August 2017

Clark County

Kerr Road Extension

Existing and Future Transportation Analysis

DKS

Shaping a Smarter Transportation Experience™

Acknowledgments

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Kerr Road Extension Background

The Project

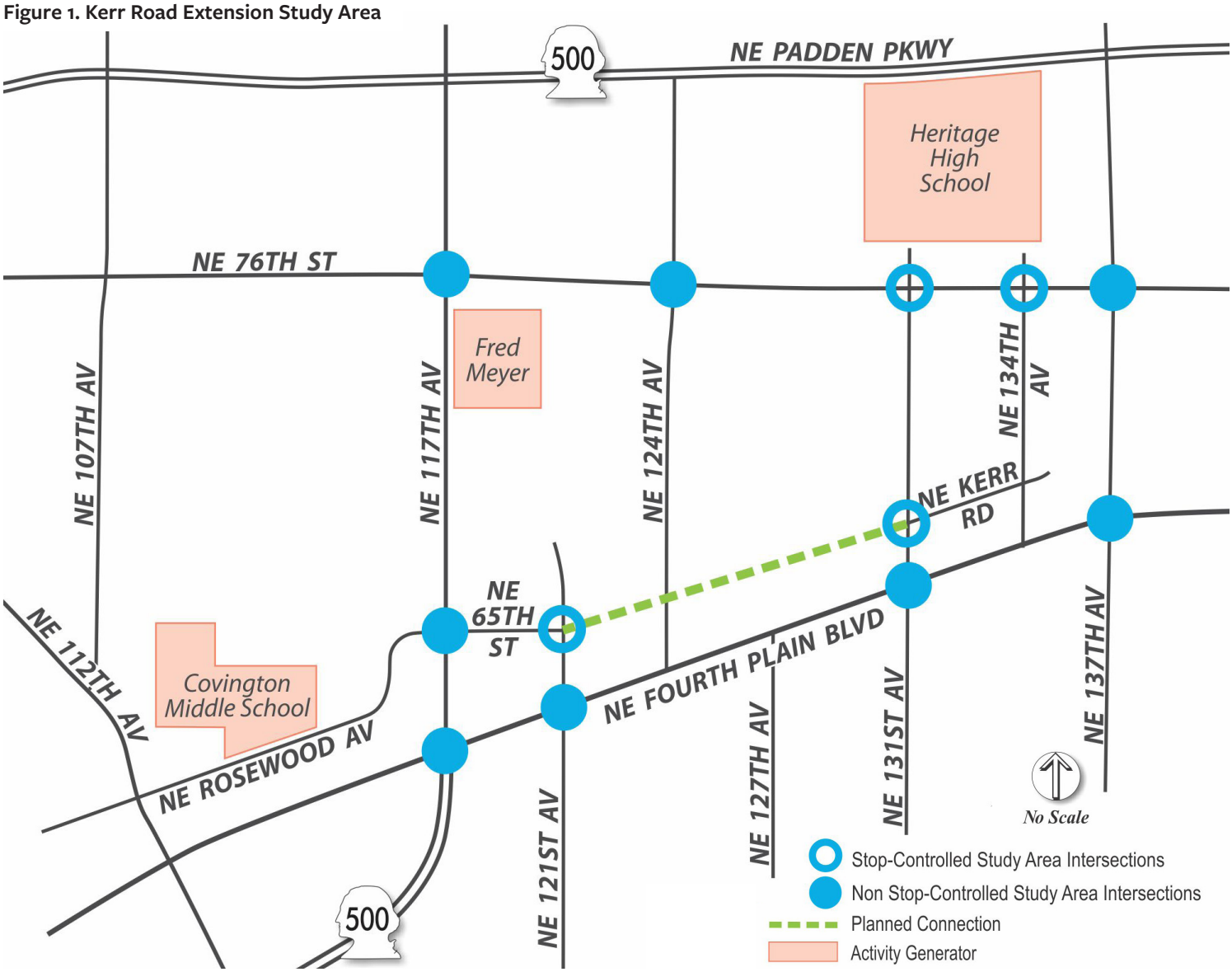
The proposed extension of NE Kerr Road in Clark County, Washington would create a new two-lane roadway connection between NE 121st Avenue and NE 131st Avenue (see Figure 1). The extension alignment is parallel and just north of NE Fourth Plain Boulevard, a major arterial that experiences significant and growing congestion. The purpose of the project is to provide a parallel alternative to NE Fourth Plain Boulevard for local trips, provide new access options for land uses on the north side of Fourth Plain Boulevard, and create a new, lower stress connection for people walking and biking.

Study Area

To evaluate the proposed extension, we selected a study area that is generally bounded by NE 76th Street on the north, NE 117th Avenue on the west, NE Fourth Plain Boulevard on the south, and NE 137th Avenue on the east (see Figure 1).

Twelve intersections were selected for study based on their proximity to the NE Kerr Road extension. Of the twelve study intersections, four are operating under stop control for the minor street approach. The study area intersections are shown on the map below.

Figure 1. Kerr Road Extension Study Area



The Evaluation

This report analyzes and describes the potential congestion, access, and connectivity benefits of building the NE Kerr Road Extension. This includes intersection capacity analysis to compare future (2035) operating conditions with and without the extension, and a review of best practices in access and connectivity. The results of the analysis provide insight into how the proposed extension can:

- Mitigate congestion on existing roadways
- Create new access options for land uses along NE Fourth Plain Boulevard, with associated safety and congestion benefits
- Improve walking and biking connections to key destinations, including area schools

Methodology/Assumptions

Existing Conditions

We collected new AM and PM peak hour traffic counts at all study intersections on Tuesday, June 1, 2017. We visited the study area during the peak hours on June 1 as well, to confirm signal timing, roadway geometry and configurations, and traffic conditions. Clark County, the Washington Department of Transportation (WSDOT), and the City of Vancouver provided signal timing for our operational models.

2035 No-Build Scenario

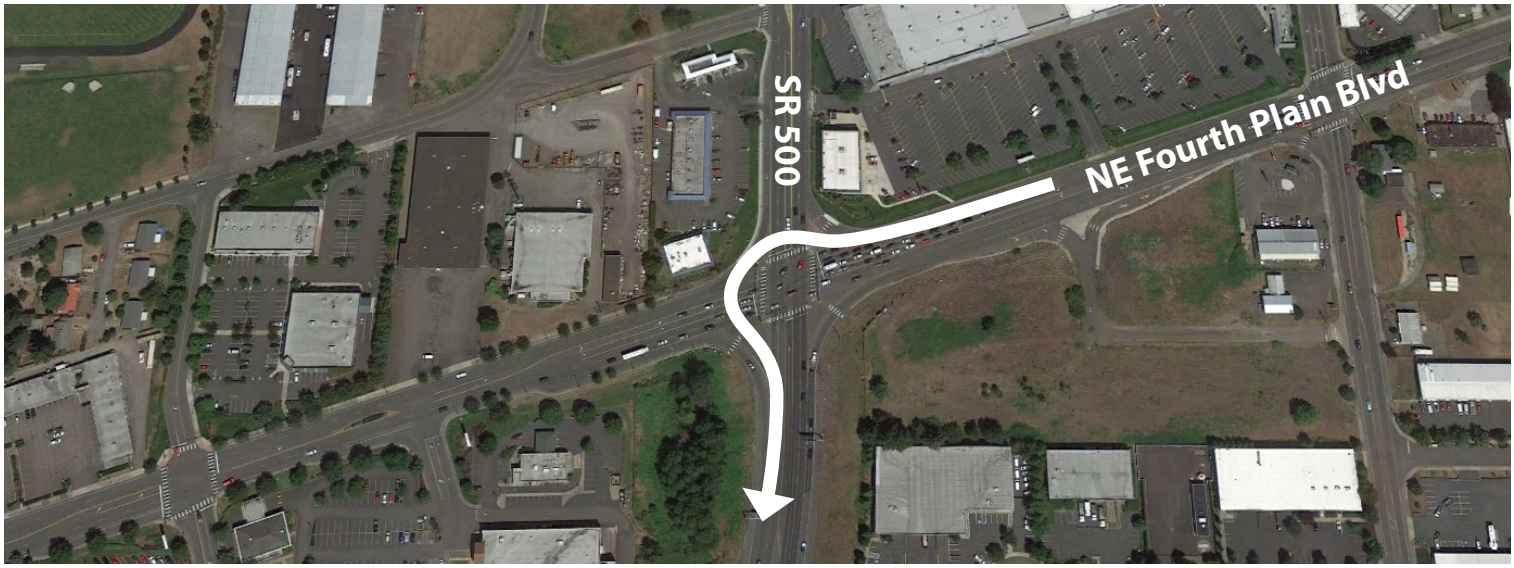
We used the Southwest Washington Regional Transportation Council's (SWRTC) travel demand model to help forecast future (2035) conditions without the NE Kerr Road Extension. This provided a baseline "No-Build" scenario against which to compare operations with the extension in place.

The 2035 RTC models include several regional projects that are assumed to be in place over the next 20 years. One of these projects—the planned NE Fourth Plain Boulevard/State Route 500 flyover ramp—significantly affects our analysis. This project removes the existing westbound left turn movement from this intersection by constructing a ramp that is accessed to the east, "flies over" the intersection, and curves to the south to merge onto SR 500. The project alleviates congestion at the intersection by providing non-stop turn movements from west bound NE Fourth Plain Blvd. to west bound SR-500.

Kerr Road Extension Scenario

We used the same forecasting process for the SE Kerr Road Extension scenario. For this scenario, we added the extension to the model to find out how traffic would reroute through the network under AM and PM peak hour conditions. All other assumptions, including the planned NE Fourth Plain Boulevard/State Route 500 flyover ramp, were identical.

Figure 2. Planned NE Fourth Plain Boulevard/ State Route 500 Flyover Ramp



Traffic Benefits

Kerr Road Extension Analysis

The AM and PM peak hour operating conditions of the study intersections were determined for both the 2035 No-Build Scenario and for the Kerr Parkway Extension Scenario. For each of the study intersections, the analysis conditions include the estimated average delay—level of service (LOS)—and the intersection volume-to-capacity (V/C) ratio.

Findings

- The NE 76th Street/NE 131st Avenue intersection is currently failing and its operation worsens in both future scenarios.
- The Kerr Road Extension Scenario doesn't significantly improve operations along Fourth Plain. Capacity created when traffic is shifted from Fourth Plain to Kerr Road is consumed by induced demand.
- The Kerr Road Extension helps improve traffic operations on NE 76th. As an alternate route from the north and east of the study area to the SR 500 ramp at Fourth Plain, the Kerr Road Extension results in some volume reduction at the western end of 76th.
- The proposed extension connects to the existing NE 65th Street/NE 121st Avenue intersection, which today features relatively low traffic volumes. With the Kerr Road extension come new traffic volumes and patterns that will require this intersection to be reconfigured. No signal is needed. Analysis shows the intersection can meet standard in the AM and PM peak hours as an all-way stop with the following striping improvements: separated eastbound right, northbound left, and westbound left.

Table 1. Study Intersection AM Peak Hour Operations

	Existing Conditions AM Peak Hour		2035 No-Build Scenario AM Peak Hour		Kerr Road Extension Scenario AM Peak Hour	
Intersection	V/C	LOS	V/C	LOS	V/C	LOS
NE 76th St/NE 117th Ave	0.72	C	0.84	D	0.83	D
NE 76th St/NE 124th Ave	0.48	A	0.58	B	0.56	B
* NE 76th St/NE 131st Ave	0.71	F	1.19	F	>1.5	F
* NE 76th St/NE 134th Ave	0.13	C	0.64	F	0.87	F
NE 76th St/NE 137th Ave	0.58	D	0.86	D	0.90	D
NE 65th St/NE 117th Ave	0.64	C	0.71	C	0.81	C
* NE 65th St/NE 121st Ave	0.00	A	0.00	A	0.59	C
* NE Kerr Rd/NE 131st Ave	0.03	B	0.03	B	0.34	C
NE Fourth Plain Blvd/NE 117th Ave/SR 500	0.92	E	0.86	C	0.86	C
NE Fourth Plain Blvd/NE 121st Ave	0.67	C	0.87	D	0.84	D
NE Fourth Plain Blvd/NE 131st Ave	0.64	C	0.76	C	0.72	C
NE Fourth Plain Blvd/NE 137th Ave	0.72	C	0.83	D	0.85	D

* Stop-Controlled Intersection

Intersection exceeds jurisdictional standard

Jurisdictional Operating Standards

Intersections on SR 500 must meet a level of service target of E for urban areas, since SR 500 is not a Highway of State Significance under WSDOT jurisdiction within Clark County. Clark County intersections are subject to County mobility targets. *Signalized* intersections must meet a level of service target of D and *unsignalized* must meet a level of service of E. City of Vancouver standards apply on Fourth Plain Boulevard, other than the SR 500 intersection. *Signalized* intersection approaches must meet LOS D or better or LOS E if the v/c ratio for the worst movement is 0.95 or less. At *unsignalized* intersections, LOS D or better as well as an v/c ratio of 0.95 or lower on intersection approaches are required.

Terminology

Level of service (LOS): A "report card" rating (A through F) based on the average delay experienced by vehicles at the intersection.

Volume-to-capacity (V/C) ratio: A decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used at the study intersection. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases and performance is reduced. If the ratio is greater than 1.00, the intersection is oversaturated, usually resulting in excessive queues and long delays.

Table 2. Study Intersection PM Peak Hour Operations

Intersection	Existing Conditions PM Peak Hour		2035 No-Build Scenario PM Peak Hour		Kerr Road Extension Scenario PM Peak Hour	
	V/C	LOS	V/C	LOS	V/C	LOS
NE 76th St/NE 117th Ave	0.84	D	0.95	D	0.94	D
NE 76th St/NE 124th Ave	0.70	B	0.78	B	0.76	B
* NE 76th St/NE 131st Ave	1.02	F	>1.50	F	>1.50	F
* NE 76th St/NE 134th Ave	0.35	D	1.02	F	1.02	F
NE 76th St/NE 137th Ave	0.81	D	0.99	E	0.96	E
NE 65th St/NE 117th Ave	0.77	E	0.88	E	0.88	E
* NE 65th St/NE 121st Ave	0.18	A	0.20	A	0.69	C
* NE Kerr Rd/NE 131st Ave	0.04	B	0.04	B	0.18	B
NE Fourth Plain Blvd/NE 117th Ave/SR 500	0.95	D	1.14	E	1.15	E
NE Fourth Plain Blvd/NE 121st Ave	0.89	D	1.00	E	1.02	E
NE Fourth Plain Blvd/NE 131st Ave	0.68	C	0.81	C	0.85	C
NE Fourth Plain Blvd/NE 137th Ave	0.91	D	1.02	E	1.03	E

* Stop-Controlled Intersection

Intersection exceeds jurisdictional standard

Access and Safety Benefits

The proposed NE Kerr Road Extension creates a new collector roadway connection parallel to NE Fourth Plain Boulevard. This means that future land uses along the north side of NE Fourth Plain Boulevard will be able to take access onto NE Kerr Road. Since NE Kerr Road will be a collector with a lower posted speed than NE Fourth Plain Boulevard, it will provide more frequent access opportunities, allowing Fourth Plain Boulevard to retain a stronger mobility function with fewer driveway-related slowdowns and conflicts.

Building the NE Kerr Road Extension will allow the following access management best practices to be better implemented along NE Fourth Plain Boulevard.

Reduction in the Number of Driveways

Every access point—driveway or intersection—along NE Fourth Plain Boulevard is a potential conflict point for motor vehicles, bicycles, and pedestrians. The number of driveways along a segment of roadway can be reduced by replacing multiple driveways, each serving individual properties, with one shared driveway serving multiple properties or by relocating driveways to other property frontages. The NE Kerr Road Extension builds this additional frontage for properties on the north side of NE Fourth Plain Boulevard.

Research shows a strong relationship between the frequency of access points along a roadway and the number of crashes that occur. For every five driveways per mile that are removed, the crash rate is reduced by approximately 4% and rear-end crashes drop by 3%.

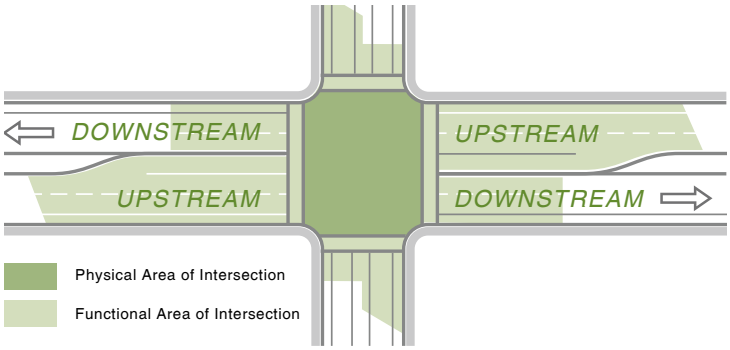
Creating new access onto Kerr Road can promote other improvements related to driveway relocation. Driveways that are improperly designed can lead to unnecessary conflicts where right-of-way for exiting and entering vehicles is unclear. Where driveways are too wide or too narrow, turning vehicles may drive faster or slower than desired, resulting in the slowing of following traffic on the roadway and the potential for conflicts with pedestrians, bicyclists, and other drivers on site. Many older styles of driveway design include cross slopes that are difficult for people with mobility devices to traverse.

Reconstructing driveways, sidewalks, and intersections that do not conform to current ADA design standards will reduce conflicts and improve safety for all users.

Removal of Access Conflicts near Intersections

Access points that are too close to major intersections introduce turning conflicts that can have significant impacts to the safe and efficient operation of the corridor. They can encourage improper use of center left-turn lanes (e.g., wrong way driving), create additional conflicts that many drivers are not expecting when traveling through traffic signals, and may not be visible to drivers turning around corners.

Figure 3. Physical and Functional Areas of Intersections.



(*Access Management in the Vicinity of Intersections* Technical Summary. Federal Highway Administration)

Service Roads

The Kerr Road Extension can also contribute to access in functioning as a service road. A service road is a smaller road that parallels a major road and is located behind the abutting properties. Service roads are publicly owned and maintained and provide access to major roads at regular intervals. Speeds and traffic volumes on service roads are typically moderate to low, making them better suited to accommodating a large number of access points.

Service roads provide lower-speed access to commercial sites along a major roadway and separate business traffic from higher-speed through traffic. With business access removed from the major roadway and relocated to the service road, congestion and safety can be improved on the major roadway over the long term.

Connectivity Benefits for All Users

Kerr Road Extension Analysis

Building the NE Kerr Road Extension will increase connectivity options for people traveling, whether they drive, walk, or bike. Clark County's code for street and road standards includes an urban circulation standard that specifies maximum block lengths and perimeters (800 feet and 3,200 feet, respectively). The NE Kerr Road Extension will allow new developments to better meet this standard. The connectivity and circulation potential created by construction of the extension allows for better implementation of the following best practices.

Street Spacing

In a well-connected transportation system, typical facility spacing standards help provide direct routes and travel options for system users with parallel facilities throughout the city. Grid systems enable multiple routing options for all users. This can shorten trip lengths between primary commute destinations and provide more viable travel mode options. The presence of a grid system benefits walking, biking, and improved connectivity to transit modes, as well as local land use accessibility performance.

The street connectivity guidelines typically recommend a network of major arterial streets at one to two-mile spacing, minor arterials at one-mile spacing, and collector streets at ¼ to ½-mile spacing. Figure 3 illustrates desired spacing for an arterial and collector street network. With Fourth Plain Blvd and State Route 500 serving as major arterials, the Kerr Road extension is a fundamental collector roadway serving to distribute local traffic.

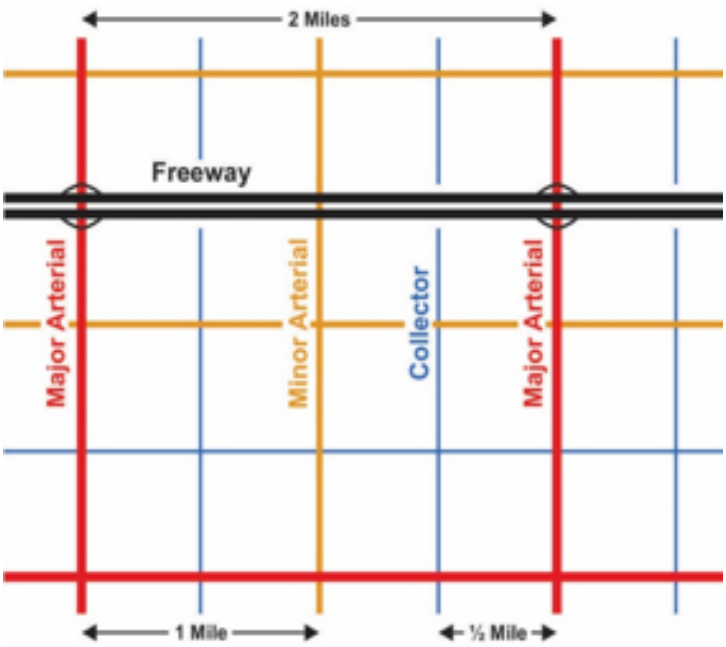
The desired spacing of local streets is 300 – 500 feet and for bicycle and pedestrian facilities spacing is 300 feet. The roadway network spacing guidelines were recommended to support walking, biking, and access to transit, as well as improved connectivity of the arterial roadway system.

Using best practices in urban design promotes physical activity. Streets are more comfortable for pedestrians when blocks, buildings, or vegetation provide a continuous sense of enclosure, whereas streets fronted by surface parking lots discourage active transportation. A well-connected street network makes bicycling and walking easier and safer, and makes transit more efficient.

A variety of studies have demonstrated the benefits of implementing spacing standards and high levels of connectivity. Benefits include:

- More trips made by foot and bike
- Lower per capita vehicle miles traveled
- Lower volumes on arterial streets

Figure 3. Street Network Spacing



School Connections

Safe, low-stress facilities for walking and biking to school are a necessary tool for reducing pedestrian and bicycle collisions and increasing the number of people who walk or bike for transportation to and from school.

Kerr Road Extension provides the only low-stress walking and biking route choice to Covington Middle School for families who live in the east end of the study area. This area, between Fourth Plain and 76th and east of NE 124th Avenue, is predominately residential with the potential for additional future growth.

Figure 4. Neighborhood access to Covington Middle School

Potential tools for improving connectivity for students of Covington Middle School include:

- Along-street treatments, such as continuous sidewalks and buffered bike lanes or cycletracks.
- Traffic calming treatments such as speed humps and traffic circles.
- Street crossing treatments such as crossing islands, curb bulbs and curb ramps, marked and raised crosswalks, crossing beacons, 20 MPH zones.

Bike Facilities

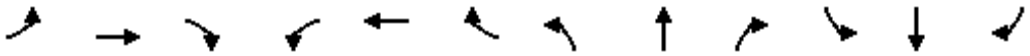
Bicycle facilities are an integral part of providing a balanced transportation corridor that serves all users. Especially where bike routes are used to provide connectivity for young or infrequent riders, such as adjacent to schools and shopping areas, buffered bike lanes or cycle tracks may be appropriate facilities to consider.

Since Fourth Plain Blvd does not currently have bike lanes and is unlikely to have bike lanes added in the future, Kerr Road serves as the only potential bike route serving neighborhood destinations, including the middle school.

In defining separate roadway space for cyclists and reminding motorists that bicyclists have a right to the road, bike lanes reduce the possibility that motorists will stray into cyclists' path. Research indicates that major streets with bike lanes present about a 50% lower risk of injury to cyclists than major streets without bike lanes.

Providing high quality bicycle infrastructure that is suited to the speed and volume of the corridor improves connectivity, increases ridership, and provides safe access to schools and other local destinations.

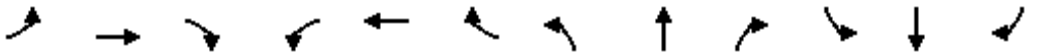
Appendix



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	274	58	239	208	84	59	804	154	147	1141	52
Future Volume (vph)	86	274	58	239	208	84	59	804	154	147	1141	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1719	3406	1344	3367	1696	1423	1656	3252	1513	1656	3351	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1719	3406	1344	3367	1696	1423	1656	3252	1513	1656	3351	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	89	282	60	246	214	87	61	829	159	152	1176	54
RTOR Reduction (vph)	0	0	52	0	0	71	0	0	81	0	2	0
Lane Group Flow (vph)	89	282	8	246	214	16	61	829	78	152	1228	0
Confl. Peds. (#/hr)	1		5	5		1	1		3	3		1
Heavy Vehicles (%)	5%	6%	18%	4%	12%	12%	9%	11%	4%	9%	7%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)	11.8	15.7	15.7	17.4	21.3	21.3	8.8	55.3	55.3	16.6	63.1	
Effective Green, g (s)	12.8	16.7	16.7	18.4	22.3	22.3	9.8	56.3	56.3	17.6	64.1	
Actuated g/C Ratio	0.10	0.13	0.13	0.15	0.18	0.18	0.08	0.45	0.45	0.14	0.51	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	
Lane Grp Cap (vph)	176	455	179	495	302	253	129	1464	681	233	1718	
v/s Ratio Prot	0.05	c0.08		0.07	c0.13		0.04	0.25		c0.09	c0.37	
v/s Ratio Perm			0.01			0.01			0.05			
v/c Ratio	0.51	0.62	0.04	0.50	0.71	0.06	0.47	0.57	0.11	0.65	0.71	
Uniform Delay, d1	53.1	51.2	47.2	49.0	48.3	42.7	55.1	25.3	19.9	50.8	23.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.55	0.55	0.23	1.00	1.00	
Incremental Delay, d2	2.3	2.5	0.1	0.8	7.4	0.1	2.5	1.5	0.3	6.4	2.6	
Delay (s)	55.4	53.7	47.3	49.8	55.7	42.8	88.1	15.3	4.9	57.2	26.0	
Level of Service	E	D	D	D	E	D	F	B	A	E	C	
Approach Delay (s)		53.1			51.0			18.0			29.4	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	51	40	30	71	126	58	851	34	101	1213	31
Future Volume (vph)	75	51	40	30	71	126	58	851	34	101	1213	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00	0.99	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.93			1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00			0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1570	1525			1622	1474	1736	3343	1366	1752	3395	
Flt Permitted	0.95	1.00			0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1570	1525			1622	1474	1736	3343	1366	1752	3395	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	54	42	32	75	133	61	896	36	106	1277	33
RTOR Reduction (vph)	0	27	0	0	0	118	0	0	16	0	1	0
Lane Group Flow (vph)	79	69	0	0	107	15	61	896	20	106	1309	0
Confl. Peds. (#/hr)	2		2	2		2	4		3	3		4
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	15%	16%	15%	14%	16%	8%	4%	8%	15%	3%	6%	0%
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Actuated Green, G (s)	12.1	12.1			14.0	14.0	12.0	68.6	68.6	13.3	69.9	
Effective Green, g (s)	12.1	12.1			14.0	14.0	12.0	68.6	68.6	13.3	69.9	
Actuated g/C Ratio	0.10	0.10			0.11	0.11	0.10	0.55	0.55	0.11	0.56	
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	3.5	3.5			3.5	3.5	3.0	3.0	3.0	3.5	3.0	
Lane Grp Cap (vph)	151	147			181	165	166	1834	749	186	1898	
v/s Ratio Prot	c0.05	0.05			c0.07		0.04	c0.27		0.06	c0.39	
v/s Ratio Perm						0.01			0.01			
v/c Ratio	0.52	0.47			0.59	0.09	0.37	0.49	0.03	0.57	0.69	
Uniform Delay, d1	53.7	53.4			52.8	49.8	52.9	17.4	12.9	53.1	19.8	
Progression Factor	1.00	1.00			0.99	2.34	1.00	1.00	1.00	1.04	0.70	
Incremental Delay, d2	3.7	2.8			5.1	0.3	1.4	0.2	0.0	3.3	1.6	
Delay (s)	57.4	56.2			57.1	116.6	54.3	17.6	12.9	58.5	15.5	
Level of Service	E	E			E	F	D	B	B	E	B	
Approach Delay (s)		56.7			90.1			19.7			18.8	
Approach LOS		E			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	2	129	6	2	118
Future Vol, veh/h	14	2	129	6	2	118
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	8	50	4	34	0	5
Mvmt Flow	17	2	157	7	2	144

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	311	162	0	0	166	0
Stage 1	162	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.48	6.7	-	-	4.1	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.75	-	-	2.2	-
Pot Cap-1 Maneuver	669	772	-	-	1424	-
Stage 1	853	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	667	771	-	-	1424	-
Mov Cap-2 Maneuver	667	-	-	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	862	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	678	1424	-
HCM Lane V/C Ratio	-	-	0.029	0.002	-
HCM Control Delay (s)	-	-	10.5	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	535	26	59	498	1	34	1	26	1	1	24
Future Volume (vph)	11	535	26	59	498	1	34	1	26	1	1	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	4.5		3.0	4.5			3.0	3.0		3.0	3.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	1.00
Satd. Flow (prot)	1406	1779		1653	1759			1699	1508		1851	1208
Flt Permitted	0.43	1.00		0.40	1.00			0.73	1.00		0.90	1.00
Satd. Flow (perm)	643	1779		705	1759			1301	1508		1706	1208
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	13	652	32	72	607	1	41	1	32	1	1	29
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	30	0	0	27
Lane Group Flow (vph)	13	683	0	72	608	0	0	42	2	0	2	2
Confl. Peds. (#/hr)	4		3	3		4	2		1	1		2
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	28%	6%	4%	9%	8%	0%	6%	0%	4%	0%	0%	17%
Parking (#/hr)												0
Turn Type	custom	NA		custom	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	13 6		5	9 2			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	87.1	104.7		82.4	107.0			7.5	7.5		7.5	7.5
Effective Green, g (s)	89.1	105.7		84.4	108.0			8.5	8.5		8.5	8.5
Actuated g/C Ratio	0.69	0.81		0.65	0.83			0.07	0.07		0.07	0.07
Clearance Time (s)	4.0			4.0				4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0			2.0				2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	458	1446		496	1461			85	98		111	78
v/s Ratio Prot	0.00	c0.38		c0.01	0.35							
v/s Ratio Perm	0.02			0.09				c0.03	0.00		0.00	0.00
v/c Ratio	0.03	0.47		0.15	0.42			0.49	0.02		0.02	0.02
Uniform Delay, d1	6.6	3.7		8.9	2.8			58.7	56.9		56.8	56.9
Progression Factor	1.00	1.00		0.99	0.87			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.1		0.0	0.1			1.6	0.0		0.0	0.0
Delay (s)	6.6	3.8		8.9	2.5			60.3	56.9		56.9	56.9
Level of Service	A	A		A	A			E	E		E	E
Approach Delay (s)		3.8			3.2			58.8			56.9	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	270	55	15	316	81	62	34	13	6	13	50
Future Vol, veh/h	61	270	55	15	316	81	62	34	13	6	13	50
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	3	3	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	-	130	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	18	7	10	14	5	13	5	9	24	17	16	32
Mvmt Flow	76	338	69	19	395	101	78	43	16	8	16	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	496	0	0	406	0	0	1018	1058	375	1040	1042	449
Stage 1	-	-	-	-	-	-	524	524	-	483	483	-
Stage 2	-	-	-	-	-	-	494	534	-	557	559	-
Critical Hdwy	4.28	-	-	4.24	-	-	7.15	6.59	6.44	7.27	6.66	6.52
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.59	-	6.27	5.66	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.59	-	6.27	5.66	-
Follow-up Hdwy	2.362	-	-	2.326	-	-	3.545	4.081	3.516	3.653	4.144	3.588
Pot Cap-1 Maneuver	990	-	-	1091	-	-	213	218	625	195	217	552
Stage 1	-	-	-	-	-	-	531	519	-	538	530	-
Stage 2	-	-	-	-	-	-	551	513	-	489	489	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	988	-	-	1088	-	-	164	198	623	147	197	551
Mov Cap-2 Maneuver	-	-	-	-	-	-	164	198	-	147	197	-
Stage 1	-	-	-	-	-	-	490	479	-	497	521	-
Stage 2	-	-	-	-	-	-	464	504	-	400	451	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.3	60.4	16.8
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	191	988	-	-	1088	-	-	178	551
HCM Lane V/C Ratio	0.713	0.077	-	-	0.017	-	-	0.133	0.113
HCM Control Delay (s)	60.4	8.9	-	-	8.4	-	-	28.3	12.4
HCM Lane LOS	F	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	4.5	0.2	-	-	0.1	-	-	0.5	0.4

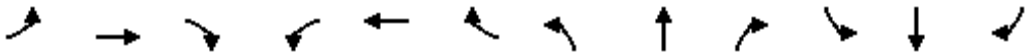
Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	277	10	7	377	9	18	6	20	11	11	11
Future Vol, veh/h	4	277	10	7	377	9	18	6	20	11	11	11
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	8	0	0	7	12	0	0	0	10	0	10
Mvmt Flow	5	326	12	8	444	11	21	7	24	13	13	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	456	0	0	340	0	0	815	816	337	826	816	451
Stage 1	-	-	-	-	-	-	343	343	-	467	467	-
Stage 2	-	-	-	-	-	-	472	473	-	359	349	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.2	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.2	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.2	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.39
Pot Cap-1 Maneuver	1115	-	-	1230	-	-	298	314	710	282	314	592
Stage 1	-	-	-	-	-	-	676	641	-	561	565	-
Stage 2	-	-	-	-	-	-	576	562	-	643	637	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1115	-	-	1227	-	-	279	310	707	265	310	591
Mov Cap-2 Maneuver	-	-	-	-	-	-	279	310	-	265	310	-
Stage 1	-	-	-	-	-	-	672	637	-	558	560	-
Stage 2	-	-	-	-	-	-	547	557	-	610	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	15.6	16.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	392	1115	-	-	1227	-	-	286	591
HCM Lane V/C Ratio	0.132	0.004	-	-	0.007	-	-	0.09	0.022
HCM Control Delay (s)	15.6	8.2	-	-	8	-	-	18.8	11.2
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.3	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	118	146	40	154	13	138	191	19	13	352	80
Future Volume (vph)	53	118	146	40	154	13	138	191	19	13	352	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	3.7		2.0	3.7		2.0	3.3		2.0	3.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.99		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1660	1598		1669	1791		1671	1695		1671	1679	
Flt Permitted	0.64	1.00		0.58	1.00		0.44	1.00		0.62	1.00	
Satd. Flow (perm)	1124	1598		1026	1791		773	1695		1083	1679	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	128	159	43	167	14	150	208	21	14	383	87
RTOR Reduction (vph)	0	29	0	0	2	0	0	2	0	0	6	0
Lane Group Flow (vph)	58	258	0	43	179	0	150	227	0	14	464	0
Confl. Peds. (#/hr)	9		2	2		9						
Heavy Vehicles (%)	8%	11%	5%	8%	5%	0%	8%	10%	16%	8%	10%	10%
Turn Type	custom	NA		custom	NA		custom	NA		custom	NA	
Protected Phases	1	13 6		5	9 2		3	8 15		7	4 11	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	38.5	52.0		34.2	51.4		29.0	51.4		32.1	42.6	
Effective Green, g (s)	42.5	54.0		38.2	53.4		33.0	49.8		36.1	44.6	
Actuated g/C Ratio	0.33	0.42		0.29	0.41		0.25	0.38		0.28	0.34	
Clearance Time (s)	4.0			4.0			4.0			4.0		
Vehicle Extension (s)	2.0			2.0			2.0			2.0		
Lane Grp Cap (vph)	400	663		337	735		287	649		320	576	
v/s Ratio Prot	c0.01	c0.16		0.01	0.10		c0.05	0.13		0.00	c0.28	
v/s Ratio Perm	0.04			0.03			0.08			0.01		
v/c Ratio	0.14	0.39		0.13	0.24		0.52	0.35		0.04	0.81	
Uniform Delay, d1	30.5	26.5		33.3	25.1		39.8	28.6		34.2	38.8	
Progression Factor	1.44	1.49		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.1	0.1		0.8	0.1		0.0	7.6	
Delay (s)	44.0	39.6		33.3	25.1		40.6	28.7		34.2	46.4	
Level of Service	D	D		C	C		D	C		C	D	
Approach Delay (s)		40.3			26.7			33.4			46.0	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	38.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

Description: Used hold phase for pedestrian phase

c Critical Lane Group

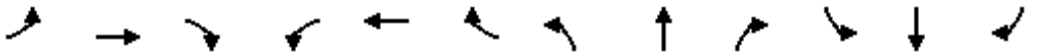
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	125	173	37	42	30
Future Vol, veh/h	29	125	173	37	42	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Yield	Yield	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	11	9	13	3	5	4
Mvmt Flow	36	154	214	46	52	37

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	473	0
Stage 1	-	-	0	-
Stage 2	-	-	473	-
Critical Hdwy	4.23	-	6.55	6.24
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.55	-
Follow-up Hdwy	2.317	-	4.045	3.336
Pot Cap-1 Maneuver	-	-	485	-
Stage 1	-	-	-	-
Stage 2	-	-	553	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s		
HCM LOS		-

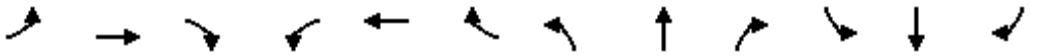
Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	197	65	967	379	64	49	832	660	113	1042	131
Future Volume (vph)	81	197	65	967	379	64	49	832	660	113	1042	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	5.5	3.5
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3273	3343	1538	3335	3471	1495	1805	3374	1509	1570	3374	1538
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3273	3343	1538	3335	3471	1495	1805	3374	1509	1570	3374	1538
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	86	210	69	1029	403	68	52	885	702	120	1109	139
RTOR Reduction (vph)	0	0	0	0	0	41	0	0	0	0	0	91
Lane Group Flow (vph)	86	210	69	1029	403	27	52	885	702	120	1109	48
Heavy Vehicles (%)	7%	8%	5%	5%	4%	8%	0%	7%	7%	15%	7%	5%
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			Free			2			Free			8
Actuated Green, G (s)	7.3	23.7	120.0	29.6	46.0	46.0	7.9	33.4	120.0	15.3	40.8	40.8
Effective Green, g (s)	8.3	24.7	120.0	30.6	47.0	47.0	8.9	34.4	120.0	16.3	39.8	41.8
Actuated g/C Ratio	0.07	0.21	1.00	0.26	0.39	0.39	0.07	0.29	1.00	0.14	0.33	0.35
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.5	4.0		3.0	3.0	3.0
Lane Grp Cap (vph)	226	688	1538	850	1359	585	133	967	1509	213	1119	535
v/s Ratio Prot	0.03	0.06		c0.31	0.12		0.03	0.26		c0.08	c0.33	
v/s Ratio Perm			0.04			0.02			c0.47			0.03
v/c Ratio	0.38	0.31	0.04	1.21	0.30	0.05	0.39	0.92	0.47	0.56	0.99	0.09
Uniform Delay, d1	53.4	40.4	0.0	44.7	25.1	22.6	53.0	41.4	0.0	48.5	39.9	26.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	1.1	0.1	105.7	0.6	0.1	2.2	13.1	1.0	3.4	24.6	0.1
Delay (s)	54.5	41.5	0.1	150.4	25.7	22.8	55.2	54.5	1.0	51.9	64.6	26.4
Level of Service	D	D	A	F	C	C	E	D	A	D	E	C
Approach Delay (s)		36.7			111.1			31.6			59.6	
Approach LOS		D			F			C			E	

Intersection Summary			
HCM 2000 Control Delay	64.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
Description: Check reference phase - 5 or 8 (BMP)			

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	687	216	61	1145	59	179	131	52	57	90	63
Future Volume (vph)	53	687	216	61	1145	59	179	131	52	57	90	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1671	3312	1495	1687	3428		1656	1611		1597	1827	1471
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1671	3312	1495	1687	3428		1656	1611		1597	1827	1471
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	708	223	63	1180	61	185	135	54	59	93	65
RTOR Reduction (vph)	0	0	104	0	2	0	0	13	0	0	0	58
Lane Group Flow (vph)	55	708	119	63	1239	0	185	176	0	59	93	7
Confl. Peds. (#/hr)	7					7	3		1	1		3
Heavy Vehicles (%)	8%	9%	8%	7%	4%	11%	9%	11%	16%	13%	4%	8%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6									8
Actuated Green, G (s)	7.9	65.6	65.6	8.4	66.1		18.7	22.6		8.4	12.3	12.3
Effective Green, g (s)	8.9	66.6	66.6	9.4	67.1		19.7	23.6		9.4	13.3	13.3
Actuated g/C Ratio	0.07	0.53	0.53	0.08	0.54		0.16	0.19		0.08	0.11	0.11
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	118	1764	796	126	1840		260	304		120	194	156
v/s Ratio Prot	0.03	0.21		c0.04	c0.36		c0.11	c0.11		0.04	0.05	
v/s Ratio Perm			0.08									0.00
v/c Ratio	0.47	0.40	0.15	0.50	0.67		0.71	0.58		0.49	0.48	0.04
Uniform Delay, d1	55.8	17.4	14.8	55.5	21.0		50.0	46.2		55.5	52.6	50.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.1	0.7	0.4	2.3	2.0		8.3	2.2		2.3	1.4	0.1
Delay (s)	57.9	18.0	15.2	57.8	23.0		58.2	48.4		57.8	53.9	50.2
Level of Service	E	B	B	E	C		E	D		E	D	D
Approach Delay (s)		19.6			24.7			53.2			53.9	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

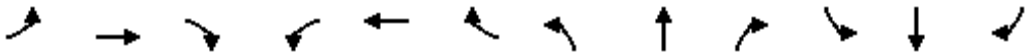
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	645	43	30	1231	19	66	40	24	22	19	90
Future Volume (vph)	64	645	43	30	1231	19	66	40	24	22	19	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94			0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1736	3252	1509	1641	3458		1687	1676			1611	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.40	1.00			0.93	
Satd. Flow (perm)	1736	3252	1509	1641	3458		707	1676			1515	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	73	733	49	34	1399	22	75	45	27	25	22	102
RTOR Reduction (vph)	0	0	14	0	1	0	0	22	0	0	79	0
Lane Group Flow (vph)	73	733	35	34	1420	0	75	50	0	0	70	0
Confl. Peds. (#/hr)	1					1			1	1		1
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	11%	7%	10%	4%	11%	7%	0%	17%	5%	6%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4			8		
Actuated Green, G (s)	8.1	85.7	85.7	5.4	83.0		13.9	13.9			13.9	
Effective Green, g (s)	8.1	85.7	85.7	5.4	83.0		13.9	13.9			13.9	
Actuated g/C Ratio	0.07	0.71	0.71	0.05	0.69		0.12	0.12			0.12	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	117	2322	1077	73	2391		81	194			175	
v/s Ratio Prot	c0.04	0.23		0.02	c0.41			0.03				
v/s Ratio Perm			0.02				c0.11				0.05	
v/c Ratio	0.62	0.32	0.03	0.47	0.59		0.93	0.26			0.40	
Uniform Delay, d1	54.5	6.3	5.0	55.9	9.7		52.5	48.3			49.2	
Progression Factor	1.00	1.00	1.00	0.88	1.80		1.00	1.00			1.00	
Incremental Delay, d2	9.9	0.4	0.1	3.9	0.9		74.7	0.7			1.5	
Delay (s)	64.4	6.7	5.1	52.9	18.3		127.3	49.1			50.7	
Level of Service	E	A	A	D	B		F	D			D	
Approach Delay (s)		11.5			19.1			89.0			50.7	
Approach LOS		B			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	66.1%	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)	79	535	76	91	939	86	108	215	60	85	288	95
Future Volume (vph)	79	535	76	91	939	86	108	215	60	85	288	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1671	3223	1442	1770	3471	1501	1736	1696	1362	1641	1776	1500
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1671	3223	1442	1770	3471	1501	1736	1696	1362	1641	1776	1500
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	90	608	86	103	1067	98	123	244	68	97	327	108
RTOR Reduction (vph)	0	0	46	0	0	52	0	0	53	0	0	84
Lane Group Flow (vph)	90	608	40	103	1067	46	123	244	15	97	327	24
Confl. Peds. (#/hr)	2					2	3		1	1		3
Heavy Vehicles (%)	8%	12%	12%	2%	4%	5%	4%	12%	17%	10%	7%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	9.0	55.0	55.0	9.5	55.5	55.5	10.0	26.2	26.2	9.3	25.5	25.5
Effective Green, g (s)	10.0	56.0	56.0	10.5	56.5	56.5	11.0	27.2	27.2	10.3	26.5	26.5
Actuated g/C Ratio	0.08	0.47	0.47	0.09	0.47	0.47	0.09	0.23	0.23	0.09	0.22	0.22
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lane Grp Cap (vph)	139	1504	672	154	1634	706	159	384	308	140	392	331
v/s Ratio Prot	0.05	0.19		c0.06	c0.31		c0.07	0.14		0.06	c0.18	
v/s Ratio Perm			0.03			0.03			0.01			0.02
v/c Ratio	0.65	0.40	0.06	0.67	0.65	0.07	0.77	0.64	0.05	0.69	0.83	0.07
Uniform Delay, d1	53.3	21.0	17.6	53.1	24.3	17.3	53.3	41.9	36.3	53.3	44.7	37.0
Progression Factor	1.41	0.72	0.29	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.3	0.8	0.2	8.2	2.0	0.2	18.9	2.5	0.0	11.3	13.6	0.0
Delay (s)	82.4	16.0	5.3	61.3	26.3	17.5	72.2	44.4	36.3	64.6	58.2	37.0
Level of Service	F	B	A	E	C	B	E	D	D	E	E	D
Approach Delay (s)		22.4			28.5			51.0			55.1	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	458	80	242	262	106	149	1164	259	206	1024	78
Future Volume (vph)	172	458	80	242	262	106	149	1164	259	206	1024	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3471	1583	3400	1827	1538	1770	3505	1493	1805	3424	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3471	1583	3400	1827	1538	1770	3505	1493	1805	3424	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	177	472	82	249	270	109	154	1200	267	212	1056	80
RTOR Reduction (vph)	0	0	67	0	0	90	0	0	70	0	3	0
Lane Group Flow (vph)	177	472	15	249	270	19	154	1200	197	212	1133	0
Confl. Peds. (#/hr)	16			16			1		16	16		1
Heavy Vehicles (%)	4%	4%	2%	3%	4%	5%	2%	3%	2%	0%	4%	7%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)	19.5	26.1	26.1	18.9	25.5	25.5	21.5	63.8	63.8	21.2	63.5	
Effective Green, g (s)	20.5	27.1	27.1	19.9	26.5	26.5	22.5	64.8	64.8	22.2	64.5	
Actuated g/C Ratio	0.14	0.18	0.18	0.13	0.18	0.18	0.15	0.43	0.43	0.15	0.43	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	
Lane Grp Cap (vph)	237	627	285	451	322	271	265	1514	644	267	1472	
v/s Ratio Prot	0.10	c0.14		0.07	c0.15		0.09	c0.34		0.12	c0.33	
v/s Ratio Perm			0.01			0.01			0.13			
v/c Ratio	0.75	0.75	0.05	0.55	0.84	0.07	0.58	0.79	0.31	0.79	0.77	
Uniform Delay, d1	62.3	58.3	50.8	60.9	59.7	51.5	59.4	36.8	27.9	61.7	36.4	
Progression Factor	1.00	1.00	1.00	0.90	0.90	1.08	0.68	0.52	0.38	1.00	1.00	
Incremental Delay, d2	12.1	5.1	0.1	1.4	16.3	0.1	2.2	2.1	0.2	14.9	3.9	
Delay (s)	74.3	63.4	50.9	56.1	69.9	55.9	42.8	21.3	10.9	76.6	40.3	
Level of Service	E	E	D	E	E	E	D	C	B	E	D	
Approach Delay (s)		64.6			62.0			21.6			46.0	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	107	30	83	94	284	39	1215	60	195	1143	44
Future Volume (vph)	206	107	30	83	94	284	39	1215	60	195	1143	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00	0.99	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	1790			1747	1532	1752	3505	1541	1752	3453	
Flt Permitted	0.95	1.00			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	1790			1747	1532	1752	3505	1541	1752	3453	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	208	108	30	84	95	287	39	1227	61	197	1155	44
RTOR Reduction (vph)	0	7	0	0	0	245	0	0	34	0	2	0
Lane Group Flow (vph)	208	131	0	0	179	42	39	1227	27	197	1197	0
Confl. Peds. (#/hr)	1		3	3		1	3		2	2		3
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	0%	2%	10%	4%	3%	3%	2%	3%	4%	0%
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Actuated Green, G (s)	23.4	23.4			21.8	21.8	15.4	66.0	66.0	21.8	72.4	
Effective Green, g (s)	23.4	23.4			21.8	21.8	15.4	66.0	66.0	21.8	72.4	
Actuated g/C Ratio	0.16	0.16			0.15	0.15	0.10	0.44	0.44	0.15	0.48	
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	3.5	3.5			3.5	3.5	3.0	3.0	3.0	3.5	3.0	
Lane Grp Cap (vph)	278	279			253	222	179	1542	678	254	1666	
v/s Ratio Prot	c0.12	0.07			c0.10		0.02	c0.35		c0.11	0.35	
v/s Ratio Perm						0.03			0.02			
v/c Ratio	0.75	0.47			0.71	0.19	0.22	0.80	0.04	0.78	0.72	
Uniform Delay, d1	60.5	57.7			61.1	56.3	61.8	36.2	23.9	61.7	30.7	
Progression Factor	1.00	1.00			0.96	1.84	1.00	1.00	1.00	0.85	1.70	
Incremental Delay, d2	10.8	1.5			8.2	0.4	0.6	2.9	0.0	10.5	2.0	
Delay (s)	71.3	59.1			67.1	104.0	62.4	39.1	24.0	63.2	54.1	
Level of Service	E	E			E	F	E	D	C	E	D	
Approach Delay (s)		66.5			89.8			39.1			55.4	
Approach LOS		E			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

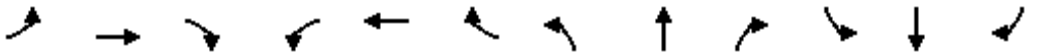
Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	5	219	8	3	105
Future Vol, veh/h	14	5	219	8	3	105
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	17	6	264	10	4	127

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	403	269	0	0	273	0
Stage 1	269	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	607	775	-	-	1302	-
Stage 1	781	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	605	775	-	-	1302	-
Mov Cap-2 Maneuver	605	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	894	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	642	1302	-
HCM Lane V/C Ratio	-	-	0.036	0.003	-
HCM Control Delay (s)	-	-	10.8	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	884	59	46	570	3	47	3	38	7	3	13
Future Volume (vph)	22	884	59	46	570	3	47	3	38	7	3	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	4.5		3.0	4.5			3.0	3.0		3.0	3.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1802	1860		1803	1861			1814	1530		1828	1416
Flt Permitted	0.43	1.00		0.29	1.00			0.73	1.00		0.82	1.00
Satd. Flow (perm)	813	1860		558	1861			1387	1530		1555	1416
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	961	64	50	620	3	51	3	41	8	3	14
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	38	0	0	13
Lane Group Flow (vph)	24	1024	0	50	623	0	0	54	3	0	11	1
Confl. Peds. (#/hr)	2		5	5		2			1	1		
Confl. Bikes (#/hr)			2									1
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%
Parking (#/hr)												0
Turn Type	custom	NA		custom	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	13 6		5	9 2			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	104.6	123.4		85.7	124.6			8.9	8.9		8.9	8.9
Effective Green, g (s)	106.6	124.4		87.7	125.6			9.9	9.9		9.9	9.9
Actuated g/C Ratio	0.71	0.83		0.58	0.84			0.07	0.07		0.07	0.07
Clearance Time (s)	4.0			4.0				4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0			2.0				2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	604	1542		369	1558			91	100		102	93
v/s Ratio Prot	0.00	c0.55		c0.00	0.33							
v/s Ratio Perm	0.03			0.07				c0.04	0.00		0.01	0.00
v/c Ratio	0.04	0.66		0.14	0.40			0.59	0.03		0.11	0.01
Uniform Delay, d1	6.5	4.9		14.2	3.0			68.1	65.5		65.9	65.5
Progression Factor	0.70	1.80		1.25	0.73			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.7		0.1	0.1			6.7	0.0		0.2	0.0
Delay (s)	4.5	9.5		17.9	2.2			74.8	65.6		66.1	65.5
Level of Service	A	A		B	A			E	E		E	E
Approach Delay (s)		9.4			3.4			70.8			65.7	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	16.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	541	63	19	421	6	111	17	34	7	7	16
Future Vol, veh/h	8	541	63	19	421	6	111	17	34	7	7	16
Conflicting Peds, #/hr	3	0	2	2	0	3	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	-	130	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	1	5	6	2	0	2	0	0	0	0	0
Mvmt Flow	9	608	71	21	473	7	125	19	38	8	8	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	483	0	0	681	0	0	1187	1188	646	1213	1221	480
Stage 1	-	-	-	-	-	-	663	663	-	522	522	-
Stage 2	-	-	-	-	-	-	524	525	-	691	699	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.12	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.518	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1090	-	-	893	-	-	165	190	475	160	181	590
Stage 1	-	-	-	-	-	-	450	462	-	542	534	-
Stage 2	-	-	-	-	-	-	537	533	-	438	445	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1089	-	-	892	-	-	150	183	474	132	175	588
Mov Cap-2 Maneuver	-	-	-	-	-	-	150	183	-	132	175	-
Stage 1	-	-	-	-	-	-	446	457	-	536	520	-
Stage 2	-	-	-	-	-	-	500	519	-	382	441	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	124.9	20.9
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	179	1089	-	-	892	-	-	150	588
HCM Lane V/C Ratio	1.017	0.008	-	-	0.024	-	-	0.105	0.031
HCM Control Delay (s)	124.9	8.3	-	-	9.1	-	-	31.8	11.3
HCM Lane LOS	F	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	8.5	0	-	-	0.1	-	-	0.3	0.1

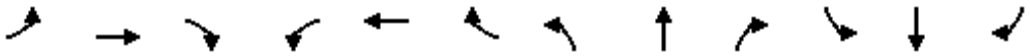
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	552	13	6	428	4	19	13	63	4	7	6
Future Vol, veh/h	13	552	13	6	428	4	19	13	63	4	7	6
Conflicting Peds, #/hr	1	0	2	2	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	0	2	0	6	8	0	0	0	0
Mvmt Flow	14	613	14	7	476	4	21	14	70	4	8	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	481	0	0	630	0	0	1146	1145	623	1184	1151	479
Stage 1	-	-	-	-	-	-	651	651	-	492	492	-
Stage 2	-	-	-	-	-	-	495	494	-	692	659	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.16	6.58	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.58	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.58	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.554	4.072	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1092	-	-	962	-	-	173	194	490	168	200	591
Stage 1	-	-	-	-	-	-	451	455	-	562	551	-
Stage 2	-	-	-	-	-	-	549	537	-	437	464	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1092	-	-	962	-	-	163	190	489	133	196	591
Mov Cap-2 Maneuver	-	-	-	-	-	-	163	190	-	133	196	-
Stage 1	-	-	-	-	-	-	444	448	-	554	547	-
Stage 2	-	-	-	-	-	-	531	533	-	358	457	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	23.1	22.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	303	1092	-	-	962	-	-	167	591
HCM Lane V/C Ratio	0.348	0.013	-	-	0.007	-	-	0.073	0.011
HCM Control Delay (s)	23.1	8.3	-	-	8.8	-	-	28.3	11.2
HCM Lane LOS	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	1.5	0	-	-	0	-	-	0.2	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	256	150	40	151	21	167	455	68	26	389	83
Future Volume (vph)	163	256	150	40	151	21	167	455	68	26	389	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	3.7		2.0	3.7		2.0	3.3		2.0	3.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1768	1699		1597	1782		1752	1767		1736	1754	
Flt Permitted	0.64	1.00		0.52	1.00		0.26	1.00		0.36	1.00	
Satd. Flow (perm)	1200	1699		866	1782		481	1767		666	1754	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	170	267	156	42	157	22	174	474	71	27	405	86
RTOR Reduction (vph)	0	11	0	0	3	0	0	3	0	0	5	0
Lane Group Flow (vph)	170	412	0	42	176	0	174	542	0	27	486	0
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	2%	3%	8%	13%	5%	0%	3%	5%	6%	4%	6%	3%
Turn Type	custom	NA		custom	NA		custom	NA		custom	NA	
Protected Phases	1	13 6		5	9 2		3	8 15		7	4 11	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	53.4	66.2		43.4	59.9		36.1	55.4		25.7	46.5	
Effective Green, g (s)	57.4	68.2		47.4	61.9		40.1	53.8		29.7	48.5	
Actuated g/C Ratio	0.38	0.45		0.32	0.41		0.27	0.36		0.20	0.32	
Clearance Time (s)	4.0			4.0			4.0			4.0		
Vehicle Extension (s)	2.0			2.0			2.0			2.0		
Lane Grp Cap (vph)	511	772		310	735		253	633		173	567	
v/s Ratio Prot	c0.03	c0.24		0.01	0.10		c0.07	c0.31		0.01	c0.28	
v/s Ratio Perm	0.10			0.04			0.12			0.02		
v/c Ratio	0.33	0.53		0.14	0.24		0.69	0.86		0.16	0.86	
Uniform Delay, d1	31.6	29.4		36.0	28.7		45.3	44.5		49.1	47.5	
Progression Factor	0.96	1.03		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.1		6.1	10.6		0.2	11.7	
Delay (s)	30.4	30.6		36.1	28.8		51.3	55.1		49.2	59.2	
Level of Service	C	C		D	C		D	E		D	E	
Approach Delay (s)		30.5			30.2			54.2			58.7	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

Description: Used hold phase for pedestrian phase

c Critical Lane Group

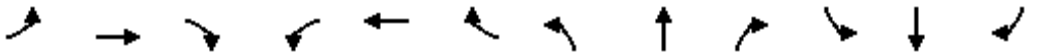
Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	63	305	272	78	59	51
Future Vol, veh/h	63	305	272	78	59	51
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Yield	Yield	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	7	2	5	3	2	6
Mvmt Flow	68	328	292	84	63	55

Major/Minor	Major1		Minor2	
Conflicting Flow All	2	0	671	4
Stage 1	-	-	2	-
Stage 2	-	-	669	-
Critical Hdwy	4.15	-	6.52	6.26
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.52	-
Follow-up Hdwy	2.245	-	4.018	3.354
Pot Cap-1 Maneuver	1601	-	378	1068
Stage 1	-	-	-	-
Stage 2	-	-	456	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	1598	-	0	1064
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s	6	8.8
HCM LOS		A

Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	1598	-	1064
HCM Lane V/C Ratio	0.183	-	0.111
HCM Control Delay (s)	7.8	0	8.8
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	0.7	-	0.4

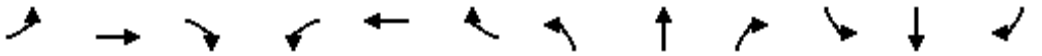


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	420	133	721	543	83	105	964	1263	129	930	170
Future Volume (vph)	277	420	133	721	543	83	105	964	1263	129	930	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1595	3433	3539	1509	1787	3539	1568	1736	3471	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1595	3433	3539	1509	1787	3539	1568	1736	3471	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	283	429	136	736	554	85	107	984	1289	132	949	173
RTOR Reduction (vph)	0	0	0	0	0	60	0	0	0	0	0	111
Lane Group Flow (vph)	283	429	136	736	554	26	107	984	1289	132	949	62
Confl. Peds. (#/hr)	3		2	2		3	1			1		
Heavy Vehicles (%)	2%	2%	0%	2%	2%	5%	1%	2%	3%	4%	4%	2%
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			Free			2			Free			8
Actuated Green, G (s)	17.2	22.8	145.0	36.9	42.5	42.5	14.7	47.8	145.0	17.5	50.6	50.6
Effective Green, g (s)	18.2	23.8	145.0	37.9	43.5	43.5	15.7	48.8	145.0	18.5	51.6	51.6
Actuated g/C Ratio	0.13	0.16	1.00	0.26	0.30	0.30	0.11	0.34	1.00	0.13	0.36	0.36
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.5	4.0		3.0	3.0	3.0
Lane Grp Cap (vph)	430	580	1595	897	1061	452	193	1191	1568	221	1235	563
v/s Ratio Prot	0.08	0.12		0.21	0.16		0.06	0.28		0.08	0.27	
v/s Ratio Perm			0.09			0.02			c0.82			0.04
v/c Ratio	0.66	0.74	0.09	0.82	0.52	0.06	0.55	0.83	0.82	0.60	0.77	0.11
Uniform Delay, d1	60.4	57.7	0.0	50.4	42.1	36.1	61.3	44.2	0.0	59.7	41.4	31.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	4.9	0.1	6.1	0.5	0.1	3.8	5.0	5.0	4.3	4.6	0.4
Delay (s)	64.1	62.6	0.1	56.4	42.6	36.2	65.1	49.3	5.0	64.0	46.0	31.7
Level of Service	E	E	A	E	D	D	E	D	A	E	D	C
Approach Delay (s)		53.1			49.6			26.0			45.9	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

Description: Check reference phase - 5 or 8 (BMP)

c Critical Lane Group



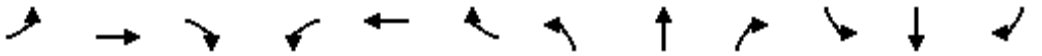
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	1483	227	76	980	174	223	212	89	170	169	103
Future Volume (vph)	113	1483	227	76	980	174	223	212	89	170	169	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1719	3539	1509	1687	3377		1736	1734		1752	1845	1556
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1719	3539	1509	1687	3377		1736	1734		1752	1845	1556
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	115	1513	232	78	1000	178	228	216	91	173	172	105
RTOR Reduction (vph)	0	0	67	0	9	0	0	10	0	0	0	91
Lane Group Flow (vph)	115	1513	165	78	1169	0	228	297	0	173	172	14
Confl. Peds. (#/hr)	4					4	3		15	15		3
Heavy Vehicles (%)	5%	2%	7%	7%	4%	4%	4%	4%	3%	3%	3%	2%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6									8
Actuated Green, G (s)	17.0	71.8	71.8	11.8	66.6		27.6	29.0		17.4	18.8	18.8
Effective Green, g (s)	18.0	72.8	72.8	12.8	67.6		28.6	30.0		18.4	19.8	19.8
Actuated g/C Ratio	0.12	0.49	0.49	0.09	0.45		0.19	0.20		0.12	0.13	0.13
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	206	1717	732	143	1521		330	346		214	243	205
v/s Ratio Prot	0.07	c0.43		0.05	c0.35		0.13	c0.17		c0.10	0.09	
v/s Ratio Perm			0.11									0.01
v/c Ratio	0.56	0.88	0.22	0.55	0.77		0.69	0.86		0.81	0.71	0.07
Uniform Delay, d1	62.3	34.7	22.3	65.8	34.6		56.6	57.9		64.1	62.3	57.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.6	6.9	0.7	3.3	3.8		5.6	18.2		19.2	8.4	0.1
Delay (s)	64.9	41.6	23.0	69.1	38.4		62.2	76.2		83.2	70.8	57.1
Level of Service	E	D	C	E	D		E	E		F	E	E
Approach Delay (s)		40.7			40.3			70.2			72.4	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	47.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	1535	52	39	1068	46	81	43	58	29	36	58
Future Volume (vph)	104	1535	52	39	1068	46	81	43	58	29	36	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.91			0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1787	3539	1485	1805	3480		1762	1617			1680	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.51	1.00			0.87	
Satd. Flow (perm)	1787	3539	1485	1805	3480		944	1617			1482	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	109	1616	55	41	1124	48	85	45	61	31	38	61
RTOR Reduction (vph)	0	0	17	0	2	0	0	54	0	0	36	0
Lane Group Flow (vph)	109	1616	38	41	1170	0	85	52	0	0	94	0
Confl. Peds. (#/hr)			2	2			5		5	5		5
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	1%	2%	6%	0%	3%	3%	2%	0%	11%	4%	3%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4			8		
Actuated Green, G (s)	12.1	76.4	76.4	5.4	69.7		13.2	13.2			13.2	
Effective Green, g (s)	12.1	76.4	76.4	5.4	69.7		13.2	13.2			13.2	
Actuated g/C Ratio	0.11	0.69	0.69	0.05	0.63		0.12	0.12			0.12	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	196	2457	1031	88	2205		113	194			177	
v/s Ratio Prot	c0.06	c0.46		0.02	0.34			0.03				
v/s Ratio Perm			0.03				c0.09				0.06	
v/c Ratio	0.56	0.66	0.04	0.47	0.53		0.75	0.27			0.53	
Uniform Delay, d1	46.4	9.4	5.3	50.9	11.1		46.8	44.0			45.5	
Progression Factor	1.00	1.00	1.00	1.04	2.38		1.00	1.00			1.00	
Incremental Delay, d2	3.4	1.4	0.1	3.3	0.8		24.2	0.8			3.0	
Delay (s)	49.8	10.8	5.3	56.1	27.2		71.0	44.8			48.5	
Level of Service	D	B	A	E	C		E	D			D	
Approach Delay (s)		13.1			28.2			56.5			48.5	
Approach LOS		B			C			E			D	

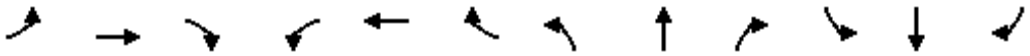
Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	1227	140	92	806	131	159	362	114	132	361	117
Future Volume (vph)	134	1227	140	92	806	131	159	362	114	132	361	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3539	1568	1805	3539	1583	1770	1863	1583	1787	1759	1563
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3539	1568	1805	3539	1583	1770	1863	1583	1787	1759	1563
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	138	1265	144	95	831	135	164	373	118	136	372	121
RTOR Reduction (vph)	0	0	71	0	0	84	0	0	86	0	0	91
Lane Group Flow (vph)	138	1265	73	95	831	51	164	373	32	136	372	30
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	2%	3%	0%	2%	2%	2%	2%	2%	1%	8%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	11.2	43.5	43.5	8.3	40.6	40.6	11.8	28.7	28.7	9.5	26.4	26.4
Effective Green, g (s)	12.2	44.5	44.5	9.3	41.6	41.6	12.8	29.7	29.7	10.5	27.4	27.4
Actuated g/C Ratio	0.11	0.40	0.40	0.08	0.38	0.38	0.12	0.27	0.27	0.10	0.25	0.25
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lane Grp Cap (vph)	200	1431	634	152	1338	598	205	503	427	170	438	389
v/s Ratio Prot	c0.08	c0.36		0.05	0.23		c0.09	0.20		0.08	c0.21	
v/s Ratio Perm			0.05			0.03			0.02			0.02
v/c Ratio	0.69	0.88	0.12	0.62	0.62	0.09	0.80	0.74	0.07	0.80	0.85	0.08
Uniform Delay, d1	47.1	30.4	20.5	48.7	27.8	22.0	47.4	36.6	29.9	48.7	39.3	31.6
Progression Factor	1.35	0.74	0.40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	6.7	0.3	5.7	2.2	0.3	18.6	5.1	0.0	21.8	13.7	0.0
Delay (s)	69.7	29.1	8.5	54.3	30.0	22.3	66.0	41.8	29.9	70.5	53.1	31.7
Level of Service	E	C	A	D	C	C	E	D	C	E	D	C
Approach Delay (s)		30.8			31.2			45.7			52.7	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.4%	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)	135	395	85	275	275	105	85	1080	190	160	1245	65
Future Volume (vph)	135	395	85	275	275	105	85	1080	190	160	1245	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1719	3406	1344	3367	1696	1423	1656	3252	1513	1656	3348	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1719	3406	1344	3367	1696	1423	1656	3252	1513	1656	3348	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	139	407	88	284	284	108	88	1113	196	165	1284	67
RTOR Reduction (vph)	0	0	73	0	0	85	0	0	111	0	3	0
Lane Group Flow (vph)	139	407	15	284	284	23	88	1113	85	165	1348	0
Confl. Peds. (#/hr)	1		5	5		1	1		3	3		1
Heavy Vehicles (%)	5%	6%	18%	4%	12%	12%	9%	11%	4%	9%	7%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)	11.7	20.6	20.6	16.7	25.6	25.6	10.0	52.0	52.0	15.7	57.7	
Effective Green, g (s)	12.7	21.6	21.6	17.7	26.6	26.6	11.0	53.0	53.0	16.7	58.7	
Actuated g/C Ratio	0.10	0.17	0.17	0.14	0.21	0.21	0.09	0.42	0.42	0.13	0.47	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	
Lane Grp Cap (vph)	174	588	232	476	360	302	145	1378	641	221	1572	
v/s Ratio Prot	c0.08	c0.12		0.08	c0.17		0.05	0.34		c0.10	c0.40	
v/s Ratio Perm			0.01			0.02			0.06			
v/c Ratio	0.80	0.69	0.07	0.60	0.79	0.08	0.61	0.81	0.13	0.75	0.86	
Uniform Delay, d1	54.9	48.6	43.3	50.3	46.5	39.4	54.9	31.5	22.0	52.1	29.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	22.0	3.5	0.1	2.0	10.9	0.1	7.0	5.2	0.4	12.9	6.3	
Delay (s)	76.9	52.1	43.4	52.3	57.5	39.5	61.9	36.7	22.4	65.0	35.7	
Level of Service	E	D	D	D	E	D	E	D	C	E	D	
Approach Delay (s)		56.3			52.4			36.3			38.9	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.8%	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)	85	45	45	35	75	130	60	1150	35	105	1410	35
Future Volume (vph)	85	45	45	35	75	130	60	1150	35	105	1410	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	3.0	3.0	3.0	4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00	0.99	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.93			1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1570	1509			1621	1474	1736	3343	1365	1752	3395	
Flt Permitted	0.95	1.00			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1570	1509			1621	1474	1736	3343	1365	1752	3395	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	47	47	37	79	137	63	1211	37	111	1484	37
RTOR Reduction (vph)	0	34	0	0	0	120	0	0	19	0	1	0
Lane Group Flow (vph)	89	60	0	0	116	17	63	1211	18	111	1520	0
Confl. Peds. (#/hr)	2		2	2		2	4		3	3		4
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	15%	16%	15%	14%	16%	8%	4%	8%	15%	3%	6%	0%
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Actuated Green, G (s)	13.0	13.0			15.1	15.1	5.0	62.3	62.3	17.6	74.9	
Effective Green, g (s)	14.0	14.0			16.1	16.1	6.0	63.3	63.3	18.6	75.9	
Actuated g/C Ratio	0.11	0.11			0.13	0.13	0.05	0.50	0.50	0.15	0.60	
Clearance Time (s)	5.0	5.0			5.0	5.0	4.0	4.0	4.0	5.0	5.0	
Vehicle Extension (s)	3.5	3.5			3.5	3.5	3.0	3.0	3.0	3.5	3.0	
Lane Grp Cap (vph)	173	166			205	186	82	1666	680	256	2028	
v/s Ratio Prot	c0.06	0.04			c0.07		0.04	c0.36		0.06	c0.45	
v/s Ratio Perm						0.01			0.01			
v/c Ratio	0.51	0.36			0.57	0.09	0.77	0.73	0.03	0.43	0.75	
Uniform Delay, d1	53.3	52.4			52.2	49.0	59.8	25.1	16.2	49.4	18.6	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.0	1.6			3.9	0.3	34.2	1.6	0.0	1.4	2.6	
Delay (s)	56.3	54.0			56.0	49.3	94.0	26.7	16.2	50.8	21.2	
Level of Service	E	D			E	D	F	C	B	D	C	
Approach Delay (s)		55.1			52.4			29.6			23.2	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	127.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	5	135	10	5	195
Future Vol, veh/h	15	5	135	10	5	195
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	50	4	34	0	5
Mvmt Flow	16	5	147	11	5	212

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	376	153	0	0	159	0
Stage 1	153	-	-	-	-	-
Stage 2	223	-	-	-	-	-
Critical Hdwy	6.48	6.7	-	-	4.1	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.75	-	-	2.2	-
Pot Cap-1 Maneuver	614	781	-	-	1433	-
Stage 1	861	-	-	-	-	-
Stage 2	800	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	611	780	-	-	1433	-
Mov Cap-2 Maneuver	611	-	-	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	797	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	646	1433	-
HCM Lane V/C Ratio	-	-	0.034	0.004	-
HCM Control Delay (s)	-	-	10.8	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	615	45	180	570	5	40	5	50	5	5	40
Future Volume (vph)	15	615	45	180	570	5	40	5	50	5	5	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	1.00
Satd. Flow (prot)	1406	1773		1654	1758			1714	1508		1851	1208
Flt Permitted	0.43	1.00		0.39	1.00			0.74	1.00		0.86	1.00
Satd. Flow (perm)	633	1773		683	1758			1327	1508		1626	1208
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	668	49	196	620	5	43	5	54	5	5	43
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	50	0	0	40
Lane Group Flow (vph)	16	716	0	196	625	0	0	48	4	0	10	3
Confl. Peds. (#/hr)	4		3	3		4	2		1	1		2
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	28%	6%	4%	9%	8%	0%	6%	0%	4%	0%	0%	17%
Parking (#/hr)												0
Turn Type	custom	NA		custom	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	13 6		5	9 2			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	82.9	91.2		49.2	104.5			8.0	8.0		8.0	8.0
Effective Green, g (s)	84.9	92.2		51.2	105.5			9.0	9.0		9.0	9.0
Actuated g/C Ratio	0.65	0.71		0.39	0.81			0.07	0.07		0.07	0.07
Clearance Time (s)	5.0			5.0				5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0			2.0				2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	431	1257		390	1426			91	104		112	83
v/s Ratio Prot	0.00	c0.40		c0.06	c0.36							
v/s Ratio Perm	0.02			0.13				c0.04	0.00		0.01	0.00
v/c Ratio	0.04	0.57		0.50	0.44			0.53	0.04		0.09	0.04
Uniform Delay, d1	8.0	9.2		33.5	3.6			58.4	56.5		56.7	56.5
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.4		0.4	0.1			2.5	0.1		0.1	0.1
Delay (s)	8.0	9.6		33.9	3.7			61.0	56.5		56.8	56.5
Level of Service	A	A		C	A			E	E		E	E
Approach Delay (s)		9.5			10.9			58.6			56.6	
Approach LOS		A			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	21.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	360	100	35	525	100	70	40	15	10	20	55
Future Vol, veh/h	65	360	100	35	525	100	70	40	15	10	20	55
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	3	3	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	-	130	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	7	10	14	5	13	5	9	24	17	16	32
Mvmt Flow	71	391	109	38	571	109	76	43	16	11	22	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	679	0	0	500	0	0	1302	1342	449	1321	1342	628
Stage 1	-	-	-	-	-	-	587	587	-	701	701	-
Stage 2	-	-	-	-	-	-	715	755	-	620	641	-
Critical Hdwy	4.28	-	-	4.24	-	-	7.15	6.59	6.44	7.27	6.66	6.52
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.59	-	6.27	5.66	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.59	-	6.27	5.66	-
Follow-up Hdwy	2.362	-	-	2.326	-	-	3.545	4.081	3.516	3.653	4.144	3.588
Pot Cap-1 Maneuver	843	-	-	1005	-	-	136	147	566	124	142	433
Stage 1	-	-	-	-	-	-	491	486	-	406	420	-
Stage 2	-	-	-	-	-	-	417	407	-	451	448	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	841	-	-	1002	-	-	92	129	565	81	125	432
Mov Cap-2 Maneuver	-	-	-	-	-	-	92	129	-	81	125	-
Stage 1	-	-	-	-	-	-	450	445	-	372	404	-
Stage 2	-	-	-	-	-	-	326	392	-	361	410	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.5	216.9	28.4
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	114	841	-	-	1002	-	-	106	432
HCM Lane V/C Ratio	1.192	0.084	-	-	0.038	-	-	0.308	0.138
HCM Control Delay (s)	216.9	9.7	-	-	8.7	-	-	53.4	14.7
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	8.6	0.3	-	-	0.1	-	-	1.2	0.5

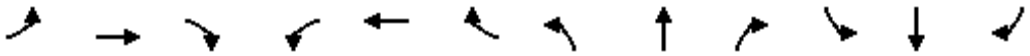
Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	335	75	70	640	15	25	10	30	15	65	15
Future Vol, veh/h	10	335	75	70	640	15	25	10	30	15	65	15
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	8	0	0	7	12	0	0	0	10	0	10
Mvmt Flow	11	364	82	76	696	16	27	11	33	16	71	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	714	0	0	448	0	0	1320	1295	410	1309	1327	706
Stage 1	-	-	-	-	-	-	429	429	-	858	858	-
Stage 2	-	-	-	-	-	-	891	866	-	451	469	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.2	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.2	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.2	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.39
Pot Cap-1 Maneuver	895	-	-	1123	-	-	135	164	646	131	157	423
Stage 1	-	-	-	-	-	-	608	587	-	340	376	-
Stage 2	-	-	-	-	-	-	340	373	-	573	564	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	895	-	-	1120	-	-	75	150	643	110	144	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	150	-	110	144	-
Stage 1	-	-	-	-	-	-	600	579	-	335	350	-
Stage 2	-	-	-	-	-	-	243	347	-	526	556	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.8	50.8	60.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	146	895	-	-	1120	-	-	136	422
HCM Lane V/C Ratio	0.484	0.012	-	-	0.068	-	-	0.639	0.039
HCM Control Delay (s)	50.8	9.1	-	-	8.4	-	-	69.5	13.9
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	2.3	0	-	-	0.2	-	-	3.4	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	150	160	55	320	25	205	265	25	20	490	170
Future Volume (vph)	85	150	160	55	320	25	205	265	25	20	490	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	3.7		2.0	3.7		2.0	3.3		2.0	3.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.99		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1655	1605		1668	1791		1671	1697		1671	1661	
Flt Permitted	0.54	1.00		0.56	1.00		0.20	1.00		0.57	1.00	
Satd. Flow (perm)	938	1605		979	1791		345	1697		1001	1661	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	163	174	60	348	27	223	288	27	22	533	185
RTOR Reduction (vph)	0	27	0	0	2	0	0	2	0	0	9	0
Lane Group Flow (vph)	92	310	0	60	373	0	223	313	0	22	709	0
Confl. Peds. (#/hr)	9		2	2		9						
Heavy Vehicles (%)	8%	11%	5%	8%	5%	0%	8%	10%	16%	8%	10%	10%
Turn Type	custom	NA		custom	NA		custom	NA		custom	NA	
Protected Phases	1	13 6		5	9 2		3	8 15		7	4 11	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	15.4	37.3		17.6	35.9		52.5	73.0		53.3	64.0	
Effective Green, g (s)	19.4	39.3		21.6	37.9		56.5	71.4		57.3	66.0	
Actuated g/C Ratio	0.14	0.28		0.16	0.27		0.41	0.52		0.41	0.48	
Clearance Time (s)	4.0			4.0			4.0			4.0		
Vehicle Extension (s)	2.0			2.0			2.0			2.0		
Lane Grp Cap (vph)	179	455		191	489		279	874		439	790	
v/s Ratio Prot	c0.03	0.19		0.02	c0.21		c0.08	0.18		0.00	c0.43	
v/s Ratio Perm	0.04			0.03			0.24			0.02		
v/c Ratio	0.51	0.68		0.31	0.76		0.80	0.36		0.05	0.90	
Uniform Delay, d1	54.3	44.1		51.2	46.2		30.4	20.0		24.2	33.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	3.4		0.3	6.2		13.8	0.1		0.0	12.6	
Delay (s)	55.3	47.5		51.6	52.5		44.2	20.1		24.2	45.8	
Level of Service	E	D		D	D		D	C		C	D	
Approach Delay (s)		49.1			52.3			30.1			45.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	43.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	138.6	Sum of lost time (s)	18.3
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		

Description: Used hold phase for pedestrian phase

c Critical Lane Group

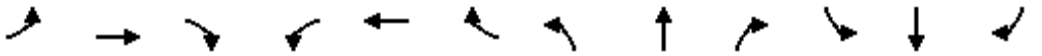
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	125	175	70	75	35
Future Vol, veh/h	35	125	175	70	75	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Yield	Yield	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	9	13	3	5	4
Mvmt Flow	38	136	190	76	82	38

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	457	0
Stage 1	-	-	0	-
Stage 2	-	-	457	-
Critical Hdwy	4.23	-	6.55	6.24
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.55	-
Follow-up Hdwy	2.317	-	4.045	3.336
Pot Cap-1 Maneuver	-	-	495	-
Stage 1	-	-	-	-
Stage 2	-	-	563	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s		
HCM LOS		-

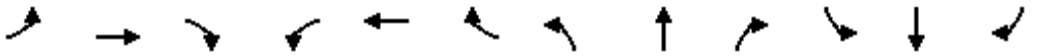
Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	245	85	0	385	85	55	1115	1030	135	1225	135
Future Volume (vph)	85	245	85	0	385	85	55	1115	1030	135	1225	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	3.0		4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3273	3343	1538		3471	1495	1805	3374	1509	1570	3374	1538
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3273	3343	1538		3471	1495	1805	3374	1509	1570	3374	1538
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	261	90	0	410	90	59	1186	1096	144	1303	144
RTOR Reduction (vph)	0	0	0	0	0	69	0	0	0	0	0	71
Lane Group Flow (vph)	90	261	90	0	410	21	59	1186	1096	144	1303	73
Heavy Vehicles (%)	7%	8%	5%	5%	4%	8%	0%	7%	7%	15%	7%	5%
Turn Type	Prot	NA	Free		NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	1	6			2		7	4		3	8	
Permitted Phases			Free			2			Free			8
Actuated Green, G (s)	6.9	38.3	120.0		26.4	26.4	7.1	49.9	120.0	16.8	59.6	59.6
Effective Green, g (s)	7.9	39.3	120.0		27.4	27.4	8.1	50.9	120.0	17.8	60.6	60.6
Actuated g/C Ratio	0.07	0.33	1.00		0.23	0.23	0.07	0.42	1.00	0.15	0.51	0.51
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.5	4.0		3.0	3.0	3.0
Lane Grp Cap (vph)	215	1094	1538		792	341	121	1431	1509	232	1703	776
v/s Ratio Prot	0.03	0.08			0.12		0.03	c0.35		0.09	0.39	
v/s Ratio Perm			0.06			0.01			c0.73			0.05
v/c Ratio	0.42	0.24	0.06		0.52	0.06	0.49	0.83	0.73	0.62	0.77	0.09
Uniform Delay, d1	53.8	29.4	0.0		40.5	36.2	53.9	30.7	0.0	47.9	24.0	15.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.5	0.1		2.4	0.3	3.6	4.3	3.1	5.1	2.1	0.1
Delay (s)	55.2	29.9	0.1		42.9	36.6	57.6	35.0	3.1	53.0	26.1	15.5
Level of Service	E	C	A		D	D	E	C	A	D	C	B
Approach Delay (s)		29.0			41.8			20.6			27.5	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
Description: Check reference phase - 5 or 8 (BMP)			

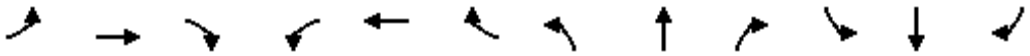
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	1045	270	65	1500	65	250	150	75	75	95	80
Future Volume (vph)	65	1045	270	65	1500	65	250	150	75	75	95	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1671	3312	1495	1687	3435		1656	1596		1597	1827	1471
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1671	3312	1495	1687	3435		1656	1596		1597	1827	1471
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	67	1077	278	67	1546	67	258	155	77	77	98	82
RTOR Reduction (vph)	0	0	132	0	2	0	0	16	0	0	0	72
Lane Group Flow (vph)	67	1077	146	67	1611	0	258	216	0	77	98	10
Confl. Peds. (#/hr)	7					7	3		1	1		3
Heavy Vehicles (%)	8%	9%	8%	7%	4%	11%	9%	11%	16%	13%	4%	8%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6									8
Actuated Green, G (s)	10.8	64.4	64.4	8.3	61.9		18.0	25.1		7.2	14.3	14.3
Effective Green, g (s)	11.8	65.4	65.4	9.3	62.9		19.0	26.1		8.2	15.3	15.3
Actuated g/C Ratio	0.09	0.52	0.52	0.07	0.50		0.15	0.21		0.07	0.12	0.12
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	157	1732	782	125	1728		251	333		104	223	180
v/s Ratio Prot	0.04	0.33		c0.04	c0.47		c0.16	c0.14		0.05	0.05	
v/s Ratio Perm			0.10									0.01
v/c Ratio	0.43	0.62	0.19	0.54	0.93		1.03	0.65		0.74	0.44	0.06
Uniform Delay, d1	53.4	21.1	15.7	55.8	29.0		53.0	45.3		57.4	50.9	48.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	1.7	0.5	3.4	10.6		64.2	3.8		23.2	1.0	0.1
Delay (s)	54.8	22.8	16.3	59.2	39.7		117.2	49.1		80.6	51.9	48.6
Level of Service	D	C	B	E	D		F	D		F	D	D
Approach Delay (s)		23.0			40.4			85.0			59.4	
Approach LOS		C			D			F			E	

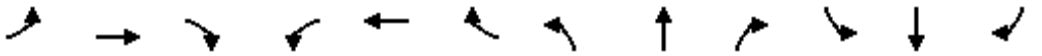
Intersection Summary			
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	960	45	35	1485	25	70	45	30	40	25	145
Future Volume (vph)	70	960	45	35	1485	25	70	45	30	40	25	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94			0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1736	3252	1509	1641	3457		1687	1661			1608	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.29	1.00			0.92	
Satd. Flow (perm)	1736	3252	1509	1641	3457		507	1661			1489	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	1043	49	38	1614	27	76	49	33	43	27	158
RTOR Reduction (vph)	0	0	15	0	1	0	0	24	0	0	79	0
Lane Group Flow (vph)	76	1043	34	38	1640	0	76	58	0	0	149	0
Confl. Peds. (#/hr)	1					1			1	1		1
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	11%	7%	10%	4%	11%	7%	0%	17%	5%	6%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4			8		
Actuated Green, G (s)	7.4	84.0	84.0	4.2	80.8		16.8	16.8			16.8	
Effective Green, g (s)	7.4	84.0	84.0	4.2	80.8		16.8	16.8			16.8	
Actuated g/C Ratio	0.06	0.70	0.70	0.04	0.67		0.14	0.14			0.14	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	107	2276	1056	57	2327		70	232			208	
v/s Ratio Prot	c0.04	0.32		0.02	c0.47			0.03				
v/s Ratio Perm			0.02				c0.15				0.10	
v/c Ratio	0.71	0.46	0.03	0.67	0.70		1.09	0.25			0.72	
Uniform Delay, d1	55.2	8.0	5.5	57.2	12.2		51.6	46.0			49.3	
Progression Factor	1.00	1.00	1.00	0.94	1.87		1.00	1.00			1.00	
Incremental Delay, d2	19.8	0.7	0.1	20.7	1.4		133.0	0.6			11.1	
Delay (s)	75.1	8.6	5.6	74.4	24.3		184.6	46.6			60.4	
Level of Service	E	A	A	E	C		F	D			E	
Approach Delay (s)		12.8			25.4			113.0			60.4	
Approach LOS		B			C			F			E	

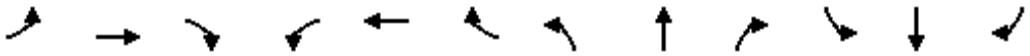
Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	870	90	110	1080	130	110	255	80	150	360	115
Future Volume (vph)	115	870	90	110	1080	130	110	255	80	150	360	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1671	3223	1442	1770	3471	1501	1736	1696	1362	1641	1776	1500
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1671	3223	1442	1770	3471	1501	1736	1696	1362	1641	1776	1500
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	946	98	120	1174	141	120	277	87	163	391	125
RTOR Reduction (vph)	0	0	55	0	0	77	0	0	67	0	0	94
Lane Group Flow (vph)	125	946	43	120	1174	64	120	277	20	163	391	31
Confl. Peds. (#/hr)	2					2	3		1	1		3
Heavy Vehicles (%)	8%	12%	12%	2%	4%	5%	4%	12%	17%	10%	7%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	10.9	51.3	51.3	10.1	50.5	50.5	9.4	26.1	26.1	12.5	29.2	29.2
Effective Green, g (s)	11.9	52.3	52.3	11.1	51.5	51.5	10.4	27.1	27.1	13.5	30.2	30.2
Actuated g/C Ratio	0.10	0.44	0.44	0.09	0.43	0.43	0.09	0.23	0.23	0.11	0.25	0.25
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lane Grp Cap (vph)	165	1404	628	163	1489	644	150	383	307	184	446	377
v/s Ratio Prot	c0.07	0.29		0.07	c0.34		0.07	0.16		c0.10	c0.22	
v/s Ratio Perm			0.03			0.04			0.01			0.02
v/c Ratio	0.76	0.67	0.07	0.74	0.79	0.10	0.80	0.72	0.06	0.89	0.88	0.08
Uniform Delay, d1	52.6	27.0	19.7	53.0	29.6	20.4	53.8	43.0	36.5	52.5	43.1	34.3
Progression Factor	1.38	0.73	0.18	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.9	2.4	0.2	13.8	4.3	0.3	24.2	5.6	0.0	35.3	16.9	0.0
Delay (s)	87.6	22.3	3.8	66.8	33.9	20.7	78.0	48.6	36.5	87.8	60.0	34.4
Level of Service	F	C	A	E	C	C	E	D	D	F	E	C
Approach Delay (s)		27.7			35.3			53.7			61.9	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	40.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

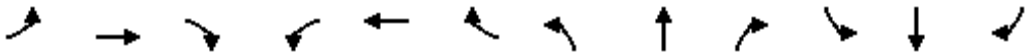
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	595	105	305	345	125	175	1210	290	250	1260	100
Future Volume (vph)	210	595	105	305	345	125	175	1210	290	250	1260	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3471	1583	3400	1827	1538	1770	3505	1493	1805	3422	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3471	1583	3400	1827	1538	1770	3505	1493	1805	3422	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	216	613	108	314	356	129	180	1247	299	258	1299	103
RTOR Reduction (vph)	0	0	85	0	0	98	0	0	80	0	4	0
Lane Group Flow (vph)	216	613	23	314	356	31	180	1247	219	258	1398	0
Confl. Peds. (#/hr)	16			16			1		16	16		1
Heavy Vehicles (%)	4%	4%	2%	3%	4%	5%	2%	3%	2%	0%	4%	7%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)	19.6	31.6	31.6	18.3	30.3	30.3	16.0	57.6	57.6	22.5	64.1	
Effective Green, g (s)	20.6	32.6	32.6	19.3	31.3	31.3	17.0	58.6	58.6	23.5	65.1	
Actuated g/C Ratio	0.14	0.22	0.22	0.13	0.21	0.21	0.11	0.39	0.39	0.16	0.43	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	
Lane Grp Cap (vph)	238	754	344	437	381	320	200	1369	583	282	1485	
v/s Ratio Prot	c0.12	0.18		0.09	c0.19		0.10	c0.36		0.14	c0.41	
v/s Ratio Perm			0.01			0.02			0.15			
v/c Ratio	0.91	0.81	0.07	0.72	0.93	0.10	0.90	0.91	0.38	0.91	0.94	
Uniform Delay, d1	63.8	55.8	46.6	62.7	58.3	47.9	65.7	43.2	32.6	62.3	40.6	
Progression Factor	1.00	1.00	1.00	0.92	0.91	0.93	0.69	0.53	0.42	1.00	1.00	
Incremental Delay, d2	34.2	6.7	0.1	5.1	28.0	0.1	19.9	4.5	0.2	32.0	13.0	
Delay (s)	98.0	62.5	46.7	62.6	81.1	44.8	65.1	27.5	14.0	94.3	53.7	
Level of Service	F	E	D	E	F	D	E	C	B	F	D	
Approach Delay (s)		68.9			68.0			29.1			60.0	
Approach LOS		E			E			C			E	

Intersection Summary			
HCM 2000 Control Delay	52.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	115	35	95	100	305	45	1390	70	240	1420	50
Future Volume (vph)	215	115	35	95	100	305	45	1390	70	240	1420	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00	0.99	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	1786			1748	1532	1752	3505	1540	1752	3454	
Flt Permitted	0.95	1.00			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	1786			1748	1532	1752	3505	1540	1752	3454	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	217	116	35	96	101	308	45	1404	71	242	1434	51
RTOR Reduction (vph)	0	8	0	0	0	248	0	0	39	0	1	0
Lane Group Flow (vph)	217	143	0	0	197	60	45	1404	32	242	1484	0
Confl. Peds. (#/hr)	1		3	3		1	3		2	2		3
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	0%	2%	10%	4%	3%	3%	2%	3%	4%	0%
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Actuated Green, G (s)	23.9	23.9			23.0	23.0	6.4	59.4	59.4	27.7	80.7	
Effective Green, g (s)	23.9	23.9			23.0	23.0	6.4	59.4	59.4	27.7	80.7	
Actuated g/C Ratio	0.16	0.16			0.15	0.15	0.04	0.40	0.40	0.18	0.54	
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.5	3.5			3.5	3.5	3.0	3.0	3.0	3.5	3.0	
Lane Grp Cap (vph)	284	284			268	234	74	1387	609	323	1858	
v/s Ratio Prot	c0.12	0.08			c0.11		0.03	c0.40		0.14	c0.43	
v/s Ratio Perm						0.04			0.02			
v/c Ratio	0.76	0.51			0.74	0.26	0.61	1.01	0.05	0.75	0.80	
Uniform Delay, d1	60.4	57.6			60.6	56.0	70.6	45.3	27.9	57.9	28.1	
Progression Factor	1.00	1.00			0.96	1.55	1.00	1.00	1.00	0.81	1.73	
Incremental Delay, d2	11.9	1.7			8.8	0.6	13.3	27.2	0.0	4.8	1.9	
Delay (s)	72.2	59.3			67.1	87.1	83.9	72.5	28.0	51.5	50.5	
Level of Service	E	E			E	F	F	E	C	D	D	
Approach Delay (s)		66.9			79.3			70.8			50.6	
Approach LOS		E			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	63.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

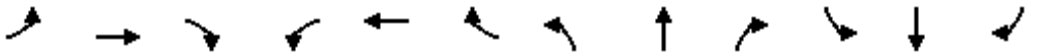
Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	5	350	10	5	120
Future Vol, veh/h	15	5	350	10	5	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	16	5	380	11	5	130

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	527	386	0	0	391	0
Stage 1	386	-	-	-	-	-
Stage 2	141	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	515	666	-	-	1179	-
Stage 1	691	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	512	666	-	-	1179	-
Mov Cap-2 Maneuver	512	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	887	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	543	1179	-
HCM Lane V/C Ratio	-	-	0.04	0.005	-
HCM Control Delay (s)	-	-	11.9	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	985	85	60	660	5	55	5	40	10	5	15
Future Volume (vph)	35	985	85	60	660	5	55	5	40	10	5	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5		3.5	4.5			3.5	3.5		3.5	3.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1802	1854		1803	1861			1816	1530		1832	1417
Flt Permitted	0.39	1.00		0.26	1.00			0.73	1.00		0.81	1.00
Satd. Flow (perm)	742	1854		490	1861			1389	1530		1533	1417
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1071	92	65	717	5	60	5	43	11	5	16
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	40	0	0	15
Lane Group Flow (vph)	38	1161	0	65	722	0	0	65	3	0	16	1
Confl. Peds. (#/hr)	2		5	5		2			1	1		
Confl. Bikes (#/hr)			2									1
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%
Parking (#/hr)												0
Turn Type	custom	NA		custom	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	13 6		5	9 2			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	96.4	120.2		21.8	121.3			10.1	10.1		10.1	10.1
Effective Green, g (s)	98.4	121.2		23.8	122.3			11.1	11.1		11.1	11.1
Actuated g/C Ratio	0.66	0.81		0.16	0.82			0.07	0.07		0.07	0.07
Clearance Time (s)	4.5			4.5				4.5	4.5		4.5	4.5
Vehicle Extension (s)	2.0			2.0				2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	522	1498		132	1517			102	113		113	104
v/s Ratio Prot	0.00	c0.63		c0.02	0.39							
v/s Ratio Perm	0.05			0.06				c0.05	0.00		0.01	0.00
v/c Ratio	0.07	0.78		0.49	0.48			0.64	0.03		0.14	0.01
Uniform Delay, d1	9.4	7.4		60.6	4.2			67.5	64.4		65.0	64.4
Progression Factor	0.62	1.50		0.90	0.93			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	1.7		1.0	0.1			9.2	0.0		0.2	0.0
Delay (s)	5.8	12.8		55.4	4.0			76.7	64.5		65.2	64.4
Level of Service	A	B		E	A			E	E		E	E
Approach Delay (s)		12.6			8.2			71.8			64.8	
Approach LOS		B			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	119.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	695	65	35	500	10	165	20	95	10	10	20
Future Vol, veh/h	10	695	65	35	500	10	165	20	95	10	10	20
Conflicting Peds, #/hr	3	0	2	2	0	3	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	-	130	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	5	6	2	0	2	0	0	0	0	0
Mvmt Flow	11	755	71	38	543	11	179	22	103	11	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	557	0	0	828	0	0	1446	1448	794	1504	1478	553
Stage 1	-	-	-	-	-	-	815	815	-	628	628	-
Stage 2	-	-	-	-	-	-	631	633	-	876	850	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.12	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.518	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1024	-	-	786	-	-	~ 109	133	391	101	127	537
Stage 1	-	-	-	-	-	-	371	394	-	474	479	-
Stage 2	-	-	-	-	-	-	469	476	-	346	380	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1023	-	-	785	-	-	~ 93	125	390	61	119	535
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 93	125	-	61	119	-
Stage 1	-	-	-	-	-	-	366	389	-	468	455	-
Stage 2	-	-	-	-	-	-	418	452	-	237	375	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	$ 689.7	38.5
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	129	1023	-	-	785	-	-	81	535
HCM Lane V/C Ratio	2.359	0.011	-	-	0.048	-	-	0.268	0.041
HCM Control Delay (s)	$ 689.7	8.6	-	-	9.8	-	-	65	12
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	26.3	0	-	-	0.2	-	-	1	0.1

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

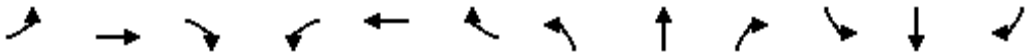
Intersection	
Int Delay, s/veh	15.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	740	40	15	510	5	40	25	115	5	10	10
Future Vol, veh/h	15	740	40	15	510	5	40	25	115	5	10	10
Conflicting Peds, #/hr	1	0	2	2	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	2	0	6	8	0	0	0	0
Mvmt Flow	16	804	43	16	554	5	43	27	125	5	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	561	0	0	850	0	0	1456	1454	828	1526	1473	558
Stage 1	-	-	-	-	-	-	861	861	-	591	591	-
Stage 2	-	-	-	-	-	-	595	593	-	935	882	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.16	6.58	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.58	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.58	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.554	4.072	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1020	-	-	797	-	-	106	126	374	97	128	533
Stage 1	-	-	-	-	-	-	345	364	-	497	498	-
Stage 2	-	-	-	-	-	-	484	484	-	321	367	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1020	-	-	797	-	-	94	121	373	52	123	533
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	121	-	52	123	-
Stage 1	-	-	-	-	-	-	339	358	-	489	488	-
Stage 2	-	-	-	-	-	-	454	474	-	194	361	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	122.7	39
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	191	1020	-	-	797	-	-	85	533
HCM Lane V/C Ratio	1.024	0.016	-	-	0.02	-	-	0.192	0.02
HCM Control Delay (s)	122.7	8.6	-	-	9.6	-	-	57.1	11.9
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	8.9	0	-	-	0.1	-	-	0.7	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	395	180	65	215	35	175	610	105	45	500	95
Future Volume (vph)	220	395	180	65	215	35	175	610	105	45	500	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.5	4.2		2.5	4.2		2.5	3.8		2.5	3.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1768	1720		1596	1778		1752	1762		1736	1757	
Flt Permitted	0.60	1.00		0.44	1.00		0.16	1.00		0.09	1.00	
Satd. Flow (perm)	1114	1720		736	1778		293	1762		156	1757	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	229	411	188	68	224	36	182	635	109	47	521	99
RTOR Reduction (vph)	0	10	0	0	3	0	0	4	0	0	5	0
Lane Group Flow (vph)	229	589	0	68	257	0	182	740	0	47	615	0
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	2%	3%	8%	13%	5%	0%	3%	5%	6%	4%	6%	3%
Turn Type	custom	NA		custom	NA		custom	NA		custom	NA	
Protected Phases	1	13 6		5	9 2		3	8 15		7	4 11	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	41.3	56.4		17.4	47.2		50.0	63.2		50.6	57.5	
Effective Green, g (s)	44.3	57.9		20.4	48.7		53.0	60.6		53.6	59.0	
Actuated g/C Ratio	0.30	0.39		0.14	0.32		0.35	0.40		0.36	0.39	
Clearance Time (s)	4.0			4.0			4.0			4.0		
Vehicle Extension (s)	2.0			2.0			2.0			2.0		
Lane Grp Cap (vph)	401	663		143	577		227	711		128	691	
v/s Ratio Prot	c0.06	c0.34		0.02	0.14		c0.07	c0.42		0.02	c0.35	
v/s Ratio Perm	0.10			0.04			0.22			0.11		
v/c Ratio	0.57	0.89		0.48	0.44		0.80	1.04		0.37	0.89	
Uniform Delay, d1	42.8	43.0		58.5	40.0		37.8	44.7		37.7	42.5	
Progression Factor	1.12	1.12		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	11.6		0.9	0.2		17.2	44.7		0.7	13.3	
Delay (s)	49.2	59.8		59.4	40.2		55.0	89.4		38.4	55.8	
Level of Service	D	E		E	D		D	F		D	E	
Approach Delay (s)		56.9			44.2			82.7			54.6	
Approach LOS		E			D			F			D	

Intersection Summary			
HCM 2000 Control Delay	63.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	21.3
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

Description: Used hold phase for pedestrian phase

c Critical Lane Group

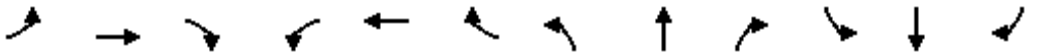
Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	370	295	100	90	55
Future Vol, veh/h	65	370	295	100	90	55
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Yield	Yield	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	7	2	5	3	2	6
Mvmt Flow	70	398	317	108	97	59

Major/Minor	Major1		Minor2	
Conflicting Flow All	2	0	744	4
Stage 1	-	-	2	-
Stage 2	-	-	742	-
Critical Hdwy	4.15	-	6.52	6.26
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.52	-
Follow-up Hdwy	2.245	-	4.018	3.354
Pot Cap-1 Maneuver	1601	-	343	1068
Stage 1	-	-	-	-
Stage 2	-	-	422	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	1598	-	0	1064
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s	5.8	9
HCM LOS		A

Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	1598	-	1064
HCM Lane V/C Ratio	0.199	-	0.147
HCM Control Delay (s)	7.8	0	9
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	0.7	-	0.5

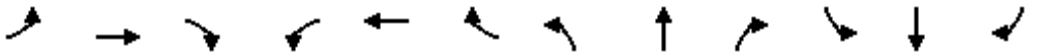


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	425	130	0	610	110	115	1135	1565	140	1180	175
Future Volume (vph)	285	425	130	0	610	110	115	1135	1565	140	1180	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	3.0		4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1595		3539	1509	1787	3539	1568	1736	3471	1583
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1595		3539	1509	1787	3539	1568	1736	3471	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	291	434	133	0	622	112	117	1158	1597	143	1204	179
RTOR Reduction (vph)	0	0	0	0	0	89	0	0	0	0	0	94
Lane Group Flow (vph)	291	434	133	0	622	23	117	1158	1597	143	1204	85
Confl. Peds. (#/hr)	3		2	2		3	1			1		
Heavy Vehicles (%)	2%	2%	0%	2%	2%	5%	1%	2%	3%	4%	4%	2%
Turn Type	Prot	NA	Free		NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	1	6			2		7	4		3	8	
Permitted Phases			Free			2			Free			8
Actuated Green, G (s)	15.3	49.5	145.0		29.2	29.2	13.0	58.0	145.0	22.5	67.5	67.5
Effective Green, g (s)	16.3	50.5	145.0		30.2	30.2	14.0	59.0	145.0	23.5	68.5	68.5
Actuated g/C Ratio	0.11	0.35	1.00		0.21	0.21	0.10	0.41	1.00	0.16	0.47	0.47
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.5	4.0		3.0	3.0	3.0
Lane Grp Cap (vph)	385	1232	1595		737	314	172	1440	1568	281	1639	747
v/s Ratio Prot	0.08	0.12			0.18		0.07	0.33		0.08	0.35	
v/s Ratio Perm			0.08			0.02			c1.02			0.05
v/c Ratio	0.76	0.35	0.08		0.84	0.07	0.68	0.80	1.02	0.51	0.73	0.11
Uniform Delay, d1	62.4	35.1	0.0		55.1	46.2	63.3	37.9	72.5	55.5	30.9	21.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.2	0.2	0.1		8.7	0.1	10.9	3.6	27.5	1.5	3.0	0.3
Delay (s)	70.6	35.3	0.1		63.9	46.3	74.3	41.5	100.0	56.9	33.9	21.6
Level of Service	E	D	A		E	D	E	D	F	E	C	C
Approach Delay (s)		41.8			61.2			75.3			34.6	
Approach LOS		D			E			E			C	

Intersection Summary			
HCM 2000 Control Delay	58.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

Description: Check reference phase - 5 or 8 (BMP)

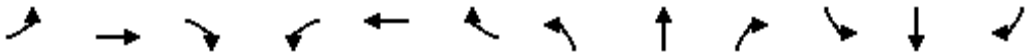
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	1750	285	110	1400	185	295	210	90	205	230	125
Future Volume (vph)	110	1750	285	110	1400	185	295	210	90	205	230	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1719	3539	1509	1687	3398		1736	1733		1752	1845	1556
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1719	3539	1509	1687	3398		1736	1733		1752	1845	1556
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	112	1786	291	112	1429	189	301	214	92	209	235	128
RTOR Reduction (vph)	0	0	82	0	7	0	0	10	0	0	0	105
Lane Group Flow (vph)	112	1786	209	112	1611	0	301	296	0	209	235	23
Confl. Peds. (#/hr)	4					4	3		15	15		3
Heavy Vehicles (%)	5%	2%	7%	7%	4%	4%	4%	4%	3%	3%	3%	2%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6									8
Actuated Green, G (s)	9.0	71.0	71.0	9.5	71.5		27.2	32.5		17.0	22.3	22.3
Effective Green, g (s)	10.0	72.0	72.0	10.5	72.5		28.2	33.5		18.0	23.3	23.3
Actuated g/C Ratio	0.07	0.48	0.48	0.07	0.48		0.19	0.22		0.12	0.16	0.16
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	114	1698	724	118	1642		326	387		210	286	241
v/s Ratio Prot	0.07	c0.50		0.07	c0.47		c0.17	0.17		c0.12	c0.13	
v/s Ratio Perm			0.14									0.01
v/c Ratio	0.98	1.05	0.29	0.95	0.98		0.92	0.76		1.00	0.82	0.10
Uniform Delay, d1	69.9	39.0	23.5	69.5	38.1		59.8	54.6		66.0	61.3	54.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	78.3	36.9	1.0	66.2	18.2		30.7	8.3		60.4	16.7	0.1
Delay (s)	148.3	75.9	24.6	135.6	56.3		90.5	62.9		126.4	78.0	54.5
Level of Service	F	E	C	F	E		F	E		F	E	D
Approach Delay (s)		72.8			61.4			76.6			90.4	
Approach LOS		E			E			E			F	

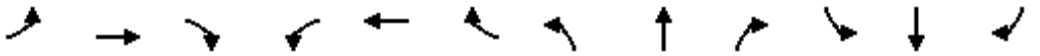
Intersection Summary			
HCM 2000 Control Delay	71.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	1815	55	45	1460	80	85	55	60	35	40	70
Future Volume (vph)	185	1815	55	45	1460	80	85	55	60	35	40	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.92			0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1787	3539	1485	1805	3474		1763	1642			1676	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.46	1.00			0.79	
Satd. Flow (perm)	1787	3539	1485	1805	3474		848	1642			1345	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	195	1911	58	47	1537	84	89	58	63	37	42	74
RTOR Reduction (vph)	0	0	17	0	3	0	0	44	0	0	38	0
Lane Group Flow (vph)	195	1911	41	47	1618	0	89	77	0	0	115	0
Confl. Peds. (#/hr)			2	2			5		5	5		5
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	1%	2%	6%	0%	3%	3%	2%	0%	11%	4%	3%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4			8		
Actuated Green, G (s)	14.0	77.1	77.1	4.0	67.1		13.9	13.9			13.9	
Effective Green, g (s)	14.0	77.1	77.1	4.0	67.1		13.9	13.9			13.9	
Actuated g/C Ratio	0.13	0.70	0.70	0.04	0.61		0.13	0.13			0.13	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	227	2480	1040	65	2119		107	207			169	
v/s Ratio Prot	c0.11	c0.54		0.03	0.47			0.05				
v/s Ratio Perm			0.03				c0.10				0.09	
v/c Ratio	0.86	0.77	0.04	0.72	0.76		0.83	0.37			0.68	
Uniform Delay, d1	47.0	10.7	5.1	52.5	15.7		46.9	44.1			45.9	
Progression Factor	1.00	1.00	1.00	1.23	2.25		1.00	1.00			1.00	
Incremental Delay, d2	26.0	2.4	0.1	17.0	1.3		39.7	1.1			10.8	
Delay (s)	73.1	13.1	5.1	81.3	36.6		86.6	45.2			56.8	
Level of Service	E	B	A	F	D		F	D			E	
Approach Delay (s)		18.3			37.8			62.8			56.8	
Approach LOS		B			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	83.6%	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)	170	1440	145	110	1170	185	205	450	135	170	420	165
Future Volume (vph)	170	1440	145	110	1170	185	205	450	135	170	420	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3539	1568	1805	3539	1583	1770	1863	1583	1787	1759	1563
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3539	1568	1805	3539	1583	1770	1863	1583	1787	1759	1563
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	175	1485	149	113	1206	191	211	464	139	175	433	170
RTOR Reduction (vph)	0	0	72	0	0	119	0	0	86	0	0	88
Lane Group Flow (vph)	175	1485	77	113	1206	72	211	464	53	175	433	82
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	2%	3%	0%	2%	2%	2%	2%	2%	1%	8%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	11.9	42.3	42.3	8.1	38.5	38.5	10.0	29.6	29.6	10.0	29.6	29.6
Effective Green, g (s)	12.9	43.3	43.3	9.1	39.5	39.5	11.0	30.6	30.6	11.0	30.6	30.6
Actuated g/C Ratio	0.12	0.39	0.39	0.08	0.36	0.36	0.10	0.28	0.28	0.10	0.28	0.28
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lane Grp Cap (vph)	211	1393	617	149	1270	568	177	518	440	178	489	434
v/s Ratio Prot	c0.10	c0.42		0.06	0.34		c0.12	c0.25		0.10	0.25	
v/s Ratio Perm			0.05			0.05			0.03			0.05
v/c Ratio	0.83	1.07	0.12	0.76	0.95	0.13	1.19	0.90	0.12	0.98	0.89	0.19
Uniform Delay, d1	47.5	33.4	21.3	49.4	34.3	23.7	49.5	38.2	29.7	49.4	38.0	30.2
Progression Factor	1.24	0.75	0.53	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.4	39.9	0.3	17.6	15.8	0.5	128.8	17.5	0.0	62.0	16.8	0.1
Delay (s)	74.1	64.9	11.5	67.0	50.0	24.1	178.3	55.6	29.7	111.4	54.8	30.3
Level of Service	E	E	B	E	D	C	F	E	C	F	D	C
Approach Delay (s)		61.4			48.0			83.0			62.2	
Approach LOS		E			D			F			E	

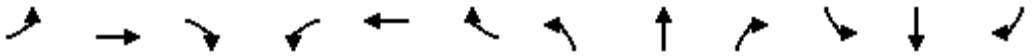
Intersection Summary			
HCM 2000 Control Delay	61.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	395	80	195	270	160	85	1075	185	165	1250	60
Future Volume (vph)	130	395	80	195	270	160	85	1075	185	165	1250	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1719	3406	1344	3367	1696	1423	1656	3252	1513	1656	3350	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1719	3406	1344	3367	1696	1423	1656	3252	1513	1656	3350	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	134	407	82	201	278	165	88	1108	191	170	1289	62
RTOR Reduction (vph)	0	0	68	0	0	131	0	0	108	0	3	0
Lane Group Flow (vph)	134	407	14	201	278	34	88	1108	83	170	1348	0
Confl. Peds. (#/hr)	1		5	5		1	1		3	3		1
Heavy Vehicles (%)	5%	6%	18%	4%	12%	12%	9%	11%	4%	9%	7%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)	11.6	20.6	20.6	15.6	24.6	24.6	9.2	53.3	53.3	15.5	59.6	
Effective Green, g (s)	12.6	21.6	21.6	16.6	25.6	25.6	10.2	54.3	54.3	16.5	60.6	
Actuated g/C Ratio	0.10	0.17	0.17	0.13	0.20	0.20	0.08	0.43	0.43	0.13	0.48	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	
Lane Grp Cap (vph)	173	588	232	447	347	291	135	1412	657	218	1624	
v/s Ratio Prot	0.08	c0.12		0.06	c0.16		0.05	0.34		c0.10	c0.40	
v/s Ratio Perm			0.01			0.02			0.05			
v/c Ratio	0.77	0.69	0.06	0.45	0.80	0.12	0.65	0.78	0.13	0.78	0.83	
Uniform Delay, d1	54.8	48.6	43.2	50.0	47.3	40.5	55.7	30.3	21.2	52.5	27.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.46	0.54	0.40	1.00	1.00	
Incremental Delay, d2	19.2	3.5	0.1	0.7	12.5	0.2	7.4	3.0	0.3	16.1	5.1	
Delay (s)	74.0	52.1	43.3	50.7	59.8	40.7	88.8	19.3	8.8	68.5	32.9	
Level of Service	E	D	D	D	E	D	F	B	A	E	C	
Approach Delay (s)		55.7			52.0			22.2			36.8	
Approach LOS		E			D			C			D	

Intersection Summary					
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.83				
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	76.2%	ICU Level of Service	D		
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	45	40	185	75	130	60	1150	35	90	1350	30
Future Volume (vph)	85	45	40	185	75	130	60	1150	35	90	1350	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00	0.99	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.93			1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1570	1516			1601	1474	1736	3343	1381	1752	3396	
Flt Permitted	0.95	1.00			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1570	1516			1601	1474	1736	3343	1381	1752	3396	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	47	42	195	79	137	63	1211	37	95	1421	32
RTOR Reduction (vph)	0	30	0	0	0	104	0	0	20	0	1	0
Lane Group Flow (vph)	89	59	0	0	274	33	63	1211	17	95	1452	0
Confl. Peds. (#/hr)	2		2	2		2	4		3	3		4
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	15%	16%	15%	14%	16%	8%	4%	8%	15%	3%	6%	0%
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Actuated Green, G (s)	12.9	12.9			25.6	25.6	5.0	56.0	56.0	14.5	65.5	
Effective Green, g (s)	12.9	12.9			25.6	25.6	5.0	56.0	56.0	14.5	65.5	
Actuated g/C Ratio	0.10	0.10			0.20	0.20	0.04	0.45	0.45	0.12	0.52	
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.5	3.5			3.5	3.5	3.0	3.0	3.0	3.5	3.0	
Lane Grp Cap (vph)	162	156			327	301	69	1497	618	203	1779	
v/s Ratio Prot	c0.06	0.04			c0.17		0.04	c0.36		0.05	c0.43	
v/s Ratio Perm						0.02			0.01			
v/c Ratio	0.55	0.38			0.84	0.11	0.91	0.81	0.03	0.47	0.82	
Uniform Delay, d1	53.3	52.3			47.7	40.4	59.8	29.9	19.3	51.6	24.7	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.19	0.37	
Incremental Delay, d2	4.2	1.8			17.2	0.2	78.2	3.3	0.0	1.3	2.8	
Delay (s)	57.5	54.1			64.9	40.6	138.0	33.2	19.3	62.7	12.0	
Level of Service	E	D			E	D	F	C	B	E	B	
Approach Delay (s)		55.8			56.8			37.8			15.1	
Approach LOS		E			E			D			B	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

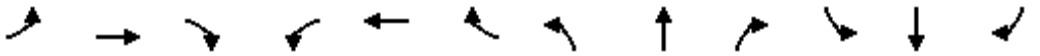
Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	30	15	115	5	30	140	10	10	90	190
Future Vol, veh/h	10	0	30	15	115	5	30	140	10	10	90	190
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	8	2	50	2	4	34	0	5	2
Mvmt Flow	11	0	33	16	125	5	33	152	11	11	98	207

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	511	452	201	463	550	159	304	0	0	164	0	0
Stage 1	223	223	-	224	224	-	-	-	-	-	-	-
Stage 2	288	229	-	239	326	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.18	6.52	6.7	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.18	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.18	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.572	4.018	3.75	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	473	503	840	499	443	775	1257	-	-	1427	-	-
Stage 1	780	719	-	765	718	-	-	-	-	-	-	-
Stage 2	720	715	-	751	648	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	353	483	840	465	425	774	1257	-	-	1427	-	-
Mov Cap-2 Maneuver	353	483	-	465	425	-	-	-	-	-	-	-
Stage 1	757	712	-	742	697	-	-	-	-	-	-	-
Stage 2	570	694	-	715	642	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	17.4	1.3	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1257	-	-	625	436	1427	-	-
HCM Lane V/C Ratio	0.026	-	-	0.07	0.337	0.008	-	-
HCM Control Delay (s)	7.9	0	-	11.2	17.4	7.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.5	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	615	45	145	545	5	40	5	45	5	5	40
Future Volume (vph)	15	615	45	145	545	5	40	5	45	5	5	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	1.00
Satd. Flow (prot)	1405	1773		1654	1758			1714	1508		1851	1208
Flt Permitted	0.44	1.00		0.39	1.00			0.74	1.00		0.86	1.00
Satd. Flow (perm)	649	1773		683	1758			1327	1508		1626	1208
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	668	49	158	592	5	43	5	49	5	5	43
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	46	0	0	40
Lane Group Flow (vph)	16	716	0	158	597	0	0	48	3	0	10	3
Confl. Peds. (#/hr)	4		3	3		4	2		1	1		2
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	28%	6%	4%	9%	8%	0%	6%	0%	4%	0%	0%	17%
Parking (#/hr)												0
Turn Type	custom	NA		custom	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	13 6		5	9 2			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	84.0	94.2		48.5	104.5			8.0	8.0		8.0	8.0
Effective Green, g (s)	86.0	95.2		50.5	105.5			9.0	9.0		9.0	9.0
Actuated g/C Ratio	0.66	0.73		0.39	0.81			0.07	0.07		0.07	0.07
Clearance Time (s)	5.0			5.0				5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0			2.0				2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	446	1298		364	1426			91	104		112	83
v/s Ratio Prot	0.00	c0.40		c0.04	0.34							
v/s Ratio Perm	0.02			0.12				c0.04	0.00		0.01	0.00
v/c Ratio	0.04	0.55		0.43	0.42			0.53	0.03		0.09	0.04
Uniform Delay, d1	7.6	7.8		31.6	3.5			58.4	56.4		56.7	56.5
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.3		0.3	0.1			2.5	0.0		0.1	0.1
Delay (s)	7.6	8.1		31.9	3.6			61.0	56.5		56.8	56.5
Level of Service	A	A		C	A			E	E		E	E
Approach Delay (s)		8.1			9.5			58.7			56.6	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	61.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	355	100	125	455	100	80	40	25	10	35	50
Future Vol, veh/h	65	355	100	125	455	100	80	40	25	10	35	50
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	3	3	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	-	130	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	7	10	14	5	13	5	9	24	17	16	32
Mvmt Flow	71	386	109	136	495	109	87	43	27	11	38	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	603	0	0	495	0	0	1425	1457	443	1441	1457	552
Stage 1	-	-	-	-	-	-	582	582	-	821	821	-
Stage 2	-	-	-	-	-	-	843	875	-	620	636	-
Critical Hdwy	4.28	-	-	4.24	-	-	7.15	6.59	6.44	7.27	6.66	6.52
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.59	-	6.27	5.66	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.59	-	6.27	5.66	-
Follow-up Hdwy	2.362	-	-	2.326	-	-	3.545	4.081	3.516	3.653	4.144	3.588
Pot Cap-1 Maneuver	901	-	-	1009	-	-	111	125	571	102	121	480
Stage 1	-	-	-	-	-	-	494	488	-	348	369	-
Stage 2	-	-	-	-	-	-	354	357	-	451	451	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	899	-	-	1006	-	-	~ 58	100	570	55	96	479
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 58	100	-	55	96	-
Stage 1	-	-	-	-	-	-	455	449	-	321	319	-
Stage 2	-	-	-	-	-	-	238	309	-	356	415	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	1.7	$ 564.1	54.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	80	899	-	-	1006	-	-	82	479
HCM Lane V/C Ratio	1.97	0.079	-	-	0.135	-	-	0.597	0.113
HCM Control Delay (s)	$ 564.1	9.3	-	-	9.1	-	-	99.6	13.5
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	13.9	0.3	-	-	0.5	-	-	2.7	0.4

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

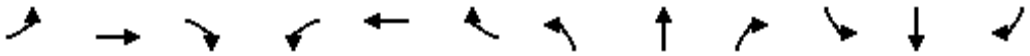
Intersection	
Int Delay, s/veh	12.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	335	75	120	665	15	20	10	30	15	70	10
Future Vol, veh/h	10	335	75	120	665	15	20	10	30	15	70	10
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	8	0	0	7	12	0	0	0	10	0	10
Mvmt Flow	11	364	82	130	723	16	22	11	33	16	76	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	741	0	0	448	0	0	1459	1431	410	1445	1463	733
Stage 1	-	-	-	-	-	-	429	429	-	994	994	-
Stage 2	-	-	-	-	-	-	1030	1002	-	451	469	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.2	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.2	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.2	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.39
Pot Cap-1 Maneuver	875	-	-	1123	-	-	108	136	646	105	130	408
Stage 1	-	-	-	-	-	-	608	587	-	285	326	-
Stage 2	-	-	-	-	-	-	284	323	-	573	564	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	875	-	-	1120	-	-	44	118	643	83	113	407
Mov Cap-2 Maneuver	-	-	-	-	-	-	44	118	-	83	113	-
Stage 1	-	-	-	-	-	-	599	579	-	281	288	-
Stage 2	-	-	-	-	-	-	180	285	-	526	556	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.3	88.5	117
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	102	875	-	-	1120	-	-	106	407
HCM Lane V/C Ratio	0.639	0.012	-	-	0.116	-	-	0.872	0.027
HCM Control Delay (s)	88.5	9.2	-	-	8.6	-	-	129.1	14.1
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	3.2	0	-	-	0.4	-	-	5.1	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	150	160	65	325	10	240	220	20	20	475	210
Future Volume (vph)	90	150	160	65	325	10	240	220	20	20	475	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	3.7		2.0	3.7		2.0	3.3		2.0	3.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	1.00		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1654	1605		1667	1802		1671	1698		1671	1648	
Flt Permitted	0.54	1.00		0.56	1.00		0.17	1.00		0.60	1.00	
Satd. Flow (perm)	947	1605		979	1802		296	1698		1052	1648	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	163	174	71	353	11	261	239	22	22	516	228
RTOR Reduction (vph)	0	27	0	0	1	0	0	2	0	0	11	0
Lane Group Flow (vph)	98	310	0	71	363	0	261	259	0	22	733	0
Confl. Peds. (#/hr)	9		2	2		9						
Heavy Vehicles (%)	8%	11%	5%	8%	5%	0%	8%	10%	16%	8%	10%	10%
Turn Type	custom	NA		custom	NA		custom	NA		custom	NA	
Protected Phases	1	13 6		5	9 2		3	8 15		7	4 11	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	14.8	33.9		15.4	32.6		56.0	76.4		59.0	64.4	
Effective Green, g (s)	18.8	35.9		19.4	34.6		60.0	74.8		63.0	66.4	
Actuated g/C Ratio	0.14	0.26		0.14	0.25		0.43	0.54		0.45	0.48	
Clearance Time (s)	4.0			4.0			4.0			4.0		
Vehicle Extension (s)	2.0			2.0			2.0			2.0		
Lane Grp Cap (vph)	175	415		176	449		300	916		501	789	
v/s Ratio Prot	c0.04	0.19		0.02	c0.20		c0.11	0.15		0.00	c0.44	
v/s Ratio Perm	0.04			0.03			0.27			0.02		
v/c Ratio	0.56	0.75		0.40	0.81		0.87	0.28		0.04	0.93	
Uniform Delay, d1	55.0	47.2		53.5	48.9		29.8	17.3		20.9	33.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	6.3		0.6	9.8		21.9	0.1		0.0	16.7	
Delay (s)	57.5	53.4		54.1	58.7		51.6	17.4		20.9	50.6	
Level of Service	E	D		D	E		D	B		C	D	
Approach Delay (s)		54.3			57.9			34.5			49.7	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	48.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	138.6	Sum of lost time (s)	18.3
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

Description: Used hold phase for pedestrian phase

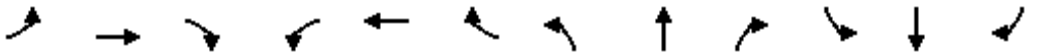
c Critical Lane Group

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	35	10	105	0	295	155	55	0	170	55	0	0	40	45	35
Future Vol, veh/h	0	35	10	105	0	295	155	55	0	170	55	0	0	40	45	35
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	11	2	9	2	2	2	2	2	13	3	2	2	2	5	4
Mvmt Flow	0	38	11	114	0	321	168	60	0	185	60	0	0	43	49	38
Number of Lanes	0	0	1	1	0	1	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	10.4	15.8	13.7	12.2
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	78%	0%	100%	0%	33%
Vol Thru, %	0%	100%	22%	0%	0%	74%	38%
Vol Right, %	0%	0%	0%	100%	0%	26%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	55	45	105	295	210	120
LT Vol	170	0	35	0	295	0	40
Through Vol	0	55	10	0	0	155	45
RT Vol	0	0	0	105	0	55	35
Lane Flow Rate	185	60	49	114	321	228	130
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.382	0.112	0.099	0.19	0.588	0.375	0.248
Departure Headway (Hd)	7.441	6.76	7.259	5.991	6.605	5.912	6.85
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	482	528	492	596	545	607	522
Service Time	5.207	4.526	5.034	3.765	4.362	3.668	4.923
HCM Lane V/C Ratio	0.384	0.114	0.1	0.191	0.589	0.376	0.249
HCM Control Delay	14.8	10.4	10.8	10.2	18.4	12.2	12.2
HCM Lane LOS	B	B	B	B	C	B	B
HCM 95th-tile Q	1.8	0.4	0.3	0.7	3.8	1.7	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	245	85	0	405	90	55	1105	1030	130	1315	145
Future Volume (vph)	85	245	85	0	405	90	55	1105	1030	130	1315	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	3.0		4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3273	3343	1538		3471	1495	1805	3374	1509	1570	3374	1538
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3273	3343	1538		3471	1495	1805	3374	1509	1570	3374	1538
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	261	90	0	431	96	59	1176	1096	138	1399	154
RTOR Reduction (vph)	0	0	0	0	0	74	0	0	0	0	0	75
Lane Group Flow (vph)	90	261	90	0	431	22	59	1176	1096	138	1399	79
Heavy Vehicles (%)	7%	8%	5%	5%	4%	8%	0%	7%	7%	15%	7%	5%
Turn Type	Prot	NA	Free		NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	1	6			2		7	4		3	8	
Permitted Phases			Free			2			Free			8
Actuated Green, G (s)	6.4	37.7	120.0		26.3	26.3	6.8	49.7	120.0	17.6	60.5	60.5
Effective Green, g (s)	7.4	38.7	120.0		27.3	27.3	7.8	50.7	120.0	18.6	61.5	61.5
Actuated g/C Ratio	0.06	0.32	1.00		0.23	0.23	0.06	0.42	1.00	0.16	0.51	0.51
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.5	4.0		3.0	3.0	3.0
Lane Grp Cap (vph)	201	1078	1538		789	340	117	1425	1509	243	1729	788
v/s Ratio Prot	0.03	0.08			0.12		0.03	0.35		0.09	c0.41	
v/s Ratio Perm			0.06			0.01			c0.73			0.05
v/c Ratio	0.45	0.24	0.06		0.55	0.06	0.50	0.83	0.73	0.57	0.81	0.10
Uniform Delay, d1	54.3	29.9	0.0		40.9	36.3	54.2	30.7	0.0	47.0	24.4	15.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.5	0.1		2.7	0.4	4.0	4.2	3.1	3.0	2.9	0.1
Delay (s)	55.9	30.4	0.1		43.6	36.7	58.2	35.0	3.1	50.0	27.3	15.1
Level of Service	E	C	A		D	D	E	C	A	D	C	B
Approach Delay (s)		29.4			42.3			20.6			28.0	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
Description: Check reference phase - 5 or 8 (BMP)			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	1045	270	65	1290	45	250	145	80	45	135	315
Future Volume (vph)	65	1045	270	65	1290	45	250	145	80	45	135	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1671	3312	1495	1687	3444		1656	1588		1597	1827	1471
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1671	3312	1495	1687	3444		1656	1588		1597	1827	1471
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	67	1077	278	67	1330	46	258	149	82	46	139	325
RTOR Reduction (vph)	0	0	145	0	2	0	0	16	0	0	0	122
Lane Group Flow (vph)	67	1077	133	67	1374	0	258	215	0	46	139	203
Confl. Peds. (#/hr)	7					7	3		1	1		3
Heavy Vehicles (%)	8%	9%	8%	7%	4%	11%	9%	11%	16%	13%	4%	8%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6									8
Actuated Green, G (s)	7.0	57.6	57.6	6.0	56.6		20.4	35.2		6.2	21.0	21.0
Effective Green, g (s)	8.0	58.6	58.6	7.0	57.6		21.4	36.2		7.2	22.0	22.0
Actuated g/C Ratio	0.06	0.47	0.47	0.06	0.46		0.17	0.29		0.06	0.18	0.18
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	106	1552	700	94	1586		283	459		91	321	258
v/s Ratio Prot	c0.04	0.33		0.04	c0.40		c0.16	0.14		0.03	0.08	
v/s Ratio Perm			0.09									c0.14
v/c Ratio	0.63	0.69	0.19	0.71	0.87		0.91	0.47		0.51	0.43	0.79
Uniform Delay, d1	57.1	26.1	19.4	58.0	30.3		50.9	36.5		57.2	45.9	49.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.3	2.6	0.6	21.1	6.6		31.4	0.5		3.2	0.7	14.1
Delay (s)	67.3	28.7	20.0	79.1	36.9		82.3	37.0		60.4	46.6	63.4
Level of Service	E	C	B	E	D		F	D		E	D	E
Approach Delay (s)		28.8			38.8			60.9			58.5	
Approach LOS		C			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

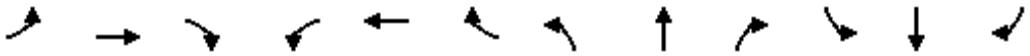
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	935	45	30	1505	55	65	40	30	70	20	45
Future Volume (vph)	75	935	45	30	1505	55	65	40	30	70	20	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.93			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1736	3252	1509	1641	3442		1687	1644			1674	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.59	1.00			0.80	
Satd. Flow (perm)	1736	3252	1509	1641	3442		1052	1644			1369	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	1016	49	33	1636	60	71	43	33	76	22	49
RTOR Reduction (vph)	0	0	15	0	2	0	0	27	0	0	17	0
Lane Group Flow (vph)	82	1016	34	33	1694	0	71	49	0	0	130	0
Confl. Peds. (#/hr)	1					1			1	1		1
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	11%	7%	10%	4%	11%	7%	0%	17%	5%	6%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4			8		
Actuated Green, G (s)	9.8	84.3	84.3	4.2	78.7		16.5	16.5			16.5	
Effective Green, g (s)	9.8	84.3	84.3	4.2	78.7		16.5	16.5			16.5	
Actuated g/C Ratio	0.08	0.70	0.70	0.04	0.66		0.14	0.14			0.14	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	141	2284	1060	57	2257		144	226			188	
v/s Ratio Prot	c0.05	0.31		0.02	c0.49			0.03				
v/s Ratio Perm			0.02				0.07				c0.09	
v/c Ratio	0.58	0.44	0.03	0.58	0.75		0.49	0.22			0.69	
Uniform Delay, d1	53.1	7.7	5.4	57.0	14.0		47.9	46.0			49.3	
Progression Factor	1.00	1.00	1.00	1.04	2.02		1.00	1.00			1.00	
Incremental Delay, d2	6.0	0.6	0.1	10.0	1.7		2.6	0.5			10.4	
Delay (s)	59.1	8.4	5.5	69.3	30.0		50.5	46.5			59.7	
Level of Service	E	A	A	E	C		D	D			E	
Approach Delay (s)		11.9			30.8			48.4			59.7	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	74.8%	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)	115	880	90	65	1155	120	115	250	80	150	335	140
Future Volume (vph)	115	880	90	65	1155	120	115	250	80	150	335	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1671	3223	1442	1770	3471	1501	1736	1696	1362	1641	1776	1500
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1671	3223	1442	1770	3471	1501	1736	1696	1362	1641	1776	1500
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	957	98	71	1255	130	125	272	87	163	364	152
RTOR Reduction (vph)	0	0	51	0	0	68	0	0	68	0	0	114
Lane Group Flow (vph)	125	957	47	71	1255	63	125	272	19	163	364	38
Confl. Peds. (#/hr)	2					2	3		1	1		3
Heavy Vehicles (%)	8%	12%	12%	2%	4%	5%	4%	12%	17%	10%	7%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	11.0	56.7	56.7	5.8	51.5	51.5	10.1	25.5	25.5	12.0	27.4	27.4
Effective Green, g (s)	12.0	57.7	57.7	6.8	52.5	52.5	11.1	26.5	26.5	13.0	28.4	28.4
Actuated g/C Ratio	0.10	0.48	0.48	0.06	0.44	0.44	0.09	0.22	0.22	0.11	0.24	0.24
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lane Grp Cap (vph)	167	1549	693	100	1518	656	160	374	300	177	420	355
v/s Ratio Prot	c0.07	0.30		0.04	c0.36		0.07	0.16		c0.10	c0.20	
v/s Ratio Perm			0.03			0.04			0.01			0.03
v/c Ratio	0.75	0.62	0.07	0.71	0.83	0.10	0.78	0.73	0.06	0.92	0.87	0.11
Uniform Delay, d1	52.5	23.0	16.7	55.6	29.7	19.8	53.3	43.4	36.9	53.0	44.0	35.9
Progression Factor	1.25	0.74	0.16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.8	1.7	0.2	17.1	5.3	0.3	20.0	5.9	0.0	44.8	16.4	0.0
Delay (s)	79.6	18.8	2.9	72.8	35.0	20.1	73.3	49.3	37.0	97.8	60.4	35.9
Level of Service	E	B	A	E	D	C	E	D	D	F	E	D
Approach Delay (s)		23.9			35.5			53.3			63.9	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

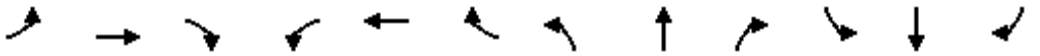
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	575	105	300	345	125	175	1220	235	250	1260	100
Future Volume (vph)	205	575	105	300	345	125	175	1220	235	250	1260	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3471	1583	3400	1827	1538	1770	3505	1493	1805	3422	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3471	1583	3400	1827	1538	1770	3505	1493	1805	3422	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	211	593	108	309	356	129	180	1258	242	258	1299	103
RTOR Reduction (vph)	0	0	85	0	0	98	0	0	75	0	4	0
Lane Group Flow (vph)	211	593	23	309	356	31	180	1258	167	258	1398	0
Confl. Peds. (#/hr)	16			16			1		16	16		1
Heavy Vehicles (%)	4%	4%	2%	3%	4%	5%	2%	3%	2%	0%	4%	7%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)	18.9	30.9	30.9	18.3	30.3	30.3	16.0	58.3	58.3	22.5	64.8	
Effective Green, g (s)	19.9	31.9	31.9	19.3	31.3	31.3	17.0	59.3	59.3	23.5	65.8	
Actuated g/C Ratio	0.13	0.21	0.21	0.13	0.21	0.21	0.11	0.40	0.40	0.16	0.44	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	
Lane Grp Cap (vph)	230	738	336	437	381	320	200	1385	590	282	1501	
v/s Ratio Prot	c0.12	0.17		0.09	c0.19		0.10	c0.36		0.14	c0.41	
v/s Ratio Perm			0.01			0.02			0.11			
v/c Ratio	0.92	0.80	0.07	0.71	0.93	0.10	0.90	0.91	0.28	0.91	0.93	
Uniform Delay, d1	64.2	56.1	47.2	62.6	58.3	47.9	65.7	42.8	30.9	62.3	40.0	
Progression Factor	1.00	1.00	1.00	0.99	0.99	0.93	0.66	0.48	0.33	1.00	1.00	
Incremental Delay, d2	37.2	6.3	0.1	4.7	28.0	0.1	20.3	4.3	0.2	32.0	11.8	
Delay (s)	101.4	62.4	47.3	66.8	85.7	44.5	63.3	25.0	10.2	94.3	51.7	
Level of Service	F	E	D	E	F	D	E	C	B	F	D	
Approach Delay (s)		69.6			71.7			26.9			58.4	
Approach LOS		E			E			C			E	

Intersection Summary			
HCM 2000 Control Delay	52.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.6%	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)	205	120	30	95	100	310	40	1340	165	255	1415	45
Future Volume (vph)	205	120	30	95	100	310	40	1340	165	255	1415	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00	0.99	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	1794			1748	1532	1752	3505	1558	1752	3456	
Flt Permitted	0.95	1.00			0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	1794			1748	1532	1752	3505	1558	1752	3456	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	207	121	30	96	101	313	40	1354	167	258	1429	45
RTOR Reduction (vph)	0	7	0	0	0	265	0	0	40	0	1	0
Lane Group Flow (vph)	207	144	0	0	197	48	40	1354	127	258	1473	0
Confl. Peds. (#/hr)	1		3	3		1	3		2	2		3
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	0%	2%	10%	4%	3%	3%	2%	3%	4%	0%
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases						4			6			
Actuated Green, G (s)	23.3	23.3			23.0	23.0	6.1	57.2	57.2	29.5	80.6	
Effective Green, g (s)	23.3	23.3			23.0	23.0	6.1	57.2	57.2	29.5	80.6	
Actuated g/C Ratio	0.16	0.16			0.15	0.15	0.04	0.38	0.38	0.20	0.54	
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	3.5	3.5			3.5	3.5	3.0	3.0	3.0	3.5	3.0	
Lane Grp Cap (vph)	277	278			268	234	71	1336	594	344	1857	
v/s Ratio Prot	c0.12	0.08			c0.11		0.02	c0.39		0.15	c0.43	
v/s Ratio Perm						0.03			0.08			
v/c Ratio	0.75	0.52			0.74	0.21	0.56	1.01	0.21	0.75	0.79	
Uniform Delay, d1	60.5	58.2			60.6	55.5	70.6	46.4	31.2	56.8	28.0	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	0.81	1.75	
Incremental Delay, d2	10.8	1.9			10.3	0.5	9.8	28.0	0.2	4.9	1.9	
Delay (s)	71.3	60.1			70.9	56.0	80.5	74.4	31.4	51.0	50.8	
Level of Service	E	E			E	E	F	E	C	D	D	
Approach Delay (s)		66.6			61.8			70.0			50.8	
Approach LOS		E			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	60.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	5	35	15	5	5	30	335	10	5	120	20
Future Vol, veh/h	45	5	35	15	5	5	30	335	10	5	120	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	2	0	2	1	0	0	3	2
Mvmt Flow	49	5	38	16	5	5	33	364	11	5	130	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	592	592	141	609	598	370	152	0	0	375	0	0
Stage 1	152	152	-	435	435	-	-	-	-	-	-	-
Stage 2	440	440	-	174	163	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.52	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4.018	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	418	419	907	410	416	680	1429	-	-	1195	-	-
Stage 1	850	772	-	604	580	-	-	-	-	-	-	-
Stage 2	596	578	-	833	763	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	400	405	907	379	402	680	1429	-	-	1195	-	-
Mov Cap-2 Maneuver	400	405	-	379	402	-	-	-	-	-	-	-
Stage 1	825	768	-	586	563	-	-	-	-	-	-	-
Stage 2	569	561	-	788	759	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	14.1	0.6	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	520	421	1195	-	-
HCM Lane V/C Ratio	0.023	-	-	0.178	0.065	0.005	-	-
HCM Control Delay (s)	7.6	0	-	13.4	14.1	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.2	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	935	85	60	660	5	55	20	65	10	5	20
Future Volume (vph)	30	935	85	60	660	5	55	20	65	10	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1798	1853		1803	1861			1833	1530		1832	1419
Flt Permitted	0.39	1.00		0.31	1.00			0.77	1.00		0.81	1.00
Satd. Flow (perm)	737	1853		598	1861			1471	1530		1530	1419
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1016	92	65	717	5	60	22	71	11	5	22
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	64	0	0	20
Lane Group Flow (vph)	33	1106	0	65	722	0	0	82	7	0	16	2
Confl. Peds. (#/hr)	2		5	5		2			1	1		
Confl. Bikes (#/hr)			2									1
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%
Parking (#/hr)												0
Turn Type	Perm	NA		custom	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		13 6		5	9 2			8			4	
Permitted Phases	13 6			6			8		8	4		4
Actuated Green, G (s)	115.9	115.9		16.1	126.3			12.7	12.7		12.7	12.7
Effective Green, g (s)	117.4	117.4		19.1	127.8			14.2	14.2		14.2	14.2
Actuated g/C Ratio	0.78	0.78		0.13	0.85			0.09	0.09		0.09	0.09
Clearance Time (s)				5.5				5.5	5.5		5.5	5.5
Vehicle Extension (s)				2.0				2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	576	1450		127	1585			139	144		144	134
v/s Ratio Prot		c0.60		0.02	c0.39							
v/s Ratio Perm	0.04			0.04				c0.06	0.00		0.01	0.00
v/c Ratio	0.06	0.76		0.51	0.46			0.59	0.05		0.11	0.02
Uniform Delay, d1	3.7	8.8		62.8	2.7			65.1	61.7		62.1	61.6
Progression Factor	0.92	1.15		1.10	0.63			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	1.7		1.4	0.1			4.1	0.0		0.1	0.0
Delay (s)	3.4	11.8		70.6	1.8			69.2	61.8		62.3	61.6
Level of Service	A	B		E	A			E	E		E	E
Approach Delay (s)		11.6			7.5			65.8			61.9	
Approach LOS		B			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	146.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	740	40	45	490	10	165	20	115	10	10	20
Future Vol, veh/h	10	740	40	45	490	10	165	20	115	10	10	20
Conflicting Peds, #/hr	3	0	2	2	0	3	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	-	130	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	5	6	2	0	2	0	0	0	0	0
Mvmt Flow	11	804	43	49	533	11	179	22	125	11	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	546	0	0	850	0	0	1492	1494	829	1561	1511	542
Stage 1	-	-	-	-	-	-	850	850	-	639	639	-
Stage 2	-	-	-	-	-	-	642	644	-	922	872	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.12	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.518	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1033	-	-	771	-	-	~ 102	124	374	92	121	544
Stage 1	-	-	-	-	-	-	355	380	-	468	474	-
Stage 2	-	-	-	-	-	-	463	471	-	327	371	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1032	-	-	770	-	-	~ 85	114	373	49	112	542
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 85	114	-	49	112	-
Stage 1	-	-	-	-	-	-	351	375	-	462	443	-
Stage 2	-	-	-	-	-	-	406	440	-	202	366	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.8	$ 811.6	46.5
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	124	1032	-	-	770	-	-	68	542
HCM Lane V/C Ratio	2.63	0.011	-	-	0.064	-	-	0.32	0.04
HCM Control Delay (s)	$ 811.6	8.5	-	-	10	-	-	81.1	11.9
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	29.4	0	-	-	0.2	-	-	1.2	0.1

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

Intersection	
Int Delay, s/veh	15.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	740	40	15	510	5	40	25	115	5	10	10
Future Vol, veh/h	15	740	40	15	510	5	40	25	115	5	10	10
Conflicting Peds, #/hr	1	0	2	2	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	180	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	2	0	6	8	0	0	0	0
Mvmt Flow	16	804	43	16	554	5	43	27	125	5	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	561	0	0	850	0	0	1456	1454	828	1526	1473	558
Stage 1	-	-	-	-	-	-	861	861	-	591	591	-
Stage 2	-	-	-	-	-	-	595	593	-	935	882	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.16	6.58	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.58	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.58	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.554	4.072	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1020	-	-	797	-	-	106	126	374	97	128	533
Stage 1	-	-	-	-	-	-	345	364	-	497	498	-
Stage 2	-	-	-	-	-	-	484	484	-	321	367	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1020	-	-	797	-	-	94	121	373	52	123	533
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	121	-	52	123	-
Stage 1	-	-	-	-	-	-	339	358	-	489	488	-
Stage 2	-	-	-	-	-	-	454	474	-	194	361	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	122.7	39
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	191	1020	-	-	797	-	-	85	533
HCM Lane V/C Ratio	1.024	0.016	-	-	0.02	-	-	0.192	0.02
HCM Control Delay (s)	122.7	8.6	-	-	9.6	-	-	57.1	11.9
HCM Lane LOS	F	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	8.9	0	-	-	0.1	-	-	0.7	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	395	180	60	215	35	180	610	105	45	500	100
Future Volume (vph)	225	395	180	60	215	35	180	610	105	45	500	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	3.7		2.0	3.7		2.0	3.3		2.0	3.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1768	1720		1596	1778		1752	1762		1736	1756	
Flt Permitted	0.60	1.00		0.44	1.00		0.15	1.00		0.08	1.00	
Satd. Flow (perm)	1111	1720		736	1778		276	1762		155	1756	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	234	411	188	62	224	36	188	635	109	47	521	104
RTOR Reduction (vph)	0	10	0	0	4	0	0	4	0	0	5	0
Lane Group Flow (vph)	234	589	0	63	256	0	188	740	0	47	620	0
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	2%	3%	8%	13%	5%	0%	3%	5%	6%	4%	6%	3%
Turn Type	Perm	NA		custom	NA		custom	NA		custom	NA	
Protected Phases		13 6		5	9 2		3	8 15		7	4 11	
Permitted Phases	13 6			6			4			8		
Actuated Green, G (s)	56.6	56.6		17.7	66.5		50.1	63.1		50.5	57.3	
Effective Green, g (s)	58.6	58.6		21.7	68.5		54.1	61.5		54.5	59.3	
Actuated g/C Ratio	0.39	0.39		0.14	0.46		0.36	0.41		0.36	0.40	
Clearance Time (s)				4.0			4.0			4.0		
Vehicle Extension (s)				2.0			2.0			2.0		
Lane Grp Cap (vph)	434	671		151	811		230	722		134	694	
v/s Ratio Prot		c0.34		c0.02	0.14		c0.07	c0.42		0.02	c0.35	
v/s Ratio Perm	0.21			0.04			0.22			0.11		
v/c Ratio	0.54	0.88		0.42	0.32		0.82	1.02		0.35	0.89	
Uniform Delay, d1	35.3	42.4		57.1	25.9		37.4	44.2		37.1	42.4	
Progression Factor	1.14	1.12		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	10.6		0.7	0.1		18.8	39.9		0.6	13.6	
Delay (s)	40.9	58.0		57.8	26.0		56.2	84.2		37.7	56.0	
Level of Service	D	E		E	C		E	F		D	E	
Approach Delay (s)		53.2			32.2			78.5			54.7	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

Description: Used hold phase for pedestrian phase

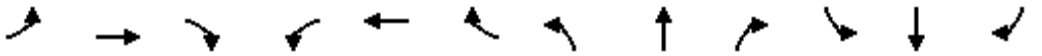
c Critical Lane Group

Intersection	
Intersection Delay, s/veh	19.1
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	65	85	360	0	0	20	50	0	290	80	220	0	65	70	55
Future Vol, veh/h	0	65	85	360	0	0	20	50	0	290	80	220	0	65	70	55
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	7	2	2	2	2	2	2	2	5	3	2	2	2	2	6
Mvmt Flow	0	70	91	387	0	0	22	54	0	312	86	237	0	70	75	59
Number of Lanes	0	0	1	1	0	1	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	20.1	11.9	20.3	15.6
HCM LOS	C	B	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	43%	0%	0%	0%	34%
Vol Thru, %	0%	27%	57%	0%	100%	29%	37%
Vol Right, %	0%	73%	0%	100%	0%	71%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	290	300	150	360	0	70	190
LT Vol	290	0	65	0	0	0	65
Through Vol	0	80	85	0	0	20	70
RT Vol	0	220	0	360	0	50	55
Lane Flow Rate	312	323	161	387	0	75	204
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.649	0.575	0.336	0.697	0	0.16	0.418
Departure Headway (Hd)	7.49	6.421	7.507	6.484	8.166	7.648	7.365
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	561	482	561	0	469	488
Service Time	5.228	4.159	5.207	4.184	5.914	5.396	5.407
HCM Lane V/C Ratio	0.646	0.576	0.334	0.69	0	0.16	0.418
HCM Control Delay	23.1	17.5	14	22.7	10.9	11.9	15.6
HCM Lane LOS	C	C	B	C	N	B	C
HCM 95th-tile Q	4.6	3.6	1.5	5.5	0	0.6	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	290	425	130	0	610	110	115	1150	1575	140	1175	175
Future Volume (vph)	290	425	130	0	610	110	115	1150	1575	140	1175	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	3.0		4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1595		3539	1509	1787	3539	1568	1736	3471	1583
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1595		3539	1509	1787	3539	1568	1736	3471	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	296	434	133	0	622	112	117	1173	1607	143	1199	179
RTOR Reduction (vph)	0	0	0	0	0	89	0	0	0	0	0	95
Lane Group Flow (vph)	296	434	133	0	622	23	117	1173	1607	143	1199	84
Confl. Peds. (#/hr)	3		2	2		3	1			1		
Heavy Vehicles (%)	2%	2%	0%	2%	2%	5%	1%	2%	3%	4%	4%	2%
Turn Type	Prot	NA	Free		NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	1	6			2		7	4		3	8	
Permitted Phases			Free			2			Free			8
Actuated Green, G (s)	15.4	49.6	145.0		29.2	29.2	13.0	58.3	145.0	22.1	67.4	67.4
Effective Green, g (s)	16.4	50.6	145.0		30.2	30.2	14.0	59.3	145.0	23.1	68.4	68.4
Actuated g/C Ratio	0.11	0.35	1.00		0.21	0.21	0.10	0.41	1.00	0.16	0.47	0.47
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.5	4.0		3.0	3.0	3.0
Lane Grp Cap (vph)	388	1234	1595		737	314	172	1447	1568	276	1637	746
v/s Ratio Prot	0.09	0.12			0.18		0.07	0.33		0.08	0.35	
v/s Ratio Perm			0.08			0.02			c1.02			0.05
v/c Ratio	0.76	0.35	0.08		0.84	0.07	0.68	0.81	1.02	0.52	0.73	0.11
Uniform Delay, d1	62.4	35.0	0.0		55.1	46.2	63.3	37.9	72.5	55.8	30.9	21.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.6	0.2	0.1		8.7	0.1	10.9	3.7	29.3	1.6	2.9	0.3
Delay (s)	71.0	35.2	0.1		63.9	46.3	74.3	41.6	101.8	57.5	33.9	21.7
Level of Service	E	D	A		E	D	E	D	F	E	C	C
Approach Delay (s)		42.1			61.2			76.3			34.6	
Approach LOS		D			E			E			C	

Intersection Summary			
HCM 2000 Control Delay	59.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		

Description: Check reference phase - 5 or 8 (BMP)

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	1630	275	110	1395	150	300	250	75	180	220	125
Future Volume (vph)	245	1630	275	110	1395	150	300	250	75	180	220	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1719	3539	1509	1687	3410		1736	1754		1752	1845	1556
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1719	3539	1509	1687	3410		1736	1754		1752	1845	1556
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	250	1663	281	112	1423	153	306	255	77	184	224	128
RTOR Reduction (vph)	0	0	85	0	5	0	0	7	0	0	0	105
Lane Group Flow (vph)	250	1663	196	112	1571	0	306	325	0	184	224	23
Confl. Peds. (#/hr)	4					4	3		15	15		3
Heavy Vehicles (%)	5%	2%	7%	7%	4%	4%	4%	4%	3%	3%	3%	2%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6									8
Actuated Green, G (s)	19.0	73.0	73.0	9.0	63.0		26.4	33.0		15.0	21.6	21.6
Effective Green, g (s)	20.0	74.0	74.0	10.0	64.0		27.4	34.0		16.0	22.6	22.6
Actuated g/C Ratio	0.13	0.49	0.49	0.07	0.43		0.18	0.23		0.11	0.15	0.15
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	229	1745	744	112	1454		317	397		186	277	234
v/s Ratio Prot	c0.15	0.47		0.07	c0.46		c0.18	0.19		c0.10	c0.12	
v/s Ratio Perm			0.13									0.01
v/c Ratio	1.09	0.95	0.26	1.00	1.08		0.97	0.82		0.99	0.81	0.10
Uniform Delay, d1	65.0	36.3	22.1	70.0	43.0		60.8	55.1		66.9	61.6	54.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	86.1	13.0	0.9	85.0	48.6		40.9	12.1		62.2	15.4	0.1
Delay (s)	151.1	49.3	23.0	155.0	91.6		101.7	67.2		129.1	77.0	55.0
Level of Service	F	D	C	F	F		F	E		F	E	E
Approach Delay (s)		57.5			95.8			83.7			89.6	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	77.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1870	50	40	1430	105	85	60	60	65	40	70
Future Volume (vph)	170	1870	50	40	1430	105	85	60	60	65	40	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.93			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1787	3539	1485	1805	3464		1763	1652			1686	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.50	1.00			0.73	
Satd. Flow (perm)	1787	3539	1485	1805	3464		928	1652			1254	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	179	1968	53	42	1505	111	89	63	63	68	42	74
RTOR Reduction (vph)	0	0	17	0	4	0	0	39	0	0	26	0
Lane Group Flow (vph)	179	1968	36	42	1612	0	89	87	0	0	158	0
Confl. Peds. (#/hr)			2	2			5		5	5		5
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	1%	2%	6%	0%	3%	3%	2%	0%	11%	4%	3%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6				4			8		
Actuated Green, G (s)	13.0	73.8	73.8	4.0	64.8		17.2	17.2			17.2	
Effective Green, g (s)	13.0	73.8	73.8	4.0	64.8		17.2	17.2			17.2	
Actuated g/C Ratio	0.12	0.67	0.67	0.04	0.59		0.16	0.16			0.16	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	211	2374	996	65	2040		145	258			196	
v/s Ratio Prot	c0.10	c0.56		0.02	0.47			0.05				
v/s Ratio Perm			0.02				0.10				c0.13	
v/c Ratio	0.85	0.83	0.04	0.65	0.79		0.61	0.34			0.81	
Uniform Delay, d1	47.5	13.4	6.1	52.3	17.4		43.3	41.3			44.8	
Progression Factor	1.00	1.00	1.00	1.25	2.17		1.00	1.00			1.00	
Incremental Delay, d2	25.8	3.5	0.1	9.3	1.4		7.5	0.8			20.9	
Delay (s)	73.3	16.9	6.2	74.8	39.1		50.8	42.1			65.7	
Level of Service	E	B	A	E	D		D	D			E	
Approach Delay (s)		21.3			40.0			45.7			65.7	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1495	150	110	1170	175	200	435	140	160	415	170
Future Volume (vph)	190	1495	150	110	1170	175	200	435	140	160	415	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3539	1568	1805	3539	1583	1770	1863	1583	1787	1759	1563
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3539	1568	1805	3539	1583	1770	1863	1583	1787	1759	1563
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	1541	155	113	1206	180	206	448	144	165	428	175
RTOR Reduction (vph)	0	0	71	0	0	112	0	0	87	0	0	87
Lane Group Flow (vph)	196	1541	84	113	1206	68	206	448	57	165	428	88
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	2%	3%	0%	2%	2%	2%	2%	2%	1%	8%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	13.1	43.3	43.3	8.1	38.3	38.3	9.0	28.6	28.6	10.0	29.6	29.6
Effective Green, g (s)	14.1	44.3	44.3	9.1	39.3	39.3	10.0	29.6	29.6	11.0	30.6	30.6
Actuated g/C Ratio	0.13	0.40	0.40	0.08	0.36	0.36	0.09	0.27	0.27	0.10	0.28	0.28
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lane Grp Cap (vph)	231	1425	631	149	1264	565	160	501	425	178	489	434
v/s Ratio Prot	c0.11	c0.44		0.06	0.34		c0.12	0.24		0.09	c0.24	
v/s Ratio Perm			0.05			0.04			0.04			0.06
v/c Ratio	0.85	1.08	0.13	0.76	0.95	0.12	1.29	0.89	0.13	0.93	0.88	0.20
Uniform Delay, d1	46.9	32.9	20.7	49.4	34.5	23.7	50.0	38.7	30.5	49.1	37.9	30.4
Progression Factor	1.28	0.74	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.0	44.7	0.3	17.6	16.5	0.4	168.1	17.7	0.1	45.9	15.5	0.1
Delay (s)	75.2	69.0	12.6	67.0	50.9	24.2	218.1	56.4	30.5	95.0	53.4	30.4
Level of Service	E	E	B	E	D	C	F	E	C	F	D	C
Approach Delay (s)		65.0			48.9			93.5			57.1	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	63.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group