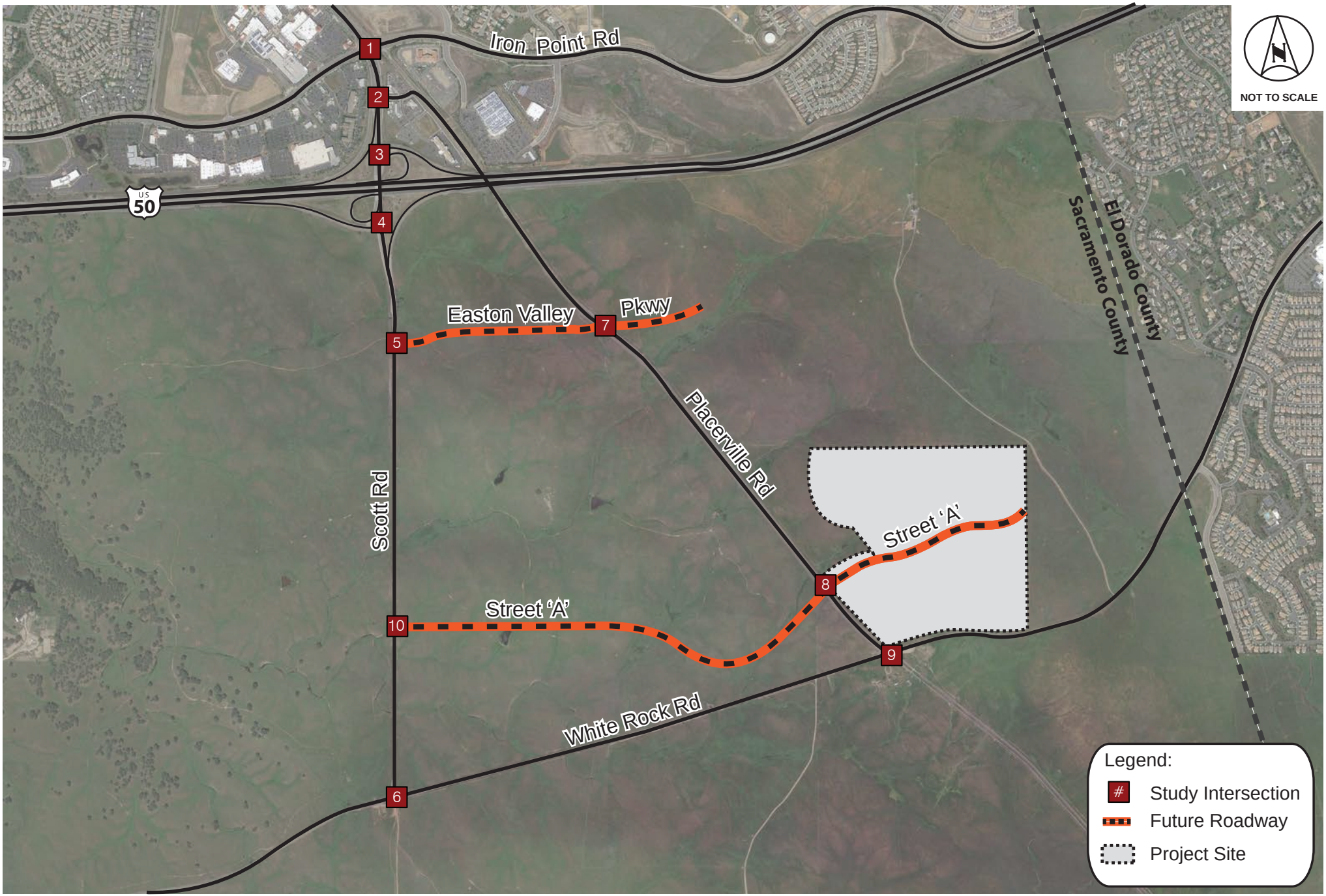

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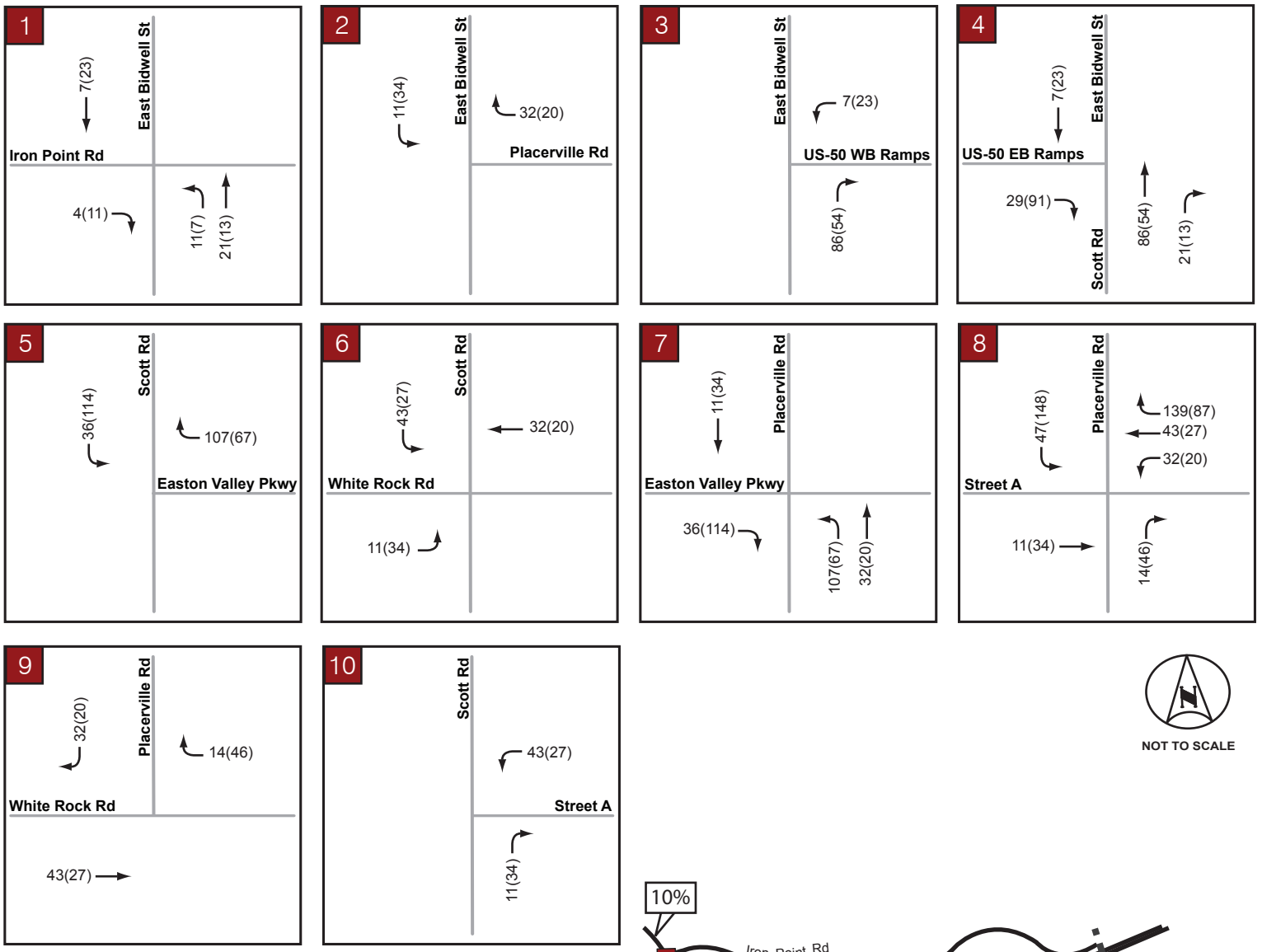
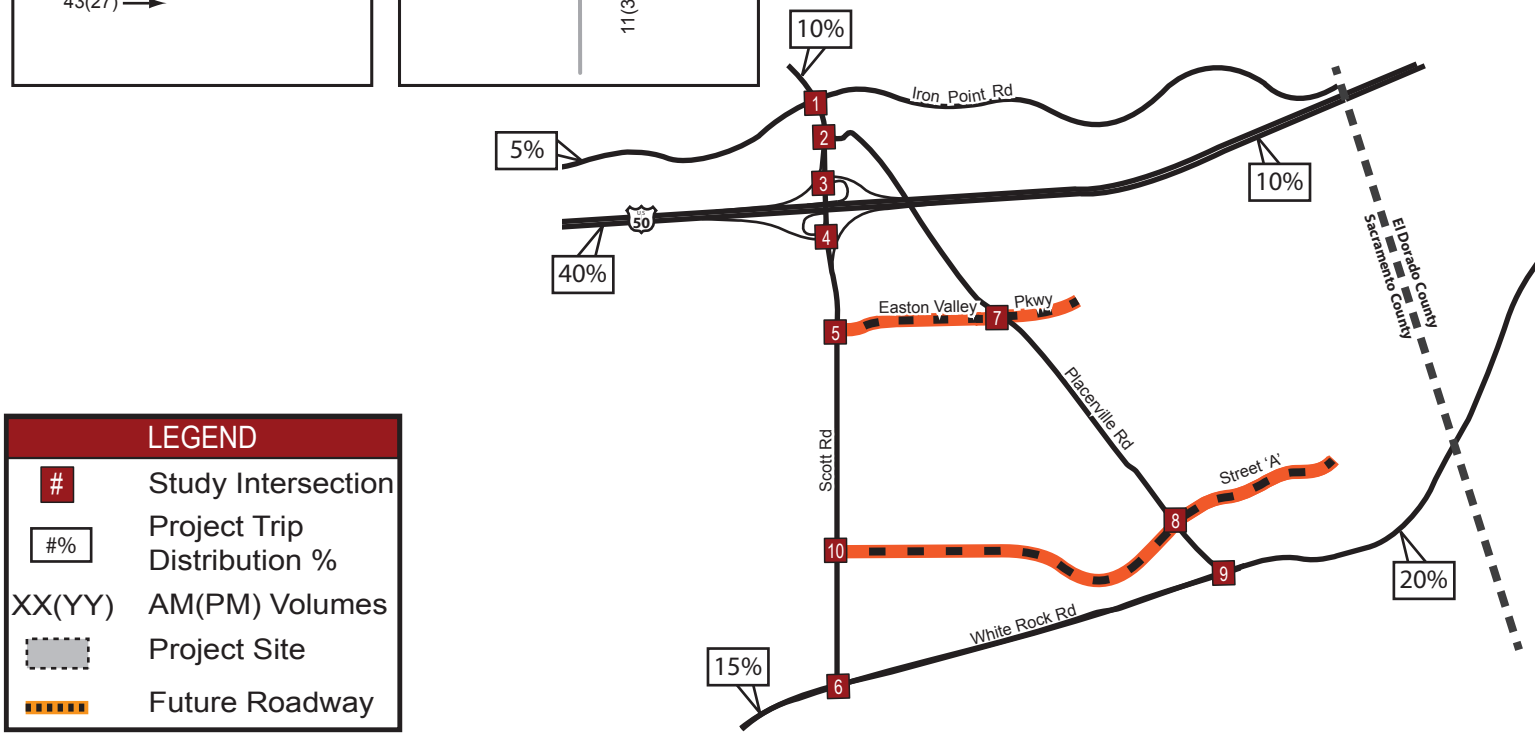
Exhibit 6
Project Vicinity Map (with Connector D3/E1 Phase I)

White Rock Springs Ranch (Gragg Ranch) - Traffic Impact Analysis





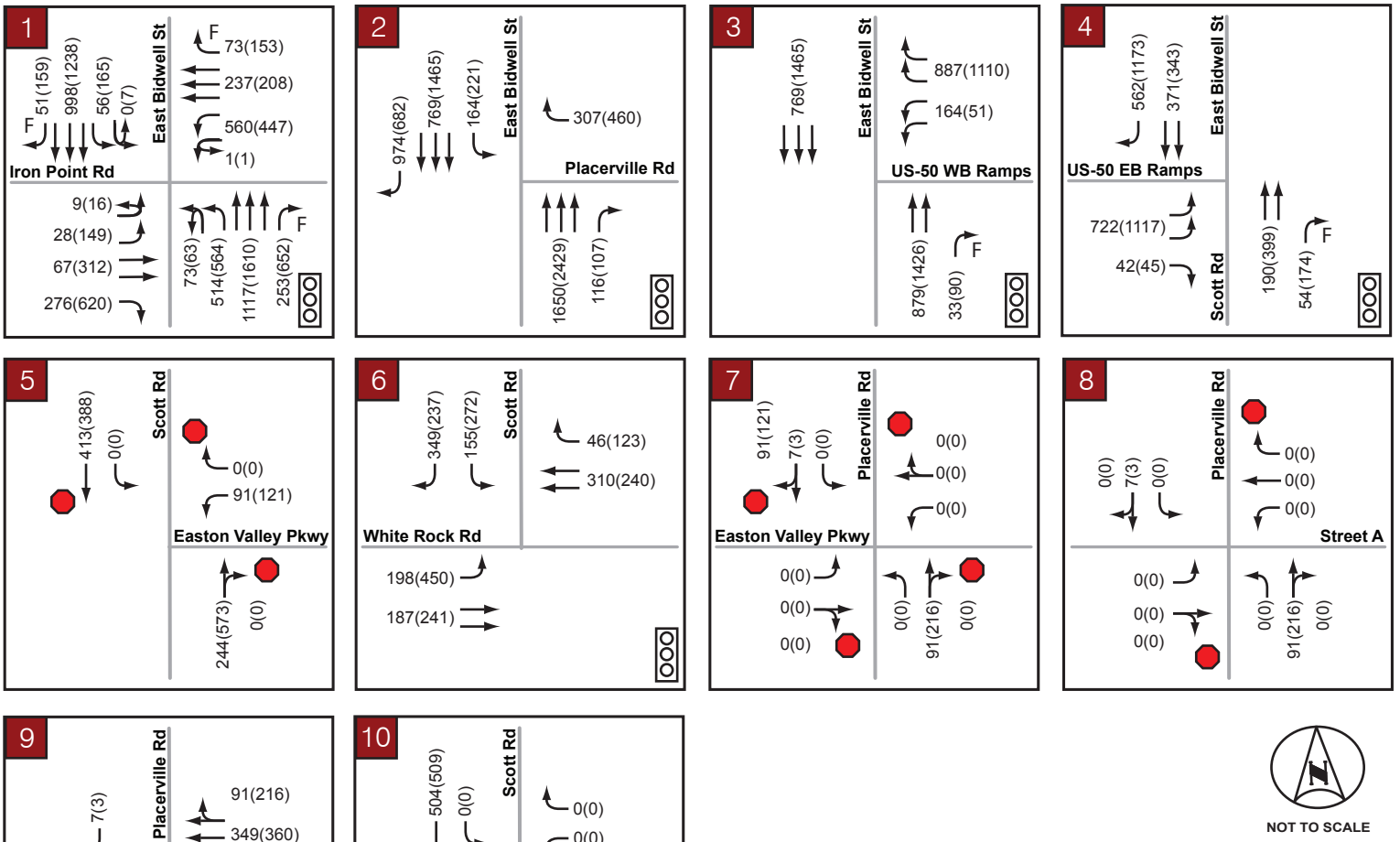
LEGEND	
#	Study Intersection
#%	Project Trip Distribution %
XX(YY)	AM(PM) Volumes
	Project Site
	Future Roadway

Kimley»Horn

Exhibit 7

Project Trip Distribution and Peak-Hour Volumes (with Connector D3/E1 Phase I)

White Rock Springs Ranch (Gragg Ranch) - Traffic Impact Analysis



NOT TO SCALE

LEGEND	
#	Study Intersection
	Stop Controlled Approach
	Signalized Study Intersection
F	Free Right Turn
XX(YY)	AM(PM) Volumes
	Project Site
	Future Roadway

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Exhibit 8

Background Peak-Hour Volumes (with connector D3/E1 Phase I)

White Rock Springs Ranch (Gragg Ranch) - Traffic Impact Analysis

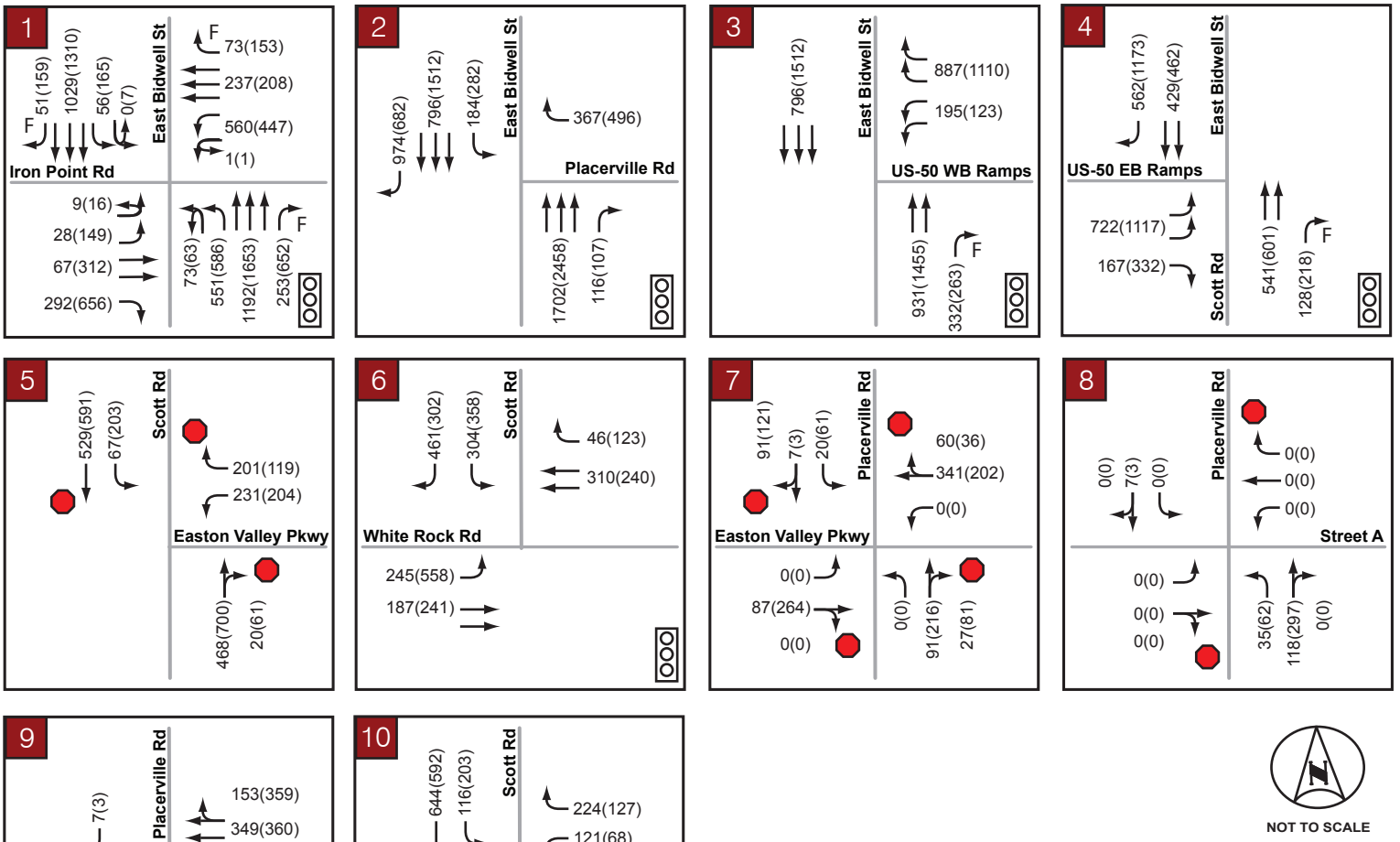
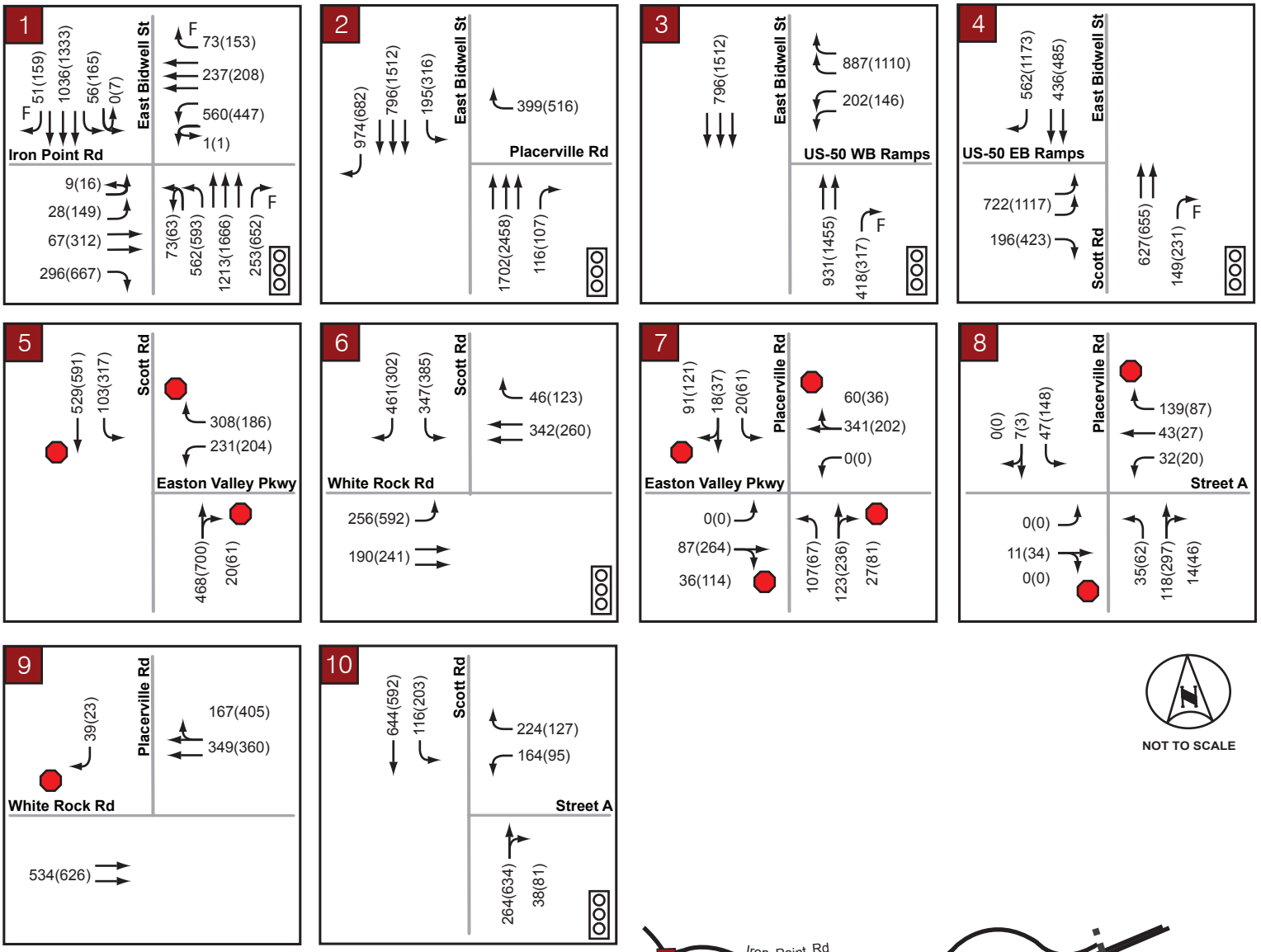


Exhibit 9

Kimley»Horn *Near-Term Traffic Control, Lane Geometries, and Peak-Hour Volumes (with connector D3/E1 Phase I)*

White Rock Springs Ranch (Gragg Ranch) - Traffic Impact Analysis



NOT TO SCALE

LEGEND	
#	Study Intersection
	Stop Controlled Approach
	Signalized Study Intersection
F	Free Right Turn
XX(YY)	AM(PM) Volumes
	Project Site
	Future Roadway

Kimley»Horn

Exhibit 10

Near-Term plus Proposed Project Traffic Control, Lane Geometries, and Peak-Hour Volumes (with connector D3/E1 Phase I)

Appendix A
Analysis Worksheets

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	9	28	67	276	1	560	237	73	73	514	1117	253
Future Volume (vph)	9	28	67	276	1	560	237	73	73	514	1117	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3450	3539	1583		3433	5085	1583		3441	5085	1583
Flt Permitted		0.36	1.00	1.00		0.18	1.00	1.00		0.14	1.00	1.00
Satd. Flow (perm)		1320	3539	1583		660	5085	1583		495	5085	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.88	0.88	0.88	0.88	0.85	0.85	0.85	0.85
Adj. Flow (vph)	10	31	75	310	1	636	269	83	86	605	1314	298
RTOR Reduction (vph)	0	0	0	169	0	0	0	64	0	0	0	129
Lane Group Flow (vph)	0	41	75	141	0	637	269	19	0	691	1314	169
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		11.0	16.9	16.9		21.9	27.8	27.8		29.3	55.9	55.9
Effective Green, g (s)		11.0	16.9	16.9		21.9	27.8	27.8		29.3	55.9	55.9
Actuated g/C Ratio		0.09	0.14	0.14		0.18	0.23	0.23		0.24	0.47	0.47
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		121	498	222		120	1178	366		120	2368	737
v/s Ratio Prot			0.02				0.05				0.26	
v/s Ratio Perm		0.03		c0.09		c0.97		0.01		c1.40		0.11
v/c Ratio		0.34	0.15	0.63		5.31	0.23	0.05		5.76	0.55	0.23
Uniform Delay, d1		51.1	45.2	48.6		49.0	37.4	35.9		45.4	23.1	19.2
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		0.86	0.79	0.58
Incremental Delay, d2		0.6	0.3	8.4		1957.1	0.3	0.2		2156.7	0.8	0.6
Delay (s)		51.7	45.6	57.1		2006.1	37.6	36.0		2195.6	19.1	11.7
Level of Service		D	D	E		F	D	D		F	B	B
Approach Delay (s)			54.5				1305.4				671.2	
Approach LOS			D				F				F	

Intersection Summary			
HCM 2000 Control Delay	598.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.28		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	56	998	51
Future Volume (vph)	56	998	51
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5	5.3	5.3
Lane Util. Factor	0.97	*0.70	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3433	3912	1583
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3433	3912	1583
Peak-hour factor, PHF	0.87	0.87	0.87
Adj. Flow (vph)	64	1147	59
RTOR Reduction (vph)	0	0	43
Lane Group Flow (vph)	64	1147	16
Heavy Vehicles (%)	2%	2%	2%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	5.7	32.3	32.3
Effective Green, g (s)	5.7	32.3	32.3
Actuated g/C Ratio	0.05	0.27	0.27
Clearance Time (s)	4.5	5.3	5.3
Vehicle Extension (s)	2.0	5.1	5.1
Lane Grp Cap (vph)	163	1052	426
v/s Ratio Prot	0.02	c0.29	
v/s Ratio Perm			0.01
v/c Ratio	0.39	1.09	0.04
Uniform Delay, d1	55.5	43.9	32.4
Progression Factor	1.17	0.94	5.19
Incremental Delay, d2	0.6	55.4	0.2
Delay (s)	65.7	96.7	168.2
Level of Service	E	F	F
Approach Delay (s)		98.4	
Approach LOS		F	

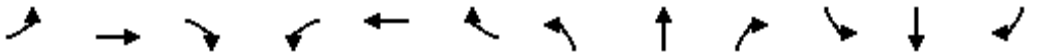
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	307	0	1650	110	164	769	974	0	0
Future Volume (vph)	0	307	0	1650	110	164	769	974	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.92			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4659			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4659			
Peak-hour factor, PHF	0.93	0.93	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	330	0	1897	126	176	827	1047	0	0
RTOR Reduction (vph)	0	16	0	0	28	0	0	0	0	0
Lane Group Flow (vph)	0	314	0	1897	98	176	1874	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		28.3		81.4	81.4	28.3	120.0			
Effective Green, g (s)		28.3		81.4	81.4	28.3	120.0			
Actuated g/C Ratio		0.24		0.68	0.68	0.24	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		379		3449	1073	417	4659			
v/s Ratio Prot		c0.19		c0.37		0.10	0.40			
v/s Ratio Perm					0.06					
v/c Ratio		0.83		0.55	0.09	0.42	0.40			
Uniform Delay, d1		43.5		9.9	6.6	38.9	0.0			
Progression Factor		1.00		1.00	1.00	0.63	1.00			
Incremental Delay, d2		13.2		0.6	0.2	0.0	0.0			
Delay (s)		56.8		10.5	6.8	24.6	0.0			
Level of Service		E		B	A	C	A			
Approach Delay (s)	56.8			10.3			2.1		0.0	
Approach LOS	E			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

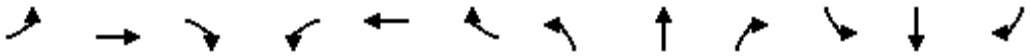
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	164	887	873	33	0	769
Future Volume (vph)	164	887	873	33	0	769
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.99			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3520			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3520			5085
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.94	0.94
Adj. Flow (vph)	184	997	981	37	0	818
RTOR Reduction (vph)	0	55	3	0	0	0
Lane Group Flow (vph)	184	942	1015	0	0	818
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	27.1	27.1	30.2			30.2
Effective Green, g (s)	27.1	27.1	30.2			30.2
Actuated g/C Ratio	0.40	0.40	0.45			0.45
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1376	1117	1572			2271
v/s Ratio Prot	0.05		c0.29			0.16
v/s Ratio Perm		c0.34				
v/c Ratio	0.13	0.84	0.65			0.36
Uniform Delay, d1	12.8	18.3	14.5			12.3
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	5.7	1.5			0.3
Delay (s)	12.8	24.0	16.1			12.6
Level of Service	B	C	B			B
Approach Delay (s)	22.3		16.1			12.6
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	67.6	Sum of lost time (s)	10.3
Intersection Capacity Utilization	64.8%	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)	722	0	42	0	0	0	0	184	54	0	371	562
Future Volume (vph)	722	0	42	0	0	0	0	184	54	0	371	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.97			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3419			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3419			3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.84	0.84	0.84	0.86	0.86	0.86
Adj. Flow (vph)	820	0	48	0	0	0	0	219	64	0	431	653
RTOR Reduction (vph)	0	0	31	0	0	0	0	38	0	0	0	0
Lane Group Flow (vph)	820	0	17	0	0	0	0	245	0	0	431	653
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	14.0		14.0					14.7			14.7	39.0
Effective Green, g (s)	14.0		14.0					14.7			14.7	39.0
Actuated g/C Ratio	0.36		0.36					0.38			0.38	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1232		568					1288			1333	1583
v/s Ratio Prot	c0.24							0.07			0.12	
v/s Ratio Perm			0.01									c0.41
v/c Ratio	0.67		0.03					0.19			0.32	0.41
Uniform Delay, d1	10.5		8.1					8.2			8.6	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	1.1		0.0					0.2			0.4	0.8
Delay (s)	11.6		8.1					8.4			9.0	0.8
Level of Service	B		A					A			A	A
Approach Delay (s)		11.4			0.0			8.4			4.1	
Approach LOS		B			A			A			A	

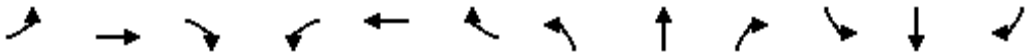
Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	39.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	192	196	2	0	310	46	0	0	0	64	0	349
Future Volume (vph)	192	196	2	0	310	46	0	0	0	64	0	349
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.92	0.92	0.92	0.91	0.91	0.91
Hourly flow rate (vph)	202	206	2	0	330	49	0	0	0	70	0	384

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	202	208	379	0	454
Volume Left (vph)	202	0	0	0	70
Volume Right (vph)	0	2	49	0	384
Hadj (s)	0.53	0.03	-0.04	0.00	-0.44
Departure Headway (s)	7.1	6.6	6.1	7.3	5.6
Degree Utilization, x	0.40	0.38	0.64	0.00	0.71
Capacity (veh/h)	481	521	571	900	454
Control Delay (s)	13.6	12.4	19.2	10.3	20.9
Approach Delay (s)	13.0		19.2	0.0	20.9
Approach LOS	B		C	A	C

Intersection Summary				
Delay	17.8			
Level of Service	C			
Intersection Capacity Utilization	64.8%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	251	3	3	347	91	2	0	0	91	0	7
Future Volume (Veh/h)	6	251	3	3	347	91	2	0	0	91	0	7
Sign Control		Free			Free			Yield			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.95	0.95	0.95	0.70	0.70	0.70	0.78	0.78	0.78
Hourly flow rate (vph)	7	276	3	3	365	96	3	0	0	117	0	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	461			279			720	758	278	710	712	413
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	461			279			720	758	278	710	712	413
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	100	100	66	100	99
cM capacity (veh/h)	1100			1284			336	333	761	346	355	639

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	286	464	3	126
Volume Left	7	3	3	117
Volume Right	3	96	0	9
cSH	1100	1284	336	358
Volume to Capacity	0.01	0.00	0.01	0.35
Queue Length 95th (ft)	0	0	1	39
Control Delay (s)	0.3	0.1	15.8	20.4
Lane LOS	A	A	C	C
Approach Delay (s)	0.3	0.1	15.8	20.4
Approach LOS			C	C

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	16	149	312	620	1	447	208	153	63	564	1610	652
Future Volume (vph)	16	149	312	620	1	447	208	153	63	564	1610	652
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3440	3539	1583		3433	5085	1583		3440	5085	1583
Flt Permitted		0.13	1.00	1.00		0.13	1.00	1.00		0.10	1.00	1.00
Satd. Flow (perm)		472	3539	1583		471	5085	1583		374	5085	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.84	0.84	0.84	0.84	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	155	325	646	1	532	248	182	68	606	1731	701
RTOR Reduction (vph)	0	0	0	222	0	0	0	150	0	0	0	234
Lane Group Flow (vph)	0	172	325	424	0	533	248	32	0	674	1731	467
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Effective Green, g (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Actuated g/C Ratio		0.19	0.18	0.18		0.19	0.18	0.18		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		90	625	279		90	899	279		90	1357	422
v/s Ratio Prot			0.09				0.05				0.34	
v/s Ratio Perm		0.36		c0.27		c1.13		0.02		c1.80		0.30
v/c Ratio		1.91	0.52	1.52		5.92	0.28	0.12		7.49	1.28	1.11
Uniform Delay, d1		64.7	59.7	65.8		64.7	57.0	55.3		60.6	58.6	58.6
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.20	0.82	0.63
Incremental Delay, d2		448.4	1.6	251.0		2238.8	0.4	0.5		2933.9	127.6	67.3
Delay (s)		513.0	61.3	316.9		2303.5	57.4	55.8		3006.8	175.8	104.1
Level of Service		F	E	F		F	E	E		F	F	F
Approach Delay (s)			273.7				1300.2				773.9	
Approach LOS			F				F				F	

Intersection Summary			
HCM 2000 Control Delay	626.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.04		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	109.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	7	165	1238	159
Future Volume (vph)	7	165	1238	159
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3
Lane Util. Factor		0.97	*0.70	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		3436	3912	1583
Flt Permitted		0.10	1.00	1.00
Satd. Flow (perm)		374	3912	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	181	1360	175
RTOR Reduction (vph)	0	0	0	111
Lane Group Flow (vph)	0	189	1360	64
Heavy Vehicles (%)	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm
Protected Phases		1	6	
Permitted Phases	1			6
Actuated Green, G (s)		38.7	42.7	42.7
Effective Green, g (s)		38.7	42.7	42.7
Actuated g/C Ratio		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.1	5.1
Lane Grp Cap (vph)		90	1044	422
v/s Ratio Prot			c0.35	
v/s Ratio Perm		0.51		0.04
v/c Ratio		2.10	1.30	0.15
Uniform Delay, d1		60.6	58.6	44.8
Progression Factor		1.22	0.79	0.57
Incremental Delay, d2		530.1	143.2	0.8
Delay (s)		603.8	189.5	26.1
Level of Service		F	F	C
Approach Delay (s)			218.4	
Approach LOS			F	

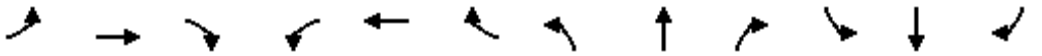
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	460	0	2429	104	221	1465	682	0	0
Future Volume (vph)	0	460	0	2429	104	221	1465	682	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4843			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4843			
Peak-hour factor, PHF	0.91	0.91	0.98	0.98	0.98	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	505	0	2479	106	238	1575	733	0	0
RTOR Reduction (vph)	0	11	0	0	17	0	0	0	0	0
Lane Group Flow (vph)	0	494	0	2479	89	238	2308	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		53.5		96.2	96.2	53.5	160.0			
Effective Green, g (s)		53.5		96.2	96.2	53.5	160.0			
Actuated g/C Ratio		0.33		0.60	0.60	0.33	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		538		3057	951	591	4843			
v/s Ratio Prot		c0.31		c0.49		0.13	0.48			
v/s Ratio Perm					0.06					
v/c Ratio		0.92		0.81	0.09	0.40	0.48			
Uniform Delay, d1		51.2		24.8	13.5	41.0	0.0			
Progression Factor		1.00		1.00	1.00	0.93	1.00			
Incremental Delay, d2		20.4		2.5	0.2	0.0	0.0			
Delay (s)		71.5		27.3	13.7	38.0	0.0			
Level of Service		E		C	B	D	A			
Approach Delay (s)	71.5			26.7			3.6		0.0	
Approach LOS	E			C			A		A	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

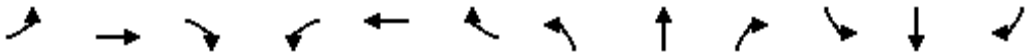
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	1110	1423	90	0	1465
Future Volume (vph)	51	1110	1423	90	0	1465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.99			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3508			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3508			5085
Peak-hour factor, PHF	0.98	0.98	0.97	0.97	0.94	0.94
Adj. Flow (vph)	52	1133	1467	93	0	1559
RTOR Reduction (vph)	0	10	6	0	0	0
Lane Group Flow (vph)	52	1123	1554	0	0	1559
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	33.5	33.5	34.8			34.8
Effective Green, g (s)	33.5	33.5	34.8			34.8
Actuated g/C Ratio	0.43	0.43	0.44			0.44
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1463	1187	1553			2251
v/s Ratio Prot	0.02		c0.44			0.31
v/s Ratio Perm		c0.40				
v/c Ratio	0.04	0.95	1.00			0.69
Uniform Delay, d1	13.1	21.7	21.9			17.6
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	14.7	23.1			1.4
Delay (s)	13.1	36.4	45.0			19.0
Level of Service	B	D	D			B
Approach Delay (s)	35.4		45.0			19.0
Approach LOS	D		D			B

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	78.6	Sum of lost time (s)	10.3
Intersection Capacity Utilization	89.6%	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)	1117	0	50	0	0	0	0	396	179	0	343	1173
Future Volume (vph)	1117	0	50	0	0	0	0	396	179	0	343	1173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.95			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3374			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3374			3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1164	0	52	0	0	0	0	421	190	0	365	1248
RTOR Reduction (vph)	0	0	29	0	0	0	0	74	0	0	0	0
Lane Group Flow (vph)	1164	0	23	0	0	0	0	537	0	0	365	1248
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	22.6		22.6					19.2			19.2	52.1
Effective Green, g (s)	22.6		22.6					19.2			19.2	52.1
Actuated g/C Ratio	0.43		0.43					0.37			0.37	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1489		686					1243			1304	1583
v/s Ratio Prot	0.34							0.16			0.10	
v/s Ratio Perm			0.01									c0.79
v/c Ratio	0.78		0.03					0.43			0.28	0.79
Uniform Delay, d1	12.6		8.5					12.4			11.6	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	2.5		0.0					0.7			0.3	4.1
Delay (s)	15.2		8.5					13.1			11.9	4.1
Level of Service	B		A					B			B	A
Approach Delay (s)		14.9			0.0			13.1			5.8	
Approach LOS		B			A			B			A	

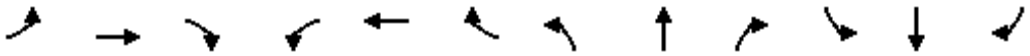
Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	52.1	Sum of lost time (s)	10.3
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	447	244	2	0	240	123	3	5	0	151	5	237
Future Volume (vph)	447	244	2	0	240	123	3	5	0	151	5	237
Peak Hour Factor	0.89	0.89	0.89	0.98	0.98	0.98	0.70	0.70	0.70	0.92	0.92	0.92
Hourly flow rate (vph)	502	274	2	0	245	126	4	7	0	164	5	258

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	502	276	371	11	427
Volume Left (vph)	502	0	0	4	164
Volume Right (vph)	0	2	126	0	258
Hadj (s)	0.53	0.03	-0.17	0.11	-0.25
Departure Headway (s)	7.3	6.8	6.4	8.3	6.4
Degree Utilization, x	1.00	0.52	0.66	0.03	0.75
Capacity (veh/h)	502	519	542	367	427
Control Delay (s)	66.4	15.7	21.1	11.5	26.2
Approach Delay (s)	48.4		21.1	11.5	26.2
Approach LOS	E		C	B	D

Intersection Summary				
Delay	35.8			
Level of Service	E			
Intersection Capacity Utilization	84.7%	ICU Level of Service	E	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	392	0	0	360	216	0	0	0	121	2	3
Future Volume (Veh/h)	3	392	0	0	360	216	0	0	0	121	2	3
Sign Control		Free			Free			Yield			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.86	0.86	0.86	0.92	0.92	0.92	0.76	0.76	0.76
Hourly flow rate (vph)	3	445	0	0	419	251	0	0	0	159	3	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	670			445			1001	1121	445	996	996	544
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	670			445			1001	1121	445	996	996	544
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	29	99	99
cM capacity (veh/h)	920			1115			217	206	613	223	244	539

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	448	670	0	166
Volume Left	3	0	0	159
Volume Right	0	251	0	4
cSH	920	1115	1700	226
Volume to Capacity	0.00	0.00	0.00	0.73
Queue Length 95th (ft)	0	0	0	124
Control Delay (s)	0.1	0.0	0.0	54.9
Lane LOS	A		A	F
Approach Delay (s)	0.1	0.0	0.0	54.9
Approach LOS			A	F

Intersection Summary				
Average Delay	7.1			
Intersection Capacity Utilization	45.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	9	28	67	292	1	560	237	73	73	551	1192	253
Future Volume (vph)	9	28	67	292	1	560	237	73	73	551	1192	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3450	3539	1583		3433	5085	1583		3441	5085	1583
Flt Permitted		0.36	1.00	1.00		0.18	1.00	1.00		0.14	1.00	1.00
Satd. Flow (perm)		1320	3539	1583		660	5085	1583		507	5085	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.88	0.88	0.88	0.88	0.85	0.85	0.85	0.85
Adj. Flow (vph)	10	31	75	328	1	636	269	83	86	648	1402	298
RTOR Reduction (vph)	0	0	0	168	0	0	0	63	0	0	0	122
Lane Group Flow (vph)	0	41	75	160	0	637	269	20	0	734	1402	176
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		11.0	17.6	17.6		21.9	28.5	28.5		28.6	55.2	55.2
Effective Green, g (s)		11.0	17.6	17.6		21.9	28.5	28.5		28.6	55.2	55.2
Actuated g/C Ratio		0.09	0.15	0.15		0.18	0.24	0.24		0.24	0.46	0.46
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		121	519	232		120	1207	375		120	2339	728
v/s Ratio Prot			0.02				0.05				0.28	
v/s Ratio Perm		0.03		c0.10		c0.97		0.01		c1.45		0.11
v/c Ratio		0.34	0.14	0.69		5.31	0.22	0.05		6.12	0.60	0.24
Uniform Delay, d1		51.1	44.6	48.6		49.0	36.8	35.3		45.7	24.2	19.7
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		0.86	0.72	0.28
Incremental Delay, d2		0.6	0.3	11.0		1957.1	0.2	0.1		2317.0	0.9	0.6
Delay (s)		51.7	44.9	59.6		2006.1	37.1	35.5		2356.4	18.4	6.2
Level of Service		D	D	E		F	D	D		F	B	A
Approach Delay (s)			56.4				1305.2				721.9	
Approach LOS			E				F				F	

Intersection Summary			
HCM 2000 Control Delay	621.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	56	1029	51
Future Volume (vph)	56	1029	51
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5	5.3	5.3
Lane Util. Factor	0.97	*0.70	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3433	3912	1583
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3433	3912	1583
Peak-hour factor, PHF	0.87	0.87	0.87
Adj. Flow (vph)	64	1183	59
RTOR Reduction (vph)	0	0	43
Lane Group Flow (vph)	64	1183	16
Heavy Vehicles (%)	2%	2%	2%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	5.7	32.3	32.3
Effective Green, g (s)	5.7	32.3	32.3
Actuated g/C Ratio	0.05	0.27	0.27
Clearance Time (s)	4.5	5.3	5.3
Vehicle Extension (s)	2.0	5.1	5.1
Lane Grp Cap (vph)	163	1052	426
v/s Ratio Prot	0.02	c0.30	
v/s Ratio Perm			0.01
v/c Ratio	0.39	1.12	0.04
Uniform Delay, d1	55.5	43.9	32.4
Progression Factor	1.18	0.94	5.06
Incremental Delay, d2	0.6	68.4	0.2
Delay (s)	66.2	109.8	164.1
Level of Service	E	F	F
Approach Delay (s)		110.1	
Approach LOS		F	

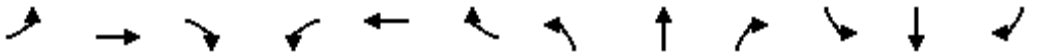
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	367	0	1702	110	184	796	974	0	0
Future Volume (vph)	0	367	0	1702	110	184	796	974	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.92			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4666			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4666			
Peak-hour factor, PHF	0.93	0.93	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	395	0	1956	126	198	856	1047	0	0
RTOR Reduction (vph)	0	15	0	0	30	0	0	0	0	0
Lane Group Flow (vph)	0	380	0	1956	96	198	1903	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		33.2		76.5	76.5	33.2	120.0			
Effective Green, g (s)		33.2		76.5	76.5	33.2	120.0			
Actuated g/C Ratio		0.28		0.64	0.64	0.28	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		445		3241	1009	489	4666			
v/s Ratio Prot		c0.24		c0.38		0.11	0.41			
v/s Ratio Perm					0.06					
v/c Ratio		0.85		0.60	0.09	0.40	0.41			
Uniform Delay, d1		41.1		12.8	8.4	35.4	0.0			
Progression Factor		1.00		1.00	1.00	0.59	1.00			
Incremental Delay, d2		14.2		0.8	0.2	0.0	0.0			
Delay (s)		55.3		13.7	8.6	20.7	0.0			
Level of Service		E		B	A	C	A			
Approach Delay (s)	55.3			13.3			2.0		0.0	
Approach LOS	E			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	195	887	925	332	0	796
Future Volume (vph)	195	887	925	332	0	796
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3399			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3399			5085
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.94	0.94
Adj. Flow (vph)	219	997	1039	373	0	847
RTOR Reduction (vph)	0	46	42	0	0	0
Lane Group Flow (vph)	219	951	1370	0	0	847
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	28.7	28.7	34.7			34.7
Effective Green, g (s)	28.7	28.7	34.7			34.7
Actuated g/C Ratio	0.39	0.39	0.47			0.47
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1336	1085	1600			2394
v/s Ratio Prot	0.06		c0.40			0.17
v/s Ratio Perm		c0.34				
v/c Ratio	0.16	0.88	0.86			0.35
Uniform Delay, d1	14.7	20.9	17.3			12.4
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	7.9	5.5			0.3
Delay (s)	14.7	28.7	22.7			12.6
Level of Service	B	C	C			B
Approach Delay (s)	26.2		22.7			12.6
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	73.7	Sum of lost time (s)	10.3
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



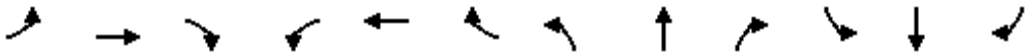
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	722	0	167	0	0	0	0	535	128	0	429	562
Future Volume (vph)	722	0	167	0	0	0	0	535	128	0	429	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.97			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3437			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3437			3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.84	0.84	0.84	0.86	0.86	0.86
Adj. Flow (vph)	820	0	190	0	0	0	0	637	152	0	499	653
RTOR Reduction (vph)	0	0	125	0	0	0	0	26	0	0	0	0
Lane Group Flow (vph)	820	0	65	0	0	0	0	763	0	0	499	653
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	17.7		17.7					23.5			23.5	51.5
Effective Green, g (s)	17.7		17.7					23.5			23.5	51.5
Actuated g/C Ratio	0.34		0.34					0.46			0.46	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1179		544					1568			1614	1583
v/s Ratio Prot	c0.24							0.22			0.14	
v/s Ratio Perm			0.04									c0.41
v/c Ratio	0.70		0.12					0.49			0.31	0.41
Uniform Delay, d1	14.6		11.6					9.8			8.9	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	1.5		0.0					0.7			0.3	0.8
Delay (s)	16.0		11.6					10.5			9.2	0.8
Level of Service	B		B					B			A	A
Approach Delay (s)		15.2			0.0			10.5			4.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	51.5	Sum of lost time (s)	10.3
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	60	201	462	20	67	529
Future Volume (vph)	60	201	462	20	67	529
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	218	502	22	73	575

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	65	218	524	73	575
Volume Left (vph)	65	0	0	73	0
Volume Right (vph)	0	218	22	0	0
Hadj (s)	0.53	-0.67	0.01	0.53	0.03
Departure Headway (s)	8.0	6.8	6.2	6.9	6.4
Degree Utilization, x	0.15	0.41	0.91	0.14	1.00
Capacity (veh/h)	437	514	565	514	575
Control Delay (s)	11.2	13.4	42.8	9.8	61.6
Approach Delay (s)	12.9		42.8	55.8	
Approach LOS	B		E	F	

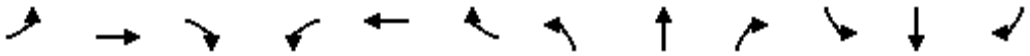
Intersection Summary			
Delay	42.8		
Level of Service	E		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	239	196	2	0	310	81	0	0	0	133	0	461
Future Volume (vph)	239	196	2	0	310	81	0	0	0	133	0	461
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.92	0.92	0.92	0.91	0.91	0.91
Hourly flow rate (vph)	252	206	2	0	330	86	0	0	0	146	0	507

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	252	208	416	0	653
Volume Left (vph)	252	0	0	0	146
Volume Right (vph)	0	2	86	0	507
Hadj (s)	0.53	0.03	-0.09	0.00	-0.39
Departure Headway (s)	7.8	7.3	6.7	8.3	6.0
Degree Utilization, x	0.55	0.42	0.77	0.00	1.00
Capacity (veh/h)	449	484	527	900	653
Control Delay (s)	18.8	14.4	28.5	11.3	61.1
Approach Delay (s)	16.8		28.5	0.0	61.1
Approach LOS	C		D	A	F

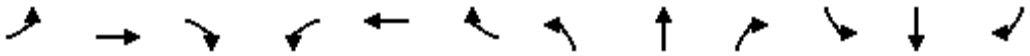
Intersection Summary				
Delay	38.9			
Level of Service	E			
Intersection Capacity Utilization	80.3%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	87	0	80	261	60	0	97	27	20	98	0
Future Volume (vph)	0	87	0	80	261	60	0	97	27	20	98	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	95	0	87	284	65	0	105	29	22	107	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	95	87	349	0	134	22	107
Volume Left (vph)	0	0	87	0	0	0	22	0
Volume Right (vph)	0	0	0	65	0	29	0	0
Hadj (s)	0.00	0.03	0.53	-0.10	0.00	-0.12	0.53	0.03
Departure Headway (s)	5.8	5.9	6.0	5.3	6.1	6.0	6.7	6.2
Degree Utilization, x	0.00	0.16	0.14	0.52	0.00	0.22	0.04	0.18
Capacity (veh/h)	900	572	577	655	900	555	497	540
Control Delay (s)	7.6	8.8	8.8	12.7	7.9	9.5	8.8	9.3
Approach Delay (s)	8.8		11.9		9.5		9.2	
Approach LOS	A		B		A		A	

Intersection Summary				
Delay	10.7			
Level of Service	B			
Intersection Capacity Utilization	37.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	320	3	3	382	118	2	0	0	171	0	7
Future Volume (Veh/h)	6	320	3	3	382	118	2	0	0	171	0	7
Sign Control		Free			Free			Yield			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.95	0.95	0.95	0.70	0.70	0.70	0.78	0.78	0.78
Hourly flow rate (vph)	7	352	3	3	402	124	3	0	0	219	0	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	526			355			846	900	354	838	839	464
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	526			355			846	900	354	838	839	464
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	100	100	23	100	98
cM capacity (veh/h)	1041			1204			276	276	690	284	299	598

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	362	529	3	228
Volume Left	7	3	3	219
Volume Right	3	124	0	9
cSH	1041	1204	276	290
Volume to Capacity	0.01	0.00	0.01	0.79
Queue Length 95th (ft)	1	0	1	154
Control Delay (s)	0.2	0.1	18.2	51.2
Lane LOS	A	A	C	F
Approach Delay (s)	0.2	0.1	18.2	51.2
Approach LOS			C	F

Intersection Summary			
Average Delay	10.6		
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	16	149	312	656	1	447	208	153	63	586	1653	652
Future Volume (vph)	16	149	312	656	1	447	208	153	63	586	1653	652
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3440	3539	1583		3433	5085	1583		3440	5085	1583
Flt Permitted		0.13	1.00	1.00		0.13	1.00	1.00		0.10	1.00	1.00
Satd. Flow (perm)		472	3539	1583		471	5085	1583		374	5085	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.84	0.84	0.84	0.84	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	155	325	683	1	532	248	182	68	630	1777	701
RTOR Reduction (vph)	0	0	0	222	0	0	0	150	0	0	0	228
Lane Group Flow (vph)	0	172	325	461	0	533	248	32	0	698	1777	473
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Effective Green, g (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Actuated g/C Ratio		0.19	0.18	0.18		0.19	0.18	0.18		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		90	625	279		90	899	279		90	1357	422
v/s Ratio Prot			0.09				0.05				0.35	
v/s Ratio Perm		0.36		c0.29		c1.13		0.02		c1.87		0.30
v/c Ratio		1.91	0.52	1.65		5.92	0.28	0.12		7.76	1.31	1.12
Uniform Delay, d1		64.7	59.7	65.8		64.7	57.0	55.3		60.6	58.6	58.6
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.25	0.83	0.66
Incremental Delay, d2		448.4	1.6	308.7		2238.8	0.4	0.5		3052.5	142.3	71.0
Delay (s)		513.0	61.3	374.5		2303.5	57.4	55.8		3128.3	191.0	109.5
Level of Service		F	E	F		F	E	E		F	F	F
Approach Delay (s)			308.5				1300.2				818.5	
Approach LOS			F				F				F	

Intersection Summary			
HCM 2000 Control Delay	653.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.17		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	7	165	1310	159
Future Volume (vph)	7	165	1310	159
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3
Lane Util. Factor		0.97	*0.70	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		3436	3912	1583
Flt Permitted		0.10	1.00	1.00
Satd. Flow (perm)		374	3912	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	181	1440	175
RTOR Reduction (vph)	0	0	0	104
Lane Group Flow (vph)	0	189	1440	71
Heavy Vehicles (%)	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm
Protected Phases		1	6	
Permitted Phases	1			6
Actuated Green, G (s)		38.7	42.7	42.7
Effective Green, g (s)		38.7	42.7	42.7
Actuated g/C Ratio		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.1	5.1
Lane Grp Cap (vph)		90	1044	422
v/s Ratio Prot			c0.37	
v/s Ratio Perm		0.51		0.04
v/c Ratio		2.10	1.38	0.17
Uniform Delay, d1		60.6	58.6	45.0
Progression Factor		1.21	0.80	0.56
Incremental Delay, d2		530.2	176.7	0.8
Delay (s)		603.5	223.6	26.0
Level of Service		F	F	C
Approach Delay (s)			244.2	
Approach LOS			F	

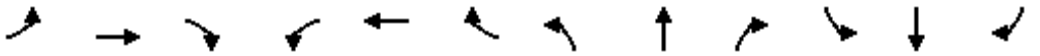
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	496	0	2458	104	282	1512	682	0	0
Future Volume (vph)	0	496	0	2458	104	282	1512	682	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4848			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4848			
Peak-hour factor, PHF	0.91	0.91	0.98	0.98	0.98	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	545	0	2508	106	303	1626	733	0	0
RTOR Reduction (vph)	0	10	0	0	18	0	0	0	0	0
Lane Group Flow (vph)	0	535	0	2508	88	303	2359	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		56.6		93.1	93.1	56.6	160.0			
Effective Green, g (s)		56.6		93.1	93.1	56.6	160.0			
Actuated g/C Ratio		0.35		0.58	0.58	0.35	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		569		2958	921	626	4848			
v/s Ratio Prot		c0.33		c0.49		0.17	0.49			
v/s Ratio Perm					0.06					
v/c Ratio		0.94		0.85	0.10	0.48	0.49			
Uniform Delay, d1		50.0		27.6	14.8	40.3	0.0			
Progression Factor		1.00		1.00	1.00	0.98	1.00			
Incremental Delay, d2		23.2		3.2	0.2	0.0	0.0			
Delay (s)		73.3		30.8	15.0	39.5	0.0			
Level of Service		E		C	B	D	A			
Approach Delay (s)	73.3			30.2			4.5		0.0	
Approach LOS	E			C			A		A	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	123	1110	1452	263	0	1512
Future Volume (vph)	123	1110	1452	263	0	1512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3458			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3458			5085
Peak-hour factor, PHF	0.98	0.98	0.97	0.97	0.94	0.94
Adj. Flow (vph)	126	1133	1497	271	0	1609
RTOR Reduction (vph)	0	10	18	0	0	0
Lane Group Flow (vph)	126	1123	1750	0	0	1609
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	33.5	33.5	34.8			34.8
Effective Green, g (s)	33.5	33.5	34.8			34.8
Actuated g/C Ratio	0.43	0.43	0.44			0.44
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1463	1187	1531			2251
v/s Ratio Prot	0.04		c0.51			0.32
v/s Ratio Perm		c0.40				
v/c Ratio	0.09	0.95	1.14			0.71
Uniform Delay, d1	13.4	21.7	21.9			17.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	14.8	72.6			1.6
Delay (s)	13.4	36.5	94.5			19.5
Level of Service	B	D	F			B
Approach Delay (s)	34.2		94.5			19.5
Approach LOS	C		F			B

Intersection Summary			
HCM 2000 Control Delay	52.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	78.6	Sum of lost time (s)	10.3
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



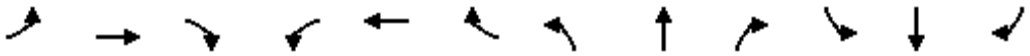
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1117	0	337	0	0	0	0	598	223	0	462	1173
Future Volume (vph)	1117	0	337	0	0	0	0	598	223	0	462	1173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3395			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3395			3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1164	0	351	0	0	0	0	636	237	0	491	1248
RTOR Reduction (vph)	0	0	153	0	0	0	0	50	0	0	0	0
Lane Group Flow (vph)	1164	0	198	0	0	0	0	823	0	0	491	1248
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	26.2		26.2					27.3			27.3	63.8
Effective Green, g (s)	26.2		26.2					27.3			27.3	63.8
Actuated g/C Ratio	0.41		0.41					0.43			0.43	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1409		650					1452			1514	1583
v/s Ratio Prot	0.34							0.24			0.14	
v/s Ratio Perm			0.12									c0.79
v/c Ratio	0.83		0.30					0.57			0.32	0.79
Uniform Delay, d1	16.8		12.7					13.8			12.1	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	3.9		0.1					1.1			0.4	4.1
Delay (s)	20.7		12.8					14.9			12.5	4.1
Level of Service	C		B					B			B	A
Approach Delay (s)		18.8			0.0			14.9			6.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	63.8	Sum of lost time (s)	10.3
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	36	119	702	61	203	596
Future Volume (vph)	36	119	702	61	203	596
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	129	763	66	221	648

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	39	129	829	221	648
Volume Left (vph)	39	0	0	221	0
Volume Right (vph)	0	129	66	0	0
Hadj (s)	0.53	-0.67	-0.01	0.53	0.03
Departure Headway (s)	8.2	7.0	5.8	6.3	5.8
Degree Utilization, x	0.09	0.25	1.00	0.39	1.00
Capacity (veh/h)	433	508	829	562	648
Control Delay (s)	10.8	11.1	59.8	12.1	58.9
Approach Delay (s)	11.0		59.8	47.0	
Approach LOS	B		F	E	

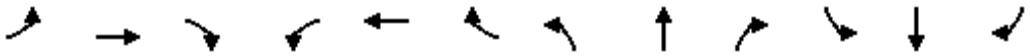
Intersection Summary			
Delay	49.4		
Level of Service	E		
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	555	244	2	0	240	185	3	5	0	190	5	302
Future Volume (vph)	555	244	2	0	240	185	3	5	0	190	5	302
Peak Hour Factor	0.89	0.89	0.89	0.98	0.98	0.98	0.70	0.70	0.70	0.92	0.92	0.92
Hourly flow rate (vph)	624	274	2	0	245	189	4	7	0	207	5	328

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	624	276	434	11	540
Volume Left (vph)	624	0	0	4	207
Volume Right (vph)	0	2	189	0	328
Hadj (s)	0.53	0.03	-0.23	0.11	-0.25
Departure Headway (s)	8.1	7.6	6.9	9.2	6.6
Degree Utilization, x	1.00	0.58	0.83	0.03	0.98
Capacity (veh/h)	624	468	515	369	540
Control Delay (s)	70.2	19.3	35.5	12.5	60.2
Approach Delay (s)	54.6		35.5	12.5	60.2
Approach LOS	F		E	B	F

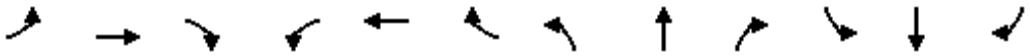
Intersection Summary				
Delay	51.6			
Level of Service	F			
Intersection Capacity Utilization	100.7%	ICU Level of Service	G	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	264	0	47	155	36	0	219	81	61	126	0
Future Volume (vph)	0	264	0	47	155	36	0	219	81	61	126	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	287	0	51	168	39	0	238	88	66	137	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	287	51	207	0	326	66	137
Volume Left (vph)	0	0	51	0	0	0	66	0
Volume Right (vph)	0	0	0	39	0	88	0	0
Hadj (s)	0.00	0.03	0.53	-0.10	0.00	-0.15	0.53	0.03
Departure Headway (s)	6.8	6.8	7.4	6.8	6.7	6.6	7.6	7.1
Degree Utilization, x	0.00	0.54	0.11	0.39	0.00	0.60	0.14	0.27
Capacity (veh/h)	900	494	446	481	900	516	433	464
Control Delay (s)	8.6	16.4	10.1	12.9	8.5	17.6	10.6	11.4
Approach Delay (s)	16.4		12.3		17.6		11.2	
Approach LOS	C		B		C		B	

Intersection Summary				
Delay	14.8			
Level of Service	B			
Intersection Capacity Utilization	50.4%	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 (veh/h)	3	431	0	0	422	297	0	0	0	168	2	3
Future Volume (Veh/h)	3	431	0	0	422	297	0	0	0	168	2	3
Sign Control		Free			Free			Yield			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.86	0.86	0.86	0.92	0.92	0.92	0.76	0.76	0.76
Hourly flow rate (vph)	3	490	0	0	491	345	0	0	0	221	3	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	836			490			1165	1332	490	1160	1160	664
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	836			490			1165	1332	490	1160	1160	664
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	0	98	99
cM capacity (veh/h)	798			1073			167	154	578	172	195	461

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	493	836	0	228
Volume Left	3	0	0	221
Volume Right	0	345	0	4
cSH	798	1073	1700	174
Volume to Capacity	0.00	0.00	0.00	1.31
Queue Length 95th (ft)	0	0	0	330
Control Delay (s)	0.1	0.0	0.0	225.1
Lane LOS	A		A	F
Approach Delay (s)	0.1	0.0	0.0	225.1
Approach LOS			A	F

Intersection Summary			
Average Delay	33.0		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	9	28	67	296	1	560	237	73	73	562	1213	253
Future Volume (vph)	9	28	67	296	1	560	237	73	73	562	1213	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3450	3539	1583		3433	5085	1583		3441	5085	1583
Flt Permitted		0.36	1.00	1.00		0.18	1.00	1.00		0.14	1.00	1.00
Satd. Flow (perm)		1320	3539	1583		660	5085	1583		512	5085	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.88	0.88	0.88	0.88	0.85	0.85	0.85	0.85
Adj. Flow (vph)	10	31	75	333	1	636	269	83	86	661	1427	298
RTOR Reduction (vph)	0	0	0	167	0	0	0	63	0	0	0	121
Lane Group Flow (vph)	0	41	75	166	0	637	269	20	0	747	1427	177
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		11.0	18.0	18.0		21.9	28.9	28.9		28.3	54.8	54.8
Effective Green, g (s)		11.0	18.0	18.0		21.9	28.9	28.9		28.3	54.8	54.8
Actuated g/C Ratio		0.09	0.15	0.15		0.18	0.24	0.24		0.24	0.46	0.46
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		121	530	237		120	1224	381		120	2322	722
v/s Ratio Prot			0.02				0.05				0.28	
v/s Ratio Perm		0.03		c0.10		c0.97		0.01		c1.46		0.11
v/c Ratio		0.34	0.14	0.70		5.31	0.22	0.05		6.22	0.61	0.25
Uniform Delay, d1		51.1	44.3	48.4		49.0	36.5	35.0		45.9	24.6	20.0
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		0.87	0.69	0.20
Incremental Delay, d2		0.6	0.3	11.4		1957.1	0.2	0.1		2365.3	1.0	0.6
Delay (s)		51.7	44.6	59.9		2006.1	36.7	35.2		2405.2	18.0	4.6
Level of Service		D	D	E		F	D	D		F	B	A
Approach Delay (s)			56.6				1305.0				737.8	
Approach LOS			E				F				F	

Intersection Summary			
HCM 2000 Control Delay	629.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.39		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	56	1036	51
Future Volume (vph)	56	1036	51
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5	5.3	5.3
Lane Util. Factor	0.97	*0.70	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3433	3912	1583
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3433	3912	1583
Peak-hour factor, PHF	0.87	0.87	0.87
Adj. Flow (vph)	64	1191	59
RTOR Reduction (vph)	0	0	43
Lane Group Flow (vph)	64	1191	16
Heavy Vehicles (%)	2%	2%	2%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	5.7	32.2	32.2
Effective Green, g (s)	5.7	32.2	32.2
Actuated g/C Ratio	0.05	0.27	0.27
Clearance Time (s)	4.5	5.3	5.3
Vehicle Extension (s)	2.0	5.1	5.1
Lane Grp Cap (vph)	163	1049	424
v/s Ratio Prot	0.02	c0.30	
v/s Ratio Perm			0.01
v/c Ratio	0.39	1.14	0.04
Uniform Delay, d1	55.5	43.9	32.4
Progression Factor	1.19	0.94	5.04
Incremental Delay, d2	0.6	72.7	0.2
Delay (s)	66.4	114.2	163.6
Level of Service	E	F	F
Approach Delay (s)		114.0	
Approach LOS		F	

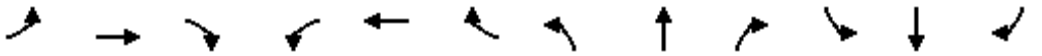
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	399	0	1702	110	195	796	974	0	0
Future Volume (vph)	0	399	0	1702	110	195	796	974	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.92			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4666			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4666			
Peak-hour factor, PHF	0.93	0.93	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	429	0	1956	126	210	856	1047	0	0
RTOR Reduction (vph)	0	15	0	0	32	0	0	0	0	0
Lane Group Flow (vph)	0	414	0	1956	94	210	1903	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		35.6		74.1	74.1	35.6	120.0			
Effective Green, g (s)		35.6		74.1	74.1	35.6	120.0			
Actuated g/C Ratio		0.30		0.62	0.62	0.30	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		477		3139	977	525	4666			
v/s Ratio Prot		c0.26		c0.38		0.12	0.41			
v/s Ratio Perm					0.06					
v/c Ratio		0.87		0.62	0.10	0.40	0.41			
Uniform Delay, d1		40.0		14.3	9.3	33.7	0.0			
Progression Factor		1.00		1.00	1.00	0.57	1.00			
Incremental Delay, d2		14.9		0.9	0.2	0.0	0.0			
Delay (s)		54.9		15.2	9.5	19.3	0.0			
Level of Service		D		B	A	B	A			
Approach Delay (s)	54.9			14.9			1.9		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	202	887	925	418	0	796
Future Volume (vph)	202	887	925	418	0	796
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.95			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3374			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3374			5085
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.94	0.94
Adj. Flow (vph)	227	997	1039	470	0	847
RTOR Reduction (vph)	0	47	61	0	0	0
Lane Group Flow (vph)	227	950	1448	0	0	847
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	28.6	28.6	34.9			34.9
Effective Green, g (s)	28.6	28.6	34.9			34.9
Actuated g/C Ratio	0.39	0.39	0.47			0.47
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1330	1080	1595			2404
v/s Ratio Prot	0.07		c0.43			0.17
v/s Ratio Perm		c0.34				
v/c Ratio	0.17	0.88	0.91			0.35
Uniform Delay, d1	14.8	21.0	18.0			12.3
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	8.1	8.7			0.3
Delay (s)	14.8	29.1	26.7			12.6
Level of Service	B	C	C			B
Approach Delay (s)	26.5		26.7			12.6
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	10.3
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



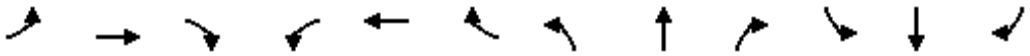
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	722	0	196	0	0	0	0	621	149	0	436	562
Future Volume (vph)	722	0	196	0	0	0	0	621	149	0	436	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.97			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3437			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3437			3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.84	0.84	0.84	0.86	0.86	0.86
Adj. Flow (vph)	820	0	223	0	0	0	0	739	177	0	507	653
RTOR Reduction (vph)	0	0	148	0	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	820	0	75	0	0	0	0	891	0	0	507	653
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	18.6		18.6					26.5			26.5	55.4
Effective Green, g (s)	18.6		18.6					26.5			26.5	55.4
Actuated g/C Ratio	0.34		0.34					0.48			0.48	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1152		531					1644			1692	1583
v/s Ratio Prot	c0.24							c0.26			0.14	
v/s Ratio Perm			0.05									0.41
v/c Ratio	0.71		0.14					0.54			0.30	0.41
Uniform Delay, d1	16.1		12.8					10.2			8.8	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	1.8		0.0					0.9			0.3	0.8
Delay (s)	17.8		12.9					11.0			9.1	0.8
Level of Service	B		B					B			A	A
Approach Delay (s)		16.8			0.0			11.0			4.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	55.4	Sum of lost time (s)	10.3
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	60	308	462	20	103	529
Future Volume (vph)	60	308	462	20	103	529
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	335	502	22	112	575

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	65	335	524	112	575
Volume Left (vph)	65	0	0	112	0
Volume Right (vph)	0	335	22	0	0
Hadj (s)	0.53	-0.67	0.01	0.53	0.03
Departure Headway (s)	8.1	6.9	6.7	7.4	6.9
Degree Utilization, x	0.15	0.64	0.97	0.23	1.00
Capacity (veh/h)	436	506	536	475	575
Control Delay (s)	11.3	20.5	57.6	11.5	64.6
Approach Delay (s)	19.0		57.6	55.9	
Approach LOS	C		F	F	

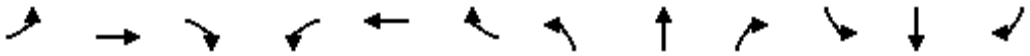
Intersection Summary			
Delay	47.3		
Level of Service	E		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	239	207	2	0	342	81	0	0	0	133	0	461
Future Volume (vph)	239	207	2	0	342	81	0	0	0	133	0	461
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.92	0.92	0.92	0.91	0.91	0.91
Hourly flow rate (vph)	252	218	2	0	364	86	0	0	0	146	0	507

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	252	220	450	0	653
Volume Left (vph)	252	0	0	0	146
Volume Right (vph)	0	2	86	0	507
Hadj (s)	0.53	0.03	-0.08	0.00	-0.39
Departure Headway (s)	7.9	7.4	6.7	8.5	6.1
Degree Utilization, x	0.55	0.45	0.84	0.00	1.00
Capacity (veh/h)	445	479	528	900	653
Control Delay (s)	19.2	15.2	35.1	11.5	61.7
Approach Delay (s)	17.3		35.1	0.0	61.7
Approach LOS	C		E	A	F

Intersection Summary				
Delay	40.8			
Level of Service	E			
Intersection Capacity Utilization	81.9%	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)	0	87	36	80	261	60	107	129	27	20	109	0
Future Volume (vph)	0	87	36	80	261	60	107	129	27	20	109	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	95	39	87	284	65	116	140	29	22	118	0

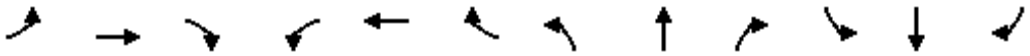
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	134	87	349	116	169	22	118
Volume Left (vph)	0	0	87	0	116	0	22	0
Volume Right (vph)	0	39	0	65	0	29	0	0
Hadj (s)	0.00	-0.17	0.53	-0.10	0.53	-0.09	0.53	0.03
Departure Headway (s)	6.4	6.2	6.5	5.9	6.9	6.3	7.2	6.7
Degree Utilization, x	0.00	0.23	0.16	0.57	0.22	0.30	0.04	0.22
Capacity (veh/h)	900	540	526	581	489	536	460	498
Control Delay (s)	8.2	9.9	9.5	15.3	10.7	10.7	9.3	10.3
Approach Delay (s)	9.9		14.1		10.7		10.2	
Approach LOS	A		B		B		B	

Intersection Summary				
Delay	12.0			
Level of Service	B			
Intersection Capacity Utilization	45.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	75	139	124	25	47	178
Future Volume (Veh/h)	75	139	124	25	47	178
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	151	135	27	51	193
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	444	148			162	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	444	148			162	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	83			96	
cM capacity (veh/h)	551	898			1417	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	82	151	162	51	193
Volume Left	82	0	0	51	0
Volume Right	0	151	27	0	0
cSH	551	898	1700	1417	1700
Volume to Capacity	0.15	0.17	0.10	0.04	0.11
Queue Length 95th (ft)	13	15	0	3	0
Control Delay (s)	12.7	9.8	0.0	7.6	0.0
Lane LOS	B	A		A	
Approach Delay (s)	10.8		0.0	1.6	
Approach LOS	B				

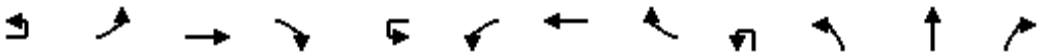
Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	25.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	320	3	3	382	132	2	0	0	214	0	39
Future Volume (Veh/h)	17	320	3	3	382	132	2	0	0	214	0	39
Sign Control		Free			Free			Yield			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.95	0.95	0.95	0.70	0.70	0.70	0.78	0.78	0.78
Hourly flow rate (vph)	19	352	3	3	402	139	3	0	0	274	0	50
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	541			355			919	938	354	869	870	472
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	541			355			919	938	354	869	870	472
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	100	100	0	100	92
cM capacity (veh/h)	1028			1204			227	259	690	268	283	592

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	374	544	3	324
Volume Left	19	3	3	274
Volume Right	3	139	0	50
cSH	1028	1204	227	293
Volume to Capacity	0.02	0.00	0.01	1.11
Queue Length 95th (ft)	1	0	1	329
Control Delay (s)	0.6	0.1	21.1	123.3
Lane LOS	A	A	C	F
Approach Delay (s)	0.6	0.1	21.1	123.3
Approach LOS			C	F

Intersection Summary				
Average Delay	32.4			
Intersection Capacity Utilization	48.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	16	149	312	667	1	447	208	153	63	593	1666	652
Future Volume (vph)	16	149	312	667	1	447	208	153	63	593	1666	652
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3440	3539	1583		3433	5085	1583		3440	5085	1583
Flt Permitted		0.13	1.00	1.00		0.13	1.00	1.00		0.10	1.00	1.00
Satd. Flow (perm)		472	3539	1583		471	5085	1583		374	5085	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.84	0.84	0.84	0.84	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	155	325	695	1	532	248	182	68	638	1791	701
RTOR Reduction (vph)	0	0	0	222	0	0	0	150	0	0	0	226
Lane Group Flow (vph)	0	172	325	473	0	533	248	32	0	706	1791	475
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Effective Green, g (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Actuated g/C Ratio		0.19	0.18	0.18		0.19	0.18	0.18		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		90	625	279		90	899	279		90	1357	422
v/s Ratio Prot			0.09				0.05				0.35	
v/s Ratio Perm		0.36		c0.30		c1.13		0.02		c1.89		0.30
v/c Ratio		1.91	0.52	1.69		5.92	0.28	0.12		7.84	1.32	1.13
Uniform Delay, d1		64.7	59.7	65.8		64.7	57.0	55.3		60.6	58.6	58.6
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.27	0.83	0.66
Incremental Delay, d2		448.4	1.6	327.5		2238.8	0.4	0.5		3091.9	146.7	72.3
Delay (s)		513.0	61.3	393.4		2303.5	57.4	55.8		3169.0	195.4	111.1
Level of Service		F	E	F		F	E	E		F	F	F
Approach Delay (s)			320.1				1300.2				833.4	
Approach LOS			F				F				F	

Intersection Summary			
HCM 2000 Control Delay	662.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.21		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	114.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	7	165	1333	159
Future Volume (vph)	7	165	1333	159
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3
Lane Util. Factor		0.97	*0.70	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		3436	3912	1583
Flt Permitted		0.10	1.00	1.00
Satd. Flow (perm)		374	3912	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	181	1465	175
RTOR Reduction (vph)	0	0	0	103
Lane Group Flow (vph)	0	189	1465	72
Heavy Vehicles (%)	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm
Protected Phases		1	6	
Permitted Phases	1			6
Actuated Green, G (s)		38.7	42.7	42.7
Effective Green, g (s)		38.7	42.7	42.7
Actuated g/C Ratio		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.1	5.1
Lane Grp Cap (vph)		90	1044	422
v/s Ratio Prot			c0.37	
v/s Ratio Perm		0.51		0.05
v/c Ratio		2.10	1.40	0.17
Uniform Delay, d1		60.6	58.6	45.1
Progression Factor		1.20	0.80	0.55
Incremental Delay, d2		530.2	187.2	0.9
Delay (s)		603.2	234.2	25.8
Level of Service		F	F	C
Approach Delay (s)			252.4	
Approach LOS			F	

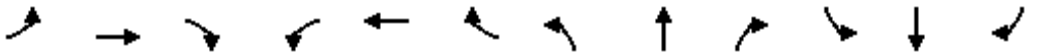
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	516	0	2458	104	316	1512	682	0	0
Future Volume (vph)	0	516	0	2458	104	316	1512	682	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4848			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4848			
Peak-hour factor, PHF	0.91	0.91	0.98	0.98	0.98	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	567	0	2508	106	340	1626	733	0	0
RTOR Reduction (vph)	0	10	0	0	18	0	0	0	0	0
Lane Group Flow (vph)	0	557	0	2508	88	340	2359	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		58.2		91.5	91.5	58.2	160.0			
Effective Green, g (s)		58.2		91.5	91.5	58.2	160.0			
Actuated g/C Ratio		0.36		0.57	0.57	0.36	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		586		2907	905	643	4848			
v/s Ratio Prot		c0.35		c0.49		0.19	0.49			
v/s Ratio Perm					0.06					
v/c Ratio		0.95		0.86	0.10	0.53	0.49			
Uniform Delay, d1		49.5		28.9	15.5	40.1	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		25.1		3.7	0.2	0.0	0.0			
Delay (s)		74.6		32.6	15.7	40.3	0.0			
Level of Service		E		C	B	D	A			
Approach Delay (s)	74.6			31.9			5.1		0.0	
Approach LOS	E			C			A		A	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	146	1110	1452	317	0	1512
Future Volume (vph)	146	1110	1452	317	0	1512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3444			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3444			5085
Peak-hour factor, PHF	0.98	0.98	0.97	0.97	0.94	0.94
Adj. Flow (vph)	149	1133	1497	327	0	1609
RTOR Reduction (vph)	0	10	23	0	0	0
Lane Group Flow (vph)	149	1123	1801	0	0	1609
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	33.5	33.5	34.8			34.8
Effective Green, g (s)	33.5	33.5	34.8			34.8
Actuated g/C Ratio	0.43	0.43	0.44			0.44
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1463	1187	1524			2251
v/s Ratio Prot	0.04		c0.52			0.32
v/s Ratio Perm		c0.40				
v/c Ratio	0.10	0.95	1.18			0.71
Uniform Delay, d1	13.5	21.7	21.9			17.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	14.8	88.9			1.6
Delay (s)	13.5	36.5	110.8			19.5
Level of Service	B	D	F			B
Approach Delay (s)	33.8		110.8			19.5
Approach LOS	C		F			B

Intersection Summary			
HCM 2000 Control Delay	58.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	78.6	Sum of lost time (s)	10.3
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



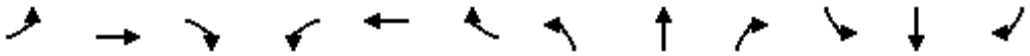
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1117	0	428	0	0	0	0	652	236	0	485	1173
Future Volume (vph)	1117	0	428	0	0	0	0	652	236	0	485	1173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3398			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3398			3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1164	0	446	0	0	0	0	694	251	0	516	1248
RTOR Reduction (vph)	0	0	143	0	0	0	0	47	0	0	0	0
Lane Group Flow (vph)	1164	0	303	0	0	0	0	898	0	0	516	1248
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	27.0		27.0					28.9			28.9	66.2
Effective Green, g (s)	27.0		27.0					28.9			28.9	66.2
Actuated g/C Ratio	0.41		0.41					0.44			0.44	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1400		645					1483			1544	1583
v/s Ratio Prot	0.34							0.26			0.15	
v/s Ratio Perm			0.19									c0.79
v/c Ratio	0.83		0.47					0.61			0.33	0.79
Uniform Delay, d1	17.6		14.4					14.3			12.3	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	4.2		0.2					1.3			0.4	4.1
Delay (s)	21.7		14.6					15.6			12.7	4.1
Level of Service	C		B					B			B	A
Approach Delay (s)		19.7			0.0			15.6			6.6	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	66.2	Sum of lost time (s)	10.3
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	36	186	702	61	317	596
Future Volume (vph)	36	186	702	61	317	596
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	202	763	66	345	648

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	39	202	829	345	648
Volume Left (vph)	39	0	0	345	0
Volume Right (vph)	0	202	66	0	0
Hadj (s)	0.53	-0.67	-0.01	0.53	0.03
Departure Headway (s)	8.2	7.0	6.1	6.7	6.2
Degree Utilization, x	0.09	0.39	1.00	0.64	1.00
Capacity (veh/h)	430	505	829	526	648
Control Delay (s)	10.8	13.3	61.4	19.7	60.8
Approach Delay (s)	12.9		61.4	46.5	
Approach LOS	B		F	E	

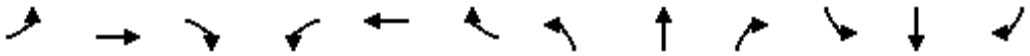
Intersection Summary			
Delay	48.6		
Level of Service	E		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	555	278	2	0	260	185	3	5	0	190	5	302
Future Volume (vph)	555	278	2	0	260	185	3	5	0	190	5	302
Peak Hour Factor	0.89	0.89	0.89	0.98	0.98	0.98	0.70	0.70	0.70	0.92	0.92	0.92
Hourly flow rate (vph)	624	312	2	0	265	189	4	7	0	207	5	328

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	624	314	454	11	540
Volume Left (vph)	624	0	0	4	207
Volume Right (vph)	0	2	189	0	328
Hadj (s)	0.53	0.03	-0.22	0.11	-0.25
Departure Headway (s)	8.2	7.6	6.9	9.3	6.6
Degree Utilization, x	1.00	0.67	0.87	0.03	0.99
Capacity (veh/h)	624	464	515	369	540
Control Delay (s)	70.6	23.4	41.2	12.6	62.4
Approach Delay (s)	54.8		41.2	12.6	62.4
Approach LOS	F		E	B	F

Intersection Summary				
Delay	53.5			
Level of Service	F			
Intersection Capacity Utilization	101.7%	ICU Level of Service	G	
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)	0	264	114	47	155	36	67	239	81	61	160	0
Future Volume (vph)	0	264	114	47	155	36	67	239	81	61	160	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	287	124	51	168	39	73	260	88	66	174	0

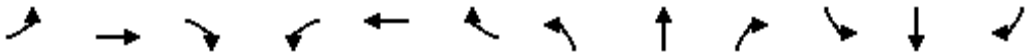
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	411	51	207	73	348	66	174
Volume Left (vph)	0	0	51	0	73	0	66	0
Volume Right (vph)	0	124	0	39	0	88	0	0
Hadj (s)	0.00	-0.18	0.53	-0.10	0.53	-0.14	0.53	0.03
Departure Headway (s)	7.2	7.0	8.3	7.6	8.0	7.3	8.4	7.9
Degree Utilization, x	0.00	0.80	0.12	0.44	0.16	0.71	0.15	0.38
Capacity (veh/h)	900	497	401	430	428	470	391	410
Control Delay (s)	9.0	31.4	11.2	15.3	11.3	24.8	11.8	14.5
Approach Delay (s)	31.4		14.5		22.5		13.8	
Approach LOS	D		B		C		B	

Intersection Summary				
Delay	22.1			
Level of Service	C			
Intersection Capacity Utilization	58.4%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	47	87	300	80	148	173
Future Volume (Veh/h)	47	87	300	80	148	173
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	51	95	326	87	161	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	880	370			413	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	880	370			413	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	86			86	
cM capacity (veh/h)	273	676			1146	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	51	95	413	161	188
Volume Left	51	0	0	161	0
Volume Right	0	95	87	0	0
cSH	273	676	1700	1146	1700
Volume to Capacity	0.19	0.14	0.24	0.14	0.11
Queue Length 95th (ft)	17	12	0	12	0
Control Delay (s)	21.2	11.2	0.0	8.7	0.0
Lane LOS	C	B		A	
Approach Delay (s)	14.7		0.0	4.0	
Approach LOS	B				

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	42.2%	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 (veh/h)	37	431	0	0	422	343	0	0	0	195	2	23
Future Volume (Veh/h)	37	431	0	0	422	343	0	0	0	195	2	23
Sign Control		Free			Free			Yield			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.86	0.86	0.86	0.92	0.92	0.92	0.76	0.76	0.76
Hourly flow rate (vph)	42	490	0	0	491	399	0	0	0	257	3	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)												
pX, platoon unblocked												
vC, conflicting volume	890			490			1296	1464	490	1264	1264	690
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	890			490			1296	1464	490	1264	1264	690
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			100	100	100	0	98	93
cM capacity (veh/h)	761			1073			122	121	578	140	160	445

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	532	890	0	290
Volume Left	42	0	0	257
Volume Right	0	399	0	30
cSH	761	1073	1700	151
Volume to Capacity	0.06	0.00	0.00	1.92
Queue Length 95th (ft)	4	0	0	557
Control Delay (s)	1.5	0.0	0.0	488.4
Lane LOS	A		A	F
Approach Delay (s)	1.5	0.0	0.0	488.4
Approach LOS			A	F

Intersection Summary			
Average Delay	83.2		
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	9	28	67	296	1	560	237	73	73	562	1213	253
Future Volume (vph)	9	28	67	296	1	560	237	73	73	562	1213	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3450	3539	1583		3433	5085	1583		3441	5085	1583
Flt Permitted		1.00	1.00	1.00		0.73	1.00	1.00		0.19	1.00	1.00
Satd. Flow (perm)		3631	3539	1583		2628	5085	1583		703	5085	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.88	0.88	0.88	0.88	0.85	0.85	0.85	0.85
Adj. Flow (vph)	10	31	75	333	1	636	269	83	86	661	1427	298
RTOR Reduction (vph)	0	0	0	127	0	0	0	63	0	0	0	139
Lane Group Flow (vph)	0	41	75	206	0	637	269	20	0	747	1427	159
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		2.7	22.9	22.9		5.5	25.7	25.7		20.6	54.9	54.9
Effective Green, g (s)		2.7	22.9	22.9		5.5	25.7	25.7		20.6	54.9	54.9
Actuated g/C Ratio		0.03	0.21	0.21		0.05	0.24	0.24		0.19	0.51	0.51
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		91	755	337		134	1217	379		134	2601	809
v/s Ratio Prot			0.02				c0.05				0.28	
v/s Ratio Perm		0.01		c0.13		c0.24		0.01		c1.06		0.10
v/c Ratio		0.45	0.10	0.61		4.75	0.22	0.05		5.57	0.55	0.20
Uniform Delay, d1		51.6	33.9	38.2		50.9	32.8	31.4		43.4	17.8	14.2
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.3	0.1	5.0		1706.0	0.2	0.1		2074.8	0.8	0.5
Delay (s)		52.9	34.0	43.2		1756.9	33.0	31.6		2118.2	18.6	14.8
Level of Service		D	C	D		F	C	C		F	B	B
Approach Delay (s)			42.5				1143.2				652.6	
Approach LOS			D				F				F	

Intersection Summary			
HCM 2000 Control Delay	538.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.09		
Actuated Cycle Length (s)	107.3	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	56	1036	51
Future Volume (vph)	56	1036	51
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5	5.3	5.3
Lane Util. Factor	0.97	*0.70	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3433	3912	1583
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3433	3912	1583
Peak-hour factor, PHF	0.87	0.87	0.87
Adj. Flow (vph)	64	1191	59
RTOR Reduction (vph)	0	0	38
Lane Group Flow (vph)	64	1191	21
Heavy Vehicles (%)	2%	2%	2%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	4.4	38.7	38.7
Effective Green, g (s)	4.4	38.7	38.7
Actuated g/C Ratio	0.04	0.36	0.36
Clearance Time (s)	4.5	5.3	5.3
Vehicle Extension (s)	2.0	5.1	5.1
Lane Grp Cap (vph)	140	1410	570
v/s Ratio Prot	0.02	c0.30	
v/s Ratio Perm			0.01
v/c Ratio	0.46	0.84	0.04
Uniform Delay, d1	50.3	31.5	22.2
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	0.9	6.4	0.1
Delay (s)	51.1	37.9	22.4
Level of Service	D	D	C
Approach Delay (s)		37.8	
Approach LOS		D	

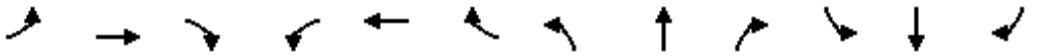
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	399	0	1702	110	195	796	974	0	0
Future Volume (vph)	0	399	0	1702	110	195	796	974	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.92			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4666			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4666			
Peak-hour factor, PHF	0.93	0.93	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	429	0	1956	126	210	856	1047	0	0
RTOR Reduction (vph)	0	25	0	0	56	0	0	0	0	0
Lane Group Flow (vph)	0	404	0	1956	70	210	1903	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		20.9		38.8	38.8	20.9	70.0			
Effective Green, g (s)		20.9		38.8	38.8	20.9	70.0			
Actuated g/C Ratio		0.30		0.55	0.55	0.30	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		480		2818	877	528	4666			
v/s Ratio Prot		c0.25		c0.38		0.12	0.41			
v/s Ratio Perm					0.04					
v/c Ratio		0.84		0.69	0.08	0.40	0.41			
Uniform Delay, d1		23.0		11.3	7.3	19.5	0.0			
Progression Factor		1.00		0.82	0.88	1.00	1.00			
Incremental Delay, d2		12.1		0.7	0.1	0.2	0.3			
Delay (s)		35.1		10.0	6.5	19.7	0.3			
Level of Service		D		B	A	B	A			
Approach Delay (s)	35.1			9.8			2.2		0.0	
Approach LOS	D			A			A		A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

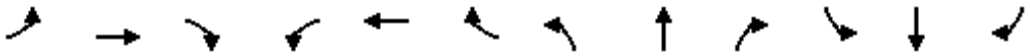
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	202	887	925	418	0	796
Future Volume (vph)	202	887	925	418	0	796
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.95			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3374			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3374			5085
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.94	0.94
Adj. Flow (vph)	227	997	1039	470	0	847
RTOR Reduction (vph)	0	43	70	0	0	0
Lane Group Flow (vph)	227	954	1439	0	0	847
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	27.4	27.4	32.3			32.3
Effective Green, g (s)	27.4	27.4	32.3			32.3
Actuated g/C Ratio	0.39	0.39	0.46			0.46
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1343	1090	1556			2346
v/s Ratio Prot	0.07		c0.43			0.17
v/s Ratio Perm		c0.34				
v/c Ratio	0.17	0.88	0.92			0.36
Uniform Delay, d1	13.9	19.7	17.7			12.2
Progression Factor	1.00	1.00	0.49			1.00
Incremental Delay, d2	0.0	7.8	9.4			0.4
Delay (s)	13.9	27.5	18.0			12.6
Level of Service	B	C	B			B
Approach Delay (s)	25.0		18.0			12.6
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	78.6%	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)	722	0	196	0	0	0	0	621	149	0	436	562
Future Volume (vph)	722	0	196	0	0	0	0	621	149	0	436	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.97			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3437			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3437			3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.84	0.84	0.84	0.86	0.86	0.86
Adj. Flow (vph)	820	0	223	0	0	0	0	739	177	0	507	653
RTOR Reduction (vph)	0	0	153	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	820	0	70	0	0	0	0	892	0	0	507	653
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	22.0		22.0					37.7			37.7	70.0
Effective Green, g (s)	22.0		22.0					37.7			37.7	70.0
Actuated g/C Ratio	0.31		0.31					0.54			0.54	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1078		497					1851			1906	1583
v/s Ratio Prot	c0.24							c0.26			0.14	
v/s Ratio Perm			0.04									0.41
v/c Ratio	0.76		0.14					0.48			0.27	0.41
Uniform Delay, d1	21.6		17.2					10.1			8.7	0.0
Progression Factor	1.00		1.00					1.00			0.78	1.00
Incremental Delay, d2	2.9		0.0					0.9			0.3	0.8
Delay (s)	24.5		17.3					11.0			7.1	0.8
Level of Service	C		B					B			A	A
Approach Delay (s)		23.0			0.0			11.0			3.5	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	50.3%	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												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	320	3	3	382	132	2	0	0	214	0	39
Future Volume (vph)	17	320	3	3	382	132	2	0	0	214	0	39
Peak Hour Factor	0.91	0.91	0.91	0.95	0.95	0.95	0.70	0.70	0.70	0.78	0.78	0.78
Hourly flow rate (vph)	19	352	3	3	402	139	3	0	0	274	0	50

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	374	544	3	324
Volume Left (vph)	19	3	3	274
Volume Right (vph)	3	139	0	50
Hadj (s)	0.04	-0.12	0.23	0.11
Departure Headway (s)	6.0	5.6	7.8	6.5
Degree Utilization, x	0.62	0.85	0.01	0.59
Capacity (veh/h)	574	623	381	528
Control Delay (s)	18.4	31.8	10.8	18.3
Approach Delay (s)	18.4	31.8	10.8	18.3
Approach LOS	C	D	B	C

Intersection Summary				
Delay	24.2			
Level of Service	C			
Intersection Capacity Utilization	48.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	16	149	312	667	1	447	208	153	63	593	1666	652
Future Volume (vph)	16	149	312	667	1	447	208	153	63	593	1666	652
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3440	3539	1583		3433	5085	1583		3440	5085	1583
Flt Permitted		1.00	1.00	1.00		1.00	1.00	1.00		0.35	1.00	1.00
Satd. Flow (perm)		3621	3539	1583		3614	5085	1583		1259	5085	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.84	0.84	0.84	0.84	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	155	325	695	1	532	248	182	68	638	1791	701
RTOR Reduction (vph)	0	0	0	104	0	0	0	104	0	0	0	198
Lane Group Flow (vph)	0	172	325	591	0	533	248	78	0	706	1791	503
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		3.5	37.0	37.0		3.5	37.0	37.0		11.5	45.4	45.4
Effective Green, g (s)		3.5	37.0	37.0		3.5	37.0	37.0		11.5	45.4	45.4
Actuated g/C Ratio		0.03	0.34	0.34		0.03	0.34	0.34		0.10	0.41	0.41
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		115	1190	532		114	1710	532		131	2098	653
v/s Ratio Prot			0.09				0.05				0.35	
v/s Ratio Perm		0.05		c0.37		c0.15		0.05		c0.56		0.32
v/c Ratio		1.50	0.27	1.11		4.68	0.15	0.15		5.39	0.85	0.77
Uniform Delay, d1		53.2	26.7	36.5		53.2	25.5	25.5		49.2	29.3	27.8
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		263.1	0.3	72.9		1673.8	0.1	0.3		1991.9	4.7	8.5
Delay (s)		316.3	27.0	109.4		1727.0	25.6	25.8		2041.2	34.0	36.4
Level of Service		F	C	F		F	C	C		F	C	D
Approach Delay (s)			116.8				967.3				477.6	
Approach LOS			F				F				F	

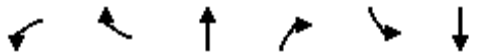
Intersection Summary			
HCM 2000 Control Delay	386.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	114.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	7	165	1333	159
Future Volume (vph)	7	165	1333	159
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3
Lane Util. Factor		0.97	*0.70	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		3436	3912	1583
Flt Permitted		0.89	1.00	1.00
Satd. Flow (perm)		3215	3912	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	181	1465	175
RTOR Reduction (vph)	0	0	0	114
Lane Group Flow (vph)	0	189	1465	61
Heavy Vehicles (%)	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm
Protected Phases		1	6	
Permitted Phases	1			6
Actuated Green, G (s)		4.5	38.4	38.4
Effective Green, g (s)		4.5	38.4	38.4
Actuated g/C Ratio		0.04	0.35	0.35
Clearance Time (s)		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.1	5.1
Lane Grp Cap (vph)		131	1365	552
v/s Ratio Prot			c0.37	
v/s Ratio Perm		0.06		0.04
v/c Ratio		1.44	1.07	0.11
Uniform Delay, d1		52.8	35.8	24.2
Progression Factor		1.00	1.00	1.00
Incremental Delay, d2		236.9	46.6	0.4
Delay (s)		289.6	82.4	24.6
Level of Service		F	F	C
Approach Delay (s)			98.3	
Approach LOS			F	

Intersection Summary

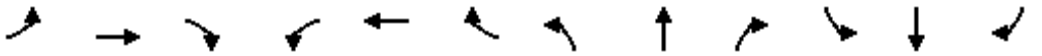
Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	516	0	2458	104	316	1512	682	0	0
Future Volume (vph)	0	516	0	2458	104	316	1512	682	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4848			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4848			
Peak-hour factor, PHF	0.91	0.91	0.98	0.98	0.98	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	567	0	2508	106	340	1626	733	0	0
RTOR Reduction (vph)	0	29	0	0	51	0	0	0	0	0
Lane Group Flow (vph)	0	538	0	2508	55	340	2359	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		19.0		30.7	30.7	19.0	60.0			
Effective Green, g (s)		19.0		30.7	30.7	19.0	60.0			
Actuated g/C Ratio		0.32		0.51	0.51	0.32	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		510		2601	809	560	4848			
v/s Ratio Prot		c0.33		c0.49		0.19	0.49			
v/s Ratio Perm					0.03					
v/c Ratio		1.06		0.96	0.07	0.61	0.49			
Uniform Delay, d1		20.5		14.1	7.4	17.3	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		55.3		11.1	0.2	1.3	0.4			
Delay (s)		75.8		25.2	7.6	18.6	0.4			
Level of Service		E		C	A	B	A			
Approach Delay (s)	75.8			24.5			2.7		0.0	
Approach LOS	E			C			A		A	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



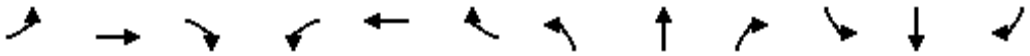
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	146	1110	1452	317	0	1512
Future Volume (vph)	146	1110	1452	317	0	1512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3444			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3444			5085
Peak-hour factor, PHF	0.98	0.98	0.97	0.97	0.94	0.94
Adj. Flow (vph)	149	1133	1497	327	0	1609
RTOR Reduction (vph)	0	27	17	0	0	0
Lane Group Flow (vph)	149	1106	1807	0	0	1609
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	41.0	41.0	58.7			58.7
Effective Green, g (s)	41.0	41.0	58.7			58.7
Actuated g/C Ratio	0.37	0.37	0.53			0.53
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1279	1038	1837			2713
v/s Ratio Prot	0.04		c0.52			0.32
v/s Ratio Perm		c0.40				
v/c Ratio	0.12	1.07	0.98			0.59
Uniform Delay, d1	22.6	34.5	25.2			17.5
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	47.1	17.4			0.7
Delay (s)	22.6	81.6	42.6			18.2
Level of Service	C	F	D			B
Approach Delay (s)	74.8		42.6			18.2
Approach LOS	E		D			B

Intersection Summary			
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	97.7%	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)	1117	0	428	0	0	0	0	652	236	0	485	1173
Future Volume (vph)	1117	0	428	0	0	0	0	652	236	0	485	1173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3398			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3398			3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1164	0	446	0	0	0	0	694	251	0	516	1248
RTOR Reduction (vph)	0	0	125	0	0	0	0	56	0	0	0	0
Lane Group Flow (vph)	1164	0	321	0	0	0	0	889	0	0	516	1248
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	24.0		24.0					24.7			24.7	59.0
Effective Green, g (s)	24.0		24.0					24.7			24.7	59.0
Actuated g/C Ratio	0.41		0.41					0.42			0.42	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1396		643					1422			1481	1583
v/s Ratio Prot	0.34							0.26			0.15	
v/s Ratio Perm			0.20									c0.79
v/c Ratio	0.83		0.50					0.63			0.35	0.79
Uniform Delay, d1	15.7		13.0					13.5			11.7	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	4.2		0.2					1.5			0.4	4.1
Delay (s)	20.0		13.2					15.0			12.1	4.1
Level of Service	B		B					B			B	A
Approach Delay (s)		18.1			0.0			15.0			6.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	59.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	65.2%	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												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	37	431	0	0	422	343	0	0	0	195	2	23
Future Volume (vph)	37	431	0	0	422	343	0	0	0	195	2	23
Peak Hour Factor	0.88	0.88	0.88	0.86	0.86	0.86	0.92	0.92	0.92	0.76	0.76	0.76
Hourly flow rate (vph)	42	490	0	0	491	399	0	0	0	257	3	30

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	532	890	0	290
Volume Left (vph)	42	0	0	257
Volume Right (vph)	0	399	0	30
Hadj (s)	0.05	-0.23	0.00	0.15
Departure Headway (s)	6.0	5.7	8.2	7.0
Degree Utilization, x	0.89	1.00	0.00	0.56
Capacity (veh/h)	532	890	900	496
Control Delay (s)	39.9	59.5	11.2	18.7
Approach Delay (s)	39.9	59.5	0.0	18.7
Approach LOS	E	F	A	C

Intersection Summary			
Delay	46.5		
Level of Service	E		
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	9	28	67	292	1	560	237	73	73	551	1192	253
Future Volume (vph)	9	28	67	292	1	560	237	73	73	551	1192	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3450	3539	1583		3433	5085	1583		3441	5085	1583
Flt Permitted		0.36	1.00	1.00		0.18	1.00	1.00		0.14	1.00	1.00
Satd. Flow (perm)		1320	3539	1583		660	5085	1583		507	5085	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.88	0.88	0.88	0.88	0.85	0.85	0.85	0.85
Adj. Flow (vph)	10	31	75	328	1	636	269	83	86	648	1402	298
RTOR Reduction (vph)	0	0	0	168	0	0	0	63	0	0	0	122
Lane Group Flow (vph)	0	41	75	160	0	637	269	20	0	734	1402	176
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		11.0	17.6	17.6		21.9	28.5	28.5		28.6	55.2	55.2
Effective Green, g (s)		11.0	17.6	17.6		21.9	28.5	28.5		28.6	55.2	55.2
Actuated g/C Ratio		0.09	0.15	0.15		0.18	0.24	0.24		0.24	0.46	0.46
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		121	519	232		120	1207	375		120	2339	728
v/s Ratio Prot			0.02				0.05				0.28	
v/s Ratio Perm		0.03		c0.10		c0.97		0.01		c1.45		0.11
v/c Ratio		0.34	0.14	0.69		5.31	0.22	0.05		6.12	0.60	0.24
Uniform Delay, d1		51.1	44.6	48.6		49.0	36.8	35.3		45.7	24.2	19.7
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		0.86	0.72	0.28
Incremental Delay, d2		0.6	0.3	11.0		1957.1	0.2	0.1		2317.0	0.9	0.6
Delay (s)		51.7	44.9	59.6		2006.1	37.1	35.5		2356.4	18.4	6.2
Level of Service		D	D	E		F	D	D		F	B	A
Approach Delay (s)			56.4				1305.2				721.9	
Approach LOS			E				F				F	

Intersection Summary			
HCM 2000 Control Delay	621.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	56	1029	51
Future Volume (vph)	56	1029	51
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5	5.3	5.3
Lane Util. Factor	0.97	*0.70	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3433	3912	1583
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3433	3912	1583
Peak-hour factor, PHF	0.87	0.87	0.87
Adj. Flow (vph)	64	1183	59
RTOR Reduction (vph)	0	0	43
Lane Group Flow (vph)	64	1183	16
Heavy Vehicles (%)	2%	2%	2%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	5.7	32.3	32.3
Effective Green, g (s)	5.7	32.3	32.3
Actuated g/C Ratio	0.05	0.27	0.27
Clearance Time (s)	4.5	5.3	5.3
Vehicle Extension (s)	2.0	5.1	5.1
Lane Grp Cap (vph)	163	1052	426
v/s Ratio Prot	0.02	c0.30	
v/s Ratio Perm			0.01
v/c Ratio	0.39	1.12	0.04
Uniform Delay, d1	55.5	43.9	32.4
Progression Factor	1.18	0.94	5.06
Incremental Delay, d2	0.6	68.4	0.2
Delay (s)	66.2	109.8	164.1
Level of Service	E	F	F
Approach Delay (s)		110.1	
Approach LOS		F	

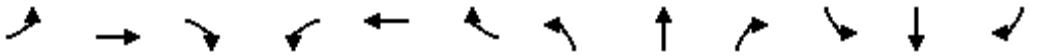
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	367	0	1702	116	184	796	974	0	0
Future Volume (vph)	0	367	0	1702	116	184	796	974	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.92			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4666			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4666			
Peak-hour factor, PHF	0.93	0.93	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	395	0	1956	133	198	856	1047	0	0
RTOR Reduction (vph)	0	15	0	0	32	0	0	0	0	0
Lane Group Flow (vph)	0	380	0	1956	101	198	1903	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		33.2		76.5	76.5	33.2	120.0			
Effective Green, g (s)		33.2		76.5	76.5	33.2	120.0			
Actuated g/C Ratio		0.28		0.64	0.64	0.28	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		445		3241	1009	489	4666			
v/s Ratio Prot		c0.24		c0.38		0.11	0.41			
v/s Ratio Perm					0.06					
v/c Ratio		0.85		0.60	0.10	0.40	0.41			
Uniform Delay, d1		41.1		12.8	8.4	35.4	0.0			
Progression Factor		1.00		1.00	1.00	0.59	1.00			
Incremental Delay, d2		14.2		0.8	0.2	0.0	0.0			
Delay (s)		55.3		13.7	8.6	20.7	0.0			
Level of Service		E		B	A	C	A			
Approach Delay (s)	55.3			13.3			2.0		0.0	
Approach LOS	E			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	195	887	931	332	0	796
Future Volume (vph)	195	887	931	332	0	796
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3400			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3400			5085
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.94	0.94
Adj. Flow (vph)	219	997	1046	373	0	847
RTOR Reduction (vph)	0	46	42	0	0	0
Lane Group Flow (vph)	219	951	1377	0	0	847
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	28.7	28.7	34.7			34.7
Effective Green, g (s)	28.7	28.7	34.7			34.7
Actuated g/C Ratio	0.39	0.39	0.47			0.47
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1336	1085	1600			2394
v/s Ratio Prot	0.06		c0.41			0.17
v/s Ratio Perm		c0.34				
v/c Ratio	0.16	0.88	0.86			0.35
Uniform Delay, d1	14.7	20.9	17.4			12.4
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	7.9	5.7			0.3
Delay (s)	14.7	28.8	23.1			12.6
Level of Service	B	C	C			B
Approach Delay (s)	26.2		23.1			12.6
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	73.7	Sum of lost time (s)	10.3
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



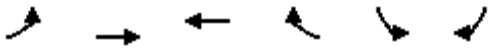
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	722	0	167	0	0	0	0	541	128	0	429	562
Future Volume (vph)	722	0	167	0	0	0	0	541	128	0	429	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.97			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3438			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3438			3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.84	0.84	0.84	0.86	0.86	0.86
Adj. Flow (vph)	820	0	190	0	0	0	0	644	152	0	499	653
RTOR Reduction (vph)	0	0	125	0	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	820	0	65	0	0	0	0	771	0	0	499	653
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	17.7		17.7					23.7			23.7	51.7
Effective Green, g (s)	17.7		17.7					23.7			23.7	51.7
Actuated g/C Ratio	0.34		0.34					0.46			0.46	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1175		541					1576			1622	1583
v/s Ratio Prot	c0.24							0.22			0.14	
v/s Ratio Perm			0.04									c0.41
v/c Ratio	0.70		0.12					0.49			0.31	0.41
Uniform Delay, d1	14.7		11.7					9.8			8.8	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	1.5		0.0					0.7			0.3	0.8
Delay (s)	16.2		11.7					10.5			9.1	0.8
Level of Service	B		B					B			A	A
Approach Delay (s)		15.3			0.0			10.5			4.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	51.7	Sum of lost time (s)	10.3
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	231	201	468	20	67	529
Future Volume (vph)	231	201	468	20	67	529
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	251	218	509	22	73	575

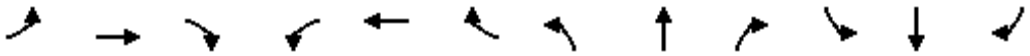
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	251	218	531	73	575
Volume Left (vph)	251	0	0	73	0
Volume Right (vph)	0	218	22	0	0
Hadj (s)	0.53	-0.67	0.01	0.53	0.03
Departure Headway (s)	8.2	7.0	6.8	7.7	7.1
Degree Utilization, x	0.57	0.42	1.00	0.16	1.00
Capacity (veh/h)	439	514	531	471	575
Control Delay (s)	20.1	13.7	65.1	10.9	65.6
Approach Delay (s)	17.2		65.1	59.5	
Approach LOS	C		F	F	

Intersection Summary			
Delay	49.2		
Level of Service	E		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	245	187	310	46	304	461
Future Volume (vph)	245	187	310	46	304	461
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.94	0.94	0.91	0.91
Adj. Flow (vph)	258	197	330	49	334	507
RTOR Reduction (vph)	0	0	0	38	0	359
Lane Group Flow (vph)	258	197	330	11	334	148
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	11.5	25.8	10.3	10.3	14.0	14.0
Effective Green, g (s)	11.5	25.8	10.3	10.3	14.0	14.0
Actuated g/C Ratio	0.24	0.54	0.22	0.22	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	425	1910	762	341	518	463
v/s Ratio Prot	c0.15	0.06	c0.09		c0.19	
v/s Ratio Perm				0.01		0.09
v/c Ratio	0.61	0.10	0.43	0.03	0.64	0.32
Uniform Delay, d1	16.1	5.4	16.2	14.8	14.7	13.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.0	0.4	0.0	2.8	0.4
Delay (s)	18.6	5.4	16.6	14.8	17.5	13.6
Level of Service	B	A	B	B	B	B
Approach Delay (s)		12.9	16.4		15.1	
Approach LOS		B	B		B	

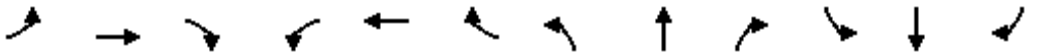
Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	87	0	0	341	60	0	91	27	20	7	91
Future Volume (vph)	0	87	0	0	341	60	0	91	27	20	7	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	95	0	0	371	65	0	99	29	22	8	99

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	95	0	436	0	128	22	107
Volume Left (vph)	0	0	0	0	0	0	22	0
Volume Right (vph)	0	0	0	65	0	29	0	99
Hadj (s)	0.00	0.03	0.00	-0.07	0.00	-0.12	0.53	-0.61
Departure Headway (s)	5.8	5.8	5.4	5.3	6.2	6.1	6.8	5.6
Degree Utilization, x	0.00	0.15	0.00	0.64	0.00	0.22	0.04	0.17
Capacity (veh/h)	900	573	900	661	900	539	483	581
Control Delay (s)	7.6	8.7	7.2	16.3	8.0	9.6	8.9	8.5
Approach Delay (s)	8.7		16.3		9.6		8.6	
Approach LOS	A		C		A		A	

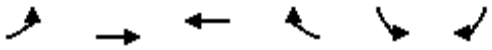
Intersection Summary				
Delay	13.0			
Level of Service	B			
Intersection Capacity Utilization	36.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	35	118	0	0	7	0
Future Volume (Veh/h)	0	0	0	0	0	0	35	118	0	0	7	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	38	128	0	0	8	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)												
pX, platoon unblocked												
vC, conflicting volume	212	212	8	212	212	128	8			128		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	212	212	8	212	212	128	8			128		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	98			100		
cM capacity (veh/h)	732	669	1074	732	669	922	1612			1458		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	0	0	0	0	38	128	0	8
Volume Left	0	0	0	0	38	0	0	0
Volume Right	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1612	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.02	0.08	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	2	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	7.3	0.0	0.0	0.0
Lane LOS	A	A	A	A	A			
Approach Delay (s)	0.0		0.0		1.7		0.0	
Approach LOS	A		A					

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	11.9%	ICU Level of Service		A
Analysis Period (min)	15			



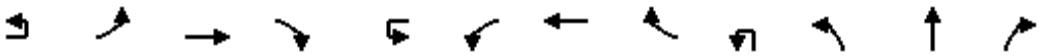
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	491	349	153	0	7
Future Volume (Veh/h)	0	491	349	153	0	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.95	0.95	0.78	0.78
Hourly flow rate (vph)	0	540	367	161	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	528				718	264
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	528				718	264
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1035				364	734

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	270	270	245	283	9
Volume Left	0	0	0	0	0
Volume Right	0	0	0	161	9
cSH	1700	1700	1700	1700	734
Volume to Capacity	0.16	0.16	0.14	0.17	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	10.0
Lane LOS					A
Approach Delay (s)	0.0		0.0		10.0
Approach LOS					A

Intersection Summary			
Average Delay	0.1		
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 (vph)	121	224	264	27	116	644
Future Volume (vph)	121	224	264	27	116	644
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1840		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1840		1770	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	243	287	29	126	700
RTOR Reduction (vph)	0	202	5	0	0	0
Lane Group Flow (vph)	132	41	311	0	126	700
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	9.4	9.4	27.8		7.1	38.9
Effective Green, g (s)	9.4	9.4	27.8		7.1	38.9
Actuated g/C Ratio	0.17	0.17	0.49		0.13	0.69
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	295	264	908		223	1287
v/s Ratio Prot	c0.07		0.17		0.07	c0.38
v/s Ratio Perm		0.03				
v/c Ratio	0.45	0.15	0.34		0.57	0.54
Uniform Delay, d1	21.1	20.0	8.7		23.1	4.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.1	0.3	1.0		3.3	1.7
Delay (s)	22.2	20.3	9.7		26.4	6.0
Level of Service	C	C	A		C	A
Approach Delay (s)	21.0		9.7			9.1
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	56.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	16	149	312	656	1	447	208	153	63	586	1653	652
Future Volume (vph)	16	149	312	656	1	447	208	153	63	586	1653	652
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3440	3539	1583		3433	5085	1583		3440	5085	1583
Flt Permitted		0.13	1.00	1.00		0.13	1.00	1.00		0.10	1.00	1.00
Satd. Flow (perm)		472	3539	1583		471	5085	1583		374	5085	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.84	0.84	0.84	0.84	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	155	325	683	1	532	248	182	68	630	1777	701
RTOR Reduction (vph)	0	0	0	222	0	0	0	150	0	0	0	228
Lane Group Flow (vph)	0	172	325	461	0	533	248	32	0	698	1777	473
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Effective Green, g (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Actuated g/C Ratio		0.19	0.18	0.18		0.19	0.18	0.18		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		90	625	279		90	899	279		90	1357	422
v/s Ratio Prot			0.09				0.05				0.35	
v/s Ratio Perm		0.36		c0.29		c1.13		0.02		c1.87		0.30
v/c Ratio		1.91	0.52	1.65		5.92	0.28	0.12		7.76	1.31	1.12
Uniform Delay, d1		64.7	59.7	65.8		64.7	57.0	55.3		60.6	58.6	58.6
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.25	0.83	0.66
Incremental Delay, d2		448.4	1.6	308.7		2238.8	0.4	0.5		3052.5	142.3	71.0
Delay (s)		513.0	61.3	374.5		2303.5	57.4	55.8		3128.3	191.0	109.5
Level of Service		F	E	F		F	E	E		F	F	F
Approach Delay (s)			308.5				1300.2				818.5	
Approach LOS			F				F				F	

Intersection Summary			
HCM 2000 Control Delay	653.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.17		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	7	165	1310	159
Future Volume (vph)	7	165	1310	159
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3
Lane Util. Factor		0.97	*0.70	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		3436	3912	1583
Flt Permitted		0.10	1.00	1.00
Satd. Flow (perm)		374	3912	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	181	1440	175
RTOR Reduction (vph)	0	0	0	104
Lane Group Flow (vph)	0	189	1440	71
Heavy Vehicles (%)	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm
Protected Phases		1	6	
Permitted Phases	1			6
Actuated Green, G (s)		38.7	42.7	42.7
Effective Green, g (s)		38.7	42.7	42.7
Actuated g/C Ratio		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.1	5.1
Lane Grp Cap (vph)		90	1044	422
v/s Ratio Prot			c0.37	
v/s Ratio Perm		0.51		0.04
v/c Ratio		2.10	1.38	0.17
Uniform Delay, d1		60.6	58.6	45.0
Progression Factor		1.21	0.80	0.56
Incremental Delay, d2		530.2	176.7	0.8
Delay (s)		603.5	223.6	26.0
Level of Service		F	F	C
Approach Delay (s)			244.2	
Approach LOS			F	

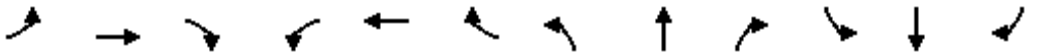
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	496	0	2458	107	282	1512	682	0	0
Future Volume (vph)	0	496	0	2458	107	282	1512	682	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4848			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4848			
Peak-hour factor, PHF	0.91	0.91	0.98	0.98	0.98	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	545	0	2508	109	303	1626	733	0	0
RTOR Reduction (vph)	0	10	0	0	18	0	0	0	0	0
Lane Group Flow (vph)	0	535	0	2508	91	303	2359	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		56.6		93.1	93.1	56.6	160.0			
Effective Green, g (s)		56.6		93.1	93.1	56.6	160.0			
Actuated g/C Ratio		0.35		0.58	0.58	0.35	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		569		2958	921	626	4848			
v/s Ratio Prot		c0.33		c0.49		0.17	0.49			
v/s Ratio Perm					0.06					
v/c Ratio		0.94		0.85	0.10	0.48	0.49			
Uniform Delay, d1		50.0		27.6	14.8	40.3	0.0			
Progression Factor		1.00		1.00	1.00	0.98	1.00			
Incremental Delay, d2		23.2		3.2	0.2	0.0	0.0			
Delay (s)		73.3		30.8	15.0	39.5	0.0			
Level of Service		E		C	B	D	A			
Approach Delay (s)	73.3			30.2			4.5		0.0	
Approach LOS	E			C			A		A	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	123	1110	1455	263	0	1512
Future Volume (vph)	123	1110	1455	263	0	1512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3458			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3458			5085
Peak-hour factor, PHF	0.98	0.98	0.97	0.97	0.94	0.94
Adj. Flow (vph)	126	1133	1500	271	0	1609
RTOR Reduction (vph)	0	9	18	0	0	0
Lane Group Flow (vph)	126	1124	1753	0	0	1609
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	33.5	33.5	34.8			34.8
Effective Green, g (s)	33.5	33.5	34.8			34.8
Actuated g/C Ratio	0.43	0.43	0.44			0.44
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1463	1187	1531			2251
v/s Ratio Prot	0.04		c0.51			0.32
v/s Ratio Perm		c0.40				
v/c Ratio	0.09	0.95	1.14			0.71
Uniform Delay, d1	13.4	21.7	21.9			17.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	14.9	73.4			1.6
Delay (s)	13.4	36.5	95.3			19.5
Level of Service	B	D	F			B
Approach Delay (s)	34.2		95.3			19.5
Approach LOS	C		F			B

Intersection Summary			
HCM 2000 Control Delay	52.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	78.6	Sum of lost time (s)	10.3
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



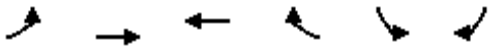
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1117	0	332	0	0	0	0	601	218	0	462	1173
Future Volume (vph)	1117	0	332	0	0	0	0	601	218	0	462	1173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3398			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3398			3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1164	0	346	0	0	0	0	639	232	0	491	1248
RTOR Reduction (vph)	0	0	153	0	0	0	0	47	0	0	0	0
Lane Group Flow (vph)	1164	0	193	0	0	0	0	824	0	0	491	1248
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	26.2		26.2					27.3			27.3	63.8
Effective Green, g (s)	26.2		26.2					27.3			27.3	63.8
Actuated g/C Ratio	0.41		0.41					0.43			0.43	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1409		650					1454			1514	1583
v/s Ratio Prot	0.34							0.24			0.14	
v/s Ratio Perm			0.12									c0.79
v/c Ratio	0.83		0.30					0.57			0.32	0.79
Uniform Delay, d1	16.8		12.6					13.8			12.1	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	3.9		0.1					1.1			0.4	4.1
Delay (s)	20.7		12.7					14.9			12.5	4.1
Level of Service	C		B					B			B	A
Approach Delay (s)		18.9			0.0			14.9			6.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	63.8	Sum of lost time (s)	10.3
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	204	119	700	61	203	591
Future Volume (vph)	204	119	700	61	203	591
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	222	129	761	66	221	642

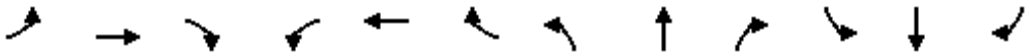
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	222	129	827	221	642
Volume Left (vph)	222	0	0	221	0
Volume Right (vph)	0	129	66	0	0
Hadj (s)	0.53	-0.67	-0.01	0.53	0.03
Departure Headway (s)	8.2	7.0	6.5	7.2	6.7
Degree Utilization, x	0.50	0.25	1.00	0.44	1.00
Capacity (veh/h)	436	508	827	496	642
Control Delay (s)	18.0	11.1	63.6	14.5	63.3
Approach Delay (s)	15.5		63.6	50.8	
Approach LOS	C		F	F	

Intersection Summary			
Delay	49.9		
Level of Service	E		
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	558	241	240	123	358	302
Future Volume (vph)	558	241	240	123	358	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.92	0.92
Adj. Flow (vph)	627	271	245	126	389	328
RTOR Reduction (vph)	0	0	0	107	0	236
Lane Group Flow (vph)	627	271	245	19	389	92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	31.1	46.2	11.1	11.1	21.1	21.1
Effective Green, g (s)	31.1	46.2	11.1	11.1	21.1	21.1
Actuated g/C Ratio	0.41	0.61	0.15	0.15	0.28	0.28
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	731	2171	521	233	495	443
v/s Ratio Prot	c0.35	0.08	c0.07		c0.22	
v/s Ratio Perm				0.01		0.06
v/c Ratio	0.86	0.12	0.47	0.08	0.79	0.21
Uniform Delay, d1	20.1	6.1	29.4	27.7	25.0	20.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.8	0.0	0.7	0.1	8.0	0.2
Delay (s)	29.9	6.1	30.1	27.8	33.0	20.9
Level of Service	C	A	C	C	C	C
Approach Delay (s)		22.7	29.3		27.5	
Approach LOS		C	C		C	

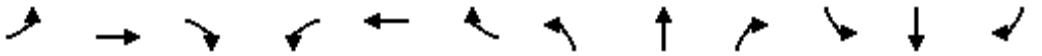
Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	75.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	264	0	0	202	36	0	216	81	61	3	121
Future Volume (vph)	0	264	0	0	202	36	0	216	81	61	3	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	287	0	0	220	39	0	235	88	66	3	132

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	287	0	259	0	323	66	135
Volume Left (vph)	0	0	0	0	0	0	66	0
Volume Right (vph)	0	0	0	39	0	88	0	132
Hadj (s)	0.00	0.03	0.00	-0.07	0.00	-0.16	0.53	-0.65
Departure Headway (s)	6.8	6.8	6.9	6.8	6.8	6.7	7.7	6.5
Degree Utilization, x	0.00	0.54	0.00	0.49	0.00	0.60	0.14	0.24
Capacity (veh/h)	900	490	900	488	900	508	423	497
Control Delay (s)	8.6	16.5	8.7	14.9	8.6	17.9	10.7	10.3
Approach Delay (s)	16.5		14.9		17.9		10.4	
Approach LOS	C		B		C		B	

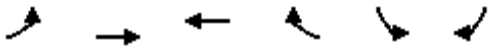
Intersection Summary				
Delay	15.4			
Level of Service	C			
Intersection Capacity Utilization	43.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	62	297	0	0	3	0
Future Volume (Veh/h)	0	0	0	0	0	0	62	297	0	0	3	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	67	323	0	0	3	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)												
pX, platoon unblocked												
vC, conflicting volume	460	460	3	460	460	323	3			323		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	460	460	3	460	460	323	3			323		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	96			100		
cM capacity (veh/h)	495	477	1081	495	477	718	1619			1237		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	0	0	0	0	67	323	0	3
Volume Left	0	0	0	0	67	0	0	0
Volume Right	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1619	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.04	0.19	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	3	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	7.3	0.0	0.0	0.0
Lane LOS	A	A	A	A	A			
Approach Delay (s)	0.0		0.0		1.3		0.0	
Approach LOS	A		A					

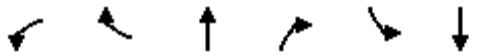
Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	19.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	599	360	359	0	3
Future Volume (Veh/h)	0	599	360	359	0	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.86	0.86	0.76	0.76
Hourly flow rate (vph)	0	681	419	417	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	836				968	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	836				968	418
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	794				251	584

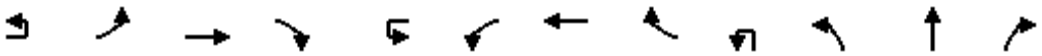
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	340	340	279	557	4
Volume Left	0	0	0	0	0
Volume Right	0	0	0	417	4
cSH	1700	1700	1700	1700	584
Volume to Capacity	0.20	0.20	0.16	0.33	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	11.2
Lane LOS					B
Approach Delay (s)	0.0		0.0		11.2
Approach LOS					B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	68	127	634	47	203	592
Future Volume (vph)	68	127	634	47	203	592
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1845		1770	1863
Flt Permitted	0.95	1.00	1.00		0.32	1.00
Satd. Flow (perm)	1770	1583	1845		588	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	138	689	51	221	643
RTOR Reduction (vph)	0	120	3	0	0	0
Lane Group Flow (vph)	74	18	737	0	221	643
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	6.0	6.0	32.3		32.3	32.3
Effective Green, g (s)	6.0	6.0	32.3		32.3	32.3
Actuated g/C Ratio	0.13	0.13	0.70		0.70	0.70
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	229	205	1287		410	1299
v/s Ratio Prot	c0.04		c0.40			0.35
v/s Ratio Perm		0.01			0.38	
v/c Ratio	0.32	0.09	0.57		0.54	0.49
Uniform Delay, d1	18.3	17.7	3.5		3.4	3.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.8	0.2	0.6		1.4	0.3
Delay (s)	19.1	17.9	4.1		4.8	3.5
Level of Service	B	B	A		A	A
Approach Delay (s)	18.3		4.1			3.8
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	46.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	9	28	67	296	1	560	237	73	73	562	1213	253
Future Volume (vph)	9	28	67	296	1	560	237	73	73	562	1213	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3450	3539	1583		3433	5085	1583		3441	5085	1583
Flt Permitted		0.36	1.00	1.00		0.18	1.00	1.00		0.14	1.00	1.00
Satd. Flow (perm)		1320	3539	1583		660	5085	1583		512	5085	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.88	0.88	0.88	0.88	0.85	0.85	0.85	0.85
Adj. Flow (vph)	10	31	75	333	1	636	269	83	86	661	1427	298
RTOR Reduction (vph)	0	0	0	167	0	0	0	63	0	0	0	121
Lane Group Flow (vph)	0	41	75	166	0	637	269	20	0	747	1427	177
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		11.0	18.0	18.0		21.9	28.9	28.9		28.3	54.8	54.8
Effective Green, g (s)		11.0	18.0	18.0		21.9	28.9	28.9		28.3	54.8	54.8
Actuated g/C Ratio		0.09	0.15	0.15		0.18	0.24	0.24		0.24	0.46	0.46
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		121	530	237		120	1224	381		120	2322	722
v/s Ratio Prot			0.02				0.05				0.28	
v/s Ratio Perm		0.03		c0.10		c0.97		0.01		c1.46		0.11
v/c Ratio		0.34	0.14	0.70		5.31	0.22	0.05		6.22	0.61	0.25
Uniform Delay, d1		51.1	44.3	48.4		49.0	36.5	35.0		45.9	24.6	20.0
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		0.87	0.69	0.20
Incremental Delay, d2		0.6	0.3	11.4		1957.1	0.2	0.1		2365.3	1.0	0.6
Delay (s)		51.7	44.6	59.9		2006.1	36.7	35.2		2405.2	18.0	4.6
Level of Service		D	D	E		F	D	D		F	B	A
Approach Delay (s)			56.6				1305.0				737.8	
Approach LOS			E				F				F	

Intersection Summary			
HCM 2000 Control Delay	629.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.39		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	56	1036	51
Future Volume (vph)	56	1036	51
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5	5.3	5.3
Lane Util. Factor	0.97	*0.70	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3433	3912	1583
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3433	3912	1583
Peak-hour factor, PHF	0.87	0.87	0.87
Adj. Flow (vph)	64	1191	59
RTOR Reduction (vph)	0	0	43
Lane Group Flow (vph)	64	1191	16
Heavy Vehicles (%)	2%	2%	2%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	5.7	32.2	32.2
Effective Green, g (s)	5.7	32.2	32.2
Actuated g/C Ratio	0.05	0.27	0.27
Clearance Time (s)	4.5	5.3	5.3
Vehicle Extension (s)	2.0	5.1	5.1
Lane Grp Cap (vph)	163	1049	424
v/s Ratio Prot	0.02	c0.30	
v/s Ratio Perm			0.01
v/c Ratio	0.39	1.14	0.04
Uniform Delay, d1	55.5	43.9	32.4
Progression Factor	1.19	0.94	5.04
Incremental Delay, d2	0.6	72.7	0.2
Delay (s)	66.4	114.2	163.6
Level of Service	E	F	F
Approach Delay (s)		114.0	
Approach LOS		F	

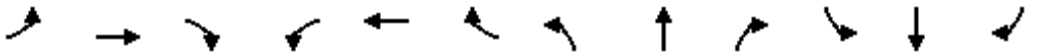
Intersection Summary

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	399	0	1702	116	195	796	974	0	0
Future Volume (vph)	0	399	0	1702	116	195	796	974	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.92			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4666			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4666			
Peak-hour factor, PHF	0.93	0.93	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	429	0	1956	133	210	856	1047	0	0
RTOR Reduction (vph)	0	15	0	0	34	0	0	0	0	0
Lane Group Flow (vph)	0	414	0	1956	99	210	1903	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		35.6		74.1	74.1	35.6	120.0			
Effective Green, g (s)		35.6		74.1	74.1	35.6	120.0			
Actuated g/C Ratio		0.30		0.62	0.62	0.30	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		477		3139	977	525	4666			
v/s Ratio Prot		c0.26		c0.38		0.12	0.41			
v/s Ratio Perm					0.06					
v/c Ratio		0.87		0.62	0.10	0.40	0.41			
Uniform Delay, d1		40.0		14.3	9.4	33.7	0.0			
Progression Factor		1.00		1.00	1.00	0.57	1.00			
Incremental Delay, d2		14.9		0.9	0.2	0.0	0.0			
Delay (s)		54.9		15.2	9.6	19.3	0.0			
Level of Service		D		B	A	B	A			
Approach Delay (s)	54.9			14.9			1.9		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	202	887	931	418	0	796
Future Volume (vph)	202	887	931	418	0	796
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.95			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3375			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3375			5085
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.94	0.94
Adj. Flow (vph)	227	997	1046	470	0	847
RTOR Reduction (vph)	0	73	64	0	0	0
Lane Group Flow (vph)	227	924	1452	0	0	847
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	28.0	28.0	38.9			38.9
Effective Green, g (s)	28.0	28.0	38.9			38.9
Actuated g/C Ratio	0.36	0.36	0.50			0.50
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1245	1010	1700			2562
v/s Ratio Prot	0.07		c0.43			0.17
v/s Ratio Perm		c0.33				
v/c Ratio	0.18	0.91	0.85			0.33
Uniform Delay, d1	16.8	23.5	16.7			11.4
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	12.1	5.1			0.2
Delay (s)	16.8	35.6	21.8			11.6
Level of Service	B	D	C			B
Approach Delay (s)	32.1		21.8			11.6
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	77.2	Sum of lost time (s)	10.3
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



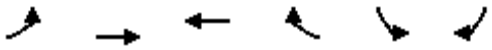
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	722	0	196	0	0	0	0	627	149	0	436	562
Future Volume (vph)	722	0	196	0	0	0	0	627	149	0	436	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.97			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3437			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3437			3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.84	0.84	0.84	0.86	0.86	0.86
Adj. Flow (vph)	820	0	223	0	0	0	0	746	177	0	507	653
RTOR Reduction (vph)	0	0	148	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	820	0	75	0	0	0	0	899	0	0	507	653
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	18.7		18.7					26.7			26.7	55.7
Effective Green, g (s)	18.7		18.7					26.7			26.7	55.7
Actuated g/C Ratio	0.34		0.34					0.48			0.48	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1152		531					1647			1696	1583
v/s Ratio Prot	c0.24							c0.26			0.14	
v/s Ratio Perm			0.05									0.41
v/c Ratio	0.71		0.14					0.55			0.30	0.41
Uniform Delay, d1	16.1		12.9					10.2			8.8	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	1.8		0.0					0.9			0.3	0.8
Delay (s)	17.9		12.9					11.1			9.1	0.8
Level of Service	B		B					B			A	A
Approach Delay (s)		16.8			0.0			11.1			4.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	55.7	Sum of lost time (s)	10.3
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	231	308	468	20	103	529
Future Volume (vph)	231	308	468	20	103	529
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	251	335	509	22	112	575

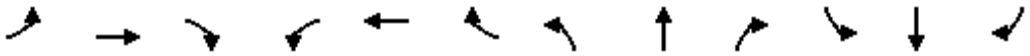
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	251	335	531	112	575
Volume Left (vph)	251	0	0	112	0
Volume Right (vph)	0	335	22	0	0
Hadj (s)	0.53	-0.67	0.01	0.53	0.03
Departure Headway (s)	8.1	7.0	7.0	7.8	7.3
Degree Utilization, x	0.57	0.65	1.00	0.24	1.00
Capacity (veh/h)	438	506	531	455	575
Control Delay (s)	20.1	20.6	66.3	12.1	66.4
Approach Delay (s)	20.4		66.3	57.5	
Approach LOS	C		F	F	

Intersection Summary			
Delay	48.0		
Level of Service	E		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	256	190	342	46	347	461
Future Volume (vph)	256	190	342	46	347	461
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.94	0.94	0.91	0.91
Adj. Flow (vph)	269	200	364	49	381	507
RTOR Reduction (vph)	0	0	0	38	0	351
Lane Group Flow (vph)	269	200	364	11	381	156
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	11.6	26.4	10.8	10.8	15.3	15.3
Effective Green, g (s)	11.6	26.4	10.8	10.8	15.3	15.3
Actuated g/C Ratio	0.23	0.53	0.22	0.22	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	413	1879	769	343	544	487
v/s Ratio Prot	c0.15	0.06	c0.10		c0.22	
v/s Ratio Perm				0.01		0.10
v/c Ratio	0.65	0.11	0.47	0.03	0.70	0.32
Uniform Delay, d1	17.2	5.8	17.0	15.3	15.2	13.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7	0.0	0.5	0.0	4.1	0.4
Delay (s)	20.9	5.8	17.4	15.4	19.2	13.6
Level of Service	C	A	B	B	B	B
Approach Delay (s)		14.5	17.2		16.0	
Approach LOS		B	B		B	

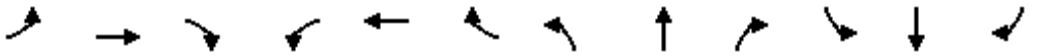
Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	49.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	87	36	0	341	60	107	123	27	20	18	91
Future Volume (vph)	0	87	36	0	341	60	107	123	27	20	18	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	95	39	0	371	65	116	134	29	22	20	99

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	134	0	436	116	163	22	119
Volume Left (vph)	0	0	0	0	116	0	22	0
Volume Right (vph)	0	39	0	65	0	29	0	99
Hadj (s)	0.00	-0.17	0.00	-0.07	0.53	-0.09	0.53	-0.55
Departure Headway (s)	6.5	6.3	6.0	5.9	7.1	6.5	7.4	6.3
Degree Utilization, x	0.00	0.23	0.00	0.72	0.23	0.29	0.05	0.21
Capacity (veh/h)	900	525	900	587	473	518	439	515
Control Delay (s)	8.3	10.0	7.8	21.1	11.0	10.9	9.5	9.7
Approach Delay (s)	10.0		21.1		10.9		9.7	
Approach LOS	B		C		B		A	

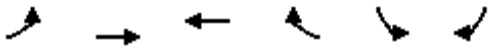
Intersection Summary				
Delay	15.1			
Level of Service	C			
Intersection Capacity Utilization	44.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	11	0	32	43	139	35	118	14	47	7	0
Future Volume (Veh/h)	0	11	0	32	43	139	35	118	14	47	7	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	12	0	35	47	151	38	128	15	51	8	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)												
pX, platoon unblocked												
vC, conflicting volume	488	329	8	328	322	136	8			143		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	488	329	8	328	322	136	8			143		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	100	94	92	83	98			96		
cM capacity (veh/h)	366	556	1074	588	561	913	1612			1440		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	0	12	23	210	38	143	51	8
Volume Left	0	0	23	12	38	0	51	0
Volume Right	0	0	0	151	0	15	0	0
cSH	1700	556	588	780	1612	1700	1440	1700
Volume to Capacity	0.00	0.02	0.04	0.27	0.02	0.08	0.04	0.00
Queue Length 95th (ft)	0	2	3	27	2	0	3	0
Control Delay (s)	0.0	11.6	11.4	11.3	7.3	0.0	7.6	0.0
Lane LOS	A	B	B	B	A		A	
Approach Delay (s)	11.6		11.3		1.5		6.6	
Approach LOS	B		B					

Intersection Summary					
Average Delay	7.1				
Intersection Capacity Utilization	Err%	ICU Level of Service		H	
Analysis Period (min)	15				



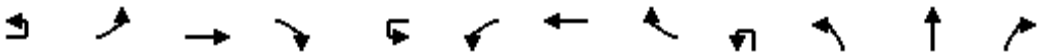
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	534	349	167	0	39
Future Volume (Veh/h)	0	534	349	167	0	39
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.95	0.95	0.78	0.78
Hourly flow rate (vph)	0	587	367	176	0	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	543				748	272
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	543				748	272
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	1022				348	726

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	294	294	245	298	50
Volume Left	0	0	0	0	0
Volume Right	0	0	0	176	50
cSH	1700	1700	1700	1700	726
Volume to Capacity	0.17	0.17	0.14	0.18	0.07
Queue Length 95th (ft)	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	10.3
Lane LOS					B
Approach Delay (s)	0.0		0.0		10.3
Approach LOS					B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		

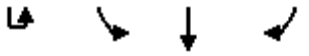
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	164	224	264	38	116	644
Future Volume (vph)	164	224	264	38	116	644
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1831		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1831		1770	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	178	243	287	41	126	700
RTOR Reduction (vph)	0	197	7	0	0	0
Lane Group Flow (vph)	178	46	321	0	126	700
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	10.8	10.8	27.3		7.0	38.3
Effective Green, g (s)	10.8	10.8	27.3		7.0	38.3
Actuated g/C Ratio	0.19	0.19	0.48		0.12	0.67
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	334	299	875		216	1249
v/s Ratio Prot	c0.10		0.18		0.07	c0.38
v/s Ratio Perm		0.03				
v/c Ratio	0.53	0.15	0.37		0.58	0.56
Uniform Delay, d1	20.9	19.3	9.4		23.7	5.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.6	0.2	1.2		4.0	1.8
Delay (s)	22.5	19.6	10.6		27.6	6.8
Level of Service	C	B	B		C	A
Approach Delay (s)	20.8		10.6			10.0
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	57.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	16	149	312	667	1	447	208	153	63	593	1666	652
Future Volume (vph)	16	149	312	667	1	447	208	153	63	593	1666	652
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Lane Util. Factor		0.97	0.95	1.00		0.97	0.91	1.00		0.97	0.91	1.00
Frt		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
Satd. Flow (prot)		3440	3539	1583		3433	5085	1583		3440	5085	1583
Flt Permitted		0.13	1.00	1.00		0.13	1.00	1.00		0.10	1.00	1.00
Satd. Flow (perm)		472	3539	1583		471	5085	1583		374	5085	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.84	0.84	0.84	0.84	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	155	325	695	1	532	248	182	68	638	1791	701
RTOR Reduction (vph)	0	0	0	222	0	0	0	150	0	0	0	226
Lane Group Flow (vph)	0	172	325	473	0	533	248	32	0	706	1791	475
Heavy Vehicles (%)	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot	NA	Perm
Protected Phases		3	8			7	4			5	2	
Permitted Phases	3			8	7			4	5			2
Actuated Green, G (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Effective Green, g (s)		30.7	28.3	28.3		30.7	28.3	28.3		38.7	42.7	42.7
Actuated g/C Ratio		0.19	0.18	0.18		0.19	0.18	0.18		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3		4.5	5.3	5.3		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.3	5.3		2.0	5.6	5.6		2.0	5.6	5.6
Lane Grp Cap (vph)		90	625	279		90	899	279		90	1357	422
v/s Ratio Prot			0.09				0.05				0.35	
v/s Ratio Perm		0.36		c0.30		c1.13		0.02		c1.89		0.30
v/c Ratio		1.91	0.52	1.69		5.92	0.28	0.12		7.84	1.32	1.13
Uniform Delay, d1		64.7	59.7	65.8		64.7	57.0	55.3		60.6	58.6	58.6
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.27	0.83	0.66
Incremental Delay, d2		448.4	1.6	327.5		2238.8	0.4	0.5		3091.9	146.7	72.3
Delay (s)		513.0	61.3	393.4		2303.5	57.4	55.8		3169.0	195.4	111.1
Level of Service		F	E	F		F	E	E		F	F	F
Approach Delay (s)			320.1				1300.2				833.4	
Approach LOS			F				F				F	

Intersection Summary			
HCM 2000 Control Delay	662.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.21		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	114.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

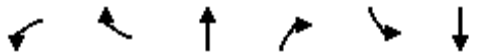


Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	7	165	1333	159
Future Volume (vph)	7	165	1333	159
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.5	5.3	5.3
Lane Util. Factor		0.97	*0.70	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		3436	3912	1583
Flt Permitted		0.10	1.00	1.00
Satd. Flow (perm)		374	3912	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	181	1465	175
RTOR Reduction (vph)	0	0	0	103
Lane Group Flow (vph)	0	189	1465	72
Heavy Vehicles (%)	0%	2%	2%	2%
Turn Type	custom	Prot	NA	Perm
Protected Phases		1	6	
Permitted Phases	1			6
Actuated Green, G (s)		38.7	42.7	42.7
Effective Green, g (s)		38.7	42.7	42.7
Actuated g/C Ratio		0.24	0.27	0.27
Clearance Time (s)		4.5	5.3	5.3
Vehicle Extension (s)		2.0	5.1	5.1
Lane Grp Cap (vph)		90	1044	422
v/s Ratio Prot			c0.37	
v/s Ratio Perm		0.51		0.05
v/c Ratio		2.10	1.40	0.17
Uniform Delay, d1		60.6	58.6	45.1
Progression Factor		1.20	0.80	0.55
Incremental Delay, d2		530.2	187.2	0.9
Delay (s)		603.2	234.2	25.8
Level of Service		F	F	C
Approach Delay (s)			252.4	
Approach LOS			F	

Intersection Summary

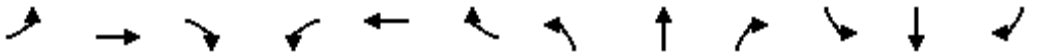
Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	516	0	2458	107	316	1512	682	0	0
Future Volume (vph)	0	516	0	2458	107	316	1512	682	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	5.3			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4848			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4848			
Peak-hour factor, PHF	0.91	0.91	0.98	0.98	0.98	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	567	0	2508	109	340	1626	733	0	0
RTOR Reduction (vph)	0	10	0	0	19	0	0	0	0	0
Lane Group Flow (vph)	0	557	0	2508	90	340	2359	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		58.2		91.5	91.5	58.2	160.0			
Effective Green, g (s)		58.2		91.5	91.5	58.2	160.0			
Actuated g/C Ratio		0.36		0.57	0.57	0.36	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	5.3			
Vehicle Extension (s)		2.0		7.0	7.0	2.0	7.0			
Lane Grp Cap (vph)		586		2907	905	643	4848			
v/s Ratio Prot		c0.35		c0.49		0.19	0.49			
v/s Ratio Perm					0.06					
v/c Ratio		0.95		0.86	0.10	0.53	0.49			
Uniform Delay, d1		49.5		28.9	15.5	40.1	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		25.1		3.7	0.2	0.0	0.0			
Delay (s)		74.6		32.6	15.8	40.3	0.0			
Level of Service		E		C	B	D	A			
Approach Delay (s)	74.6			31.9			5.1		0.0	
Approach LOS	E			C			A		A	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	146	1110	1455	317	0	1512
Future Volume (vph)	146	1110	1455	317	0	1512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3444			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3444			5085
Peak-hour factor, PHF	0.98	0.98	0.97	0.97	0.94	0.94
Adj. Flow (vph)	149	1133	1500	327	0	1609
RTOR Reduction (vph)	0	19	23	0	0	0
Lane Group Flow (vph)	149	1114	1804	0	0	1609
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	39.7			39.7
Effective Green, g (s)	30.0	30.0	39.7			39.7
Actuated g/C Ratio	0.38	0.38	0.50			0.50
Clearance Time (s)	5.0	5.0	5.3			5.3
Vehicle Extension (s)	2.0	2.0	6.1			6.1
Lane Grp Cap (vph)	1287	1045	1709			2523
v/s Ratio Prot	0.04		c0.52			0.32
v/s Ratio Perm		c0.40				
v/c Ratio	0.12	1.07	1.06			0.64
Uniform Delay, d1	16.3	25.0	20.1			14.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	47.1	38.1			0.9
Delay (s)	16.3	72.1	58.2			15.8
Level of Service	B	E	E			B
Approach Delay (s)	65.6		58.2			15.8
Approach LOS	E		E			B

Intersection Summary			
HCM 2000 Control Delay	45.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



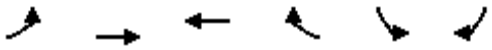
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1117	0	423	0	0	0	0	655	231	0	485	1173
Future Volume (vph)	1117	0	423	0	0	0	0	655	231	0	485	1173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0					5.3			5.3	4.0
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		1583					3401			3539	1583
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		1583					3401			3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1164	0	441	0	0	0	0	697	246	0	516	1248
RTOR Reduction (vph)	0	0	143	0	0	0	0	45	0	0	0	0
Lane Group Flow (vph)	1164	0	298	0	0	0	0	898	0	0	516	1248
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm					NA			NA	Free
Protected Phases	4							2			6	
Permitted Phases			4									Free
Actuated Green, G (s)	27.0		27.0					28.9			28.9	66.2
Effective Green, g (s)	27.0		27.0					28.9			28.9	66.2
Actuated g/C Ratio	0.41		0.41					0.44			0.44	1.00
Clearance Time (s)	5.0		5.0					5.3			5.3	
Vehicle Extension (s)	2.0		2.0					6.1			6.1	
Lane Grp Cap (vph)	1400		645					1484			1544	1583
v/s Ratio Prot	0.34							0.26			0.15	
v/s Ratio Perm			0.19									c0.79
v/c Ratio	0.83		0.46					0.61			0.33	0.79
Uniform Delay, d1	17.6		14.3					14.3			12.3	0.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	4.2		0.2					1.3			0.4	4.1
Delay (s)	21.7		14.5					15.6			12.7	4.1
Level of Service	C		B					B			B	A
Approach Delay (s)		19.7			0.0			15.6			6.6	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	66.2	Sum of lost time (s)	10.3
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	204	186	700	61	317	591
Future Volume (vph)	204	186	700	61	317	591
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	222	202	761	66	345	642

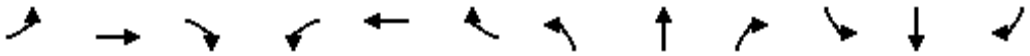
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	222	202	827	345	642
Volume Left (vph)	222	0	0	345	0
Volume Right (vph)	0	202	66	0	0
Hadj (s)	0.53	-0.67	-0.01	0.53	0.03
Departure Headway (s)	8.2	7.0	6.7	7.4	6.9
Degree Utilization, x	0.51	0.40	1.00	0.71	1.00
Capacity (veh/h)	433	505	827	478	642
Control Delay (s)	18.2	13.4	64.5	25.1	64.3
Approach Delay (s)	15.9		64.5	50.6	
Approach LOS	C		F	F	

Intersection Summary			
Delay	49.2		
Level of Service	E		
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	592	241	260	123	385	302
Future Volume (vph)	592	241	260	123	385	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.92	0.92
Adj. Flow (vph)	665	271	265	126	418	328
RTOR Reduction (vph)	0	0	0	107	0	235
Lane Group Flow (vph)	665	271	265	19	418	93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	33.5	49.3	11.8	11.8	22.6	22.6
Effective Green, g (s)	33.5	49.3	11.8	11.8	22.6	22.6
Actuated g/C Ratio	0.42	0.62	0.15	0.15	0.28	0.28
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	742	2183	522	233	500	447
v/s Ratio Prot	c0.38	0.08	c0.07		c0.24	
v/s Ratio Perm				0.01		0.06
v/c Ratio	0.90	0.12	0.51	0.08	0.84	0.21
Uniform Delay, d1	21.6	6.3	31.4	29.4	26.9	21.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.4	0.0	0.8	0.1	11.6	0.2
Delay (s)	35.0	6.4	32.2	29.5	38.5	22.1
Level of Service	C	A	C	C	D	C
Approach Delay (s)		26.7	31.3		31.2	
Approach LOS		C	C		C	

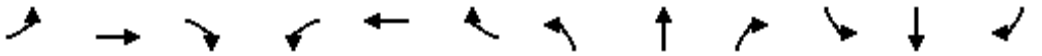
Intersection Summary			
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	79.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	264	114	0	202	36	67	236	81	61	37	121
Future Volume (vph)	0	264	114	0	202	36	67	236	81	61	37	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	287	124	0	220	39	73	257	88	66	40	132

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	411	0	259	73	345	66	172
Volume Left (vph)	0	0	0	0	73	0	66	0
Volume Right (vph)	0	124	0	39	0	88	0	132
Hadj (s)	0.00	-0.18	0.00	-0.07	0.53	-0.14	0.53	-0.50
Departure Headway (s)	7.4	7.2	7.8	7.7	8.2	7.5	8.7	7.7
Degree Utilization, x	0.00	0.83	0.00	0.56	0.17	0.72	0.16	0.37
Capacity (veh/h)	900	484	900	431	415	457	364	417
Control Delay (s)	9.2	34.8	9.6	18.8	11.7	26.4	12.2	13.8
Approach Delay (s)	34.8		18.8		23.9		13.4	
Approach LOS	D		C		C		B	

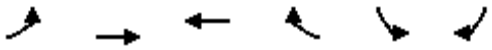
Intersection Summary				
Delay	24.4			
Level of Service	C			
Intersection Capacity Utilization	51.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	34	0	20	27	87	62	297	46	148	3	0
Future Volume (Veh/h)	0	34	0	20	27	87	62	297	46	148	3	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	37	0	22	29	95	67	323	50	161	3	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)												
pX, platoon unblocked												
vC, conflicting volume	892	832	3	826	807	348	3			373		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	892	832	3	826	807	348	3			373		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	85	100	90	89	86	96			86		
cM capacity (veh/h)	181	253	1081	225	261	695	1619			1185		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	0	37	15	131	67	373	161	3
Volume Left	0	0	15	7	67	0	161	0
Volume Right	0	0	0	95	0	50	0	0
cSH	1700	253	225	469	1619	1700	1185	1700
Volume to Capacity	0.00	0.15	0.07	0.28	0.04	0.22	0.14	0.00
Queue Length 95th (ft)	0	13	5	28	3	0	12	0
Control Delay (s)	0.0	21.7	22.1	15.6	7.3	0.0	8.5	0.0
Lane LOS	A	C	C	C	A		A	
Approach Delay (s)	21.7		16.3		1.1		8.4	
Approach LOS	C		C					

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	626	360	405	0	23
Future Volume (Veh/h)	0	626	360	405	0	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.86	0.86	0.76	0.76
Hourly flow rate (vph)	0	711	419	471	0	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)						
pX, platoon unblocked						
vC, conflicting volume	890				1010	445
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	890				1010	445
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	757				236	561

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	356	356	279	611	30
Volume Left	0	0	0	0	0
Volume Right	0	0	0	471	30
cSH	1700	1700	1700	1700	561
Volume to Capacity	0.21	0.21	0.16	0.36	0.05
Queue Length 95th (ft)	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	11.8
Lane LOS					B
Approach Delay (s)	0.0		0.0		11.8
Approach LOS					B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	95	127	634	81	203	592
Future Volume (vph)	95	127	634	81	203	592
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1834		1770	1863
Flt Permitted	0.95	1.00	1.00		0.29	1.00
Satd. Flow (perm)	1770	1583	1834		549	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	138	689	88	221	643
RTOR Reduction (vph)	0	119	6	0	0	0
Lane Group Flow (vph)	103	19	771	0	221	643
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	6.8	6.8	35.2		35.2	35.2
Effective Green, g (s)	6.8	6.8	35.2		35.2	35.2
Actuated g/C Ratio	0.14	0.14	0.70		0.70	0.70
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	240	215	1291		386	1311
v/s Ratio Prot	c0.06		c0.42			0.35
v/s Ratio Perm		0.01			0.40	
v/c Ratio	0.43	0.09	0.60		0.57	0.49
Uniform Delay, d1	19.8	18.9	3.8		3.7	3.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	0.2	0.8		2.1	0.3
Delay (s)	21.1	19.1	4.5		5.7	3.6
Level of Service	C	B	A		A	A
Approach Delay (s)	19.9		4.5			4.2
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Scenario Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 6	Yes	???
# 9	No / No	??? / ???

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1!		0	0 0 1!		0	1 0	0 1	0	0 0	0 1	0
Initial Vol:	0	0	0	64	0	349	192	196	2	0	310	46

Major Street Volume: 746
Minor Approach Volume: 413
Minor Approach Volume Threshold: 386

SIGNAL WARRANT DISCLAIMER

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Peak Hour Delay Signal Warrant Report

Intersection #9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	1 0 0	0 0		0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	2	0	0	91	0	7	6	251	3	3	347	91
ApproachDel:	15.6			20.2			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=801]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=98]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=801]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	1 0	0 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	2	0	0	91	0	7	6	251	3	3	347	91

Major Street Volume: 701
Minor Approach Volume: 98
Minor Approach Volume Threshold: 314

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Scenario Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 6	Yes	???
# 9	No / No	??? / ???

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 1	0 0	0	0 0	1! 0	0	1 0	0 1	0	0 0	0 1	0
Initial Vol:	3	5	0	151	5	237	447	244	2	0	240	123

Major Street Volume: 1056
Minor Approach Volume: 393
Minor Approach Volume Threshold: 266

SIGNAL WARRANT DISCLAIMER

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Peak Hour Delay Signal Warrant Report

Intersection #9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 1 0	0	0	0 0 0	1	0
Initial Vol:	0	0	0	121	2	3	3	392	0	0	360	216
ApproachDel:	xxxxxx			36.1			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=126]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1097]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 1 0	0	0	0 0 0	1	0
Initial Vol:	0	0	0	121	2	3	3	392	0	0	360	216

Major Street Volume: 971
Minor Approach Volume: 126
Minor Approach Volume Threshold: 227

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Scenario Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 5	No	???
# 6	Yes	???
# 7	No	???
# 9	No / No	??? / ???

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #5

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 0	1	0	1 0	1	0 0	0 0	0	0	1 0	0 0	1
Initial Vol:	0	462	20	67	529	0	0	0	0	60	0	201

Major Street Volume: 1078
Minor Approach Volume: 261
Minor Approach Volume Threshold: 342

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1!		0	0 0 1!		0	1 0		0 1 0	0 0		0 1 0
Initial Vol:	0	0	0	133	0	461	239	196	2	0	310	81

Major Street Volume: 828
Minor Approach Volume: 594
Minor Approach Volume Threshold: 350

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	0 1	0	1 0	0 1	0
Initial Vol:	0	97	27	20	98	0	0	87	0	80	261	60

Major Street Volume: 488
Minor Approach Volume: 124
Minor Approach Volume Threshold: 683

SIGNAL WARRANT DISCLAIMER

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Peak Hour Delay Signal Warrant Report

Intersection #9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	1 0 0	0 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	2	0	0	171	0	7	6	320	3	3	382	118
ApproachDel:	18.1			39.9			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1012]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=178]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1012]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	1 0 0	0 0		0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	2	0	0	171	0	7	6	320	3	3	382	118

Major Street Volume: 832
Minor Approach Volume: 178
Minor Approach Volume Threshold: 268

SIGNAL WARRANT DISCLAIMER

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Scenario Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 5	No	???
# 6	Yes	???
# 7	No	???
# 9	No / No	??? / ???

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #5

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 0	1	0	1 0	1	0 0	0 0	0	0	1 0	0	0 1
Initial Vol:	0	702	61	203	596	0	0	0	0	36	0	119

Major Street Volume: 1562
Minor Approach Volume: 155
Minor Approach Volume Threshold: 182

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 1	0 0	0	0 0	1! 0	0	1 0	0 1	0	0 0	0 1	0
Initial Vol:	3	5	0	190	5	302	555	244	2	0	240	185

Major Street Volume: 1226
Minor Approach Volume: 497
Minor Approach Volume Threshold: 215

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	0 1	0	1 0	0 1	0
Initial Vol:	0	219	81	61	126	0	0	264	0	47	155	36

Major Street Volume: 502
Minor Approach Volume: 300
Minor Approach Volume Threshold: 670

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Delay Signal Warrant Report

Intersection #9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 1 0	0	0	0 0 0	1	0
Initial Vol:	0	0	0	168	2	3	3	431	0	0	422	297
ApproachDel:	xxxxxx			59.0			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.8]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=173]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1326]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 1	0	0	0 0	0	1 0
Initial Vol:	0	0	0	168	2	3	3	431	0	0	422	297

Major Street Volume: 1153
Minor Approach Volume: 173
Minor Approach Volume Threshold: 181

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Scenario Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 5	Yes	???
# 6	Yes	???
# 7	No	???
# 8	No / No	??? / ???
# 9	Yes / No	??? / ???

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #5

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 0	1	0	1 0	1	0 0	0 0	0	0	1 0	0	0 1
Initial Vol:	0	462	20	103	529	0	0	0	0	60	0	308

Major Street Volume: 1114
Minor Approach Volume: 368
Minor Approach Volume Threshold: 328

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	1 0	0 1	0	0 0	0 1	0
Initial Vol:	0	0	0	133	0	461	239	207	2	0	342	81

Major Street Volume: 871
Minor Approach Volume: 594
Minor Approach Volume Threshold: 332

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 0	1 0		1 0 0	1 0	
Initial Vol:	107	129	27	20	109	0	0	87	36	80	261	60

Major Street Volume: 524
Minor Approach Volume: 263
Minor Approach Volume Threshold: 652

SIGNAL WARRANT DISCLAIMER

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Peak Hour Delay Signal Warrant Report

Intersection #8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Lanes:	0	0	0	1 0	1	0	1	0 0	0	0	0	0 0	1	0	0	0 1
Initial Vol:	0	124		25	47	178		0	0		0	0	75		0	139
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				10.5			

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=214]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=588]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 0	1	0	1 0	1	0 0	0 0	0	0 0	1 0	0	0 1
Initial Vol:	0	124	25	47	178	0	0	0	0	75	0	139

Major Street Volume: 374
Minor Approach Volume: 214
Minor Approach Volume Threshold: 797

SIGNAL WARRANT DISCLAIMER

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Peak Hour Delay Signal Warrant Report

Intersection #9

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	1 0	0	0 0	0	0 1! 0		0	0 1! 0	0	0	0 1! 0	0
Initial Vol:	2	0	0	214	0		39	17	320	3	3	382 132
ApproachDel:	20.2			79.5			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1112]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.6]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=253]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1112]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	1 0	0 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	2	0	0	214	0	39	17	320	3	3	382	132

Major Street Volume: 857
Minor Approach Volume: 253
Minor Approach Volume Threshold: 261

SIGNAL WARRANT DISCLAIMER

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Scenario Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 5	Yes	???
# 6	Yes	???
# 7	No	???
# 8	No / No	??? / ???
# 9	Yes / Yes	??? / ???

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #5

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	0	1 0	1	0	1	0 0	0	0	0	0 0	1	0	0	0 1
Initial Vol:	0	702		61	317	596		0	0		0	0	36		0	186

Major Street Volume: 1676
Minor Approach Volume: 222
Minor Approach Volume Threshold: 152

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 1	0 0	0	0 0	1! 0	0	1 0	0 1	0	0 0	0 1	0
Initial Vol:	3	5	0	190	5	302	555	278	2	0	260	185

Major Street Volume: 1280
Minor Approach Volume: 497
Minor Approach Volume Threshold: 200

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	0 1	0	1 0	0 1	0
Initial Vol:	67	239	81	61	160	0	0	264	114	47	155	36

Major Street Volume: 616
Minor Approach Volume: 387
Minor Approach Volume Threshold: 582

SIGNAL WARRANT DISCLAIMER

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Peak Hour Delay Signal Warrant Report

Intersection #8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Lanes:	0	0	0	1 0	1	0	1	0 0	0	0	0	0 0	1	0	0	0 1
Initial Vol:	0	300		80	148	173		0	0		0	0	47		0	87
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				13.4			

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=134]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=835]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 0	1	0	1 0	1	0 0	0 0	0	0	1 0	0	0 1
Initial Vol:	0	300	80	148	173	0	0	0	0	47	0	87

Major Street Volume: 701
Minor Approach Volume: 134
Minor Approach Volume Threshold: 527

SIGNAL WARRANT DISCLAIMER

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Peak Hour Delay Signal Warrant Report

Intersection #9

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 1 0	0	0	0 0 0	1	0
Initial Vol:	0	0	0	195	2	23	37	431	0	0	422	343
ApproachDel:	xxxxxx			146.6			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=9.0]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=220]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1453]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 1	0	0	0 0	0	1 0
Initial Vol:	0	0	0	195	2	23	37	431	0	0	422	343

Major Street Volume: 1233
Minor Approach Volume: 220
Minor Approach Volume Threshold: 164

SIGNAL WARRANT DISCLAIMER

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