TECHNICAL MEMORANDUM

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Subject: **Prospect Avenue Proposed Improvements**

INTRODUCTION

This memorandum summarizes recommendations for physical improvements and signal modifications for 11 signalized intersections on Prospect Avenue in the City of Redondo Beach (City), California. The City proposes the following improvements:

- Curb extensions (bulb outs) wherever feasible;
- Improved curb ramps at corners;
- New signal equipment that meets current state standards and provides the City with greater flexibility to adjust signal timings;
- Revised signal timings that meet updated standards and improve conditions for all users;
- Bike-friendly infrastructure;
- Redundant detection infrastructure; and
- Signal communications equipment allowing the City the ability to quickly monitor traffic operations, identify malfunctions, and tweak timings.

This memorandum serves as a supplement to BKF's Existing Conditions Report submitted to the City on October 10, 2025, which primarily analyzed existing signal operations and minimum timing parameter modifications. Since that time, BKF has worked closely with City staff to analyze several additional alternatives for intersection modifications on both Prospect Avenue and Catalina Avenue. This memorandum focuses on changes to Prospect Avenue. **Figure 1** shows the locations of Prospect Avenue study intersections.

Study Intersection 9: Prospect Avenue & Anita Street
Study Intersection 10: Prospect Avenue & Beryl Street
Study Intersection 11: Prospect Avenue & Beach Cities Health District
Study Intersection 12: Prospect Avenue & Diamond Street
Study Intersection 13: Prospect Avenue & Del Amo Boulevard
Study Intersection 14: Prospect Avenue & Vincent Street
Study Intersection 15: Prospect Avenue & Emerald Street
Study Intersection 16: Prospect Avenue & Torrance Boulevard
Study Intersection 17: Prospect Avenue & Pearl Street
Study Intersection 18: Prospect Avenue & Camino Real
Study Intersection 19: Prospect Avenue & Knob Hill Avenue
Study Intersection 20: Prospect Avenue & Palos Verdes Boulevard

Figure 1: Study Area

METHODOLOGY

Physical Improvements and Left Turns

At locations with proposed curb extensions or where left turn modifications were considered, AutoTURN software was utilized to visualize vehicle turning paths and ensure vehicles can physically make left or right turns without colliding with the proposed curb line or opposing left turning vehicles. In general, an AASHTO design vehicle of SU-30 was used. At locations where an existing bus route involves left or right turns through an intersection, a larger BUS-40 design vehicle was used to analyze the corresponding turning movements. The use of these truck-turn types was coordinated with City staff and documented in the project's Basis of Design report.

Operations Analysis

At all intersections, traffic operations were reviewed for Level of Service (LOS), average vehicle delay, and expected 95th-percentile queueing for all movement groups, to ensure that recommended changes would not adversely affect key movements beyond acceptable levels. Although overall intersection or certain movement group operations may exhibit increased delays by the proposed changes, safety concerns and other operational considerations (such as reducing queue spillbacks, improving left-turn responsiveness, or ensuring pedestrian walk and yellow time intervals comply with current standards) typically outweigh those impacts.

Vehicle LOS is a qualitative description of an intersection's operational efficiency from the perspective of the average driver, ranking operations from LOS A (highly favorable) to LOS F (highly unfavorable). Under the City of Redondo Beach's General Plan, Policy P9 in the Circulation Element specifies that the City should maintain or achieve LOS D at City intersections (overall) where feasible.

Intersection and corridor operations were analyzed using Synchro/Simtraffic 12 software. Simtraffic was utilized to ensure that corridor progression was not negatively impacted by proposed operational changes.

PHYSICAL IMPROVEMENTS

Curb extensions are proposed for one or more corners at all signalized intersections except for Prospect Avenue & Beach Cities Health District. Curb extensions provide three key benefits:

- The tighter corner radius encourages turning vehicles to turn more slowly;
- They place pedestrians and cyclists farther into a driver's field of vision; and
- They reduce the pedestrian crossing distance from corner to corner and thus reduce the time spent within the roadway.

Slower turning speeds and improved pedestrian/cyclist visibility have been shown to reduce both the frequency and severity of vehicle-pedestrian collisions at intersections.[1] Additionally, curb extensions are required in many locations in order to provide additional space for infrastructure such as current standard

[1] Mead, J., Zegeer, C., Bushell, M. "Evaluation of Pedestrian Related Roadway Measures: A Summary of Available Research". Federal Highway Administration. DTFH61-11-H-00024. (2014)
https://www.pedbikeinfo.org/downloads/PedestrianLitReview_April2014.pdf

traffic signal equipment, and the improved curb ramps and wider pedestrian paths required by the newest Public Right-of-Way Access Guidelines (PROWAG) and Americans with Disabilities Act (ADA). As discussed further below, curb extensions also reduce pedestrian crossing times at traffic signals, allowing for faster cycles that benefit both pedestrians and drivers. For these reasons, curb extensions have been recommended wherever physically feasible and designed to extend as far into the roadway as possible, within various design constraints such as approach lane geometry, intersection skew, truck turning operations, and impacts on utilities at each corner.

SIGNAL MODIFICATIONS

After studying multiple scenarios, a final preferred alternative for signal modifications on Prospect Avenue was identified and vetted with City staff, referred to as Alternative 9 Version 3 in communications. This scenario accounted for signal modifications to intersections at Beryl Street, Del Amo Boulevard, Vincent Street, Emerald Street, and Knob Hill Avenue.[2] Proposed conditions for people walking and cycling generally improved, whereas overall commuter throughput for drivers was comparable to existing conditions during the weekday rush hours with some exceptions. The proposed conditions also generally improved mainline left-turn movements from Prospect Avenue and from side-streets. The tradeoffs align with overall operational goals to improve overall responsiveness for all users and to improve pedestrian and cyclist safety.

To achieve the above results, several modifications were implemented:

- **Signal Timing Revisions**: As described in the Existing Conditions Report, many key timing parameters (e.g., initial green, yellow, all-red, flash don't walk) were outdated and needed to be updated to meet current industry standards (note, this would have to occur regardless of this project and does account for some of the observed degradation in vehicle operations). Other timing parameters were modified as needed to optimize signal operations after making other changes such as to left turns or lane geometry.
- **Protected Left Turns**: At most locations with existing protected left turn phasing, no change was recommended. In some cases, split phasing or permitted left turn phasing was converted to provide protected left turn phasing. This may either be concurrent (typical operation) or lead-lag (one left goes, then through movements, then the other left goes).
- **Flashing Yellow Arrows (FYA)**: Converting existing left turn operations to utilize a protected-permitted phasing with flashing yellow arrows. Under this operation, the left turn lanes may receive a green arrow (depending on detector settings) for a short protected left turn period, followed by a flashing yellow arrow indicating left turns are permitted but must yield to oncoming through traffic. This operation utilizes special signal heads directing drivers when to yield. In addition, the permitted FYA period can be omitted during certain hours to remove potential conflicts with permitted movements, such as near schools during drop off and pickup times.

[2] It should be noted that future changes to the intersection at Camino Real (restriping the eastbound approach and implementing flashing yellow arrows) were analyzed in Alternative 9 Version 3, but not implemented in the proposed design, and so are excluded from the following descriptions. Changes to this intersection's signal operation are planned as a part of a separate future City project.

In addition to the notable changes listed below, one or more key timing parameters were updated at all intersections, most frequently the yellow and all-red parameters (to allow adequate vehicle clearance time) and flash don't walk parameter (to allow adequate pedestrian clearance time) to meet updated timing standards. This results in slight degradation in overall level of service and slight increase in queues, partly contributing to the slight observed degradation in vehicle operations described below. These changes are described in detail in the Existing Conditions Report. A summary table showing LOS and queues for retimed conditions (no other changes) is included for comparison in **Appendix A**.

Although the proposed curb extensions would reduce the amount of pedestrian clearance time (flash don't walk) required at all intersections, this change was not analyzed as part of this alternative, as curb extension design and the resulting crossing distances had not yet been finalized. In general, reduced clearance times would allow for shorter cycle times and slightly improved operations compared to those described below and included in **Appendix A**. The City may also choose to disengage the FYA operation at school intersections during drop off and pickup periods to enhance pedestrian safety, as noted below, but these operational variations were not analyzed. They can be expected to slightly worsen the queuing operations in affected left turn lanes but to have minimal effects on other movements.

Notable changes to timing, phasing, or lane geometry by intersection are discussed below along with their operation impact:

- **Intersection 10 (Beryl Street)**: Added FYA to existing protected/permitted left turns (all directions). This location features school crosswalks where FYA operation may be disengaged during school drop off and pickup periods. Proposed curb extensions would improve both pedestrian safety and operations.
    - Beryl Street experiences a slight increase in delay and queues with the addition of flashing yellow arrows, while remaining LOS D during peak hours and still meeting City standards.
- **Intersection 13 (Del Amo Boulevard)**: Revised phasing by changing east/west control from split to protected with a lagging westbound left turn phase and changing north/south control to FYA. Revised eastbound lane designations to left, through, through/right to increase throughput and use saved green time for the westbound approach. Adjusted pedestrian walk timing, adjusted splits, and increased overall cycle duration. Addressing northbound and southbound left turn spillbacks by removing split phasing addresses a community concern. This location features school crosswalks where FYA operation may be disengaged during school drop off and pickup periods. Proposed curb extensions would improve both pedestrian safety and operations.
    - With proposed changes, Del Amo Boulevard would operate at LOS D in the AM peak hour and LOS C in the PM peak hour, still meeting City standards. Delays increased compared to existing conditions, but letter LOS categories are unchanged. Left turn queues at this intersection would spill back in the westbound left (AM & PM) and southbound left (PM) directions, but these turn pockets can theoretically be restriped to accommodate the full queues. Northbound through/right lane would continue to spill back to the upstream intersection but by less than under existing conditions. The southbound left turn spillback (AM) and northbound left turn spillback (AM) would both be eliminated. Notably, LOS and

queues of northbound and southbound left turn movements would be improved from existing conditions.

- **Intersection 14 (Vincent Street)**: Changed from permitted operation to FYA for the northbound left turn movement and reduced southbound approach timing parameters. This modification addresses a community concern about left turns. This location features school crosswalks where FYA operation may be disengaged during school drop off and pickup periods. Proposed curb extensions would improve both pedestrian safety and operations.
    - Vincent Street would experience a slight increase in delay and queues with the addition of FYA, worsening in LOS by up to one letter category from LOS B/A to LOS C/B (in the AM and PM peak hours, respectively). This still meets City LOS standards.
- **Intersection 15 (Emerald Street)**: Changed from permitted operation to FYA for northbound left/southbound left turn movement. This location features school crosswalks where FYA operation may be disengaged during school drop off and pickup periods. Proposed curb extensions would improve both pedestrian safety and operations.
    - Emerald Street would experience a slight increase in delay and queues with the addition of FYA, worsening in LOS by up to one letter category from LOS A to LOS B (in both peak hours). This still meets City LOS standards.
- **Intersection 19 (Knob Hill Avenue)**: Added FYA on north/south approaches. This location features school crosswalks where FYA operation may be disengaged during school drop off and pickup periods. Proposed curb extensions would improve both pedestrian safety and operations.
    - By converting the north/south approaches to FYA, Knob Hill Avenue would worsen slightly in both delay and queues (due partly to both increased delay and queues on side streets and northbound/southbound through movements), while remaining at LOS B. It should be noted that with FYA, the northbound and southbound left turn delay would be decreased relative to the retimed conditions described in the Existing Conditions Report.

Operational summary tables for Existing Conditions, Retimed Conditions (revised timing parameters but no other changes), and Proposed Conditions are attached in **Appendix A**. Level of service and queuing worksheets for Existing Conditions are included in **Appendix B**, and level of service and queuing worksheets for Proposed Conditions are included in **Appendix C**.

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A. Level of Service and Queuing Summary Tables
B. Level of Service and Queuing Worksheets – Existing Conditions
C. Level of Service and Queuing Worksheets – Proposed Conditions

A. Level of Service and Queuing Summary Tables

MOE Table v1 - Prospect

No.	Intersection (Movement)	Storage Length (ft.) [1]	AM Peak Hour LOS	AM Peak Hour Delay (sec/veh)	AM Peak Hour 95th % Queue (ft.) [2] [3]	PM Peak Hour LOS	PM Peak Hour Delay (sec/veh)	PM Peak Hour 95th % Queue (ft.) [2] [3]
9	**S Prospect Ave (N/S) & Anita St (E/W)**							
	Overall Intersection - Signalized		**C**	**29.5**		**C**	**28.2**	
	Eastbound Approach		***C***	***24.4***		***C***	***26.7***	
	Eastbound L	135	D	51.2	41	D	50.9	78
	Eastbound TR	660	C	23.4	240	C	25.5	404
	Westbound Approach		***C***	***23.3***		***C***	***23.8***	
	Westbound L	125	D	41.6	200	D	42.5	162
	Westbound TR	450	B	19.4	332	C	21.0	333
	Northbound Approach		***D***	***35.1***		***C***	***29.8***	
	Northbound L	235	D	45.6	#331	D	39.2	#321
	Northbound T	990	C	33.0	431	C	26.6	410
	Northbound R	985	C	25.6	163	C	21.9	115
	Southbound Approach		***D***	***37.6***		***C***	***34.7***	
	Southbound L	100	D	46.6	101	D	45.5	114
	Southbound TR	165	D	36.3	187	C	33.5	302
10	**S Prospect Ave (N/S) & Beryl St (E/W)**							
	Overall Intersection - Signalized		**D**	**35.2**		**C**	**20.7**	
	Eastbound Approach		***C***	***33.4***		***C***	***25.3***	
	Eastbound L	140	C	25.6	47	C	20.1	29
	Eastbound T	290	D	35.5	257	C	26.3	223
	Eastbound R	165	C	27.6	0	C	21.0	0
	Westbound Approach		***C***	***24.4***		***B***	***16.5***	
	Westbound L	190	C	27.6	#420	B	16.4	175
	Westbound T	500	B	19.7	249	B	16.8	164
	Westbound R	100	B	15.9	0	B	14.5	0
	Northbound Approach		***D***	***47.5***		***C***	***21.5***	
	Northbound L	145	C	20.0	64	B	15.2	64
	Northbound TR	945	D	50.0	#629	C	22.2	#399
	Southbound Approach		***C***	***27.8***		***C***	***20.9***	
	Southbound L	215	C	23.7	18	B	16.0	40
	Southbound TR	990	C	28.0	304	C	21.3	309
11	**S Prospect Ave (N/S) & BCHD (E/W)**							
	Overall Intersection - Signalized		**C**	**24.1**		**C**	**21.8**	
	Eastbound Approach		***E***	***61.1***		***D***	***51.4***	
	Eastbound LTR	25	E	61.1	0	D	51.4	0
	Westbound Approach		***E***	***61.5***		***E***	***56.6***	
	Westbound LTR	110	E	61.5	0	E	56.6	168
	Northbound Approach		***B***	***10.1***		***A***	***3.6***	
	Northbound L	95	D	46.2	m2	D	44.5	m1
	Northbound TR	225	B	10.0	211	A	3.6	28
	Southbound Approach		***D***	***38.7***		***C***	***32.5***	
	Southbound L	300	F	83.1	240	E	80.0	114
	Southbound TR	970	C	32.4	592	C	29.6	533
12	**S Prospect Ave (N/S) & Diamond St (E/W)**							
	Overall Intersection - Signalized		**C**	**32.5**		**B**	**18.9**	
	Eastbound Approach		***D***	***52.8***		***D***	***51.2***	
	Eastbound L	95	D	53.0	194	D	52.4	105
	Eastbound TR	295	D	52.5	168	D	49.9	0
	Westbound Approach		***D***	***47.6***		***D***	***49.4***	
	Westbound L	55	D	47.6	7	D	49.4	7
	Westbound TR	205	D	47.6	0	D	49.4	10
	Northbound Approach		***D***	***53.0***		***C***	***34.6***	
	Northbound L	140	F	85.1	115	F	92.9	46
	Northbound TR	1130	D	51.6	#976	C	33.5	515
	Southbound Approach		***A***	***0.9***		***A***	***3.5***	
	Southbound L	95	D	54.1	m8	F	109.1	m17
	Southbound TR	220	A	0.7	21	A	2.8	31
13	**S Prospect Ave (N/S) & Del Amo St (E/W)**							
	Overall Intersection - Signalized		**D**	**36.4**		**C**	**25.3**	
	Eastbound Approach		***D***	***37.9***		***D***	***39.5***	
	Eastbound L	85	C	34.0	60	C	33.4	34
	Eastbound T	250	D	39.6	207	D	40.5	193
	Eastbound R	140	C	34.2	73	C	33.1	47
	Westbound Approach		***D***	***36.4***		***C***	***34.3***	
	Westbound L	110	D	40.0	343	D	37.6	298
	Westbound T	695	C	33.7	278	C	29.7	153
	Westbound R	700	C	28.4	65	C	27.3	56
	Northbound Approach		***D***	***40.5***		***B***	***19.7***	
	Northbound L	130	C	32.6	#236	C	26.7	#125
	Northbound TR	505	D	43.5	#811	B	19.1	386
	Southbound Approach		***C***	***28.7***		***C***	***23.1***	
	Southbound L	135	F	101.8	#208	D	48.1	#328
	Southbound TR	1135	B	19.5	322	B	17.6	346
14	**S Prospect Ave (N/S) & Vincent St (E/W)**							
	Overall Intersection - Signalized		**B**	**17.1**		**A**	**6.7**	
	Eastbound Approach		***C***	***29.1***		***C***	***20.6***	
	Eastbound LTR	590	C	29.1	242	C	20.6	88
	Westbound Approach			***0.0***			***0.0***	
	Westbound LTR	25		0.0			0.0	
	Northbound Approach		***B***	***14.4***		***A***	***4.9***	
	Northbound L	145	C	23.3	47	A	9.3	16

	Northbound TR	285	B	14.0	310	A	4.8	148
	Southbound Approach		***B***	***15.8***		***A***	***6.5***	
	Southbound LTR	500	B	16.0	303	A	6.5	228
15	**S Prospect Ave (N/S) & Emerald St (E/W)**							
	Overall Intersection - Signalized		**A**	**8.2**		**A**	**6.5**	
	Eastbound Approach		***C***	***20.4***		***B***	***18.9***	
	Eastbound LTR	300	C	20.4	116	B	18.9	71
	Westbound Approach		***B***	***17.9***		***B***	***17.6***	
	Westbound LTR	255	B	17.9	51	B	17.6	29
	Northbound Approach		***A***	***7.1***		***A***	***5.2***	
	Northbound L	105	A	9.3	67	A	8.1	29
	Northbound TR	375	A	7.0	248	A	5.1	212
	Southbound Approach		***A***	***6.4***		***A***	***6.1***	
	Southbound L	145	B	10.1	47	A	5.9	13
	Southbound TR	1125	A	6.2	185	A	6.2	304
16	**S Prospect Ave (N/S) & Torrance Blvd (E/W)**							
	Overall Intersection - Signalized		**E**	**55.9**		**D**	**49.6**	
	Eastbound Approach		***D***	***36.3***		***D***	***37.5***	
	Eastbound L	225	E	63.8	#152	E	71.5	#228
	Eastbound T	375	C	30.4	205	C	30.3	285
	Eastbound R	115	C	25.3	0	C	24.0	0
	Westbound Approach		***D***	***37.4***		***D***	***38.7***	
	Westbound L	215	E	73.5	#191	F	81.1	#272
	Westbound T	915	C	29.4	226	C	28.0	252
	Westbound R	175	C	24.9	44	C	23.9	55
	Northbound Approach		***E***	***76.5***		***D***	***52.6***	
	Northbound L	155	E	63.7	75	E	64.6	77
	Northbound T	580	F	81.0	#468	D	52.1	301
	Northbound R	190	D	36.5	98	D	37.9	34
	Southbound Approach		***E***	***61.9***		***E***	***65.4***	
	Southbound L	185	F	142.8	#339	F	129.0	#355
	Southbound TR	590	D	37.5	342	D	49.0	#473
17	**S Prospect Ave (N/S) & Pearl St (E/W)**							
	Overall Intersection - Signalized		**A**	**3.3**		**A**	**2.9**	
	Eastbound Approach		***C***	***20.0***		***B***	***20.0***	
	Eastbound LTR	315	C	20.0	38	B	20.0	32
	Westbound Approach		***B***	***19.7***		***B***	***19.6***	
	Westbound LTR	110	B	19.7	30	B	19.6	22
	Northbound Approach		***A***	***2.8***		***A***	***2.4***	
	Northbound L	115	A	3.0	15	A	3.2	20
	Northbound TR	605	A	2.8	183	A	2.4	132
	Southbound Approach		***A***	***2.5***		***A***	***2.5***	
	Southbound L	90	A	3.6	14	A	2.9	17
	Southbound TR	610	A	2.5	134	A	2.5	154
18	**S Prospect Ave (N/S) & S Camino Real (E/W)**							
	Overall Intersection - Signalized		**D**	**41.1**		**C**	**34.3**	
	Eastbound Approach		***D***	***48.2***		***D***	***40.6***	
	Eastbound LT	1330	D	47.9	212	D	40.5	218
	Eastbound TR	1335	D	48.4	212	D	40.7	218
	Westbound Approach		***D***	***44.8***		***D***	***36.2***	
	Westbound LT	770	D	43.9	354	D	35.7	#412
	Westbound TR	780	D	45.9	354	D	36.8	#412
	Northbound Approach		***D***	***42.1***		***D***	***35.6***	
	Northbound L	130	E	59.5	106	E	58.3	73
	Northbound T	595	D	40.6	410	C	34.1	322
	Southbound Approach		***C***	***34.3***		***C***	***29.1***	
	Southbound L	165	D	51.1	#347	D	42.1	#361
	Southbound T	310	C	27.4	309	C	23.7	301
19	**S Prospect Ave (N/S) & Knob Hill Ave (E/W)**							
	Overall Intersection - Signalized		**A**	**9.9**		**B**	**10.7**	
	Eastbound Approach		***C***	***21.6***		***C***	***23.3***	
	Eastbound LTR	660	C	21.6	130	C	23.3	175
	Westbound Approach		***B***	***17.6***		***B***	***17.5***	
	Westbound LTR	690	B	17.6	14	B	17.5	14
	Northbound Approach		***A***	***8.0***		***A***	***7.7***	
	Northbound L	80	A	9.8	34	B	10.5	46
	Northbound TR	315	A	7.9	129	A	7.3	95
	Southbound Approach		***A***	***7.7***		***A***	***7.9***	
	Southbound L	110	A	9.4	13	A	8.2	8
	Southbound TR	620	A	7.8	104	A	7.9	124
20	**S Prospect Ave (N/S) & Palos Verdes Blvd (E/W)**							
	Overall Intersection - Signalized		**B**	**19.7**		**B**	**17.7**	
	Eastbound Approach		***B***	***17.6***		***B***	***14.9***	
	Eastbound L	215	C	26.5	195	C	23.3	186
	Eastbound TR	475	B	13.8	158	B	11.4	150
	Westbound Approach		***C***	***21.1***		***B***	***18.0***	
	Westbound L	280	C	31.0	102	C	28.6	94
	Westbound TR	785	B	19.6	205	B	16.5	197
	Northbound Approach		***C***	***20.8***		***C***	***20.1***	
	Northbound LT	265	B	19.9	161	B	19.1	127
	Northbound TR	260	C	22.0	161	C	21.5	127
	Southbound Approach		***B***	***19.7***		***C***	***20.1***	
	Southbound LT	310	B	19.1	134	B	19.3	122
	Southbound TR	310	C	20.5	134	C	21.1	122

NOTES:

[1] Effective storage length is based on the storage length plus one-half of the taper length.

[2] #: 95th percentile queues (reported from Synchro) exceed capacity; actual queues may be longer. Queues shown are based on the maximum after two cycles.

[3] *m: 95th percentile volume and queues (reported from Synchro) are metered by upstream signal.*

MOE Table v1 - Prospect Retimed

No.	Intersection (Movement)	Storage Length (ft.) [1]	AM Peak Hour			PM Peak Hour		
			LOS	Delay (sec/veh)	95th % Queue (ft.) [2] [3]	LOS	Delay (sec/veh)	95th % Queue (ft.) [2] [3]
9	**S Prospect Ave (N/S) & Anita St (E/W)**							
	Overall Intersection - Signalized		**C**	**33.3**		**C**	**31.7**	
	Eastbound Approach		***C***	***27.7***		***C***	***30.4***	
	Eastbound L	135	D	49.9	42	D	47.8	78
	Eastbound TR	660	C	26.9	245	C	29.5	416
	Westbound Approach		***C***	***26.7***		***C***	***27.5***	
	Westbound L	125	D	44.6	#215	D	45.3	165
	Westbound TR	450	C	22.8	347	C	24.9	345
	Northbound Approach		***D***	***40.0***		***C***	***33.3***	
	Northbound L	235	D	54.5	#364	D	45.6	#345
	Northbound T	990	D	36.8	455	C	29.0	424
	Northbound R	985	C	27.8	172	C	23.8	119
	Southbound Approach		***D***	***40.5***		***D***	***37.6***	
	Southbound L	100	D	49.5	104	D	48.3	115
	Southbound TR	165	D	39.2	192	D	36.4	306
10	**S Prospect Ave (N/S) & Beryl St (E/W)**							
	Overall Intersection - Signalized		**D**	**44.5**		**C**	**24.6**	
	Eastbound Approach		***D***	***35.5***		***C***	***28.6***	
	Eastbound L	140	C	27.2	50	C	22.1	30
	Eastbound T	290	D	37.8	262	C	29.7	231
	Eastbound R	165	C	29.5	0	C	23.9	0
	Westbound Approach		***C***	***27.7***		***B***	***19.3***	
	Westbound L	190	C	32.0	#459	B	18.9	184
	Westbound T	500	C	21.3	260	B	19.9	170
	Westbound R	100	B	17.1	0	B	17.2	0
	Northbound Approach		***E***	***65.9***		***C***	***26.6***	
	Northbound L	145	C	22.9	66	B	17.3	68
	Northbound TR	945	E	69.6	#647	C	27.7	#432
	Southbound Approach		***C***	***32.0***		***C***	***24.3***	
	Southbound L	215	C	26.4	18	B	18.0	42
	Southbound TR	990	C	32.4	312	C	24.8	#346
11	**S Prospect Ave (N/S) & BCHD (E/W)**							
	Overall Intersection - Signalized		**C**	**25.9**		**C**	**22.7**	
	Eastbound Approach		***E***	***63.0***		***D***	***53.7***	
	Eastbound LTR	25	E	63.0	0	D	53.7	0
	Westbound Approach		***E***	***63.4***		***E***	***57.7***	
	Westbound LTR	110	E	63.4	0	E	57.7	142
	Northbound Approach		***B***	***11.3***		***A***	***3.8***	
	Northbound L	95	D	49.1	m2	D	44.4	m1
	Northbound TR	225	B	11.2	237	A	3.8	29
	Southbound Approach		***D***	***41.2***		***C***	***34.1***	
	Southbound L	300	F	87.2	244	F	82.6	117
	Southbound TR	970	C	34.6	608	C	31.1	551
12	**S Prospect Ave (N/S) & Diamond St (E/W)**							
	Overall Intersection - Signalized		**C**	**34.8**		**B**	**19.8**	
	Eastbound Approach		***E***	***55.0***		***D***	***53.1***	
	Eastbound L	95	E	55.3	198	D	54.4	108
	Eastbound TR	295	D	54.8	172	D	51.8	0
	Westbound Approach		***D***	***49.6***		***D***	***51.3***	
	Westbound L	55	D	49.6	7	D	51.3	6
	Westbound TR	205	D	49.6	0	D	51.3	10
	Northbound Approach		***E***	***56.9***		***D***	***35.9***	
	Northbound L	140	F	90.4	117	F	94.5	47
	Northbound TR	1130	E	55.4	#1006	C	34.8	531
	Southbound Approach		***A***	***0.9***		***A***	***3.9***	
	Southbound L	95	D	54.3	m8	F	108.8	m17
	Southbound TR	220	A	0.7	0	A	3.3	33
13	**S Prospect Ave (N/S) & Del Amo St (E/W)**							
	Overall Intersection - Signalized		**D**	**38.5**		**C**	**26.4**	
	Eastbound Approach		***D***	***38.5***		***D***	***40.2***	
	Eastbound L	85	C	34.6	61	C	33.9	34
	Eastbound T	250	D	40.3	208	D	41.2	195
	Eastbound R	140	C	34.7	77	C	33.7	47
	Westbound Approach		***D***	***37.4***		***D***	***35.2***	
	Westbound L	110	D	41.3	347	D	38.9	302
	Westbound T	695	C	34.3	282	C	30.2	155
	Westbound R	700	C	28.9	67	C	27.8	57
	Northbound Approach		***D***	***43.2***		***C***	***20.5***	
	Northbound L	130	C	34.0	#240	C	27.8	#128
	Northbound TR	505	D	46.6	#819	B	20.0	392
	Southbound Approach		***C***	***31.1***		***C***	***24.5***	
	Southbound L	135	F	117.7	#210	D	51.9	#334
	Southbound TR	1135	C	20.2	325	B	18.4	352
14	**S Prospect Ave (N/S) & Vincent St (E/W)**							
	Overall Intersection - Signalized		**B**	**17.5**		**A**	**7.0**	
	Eastbound Approach		***C***	***30.0***		***C***	***21.0***	
	Eastbound LTR	590	C	30.0	245	C	21.0	89
	Westbound Approach			***0.0***			***0.0***	
	Westbound LTR	25		0.0			0.0	

	Northbound Approach		***B***	***14.7***		***A***	***5.2***	
	Northbound L	145	C	23.9	48	A	9.7	17
	Northbound TR	285	B	14.3	314	A	5.0	152
	Southbound Approach		***B***	***16.2***		***A***	***6.8***	
	Southbound LTR	500	B	16.4	306	A	6.8	234
15	**S Prospect Ave (N/S) & Emerald St (E/W)**							
	Overall Intersection - Signalized		**A**	**8.8**		**A**	**7.0**	
	Eastbound Approach		***C***	***21.0***		***B***	***19.5***	
	Eastbound LTR	300	C	21.0	118	B	19.5	72
	Westbound Approach		***B***	***18.4***		***B***	***18.1***	
	Westbound LTR	255	B	18.4	52	B	18.1	29
	Northbound Approach		***A***	***7.7***		***A***	***5.7***	
	Northbound L	105	B	10.1	69	A	9.0	29
	Northbound TR	375	A	7.6	255	A	5.6	217
	Southbound Approach		***A***	***7.0***		***A***	***6.7***	
	Southbound L	145	B	11.0	49	A	6.5	13
	Southbound TR	1125	A	6.7	190	A	6.8	313
16	**S Prospect Ave (N/S) & Torrance Blvd (E/W)**							
	Overall Intersection - Signalized		**E**	**60.8**		**E**	**55.7**	
	Eastbound Approach		***D***	***38.6***		***D***	***39.0***	
	Eastbound L	225	E	69.2	#167	E	76.6	#242
	Eastbound T	375	C	32.0	207	C	31.0	287
	Eastbound R	115	C	26.6	0	C	24.6	0
	Westbound Approach		***D***	***39.8***		***D***	***44.6***	
	Westbound L	215	E	79.1	#208	F	103.5	#288
	Westbound T	915	C	31.1	227	C	29.6	254
	Westbound R	175	C	26.2	44	C	25.2	55
	Northbound Approach		***E***	***76.5***		***D***	***52.6***	
	Northbound L	155	E	63.7	75	E	64.6	77
	Northbound T	580	F	81.0	#468	D	52.1	301
	Northbound R	190	D	36.5	73	D	37.9	14
	Southbound Approach		***E***	***75.4***		***E***	***79.0***	
	Southbound L	185	F	194.4	#356	F	176.6	#372
	Southbound TR	590	D	39.4	#351	D	53.8	#491
17	**S Prospect Ave (N/S) & Pearl St (E/W)**							
	Overall Intersection - Signalized		**A**	**3.5**		**A**	**3.1**	
	Eastbound Approach		***C***	***20.3***		***C***	***20.2***	
	Eastbound LTR	315	C	20.3	37	C	20.2	32
	Westbound Approach		***B***	***20.0***		***B***	***19.8***	
	Westbound LTR	110	B	20.0	30	B	19.8	22
	Northbound Approach		***A***	***3.0***		***A***	***2.6***	
	Northbound L	115	A	3.3	17	A	3.4	23
	Northbound TR	605	A	3.0	206	A	2.6	149
	Southbound Approach		***A***	***2.7***		***A***	***2.7***	
	Southbound L	90	A	3.8	16	A	3.1	19
	Southbound TR	610	A	2.7	151	A	2.7	174
18	**S Prospect Ave (N/S) & S Camino Real (E/W)**							
	Overall Intersection - Signalized		**D**	**42.8**		**D**	**35.6**	
	Eastbound Approach		***D***	***49.6***		***D***	***42.1***	
	Eastbound LT	1330	D	49.4	212	D	42.0	218
	Eastbound TR	1335	D	49.9	212	D	42.2	218
	Westbound Approach		***D***	***46.7***		***D***	***37.7***	
	Westbound LT	770	D	45.7	354	D	37.2	#412
	Westbound TR	780	D	47.8	354	D	38.3	#412
	Northbound Approach		***D***	***43.7***		***D***	***36.4***	
	Northbound L	130	E	60.9	106	D	50.3	73
	Northbound T	595	D	42.2	410	D	35.5	322
	Southbound Approach		***D***	***36.3***		***C***	***30.7***	
	Southbound L	165	E	55.6	#362	D	43.5	#376
	Southbound T	310	C	28.5	314	C	25.3	305
19	**S Prospect Ave (N/S) & Knob Hill Ave (E/W)**							
	Overall Intersection - Signalized		**B**	**10.2**		**B**	**11.0**	
	Eastbound Approach		***C***	***21.6***		***C***	***23.3***	
	Eastbound LTR	660	C	21.6	131	C	23.3	176
	Westbound Approach		***B***	***17.6***		***B***	***17.5***	
	Westbound LTR	690	B	17.6	14	B	17.5	14
	Northbound Approach		***A***	***8.3***		***A***	***7.9***	
	Northbound L	80	B	10.2	34	B	10.9	45
	Northbound TR	315	A	8.2	127	A	7.5	94
	Southbound Approach		***A***	***8.0***		***A***	***8.2***	
	Southbound L	110	A	9.8	13	A	8.5	8
	Southbound TR	620	A	8.0	103	A	8.2	123
20	**S Prospect Ave (N/S) & Palos Verdes Blvd (E/W)**							
	Overall Intersection - Signalized		**C**	**20.8**		**B**	**18.9**	
	Eastbound Approach		***B***	***18.5***		***B***	***16.2***	
	Eastbound L	215	C	27.5	#215	C	24.4	#192
	Eastbound TR	475	B	14.6	161	B	12.7	154
	Westbound Approach		***C***	***22.3***		***B***	***18.9***	
	Westbound L	280	C	32.0	103	C	27.1	94
	Westbound TR	785	C	20.8	206	B	17.8	199
	Northbound Approach		***C***	***22.1***		***C***	***21.3***	
	Northbound LT	265	C	21.2	162	C	20.2	128
	Northbound TR	260	C	23.4	162	C	22.7	128
	Southbound Approach		***C***	***21.0***		***C***	***21.4***	

	Southbound LT	310	C	20.3	136	C	20.5	123
	Southbound TR	310	C	21.8	136	C	22.4	123

NOTES:

[1] Effective storage length is based on the storage length plus one-half of the taper length.

[2] #: 95th percentile queues (reported from Synchro) exceed capacity; actual queues may be longer. Queues shown are based on the maximum after two cycles.

[3] m: 95th percentile volume and queues (reported from Synchro) are metered by upstream signal.

MOE Table v1 - Alt 9 FYA v3

No.	Intersection (Movement)	Storage Length (ft.) [1]	AM Peak Hour LOS	AM Peak Hour Delay (sec/veh)	AM Peak Hour 95th % Queue (ft.) [2] [3]	PM Peak Hour LOS	PM Peak Hour Delay (sec/veh)	PM Peak Hour 95th % Queue (ft.) [2] [3]
9	**S Prospect Ave (N/S) & Anita St (E/W)**							
	Overall Intersection - Signalized		**C**	**33.3**		**C**	**31.7**	
	Eastbound Approach		***C***	***27.7***		***C***	***30.4***	
	Eastbound L	135	D	49.9	43	D	47.8	80
	Eastbound TR	660	C	26.9	251	C	29.5	426
	Westbound Approach		***C***	***26.7***		***C***	***27.5***	
	Westbound L	125	D	44.6	#220	D	45.3	169
	Westbound TR	450	C	22.8	355	C	24.9	353
	Northbound Approach		***D***	***40.0***		***C***	***33.3***	
	Northbound L	235	D	54.5	#373	D	45.6	#353
	Northbound T	990	D	36.8	466	C	29.0	434
	Northbound R	985	C	27.8	176	C	23.8	122
	Southbound Approach		***D***	***40.5***		***D***	***37.6***	
	Southbound L	100	D	49.5	107	D	48.3	118
	Southbound TR	165	D	39.2	197	D	36.4	314
10	**S Prospect Ave (N/S) & Beryl St (E/W)**							
	Overall Intersection - Signalized		**D**	**45.4**		**C**	**24.9**	
	Eastbound Approach		***C***	***33.5***		***C***	***28.1***	
	Eastbound L	140	B	16.0	51	B	16.0	30
	Eastbound T	290	D	38.2	267	C	30.0	236
	Eastbound R	165	C	29.8	0	C	24.1	0
	Westbound Approach		***C***	***27.7***		***B***	***19.9***	
	Westbound L	190	C	32.1	#456	C	20.0	188
	Westbound T	500	C	21.1	264	B	19.8	173
	Westbound R	100	B	17.0	0	B	17.1	0
	Northbound Approach		***E***	***68.5***		***C***	***27.0***	
	Northbound L	145	C	23.2	67	B	17.5	69
	Northbound TR	945	F	72.3	#664	C	28.2	#443
	Southbound Approach		***C***	***32.6***		***C***	***24.6***	
	Southbound L	215	C	25.6	19	B	17.7	43
	Southbound TR	990	C	33.0	318	C	25.1	#353
11	**S Prospect Ave (N/S) & BCHD (E/W)**							
	Overall Intersection - Signalized		**C**	**25.9**		**C**	**22.7**	
	Eastbound Approach		***E***	***63.0***		***D***	***53.7***	
	Eastbound LTR	25	E	63.0	0	D	53.7	0
	Westbound Approach		***E***	***63.4***		***E***	***57.7***	
	Westbound LTR	110	E	63.4	0	E	57.7	146
	Northbound Approach		***B***	***11.3***		***A***	***3.8***	
	Northbound L	95	D	49.1	m2	D	44.4	m1
	Northbound TR	225	B	11.2	243	A	3.8	30
	Southbound Approach		***D***	***41.2***		***C***	***34.1***	
	Southbound L	300	F	87.2	250	F	82.6	119
	Southbound TR	970	C	34.6	623	C	31.1	564
12	**S Prospect Ave (N/S) & Diamond St (E/W)**							
	Overall Intersection - Signalized		**C**	**34.8**		**B**	**19.8**	
	Eastbound Approach		***E***	***55.0***		***D***	***53.1***	
	Eastbound L	95	E	55.3	203	D	54.4	111
	Eastbound TR	295	D	54.8	176	D	51.8	0
	Westbound Approach		***D***	***49.6***		***D***	***51.3***	
	Westbound L	55	D	49.6	7	D	51.3	7
	Westbound TR	205	D	49.6	0	D	51.3	11
	Northbound Approach		***E***	***56.9***		***D***	***35.9***	
	Northbound L	140	F	90.4	120	F	94.5	48
	Northbound TR	1130	E	55.4	#1031	C	34.8	543
	Southbound Approach		***A***	***0.9***		***A***	***3.9***	
	Southbound L	95	D	54.3	m9	F	108.8	m18
	Southbound TR	220	A	0.7	0	A	3.3	34
13	**S Prospect Ave (N/S) & Del Amo St (E/W)**							
	Overall Intersection - Signalized		**D**	**44.4**		**C**	**29.3**	
	Eastbound Approach		***D***	***45.6***		***D***	***37.7***	
	Eastbound L	85	E	57.5	73	D	44.5	37
	Eastbound T	250	D	43.0	112	D	37.0	106
	Eastbound R	140	D	43.5		D	37.0	
	Westbound Approach		***D***	***51.5***		***D***	***53.0***	
	Westbound L	110	E	73.1	#471	E	72.1	#388
	Westbound T	695	C	30.7	251	C	24.2	152
	Westbound R	700	C	26.4	66	C	22.4	58
	Northbound Approach		***D***	***52.5***		***C***	***23.2***	
	Northbound L	130	B	18.2	109	B	15.1	59
	Northbound TR	505	E	59.4	#753	C	24.3	346
	Southbound Approach		***C***	***23.5***		***C***	***21.1***	
	Southbound L	135	C	27.0	#85	C	21.1	#174
	Southbound TR	1135	C	23.1	299	C	21.2	313
14	**S Prospect Ave (N/S) & Vincent St (E/W)**							
	Overall Intersection - Signalized		**C**	**23.4**		**B**	**10.1**	
	Eastbound Approach		***C***	***30.4***		***C***	***22.6***	
	Eastbound LTR	590	C	30.4	216	C	22.6	59
	Westbound Approach			***0.0***			***0.0***	
	Westbound LTR	25		0.0			0.0	

	Northbound Approach		***B***	***14.4***		***A***	***5.0***	
	Northbound L	145	B	16.0	29	A	7.7	10
	Northbound TR	285	B	14.3	322	A	4.9	132
	Southbound Approach		***C***	***30.8***		***B***	***12.7***	
	Southbound LTR	500	C	31.6	#448	B	12.9	#325
15	**S Prospect Ave (N/S) & Emerald St (E/W)**							
	Overall Intersection - Signalized		**B**	**13.7**		**B**	**10.4**	
	Eastbound Approach		***C***	***24.7***		***C***	***23.8***	
	Eastbound LTR	300	C	24.7	145	C	23.8	89
	Westbound Approach		***C***	***21.6***		***C***	***22.0***	
	Westbound LTR	255	C	21.6	64	C	22.0	35
	Northbound Approach		***B***	***12.8***		***A***	***8.1***	
	Northbound L	105	A	7.6	47	A	6.6	22
	Northbound TR	375	B	13.4	325	A	8.2	278
	Southbound Approach		***B***	***12.0***		***B***	***10.9***	
	Southbound L	145	A	8.1	33	A	5.4	12
	Southbound TR	1125	B	12.4	245	B	11.0	400
16	**S Prospect Ave (N/S) & Torrance Blvd (E/W)**							
	Overall Intersection - Signalized		**E**	**60.6**		**E**	**55.6**	
	Eastbound Approach		***D***	***38.6***		***D***	***39.0***	
	Eastbound L	225	E	69.2	#171	E	76.6	#248
	Eastbound T	375	C	32.0	212	C	31.0	294
	Eastbound R	115	C	26.6	0	C	24.6	0
	Westbound Approach		***D***	***39.8***		***D***	***44.6***	
	Westbound L	215	E	79.1	#213	F	103.5	#295
	Westbound T	915	C	31.1	233	C	29.6	260
	Westbound R	175	C	26.2	45	C	25.2	56
	Northbound Approach		***E***	***76.5***		***D***	***52.6***	
	Northbound L	155	E	63.7	77	E	64.6	79
	Northbound T	580	F	81.0	#479	D	52.1	308
	Northbound R	190	D	36.5	75	D	37.9	15
	Southbound Approach		***E***	***74.9***		***E***	***78.7***	
	Southbound L	185	F	192.8	#364	F	176.0	#381
	Southbound TR	590	D	39.2	#360	D	53.5	#503
17	**S Prospect Ave (N/S) & Pearl St (E/W)**							
	Overall Intersection - Signalized		**A**	**3.5**		**A**	**3.1**	
	Eastbound Approach		***C***	***20.3***		***C***	***20.2***	
	Eastbound LTR	315	C	20.3	38	C	20.2	33
	Westbound Approach		***B***	***20.0***		***B***	***19.8***	
	Westbound LTR	110	B	20.0	30	B	19.8	23
	Northbound Approach		***A***	***3.0***		***A***	***2.6***	
	Northbound L	115	A	3.3	17	A	3.4	23
	Northbound TR	605	A	3.0	211	A	2.6	153
	Southbound Approach		***A***	***2.7***		***A***	***2.7***	
	Southbound L	90	A	3.8	16	A	3.1	19
	Southbound TR	610	A	2.7	155	A	2.7	178
18	**S Prospect Ave (N/S) & S Camino Real (E/W)**							
	Overall Intersection - Signalized		**D**	**37.1**		**C**	**29.4**	
	Eastbound Approach		***C***	***32.3***		***C***	***28.3***	
	Eastbound L	1330	C	27.4	351	C	21.7	350
	Eastbound TR	1335	C	32.7	351	C	28.5	350
	Westbound Approach		***D***	***49.7***		***C***	***33.1***	
	Westbound L	770	C	24.7	#756	C	21.3	#643
	Westbound TR	780	E	55.8	#756	D	37.1	#643
	Northbound Approach		***D***	***36.9***		***C***	***30.7***	
	Northbound L	130	D	54.6	93	D	43.6	62
	Northbound T	595	D	35.3	323	C	29.9	257
	Southbound Approach		***C***	***30.4***		***C***	***26.1***	
	Southbound L	165	D	46.3	268	D	37.8	263
	Southbound T	310	C	23.9	230	C	21.2	224
19	**S Prospect Ave (N/S) & Knob Hill Ave (E/W)**							
	Overall Intersection - Signalized		**B**	**13.7**		**B**	**14.7**	
	Eastbound Approach		***C***	***25.7***		***C***	***28.0***	
	Eastbound LTR	660	C	25.7	160	C	28.0	#219
	Westbound Approach		***C***	***20.9***		***C***	***20.9***	
	Westbound LTR	690	C	20.9	17	C	20.9	17
	Northbound Approach		***B***	***11.1***		***A***	***9.9***	
	Northbound L	80	A	8.8	27	A	9.1	34
	Northbound TR	315	B	11.3	167	B	10.1	124
	Southbound Approach		***B***	***12.2***		***B***	***13.0***	
	Southbound L	110	A	8.5	11	A	8.3	7
	Southbound TR	620	B	12.4	145	B	13.1	167
20	**S Prospect Ave (N/S) & Palos Verdes Blvd (E/W)**							
	Overall Intersection - Signalized		**C**	**20.8**		**B**	**18.9**	
	Eastbound Approach		***B***	***18.5***		***B***	***16.2***	
	Eastbound L	215	C	27.5	#220	C	24.4	#197
	Eastbound TR	475	B	14.6	165	B	12.7	158
	Westbound Approach		***C***	***22.3***		***B***	***18.9***	
	Westbound L	280	C	32.0	106	C	27.1	96
	Westbound TR	785	C	20.8	212	B	17.8	204
	Northbound Approach		***C***	***22.1***		***C***	***21.3***	
	Northbound LT	265	C	21.2	166	C	20.2	131
	Northbound TR	260	C	23.4	166	C	22.7	131
	Southbound Approach		***C***	***21.0***		***C***	***21.4***	

	Southbound LT	310	C	20.3	139	C	20.5	126
	Southbound TR	310	C	21.8	139	C	22.4	126

NOTES:

[1] Effective storage length is based on the storage length plus one-half of the taper length.

[2] #: 95th percentile queues (reported from Synchro) exceed capacity; actual queues may be longer. Queues shown are based on the maximum after two cycles.

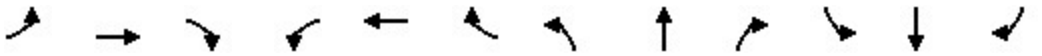
[3] m: 95th percentile volume and queues (reported from Synchro) are metered by upstream signal.

B. Level of Service and Queuing Worksheets – Existing Conditions

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	19	509	166	765	238	432	166	70	395
v/c Ratio	0.23	0.54	0.72	0.54	0.75	0.70	0.33	0.49	0.57
Control Delay (s/veh)	59.6	35.6	63.2	26.9	59.4	39.7	30.5	61.2	40.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	59.6	35.6	63.2	26.9	59.4	39.7	30.5	61.2	40.5
Queue Length 50th (ft)	13	153	112	191	159	263	86	47	127
Queue Length 95th (ft)	41	240	200	332	#331	431	163	101	187
Internal Link Dist (ft)		1736		1055		1020			627
Turn Bay Length (ft)	110		120		210			70	
Base Capacity (vph)	318	1554	318	1568	318	670	555	318	1187
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.33	0.52	0.49	0.75	0.64	0.30	0.22	0.33

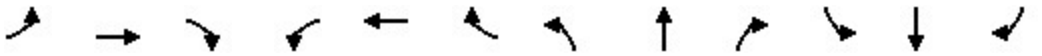
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	402	86	159	662	72	228	415	159	67	339	40
Future Volume (vph)	18	402	86	159	662	72	228	415	159	67	339	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		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	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1694	3288		1694	3330		1694	1783	1482	1694	3159	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1694	3288		1694	3330		1694	1783	1482	1694	3159	
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)	19	419	90	166	690	75	238	432	166	70	353	42
RTOR Reduction (vph)	0	13	0	0	5	0	0	0	0	0	0	0
Lane Group Flow (vph)	19	496	0	166	760	0	238	432	166	70	395	0
Confl. Peds. (#/hr)			3			2			8			3
Confl. Bikes (#/hr)			2			1			2			8
Parking (#/hr)						0					0	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	2.4	33.2		14.8	45.6		20.2	37.2	37.2	7.8	24.8	
Effective Green, g (s)	2.4	33.2		14.8	45.6		20.2	37.2	37.2	7.8	24.8	
Actuated g/C Ratio	0.02	0.30		0.13	0.41		0.18	0.34	0.34	0.07	0.22	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	1.5	5.0		1.5	5.0		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	36	983		225	1368		308	597	496	119	705	
v/s Ratio Prot	0.01	0.15		c0.10	c0.23		c0.14	c0.24		0.04	0.13	
v/s Ratio Perm									0.11			
v/c Ratio	0.53	0.50		0.74	0.56		0.77	0.72	0.33	0.59	0.56	
Uniform Delay, d1	53.7	32.1		46.2	25.0		43.2	32.4	27.6	50.0	38.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.3	0.9		10.3	0.8		10.5	4.6	0.5	4.7	1.2	
Delay (s)	60.0	33.0		56.6	25.8		53.7	37.0	28.2	54.8	39.5	
Level of Service	E	C		E	C		D	D	C	D	D	
Approach Delay (s/veh)		33.9			31.3			40.0			41.8	
Approach LOS		C			C			D			D	

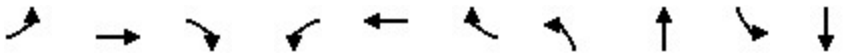
Intersection Summary			
HCM 2000 Control Delay (s/veh)	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	402	86	159	662	72	228	415	159	67	339	40
Future Volume (veh/h)	18	402	86	159	662	72	228	415	159	67	339	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	19	419	76	166	690	70	238	432	166	70	353	42
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	30	1011	182	201	1335	135	275	541	449	91	562	66
Arrive On Green	0.02	0.34	0.34	0.11	0.44	0.44	0.16	0.29	0.29	0.05	0.19	0.19
Sat Flow, veh/h	1767	2976	535	1767	3058	310	1767	1856	1539	1767	3004	354
Grp Volume(v), veh/h	19	247	248	166	397	363	238	432	166	70	206	189
Grp Sat Flow(s),veh/h/ln	1767	1763	1749	1767	1763	1606	1767	1856	1539	1767	1763	1595
Q Serve(g_s), s	0.9	9.5	9.6	8.1	14.5	14.5	11.6	19.0	7.6	3.5	9.5	9.7
Cycle Q Clear(g_c), s	0.9	9.5	9.6	8.1	14.5	14.5	11.6	19.0	7.6	3.5	9.5	9.7
Prop In Lane	1.00		0.31	1.00		0.19	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	30	599	594	201	769	701	275	541	449	91	330	298
V/C Ratio(X)	0.64	0.41	0.42	0.83	0.52	0.52	0.86	0.80	0.37	0.77	0.62	0.63
Avail Cap(c_a), veh/h	400	998	990	400	998	909	400	841	697	400	799	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	22.4	22.4	38.3	18.1	18.1	36.4	28.9	24.8	41.4	33.0	33.1
Incr Delay (d2), s/veh	8.1	1.0	1.0	3.3	1.1	1.3	9.2	4.1	0.7	5.2	2.7	3.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.9	3.9	3.6	5.7	5.3	5.5	8.6	2.7	1.6	4.3	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.2	23.3	23.4	41.6	19.2	19.4	45.6	33.0	25.6	46.6	35.8	36.3
LnGrp LOS	D	C	C	D	B	B	D	C	C	D	D	D
Approach Vol, veh/h		514			926			836			465	
Approach Delay, s/veh		24.4			23.3			35.1			37.6	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	35.0	17.7	21.5	5.5	43.5	8.5	30.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	20.0	50.0	20.0	40.0	20.0	50.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	10.1	11.6	13.6	11.7	2.9	16.5	5.5	21.0
Green Ext Time (p_c), s	0.1	6.4	0.2	3.7	0.0	10.4	0.1	4.4

Intersection Summary	
HCM 7th Control Delay, s/veh	29.5
HCM 7th LOS	C



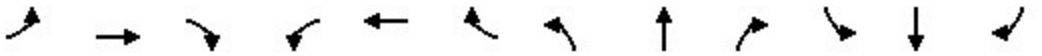
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	267	47	489	322	12	73	1142	12	662
v/c Ratio	0.21	0.70	0.12	0.89	0.44	0.02	0.28	0.91	0.08	0.69
Control Delay (s/veh)	16.8	46.9	0.7	38.6	24.7	0.1	22.4	40.5	20.8	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.8	46.9	0.7	38.6	24.7	0.1	22.4	40.5	20.8	36.3
Queue Length 50th (ft)	22	160	0	207	150	0	28	330	4	197
Queue Length 95th (ft)	47	257	0	#420	249	0	64	#629	18	304
Internal Link Dist (ft)		687			456			975		1020
Turn Bay Length (ft)	90		190	170		260	110		170	
Base Capacity (vph)	488	562	499	574	775	609	367	1250	323	1000
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.48	0.09	0.85	0.42	0.02	0.20	0.91	0.04	0.66

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	240	42	440	290	11	66	700	328	11	518	77
Future Volume (vph)	63	240	42	440	290	11	66	700	328	11	518	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.95	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	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	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1677	1783	1306	1688	1783	1290	1693	3188		1694	3142	
Flt Permitted	0.57	1.00	1.00	0.30	1.00	1.00	0.22	1.00		0.13	1.00	
Satd. Flow (perm)	998	1783	1306	533	1783	1290	399	3188		225	3142	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	267	47	489	322	12	73	778	364	12	576	86
RTOR Reduction (vph)	0	0	37	0	0	7	0	40	0	0	9	0
Lane Group Flow (vph)	70	267	10	489	322	5	73	1102	0	12	653	0
Confl. Peds. (#/hr)	23		20	20		23	3		8	8		3
Confl. Bikes (#/hr)			6			25						7
Parking (#/hr)			0			0					0	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	27.4	21.9	21.9	49.3	39.8	39.8	42.0	37.0		32.7	31.7	
Effective Green, g (s)	27.4	21.9	21.9	49.3	39.8	39.8	42.0	37.0		32.7	31.7	
Actuated g/C Ratio	0.27	0.22	0.22	0.49	0.39	0.39	0.41	0.37		0.32	0.31	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0		4.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.5	4.0	4.0	2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	306	385	282	526	700	506	245	1164		87	983	
v/s Ratio Prot	0.01	0.15		c0.21	0.18		c0.02	c0.35		0.00	0.21	
v/s Ratio Perm	0.05		0.01	c0.24		0.00	0.10			0.04		
v/c Ratio	0.23	0.69	0.04	0.93	0.46	0.01	0.30	0.95		0.14	0.66	
Uniform Delay, d1	28.1	36.6	31.4	20.3	22.8	18.7	19.5	31.2		25.8	30.2	
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	0.1	5.7	0.1	22.9	0.7	0.0	0.2	15.3		0.3	1.9	
Delay (s)	28.3	42.4	31.4	43.2	23.4	18.7	19.7	46.5		26.1	32.1	
Level of Service	C	D	C	D	C	B	B	D		C	C	
Approach Delay (s/veh)		38.4			35.1			44.9			32.0	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	38.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	101.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	240	42	440	290	11	66	700	328	11	518	77
Future Volume (veh/h)	63	240	42	440	290	11	66	700	328	11	518	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.96	1.00		0.99	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	70	267	6	489	322	4	73	778	320	12	576	76
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	370	377	273	576	733	535	268	834	343	116	916	120
Arrive On Green	0.04	0.20	0.20	0.24	0.39	0.39	0.04	0.34	0.34	0.01	0.31	0.31
Sat Flow, veh/h	1767	1856	1342	1767	1856	1355	1767	2428	997	1767	2955	389
Grp Volume(v), veh/h	70	267	6	489	322	4	73	565	533	12	343	309
Grp Sat Flow(s),veh/h/ln	1767	1856	1342	1767	1856	1355	1767	1763	1662	1767	1763	1581
Q Serve(g_s), s	2.7	11.6	0.3	17.8	11.0	0.2	2.4	26.7	26.8	0.4	14.4	14.5
Cycle Q Clear(g_c), s	2.7	11.6	0.3	17.8	11.0	0.2	2.4	26.7	26.8	0.4	14.4	14.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		0.25
Lane Grp Cap(c), veh/h	370	377	273	576	733	535	268	606	571	116	547	490
V/C Ratio(X)	0.19	0.71	0.02	0.85	0.44	0.01	0.27	0.93	0.93	0.10	0.63	0.63
Avail Cap(c_a), veh/h	598	644	466	669	733	535	500	612	577	407	612	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	32.1	27.6	19.0	19.2	15.9	19.8	27.4	27.4	23.6	25.5	25.6
Incr Delay (d2), s/veh	0.1	3.5	0.0	8.6	0.6	0.0	0.2	21.4	22.6	0.1	2.1	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.4	0.1	8.1	4.7	0.0	0.9	14.1	13.5	0.2	6.1	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.6	35.5	27.6	27.6	19.7	15.9	20.0	48.8	50.0	23.7	27.7	28.0
LnGrp LOS	C	D	C	C	B	B	C	D	D	C	C	C
Approach Vol, veh/h		343			815			1171			664	
Approach Delay, s/veh		33.4			24.4			47.5			27.8	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	34.7	24.4	22.6	7.7	31.8	7.8	39.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	25.0	30.0	15.0	30.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	2.4	28.8	19.8	13.6	4.4	16.5	4.7	13.0
Green Ext Time (p_c), s	0.0	0.9	0.6	1.9	0.0	4.4	0.0	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	35.2
HCM 7th LOS	D

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	64	2	1340	139	970
v/c Ratio	0.03	0.24	0.03	0.64	0.75	0.60
Control Delay (s/veh)	0.2	2.2	46.0	6.2	90.9	33.6
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay (s/veh)	0.2	2.2	46.0	6.5	90.9	33.6
Queue Length 50th (ft)	0	0	2	25	132	361
Queue Length 95th (ft)	0	0	m2	211	240	592
Internal Link Dist (ft)	170	304		218		975
Turn Bay Length (ft)			70		270	
Base Capacity (vph)	393	381	170	2132	399	1847
Starvation Cap Reductn	0	0	0	233	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.17	0.01	0.71	0.35	0.53

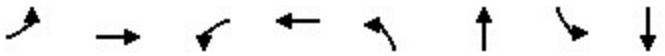
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	4	25	0	34	2	1118	115	128	892	0
Future Volume (vph)	3	0	4	25	0	34	2	1118	115	128	892	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	5.5		5.0	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			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	
Frt		0.92			0.92		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1599			1609		1694	3332		1694	3388	
Flt Permitted		0.92			0.87		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1495			1435		1694	3332		1694	3388	
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)	3	0	4	27	0	37	2	1215	125	139	970	0
RTOR Reduction (vph)	0	6	0	0	57	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	7	0	2	1337	0	139	970	0
Confl. Peds. (#/hr)			1	1					3			
Confl. Bikes (#/hr)									2			1
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			4		11	6 8		5	2	
Permitted Phases	4			4								
Actuated Green, G (s)		17.1			17.1		0.9	94.9		16.5	71.6	
Effective Green, g (s)		17.1			17.1		0.9	94.9		16.5	71.6	
Actuated g/C Ratio		0.11			0.11		0.01	0.61		0.11	0.46	
Clearance Time (s)		5.0			5.0		4.0			5.0	5.5	
Vehicle Extension (s)		3.5			3.5		1.5			2.0	6.0	
Lane Grp Cap (vph)		165			158		9	2047		181	1571	
v/s Ratio Prot							c0.00	c0.40		c0.08	0.29	
v/s Ratio Perm		0.00			c0.00							
v/c Ratio		0.00			0.04		0.22	0.65		0.77	0.62	
Uniform Delay, d1		61.1			61.4		76.4	19.2		67.1	31.1	
Progression Factor		1.00			1.00		0.57	0.49		1.00	1.00	
Incremental Delay, d2		0.0			0.1		2.4	0.7		16.0	1.3	
Delay (s)		61.1			61.5		46.2	10.0		83.1	32.4	
Level of Service		E			E		D	B		F	C	
Approach Delay (s/veh)		61.1			61.5			10.1			38.7	
Approach LOS		E			E			B			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	154.4	Sum of lost time (s)	25.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

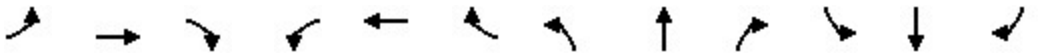
HCM 7th Edition methodology does not support clustered intersections.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	107	101	1	3	54	1204	4	948
v/c Ratio	0.38	0.38	0.00	0.00	0.55	0.88	0.08	0.47
Control Delay (s/veh)	57.6	49.2	53.0	0.0	93.5	51.2	47.8	0.8
Queue Delay	0.3	0.3	0.0	0.0	0.0	0.3	0.0	0.1
Total Delay (s/veh)	57.8	49.5	53.0	0.0	93.5	51.4	47.8	0.9
Queue Length 50th (ft)	90	71	1	0	51	555	4	0
Queue Length 95th (ft)	194	168	7	0	115	#976	m8	21
Internal Link Dist (ft)		3515		195		1175		218
Turn Bay Length (ft)	60				110		80	
Base Capacity (vph)	300	286	265	772	170	1368	170	2329
Starvation Cap Reductn	0	0	0	0	0	0	0	272
Spillback Cap Reductn	26	25	0	0	0	14	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.39	0.00	0.00	0.32	0.89	0.02	0.46

Intersection Summary

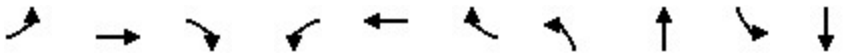
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	1	39	1	0	3	50	1117	3	4	671	210
Future Volume (vph)	153	1	39	1	0	3	50	1117	3	4	671	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		4.0	5.5		4.0	5.5	
Lane Util. Factor	0.95	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.88		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.85		1.00	1.00		1.00	0.96	
Flt Protected	0.95	0.97		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1605	1366		1667	1334		1694	3386		1694	3248	
Flt Permitted	0.76	0.83		0.64	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1277	1167		1131	1334		1694	3386		1694	3248	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	165	1	42	1	0	3	54	1201	3	4	722	226
RTOR Reduction (vph)	0	13	0	0	2	0	0	0	0	0	14	0
Lane Group Flow (vph)	107	88	0	1	1	0	54	1204	0	4	934	0
Confl. Peds. (#/hr)	2		13	13		2			5			1
Confl. Bikes (#/hr)			6			102			3			2
Parking (#/hr)		0	0									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			8		1	6		9	2 4	
Permitted Phases	8			8								
Actuated Green, G (s)	33.2	33.2		33.2	33.2		7.6	61.7		0.9	88.7	
Effective Green, g (s)	33.2	33.2		33.2	33.2		7.6	61.7		0.9	88.7	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.05	0.40		0.01	0.57	
Clearance Time (s)	5.5	5.5		5.5	5.5		4.0	5.5		4.0		
Vehicle Extension (s)	3.5	3.5		3.5	3.5		1.5	6.0		1.5		
Lane Grp Cap (vph)	274	250		243	286		83	1353		9	1865	
v/s Ratio Prot					0.00		c0.03	c0.36		c0.00	c0.29	
v/s Ratio Perm	c0.08	0.08		0.00								
v/c Ratio	0.39	0.35		0.00	0.00		0.65	0.89		0.44	0.50	
Uniform Delay, d1	51.9	51.5		47.6	47.6		72.1	43.2		76.5	19.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.57	0.01	
Incremental Delay, d2	1.1	1.0		0.0	0.0		13.1	8.4		10.6	0.5	
Delay (s)	53.0	52.5		47.6	47.6		85.1	51.6		54.1	0.7	
Level of Service	D	D		D	D		F	D		D	A	
Approach Delay (s/veh)		52.8			47.6			53.0			0.9	
Approach LOS		D			D			D			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	32.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	154.4	Sum of lost time (s)	25.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Edition methodology does not support clustered intersections.

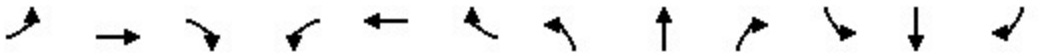


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	208	161	335	280	335	149	1342	91	727
v/c Ratio	0.16	0.66	0.44	0.79	0.63	0.54	0.72	1.05	1.28	0.56
Control Delay (s/veh)	36.5	49.0	14.4	50.8	41.4	7.3	51.6	69.8	234.4	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.5	49.0	14.4	50.8	41.4	7.3	51.6	69.8	234.4	27.4
Queue Length 50th (ft)	27	126	19	195	155	0	79	~486	~75	183
Queue Length 95th (ft)	60	207	73	343	278	65	#236	#811	#208	322
Internal Link Dist (ft)		1285			1321			533		1175
Turn Bay Length (ft)	100		100	100			100		100	
Base Capacity (vph)	523	551	545	523	551	683	207	1277	71	1292
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.38	0.30	0.64	0.51	0.49	0.72	1.05	1.28	0.56

Intersection Summary

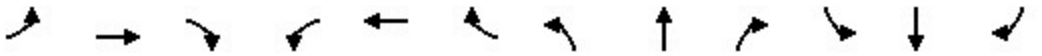
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	183	142	295	246	295	131	834	347	80	597	43
Future Volume (vph)	43	183	142	295	246	295	131	834	347	80	597	43
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	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	1783	1476	1694	1783	1463	1686	3063		1694	3176	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.29	1.00		0.10	1.00	
Satd. Flow (perm)	1694	1783	1476	1694	1783	1463	511	3063		175	3176	
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)	49	208	161	335	280	335	149	948	394	91	678	49
RTOR Reduction (vph)	0	0	104	0	0	251	0	35	0	0	4	0
Lane Group Flow (vph)	49	208	57	335	280	84	149	1307	0	91	723	0
Confl. Peds. (#/hr)			6			4	10		3	3		10
Confl. Bikes (#/hr)			7			22			1			13
Parking (#/hr)								0	0		0	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	8	8		4	4			6			2	
Permitted Phases			8			4	6			2		
Actuated Green, G (s)	17.8	17.8	17.8	25.0	25.0	25.0	40.7	40.7		40.7	40.7	
Effective Green, g (s)	17.8	17.8	17.8	25.0	25.0	25.0	40.7	40.7		40.7	40.7	
Actuated g/C Ratio	0.18	0.18	0.18	0.25	0.25	0.25	0.41	0.41		0.41	0.41	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	2.5	2.5	2.5	3.0	3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	301	317	262	423	445	365	207	1246		71	1292	
v/s Ratio Prot	0.03	c0.12		c0.20	0.16			0.43			0.23	
v/s Ratio Perm			0.04			0.06	0.29			c0.52		
v/c Ratio	0.16	0.66	0.22	0.79	0.63	0.23	0.72	1.05		1.28	0.56	
Uniform Delay, d1	34.8	38.3	35.1	35.1	33.4	29.8	24.9	29.7		29.7	22.8	
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	0.2	4.3	0.3	9.8	2.8	0.3	12.9	39.4		199.9	0.8	
Delay (s)	35.0	42.6	35.4	44.8	36.2	30.2	37.7	69.0		229.6	23.5	
Level of Service	C	D	D	D	D	C	D	E		F	C	
Approach Delay (s/veh)		38.9			37.1			65.9			46.5	
Approach LOS		D			D			E			D	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	51.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	91.0%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	183	142	295	246	295	131	834	347	80	597	43
Future Volume (veh/h)	43	183	142	295	246	295	131	834	347	80	597	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	49	208	46	335	280	55	149	948	350	91	678	43
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	273	286	234	408	428	349	283	1038	380	102	1387	88
Arrive On Green	0.15	0.15	0.15	0.23	0.23	0.23	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1767	1856	1520	1767	1856	1513	724	2383	872	421	3184	202
Grp Volume(v), veh/h	49	208	46	335	280	55	149	699	599	91	375	346
Grp Sat Flow(s),veh/h/ln	1767	1856	1520	1767	1856	1513	724	1763	1493	421	1763	1623
Q Serve(g_s), s	2.2	9.8	2.4	16.5	12.6	2.7	17.1	34.1	34.8	5.2	14.0	14.0
Cycle Q Clear(g_c), s	2.2	9.8	2.4	16.5	12.6	2.7	31.1	34.1	34.8	40.0	14.0	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.12
Lane Grp Cap(c), veh/h	273	286	234	408	428	349	283	768	650	102	768	707
V/C Ratio(X)	0.18	0.73	0.20	0.82	0.65	0.16	0.53	0.91	0.92	0.89	0.49	0.49
Avail Cap(c_a), veh/h	577	606	496	577	606	494	283	768	650	102	768	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	37.0	33.9	33.5	32.0	28.2	29.8	24.3	24.5	45.2	18.6	18.6
Incr Delay (d2), s/veh	0.2	2.6	0.3	6.4	1.7	0.2	2.8	15.3	19.0	56.6	0.8	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.6	0.9	7.5	5.6	0.9	3.1	16.4	14.7	3.6	5.6	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.0	39.6	34.2	40.0	33.7	28.4	32.6	39.6	43.5	101.8	19.4	19.5
LnGrp LOS	C	D	C	D	C	C	C	D	D	F	B	B
Approach Vol, veh/h		303			670			1447			812	
Approach Delay, s/veh		37.9			36.4			40.5			28.7	
Approach LOS		D			D			D			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.5		26.2		46.5		19.2				
Change Period (Y+Rc), s		6.5		5.0		6.5		5.0				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		42.0		18.5		36.8		11.8				
Green Ext Time (p_c), s		0.0		2.2		2.8		1.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			36.4									
HCM 7th LOS			D									

Notes

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

Lane Group	EBT	NBL	NBT	SBT
Lane Group Flow (vph)	401	48	1158	1163
v/c Ratio	0.71	0.37	0.72	0.73
Control Delay (s/veh)	26.8	22.0	17.4	16.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.8	22.0	17.4	16.9
Queue Length 50th (ft)	146	13	205	196
Queue Length 95th (ft)	242	47	310	303
Internal Link Dist (ft)	2029		1464	533
Turn Bay Length (ft)		110		
Base Capacity (vph)	638	150	1845	1797
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.63	0.32	0.63	0.65

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	281	0	76	0	0	0	43	1031	0	0	802	233
Future Volume (vph)	281	0	76	0	0	0	43	1031	0	0	802	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5					6.5	6.5			6.5	
Lane Util. Factor		1.00					1.00	0.95			0.95	
Frpb, ped/bikes		1.00					1.00	1.00			0.99	
Flpb, ped/bikes		1.00					1.00	1.00			1.00	
Frt		0.97					1.00	1.00			0.97	
Flt Protected		0.96					0.95	1.00			1.00	
Satd. Flow (prot)		1660					1521	3219			3083	
Flt Permitted		0.95					0.16	1.00			1.00	
Satd. Flow (perm)		1639					263	3219			3083	
Peak-hour factor, PHF	0.89	0.92	0.89	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Adj. Flow (vph)	316	0	85	0	0	0	48	1158	0	0	901	262
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	0	0	36	0
Lane Group Flow (vph)	0	367	0	0	0	0	48	1158	0	0	1127	0
Confl. Peds. (#/hr)			6				14					14
Confl. Bikes (#/hr)			4									3
Parking (#/hr)	0		0				0	0			0	0
Turn Type	Perm	NA					Perm	NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6					
Actuated Green, G (s)		23.3					36.0	36.0			36.0	
Effective Green, g (s)		23.3					36.0	36.0			36.0	
Actuated g/C Ratio		0.33					0.50	0.50			0.50	
Clearance Time (s)		5.5					6.5	6.5			6.5	
Vehicle Extension (s)		3.0					5.0	5.0			5.0	
Lane Grp Cap (vph)		535					132	1625			1556	
v/s Ratio Prot								0.36			c0.37	
v/s Ratio Perm		c0.22					0.18					
v/c Ratio		0.69					0.36	0.71			0.72	
Uniform Delay, d1		20.8					10.7	13.6			13.8	
Progression Factor		1.00					1.00	1.00			1.00	
Incremental Delay, d2		3.7					3.5	1.9			2.1	
Delay (s)		24.5					14.2	15.5			15.9	
Level of Service		C					B	B			B	
Approach Delay (s/veh)		24.5			0.0			15.5			15.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	71.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	281	0	76	0	0	0	43	1031	0	0	802	233
Future Volume (veh/h)	281	0	76	0	0	0	43	1031	0	0	802	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	316	0	70	0	0	0	48	1158	0	0	901	223
Peak Hour Factor	0.89	0.92	0.89	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	434	0	76	0	605	0	225	1787	0	0	1336	330
Arrive On Green	0.33	0.00	0.33	0.00	0.00	0.00	0.51	0.51	0.00	0.00	0.51	0.51
Sat Flow, veh/h	1053	0	233	0	1856	0	496	3618	0	0	2728	651
Grp Volume(v), veh/h	386	0	0	0	0	0	48	1158	0	0	602	522
Grp Sat Flow(s),veh/h/ln	1286	0	0	0	1856	0	496	1763	0	0	1763	1524
Q Serve(g_s), s	20.8	0.0	0.0	0.0	0.0	0.0	5.8	17.3	0.0	0.0	18.4	18.4
Cycle Q Clear(g_c), s	20.8	0.0	0.0	0.0	0.0	0.0	24.2	17.3	0.0	0.0	18.4	18.4
Prop In Lane	0.82		0.18	0.00		0.00	1.00		0.00	0.00		0.43
Lane Grp Cap(c), veh/h	510	0	0	0	605	0	225	1787	0	0	894	773
V/C Ratio(X)	0.76	0.00	0.00	0.00	0.00	0.00	0.21	0.65	0.00	0.00	0.67	0.68
Avail Cap(c_a), veh/h	539	0	0	0	646	0	250	1965	0	0	982	849
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	0.0	0.0	0.0	0.0	0.0	22.3	13.0	0.0	0.0	13.3	13.3
Incr Delay (d2), s/veh	5.8	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	2.4	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	0.0	0.0	0.0	0.0	0.7	6.0	0.0	0.0	6.7	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.1	0.0	0.0	0.0	0.0	0.0	23.3	14.0	0.0	0.0	15.6	16.0
LnGrp LOS	C						C	B			B	B
Approach Vol, veh/h		386			0			1206			1124	
Approach Delay, s/veh		29.1			0.0			14.4			15.8	
Approach LOS		C						B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	42.9	28.9	42.9	28.9
Change Period (Y+Rc), s	6.5	5.5	6.5	5.5
Max Green Setting (Gmax), s	40.0	25.0	40.0	25.0
Max Q Clear Time (g_c+I1), s	20.4	0.0	26.2	22.8
Green Ext Time (p_c), s	12.3	0.0	10.2	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	17.1
HCM 7th LOS	B

Notes

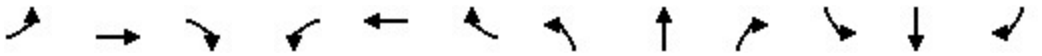
User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	225	92	102	1081	65	886
v/c Ratio	0.63	0.25	0.35	0.58	0.30	0.49
Control Delay (s/veh)	24.0	16.8	13.4	11.0	13.6	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.0	16.8	13.4	11.0	13.6	9.5
Queue Length 50th (ft)	62	23	17	110	10	80
Queue Length 95th (ft)	116	51	67	248	47	185
Internal Link Dist (ft)	1046	977		1312		1464
Turn Bay Length (ft)			70		100	
Base Capacity (vph)	565	592	342	2174	256	2138
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.16	0.30	0.50	0.25	0.41

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	20	80	31	31	17	88	913	16	56	667	95
Future Volume (vph)	94	20	80	31	31	17	88	913	16	56	667	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.97		1.00	1.00		1.00	0.98	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1464			1519		1686	3208		1691	3143	
Flt Permitted		0.82			0.86		0.28	1.00		0.21	1.00	
Satd. Flow (perm)		1232			1332		506	3208		380	3143	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	109	23	93	36	36	20	102	1062	19	65	776	110
RTOR Reduction (vph)	0	38	0	0	15	0	0	2	0	0	13	0
Lane Group Flow (vph)	0	187	0	0	77	0	102	1079	0	65	873	0
Confl. Peds. (#/hr)	15		2	2		15	19		9	9		19
Confl. Bikes (#/hr)			3			4			3			5
Parking (#/hr)	0	0	0	0	0	0		0	0		0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		16.2			16.2		35.6	35.6		35.6	35.6	
Effective Green, g (s)		16.2			16.2		35.6	35.6		35.6	35.6	
Actuated g/C Ratio		0.26			0.26		0.58	0.58		0.58	0.58	
Clearance Time (s)		4.5			4.5		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.5			3.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		325			352		293	1863		220	1825	
v/s Ratio Prot								c0.34			0.28	
v/s Ratio Perm		c0.15			0.06		0.20			0.17		
v/c Ratio		0.58			0.22		0.35	0.58		0.30	0.48	
Uniform Delay, d1		19.6			17.6		6.8	8.1		6.5	7.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.7			0.3		2.0	0.9		2.1	0.6	
Delay (s)		22.2			17.9		8.8	9.0		8.6	8.0	
Level of Service		C			B		A	A		A	A	
Approach Delay (s/veh)		22.2			17.9			9.0			8.1	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	9.5
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	20	80	31	31	17	88	913	16	56	667	95
Future Volume (veh/h)	94	20	80	31	31	17	88	913	16	56	667	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.96	0.99		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	109	23	49	36	36	3	102	1062	17	65	776	95
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	247	58	73	215	177	12	442	2087	33	367	1850	226
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	691	289	364	568	885	61	628	3367	54	517	2985	365
Grp Volume(v), veh/h	181	0	0	75	0	0	102	556	523	65	458	413
Grp Sat Flow(s),veh/h/ln	1343	0	0	1514	0	0	628	1763	1658	517	1763	1587
Q Serve(g_s), s	4.4	0.0	0.0	0.0	0.0	0.0	5.2	9.2	9.2	4.2	7.0	7.0
Cycle Q Clear(g_c), s	6.4	0.0	0.0	2.0	0.0	0.0	12.3	9.2	9.2	13.4	7.0	7.0
Prop In Lane	0.60		0.27	0.48		0.04	1.00		0.03	1.00		0.23
Lane Grp Cap(c), veh/h	378	0	0	403	0	0	442	1093	1028	367	1093	984
V/C Ratio(X)	0.48	0.00	0.00	0.19	0.00	0.00	0.23	0.51	0.51	0.18	0.42	0.42
Avail Cap(c_a), veh/h	731	0	0	599	0	0	530	1338	1259	439	1338	1205
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	0.0	0.0	17.7	0.0	0.0	8.3	5.6	5.6	9.3	5.1	5.1
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.2	0.0	0.0	1.0	1.3	1.4	0.8	0.9	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	0.7	0.0	0.0	0.7	2.4	2.3	0.5	1.8	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.4	0.0	0.0	17.9	0.0	0.0	9.3	6.9	7.0	10.1	6.1	6.2
LnGrp LOS	C			B			A	A	A	B	A	A
Approach Vol, veh/h		181			75			1181			936	
Approach Delay, s/veh		20.4			17.9			7.1			6.4	
Approach LOS		C			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	37.7	15.0	37.7	15.0
Change Period (Y+Rc), s	5.0	4.5	5.0	4.5
Max Green Setting (Gmax), s	40.0	18.0	40.0	25.0
Max Q Clear Time (g_c+I1), s	15.4	4.0	14.3	8.4
Green Ext Time (p_c), s	14.3	0.3	18.0	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	8.2
HCM 7th LOS	A

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	115	519	35	144	573	226	52	888	187	228	762
v/c Ratio	0.78	0.47	0.06	0.83	0.48	0.33	0.50	1.03	0.40	1.16	0.73
Control Delay (s/veh)	85.2	32.8	0.2	88.3	32.7	5.1	69.3	83.4	17.4	159.7	42.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	85.2	32.8	0.2	88.3	32.7	5.1	69.3	83.4	17.4	159.7	42.1
Queue Length 50th (ft)	87	167	0	110	185	0	40	~387	42	~208	277
Queue Length 95th (ft)	#152	205	0	#191	226	44	75	#468	98	#339	342
Internal Link Dist (ft)		1689			2029			1308			1312
Turn Bay Length (ft)	190		100	180		150	140		100	160	
Base Capacity (vph)	171	1107	551	190	1184	678	190	861	465	197	1045
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.47	0.06	0.76	0.48	0.33	0.27	1.03	0.40	1.16	0.73

Intersection Summary

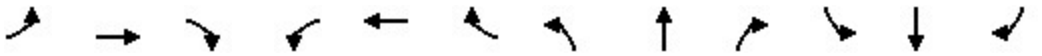
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	441	30	122	487	192	44	755	159	194	568	80
Future Volume (vph)	98	441	30	122	487	192	44	755	159	194	568	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	11	12	10	12	12	11	11	12
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.5	6.5	5.0	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	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	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	0.98	
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)	1472	3219	1369	1636	3388	1519	1636	3505	1532	1694	3315	
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)	1472	3219	1369	1636	3388	1519	1636	3505	1532	1694	3315	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	115	519	35	144	573	226	52	888	187	228	668	94
RTOR Reduction (vph)	0	0	23	0	0	149	0	0	88	0	8	0
Lane Group Flow (vph)	115	519	12	144	573	77	52	888	99	228	754	0
Confl. Peds. (#/hr)			13			8			5			4
Confl. Bikes (#/hr)			5			16			6			12
Parking (#/hr)	0	0	0									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	12.1	40.3	40.3	12.7	40.9	40.9	6.9	30.5	30.5	14.0	37.6	
Effective Green, g (s)	12.1	40.3	40.3	12.7	40.9	40.9	6.9	30.5	30.5	14.0	37.6	
Actuated g/C Ratio	0.10	0.34	0.34	0.11	0.34	0.34	0.06	0.25	0.25	0.12	0.31	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.5	6.5	5.0	6.5	
Vehicle Extension (s)	1.5	4.0	4.0	1.5	4.0	4.0	1.5	4.0	4.0	1.5	4.0	
Lane Grp Cap (vph)	148	1081	459	173	1154	517	94	890	389	197	1038	
v/s Ratio Prot	0.08	0.16		c0.09	c0.17		0.03	c0.25		c0.13	0.23	
v/s Ratio Perm			0.01			0.05			0.06			
v/c Ratio	0.78	0.48	0.03	0.83	0.50	0.15	0.55	1.00	0.25	1.16	0.73	
Uniform Delay, d1	52.6	31.6	26.7	52.6	31.4	27.5	55.0	44.7	35.7	53.0	36.6	
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	20.4	1.5	0.1	26.5	1.5	0.6	4.0	29.4	0.5	112.9	2.7	
Delay (s)	73.1	33.1	26.8	79.1	32.9	28.1	59.0	74.1	36.2	165.9	39.4	
Level of Service	E	C	C	E	C	C	E	E	D	F	D	
Approach Delay (s/veh)		39.6			38.8			67.1			68.5	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	55.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	441	30	122	487	192	44	755	159	194	568	80
Future Volume (veh/h)	98	441	30	122	487	192	44	755	159	194	568	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	115	519	8	144	573	51	52	888	83	228	668	85
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	140	1247	488	170	1307	567	67	867	378	206	1018	129
Arrive On Green	0.08	0.35	0.35	0.10	0.37	0.37	0.04	0.25	0.25	0.12	0.32	0.32
Sat Flow, veh/h	1767	3526	1379	1767	3526	1529	1767	3526	1536	1767	3137	399
Grp Volume(v), veh/h	115	519	8	144	573	51	52	888	83	228	375	378
Grp Sat Flow(s),veh/h/ln	1767	1763	1379	1767	1763	1529	1767	1763	1536	1767	1763	1772
Q Serve(g_s), s	7.7	13.4	0.5	9.6	14.7	2.6	3.5	29.5	5.2	14.0	21.9	22.0
Cycle Q Clear(g_c), s	7.7	13.4	0.5	9.6	14.7	2.6	3.5	29.5	5.2	14.0	21.9	22.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	140	1247	488	170	1307	567	67	867	378	206	572	575
V/C Ratio(X)	0.82	0.42	0.02	0.85	0.44	0.09	0.78	1.02	0.22	1.11	0.66	0.66
Avail Cap(c_a), veh/h	206	1247	488	206	1307	567	206	867	378	206	572	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	0.92	0.92	0.92	0.87	0.87	0.87
Uniform Delay (d), s/veh	54.4	29.4	25.2	53.4	28.4	24.6	57.2	45.3	36.1	53.0	34.8	34.8
Incr Delay (d2), s/veh	9.4	1.0	0.1	20.1	1.1	0.3	6.5	35.7	0.4	89.8	2.7	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	5.8	0.2	5.2	6.3	1.0	1.7	17.0	2.0	11.3	9.7	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.8	30.4	25.3	73.5	29.4	24.9	63.7	81.0	36.5	142.8	37.4	37.5
LnGrp LOS	E	C	C	E	C	C	E	F	D	F	D	D
Approach Vol, veh/h		642			768			1023			981	
Approach Delay, s/veh		36.3			37.4			76.5			61.9	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	36.0	14.5	50.5	9.5	45.5	16.6	48.4
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0
Max Green Setting (Gmax), s	14.0	29.5	14.0	40.0	14.0	29.5	14.0	40.0
Max Q Clear Time (g_c+I1), s	16.0	31.5	9.7	16.7	5.5	24.0	11.6	15.4
Green Ext Time (p_c), s	0.0	0.0	0.0	5.6	0.0	2.7	0.0	4.9

Intersection Summary	
HCM 7th Control Delay, s/veh	55.9
HCM 7th LOS	E

Notes

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

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	56	25	1027	21	802
v/c Ratio	0.28	0.19	0.05	0.40	0.07	0.33
Control Delay (s/veh)	14.1	12.4	6.0	5.7	6.5	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.1	12.4	6.0	5.7	6.5	5.2
Queue Length 50th (ft)	10	7	2	58	2	41
Queue Length 95th (ft)	38	30	15	183	14	134
Internal Link Dist (ft)	1470	309		1757		1308
Turn Bay Length (ft)			100		70	
Base Capacity (vph)	591	675	490	2669	327	2515
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.08	0.05	0.38	0.06	0.32

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	10	29	13	11	26	22	907	7	19	671	43
Future Volume (vph)	26	10	29	13	11	26	22	907	7	19	671	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12	11	11	12	10	11	11
Total Lost time (s)		4.5			4.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1467			1617		1694	3383		1470	3186	
Flt Permitted		0.85			0.88		0.35	1.00		0.27	1.00	
Satd. Flow (perm)		1265			1450		622	3383		414	3186	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	29	11	33	15	12	29	25	1019	8	21	754	48
RTOR Reduction (vph)	0	29	0	0	25	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	44	0	0	31	0	25	1026	0	21	797	0
Confl. Peds. (#/hr)	2		2	2		2	1		7	7		1
Confl. Bikes (#/hr)			1			5			4			1
Parking (#/hr)	0	0	0	0		0				0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		5.9			5.9		32.8	32.8		32.8	32.8	
Effective Green, g (s)		5.9			5.9		32.8	32.8		32.8	32.8	
Actuated g/C Ratio		0.12			0.12		0.67	0.67		0.67	0.67	
Clearance Time (s)		4.5			4.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		153			175		418	2278		278	2145	
v/s Ratio Prot								c0.30			0.25	
v/s Ratio Perm		c0.03			0.02		0.04			0.05		
v/c Ratio		0.29			0.17		0.06	0.45		0.08	0.37	
Uniform Delay, d1		19.5			19.2		2.7	3.7		2.7	3.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			0.5		0.1	0.3		0.2	0.2	
Delay (s)		20.5			19.7		2.8	4.0		3.0	3.7	
Level of Service		C			B		A	A		A	A	
Approach Delay (s/veh)		20.5			19.7			4.0			3.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	48.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	10	29	13	11	26	22	907	7	19	671	43
Future Volume (veh/h)	26	10	29	13	11	26	22	907	7	19	671	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		1.00	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	0.90	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	29	11	0	15	12	1	25	1019	7	21	754	42
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	198	19	0	171	32	3	598	2563	18	497	2421	135
Arrive On Green	0.05	0.05	0.00	0.05	0.05	0.05	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1032	391	0	812	649	54	676	3588	25	545	3390	189
Grp Volume(v), veh/h	40	0	0	28	0	0	25	501	525	21	392	404
Grp Sat Flow(s),veh/h/ln	1423	0	0	1515	0	0	676	1763	1850	545	1763	1816
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.6	4.8	4.8	0.7	3.5	3.5
Cycle Q Clear(g_c), s	1.1	0.0	0.0	0.7	0.0	0.0	4.1	4.8	4.8	5.5	3.5	3.5
Prop In Lane	0.72		0.00	0.54		0.04	1.00		0.01	1.00		0.10
Lane Grp Cap(c), veh/h	217	0	0	206	0	0	598	1259	1321	497	1259	1297
V/C Ratio(X)	0.18	0.00	0.00	0.14	0.00	0.00	0.04	0.40	0.40	0.04	0.31	0.31
Avail Cap(c_a), veh/h	782	0	0	799	0	0	674	1459	1531	559	1459	1503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	0.0	19.4	0.0	0.0	3.0	2.4	2.4	3.5	2.2	2.2
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.3	0.0	0.0	0.1	0.4	0.4	0.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.3	0.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.0	0.0	0.0	19.7	0.0	0.0	3.0	2.8	2.8	3.6	2.5	2.5
LnGrp LOS	C			B			A	A	A	A	A	A
Approach Vol, veh/h		40			28			1051			817	
Approach Delay, s/veh		20.0			19.7			2.8			2.5	
Approach LOS		C			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.7		6.6		35.7		6.6				
Change Period (Y+Rc), s		5.5		4.5		5.5		4.5				
Max Green Setting (Gmax), s		35.0		20.0		35.0		20.0				
Max Q Clear Time (g_c+I1), s		6.8		3.1		7.5		2.7				
Green Ext Time (p_c), s		14.2		0.1		10.6		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	3.3
HCM 7th LOS	A

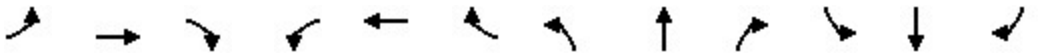
Notes

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

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	368	662	61	697	233	610
v/c Ratio	0.64	0.87	0.53	0.82	0.87	0.50
Control Delay (s/veh)	57.9	57.3	84.6	59.6	88.0	36.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.9	57.3	84.6	59.6	88.0	36.8
Queue Length 50th (ft)	171	273	58	327	216	227
Queue Length 95th (ft)	212	354	106	410	#347	309
Internal Link Dist (ft)	1269	825		628		1757
Turn Bay Length (ft)			100		150	
Base Capacity (vph)	760	834	223	990	323	1272
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.79	0.27	0.70	0.72	0.48

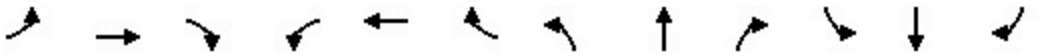
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	224	62	92	228	236	51	576	9	196	477	35
Future Volume (vph)	23	224	62	92	228	236	51	576	9	196	477	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	11	11	12	11	11	12	10	11	11
Total Lost time (s)		6.0			6.0		4.0	6.0		4.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.94		1.00	1.00		1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3257			2944		1694	3378		1472	3171	
Flt Permitted		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3257			2944		1694	3378		1472	3171	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	27	267	74	110	271	281	61	686	11	233	568	42
RTOR Reduction (vph)	0	14	0	0	84	0	0	1	0	0	3	0
Lane Group Flow (vph)	0	354	0	0	578	0	61	696	0	233	607	0
Confl. Peds. (#/hr)			11			17			13			44
Confl. Bikes (#/hr)						3			4			
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	0	0	0	0
Parking (#/hr)				0	0	0				0	0	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)		24.2			32.6		8.2	36.6		25.6	54.0	
Effective Green, g (s)		24.2			32.6		8.2	36.6		25.6	54.0	
Actuated g/C Ratio		0.17			0.23		0.06	0.26		0.18	0.38	
Clearance Time (s)		6.0			6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		4.0			4.5		2.0	4.5		2.0	4.5	
Lane Grp Cap (vph)		559			680		98	876		267	1214	
v/s Ratio Prot		c0.11			c0.20		0.04	c0.21		c0.16	0.19	
v/s Ratio Perm												
v/c Ratio		0.63			0.85		0.62	0.79		0.87	0.50	
Uniform Delay, d1		54.3			51.9		64.9	48.7		56.1	33.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.6			10.6		8.5	5.6		24.7	0.6	
Delay (s)		56.9			62.5		73.4	54.3		80.8	33.8	
Level of Service		E			E		E	D		F	C	
Approach Delay (s/veh)		56.9			62.5			55.8			46.8	
Approach LOS		E			E			E			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	54.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	141.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	224	62	92	228	236	51	576	9	196	477	35
Future Volume (veh/h)	23	224	62	92	228	236	51	576	9	196	477	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	27	267	57	110	271	181	61	686	0	233	568	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	43	423	89	154	376	247	79	926		264	1295	
Arrive On Green	0.16	0.16	0.16	0.24	0.24	0.24	0.04	0.26	0.00	0.15	0.37	0.00
Sat Flow, veh/h	278	2726	574	643	1576	1036	1767	3618	0	1767	3618	0
Grp Volume(v), veh/h	179	0	172	312	0	250	61	686	0	233	568	0
Grp Sat Flow(s),veh/h/ln	1842	0	1737	1823	0	1432	1767	1763	0	1767	1763	0
Q Serve(g_s), s	10.3	0.0	10.5	17.8	0.0	18.2	3.9	20.2	0.0	14.6	13.8	0.0
Cycle Q Clear(g_c), s	10.3	0.0	10.5	17.8	0.0	18.2	3.9	20.2	0.0	14.6	13.8	0.0
Prop In Lane	0.15		0.33	0.35		0.72	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	286	0	269	436	0	342	79	926		264	1295	
V/C Ratio(X)	0.63	0.00	0.64	0.72	0.00	0.73	0.78	0.74		0.88	0.44	
Avail Cap(c_a), veh/h	488	0	461	564	0	443	281	1246		468	1295	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.7	0.0	44.9	39.5	0.0	39.7	53.5	38.2	0.0	47.2	27.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	3.6	4.4	0.0	6.2	6.0	2.4	0.0	3.9	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	4.8	8.4	0.0	6.9	1.8	8.9	0.0	6.6	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.9	0.0	48.4	43.9	0.0	45.9	59.5	40.6	0.0	51.1	27.4	0.0
LnGrp LOS	D		D	D		D	E	D		D	C	
Approach Vol, veh/h		351			562			747			801	
Approach Delay, s/veh		48.2			44.8			42.1			34.3	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.6	9.0	47.6	33.0	20.9	35.7
Change Period (Y+Rc), s	6.0	4.0	6.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	30.0	18.0	40.0	35.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	12.5	5.9	15.8	20.2	16.6	22.2
Green Ext Time (p_c), s	2.6	0.0	6.2	4.6	0.3	6.6

Intersection Summary	
HCM 7th Control Delay, s/veh	41.1
HCM 7th LOS	D

Notes

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

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

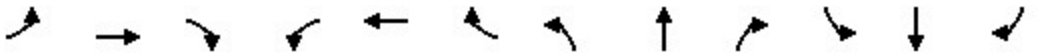
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	237	15	55	675	16	709
v/c Ratio	0.57	0.04	0.19	0.40	0.05	0.42
Control Delay (s/veh)	23.8	14.1	12.7	11.3	10.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.8	14.1	12.7	11.3	10.7	8.5
Queue Length 50th (ft)	75	3	13	97	4	71
Queue Length 95th (ft)	130	14	34	129	13	104
Internal Link Dist (ft)	2562	752		1844		628
Turn Bay Length (ft)			75		80	
Base Capacity (vph)	547	530	288	1702	313	1682
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.03	0.19	0.40	0.05	0.42

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	111	29	5	5	3	47	558	22	14	396	214
Future Volume (vph)	64	111	29	5	5	3	47	558	22	14	396	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	10	11	11	11	11	11
Total Lost time (s)		6.0			6.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		0.99			1.00		0.99	1.00		0.99	1.00	
Frt		0.98			0.97		1.00	0.99		1.00	0.95	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1529			1513		1455	3195		1512	2994	
Flt Permitted		0.89			0.88		0.35	1.00		0.37	1.00	
Satd. Flow (perm)		1389			1362		542	3195		591	2994	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	74	129	34	6	6	3	55	649	26	16	460	249
RTOR Reduction (vph)	0	9	0	0	2	0	0	4	0	0	93	0
Lane Group Flow (vph)	0	228	0	0	13	0	55	671	0	16	616	0
Confl. Peds. (#/hr)	42		14	14		42	34		23	23		34
Confl. Bikes (#/hr)			2			2			3			
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.6			19.6		35.4	35.4		35.4	35.4	
Effective Green, g (s)		19.6			19.6		35.4	35.4		35.4	35.4	
Actuated g/C Ratio		0.29			0.29		0.53	0.53		0.53	0.53	
Clearance Time (s)		6.0			6.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		4.0			4.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		409			401		288	1700		314	1593	
v/s Ratio Prot								c0.21			0.21	
v/s Ratio Perm		c0.16			0.01		0.10			0.03		
v/c Ratio		0.56			0.03		0.19	0.39		0.05	0.39	
Uniform Delay, d1		19.8			16.7		8.1	9.2		7.5	9.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0			0.0		0.7	0.3		0.1	0.3	
Delay (s)		21.8			16.7		8.8	9.5		7.6	9.5	
Level of Service		C			B		A	A		A	A	
Approach Delay (s/veh)		21.8			16.7			9.5			9.4	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	66.5	Sum of lost time (s)	11.5
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 (veh/h)	64	111	29	5	5	3	47	558	22	14	396	214
Future Volume (veh/h)	64	111	29	5	5	3	47	558	22	14	396	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.95		0.94	0.97		0.94	0.99		0.95	0.99		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	74	129	24	6	6	1	55	649	21	16	460	141
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	167	245	40	216	188	27	488	1859	60	459	1412	428
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	358	972	157	523	747	106	802	3300	107	753	2507	761
Grp Volume(v), veh/h	227	0	0	13	0	0	55	346	324	16	322	279
Grp Sat Flow(s),veh/h/ln	1487	0	0	1376	0	0	802	1763	1644	753	1763	1505
Q Serve(g_s), s	4.4	0.0	0.0	0.0	0.0	0.0	2.5	6.6	6.6	0.7	6.1	6.2
Cycle Q Clear(g_c), s	8.1	0.0	0.0	0.4	0.0	0.0	8.6	6.6	6.6	7.4	6.1	6.2
Prop In Lane	0.33		0.11	0.46		0.08	1.00		0.06	1.00		0.51
Lane Grp Cap(c), veh/h	451	0	0	431	0	0	488	993	926	459	993	848
V/C Ratio(X)	0.50	0.00	0.00	0.03	0.00	0.00	0.11	0.35	0.35	0.03	0.32	0.33
Avail Cap(c_a), veh/h	669	0	0	628	0	0	488	993	926	459	993	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	0.0	17.5	0.0	0.0	9.6	7.4	7.4	9.4	7.2	7.3
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.5	0.1	0.4	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	0.1	0.0	0.0	0.4	2.0	1.9	0.1	1.9	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.6	0.0	0.0	17.6	0.0	0.0	9.8	7.8	7.9	9.4	7.7	7.8
LnGrp LOS	C			B			A	A	A	A	A	A
Approach Vol, veh/h		227			13			725			617	
Approach Delay, s/veh		21.6			17.6			8.0			7.7	
Approach LOS		C			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	40.5	21.6	40.5	21.6
Change Period (Y+Rc), s	5.5	6.0	5.5	6.0
Max Green Setting (Gmax), s	35.0	25.0	35.0	25.0
Max Q Clear Time (g_c+I1), s	10.6	10.1	9.4	2.4
Green Ext Time (p_c), s	8.6	1.6	7.4	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	9.9
HCM 7th LOS	A

Notes

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

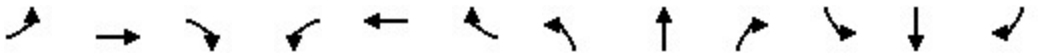
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	202	469	91	554	488	446
v/c Ratio	0.74	0.35	0.55	0.56	0.55	0.52
Control Delay (s/veh)	49.8	19.1	50.2	26.0	23.6	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	49.8	19.1	50.2	26.0	23.6	20.6
Queue Length 50th (ft)	89	77	41	107	91	71
Queue Length 95th (ft)	195	158	102	205	161	134
Internal Link Dist (ft)		2554		2157	2447	1844
Turn Bay Length (ft)	200		250			
Base Capacity (vph)	420	1578	315	1318	1125	1067
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.30	0.29	0.42	0.43	0.42

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	433	3	85	475	40	8	327	118	33	242	140
Future Volume (vph)	188	433	3	85	475	40	8	327	118	33	242	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.0	5.8		4.0	5.8			5.8			5.8	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frpb, ped/bikes	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	
Frt	1.00	1.00		1.00	0.99			0.96			0.95	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1525	3215		1525	3176			3066			3020	
Flt Permitted	0.95	1.00		0.95	1.00			0.94			0.88	
Satd. Flow (perm)	1525	3215		1525	3176			2897			2667	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	202	466	3	91	511	43	9	352	127	35	260	151
RTOR Reduction (vph)	0	1	0	0	7	0	0	38	0	0	70	0
Lane Group Flow (vph)	202	468	0	91	547	0	0	450	0	0	376	0
Confl. Peds. (#/hr)			10			11	13		21	21		13
Confl. Bikes (#/hr)			4			1			4			
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	13.9	32.1		7.1	25.3			22.8			22.8	
Effective Green, g (s)	13.9	32.1		7.1	25.3			22.8			22.8	
Actuated g/C Ratio	0.18	0.41		0.09	0.33			0.29			0.29	
Clearance Time (s)	4.0	5.8		4.0	5.8			5.8			5.8	
Vehicle Extension (s)	1.5	6.5		1.0	6.5			6.0			6.0	
Lane Grp Cap (vph)	273	1329		139	1035			851			783	
v/s Ratio Prot	c0.13	0.15		0.06	c0.17							
v/s Ratio Perm								c0.16			0.14	
v/c Ratio	0.74	0.35		0.65	0.53			0.53			0.48	
Uniform Delay, d1	30.1	15.6		34.1	21.3			22.9			22.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	8.7	0.5		8.2	1.4			1.5			1.3	
Delay (s)	38.9	16.1		42.2	22.7			24.4			23.8	
Level of Service	D	B		D	C			C			C	
Approach Delay (s/veh)		23.0			25.4			24.4			23.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	77.6	Sum of lost time (s)	15.6
Intersection Capacity Utilization	78.9%	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 (veh/h)	188	433	3	85	475	40	8	327	118	33	242	140
Future Volume (veh/h)	188	433	3	85	475	40	8	327	118	33	242	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.99		0.96	0.99		0.98
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	202	466	2	91	511	35	9	352	87	35	260	78
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	251	1347	6	116	1010	69	70	701	168	113	617	177
Arrive On Green	0.14	0.39	0.39	0.07	0.32	0.32	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1767	3415	15	1767	3171	217	21	2580	618	150	2270	652
Grp Volume(v), veh/h	202	240	228	91	283	263	254	0	194	207	0	166
Grp Sat Flow(s),veh/h/ln	1767	1763	1667	1767	1763	1625	1839	0	1380	1689	0	1384
Q Serve(g_s), s	6.4	5.6	5.6	3.0	7.6	7.6	0.0	0.0	6.9	0.0	0.0	5.8
Cycle Q Clear(g_c), s	6.4	5.6	5.6	3.0	7.6	7.6	6.7	0.0	6.9	7.0	0.0	5.8
Prop In Lane	1.00		0.01	1.00		0.13	0.04		0.45	0.17		0.47
Lane Grp Cap(c), veh/h	251	695	658	116	562	518	563	0	375	531	0	376
V/C Ratio(X)	0.81	0.35	0.35	0.78	0.50	0.51	0.45	0.00	0.52	0.39	0.00	0.44
Avail Cap(c_a), veh/h	607	909	859	456	909	838	848	0	593	782	0	595
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.2	12.4	12.4	26.8	16.1	16.1	17.9	0.0	18.0	17.4	0.0	17.5
Incr Delay (d2), s/veh	2.3	1.4	1.4	4.3	3.2	3.5	2.0	0.0	4.0	1.7	0.0	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.2	2.1	1.3	3.2	3.1	2.9	0.0	2.4	2.3	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.5	13.7	13.8	31.0	19.3	19.6	19.9	0.0	22.0	19.1	0.0	20.5
LnGrp LOS	C	B	B	C	B	B	B		C	B		C
Approach Vol, veh/h		670			637			448			373	
Approach Delay, s/veh		17.6			21.1			20.8			19.7	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	28.8		21.6	12.3	24.3		21.6				
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8				
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		25.0				
Max Q Clear Time (g_c+I1), s	5.0	7.6		9.0	8.4	9.6		8.9				
Green Ext Time (p_c), s	0.0	7.1		4.3	0.1	8.0		5.1				

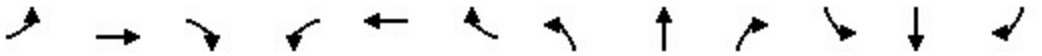
Intersection Summary		
HCM 7th Control Delay, s/veh	19.7	
HCM 7th LOS	B	

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	40	790	108	723	197	356	94	68	535
v/c Ratio	0.39	0.71	0.62	0.55	0.74	0.59	0.19	0.49	0.70
Control Delay (s/veh)	68.1	37.6	68.0	29.6	65.5	39.1	32.3	66.6	45.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	68.1	37.6	68.0	29.6	65.5	39.1	32.3	66.6	45.8
Queue Length 50th (ft)	28	258	75	216	132	210	47	47	184
Queue Length 95th (ft)	78	404	162	333	#321	410	115	114	302
Internal Link Dist (ft)		1736		1055		1020			627
Turn Bay Length (ft)	110		120		210			70	
Base Capacity (vph)	312	1525	312	1571	312	667	558	312	1175
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.52	0.35	0.46	0.63	0.53	0.17	0.22	0.46

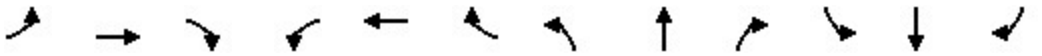
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	623	135	104	612	82	189	342	90	65	484	30
Future Volume (vph)	38	623	135	104	612	82	189	342	90	65	484	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		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	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1694	3288		1694	3318		1694	1783	1492	1694	3187	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1694	3288		1694	3318		1694	1783	1492	1694	3187	
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)	40	649	141	108	638	85	197	356	94	68	504	31
RTOR Reduction (vph)	0	13	0	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	40	777	0	108	716	0	197	356	94	68	535	0
Confl. Peds. (#/hr)			2			2			1			1
Confl. Bikes (#/hr)			3						4			5
Parking (#/hr)						0					0	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	5.8	38.5		11.6	44.3		17.7	37.9	37.9	7.9	28.1	
Effective Green, g (s)	5.8	38.5		11.6	44.3		17.7	37.9	37.9	7.9	28.1	
Actuated g/C Ratio	0.05	0.34		0.10	0.39		0.16	0.33	0.33	0.07	0.25	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	1.5	5.0		1.5	5.0		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	86	1111		172	1290		263	593	496	117	786	
v/s Ratio Prot	0.02	c0.24		c0.06	0.22		c0.12	0.20		0.04	c0.17	
v/s Ratio Perm									0.06			
v/c Ratio	0.47	0.70		0.63	0.56		0.75	0.60	0.19	0.58	0.68	
Uniform Delay, d1	52.5	32.7		49.1	27.1		46.0	31.7	27.1	51.4	38.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	2.5		5.1	0.9		9.8	2.0	0.3	4.7	2.6	
Delay (s)	54.0	35.2		54.2	28.0		55.8	33.7	27.3	56.1	41.5	
Level of Service	D	D		D	C		E	C	C	E	D	
Approach Delay (s/veh)		36.1			31.4			39.5			43.1	
Approach LOS		D			C			D			D	

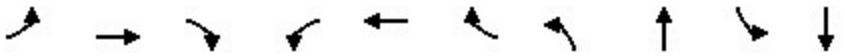
Intersection Summary			
HCM 2000 Control Delay (s/veh)	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	113.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	623	135	104	612	82	189	342	90	65	484	30
Future Volume (veh/h)	38	623	135	104	612	82	189	342	90	65	484	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	40	649	127	108	638	78	197	356	94	68	504	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	51	1029	201	137	1199	146	235	578	482	88	729	45
Arrive On Green	0.03	0.35	0.35	0.08	0.40	0.40	0.13	0.31	0.31	0.05	0.23	0.23
Sat Flow, veh/h	1767	2932	573	1767	3000	366	1767	1856	1548	1767	3197	196
Grp Volume(v), veh/h	40	390	386	108	374	342	197	356	94	68	277	258
Grp Sat Flow(s),veh/h/ln	1767	1763	1742	1767	1763	1603	1767	1856	1548	1767	1763	1630
Q Serve(g_s), s	1.9	15.8	15.8	5.1	13.8	13.9	9.3	14.0	3.8	3.3	12.3	12.4
Cycle Q Clear(g_c), s	1.9	15.8	15.8	5.1	13.8	13.9	9.3	14.0	3.8	3.3	12.3	12.4
Prop In Lane	1.00		0.33	1.00		0.23	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	51	618	611	137	705	641	235	578	482	88	402	372
V/C Ratio(X)	0.79	0.63	0.63	0.79	0.53	0.53	0.84	0.62	0.20	0.77	0.69	0.69
Avail Cap(c_a), veh/h	413	1031	1018	413	1031	937	413	868	724	413	825	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	23.1	23.2	38.7	19.6	19.6	36.2	25.1	21.6	40.2	30.2	30.3
Incr Delay (d2), s/veh	9.6	2.3	2.3	3.7	1.3	1.5	3.1	1.5	0.3	5.3	3.0	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.6	6.5	2.3	5.6	5.1	4.1	6.1	1.4	1.5	5.5	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.9	25.4	25.5	42.5	20.9	21.0	39.2	26.6	21.9	45.5	33.2	33.5
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		816			824			647			603	
Approach Delay, s/veh		26.7			23.8			29.8			34.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	35.0	15.4	24.5	6.5	39.2	8.3	31.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	20.0	50.0	20.0	40.0	20.0	50.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	7.1	17.8	11.3	14.4	3.9	15.9	5.3	16.0
Green Ext Time (p_c), s	0.1	10.6	0.2	5.0	0.0	9.7	0.1	3.5

Intersection Summary	
HCM 7th Control Delay, s/veh	28.2
HCM 7th LOS	C



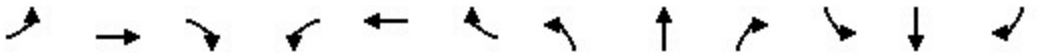
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	238	47	288	219	26	80	891	43	705
v/c Ratio	0.10	0.63	0.12	0.61	0.33	0.05	0.27	0.71	0.19	0.65
Control Delay (s/veh)	15.9	40.5	0.7	22.1	23.0	0.2	18.2	27.3	17.8	30.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.9	40.5	0.7	22.1	23.0	0.2	18.2	27.3	17.8	30.0
Queue Length 50th (ft)	11	119	0	103	93	0	23	205	12	169
Queue Length 95th (ft)	29	223	0	175	164	0	64	#399	40	309
Internal Link Dist (ft)		687			456			975		1020
Turn Bay Length (ft)	90		190	170		260	110		170	
Base Capacity (vph)	541	645	562	604	869	683	422	1255	399	1155
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.37	0.08	0.48	0.25	0.04	0.19	0.71	0.11	0.61

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	228	45	276	210	25	77	561	295	41	633	44
Future Volume (vph)	34	228	45	276	210	25	77	561	295	41	633	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	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	0.95		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1678	1783	1328	1692	1783	1315	1693	3178		1694	3180	
Flt Permitted	0.62	1.00	1.00	0.37	1.00	1.00	0.23	1.00		0.19	1.00	
Satd. Flow (perm)	1098	1783	1328	658	1783	1315	417	3178		334	3180	
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)	35	238	47	288	219	26	80	584	307	43	659	46
RTOR Reduction (vph)	0	0	36	0	0	17	0	49	0	0	4	0
Lane Group Flow (vph)	35	238	11	288	219	9	80	842	0	43	701	0
Confl. Peds. (#/hr)	19		6	6		19	5		5	5		5
Confl. Bikes (#/hr)			8			5			2			3
Parking (#/hr)			0			0					0	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	23.5	20.1	20.1	38.9	31.5	31.5	38.6	32.6		33.8	30.2	
Effective Green, g (s)	23.5	20.1	20.1	38.9	31.5	31.5	38.6	32.6		33.8	30.2	
Actuated g/C Ratio	0.26	0.23	0.23	0.44	0.35	0.35	0.43	0.37		0.38	0.34	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0		4.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.5	4.0	4.0	2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	311	402	299	459	630	464	266	1162		181	1077	
v/s Ratio Prot	0.00	0.13		c0.10	0.12		c0.02	c0.26		0.01	0.22	
v/s Ratio Perm	0.03		0.01	c0.17		0.01	0.11			0.08		
v/c Ratio	0.11	0.59	0.04	0.63	0.35	0.02	0.30	0.72		0.24	0.65	
Uniform Delay, d1	24.7	30.8	26.9	17.7	21.2	18.7	16.0	24.4		18.6	25.0	
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	0.1	2.7	0.1	2.3	0.5	0.0	0.2	2.4		0.2	1.6	
Delay (s)	24.7	33.6	27.0	20.1	21.7	18.8	16.3	26.8		18.8	26.6	
Level of Service	C	C	C	C	C	B	B	C		B	C	
Approach Delay (s/veh)		31.6			20.7			25.9			26.1	
Approach LOS		C			C			C			C	

Intersection Summary					
HCM 2000 Control Delay (s/veh)	25.6	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	89.1	Sum of lost time (s)	18.0		
Intersection Capacity Utilization	72.2%	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 (veh/h)	34	228	45	276	210	25	77	561	295	41	633	44
Future Volume (veh/h)	34	228	45	276	210	25	77	561	295	41	633	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	35	238	10	288	219	8	80	584	256	43	659	42
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	378	380	276	483	629	465	296	802	351	234	1014	65
Arrive On Green	0.02	0.20	0.20	0.16	0.34	0.34	0.05	0.34	0.34	0.03	0.32	0.32
Sat Flow, veh/h	1767	1856	1348	1767	1856	1370	1767	2362	1034	1767	3186	203
Grp Volume(v), veh/h	35	238	10	288	219	8	80	436	404	43	364	337
Grp Sat Flow(s),veh/h/ln	1767	1856	1348	1767	1856	1370	1767	1763	1633	1767	1763	1626
Q Serve(g_s), s	1.0	7.7	0.4	7.8	5.8	0.3	2.0	14.3	14.3	1.1	11.7	11.7
Cycle Q Clear(g_c), s	1.0	7.7	0.4	7.8	5.8	0.3	2.0	14.3	14.3	1.1	11.7	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.12
Lane Grp Cap(c), veh/h	378	380	276	483	629	465	296	599	555	234	561	517
V/C Ratio(X)	0.09	0.63	0.04	0.60	0.35	0.02	0.27	0.73	0.73	0.18	0.65	0.65
Avail Cap(c_a), veh/h	742	846	615	878	846	625	616	804	744	592	804	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	23.9	21.0	15.5	16.3	14.5	15.1	19.1	19.1	15.9	19.3	19.3
Incr Delay (d2), s/veh	0.0	2.4	0.1	0.9	0.5	0.0	0.2	2.9	3.1	0.1	1.8	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.4	0.1	2.9	2.4	0.1	0.7	5.7	5.3	0.4	4.6	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.1	26.3	21.0	16.4	16.8	14.5	15.2	21.9	22.2	16.0	21.1	21.3
LnGrp LOS	C	C	C	B	B	B	B	C	C	B	C	C
Approach Vol, veh/h		283			515			920			744	
Approach Delay, s/veh		25.3			16.5			21.5			20.9	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	27.4	14.3	18.5	7.1	25.9	5.4	27.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	25.0	30.0	15.0	30.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	3.1	16.3	9.8	9.7	4.0	13.7	3.0	7.8
Green Ext Time (p_c), s	0.0	6.0	0.5	1.9	0.1	5.3	0.0	1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	20.7
HCM 7th LOS	C

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	191	1	956	57	929
v/c Ratio	0.01	0.57	0.02	0.45	0.52	0.56
Control Delay (s/veh)	0.0	30.7	46.0	2.4	86.4	30.4
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay (s/veh)	0.0	30.7	46.0	2.5	86.4	30.4
Queue Length 50th (ft)	0	63	1	23	53	298
Queue Length 95th (ft)	0	168	m1	28	114	533
Internal Link Dist (ft)	150	270		218		975
Turn Bay Length (ft)			70		270	
Base Capacity (vph)	413	393	183	2238	428	1982
Starvation Cap Reductn	0	0	0	220	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.49	0.01	0.47	0.13	0.47

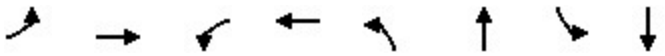
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	88	0	97	1	891	36	55	901	0
Future Volume (vph)	2	0	2	88	0	97	1	891	36	55	901	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	5.5		5.0	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			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	
Frt		0.93			0.93		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1610			1616		1694	3364		1694	3388	
Flt Permitted		0.91			0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1495			1401		1694	3364		1694	3388	
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)	2	0	2	91	0	100	1	919	37	57	929	0
RTOR Reduction (vph)	0	3	0	0	96	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	95	0	1	955	0	57	929	0
Confl. Peds. (#/hr)			2	2					3	3		
Confl. Bikes (#/hr)									4			1
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			4		11	6 8		5	2	
Permitted Phases	4			4								
Actuated Green, G (s)		24.1			24.1		1.0	89.2		7.7	69.0	
Effective Green, g (s)		24.1			24.1		1.0	89.2		7.7	69.0	
Actuated g/C Ratio		0.16			0.16		0.01	0.61		0.05	0.47	
Clearance Time (s)		5.0			5.0		4.0			5.0	5.5	
Vehicle Extension (s)		3.5			3.5		1.5			2.0	6.0	
Lane Grp Cap (vph)		245			229		11	2041		88	1590	
v/s Ratio Prot							c0.00	c0.28		c0.03	c0.27	
v/s Ratio Perm		0.00			c0.07							
v/c Ratio		0.00			0.41		0.09	0.47		0.65	0.58	
Uniform Delay, d1		51.4			55.1		72.5	15.9		68.3	28.5	
Progression Factor		1.00			1.00		0.60	0.20		1.00	1.00	
Incremental Delay, d2		0.0			1.4		1.1	0.4		11.6	1.1	
Delay (s)		51.4			56.6		44.5	3.6		80.0	29.6	
Level of Service		D			E		D	A		E	C	
Approach Delay (s/veh)		51.4			56.6			3.6			32.5	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	147.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Edition methodology does not support clustered intersections.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	55	1	2	16	854	7	1118
v/c Ratio	0.24	0.17	0.00	0.01	0.25	0.58	0.13	0.48
Control Delay (s/veh)	55.1	1.2	52.0	43.0	82.7	35.9	55.0	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay (s/veh)	55.1	1.2	52.0	43.0	82.7	35.9	55.0	2.4
Queue Length 50th (ft)	48	0	1	1	15	324	7	20
Queue Length 95th (ft)	105	0	7	10	46	515	m17	31
Internal Link Dist (ft)		3515		196		1175		218
Turn Bay Length (ft)	60				110		80	
Base Capacity (vph)	323	386	323	413	183	1466	183	2513
Starvation Cap Reductn	0	0	0	0	0	0	0	384
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.14	0.00	0.00	0.09	0.58	0.04	0.53

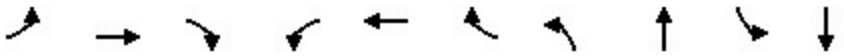
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	0	23	1	1	1	15	783	3	6	963	65
Future Volume (vph)	80	0	23	1	1	1	15	783	3	6	963	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		4.0	5.5		4.0	5.5	
Lane Util. Factor	0.95	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	0.97		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1605	1358		1692	1633		1694	3386		1694	3350	
Flt Permitted	0.76	0.86		0.72	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1278	1197		1281	1633		1694	3386		1694	3350	
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)	87	0	25	1	1	1	16	851	3	7	1047	71
RTOR Reduction (vph)	0	45	0	0	1	0	0	0	0	0	2	0
Lane Group Flow (vph)	57	10	0	1	1	0	16	854	0	7	1116	0
Confl. Peds. (#/hr)	2		1	1		2			3			2
Confl. Bikes (#/hr)			19			4			5			3
Parking (#/hr)		0	0									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			8		1	6		9	2 4	
Permitted Phases	8			8								
Actuated Green, G (s)	26.5	26.5		26.5	26.5		2.4	62.7		1.0	93.1	
Effective Green, g (s)	26.5	26.5		26.5	26.5		2.4	62.7		1.0	93.1	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.02	0.43		0.01	0.63	
Clearance Time (s)	5.5	5.5		5.5	5.5		4.0	5.5		4.0		
Vehicle Extension (s)	3.5	3.5		3.5	3.5		1.5	6.0		1.5		
Lane Grp Cap (vph)	230	215		230	294		27	1444		11	2121	
v/s Ratio Prot					0.00		c0.01	c0.25		c0.00	c0.33	
v/s Ratio Perm	c0.04	0.01		0.00								
v/c Ratio	0.25	0.05		0.00	0.00		0.59	0.59		0.64	0.53	
Uniform Delay, d1	51.7	49.8		49.4	49.4		71.8	32.3		72.8	14.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.67	0.16	
Incremental Delay, d2	0.7	0.1		0.0	0.0		21.0	1.2		60.2	0.5	
Delay (s)	52.4	49.9		49.4	49.4		92.9	33.5		109.1	2.8	
Level of Service	D	D		D	D		F	C		F	A	
Approach Delay (s/veh)		51.2			49.4			34.6			3.5	
Approach LOS		D			D			C			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	147.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Edition methodology does not support clustered intersections.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	185	107	320	167	228	90	950	185	838
v/c Ratio	0.08	0.67	0.33	0.77	0.38	0.42	0.49	0.71	1.28	0.62
Control Delay (s/veh)	36.6	51.4	10.5	46.9	32.9	6.6	36.3	26.2	195.2	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.6	51.4	10.5	46.9	32.9	6.6	36.3	26.2	195.2	26.0
Queue Length 50th (ft)	10	107	0	179	84	0	39	224	~144	204
Queue Length 95th (ft)	34	193	47	298	153	56	#125	386	#328	346
Internal Link Dist (ft)		1311			1321			533		1175
Turn Bay Length (ft)	100		100	100			100		100	
Base Capacity (vph)	538	566	545	547	576	635	183	1337	145	1357
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.33	0.20	0.59	0.29	0.36	0.49	0.71	1.28	0.62

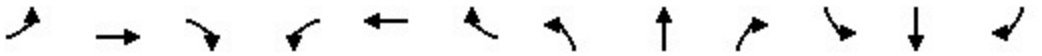
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	174	101	301	157	214	85	588	305	174	763	24
Future Volume (vph)	19	174	101	301	157	214	85	588	305	174	763	24
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	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	1783	1482	1694	1783	1489	1692	3038		1694	3201	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.24	1.00		0.19	1.00	
Satd. Flow (perm)	1694	1783	1482	1694	1783	1489	432	3038		344	3201	
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)	20	185	107	320	167	228	90	626	324	185	812	26
RTOR Reduction (vph)	0	0	90	0	0	172	0	50	0	0	2	0
Lane Group Flow (vph)	20	185	17	320	167	56	90	900	0	185	836	0
Confl. Peds. (#/hr)						2	3		1	1		3
Confl. Bikes (#/hr)			7			4			5			2
Parking (#/hr)								0	0		0	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	8	8		4	4			6			2	
Permitted Phases			8			4	6			2		
Actuated Green, G (s)	14.9	14.9	14.9	23.5	23.5	23.5	40.6	40.6		40.6	40.6	
Effective Green, g (s)	14.9	14.9	14.9	23.5	23.5	23.5	40.6	40.6		40.6	40.6	
Actuated g/C Ratio	0.16	0.16	0.16	0.25	0.25	0.25	0.43	0.43		0.43	0.43	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	2.5	2.5	2.5	3.0	3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	264	278	231	416	438	366	183	1291		146	1360	
v/s Ratio Prot	0.01	c0.10		c0.19	0.09			0.30			0.26	
v/s Ratio Perm			0.01			0.04	0.21			c0.54		
v/c Ratio	0.08	0.67	0.07	0.77	0.38	0.15	0.49	0.70		1.27	0.61	
Uniform Delay, d1	34.4	38.0	34.4	33.5	30.0	28.2	20.0	22.4		27.5	21.4	
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	0.1	5.3	0.1	8.3	0.6	0.2	3.6	1.9		163.3	1.1	
Delay (s)	34.5	43.3	34.5	41.8	30.5	28.4	23.5	24.4		190.7	22.4	
Level of Service	C	D	C	D	C	C	C	C		F	C	
Approach Delay (s/veh)		39.7			34.9			24.3			52.9	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	95.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	174	101	301	157	214	85	588	305	174	763	24
Future Volume (veh/h)	19	174	101	301	157	214	85	588	305	174	763	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	185	10	320	167	43	90	626	265	185	812	24
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	227	238	197	386	405	337	271	1053	445	243	1533	45
Arrive On Green	0.13	0.13	0.13	0.22	0.22	0.22	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1767	1856	1535	1767	1856	1543	652	2277	963	619	3314	98
Grp Volume(v), veh/h	20	185	10	320	167	43	90	485	406	185	432	404
Grp Sat Flow(s),veh/h/ln	1767	1856	1535	1767	1856	1543	652	1763	1478	619	1763	1649
Q Serve(g_s), s	0.9	8.3	0.5	14.9	6.7	1.9	9.9	17.6	17.6	22.4	15.1	15.1
Cycle Q Clear(g_c), s	0.9	8.3	0.5	14.9	6.7	1.9	25.0	17.6	17.6	40.0	15.1	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.65	1.00		0.06
Lane Grp Cap(c), veh/h	227	238	197	386	405	337	271	815	683	243	815	763
V/C Ratio(X)	0.09	0.78	0.05	0.83	0.41	0.13	0.33	0.59	0.59	0.76	0.53	0.53
Avail Cap(c_a), veh/h	613	644	532	613	644	535	271	815	683	243	815	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	36.5	33.1	32.3	29.0	27.2	25.4	17.2	17.2	33.6	16.6	16.6
Incr Delay (d2), s/veh	0.1	4.0	0.1	5.3	0.7	0.2	1.2	1.6	1.9	14.5	1.0	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.0	0.2	6.6	2.9	0.7	1.6	6.9	5.8	4.8	5.8	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.4	40.5	33.1	37.6	29.7	27.3	26.7	18.8	19.1	48.1	17.6	17.6
LnGrp LOS	C	D	C	D	C	C	C	B	B	D	B	B
Approach Vol, veh/h		215			530			981			1021	
Approach Delay, s/veh		39.5			34.3			19.7			23.1	
Approach LOS		D			C			B			C	

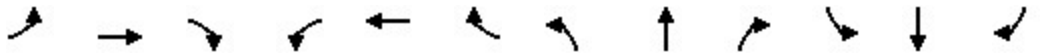
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.5		23.9		46.5		16.1				
Change Period (Y+Rc), s		6.5		5.0		6.5		5.0				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		42.0		16.9		27.0		10.3				
Green Ext Time (p_c), s		0.0		1.7		7.5		0.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	25.3	
HCM 7th LOS	C	

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

Lane Group	EBT	NBL	NBT	SBT
Lane Group Flow (vph)	162	27	943	1266
v/c Ratio	0.56	0.13	0.42	0.57
Control Delay (s/veh)	23.6	7.4	6.5	7.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.6	7.4	6.5	7.9
Queue Length 50th (ft)	36	3	74	114
Queue Length 95th (ft)	88	16	148	228
Internal Link Dist (ft)	2029		1464	533
Turn Bay Length (ft)		110		
Base Capacity (vph)	475	222	2346	2308
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.12	0.40	0.55

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	0	38	0	0	0	25	868	0	0	1033	132
Future Volume (vph)	111	0	38	0	0	0	25	868	0	0	1033	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5					6.5	6.5			6.5	
Lane Util. Factor		1.00					1.00	0.95			0.95	
Frpb, ped/bikes		0.99					1.00	1.00			1.00	
Flpb, ped/bikes		1.00					1.00	1.00			1.00	
Frt		0.97					1.00	1.00			0.98	
Flt Protected		0.96					0.95	1.00			1.00	
Satd. Flow (prot)		1651					1524	3219			3155	
Flt Permitted		0.78					0.19	1.00			1.00	
Satd. Flow (perm)		1337					304	3219			3155	
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)	121	0	41	0	0	0	27	943	0	0	1123	143
RTOR Reduction (vph)	0	47	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	115	0	0	0	0	27	943	0	0	1254	0
Confl. Peds. (#/hr)			5				4					4
Confl. Bikes (#/hr)			3									5
Parking (#/hr)	0		0				0	0			0	0
Turn Type	Perm	NA					Perm	NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6					
Actuated Green, G (s)		8.8					37.7	37.7			37.7	
Effective Green, g (s)		8.8					37.7	37.7			37.7	
Actuated g/C Ratio		0.15					0.66	0.66			0.66	
Clearance Time (s)		4.5					6.5	6.5			6.5	
Vehicle Extension (s)		3.0					5.0	5.0			5.0	
Lane Grp Cap (vph)		204					199	2110			2068	
v/s Ratio Prot								0.29			c0.40	
v/s Ratio Perm		c0.09					0.09					
v/c Ratio		0.57					0.14	0.45			0.61	
Uniform Delay, d1		22.6					3.7	4.8			5.7	
Progression Factor		1.00					1.00	1.00			1.00	
Incremental Delay, d2		3.6					0.7	0.3			0.7	
Delay (s)		26.1					4.4	5.1			6.4	
Level of Service		C					A	A			A	
Approach Delay (s/veh)		26.1			0.0			5.1			6.4	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	11.0
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	0	38	0	0	0	25	868	0	0	1033	132
Future Volume (veh/h)	111	0	38	0	0	0	25	868	0	0	1033	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	121	0	21	0	0	0	27	943	0	0	1123	131
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	292	4	27	0	265	0	328	2209	0	0	1885	219
Arrive On Green	0.14	0.00	0.14	0.00	0.00	0.00	0.63	0.63	0.00	0.00	0.63	0.63
Sat Flow, veh/h	1070	28	190	0	1856	0	439	3618	0	0	3101	350
Grp Volume(v), veh/h	142	0	0	0	0	0	27	943	0	0	657	597
Grp Sat Flow(s),veh/h/ln	1288	0	0	0	1856	0	439	1763	0	0	1763	1596
Q Serve(g_s), s	4.9	0.0	0.0	0.0	0.0	0.0	1.9	6.5	0.0	0.0	10.6	10.6
Cycle Q Clear(g_c), s	5.1	0.0	0.0	0.0	0.0	0.0	12.5	6.5	0.0	0.0	10.6	10.6
Prop In Lane	0.85		0.15	0.00		0.00	1.00		0.00	0.00		0.22
Lane Grp Cap(c), veh/h	323	0	0	0	265	0	328	2209	0	0	1105	1000
V/C Ratio(X)	0.44	0.00	0.00	0.00	0.00	0.00	0.08	0.43	0.00	0.00	0.59	0.60
Avail Cap(c_a), veh/h	625	0	0	0	701	0	422	2959	0	0	1480	1339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	0.0	0.0	0.0	0.0	9.0	4.5	0.0	0.0	5.3	5.3
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	1.1	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	0.0	0.0	0.0	0.2	1.3	0.0	0.0	2.3	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.6	0.0	0.0	0.0	0.0	0.0	9.3	4.8	0.0	0.0	6.4	6.5
LnGrp LOS	C						A	A			A	A
Approach Vol, veh/h		142			0			970			1254	
Approach Delay, s/veh		20.6			0.0			4.9			6.5	
Approach LOS		C						A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	36.4	11.3	36.4	11.3
Change Period (Y+Rc), s	6.5	4.5	6.5	4.5
Max Green Setting (Gmax), s	40.0	18.0	40.0	18.0
Max Q Clear Time (g_c+I1), s	12.6	0.0	14.5	7.1
Green Ext Time (p_c), s	17.2	0.0	13.1	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	6.7
HCM 7th LOS	A

Notes

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

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	128	36	36	917	14	1181
v/c Ratio	0.42	0.12	0.14	0.41	0.04	0.53
Control Delay (s/veh)	20.4	18.2	9.3	7.6	7.6	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.4	18.2	9.3	7.6	7.6	8.9
Queue Length 50th (ft)	32	10	4	64	1	93
Queue Length 95th (ft)	71	29	29	212	13	304
Internal Link Dist (ft)	1046	977		1312		1464
Turn Bay Length (ft)			70		100	
Base Capacity (vph)	575	588	261	2301	372	2289
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.06	0.14	0.40	0.04	0.52

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	21	35	17	13	4	33	829	15	13	1030	56
Future Volume (vph)	62	21	35	17	13	4	33	829	15	13	1030	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.99		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1490			1537		1693	3209		1692	3190	
Flt Permitted		0.82			0.83		0.20	1.00		0.29	1.00	
Satd. Flow (perm)		1249			1314		364	3209		519	3190	
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)	67	23	38	18	14	4	36	901	16	14	1120	61
RTOR Reduction (vph)	0	25	0	0	3	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	103	0	0	33	0	36	916	0	14	1177	0
Confl. Peds. (#/hr)	8		6	6		8	4		6	6		4
Confl. Bikes (#/hr)			1			1			4			2
Parking (#/hr)	0	0	0	0	0	0		0	0		0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		11.0			11.0		40.0	40.0		40.0	40.0	
Effective Green, g (s)		11.0			11.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio		0.18			0.18		0.66	0.66		0.66	0.66	
Clearance Time (s)		4.5			4.5		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.5			3.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		227			238		240	2121		343	2109	
v/s Ratio Prot								0.29			c0.37	
v/s Ratio Perm		c0.08			0.02		0.10			0.03		
v/c Ratio		0.45			0.14		0.15	0.43		0.04	0.56	
Uniform Delay, d1		22.1			20.8		3.9	4.9		3.6	5.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7			0.3		0.8	0.4		0.1	0.7	
Delay (s)		23.8			21.0		4.7	5.3		3.7	6.2	
Level of Service		C			C		A	A		A	A	
Approach Delay (s/veh)		23.8			21.0			5.2			6.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.5	Sum of lost time (s)	9.5
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	21	35	17	13	4	33	829	15	13	1030	56
Future Volume (veh/h)	62	21	35	17	13	4	33	829	15	13	1030	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	67	23	11	18	14	1	36	901	15	14	1120	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	245	72	24	214	129	7	365	2170	36	460	2085	106
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	765	452	149	622	817	45	472	3365	56	604	3234	164
Grp Volume(v), veh/h	101	0	0	33	0	0	36	472	444	14	610	567
Grp Sat Flow(s),veh/h/ln	1366	0	0	1483	0	0	472	1763	1658	604	1763	1635
Q Serve(g_s), s	2.1	0.0	0.0	0.0	0.0	0.0	2.2	6.3	6.3	0.6	9.1	9.1
Cycle Q Clear(g_c), s	3.1	0.0	0.0	0.8	0.0	0.0	11.3	6.3	6.3	6.8	9.1	9.1
Prop In Lane	0.66		0.11	0.55		0.03	1.00		0.03	1.00		0.10
Lane Grp Cap(c), veh/h	340	0	0	350	0	0	365	1137	1069	460	1137	1054
V/C Ratio(X)	0.30	0.00	0.00	0.09	0.00	0.00	0.10	0.42	0.42	0.03	0.54	0.54
Avail Cap(c_a), veh/h	817	0	0	645	0	0	451	1460	1373	571	1460	1354
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	0.0	17.4	0.0	0.0	7.7	4.2	4.2	5.8	4.7	4.7
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.1	0.0	0.0	0.4	0.9	0.9	0.1	1.4	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.3	0.0	0.0	0.2	1.3	1.3	0.1	2.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.9	0.0	0.0	17.6	0.0	0.0	8.1	5.0	5.1	5.9	6.1	6.2
LnGrp LOS	B			B			A	A	A	A	A	A
Approach Vol, veh/h		101			33			952			1191	
Approach Delay, s/veh		18.9			17.6			5.2			6.1	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	36.1	12.2	36.1	12.2
Change Period (Y+Rc), s	5.0	4.5	5.0	4.5
Max Green Setting (Gmax), s	40.0	18.0	40.0	25.0
Max Q Clear Time (g_c+I1), s	11.1	2.8	13.3	5.1
Green Ext Time (p_c), s	19.9	0.1	15.2	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	6.5
HCM 7th LOS	A

Notes

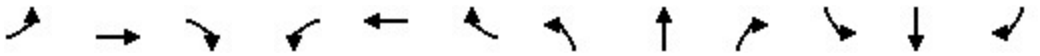
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	144	652	50	174	593	223	49	623	102	220	862
v/c Ratio	0.88	0.57	0.09	0.93	0.49	0.32	0.48	0.79	0.23	1.12	0.88
Control Delay (s/veh)	98.2	34.2	0.3	102.8	32.2	5.0	68.6	51.7	5.9	147.2	51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	98.2	34.2	0.3	102.8	32.2	5.0	68.6	51.7	5.9	147.2	51.5
Queue Length 50th (ft)	111	218	0	135	192	0	37	236	0	~195	329
Queue Length 95th (ft)	#228	285	0	#272	252	55	77	301	34	#355	#473
Internal Link Dist (ft)		1689			2015			1308			1312
Turn Bay Length (ft)	190		100	180		150	140		100	160	
Base Capacity (vph)	171	1146	570	190	1219	689	190	861	474	197	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.57	0.09	0.92	0.49	0.32	0.26	0.72	0.22	1.12	0.88

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

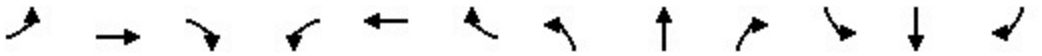
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	613	47	164	557	210	46	586	96	207	695	116
Future Volume (vph)	135	613	47	164	557	210	46	586	96	207	695	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	11	12	10	12	12	11	11	12
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.5	6.5	5.0	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.97	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	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
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)	1472	3219	1379	1636	3388	1520	1636	3505	1568	1694	3306	
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)	1472	3219	1379	1636	3388	1520	1636	3505	1568	1694	3306	
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)	144	652	50	174	593	223	49	623	102	220	739	123
RTOR Reduction (vph)	0	0	33	0	0	144	0	0	78	0	11	0
Lane Group Flow (vph)	144	652	17	174	593	79	49	623	24	220	851	0
Confl. Peds. (#/hr)			6			12						6
Confl. Bikes (#/hr)			7			9						2
Parking (#/hr)	0	0	0									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	13.3	41.8	41.8	13.8	42.3	42.3	6.7	27.9	27.9	14.0	35.2	
Effective Green, g (s)	13.3	41.8	41.8	13.8	42.3	42.3	6.7	27.9	27.9	14.0	35.2	
Actuated g/C Ratio	0.11	0.35	0.35	0.12	0.35	0.35	0.06	0.23	0.23	0.12	0.29	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.5	6.5	5.0	6.5	
Vehicle Extension (s)	1.5	4.0	4.0	1.5	4.0	4.0	1.5	4.0	4.0	1.5	4.0	
Lane Grp Cap (vph)	163	1121	480	188	1194	535	91	814	364	197	969	
v/s Ratio Prot	0.10	c0.20		c0.11	0.18		0.03	0.18		c0.13	c0.26	
v/s Ratio Perm			0.01			0.05			0.02			
v/c Ratio	0.88	0.58	0.04	0.93	0.50	0.15	0.54	0.77	0.07	1.12	0.88	
Uniform Delay, d1	52.6	32.0	25.8	52.6	30.5	26.5	55.1	43.0	35.9	53.0	40.4	
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	38.0	2.2	0.1	44.0	1.5	0.6	3.0	4.6	0.1	98.9	9.4	
Delay (s)	90.6	34.2	25.9	96.6	32.0	27.1	58.2	47.6	36.0	151.9	49.8	
Level of Service	F	C	C	F	C	C	E	D	D	F	D	
Approach Delay (s/veh)		43.3			42.2			46.7			70.5	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	51.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	613	47	164	557	210	46	586	96	207	695	116
Future Volume (veh/h)	135	613	47	164	557	210	46	586	96	207	695	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	144	652	15	174	593	70	49	623	19	220	739	111
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	170	1310	515	200	1370	595	63	744	332	206	895	134
Arrive On Green	0.10	0.37	0.37	0.11	0.39	0.39	0.04	0.21	0.21	0.12	0.29	0.29
Sat Flow, veh/h	1767	3526	1386	1767	3526	1531	1767	3526	1572	1767	3065	460
Grp Volume(v), veh/h	144	652	15	174	593	70	49	623	19	220	425	425
Grp Sat Flow(s),veh/h/ln	1767	1763	1386	1767	1763	1531	1767	1763	1572	1767	1763	1762
Q Serve(g_s), s	9.6	17.1	0.8	11.6	14.8	3.5	3.3	20.3	1.2	14.0	27.0	27.0
Cycle Q Clear(g_c), s	9.6	17.1	0.8	11.6	14.8	3.5	3.3	20.3	1.2	14.0	27.0	27.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	170	1310	515	200	1370	595	63	744	332	206	515	514
V/C Ratio(X)	0.85	0.50	0.03	0.87	0.43	0.12	0.78	0.84	0.06	1.07	0.83	0.83
Avail Cap(c_a), veh/h	206	1310	515	206	1370	595	206	867	387	206	515	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	0.96	0.96	0.96	0.83	0.83	0.83
Uniform Delay (d), s/veh	53.4	29.1	23.9	52.3	27.0	23.5	57.4	45.4	37.8	53.0	39.6	39.6
Incr Delay (d2), s/veh	18.1	1.2	0.1	28.7	1.0	0.4	7.2	6.7	0.1	76.0	9.3	9.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	7.3	0.3	6.7	6.3	1.3	1.6	9.5	0.5	10.5	12.8	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	71.5	30.3	24.0	81.1	28.0	23.9	64.6	52.1	37.9	129.0	49.0	49.0
LnGrp LOS	E	C	C	F	C	C	E	D	D	F	D	D
Approach Vol, veh/h		811			837			691			1070	
Approach Delay, s/veh		37.5			38.7			52.6			65.4	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	31.8	16.6	52.6	9.3	41.5	18.6	50.6
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0
Max Green Setting (Gmax), s	14.0	29.5	14.0	40.0	14.0	29.5	14.0	40.0
Max Q Clear Time (g_c+I1), s	16.0	22.3	11.6	16.8	5.3	29.0	13.6	19.1
Green Ext Time (p_c), s	0.0	3.0	0.0	5.9	0.0	0.3	0.0	6.0

Intersection Summary	
HCM 7th Control Delay, s/veh	49.6
HCM 7th LOS	D

Notes

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

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	38	35	788	27	880
v/c Ratio	0.23	0.13	0.08	0.31	0.06	0.36
Control Delay (s/veh)	12.6	11.3	6.1	5.0	6.1	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.6	11.3	6.1	5.0	6.1	5.4
Queue Length 50th (ft)	7	3	3	38	2	45
Queue Length 95th (ft)	32	22	20	132	17	154
Internal Link Dist (ft)	1467	309		1757		1308
Turn Bay Length (ft)			100		70	
Base Capacity (vph)	620	682	458	2700	437	2554
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.06	0.08	0.29	0.06	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	10	30	8	5	22	32	707	10	25	766	35
Future Volume (vph)	16	10	30	8	5	22	32	707	10	25	766	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12	11	11	12	10	11	11
Total Lost time (s)		4.5			4.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.93			0.91		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1456			1597		1692	3380		1470	3194	
Flt Permitted		0.89			0.90		0.32	1.00		0.35	1.00	
Satd. Flow (perm)		1312			1455		575	3380		547	3194	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	18	11	33	9	5	24	35	777	11	27	842	38
RTOR Reduction (vph)	0	29	0	0	21	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	33	0	0	17	0	35	787	0	27	876	0
Confl. Peds. (#/hr)	1		3	3		1	6		5	5		6
Confl. Bikes (#/hr)			1			1			3			4
Parking (#/hr)	0	0	0	0		0				0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		5.7			5.7		32.3	32.3		32.3	32.3	
Effective Green, g (s)		5.7			5.7		32.3	32.3		32.3	32.3	
Actuated g/C Ratio		0.12			0.12		0.67	0.67		0.67	0.67	
Clearance Time (s)		4.5			4.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		155			172		386	2274		368	2149	
v/s Ratio Prot								0.23			c0.27	
v/s Ratio Perm		c0.03			0.01		0.06			0.05		
v/c Ratio		0.21			0.10		0.09	0.35		0.07	0.41	
Uniform Delay, d1		19.1			18.9		2.7	3.3		2.7	3.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			0.2		0.2	0.2		0.2	0.3	
Delay (s)		19.8			19.1		2.9	3.5		2.9	3.8	
Level of Service		B			B		A	A		A	A	
Approach Delay (s/veh)		19.8			19.1			3.5			3.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	4.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	10	30	8	5	22	32	707	10	25	766	35
Future Volume (veh/h)	16	10	30	8	5	22	32	707	10	25	766	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	18	11	1	9	5	1	35	777	10	27	842	34
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	174	22	2	175	21	4	565	2561	33	608	2480	100
Arrive On Green	0.04	0.04	0.04	0.04	0.04	0.04	0.72	0.72	0.72	0.72	0.72	0.72
Sat Flow, veh/h	852	521	47	884	491	98	627	3563	46	682	3450	139
Grp Volume(v), veh/h	30	0	0	15	0	0	35	384	403	27	430	446
Grp Sat Flow(s),veh/h/ln	1420	0	0	1474	0	0	627	1763	1846	682	1763	1826
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	0.0	0.9	3.3	3.3	0.6	3.8	3.8
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.4	0.0	0.0	4.7	3.3	3.3	3.9	3.8	3.8
Prop In Lane	0.60		0.03	0.60		0.07	1.00		0.02	1.00		0.08
Lane Grp Cap(c), veh/h	198	0	0	201	0	0	565	1267	1327	608	1267	1313
V/C Ratio(X)	0.15	0.00	0.00	0.07	0.00	0.00	0.06	0.30	0.30	0.04	0.34	0.34
Avail Cap(c_a), veh/h	793	0	0	791	0	0	638	1470	1539	686	1470	1523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	0.0	19.4	0.0	0.0	3.1	2.1	2.1	2.8	2.2	2.2
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.3	0.3	0.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.2	0.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.0	0.0	0.0	19.6	0.0	0.0	3.2	2.4	2.4	2.9	2.5	2.5
LnGrp LOS	B			B			A	A	A	A	A	A
Approach Vol, veh/h		30			15			822			903	
Approach Delay, s/veh		20.0			19.6			2.4			2.5	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.7	6.3	35.7	6.3
Change Period (Y+Rc), s	5.5	4.5	5.5	4.5
Max Green Setting (Gmax), s	35.0	20.0	35.0	20.0
Max Q Clear Time (g_c+I1), s	6.7	2.8	5.9	2.4
Green Ext Time (p_c), s	10.7	0.1	12.1	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	2.9
HCM 7th LOS	A

Notes

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

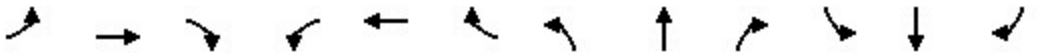
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	341	620	33	520	221	571
v/c Ratio	0.62	0.79	0.35	0.69	0.81	0.46
Control Delay (s/veh)	55.5	50.4	75.2	52.0	74.2	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.5	50.4	75.2	52.0	74.2	32.2
Queue Length 50th (ft)	141	228	27	213	179	194
Queue Length 95th (ft)	218	#412	73	322	#361	301
Internal Link Dist (ft)	1269	825		628		1757
Turn Bay Length (ft)			100		150	
Base Capacity (vph)	841	904	250	1110	363	1397
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.69	0.13	0.47	0.61	0.41

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	285	33	144	244	213	32	490	15	214	514	40
Future Volume (vph)	13	285	33	144	244	213	32	490	15	214	514	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	11	11	12	11	11	12	10	11	11
Total Lost time (s)		6.0			6.0		4.0	6.0		4.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.95		1.00	1.00		1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3325			2994		1694	3371		1472	3179	
Flt Permitted		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3325			2994		1694	3371		1472	3179	
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)	13	294	34	148	252	220	33	505	15	221	530	41
RTOR Reduction (vph)	0	6	0	0	46	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	335	0	0	574	0	33	518	0	221	568	0
Confl. Peds. (#/hr)			5			4			8			8
Confl. Bikes (#/hr)			1						1			5
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	0	0	0	0
Parking (#/hr)				0	0	0				0	0	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)		20.8			31.3		4.6	30.2		23.6	49.2	
Effective Green, g (s)		20.8			31.3		4.6	30.2		23.6	49.2	
Actuated g/C Ratio		0.16			0.24		0.04	0.24		0.18	0.38	
Clearance Time (s)		6.0			6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		4.0			4.5		2.0	4.5		2.0	4.5	
Lane Grp Cap (vph)		540			732		60	795		271	1222	
v/s Ratio Prot		c0.10			c0.19		0.02	c0.15		c0.15	0.18	
v/s Ratio Perm												
v/c Ratio		0.62			0.78		0.55	0.65		0.82	0.46	
Uniform Delay, d1		49.9			45.1		60.6	44.1		50.1	29.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.5			6.1		6.1	2.3		16.2	0.5	
Delay (s)		52.4			51.3		66.7	46.4		66.2	30.0	
Level of Service		D			D		E	D		E	C	
Approach Delay (s/veh)		52.4			51.3			47.7			40.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	127.9	Sum of lost time (s)	22.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	285	33	144	244	213	32	490	15	214	514	40
Future Volume (veh/h)	13	285	33	144	244	213	32	490	15	214	514	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	13	294	28	148	252	173	33	505	0	221	530	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	21	473	45	209	355	241	41	795		258	1228	
Arrive On Green	0.15	0.15	0.15	0.24	0.24	0.24	0.02	0.23	0.00	0.15	0.35	0.00
Sat Flow, veh/h	142	3196	302	856	1450	986	1767	3618	0	1767	3618	0
Grp Volume(v), veh/h	169	0	166	313	0	260	33	505	0	221	530	0
Grp Sat Flow(s),veh/h/ln	1848	0	1793	1813	0	1480	1767	1763	0	1767	1763	0
Q Serve(g_s), s	8.0	0.0	8.1	14.7	0.0	15.0	1.7	12.1	0.0	11.4	10.8	0.0
Cycle Q Clear(g_c), s	8.0	0.0	8.1	14.7	0.0	15.0	1.7	12.1	0.0	11.4	10.8	0.0
Prop In Lane	0.08		0.17	0.47		0.67	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	274	0	265	443	0	362	41	795		258	1228	
V/C Ratio(X)	0.62	0.00	0.63	0.71	0.00	0.72	0.81	0.63		0.86	0.43	
Avail Cap(c_a), veh/h	595	0	577	680	0	556	341	1512		569	1512	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.2	0.0	37.3	32.2	0.0	32.3	45.3	32.6	0.0	38.9	23.3	0.0
Incr Delay (d2), s/veh	3.2	0.0	3.4	3.5	0.0	4.5	12.9	1.4	0.0	3.2	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	3.8	6.7	0.0	5.6	0.9	5.2	0.0	5.0	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.5	0.0	40.7	35.7	0.0	36.8	58.3	34.1	0.0	42.1	23.7	0.0
LnGrp LOS	D		D	D		D	E	C		D	C	
Approach Vol, veh/h		335			573			538			751	
Approach Delay, s/veh		40.6			36.2			35.6			29.1	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	19.8	6.2	38.5	28.8	17.6	27.0
Change Period (Y+Rc), s	6.0	4.0	6.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	30.0	18.0	40.0	35.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	10.1	3.7	12.8	17.0	13.4	14.1
Green Ext Time (p_c), s	2.6	0.0	5.9	5.2	0.3	5.5

Intersection Summary	
HCM 7th Control Delay, s/veh	34.3
HCM 7th LOS	C

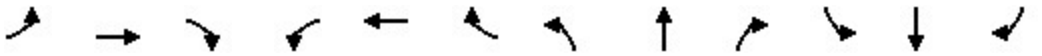
Notes

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

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

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	296	16	71	489	7	697
v/c Ratio	0.73	0.06	0.24	0.28	0.02	0.41
Control Delay (s/veh)	30.6	12.5	12.4	9.4	9.3	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.6	12.5	12.4	9.4	9.3	8.9
Queue Length 50th (ft)	97	3	14	50	1	63
Queue Length 95th (ft)	175	14	46	95	8	124
Internal Link Dist (ft)	2562	754		1844		628
Turn Bay Length (ft)			75		80	
Base Capacity (vph)	546	500	302	1724	408	1701
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.03	0.24	0.28	0.02	0.41

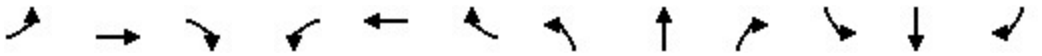
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	129	65	6	1	9	68	443	27	7	477	192
Future Volume (vph)	90	129	65	6	1	9	68	443	27	7	477	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	10	11	11	11	11	11
Total Lost time (s)		6.0			6.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.92		1.00	0.99		1.00	0.96	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1519			1435		1467	3185		1517	3053	
Flt Permitted		0.89			0.87		0.36	1.00		0.47	1.00	
Satd. Flow (perm)		1369			1275		560	3185		757	3053	
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)	94	134	68	6	1	9	71	461	28	7	497	200
RTOR Reduction (vph)	0	16	0	0	6	0	0	6	0	0	54	0
Lane Group Flow (vph)	0	280	0	0	10	0	71	483	0	7	643	0
Confl. Peds. (#/hr)	15		6	6		15	10		10	10		10
Confl. Bikes (#/hr)			3			1			2			3
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.5			18.5		35.2	35.2		35.2	35.2	
Effective Green, g (s)		18.5			18.5		35.2	35.2		35.2	35.2	
Actuated g/C Ratio		0.28			0.28		0.54	0.54		0.54	0.54	
Clearance Time (s)		6.0			6.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		4.0			4.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		388			361		302	1719		408	1648	
v/s Ratio Prot								0.15			c0.21	
v/s Ratio Perm		c0.20			0.01		0.13			0.01		
v/c Ratio		0.72			0.03		0.24	0.28		0.02	0.39	
Uniform Delay, d1		21.0			16.9		7.9	8.1		7.0	8.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		6.9			0.0		0.8	0.2		0.0	0.3	
Delay (s)		27.9			16.9		8.7	8.3		7.0	9.1	
Level of Service		C			B		A	A		A	A	
Approach Delay (s/veh)		27.9			16.9			8.4			9.0	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	65.2	Sum of lost time (s)	11.5
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	129	65	6	1	9	68	443	27	7	477	192
Future Volume (veh/h)	90	129	65	6	1	9	68	443	27	7	477	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	94	134	51	6	1	3	71	461	22	7	497	144
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	178	204	68	245	49	86	470	1825	87	557	1430	411
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	397	807	269	604	194	342	779	3245	154	901	2543	731
Grp Volume(v), veh/h	279	0	0	10	0	0	71	250	233	7	343	298
Grp Sat Flow(s),veh/h/ln	1473	0	0	1140	0	0	779	1763	1637	901	1763	1511
Q Serve(g_s), s	7.8	0.0	0.0	0.0	0.0	0.0	3.4	4.5	4.5	0.2	6.6	6.7
Cycle Q Clear(g_c), s	10.7	0.0	0.0	0.3	0.0	0.0	10.1	4.5	4.5	4.8	6.6	6.7
Prop In Lane	0.34		0.18	0.60		0.30	1.00		0.09	1.00		0.48
Lane Grp Cap(c), veh/h	450	0	0	381	0	0	470	991	920	557	991	850
V/C Ratio(X)	0.62	0.00	0.00	0.03	0.00	0.00	0.15	0.25	0.25	0.01	0.35	0.35
Avail Cap(c_a), veh/h	665	0	0	557	0	0	470	991	920	557	991	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	0.0	17.5	0.0	0.0	10.2	6.9	6.9	8.2	7.4	7.4
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.0	0.4	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	0.1	0.0	0.0	0.5	1.4	1.3	0.0	2.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.3	0.0	0.0	17.5	0.0	0.0	10.5	7.2	7.3	8.2	7.8	7.9
LnGrp LOS	C			B			B	A	A	A	A	A
Approach Vol, veh/h		279			10			554			648	
Approach Delay, s/veh		23.3			17.5			7.7			7.9	
Approach LOS		C			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	40.5	21.7	40.5	21.7
Change Period (Y+Rc), s	5.5	6.0	5.5	6.0
Max Green Setting (Gmax), s	35.0	25.0	35.0	25.0
Max Q Clear Time (g_c+I1), s	12.1	12.7	8.7	2.3
Green Ext Time (p_c), s	6.2	1.8	7.9	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	10.7
HCM 7th LOS	B

Notes

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

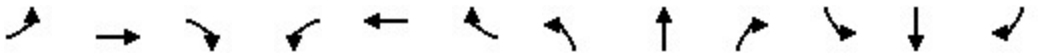
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	192	454	81	535	416	479
v/c Ratio	0.71	0.33	0.51	0.52	0.49	0.57
Control Delay (s/veh)	45.4	17.0	46.2	23.4	20.8	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.4	17.0	46.2	23.4	20.8	17.3
Queue Length 50th (ft)	79	68	34	94	64	56
Queue Length 95th (ft)	186	150	94	197	127	122
Internal Link Dist (ft)		2554		2157	2447	1844
Turn Bay Length (ft)	200		250			
Base Capacity (vph)	448	1668	336	1405	1166	1124
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.27	0.24	0.38	0.36	0.43

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	184	432	4	78	473	40	4	274	122	39	235	185
Future Volume (vph)	184	432	4	78	473	40	4	274	122	39	235	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.0	5.8		4.0	5.8			5.8			5.8	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frpb, ped/bikes	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	
Frt	1.00	1.00		1.00	0.99			0.95			0.94	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1525	3214		1525	3175			3070			2994	
Flt Permitted	0.95	1.00		0.95	1.00			0.95			0.88	
Satd. Flow (perm)	1525	3214		1525	3175			2917			2638	
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)	192	450	4	81	493	42	4	285	127	41	245	193
RTOR Reduction (vph)	0	1	0	0	7	0	0	55	0	0	131	0
Lane Group Flow (vph)	192	453	0	81	528	0	0	361	0	0	348	0
Confl. Peds. (#/hr)			4			4	1					1
Confl. Bikes (#/hr)			4			10						2
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	12.9	30.8		6.5	24.4			19.6			19.6	
Effective Green, g (s)	12.9	30.8		6.5	24.4			19.6			19.6	
Actuated g/C Ratio	0.18	0.42		0.09	0.34			0.27			0.27	
Clearance Time (s)	4.0	5.8		4.0	5.8			5.8			5.8	
Vehicle Extension (s)	1.5	6.5		1.0	6.5			6.0			6.0	
Lane Grp Cap (vph)	271	1365		136	1068			788			713	
v/s Ratio Prot	c0.13	0.14		0.05	c0.17							
v/s Ratio Perm								0.12			c0.13	
v/c Ratio	0.71	0.33		0.60	0.49			0.46			0.49	
Uniform Delay, d1	28.0	14.0		31.7	19.1			22.0			22.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	6.8	0.5		4.6	1.1			1.2			1.5	
Delay (s)	34.8	14.4		36.3	20.3			23.2			23.7	
Level of Service	C	B		D	C			C			C	
Approach Delay (s/veh)		20.5			22.4			23.2			23.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	72.5	Sum of lost time (s)	15.6
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	432	4	78	473	40	4	274	122	39	235	185
Future Volume (veh/h)	184	432	4	78	473	40	4	274	122	39	235	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	192	450	3	81	493	35	4	285	70	41	245	57
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	243	1391	9	102	1041	74	75	589	141	130	514	118
Arrive On Green	0.14	0.41	0.41	0.06	0.33	0.33	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1767	3406	23	1767	3163	224	10	2618	626	193	2287	524
Grp Volume(v), veh/h	192	233	220	81	274	254	202	0	157	189	0	154
Grp Sat Flow(s),veh/h/ln	1767	1763	1665	1767	1763	1624	1848	0	1406	1589	0	1416
Q Serve(g_s), s	5.3	4.5	4.6	2.3	6.2	6.3	0.0	0.0	4.9	0.3	0.0	4.8
Cycle Q Clear(g_c), s	5.3	4.5	4.6	2.3	6.2	6.3	4.8	0.0	4.9	5.2	0.0	4.8
Prop In Lane	1.00		0.01	1.00		0.14	0.02		0.44	0.22		0.37
Lane Grp Cap(c), veh/h	243	720	680	102	580	534	488	0	316	444	0	318
V/C Ratio(X)	0.79	0.32	0.32	0.79	0.47	0.48	0.41	0.00	0.50	0.43	0.00	0.48
Avail Cap(c_a), veh/h	700	1047	989	525	1047	964	982	0	696	869	0	700
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	10.2	10.2	23.5	13.5	13.5	17.0	0.0	17.1	16.9	0.0	17.0
Incr Delay (d2), s/veh	2.2	1.2	1.3	5.1	2.7	3.0	2.0	0.0	4.4	2.3	0.0	4.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	1.7	1.6	1.0	2.6	2.4	2.0	0.0	1.8	1.9	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.3	11.4	11.4	28.6	16.2	16.5	19.1	0.0	21.5	19.3	0.0	21.1
LnGrp LOS	C	B	B	C	B	B	B		C	B		C
Approach Vol, veh/h		645			609			359			343	
Approach Delay, s/veh		14.9			18.0			20.1			20.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	26.4		17.2	10.9	22.4		17.2				
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8				
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		25.0				
Max Q Clear Time (g_c+I1), s	4.3	6.6		7.2	7.3	8.3		6.9				
Green Ext Time (p_c), s	0.0	7.1		4.1	0.1	8.0		4.3				

Intersection Summary		
HCM 7th Control Delay, s/veh	17.7	
HCM 7th LOS	B	

Notes

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

C. Level of Service and Queuing Worksheets – Proposed Conditions

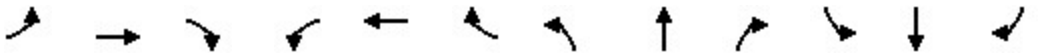
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	19	509	166	765	238	432	166	70	395
v/c Ratio	0.22	0.56	0.73	0.55	0.85	0.72	0.34	0.50	0.55
Control Delay (s/veh)	61.4	38.0	67.8	28.6	74.0	43.1	32.8	64.5	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.4	38.0	67.8	28.6	74.0	43.1	32.8	64.5	41.2
Queue Length 50th (ft)	14	171	122	211	178	290	95	52	136
Queue Length 95th (ft)	43	251	#220	355	#373	466	176	107	197
Internal Link Dist (ft)		1736		1055		1020			627
Turn Bay Length (ft)	110		120		210			70	
Base Capacity (vph)	281	1471	281	1497	281	632	524	281	1121
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.35	0.59	0.51	0.85	0.68	0.32	0.25	0.35

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	402	86	159	662	72	228	415	159	67	339	40
Future Volume (vph)	18	402	86	159	662	72	228	415	159	67	339	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		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	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1694	3288		1694	3330		1694	1783	1482	1694	3159	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1694	3288		1694	3330		1694	1783	1482	1694	3159	
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)	19	419	90	166	690	75	238	432	166	70	353	42
RTOR Reduction (vph)	0	13	0	0	5	0	0	0	0	0	0	0
Lane Group Flow (vph)	19	496	0	166	760	0	238	432	166	70	395	0
Confl. Peds. (#/hr)			3			2			8			3
Confl. Bikes (#/hr)			2			1			2			8
Parking (#/hr)						0					0	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	2.5	34.5		15.0	47.0		18.7	37.7	37.7	8.0	27.0	
Effective Green, g (s)	2.5	34.5		15.0	47.0		18.7	37.7	37.7	8.0	27.0	
Actuated g/C Ratio	0.02	0.29		0.13	0.40		0.16	0.32	0.32	0.07	0.23	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	1.5	5.0		1.5	5.0		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	36	967		216	1335		270	573	476	115	727	
v/s Ratio Prot	0.01	0.15		c0.10	c0.23		c0.14	c0.24		0.04	0.13	
v/s Ratio Perm									0.11			
v/c Ratio	0.53	0.51		0.77	0.57		0.88	0.75	0.35	0.61	0.54	
Uniform Delay, d1	56.8	34.4		49.4	27.2		48.2	35.6	30.4	53.1	39.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.3	0.9		13.7	0.9		26.1	5.9	0.6	6.1	1.0	
Delay (s)	63.1	35.3		63.1	28.2		74.3	41.5	31.0	59.2	40.7	
Level of Service	E	D		E	C		E	D	C	E	D	
Approach Delay (s/veh)		36.3			34.4			48.8			43.5	
Approach LOS		D			C			D			D	

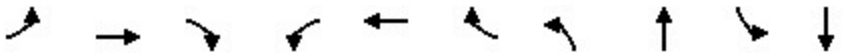
Intersection Summary			
HCM 2000 Control Delay (s/veh)	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	117.2	Sum of lost time (s)	22.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	402	86	159	662	72	228	415	159	67	339	40
Future Volume (veh/h)	18	402	86	159	662	72	228	415	159	67	339	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	19	419	76	166	690	70	238	432	166	70	353	42
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	37	945	170	199	1252	127	272	531	440	90	550	65
Arrive On Green	0.02	0.32	0.32	0.11	0.41	0.41	0.15	0.29	0.29	0.05	0.18	0.18
Sat Flow, veh/h	1767	2976	535	1767	3058	310	1767	1856	1538	1767	3004	354
Grp Volume(v), veh/h	19	247	248	166	397	363	238	432	166	70	206	189
Grp Sat Flow(s),veh/h/ln	1767	1763	1749	1767	1763	1605	1767	1856	1538	1767	1763	1595
Q Serve(g_s), s	1.0	10.5	10.7	8.7	16.2	16.3	12.4	20.5	8.2	3.7	10.2	10.4
Cycle Q Clear(g_c), s	1.0	10.5	10.7	8.7	16.2	16.3	12.4	20.5	8.2	3.7	10.2	10.4
Prop In Lane	1.00		0.31	1.00		0.19	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	37	560	555	199	721	657	272	531	440	90	323	292
V/C Ratio(X)	0.52	0.44	0.45	0.83	0.55	0.55	0.87	0.81	0.38	0.77	0.64	0.65
Avail Cap(c_a), veh/h	346	923	916	346	923	841	346	776	643	346	737	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	25.6	25.7	41.1	21.3	21.3	39.1	31.4	27.0	44.3	35.7	35.8
Incr Delay (d2), s/veh	4.1	1.2	1.2	3.5	1.4	1.5	15.4	5.4	0.8	5.2	3.0	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.4	4.5	3.9	6.7	6.1	6.4	9.6	3.0	1.8	4.6	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.9	26.8	26.9	44.6	22.7	22.8	54.5	36.8	27.8	49.5	38.7	39.2
LnGrp LOS	D	C	C	D	C	C	D	D	C	D	D	D
Approach Vol, veh/h		514			926			836			465	
Approach Delay, s/veh		27.7			26.7			40.0			40.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	35.5	20.1	22.8	7.5	44.2	10.3	32.5
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	18.5	49.5	18.5	39.5	18.5	49.5	18.5	39.5
Max Q Clear Time (g_c+I1), s	10.7	12.7	14.4	12.4	3.0	18.3	5.7	22.5
Green Ext Time (p_c), s	0.1	6.4	0.1	3.6	0.0	10.2	0.1	4.2

Intersection Summary	
HCM 7th Control Delay, s/veh	33.3
HCM 7th LOS	C



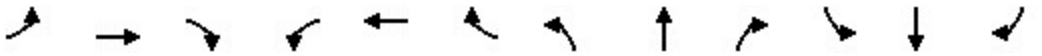
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	267	47	489	322	12	73	1142	12	662
v/c Ratio	0.17	0.71	0.12	0.93	0.45	0.02	0.29	0.93	0.08	0.71
Control Delay (s/veh)	15.1	48.4	0.6	46.7	26.1	0.1	23.8	42.9	21.4	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.1	48.4	0.6	46.7	26.1	0.1	23.8	42.9	21.4	38.2
Queue Length 50th (ft)	24	169	0	228	163	0	30	343	5	207
Queue Length 95th (ft)	51	267	0	#456	264	0	67	#664	19	318
Internal Link Dist (ft)		687			456			975		1020
Turn Bay Length (ft)	90		190	170		260	110		170	
Base Capacity (vph)	514	545	513	541	747	607	345	1233	282	954
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.49	0.09	0.90	0.43	0.02	0.21	0.93	0.04	0.69

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	240	42	440	290	11	66	700	328	11	518	77
Future Volume (vph)	63	240	42	440	290	11	66	700	328	11	518	77
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	5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.95	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	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	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1684	1783	1306	1687	1783	1290	1693	3188		1694	3142	
Flt Permitted	0.44	1.00	1.00	0.34	1.00	1.00	0.25	1.00		0.11	1.00	
Satd. Flow (perm)	775	1783	1306	609	1783	1290	448	3188		191	3142	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	267	47	489	322	12	73	778	364	12	576	86
RTOR Reduction (vph)	0	0	37	0	0	7	0	40	0	0	9	0
Lane Group Flow (vph)	70	267	10	489	322	5	73	1102	0	12	653	0
Confl. Peds. (#/hr)	23		20	20		23	3		8	8		3
Confl. Bikes (#/hr)			6			25						7
Parking (#/hr)			0			0					0	0
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	8		4	4		8	6			2		
Actuated Green, G (s)	45.8	22.3	22.3	45.8	40.3	40.3	38.4	37.4		38.4	32.3	
Effective Green, g (s)	45.8	22.3	22.3	45.8	40.3	40.3	38.4	37.4		38.4	32.3	
Actuated g/C Ratio	0.44	0.21	0.21	0.44	0.38	0.38	0.37	0.36		0.37	0.31	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.5	5.5		5.5	5.5	
Vehicle Extension (s)	2.0	4.0	4.0	2.5	4.0	4.0	2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	384	377	276	505	683	494	235	1133		84	964	
v/s Ratio Prot	0.01	0.15		c0.22	0.18		c0.02	c0.35		0.00	0.21	
v/s Ratio Perm	0.07		0.01	c0.20		0.00	0.10			0.05		
v/c Ratio	0.18	0.71	0.04	0.97	0.47	0.01	0.31	0.97		0.14	0.68	
Uniform Delay, d1	17.9	38.4	32.9	24.7	24.4	20.1	22.9	33.4		25.3	31.9	
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	0.1	6.4	0.1	31.7	0.7	0.0	0.3	20.4		0.3	2.1	
Delay (s)	18.0	44.8	33.0	56.4	25.1	20.1	23.2	53.8		25.6	34.0	
Level of Service	B	D	C	E	C	C	C	D		C	C	
Approach Delay (s/veh)		38.5			43.6			51.9			33.8	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	44.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	105.2	Sum of lost time (s)	21.0
Intersection Capacity Utilization	92.8%	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 (veh/h)	63	240	42	440	290	11	66	700	328	11	518	77
Future Volume (veh/h)	63	240	42	440	290	11	66	700	328	11	518	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.95	0.98		0.96	1.00		0.99	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	70	267	6	489	322	4	73	778	320	12	576	76
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	436	372	269	572	733	535	247	774	318	103	849	112
Arrive On Green	0.05	0.20	0.20	0.24	0.39	0.39	0.05	0.32	0.32	0.01	0.29	0.29
Sat Flow, veh/h	1767	1856	1342	1767	1856	1355	1767	2427	997	1767	2954	388
Grp Volume(v), veh/h	70	267	6	489	322	4	73	565	533	12	343	309
Grp Sat Flow(s),veh/h/ln	1767	1856	1342	1767	1856	1355	1767	1763	1661	1767	1763	1580
Q Serve(g_s), s	2.1	12.4	0.3	19.8	11.8	0.2	2.7	29.5	29.5	0.4	15.9	16.0
Cycle Q Clear(g_c), s	2.1	12.4	0.3	19.8	11.8	0.2	2.7	29.5	29.5	0.4	15.9	16.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		0.25
Lane Grp Cap(c), veh/h	436	372	269	572	733	535	247	562	530	103	507	454
V/C Ratio(X)	0.16	0.72	0.02	0.85	0.44	0.01	0.30	1.01	1.01	0.12	0.68	0.68
Avail Cap(c_a), veh/h	623	602	435	608	733	535	424	562	530	336	562	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	34.5	29.7	21.5	20.5	17.0	23.0	31.5	31.5	25.4	29.2	29.2
Incr Delay (d2), s/veh	0.1	3.7	0.0	10.7	0.6	0.0	0.2	39.2	40.8	0.2	3.3	3.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.9	0.1	9.5	5.0	0.1	1.1	18.0	17.2	0.2	6.9	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.0	38.2	29.8	32.1	21.1	17.0	23.2	70.7	72.3	25.6	32.5	33.0
LnGrp LOS	B	D	C	C	C	B	C	F	F	C	C	C
Approach Vol, veh/h		343			815			1171			664	
Approach Delay, s/veh		33.5			27.7			68.5			32.6	
Approach LOS		C			C			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	35.0	27.2	23.6	9.7	32.1	9.2	41.5
Change Period (Y+Rc), s	5.5	5.5	5.0	5.0	5.5	5.5	5.0	5.0
Max Green Setting (Gmax), s	13.5	29.5	24.0	30.0	13.5	29.5	14.0	30.0
Max Q Clear Time (g_c+I1), s	2.4	31.5	21.8	14.4	4.7	18.0	4.1	13.8
Green Ext Time (p_c), s	0.0	0.0	0.3	1.9	0.0	4.0	0.0	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	45.4
HCM 7th LOS	D

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	64	2	1340	139	970
v/c Ratio	0.02	0.23	0.04	0.65	0.76	0.61
Control Delay (s/veh)	0.2	1.8	48.5	6.7	92.5	34.9
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	0.2	1.8	48.5	6.9	92.5	34.9
Queue Length 50th (ft)	0	0	2	25	136	380
Queue Length 95th (ft)	0	0	m2	243	250	623
Internal Link Dist (ft)	170	304		218		975
Turn Bay Length (ft)			70		270	
Base Capacity (vph)	403	392	151	2101	381	1820
Starvation Cap Reductn	0	0	0	212	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.16	0.01	0.71	0.36	0.53

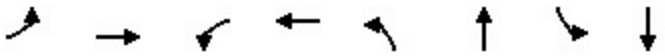
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	4	25	0	34	2	1118	115	128	892	0
Future Volume (vph)	3	0	4	25	0	34	2	1118	115	128	892	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		6.0	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			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	
Frt		0.92			0.92		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1599			1609		1694	3332		1694	3388	
Flt Permitted		0.91			0.87		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1486			1427		1694	3332		1694	3388	
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)	3	0	4	27	0	37	2	1215	125	139	970	0
RTOR Reduction (vph)	0	6	0	0	57	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	7	0	2	1337	0	139	970	0
Confl. Peds. (#/hr)			1	1					3			
Confl. Bikes (#/hr)									2			1
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			4		11	6 8		5	2	
Permitted Phases	4			4								
Actuated Green, G (s)		17.1			17.1		0.9	95.0		16.7	71.7	
Effective Green, g (s)		17.1			17.1		0.9	95.0		16.7	71.7	
Actuated g/C Ratio		0.11			0.11		0.01	0.60		0.11	0.45	
Clearance Time (s)		5.5			5.5		5.5			6.0	5.5	
Vehicle Extension (s)		3.5			3.5		1.5			2.0	6.0	
Lane Grp Cap (vph)		160			154		9	2000		178	1535	
v/s Ratio Prot							c0.00	c0.40		c0.08	0.29	
v/s Ratio Perm		0.00			c0.00							
v/c Ratio		0.00			0.04		0.22	0.67		0.78	0.63	
Uniform Delay, d1		63.0			63.2		78.3	21.1		69.0	33.1	
Progression Factor		1.00			1.00		0.60	0.50		1.00	1.00	
Incremental Delay, d2		0.0			0.1		2.3	0.7		18.2	1.4	
Delay (s)		63.0			63.4		49.1	11.2		87.2	34.6	
Level of Service		E			E		D	B		F	C	
Approach Delay (s/veh)		63.0			63.4			11.3			41.2	
Approach LOS		E			E			B			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	158.2	Sum of lost time (s)	28.5
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Edition methodology does not support Non-NEMA phasing.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	107	101	1	3	54	1204	4	948
v/c Ratio	0.39	0.39	0.00	0.00	0.56	0.89	0.07	0.47
Control Delay (s/veh)	59.2	51.4	55.0	0.0	96.1	53.4	46.8	0.8
Queue Delay	0.3	0.3	0.0	0.0	0.0	0.3	0.0	0.1
Total Delay (s/veh)	59.6	51.7	55.0	0.0	96.1	53.7	46.8	0.9
Queue Length 50th (ft)	94	75	1	0	53	580	4	0
Queue Length 95th (ft)	203	176	7	0	120	#1031	m9	0
Internal Link Dist (ft)		3515		195		1175		218
Turn Bay Length (ft)	60				110		80	
Base Capacity (vph)	291	276	259	754	151	1348	151	2294
Starvation Cap Reductn	0	0	0	0	0	0	0	270
Spillback Cap Reductn	28	26	0	0	0	14	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.40	0.00	0.00	0.36	0.90	0.03	0.47

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	1	39	1	0	3	50	1117	3	4	671	210
Future Volume (vph)	153	1	39	1	0	3	50	1117	3	4	671	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.5	5.5		5.5	5.5	
Lane Util. Factor	0.95	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.88		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.85		1.00	1.00		1.00	0.96	
Flt Protected	0.95	0.97		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1605	1366		1666	1329		1694	3386		1694	3248	
Flt Permitted	0.76	0.83		0.65	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1277	1161		1139	1329		1694	3386		1694	3248	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	165	1	42	1	0	3	54	1201	3	4	722	226
RTOR Reduction (vph)	0	12	0	0	2	0	0	0	0	0	14	0
Lane Group Flow (vph)	107	89	0	1	1	0	54	1204	0	4	934	0
Confl. Peds. (#/hr)	2		13	13		2			5			1
Confl. Bikes (#/hr)			6			102			3			2
Parking (#/hr)		0	0									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			8		1	6		9	2 4	
Permitted Phases	8			8								
Actuated Green, G (s)	33.0	33.0		33.0	33.0		7.5	62.0		0.9	88.8	
Effective Green, g (s)	33.0	33.0		33.0	33.0		7.5	62.0		0.9	88.8	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.05	0.39		0.01	0.56	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.5	5.5		5.5		
Vehicle Extension (s)	3.5	3.5		3.5	3.5		1.5	6.0		1.5		
Lane Grp Cap (vph)	266	242		237	277		80	1327		9	1823	
v/s Ratio Prot					0.00		c0.03	c0.36		c0.00	c0.29	
v/s Ratio Perm	c0.08	0.08		0.00								
v/c Ratio	0.40	0.37		0.00	0.00		0.68	0.91		0.44	0.51	
Uniform Delay, d1	54.1	53.7		49.6	49.6		74.2	45.4		78.4	21.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.56	0.01	
Incremental Delay, d2	1.2	1.1		0.0	0.0		16.2	10.1		10.6	0.6	
Delay (s)	55.3	54.8		49.6	49.6		90.4	55.4		54.3	0.7	
Level of Service	E	D		D	D		F	E		D	A	
Approach Delay (s/veh)		55.0			49.6			56.9			0.9	
Approach LOS		E			D			E			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	158.2	Sum of lost time (s)	28.5
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

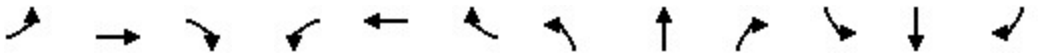
HCM 7th Edition methodology does not support Non-NEMA phasing.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	369	335	280	335	149	1342	91	727
v/c Ratio	0.37	0.66	1.02	0.57	0.52	0.51	1.07	0.57	0.57
Control Delay (s/veh)	53.5	28.9	96.6	37.5	6.9	23.2	75.2	31.5	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.5	28.9	96.6	37.5	6.9	23.2	75.2	31.5	26.6
Queue Length 50th (ft)	30	70	216	162	3	48	~484	28	182
Queue Length 95th (ft)	73	112	#471	251	66	109	#753	#85	299
Internal Link Dist (ft)		1285		1321			533		1175
Turn Bay Length (ft)	100		100			100		100	
Base Capacity (vph)	329	1029	329	555	681	292	1257	159	1270
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.36	1.02	0.50	0.49	0.51	1.07	0.57	0.57

Intersection Summary

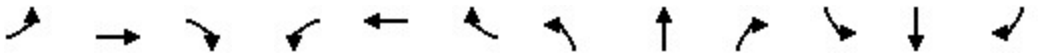
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	183	142	295	246	295	131	834	347	80	597	43
Future Volume (vph)	43	183	142	295	246	295	131	834	347	80	597	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	4.5	6.5		4.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	3125		1694	1783	1464	1692	3063		1694	3175	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.28	1.00		0.10	1.00	
Satd. Flow (perm)	1694	3125		1694	1783	1464	500	3063		177	3175	
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)	49	208	161	335	280	335	149	948	394	91	678	49
RTOR Reduction (vph)	0	132	0	0	0	238	0	36	0	0	4	0
Lane Group Flow (vph)	49	237	0	335	280	97	149	1306	0	91	723	0
Confl. Peds. (#/hr)			6			4	10		3	3		10
Confl. Bikes (#/hr)			7			22			1			13
Parking (#/hr)								0	0		0	0
Turn Type	Prot	NA		Prot	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases						4	2			6		
Actuated Green, G (s)	6.8	13.9		20.8	27.9	27.9	45.2	40.2		45.2	40.2	
Effective Green, g (s)	6.8	13.9		20.8	27.9	27.9	45.2	40.2		45.2	40.2	
Actuated g/C Ratio	0.07	0.14		0.20	0.27	0.27	0.44	0.39		0.44	0.39	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	6.5		4.5	6.5	
Vehicle Extension (s)	2.5	2.5		3.0	3.0	3.0	3.0	4.5		3.0	4.5	
Lane Grp Cap (vph)	113	426		345	488	400	280	1208		152	1252	
v/s Ratio Prot	0.03	c0.08		c0.20	c0.16		0.03	c0.43		c0.03	0.23	
v/s Ratio Perm						0.07	0.21			0.23		
v/c Ratio	0.43	0.56		0.97	0.57	0.24	0.53	1.08		0.60	0.58	
Uniform Delay, d1	45.7	41.1		40.3	31.9	28.8	18.6	30.9		22.6	24.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	1.3		40.5	1.6	0.3	1.9	50.7		6.2	0.9	
Delay (s)	47.6	42.4		80.8	33.5	29.1	20.5	81.5		28.9	25.1	
Level of Service	D	D		F	C	C	C	F		C	C	
Approach Delay (s/veh)		43.0			48.6			75.4			25.5	
Approach LOS		D			D			E			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	53.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	101.9	Sum of lost time (s)	22.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	183	142	295	246	295	131	834	347	80	597	43
Future Volume (veh/h)	43	183	142	295	246	295	131	834	347	80	597	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	49	208	46	335	280	55	149	948	350	91	678	43
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	67	337	73	353	519	425	342	977	358	163	1292	82
Arrive On Green	0.04	0.12	0.12	0.20	0.28	0.28	0.05	0.41	0.41	0.05	0.41	0.41
Sat Flow, veh/h	1767	2861	616	1767	1856	1520	1767	2383	872	1767	3184	202
Grp Volume(v), veh/h	49	126	128	335	280	55	149	699	599	91	375	346
Grp Sat Flow(s),veh/h/ln	1767	1763	1714	1767	1856	1520	1767	1763	1492	1767	1763	1623
Q Serve(g_s), s	2.7	6.6	6.9	18.3	12.5	2.6	4.9	37.8	38.6	2.9	15.7	15.7
Cycle Q Clear(g_c), s	2.7	6.6	6.9	18.3	12.5	2.6	4.9	37.8	38.6	2.9	15.7	15.7
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.58	1.00		0.12
Lane Grp Cap(c), veh/h	67	208	202	353	519	425	342	723	612	163	715	658
V/C Ratio(X)	0.74	0.61	0.63	0.95	0.54	0.13	0.44	0.97	0.98	0.56	0.52	0.53
Avail Cap(c_a), veh/h	353	533	518	353	561	460	342	723	612	170	723	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	40.9	41.0	38.5	29.8	26.2	17.3	28.1	28.4	23.3	21.9	21.9
Incr Delay (d2), s/veh	11.1	2.1	2.4	34.6	0.9	0.1	0.9	25.7	31.1	3.7	1.1	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.0	3.0	11.0	5.5	1.0	2.0	20.1	18.2	1.3	6.4	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.5	43.0	43.5	73.1	30.7	26.4	18.2	53.8	59.4	27.0	23.0	23.1
LnGrp LOS	E	D	D	E	C	C	B	D	E	C	C	C
Approach Vol, veh/h		303			670			1447			812	
Approach Delay, s/veh		45.6			51.5			52.5			23.5	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	46.1	9.2	32.8	9.1	46.5	25.0	17.0
Change Period (Y+Rc), s	4.5	6.5	5.5	5.5	4.5	6.5	5.5	5.5
Max Green Setting (Gmax), s	5.0	40.0	19.5	29.5	5.0	40.0	19.5	29.5
Max Q Clear Time (g_c+I1), s	6.9	17.7	4.7	14.5	4.9	40.6	20.3	8.9
Green Ext Time (p_c), s	0.0	7.3	0.0	1.4	0.0	0.0	0.0	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	44.4
HCM 7th LOS	D

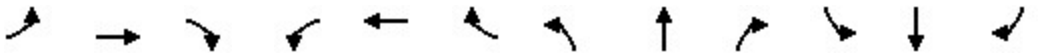
Notes

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

Lane Group	EBT	NBL	NBT	SBT
Lane Group Flow (vph)	401	48	1158	1163
v/c Ratio	0.70	0.24	0.70	0.83
Control Delay (s/veh)	22.9	12.1	16.6	26.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.9	12.1	16.6	26.2
Queue Length 50th (ft)	120	10	207	264
Queue Length 95th (ft)	216	29	322	#448
Internal Link Dist (ft)	2029		1464	533
Turn Bay Length (ft)		110		
Base Capacity (vph)	684	202	1899	1446
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.24	0.61	0.80

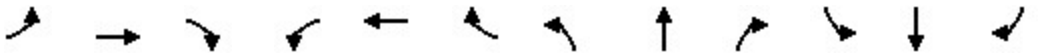
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	281	0	76	0	0	0	43	1031	0	0	802	233
Future Volume (vph)	281	0	76	0	0	0	43	1031	0	0	802	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0					4.5	6.5			6.5	
Lane Util. Factor		1.00					1.00	0.95			0.95	
Frpb, ped/bikes		1.00					1.00	1.00			0.99	
Flpb, ped/bikes		1.00					1.00	1.00			1.00	
Frt		0.97					1.00	1.00			0.97	
Flt Protected		0.96					0.95	1.00			1.00	
Satd. Flow (prot)		1660					1524	3219			3083	
Flt Permitted		0.95					0.13	1.00			1.00	
Satd. Flow (perm)		1639					208	3219			3083	
Peak-hour factor, PHF	0.89	0.92	0.89	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Adj. Flow (vph)	316	0	85	0	0	0	48	1158	0	0	901	262
RTOR Reduction (vph)	0	80	0	0	0	0	0	0	0	0	33	0
Lane Group Flow (vph)	0	321	0	0	0	0	48	1158	0	0	1130	0
Confl. Peds. (#/hr)			6				14					14
Confl. Bikes (#/hr)			4									3
Parking (#/hr)	0		0				0	0			0	0
Turn Type	Perm	NA					D.P+P	NA			NA	
Protected Phases		8			4		1	6			2	
Permitted Phases	8			4			2					
Actuated Green, G (s)		21.1					33.7	38.2			31.0	
Effective Green, g (s)		21.1					33.7	38.2			31.0	
Actuated g/C Ratio		0.29					0.47	0.53			0.43	
Clearance Time (s)		6.0					4.5	6.5			6.5	
Vehicle Extension (s)		3.0					3.0	5.0			5.0	
Lane Grp Cap (vph)		481					147	1712			1331	
v/s Ratio Prot							0.01	c0.36			c0.37	
v/s Ratio Perm		c0.20					0.14					
v/c Ratio		0.67					0.33	0.68			0.85	
Uniform Delay, d1		22.3					12.1	12.3			18.3	
Progression Factor		1.00					1.00	1.00			1.00	
Incremental Delay, d2		3.5					1.3	1.4			5.8	
Delay (s)		25.8					13.4	13.7			24.1	
Level of Service		C					B	B			C	
Approach Delay (s/veh)		25.8			0.0			13.7			24.1	
Approach LOS		C			A			B			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	17.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	281	0	76	0	0	0	43	1031	0	0	802	233
Future Volume (veh/h)	281	0	76	0	0	0	43	1031	0	0	802	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	316	0	70	0	0	0	48	1158	0	0	901	223
Peak Hour Factor	0.89	0.92	0.89	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	430	0	75	0	599	0	218	1784	0	0	1058	261
Arrive On Green	0.32	0.00	0.32	0.00	0.00	0.00	0.04	0.51	0.00	0.00	0.40	0.40
Sat Flow, veh/h	1053	0	233	0	1856	0	1767	3618	0	0	2726	651
Grp Volume(v), veh/h	386	0	0	0	0	0	48	1158	0	0	603	521
Grp Sat Flow(s),veh/h/ln	1286	0	0	0	1856	0	1767	1763	0	0	1763	1521
Q Serve(g_s), s	21.2	0.0	0.0	0.0	0.0	0.0	1.1	17.7	0.0	0.0	22.7	22.8
Cycle Q Clear(g_c), s	21.2	0.0	0.0	0.0	0.0	0.0	1.1	17.7	0.0	0.0	22.7	22.8
Prop In Lane	0.82		0.18	0.00		0.00	1.00		0.00	0.00		0.43
Lane Grp Cap(c), veh/h	505	0	0	0	599	0	218	1784	0	0	708	611
V/C Ratio(X)	0.76	0.00	0.00	0.00	0.00	0.00	0.22	0.65	0.00	0.00	0.85	0.85
Avail Cap(c_a), veh/h	521	0	0	0	622	0	264	1931	0	0	736	635
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	0.0	0.0	0.0	15.5	13.3	0.0	0.0	19.9	19.9
Incr Delay (d2), s/veh	6.5	0.0	0.0	0.0	0.0	0.0	0.5	1.1	0.0	0.0	10.2	11.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	0.0	0.0	0.0	0.0	0.4	6.2	0.0	0.0	10.3	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.4	0.0	0.0	0.0	0.0	0.0	16.0	14.3	0.0	0.0	30.0	31.6
LnGrp LOS	C						B	B			C	C
Approach Vol, veh/h		386			0			1206			1124	
Approach Delay, s/veh		30.4			0.0			14.4			30.8	
Approach LOS		C						B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.6	35.8		29.6		43.4		29.6				
Change Period (Y+Rc), s	4.5	6.5		6.0		6.5		6.0				
Max Green Setting (Gmax), s	5.0	30.5		24.5		40.0		24.5				
Max Q Clear Time (g_c+I1), s	3.1	24.8		0.0		19.7		23.2				
Green Ext Time (p_c), s	0.0	4.5		0.0		13.3		0.3				

Intersection Summary		
HCM 7th Control Delay, s/veh	23.4	
HCM 7th LOS	C	

Notes

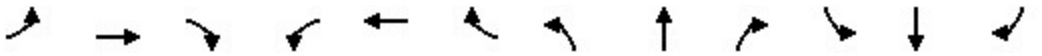
User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	225	92	102	1081	65	886
v/c Ratio	0.67	0.28	0.29	0.67	0.23	0.55
Control Delay (s/veh)	31.6	21.9	9.3	17.7	9.0	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.6	21.9	9.3	17.7	9.0	15.3
Queue Length 50th (ft)	83	30	16	190	10	139
Queue Length 95th (ft)	145	64	47	325	33	245
Internal Link Dist (ft)	1046	977		1312		1464
Turn Bay Length (ft)			70		100	
Base Capacity (vph)	487	496	351	1862	286	1831
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.19	0.29	0.58	0.23	0.48

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	20	80	31	31	17	88	913	16	56	667	95
Future Volume (vph)	94	20	80	31	31	17	88	913	16	56	667	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5	5.5		4.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.97		1.00	1.00		1.00	0.98	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1463			1519		1692	3208		1694	3142	
Flt Permitted		0.83			0.84		0.26	1.00		0.18	1.00	
Satd. Flow (perm)		1237			1305		459	3208		326	3142	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	109	23	93	36	36	20	102	1062	19	65	776	110
RTOR Reduction (vph)	0	33	0	0	13	0	0	1	0	0	12	0
Lane Group Flow (vph)	0	192	0	0	79	0	102	1080	0	65	874	0
Confl. Peds. (#/hr)	15		2	2		15	19		9	9		19
Confl. Bikes (#/hr)			3			4			3			5
Parking (#/hr)	0	0	0	0	0	0		0	0		0	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		17.6			17.6		40.2	36.5		40.2	36.5	
Effective Green, g (s)		17.6			17.6		40.2	36.5		40.2	36.5	
Actuated g/C Ratio		0.24			0.24		0.55	0.50		0.55	0.50	
Clearance Time (s)		5.0			5.0		4.5	5.5		4.5	5.5	
Vehicle Extension (s)		3.5			3.0		3.0	6.0		3.0	6.0	
Lane Grp Cap (vph)		299			315		316	1608		249	1575	
v/s Ratio Prot							c0.02	c0.34		0.01	0.28	
v/s Ratio Perm		c0.16			0.06		0.16			0.13		
v/c Ratio		0.64			0.25		0.32	0.67		0.26	0.55	
Uniform Delay, d1		24.8			22.3		8.2	13.6		8.6	12.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.9			0.4		0.6	1.7		0.6	0.9	
Delay (s)		29.7			22.7		8.8	15.4		9.2	13.5	
Level of Service		C			C		A	B		A	B	
Approach Delay (s/veh)		29.7			22.7			14.8			13.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	20	80	31	31	17	88	913	16	56	667	95
Future Volume (veh/h)	94	20	80	31	31	17	88	913	16	56	667	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.96	0.99		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	109	23	49	36	36	3	102	1062	17	65	776	95
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	228	53	70	194	162	11	438	1730	28	361	1496	183
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.07	0.51	0.51	0.05	0.50	0.50
Sat Flow, veh/h	707	275	365	565	847	59	1767	3366	54	1767	2983	365
Grp Volume(v), veh/h	181	0	0	75	0	0	102	556	523	65	458	413
Grp Sat Flow(s),veh/h/ln	1347	0	0	1471	0	0	1767	1763	1658	1767	1763	1585
Q Serve(g_s), s	5.2	0.0	0.0	0.0	0.0	0.0	1.7	14.0	14.0	1.0	10.9	10.9
Cycle Q Clear(g_c), s	7.6	0.0	0.0	2.4	0.0	0.0	1.7	14.0	14.0	1.0	10.9	10.9
Prop In Lane	0.60		0.27	0.48		0.04	1.00		0.03	1.00		0.23
Lane Grp Cap(c), veh/h	351	0	0	367	0	0	438	906	852	361	884	795
V/C Ratio(X)	0.52	0.00	0.00	0.20	0.00	0.00	0.23	0.61	0.61	0.18	0.52	0.52
Avail Cap(c_a), veh/h	608	0	0	489	0	0	462	1115	1048	407	1115	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	0.0	0.0	21.4	0.0	0.0	7.3	10.8	10.8	7.8	10.5	10.5
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.3	0.0	0.0	0.3	2.4	2.6	0.2	1.7	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	0.9	0.0	0.0	0.5	4.9	4.7	0.3	3.9	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.7	0.0	0.0	21.6	0.0	0.0	7.6	13.2	13.4	8.1	12.2	12.4
LnGrp LOS	C			C			A	B	B	A	B	B
Approach Vol, veh/h		181			75			1181			936	
Approach Delay, s/veh		24.7			21.6			12.8			12.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	36.8		17.0	7.9	37.6		17.0				
Change Period (Y+Rc), s	4.5	5.5		5.0	4.5	5.5		5.0				
Max Green Setting (Gmax), s	5.0	39.5		17.5	5.0	39.5		24.5				
Max Q Clear Time (g_c+I1), s	3.7	12.9		4.4	3.0	16.0		9.6				
Green Ext Time (p_c), s	0.0	13.7		0.2	0.0	15.6		1.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	13.7	
HCM 7th LOS	B	

Notes

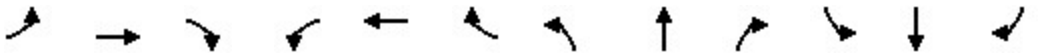
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	115	519	35	144	573	226	52	888	187	228	762
v/c Ratio	0.82	0.48	0.06	0.88	0.50	0.34	0.49	1.03	0.38	1.30	0.75
Control Delay (s/veh)	93.6	33.8	0.2	98.9	33.8	5.2	68.3	83.4	11.9	211.0	43.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	93.6	33.8	0.2	98.9	33.8	5.2	68.3	83.4	11.9	211.0	43.9
Queue Length 50th (ft)	90	172	0	114	192	0	41	~397	23	~231	290
Queue Length 95th (ft)	#171	212	0	#213	233	45	77	#479	75	#364	#360
Internal Link Dist (ft)		1689			2029			1308			1312
Turn Bay Length (ft)	190		100	180		150	140		100	160	
Base Capacity (vph)	153	1073	556	170	1146	663	170	861	489	176	1013
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.48	0.06	0.85	0.50	0.34	0.31	1.03	0.38	1.30	0.75

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

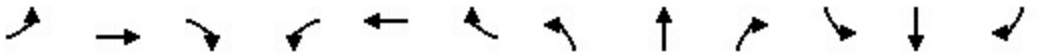
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	441	30	122	487	192	44	755	159	194	568	80
Future Volume (vph)	98	441	30	122	487	192	44	755	159	194	568	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	11	12	10	12	12	11	11	12
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	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	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	0.98	
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)	1472	3219	1369	1636	3388	1519	1636	3505	1532	1694	3315	
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)	1472	3219	1369	1636	3388	1519	1636	3505	1532	1694	3315	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	115	519	35	144	573	226	52	888	187	228	668	94
RTOR Reduction (vph)	0	0	24	0	0	152	0	0	112	0	8	0
Lane Group Flow (vph)	115	519	11	144	573	74	52	888	76	228	754	0
Confl. Peds. (#/hr)			13			8			5			4
Confl. Bikes (#/hr)			5			16			6			12
Parking (#/hr)	0	0	0									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	11.4	38.7	38.7	12.0	39.3	39.3	6.9	30.8	30.8	12.5	36.4	
Effective Green, g (s)	11.4	38.7	38.7	12.0	39.3	39.3	6.9	30.8	30.8	12.5	36.4	
Actuated g/C Ratio	0.10	0.32	0.32	0.10	0.33	0.33	0.06	0.26	0.26	0.10	0.30	
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	1.5	4.0	4.0	1.5	4.0	4.0	1.5	4.0	4.0	1.5	4.0	
Lane Grp Cap (vph)	139	1038	441	163	1109	497	94	899	393	176	1005	
v/s Ratio Prot	0.08	0.16		c0.09	c0.17		0.03	c0.25		c0.13	c0.23	
v/s Ratio Perm			0.01			0.05			0.05			
v/c Ratio	0.83	0.50	0.03	0.88	0.52	0.15	0.55	0.99	0.19	1.30	0.75	
Uniform Delay, d1	53.3	32.8	27.8	53.3	32.7	28.5	55.0	44.4	34.9	53.8	37.7	
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	30.2	1.7	0.1	38.0	1.7	0.6	4.0	26.8	0.3	168.4	3.3	
Delay (s)	83.5	34.6	27.9	91.3	34.4	29.2	59.0	71.2	35.2	222.1	41.0	
Level of Service	F	C	C	F	C	C	E	E	D	F	D	
Approach Delay (s/veh)		42.6			41.8			64.7			82.7	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	441	30	122	487	192	44	755	159	194	568	80
Future Volume (veh/h)	98	441	30	122	487	192	44	755	159	194	568	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	115	519	8	144	573	51	52	888	83	228	668	85
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	140	1189	465	170	1249	541	67	867	378	184	979	124
Arrive On Green	0.08	0.34	0.34	0.10	0.35	0.35	0.04	0.25	0.25	0.10	0.31	0.31
Sat Flow, veh/h	1767	3526	1378	1767	3526	1528	1767	3526	1536	1767	3136	399
Grp Volume(v), veh/h	115	519	8	144	573	51	52	888	83	228	375	378
Grp Sat Flow(s),veh/h/ln	1767	1763	1378	1767	1763	1528	1767	1763	1536	1767	1763	1772
Q Serve(g_s), s	7.7	13.7	0.5	9.6	15.0	2.7	3.5	29.5	5.2	12.5	22.3	22.4
Cycle Q Clear(g_c), s	7.7	13.7	0.5	9.6	15.0	2.7	3.5	29.5	5.2	12.5	22.3	22.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	140	1189	465	170	1249	541	67	867	378	184	550	553
V/C Ratio(X)	0.82	0.44	0.02	0.85	0.46	0.09	0.78	1.02	0.22	1.24	0.68	0.68
Avail Cap(c_a), veh/h	184	1189	465	184	1249	541	184	867	378	184	550	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	0.92	0.92	0.92	0.81	0.81	0.81
Uniform Delay (d), s/veh	54.4	30.9	26.5	53.4	29.9	25.9	57.2	45.3	36.1	53.8	36.1	36.1
Incr Delay (d2), s/veh	14.7	1.1	0.1	25.7	1.2	0.3	6.5	35.7	0.4	139.1	3.1	3.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	6.0	0.2	5.4	6.5	1.0	1.7	17.0	2.0	12.6	9.9	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	69.2	32.0	26.6	79.1	31.1	26.2	63.7	81.0	36.5	192.8	39.2	39.2
LnGrp LOS	E	C	C	E	C	C	E	F	D	F	D	D
Approach Vol, veh/h		642			768			1023			981	
Approach Delay, s/veh		38.6			39.8			76.5			74.9	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	36.0	16.0	49.0	11.0	44.0	18.0	47.0
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	12.5	29.5	12.5	39.5	12.5	29.5	12.5	39.5
Max Q Clear Time (g_c+I1), s	14.5	31.5	9.7	17.0	5.5	24.4	11.6	15.7
Green Ext Time (p_c), s	0.0	0.0	0.0	5.6	0.0	2.6	0.0	4.8

Intersection Summary	
HCM 7th Control Delay, s/veh	60.6
HCM 7th LOS	E

Notes

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

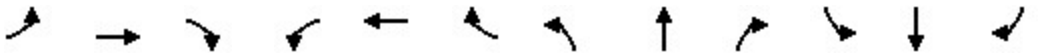
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	56	25	1027	21	802
v/c Ratio	0.27	0.18	0.05	0.40	0.07	0.33
Control Delay (s/veh)	13.8	12.2	6.8	6.3	7.3	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.8	12.2	6.8	6.3	7.3	5.8
Queue Length 50th (ft)	10	7	2	62	2	44
Queue Length 95th (ft)	38	30	17	211	16	155
Internal Link Dist (ft)	1470	309		1757		1308
Turn Bay Length (ft)			100		70	
Base Capacity (vph)	583	666	485	2638	319	2486
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.08	0.05	0.39	0.07	0.32

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	10	29	13	11	26	22	907	7	19	671	43
Future Volume (vph)	26	10	29	13	11	26	22	907	7	19	671	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12	11	11	12	10	11	11
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1467			1617		1694	3383		1470	3186	
Flt Permitted		0.85			0.88		0.35	1.00		0.26	1.00	
Satd. Flow (perm)		1265			1450		622	3383		410	3186	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	29	11	33	15	12	29	25	1019	8	21	754	48
RTOR Reduction (vph)	0	29	0	0	25	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	44	0	0	31	0	25	1026	0	21	797	0
Confl. Peds. (#/hr)	2		2	2		2	1		7	7		1
Confl. Bikes (#/hr)			1			5			4			1
Parking (#/hr)	0	0	0	0		0				0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		6.2			6.2		33.1	33.1		33.1	33.1	
Effective Green, g (s)		6.2			6.2		33.1	33.1		33.1	33.1	
Actuated g/C Ratio		0.12			0.12		0.66	0.66		0.66	0.66	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		157			180		413	2248		272	2117	
v/s Ratio Prot								c0.30			0.25	
v/s Ratio Perm		c0.03			0.02		0.04			0.05		
v/c Ratio		0.28			0.17		0.06	0.46		0.08	0.38	
Uniform Delay, d1		19.8			19.5		2.9	4.0		3.0	3.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			0.5		0.1	0.3		0.3	0.2	
Delay (s)		20.8			19.9		3.0	4.3		3.2	4.0	
Level of Service		C			B		A	A		A	A	
Approach Delay (s/veh)		20.8			19.9			4.3			4.0	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	10.5
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



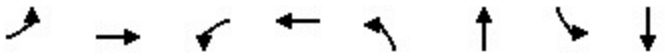
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	10	29	13	11	26	22	907	7	19	671	43
Future Volume (veh/h)	26	10	29	13	11	26	22	907	7	19	671	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		1.00	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	0.90	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	29	11	0	15	12	1	25	1019	7	21	754	42
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	196	19	0	169	32	3	588	2532	17	489	2392	133
Arrive On Green	0.05	0.05	0.00	0.05	0.05	0.05	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1032	392	0	812	650	54	676	3588	25	545	3390	189
Grp Volume(v), veh/h	40	0	0	28	0	0	25	501	525	21	392	404
Grp Sat Flow(s),veh/h/ln	1424	0	0	1516	0	0	676	1763	1850	545	1763	1816
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.6	5.0	5.0	0.7	3.6	3.6
Cycle Q Clear(g_c), s	1.1	0.0	0.0	0.7	0.0	0.0	4.2	5.0	5.0	5.7	3.6	3.6
Prop In Lane	0.72		0.00	0.54		0.04	1.00		0.01	1.00		0.10
Lane Grp Cap(c), veh/h	215	0	0	204	0	0	588	1244	1306	489	1244	1281
V/C Ratio(X)	0.19	0.00	0.00	0.14	0.00	0.00	0.04	0.40	0.40	0.04	0.32	0.32
Avail Cap(c_a), veh/h	757	0	0	773	0	0	664	1441	1513	550	1441	1484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	19.7	0.0	0.0	3.2	2.6	2.6	3.8	2.4	2.4
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.3	0.0	0.0	0.1	0.5	0.4	0.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.3	0.0	0.0	0.0	0.4	0.4	0.0	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.3	0.0	0.0	20.0	0.0	0.0	3.3	3.0	3.0	3.8	2.7	2.7
LnGrp LOS	C			B			A	A	A	A	A	A
Approach Vol, veh/h		40			28			1051			817	
Approach Delay, s/veh		20.3			20.0			3.0			2.7	
Approach LOS		C			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.7		7.1		35.7		7.1				
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0				
Max Green Setting (Gmax), s		35.0		19.5		35.0		19.5				
Max Q Clear Time (g_c+I1), s		7.0		3.1		7.7		2.7				
Green Ext Time (p_c), s		14.2		0.1		10.5		0.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			3.5									
HCM 7th LOS			A									

Notes

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	341	110	552	61	697	233	610
v/c Ratio	0.20	0.73	0.50	1.13	0.47	0.74	0.82	0.46
Control Delay (s/veh)	30.6	48.7	37.9	117.9	66.8	43.1	69.0	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.6	48.7	37.9	117.9	66.8	43.1	69.0	25.7
Queue Length 50th (ft)	13	234	58	~524	48	266	179	185
Queue Length 95th (ft)	35	351	107	#756	93	323	268	230
Internal Link Dist (ft)		1269		825		628		1757
Turn Bay Length (ft)					100		150	
Base Capacity (vph)	135	550	221	487	253	1225	380	1531
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.62	0.50	1.13	0.24	0.57	0.61	0.40

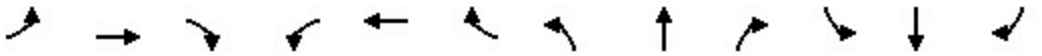
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	224	62	92	228	236	51	576	9	196	477	35
Future Volume (vph)	23	224	62	92	228	236	51	576	9	196	477	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	11	11	12	11	11	12	10	11	11
Total Lost time (s)	6.0	6.0		5.5	6.0		5.5	6.0		5.5	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		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	
Frt	1.00	0.97		1.00	0.92		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	1716		1525	1459		1694	3378		1472	3165	
Flt Permitted	0.11	1.00		0.33	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	198	1716		530	1459		1694	3378		1472	3165	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	27	267	74	110	271	281	61	686	11	233	568	42
RTOR Reduction (vph)	0	7	0	0	26	0	0	1	0	0	4	0
Lane Group Flow (vph)	27	334	0	110	526	0	61	696	0	233	606	0
Confl. Peds. (#/hr)			11			17			13			44
Confl. Bikes (#/hr)						3			4			
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	0	0	0	0
Parking (#/hr)				0	0	0				0	0	
Turn Type	D.P+P	NA		D.P+P	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	6			2								
Actuated Green, G (s)	38.7	33.5		39.2	36.0		7.4	33.2		21.9	47.7	
Effective Green, g (s)	38.7	33.5		39.2	36.0		7.4	33.2		21.9	47.7	
Actuated g/C Ratio	0.33	0.29		0.33	0.31		0.06	0.28		0.19	0.41	
Clearance Time (s)	6.0	6.0		5.5	6.0		5.5	6.0		5.5	6.0	
Vehicle Extension (s)	4.0	4.0		2.0	4.5		2.0	4.5		2.0	4.5	
Lane Grp Cap (vph)	99	490		225	447		106	956		274	1287	
v/s Ratio Prot	0.01	0.19		c0.02	c0.36		0.04	c0.21		c0.16	0.19	
v/s Ratio Perm	0.08			0.14								
v/c Ratio	0.27	0.68		0.49	1.18		0.58	0.73		0.85	0.47	
Uniform Delay, d1	30.7	37.2		29.6	40.7		53.4	38.0		46.1	25.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	4.2		0.6	100.4		4.6	3.2		20.8	0.5	
Delay (s)	32.7	41.4		30.2	141.1		58.1	41.2		66.9	26.0	
Level of Service	C	D		C	F		E	D		E	C	
Approach Delay (s/veh)		40.7			122.6			42.5			37.3	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	60.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	117.3	Sum of lost time (s)	23.5
Intersection Capacity Utilization	82.8%	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 (veh/h)	23	224	62	92	228	236	51	576	9	196	477	35
Future Volume (veh/h)	23	224	62	92	228	236	51	576	9	196	477	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	27	267	57	110	271	181	61	686	0	233	568	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	149	441	94	314	294	196	79	967		266	1341	
Arrive On Green	0.03	0.30	0.30	0.05	0.32	0.32	0.04	0.27	0.00	0.15	0.38	0.00
Sat Flow, veh/h	1767	1479	316	1767	918	613	1767	3618	0	1767	3618	0
Grp Volume(v), veh/h	27	0	324	110	0	452	61	686	0	233	568	0
Grp Sat Flow(s),veh/h/ln	1767	0	1795	1767	0	1531	1767	1763	0	1767	1763	0
Q Serve(g_s), s	1.0	0.0	15.9	4.4	0.0	29.3	3.5	18.0	0.0	13.3	12.2	0.0
Cycle Q Clear(g_c), s	1.0	0.0	15.9	4.4	0.0	29.3	3.5	18.0	0.0	13.3	12.2	0.0
Prop In Lane	1.00		0.18	1.00		0.40	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	149	0	535	314	0	491	79	967		266	1341	
V/C Ratio(X)	0.18	0.00	0.61	0.35	0.00	0.92	0.78	0.71		0.87	0.42	
Avail Cap(c_a), veh/h	189	0	611	314	0	521	283	1371		490	1371	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.6	0.0	30.9	24.4	0.0	33.7	48.6	33.6	0.0	42.7	23.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	1.8	0.2	0.0	22.1	6.0	1.7	0.0	3.5	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	7.1	1.8	0.0	13.5	1.7	7.7	0.0	5.9	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.4	0.0	32.7	24.7	0.0	55.8	54.6	35.3	0.0	46.3	23.9	0.0
LnGrp LOS	C		C	C		E	D	D		D	C	
Approach Vol, veh/h		351			562			747			801	
Approach Delay, s/veh		32.3			49.7			36.9			30.4	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	36.7	10.1	45.1	8.7	39.0	21.0	34.2
Change Period (Y+Rc), s	5.5	6.0	5.5	6.0	6.0	6.0	5.5	6.0
Max Green Setting (Gmax), s	5.5	35.0	16.5	40.0	5.0	35.0	28.5	40.0
Max Q Clear Time (g_c+I1), s	6.4	17.9	5.5	14.2	3.0	31.3	15.3	20.0
Green Ext Time (p_c), s	0.0	2.5	0.0	6.3	0.0	1.4	0.3	7.0

Intersection Summary	
HCM 7th Control Delay, s/veh	37.1
HCM 7th LOS	D

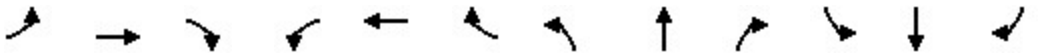
Notes

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

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

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	237	15	55	675	16	709
v/c Ratio	0.63	0.05	0.15	0.39	0.04	0.46
Control Delay (s/veh)	30.7	18.2	9.0	12.0	8.2	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.7	18.2	9.0	12.0	8.2	12.2
Queue Length 50th (ft)	97	4	12	98	3	105
Queue Length 95th (ft)	160	17	27	167	11	145
Internal Link Dist (ft)	2562	752		1844		628
Turn Bay Length (ft)			75		80	
Base Capacity (vph)	499	484	355	1726	400	1549
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.03	0.15	0.39	0.04	0.46

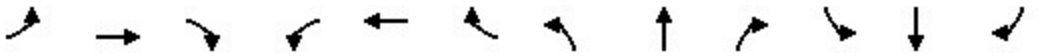
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	111	29	5	5	3	47	558	22	14	396	214
Future Volume (vph)	64	111	29	5	5	3	47	558	22	14	396	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	10	11	11	11	11	11
Total Lost time (s)		6.0			6.0		4.5	6.0		4.5	6.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.97		1.00	0.99		1.00	0.95	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1526			1511		1466	3194		1520	2989	
Flt Permitted		0.89			0.88		0.34	1.00		0.36	1.00	
Satd. Flow (perm)		1380			1352		526	3194		584	2989	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	74	129	34	6	6	3	55	649	26	16	460	249
RTOR Reduction (vph)	0	8	0	0	2	0	0	3	0	0	79	0
Lane Group Flow (vph)	0	229	0	0	13	0	55	672	0	16	630	0
Confl. Peds. (#/hr)	42		14	14		42	34		23	23		34
Confl. Bikes (#/hr)			2			2			3			
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		19.1			19.1		39.7	38.8		39.7	37.0	
Effective Green, g (s)		19.1			19.1		39.7	38.8		39.7	37.0	
Actuated g/C Ratio		0.25			0.25		0.53	0.52		0.53	0.49	
Clearance Time (s)		6.0			6.0		4.5	6.0		4.5	6.0	
Vehicle Extension (s)		4.0			4.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)		350			342		311	1645		319	1468	
v/s Ratio Prot							c0.01	0.21		0.00	c0.21	
v/s Ratio Perm		c0.17			0.01		0.09			0.03		
v/c Ratio		0.65			0.04		0.18	0.41		0.05	0.43	
Uniform Delay, d1		25.1			21.2		8.9	11.2		8.6	12.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.8			0.1		0.3	0.3		0.1	0.4	
Delay (s)		29.9			21.2		9.1	11.6		8.6	12.8	
Level of Service		C			C		A	B		A	B	
Approach Delay (s/veh)		29.9			21.2			11.4			12.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	75.3	Sum of lost time (s)	16.5
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	111	29	5	5	3	47	558	22	14	396	214
Future Volume (veh/h)	64	111	29	5	5	3	47	558	22	14	396	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.95		0.93	0.97		0.93	0.99		0.95	0.99		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	74	129	24	6	6	1	55	649	21	16	460	141
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	155	229	38	195	171	24	475	1684	54	428	1210	367
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.05	0.51	0.51	0.02	0.48	0.48
Sat Flow, veh/h	368	957	157	509	714	102	1767	3300	107	1767	2504	759
Grp Volume(v), veh/h	227	0	0	13	0	0	55	346	324	16	322	279
Grp Sat Flow(s),veh/h/ln	1482	0	0	1325	0	0	1767	1763	1643	1767	1763	1501
Q Serve(g_s), s	5.9	0.0	0.0	0.0	0.0	0.0	1.1	8.6	8.6	0.3	8.3	8.4
Cycle Q Clear(g_c), s	9.6	0.0	0.0	0.4	0.0	0.0	1.1	8.6	8.6	0.3	8.3	8.4
Prop In Lane	0.33		0.11	0.46		0.08	1.00		0.06	1.00		0.51
Lane Grp Cap(c), veh/h	422	0	0	391	0	0	475	900	839	428	852	725
V/C Ratio(X)	0.54	0.00	0.00	0.03	0.00	0.00	0.12	0.39	0.39	0.04	0.38	0.38
Avail Cap(c_a), veh/h	581	0	0	535	0	0	517	900	839	518	852	725
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	0.0	20.8	0.0	0.0	8.7	10.6	10.7	8.5	11.7	11.7
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.6	0.0	0.6	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	0.2	0.0	0.0	0.4	3.0	2.8	0.1	3.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.7	0.0	0.0	20.9	0.0	0.0	8.8	11.2	11.3	8.5	12.3	12.4
LnGrp LOS	C			C			A	B	B	A	B	B
Approach Vol, veh/h		227			13			725			617	
Approach Delay, s/veh		25.7			20.9			11.1			12.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	42.5		23.1	7.8	40.5		23.1				
Change Period (Y+Rc), s	4.5	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	5.0	34.5		25.0	5.0	34.5		25.0				
Max Q Clear Time (g_c+I1), s	2.3	10.6		11.6	3.1	10.4		2.4				
Green Ext Time (p_c), s	0.0	7.8		1.5	0.0	7.0		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	13.7
HCM 7th LOS	B

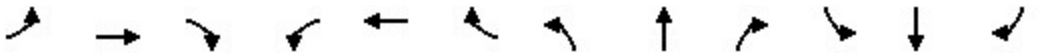
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	202	469	91	554	488	446
v/c Ratio	0.76	0.36	0.54	0.57	0.56	0.53
Control Delay (s/veh)	53.3	19.9	50.3	26.8	24.3	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.3	19.9	50.3	26.8	24.3	21.2
Queue Length 50th (ft)	95	83	44	115	97	76
Queue Length 95th (ft)	#220	165	106	212	166	139
Internal Link Dist (ft)		2554		2157	2447	1844
Turn Bay Length (ft)	200		250			
Base Capacity (vph)	388	1528	286	1283	1083	1026
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.31	0.32	0.43	0.45	0.43

Intersection Summary

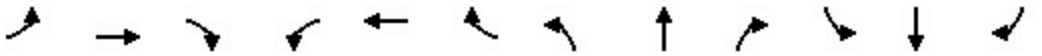
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	433	3	85	475	40	8	327	118	33	242	140
Future Volume (vph)	188	433	3	85	475	40	8	327	118	33	242	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	5.0	5.8		5.0	5.8			6.3			6.3	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frpb, ped/bikes	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	
Frt	1.00	1.00		1.00	0.99			0.96			0.95	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1525	3215		1525	3176			3066			3020	
Flt Permitted	0.95	1.00		0.95	1.00			0.94			0.88	
Satd. Flow (perm)	1525	3215		1525	3176			2894			2656	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	202	466	3	91	511	43	9	352	127	35	260	151
RTOR Reduction (vph)	0	1	0	0	7	0	0	38	0	0	70	0
Lane Group Flow (vph)	202	468	0	91	547	0	0	450	0	0	376	0
Confl. Peds. (#/hr)			10			11	13		21	21		13
Confl. Bikes (#/hr)			4			1			4			
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	13.7	32.3		7.2	25.8			22.9			22.9	
Effective Green, g (s)	13.7	32.3		7.2	25.8			22.9			22.9	
Actuated g/C Ratio	0.17	0.41		0.09	0.32			0.29			0.29	
Clearance Time (s)	5.0	5.8		5.0	5.8			6.3			6.3	
Vehicle Extension (s)	1.5	6.5		1.0	6.5			6.0			6.0	
Lane Grp Cap (vph)	262	1306		138	1030			833			765	
v/s Ratio Prot	c0.13	0.15		0.06	c0.17							
v/s Ratio Perm								c0.16			0.14	
v/c Ratio	0.77	0.36		0.66	0.53			0.54			0.49	
Uniform Delay, d1	31.4	16.4		35.0	21.9			23.9			23.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	12.0	0.5		8.4	1.4			1.6			1.4	
Delay (s)	43.4	16.9		43.3	23.3			25.5			24.9	
Level of Service	D	B		D	C			C			C	
Approach Delay (s/veh)		24.9			26.1			25.5			24.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	17.1
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	433	3	85	475	40	8	327	118	33	242	140
Future Volume (veh/h)	188	433	3	85	475	40	8	327	118	33	242	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.99		0.96	0.99		0.98
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	202	466	2	91	511	35	9	352	87	35	260	78
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	249	1322	6	116	989	68	67	680	163	108	590	171
Arrive On Green	0.14	0.39	0.39	0.07	0.31	0.31	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1767	3415	15	1767	3171	217	21	2579	618	146	2235	648
Grp Volume(v), veh/h	202	240	228	91	283	263	254	0	194	206	0	167
Grp Sat Flow(s),veh/h/ln	1767	1763	1667	1767	1763	1625	1838	0	1379	1646	0	1384
Q Serve(g_s), s	6.7	5.8	5.8	3.1	8.0	8.0	0.0	0.0	7.3	0.1	0.0	6.1
Cycle Q Clear(g_c), s	6.7	5.8	5.8	3.1	8.0	8.0	7.0	0.0	7.3	7.4	0.0	6.1
Prop In Lane	1.00		0.01	1.00		0.13	0.04		0.45	0.17		0.47
Lane Grp Cap(c), veh/h	249	682	645	116	550	507	547	0	364	504	0	365
V/C Ratio(X)	0.81	0.35	0.35	0.78	0.52	0.52	0.46	0.00	0.53	0.41	0.00	0.46
Avail Cap(c_a), veh/h	556	876	828	410	876	807	803	0	560	729	0	562
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.1	13.1	13.1	27.8	17.0	17.1	19.0	0.0	19.0	18.4	0.0	18.6
Incr Delay (d2), s/veh	2.4	1.4	1.5	4.2	3.4	3.8	2.2	0.0	4.4	1.9	0.0	3.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.3	2.2	1.4	3.4	3.2	3.1	0.0	2.5	2.4	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.5	14.6	14.6	32.0	20.5	20.8	21.2	0.0	23.4	20.3	0.0	21.8
LnGrp LOS	C	B	B	C	C	C	C		C	C		C
Approach Vol, veh/h		670			637			448			373	
Approach Delay, s/veh		18.5			22.3			22.1			21.0	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	29.2		22.2	13.5	24.6		22.2				
Change Period (Y+Rc), s	5.0	5.8		6.3	5.0	5.8		6.3				
Max Green Setting (Gmax), s	14.0	30.0		24.5	19.0	30.0		24.5				
Max Q Clear Time (g_c+I1), s	5.1	7.8		9.4	8.7	10.0		9.3				
Green Ext Time (p_c), s	0.0	7.1		4.1	0.1	7.9		5.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	20.8	
HCM 7th LOS	C	

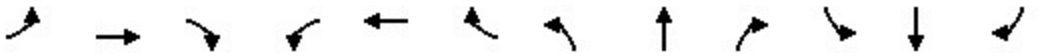
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	40	790	108	723	197	356	94	68	535
v/c Ratio	0.39	0.74	0.64	0.57	0.76	0.60	0.19	0.50	0.72
Control Delay (s/veh)	69.9	40.6	71.6	31.8	70.5	41.8	34.5	69.5	48.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	69.9	40.6	71.6	31.8	70.5	41.8	34.5	69.5	48.4
Queue Length 50th (ft)	30	277	80	232	144	231	52	50	197
Queue Length 95th (ft)	80	426	169	353	#353	434	122	118	314
Internal Link Dist (ft)		1736		1055		1020			627
Turn Bay Length (ft)	110		120		210			70	
Base Capacity (vph)	274	1433	274	1476	274	622	520	274	1100
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.55	0.39	0.49	0.72	0.57	0.18	0.25	0.49

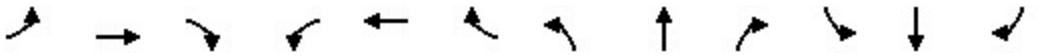
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	623	135	104	612	82	189	342	90	65	484	30
Future Volume (vph)	38	623	135	104	612	82	189	342	90	65	484	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		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	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1694	3288		1694	3319		1694	1783	1492	1694	3187	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1694	3288		1694	3319		1694	1783	1492	1694	3187	
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)	40	649	141	108	638	85	197	356	94	68	504	31
RTOR Reduction (vph)	0	13	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	40	777	0	108	717	0	197	356	94	68	535	0
Confl. Peds. (#/hr)			2			2			1			1
Confl. Bikes (#/hr)			3						4			5
Parking (#/hr)						0					0	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	5.9	39.2		11.7	45.0		17.9	38.8	38.8	8.0	28.9	
Effective Green, g (s)	5.9	39.2		11.7	45.0		17.9	38.8	38.8	8.0	28.9	
Actuated g/C Ratio	0.05	0.33		0.10	0.38		0.15	0.32	0.32	0.07	0.24	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	1.5	5.0		1.5	5.0		2.0	4.0	4.0	2.0	4.0	
Lane Grp Cap (vph)	83	1076		165	1247		253	577	483	113	769	
v/s Ratio Prot	0.02	c0.24		c0.06	c0.22		c0.12	0.20		0.04	c0.17	
v/s Ratio Perm									0.06			
v/c Ratio	0.48	0.72		0.65	0.57		0.78	0.62	0.19	0.60	0.70	
Uniform Delay, d1	55.4	35.5		52.1	29.7		49.0	34.2	29.2	54.3	41.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	3.0		6.9	1.0		12.9	2.3	0.3	6.1	3.0	
Delay (s)	57.0	38.4		59.0	30.8		61.9	36.4	29.4	60.4	44.4	
Level of Service	E	D		E	C		E	D	C	E	D	
Approach Delay (s/veh)		39.3			34.4			43.2			46.2	
Approach LOS		D			C			D			D	

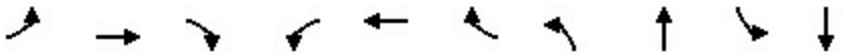
Intersection Summary			
HCM 2000 Control Delay (s/veh)	40.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	119.7	Sum of lost time (s)	22.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	623	135	104	612	82	189	342	90	65	484	30
Future Volume (veh/h)	38	623	135	104	612	82	189	342	90	65	484	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	40	649	127	108	638	78	197	356	94	68	504	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	62	962	188	136	1111	136	232	565	471	88	712	44
Arrive On Green	0.03	0.33	0.33	0.08	0.37	0.37	0.13	0.30	0.30	0.05	0.22	0.22
Sat Flow, veh/h	1767	2932	573	1767	3000	366	1767	1856	1548	1767	3197	196
Grp Volume(v), veh/h	40	390	386	108	375	341	197	356	94	68	277	258
Grp Sat Flow(s),veh/h/ln	1767	1763	1742	1767	1763	1603	1767	1856	1548	1767	1763	1630
Q Serve(g_s), s	2.0	17.5	17.5	5.5	15.5	15.6	10.0	15.1	4.1	3.5	13.3	13.3
Cycle Q Clear(g_c), s	2.0	17.5	17.5	5.5	15.5	15.6	10.0	15.1	4.1	3.5	13.3	13.3
Prop In Lane	1.00		0.33	1.00		0.23	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	62	578	571	136	653	594	232	565	471	88	393	363
V/C Ratio(X)	0.65	0.67	0.68	0.79	0.57	0.58	0.85	0.63	0.20	0.77	0.71	0.71
Avail Cap(c_a), veh/h	357	954	943	357	954	868	357	801	668	357	761	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	26.5	26.5	41.5	23.0	23.0	38.8	27.4	23.6	42.9	32.8	32.8
Incr Delay (d2), s/veh	4.2	2.9	3.0	3.8	1.7	1.9	6.8	1.7	0.3	5.3	3.3	3.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.5	7.4	2.5	6.4	5.9	4.6	6.7	1.5	1.6	6.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.8	29.4	29.5	45.3	24.7	24.9	45.6	29.0	23.8	48.3	36.1	36.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		816			824			647			603	
Approach Delay, s/veh		30.4			27.5			33.3			37.6	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	35.5	17.5	25.9	8.7	39.4	10.0	33.3
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	18.5	49.5	18.5	39.5	18.5	49.5	18.5	39.5
Max Q Clear Time (g_c+I1), s	7.5	19.5	12.0	15.3	4.0	17.6	5.5	17.1
Green Ext Time (p_c), s	0.1	10.3	0.1	4.9	0.0	9.5	0.1	3.5

Intersection Summary	
HCM 7th Control Delay, s/veh	31.7
HCM 7th LOS	C



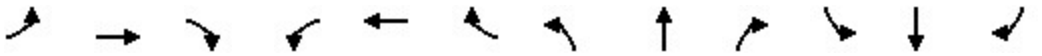
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	238	47	288	219	26	80	891	43	705
v/c Ratio	0.08	0.65	0.12	0.64	0.33	0.05	0.29	0.73	0.20	0.67
Control Delay (s/veh)	15.4	42.9	0.6	24.5	24.0	0.2	20.3	29.9	19.5	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.4	42.9	0.6	24.5	24.0	0.2	20.3	29.9	19.5	32.8
Queue Length 50th (ft)	12	131	0	115	102	0	26	230	14	188
Queue Length 95th (ft)	30	236	0	188	173	0	69	#443	43	#353
Internal Link Dist (ft)		687			456			975		1020
Turn Bay Length (ft)	90		190	170		260	110		170	
Base Capacity (vph)	542	618	568	586	838	678	387	1216	347	1088
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.39	0.08	0.49	0.26	0.04	0.21	0.73	0.12	0.65

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	228	45	276	210	25	77	561	295	41	633	44
Future Volume (vph)	34	228	45	276	210	25	77	561	295	41	633	44
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	5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	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	0.95		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1783	1328	1691	1783	1315	1693	3178		1694	3180	
Flt Permitted	0.56	1.00	1.00	0.43	1.00	1.00	0.25	1.00		0.16	1.00	
Satd. Flow (perm)	985	1783	1328	769	1783	1315	440	3178		293	3180	
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)	35	238	47	288	219	26	80	584	307	43	659	46
RTOR Reduction (vph)	0	0	37	0	0	17	0	50	0	0	4	0
Lane Group Flow (vph)	35	238	10	288	219	9	80	841	0	43	701	0
Confl. Peds. (#/hr)	19		6	6		19	5		5	5		5
Confl. Bikes (#/hr)			8			5			2			3
Parking (#/hr)			0			0					0	0
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	8		4	4		8	6			2		
Actuated Green, G (s)	36.3	20.9	20.9	36.3	33.0	33.0	36.5	32.9		36.5	30.6	
Effective Green, g (s)	36.3	20.9	20.9	36.3	33.0	33.0	36.5	32.9		36.5	30.6	
Actuated g/C Ratio	0.39	0.22	0.22	0.39	0.35	0.35	0.39	0.35		0.39	0.33	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.5	5.5		5.5	5.5	
Vehicle Extension (s)	2.0	4.0	4.0	2.5	4.0	4.0	2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	405	397	295	448	627	462	250	1114		167	1037	
v/s Ratio Prot	0.00	0.13		c0.11	0.12		c0.02	c0.26		0.01	0.22	
v/s Ratio Perm	0.03		0.01	c0.14		0.01	0.10			0.09		
v/c Ratio	0.09	0.60	0.04	0.64	0.35	0.02	0.32	0.75		0.26	0.68	
Uniform Delay, d1	18.1	32.7	28.6	21.5	22.5	19.8	19.1	26.9		19.4	27.3	
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	0.0	2.8	0.1	2.8	0.5	0.0	0.3	3.1		0.3	1.9	
Delay (s)	18.1	35.5	28.6	24.3	22.9	19.9	19.4	30.0		19.7	29.2	
Level of Service	B	D	C	C	C	B	B	C		B	C	
Approach Delay (s/veh)		32.6			23.5			29.2			28.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	93.8	Sum of lost time (s)	21.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	228	45	276	210	25	77	561	295	41	633	44
Future Volume (veh/h)	34	228	45	276	210	25	77	561	295	41	633	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	35	238	10	288	219	8	80	584	256	43	659	42
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	421	369	268	467	599	442	285	756	331	229	973	62
Arrive On Green	0.03	0.20	0.20	0.16	0.32	0.32	0.05	0.32	0.32	0.04	0.31	0.31
Sat Flow, veh/h	1767	1856	1346	1767	1856	1369	1767	2361	1033	1767	3186	203
Grp Volume(v), veh/h	35	238	10	288	219	8	80	436	404	43	364	337
Grp Sat Flow(s),veh/h/ln	1767	1856	1346	1767	1856	1369	1767	1763	1632	1767	1763	1626
Q Serve(g_s), s	1.0	8.8	0.4	9.3	6.7	0.3	2.3	16.6	16.6	1.2	13.4	13.5
Cycle Q Clear(g_c), s	1.0	8.8	0.4	9.3	6.7	0.3	2.3	16.6	16.6	1.2	13.4	13.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.12
Lane Grp Cap(c), veh/h	421	369	268	467	599	442	285	564	522	229	538	496
V/C Ratio(X)	0.08	0.65	0.04	0.62	0.37	0.02	0.28	0.77	0.77	0.19	0.68	0.68
Avail Cap(c_a), veh/h	693	750	544	758	750	553	510	700	648	481	700	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	27.3	24.0	19.0	19.3	17.1	17.3	22.8	22.8	17.6	22.6	22.6
Incr Delay (d2), s/veh	0.0	2.7	0.1	1.0	0.5	0.0	0.2	4.9	5.4	0.1	2.3	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.0	0.1	3.7	2.8	0.1	0.9	7.1	6.6	0.5	5.5	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.0	30.0	24.1	20.0	19.8	17.1	17.5	27.7	28.2	17.7	24.9	25.1
LnGrp LOS	B	C	C	C	B	B	B	C	C	B	C	C
Approach Vol, veh/h		283			515			920			744	
Approach Delay, s/veh		28.1			19.9			27.0			24.6	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	29.3	16.8	19.8	9.5	28.2	7.6	29.0
Change Period (Y+Rc), s	5.5	5.5	5.0	5.0	5.5	5.5	5.0	5.0
Max Green Setting (Gmax), s	13.5	29.5	24.0	30.0	13.5	29.5	14.0	30.0
Max Q Clear Time (g_c+I1), s	3.2	18.6	11.3	10.8	4.3	15.5	3.0	8.7
Green Ext Time (p_c), s	0.0	5.1	0.5	1.8	0.0	4.9	0.0	1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	24.9
HCM 7th LOS	C

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	191	1	956	57	929
v/c Ratio	0.01	0.56	0.02	0.45	0.52	0.56
Control Delay (s/veh)	0.0	24.5	45.0	2.4	87.2	31.0
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay (s/veh)	0.0	24.5	45.0	2.5	87.2	31.0
Queue Length 50th (ft)	0	43	1	23	54	296
Queue Length 95th (ft)	0	146	m1	30	119	564
Internal Link Dist (ft)	150	270		218		975
Turn Bay Length (ft)			70		270	
Base Capacity (vph)	430	406	164	2228	413	1969
Starvation Cap Reductn	0	0	0	198	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.47	0.01	0.47	0.14	0.47

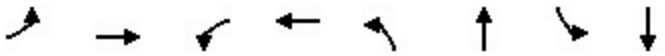
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	88	0	97	1	891	36	55	901	0
Future Volume (vph)	2	0	2	88	0	97	1	891	36	55	901	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		6.0	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			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	
Frt		0.93			0.93		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1610			1616		1694	3364		1694	3388	
Flt Permitted		0.92			0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1514			1401		1694	3364		1694	3388	
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)	2	0	2	91	0	100	1	919	37	57	929	0
RTOR Reduction (vph)	0	3	0	0	117	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	74	0	1	955	0	57	929	0
Confl. Peds. (#/hr)			2	2					3	3		
Confl. Bikes (#/hr)									4			1
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			4		11	6 8		5	2	
Permitted Phases	4			4								
Actuated Green, G (s)		23.3			23.3		1.0	89.7		7.8	69.4	
Effective Green, g (s)		23.3			23.3		1.0	89.7		7.8	69.4	
Actuated g/C Ratio		0.16			0.16		0.01	0.60		0.05	0.46	
Clearance Time (s)		5.5			5.5		5.5			6.0	5.5	
Vehicle Extension (s)		3.5			3.5		1.5			2.0	6.0	
Lane Grp Cap (vph)		234			217		11	2007		87	1564	
v/s Ratio Prot							c0.00	c0.28		c0.03	c0.27	
v/s Ratio Perm		0.00			c0.05							
v/c Ratio		0.00			0.34		0.09	0.48		0.66	0.59	
Uniform Delay, d1		53.7			56.6		74.2	17.1		69.9	30.0	
Progression Factor		1.00			1.00		0.58	0.20		1.00	1.00	
Incremental Delay, d2		0.0			1.1		1.1	0.4		12.7	1.1	
Delay (s)		53.7			57.7		44.4	3.8		82.6	31.1	
Level of Service		D			E		D	A		F	C	
Approach Delay (s/veh)		53.7			57.7			3.8			34.1	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	150.3	Sum of lost time (s)	28.5
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Edition methodology does not support Non-NEMA phasing.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	55	1	2	16	854	7	1118
v/c Ratio	0.24	0.17	0.00	0.01	0.23	0.59	0.11	0.49
Control Delay (s/veh)	56.3	1.1	53.0	44.5	82.3	36.7	53.2	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay (s/veh)	56.3	1.1	53.0	44.5	82.3	36.7	53.2	2.6
Queue Length 50th (ft)	49	0	1	1	15	328	0	21
Queue Length 95th (ft)	111	0	7	11	48	543	m18	34
Internal Link Dist (ft)		3515		196		1175		218
Turn Bay Length (ft)	60				110		80	
Base Capacity (vph)	316	396	316	404	164	1456	164	2507
Starvation Cap Reductn	0	0	0	0	0	0	0	360
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.14	0.00	0.00	0.10	0.59	0.04	0.52

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	0	23	1	1	1	15	783	3	6	963	65
Future Volume (vph)	80	0	23	1	1	1	15	783	3	6	963	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.5	5.5		5.5	5.5	
Lane Util. Factor	0.95	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	0.97		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1605	1357		1692	1633		1694	3386		1694	3350	
Flt Permitted	0.76	0.85		0.72	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1278	1190		1281	1633		1694	3386		1694	3350	
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)	87	0	25	1	1	1	16	851	3	7	1047	71
RTOR Reduction (vph)	0	45	0	0	1	0	0	0	0	0	2	0
Lane Group Flow (vph)	57	10	0	1	1	0	16	854	0	7	1116	0
Confl. Peds. (#/hr)	2		1	1		2			3			2
Confl. Bikes (#/hr)			19			4			5			3
Parking (#/hr)		0	0									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			8		1	6		9	2 4	
Permitted Phases	8			8								
Actuated Green, G (s)	26.2	26.2		26.2	26.2		2.4	63.5		1.0	92.7	
Effective Green, g (s)	26.2	26.2		26.2	26.2		2.4	63.5		1.0	92.7	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.02	0.42		0.01	0.62	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.5	5.5		5.5		
Vehicle Extension (s)	3.5	3.5		3.5	3.5		1.5	6.0		1.5		
Lane Grp Cap (vph)	222	207		223	284		27	1430		11	2066	
v/s Ratio Prot					0.00		c0.01	c0.25		c0.00	c0.33	
v/s Ratio Perm	c0.04	0.01		0.00								
v/c Ratio	0.26	0.05		0.00	0.00		0.59	0.60		0.64	0.54	
Uniform Delay, d1	53.6	51.7		51.3	51.3		73.5	33.5		74.5	16.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.65	0.16	
Incremental Delay, d2	0.7	0.1		0.0	0.0		21.0	1.2		60.2	0.6	
Delay (s)	54.4	51.8		51.3	51.3		94.5	34.8		108.8	3.3	
Level of Service	D	D		D	D		F	C		F	A	
Approach Delay (s/veh)		53.1			51.3			35.9			3.9	
Approach LOS		D			D			D			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	150.3	Sum of lost time (s)	28.5
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

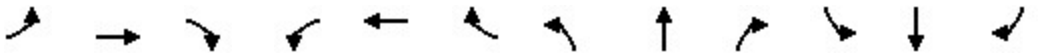
HCM 7th Edition methodology does not support Non-NEMA phasing.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	292	320	167	228	90	950	185	838
v/c Ratio	0.17	0.62	1.05	0.30	0.37	0.33	0.77	0.84	0.63
Control Delay (s/veh)	45.4	30.7	103.6	28.1	6.1	15.1	26.2	48.2	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.4	30.7	103.6	28.1	6.1	15.1	26.2	48.2	24.0
Queue Length 50th (ft)	11	54	~214	67	0	23	211	51	194
Queue Length 95th (ft)	37	106	#388	152	58	59	346	#174	313
Internal Link Dist (ft)		1311		1321			533		1175
Turn Bay Length (ft)	100		100			100		100	
Base Capacity (vph)	284	1154	305	613	662	270	1458	221	1485
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.25	1.05	0.27	0.34	0.33	0.65	0.84	0.56

Intersection Summary

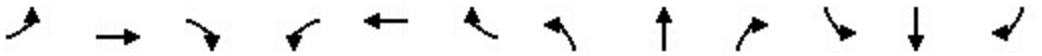
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	174	101	301	157	214	85	588	305	174	763	24
Future Volume (vph)	19	174	101	301	157	214	85	588	305	174	763	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	4.5	6.5		4.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	0.99		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	0.95		1.00	1.00	0.85	1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	3172		1694	1783	1490	1694	3037		1694	3201	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.23	1.00		0.17	1.00	
Satd. Flow (perm)	1694	3172		1694	1783	1490	408	3037		300	3201	
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)	20	185	107	320	167	228	90	626	324	185	812	26
RTOR Reduction (vph)	0	89	0	0	0	160	0	58	0	0	2	0
Lane Group Flow (vph)	20	203	0	320	167	68	90	892	0	185	836	0
Confl. Peds. (#/hr)						2	3		1	1		3
Confl. Bikes (#/hr)			7			4			5			2
Parking (#/hr)								0	0		0	0
Turn Type	Prot	NA		Prot	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases						4	2			6		
Actuated Green, G (s)	2.6	10.5		19.4	27.3	27.3	40.1	35.0		40.1	36.2	
Effective Green, g (s)	2.6	10.5		19.4	27.3	27.3	40.1	35.0		40.1	36.2	
Actuated g/C Ratio	0.03	0.11		0.21	0.30	0.30	0.44	0.38		0.44	0.39	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	6.5		4.5	6.5	
Vehicle Extension (s)	2.5	2.5		3.0	3.0	3.0	3.0	4.5		3.0	4.5	
Lane Grp Cap (vph)	47	362		357	529	442	232	1155		208	1259	
v/s Ratio Prot	0.01	c0.06		c0.19	0.09		0.02	0.29		c0.05	0.26	
v/s Ratio Perm						0.05	0.15			c0.34		
v/c Ratio	0.43	0.56		0.90	0.32	0.15	0.39	0.77		0.89	0.66	
Uniform Delay, d1	44.0	38.6		35.3	25.1	23.8	16.3	25.0		21.3	22.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.5	1.5		23.8	0.3	0.2	1.1	3.7		33.6	1.6	
Delay (s)	48.4	40.1		59.1	25.4	24.0	17.4	28.7		54.9	24.5	
Level of Service	D	D		E	C	C	B	C		D	C	
Approach Delay (s/veh)		40.6			40.1			27.7			30.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	92.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	174	101	301	157	214	85	588	305	174	763	24
Future Volume (veh/h)	19	174	101	301	157	214	85	588	305	174	763	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	185	10	320	167	43	90	626	265	185	812	24
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	40	300	16	331	469	390	312	857	363	293	1279	38
Arrive On Green	0.02	0.09	0.09	0.19	0.25	0.25	0.06	0.38	0.38	0.06	0.39	0.39
Sat Flow, veh/h	1767	3397	182	1767	1856	1544	1767	2276	963	1767	3314	98
Grp Volume(v), veh/h	20	95	100	320	167	43	90	485	406	185	432	404
Grp Sat Flow(s),veh/h/ln	1767	1763	1816	1767	1856	1544	1767	1763	1477	1767	1763	1649
Q Serve(g_s), s	0.9	4.0	4.1	13.9	5.7	1.7	2.3	18.3	18.4	5.0	15.5	15.5
Cycle Q Clear(g_c), s	0.9	4.0	4.1	13.9	5.7	1.7	2.3	18.3	18.4	5.0	15.5	15.5
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.65	1.00		0.06
Lane Grp Cap(c), veh/h	40	155	160	331	469	390	312	664	556	293	680	636
V/C Ratio(X)	0.50	0.61	0.62	0.97	0.36	0.11	0.29	0.73	0.73	0.63	0.64	0.64
Avail Cap(c_a), veh/h	331	671	691	331	706	588	328	909	762	293	909	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	34.1	34.1	31.3	23.8	22.3	14.6	20.8	20.8	16.8	19.4	19.4
Incr Delay (d2), s/veh	7.1	2.9	2.9	40.9	0.5	0.1	0.5	3.0	3.5	4.3	1.7	1.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	1.9	9.3	2.4	0.6	0.9	7.5	6.3	2.2	6.1	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.5	37.0	37.0	72.1	24.2	22.4	15.1	23.7	24.3	21.1	21.1	21.2
LnGrp LOS	D	D	D	E	C	C	B	C	C	C	C	C
Approach Vol, veh/h		215			530			981			1021	
Approach Delay, s/veh		37.7			53.0			23.2			21.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	36.4	7.2	25.1	9.5	35.7	20.0	12.3
Change Period (Y+Rc), s	4.5	6.5	5.5	5.5	4.5	6.5	5.5	5.5
Max Green Setting (Gmax), s	5.0	40.0	14.5	29.5	5.0	40.0	14.5	29.5
Max Q Clear Time (g_c+I1), s	4.3	17.5	2.9	7.7	7.0	20.4	15.9	6.1
Green Ext Time (p_c), s	0.0	8.6	0.0	0.9	0.0	8.8	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	29.3
HCM 7th LOS	C

Notes

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

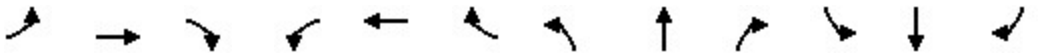
Lane Group	EBT	NBL	NBT	SBT
Lane Group Flow (vph)	162	27	943	1266
v/c Ratio	0.53	0.09	0.41	0.62
Control Delay (s/veh)	14.7	4.3	5.5	11.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.7	4.3	5.5	11.5
Queue Length 50th (ft)	10	2	61	94
Queue Length 95th (ft)	59	10	132	#325
Internal Link Dist (ft)	2029		1464	533
Turn Bay Length (ft)		110		
Base Capacity (vph)	538	306	2504	2051
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.09	0.38	0.62

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	0	38	0	0	0	25	868	0	0	1033	132
Future Volume (vph)	111	0	38	0	0	0	25	868	0	0	1033	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0					4.5	6.5			6.5	
Lane Util. Factor		1.00					1.00	0.95			0.95	
Frpb, ped/bikes		0.99					1.00	1.00			1.00	
Flpb, ped/bikes		1.00					1.00	1.00			1.00	
Frt		0.97					1.00	1.00			0.98	
Flt Protected		0.96					0.95	1.00			1.00	
Satd. Flow (prot)		1651					1525	3219			3154	
Flt Permitted		0.78					0.17	1.00			1.00	
Satd. Flow (perm)		1337					269	3219			3154	
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)	121	0	41	0	0	0	27	943	0	0	1123	143
RTOR Reduction (vph)	0	112	0	0	0	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	50	0	0	0	0	27	943	0	0	1255	0
Confl. Peds. (#/hr)			5				4					4
Confl. Bikes (#/hr)			3									5
Parking (#/hr)	0		0				0	0			0	0
Turn Type	Perm	NA					D.P+P	NA			NA	
Protected Phases		8			4		1	6			2	
Permitted Phases	8			4			2					
Actuated Green, G (s)		6.5					34.3	38.8			32.6	
Effective Green, g (s)		6.5					34.3	38.8			32.6	
Actuated g/C Ratio		0.11					0.60	0.68			0.57	
Clearance Time (s)		5.0					4.5	6.5			6.5	
Vehicle Extension (s)		3.0					3.0	5.0			5.0	
Lane Grp Cap (vph)		153					200	2198			1810	
v/s Ratio Prot							0.00	c0.29			c0.40	
v/s Ratio Perm		c0.04					0.08					
v/c Ratio		0.33					0.14	0.43			0.69	
Uniform Delay, d1		23.1					5.1	4.0			8.6	
Progression Factor		1.00					1.00	1.00			1.00	
Incremental Delay, d2		1.3					0.3	0.3			1.5	
Delay (s)		24.4					5.4	4.3			10.0	
Level of Service		C					A	A			B	
Approach Delay (s/veh)		24.4			0.0			4.3			10.0	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	56.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	0	38	0	0	0	25	868	0	0	1033	132
Future Volume (veh/h)	111	0	38	0	0	0	25	868	0	0	1033	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	121	0	21	0	0	0	27	943	0	0	1123	131
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	279	4	27	0	262	0	296	2249	0	0	1566	182
Arrive On Green	0.14	0.00	0.14	0.00	0.00	0.00	0.03	0.64	0.00	0.00	0.52	0.52
Sat Flow, veh/h	1067	31	191	0	1856	0	1767	3618	0	0	3101	350
Grp Volume(v), veh/h	142	0	0	0	0	0	27	943	0	0	657	597
Grp Sat Flow(s),veh/h/ln	1289	0	0	0	1856	0	1767	1763	0	0	1763	1595
Q Serve(g_s), s	5.4	0.0	0.0	0.0	0.0	0.0	0.4	6.9	0.0	0.0	14.8	14.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	0.0	0.0	0.0	0.4	6.9	0.0	0.0	14.8	14.9
Prop In Lane	0.85		0.15	0.00		0.00	1.00		0.00	0.00		0.22
Lane Grp Cap(c), veh/h	310	0	0	0	262	0	296	2249	0	0	918	831
V/C Ratio(X)	0.46	0.00	0.00	0.00	0.00	0.00	0.09	0.42	0.00	0.00	0.72	0.72
Avail Cap(c_a), veh/h	559	0	0	0	623	0	410	2706	0	0	1032	934
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	0.0	0.0	0.0	0.0	0.0	7.6	4.7	0.0	0.0	9.5	9.6
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	2.9	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	0.0	0.0	0.0	0.1	1.5	0.0	0.0	4.8	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.6	0.0	0.0	0.0	0.0	0.0	7.7	4.9	0.0	0.0	12.5	12.9
LnGrp LOS	C						A	A			B	B
Approach Vol, veh/h		142			0			970			1254	
Approach Delay, s/veh		22.6			0.0			5.0			12.7	
Approach LOS		C						A			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	6.1	33.6		12.4		39.8		12.4				
Change Period (Y+Rc), s	4.5	6.5		5.0		6.5		5.0				
Max Green Setting (Gmax), s	5.0	30.5		17.5		40.0		17.5				
Max Q Clear Time (g_c+I1), s	2.4	16.9		0.0		8.9		7.5				
Green Ext Time (p_c), s	0.0	10.1		0.0		13.9		0.5				

Intersection Summary		
HCM 7th Control Delay, s/veh	10.1	
HCM 7th LOS	B	

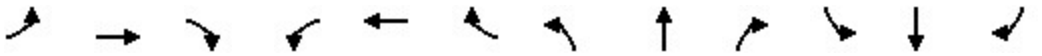
Notes
User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	128	36	36	917	14	1181
v/c Ratio	0.44	0.12	0.11	0.42	0.03	0.57
Control Delay (s/veh)	24.7	21.2	6.9	9.6	6.6	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.7	21.2	6.9	9.6	6.6	12.8
Queue Length 50th (ft)	35	10	4	76	2	110
Queue Length 95th (ft)	89	35	22	278	12	400
Internal Link Dist (ft)	1046	977		1312		1464
Turn Bay Length (ft)			70		100	
Base Capacity (vph)	529	562	332	2236	436	2142
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.06	0.11	0.41	0.03	0.55

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	21	35	17	13	4	33	829	15	13	1030	56
Future Volume (vph)	62	21	35	17	13	4	33	829	15	13	1030	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5	5.5		4.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			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	
Frt		0.96			0.99		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1489			1536		1694	3209		1693	3190	
Flt Permitted		0.82			0.86		0.19	1.00		0.28	1.00	
Satd. Flow (perm)		1248			1358		332	3209		497	3190	
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)	67	23	38	18	14	4	36	901	16	14	1120	61
RTOR Reduction (vph)	0	22	0	0	3	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	106	0	0	33	0	36	916	0	14	1177	0
Confl. Peds. (#/hr)	8		6	6		8	4		6	6		4
Confl. Bikes (#/hr)			1			1			4			2
Parking (#/hr)	0	0	0	0	0	0		0	0		0	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		11.3			11.3		43.1	42.4		43.1	41.5	
Effective Green, g (s)		11.3			11.3		43.1	42.4		43.1	41.5	
Actuated g/C Ratio		0.16			0.16		0.62	0.61		0.62	0.60	
Clearance Time (s)		5.0			5.0		4.5	5.5		4.5	5.5	
Vehicle Extension (s)		3.5			3.0		3.0	6.0		3.0	6.0	
Lane Grp Cap (vph)		203			221		237	1960		320	1907	
v/s Ratio Prot							c0.00	0.29		0.00	c0.37	
v/s Ratio Perm		c0.09			0.02		0.09			0.03		
v/c Ratio		0.52			0.15		0.15	0.47		0.04	0.62	
Uniform Delay, d1		26.6			24.9		5.8	7.4		5.2	8.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.8			0.3		0.3	0.5		0.1	1.0	
Delay (s)		29.4			25.2		6.1	7.8		5.2	9.9	
Level of Service		C			C		A	A		A	A	
Approach Delay (s/veh)		29.4			25.2			7.8			9.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	69.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	21	35	17	13	4	33	829	15	13	1030	56
Future Volume (veh/h)	62	21	35	17	13	4	33	829	15	13	1030	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	67	23	11	18	14	1	36	901	15	14	1120	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	213	63	21	187	116	6	346	1959	33	414	1816	92
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.04	0.58	0.58	0.02	0.56	0.56
Sat Flow, veh/h	773	440	148	642	809	45	1767	3365	56	1767	3233	164
Grp Volume(v), veh/h	101	0	0	33	0	0	36	472	444	14	610	567
Grp Sat Flow(s),veh/h/ln	1362	0	0	1496	0	0	1767	1763	1658	1767	1763	1635
Q Serve(g_s), s	2.9	0.0	0.0	0.0	0.0	0.0	0.5	8.9	8.9	0.2	13.5	13.6
Cycle Q Clear(g_c), s	3.9	0.0	0.0	1.0	0.0	0.0	0.5	8.9	8.9	0.2	13.5	13.6
Prop In Lane	0.66		0.11	0.55		0.03	1.00		0.03	1.00		0.10
Lane Grp Cap(c), veh/h	298	0	0	310	0	0	346	1026	965	414	990	918
V/C Ratio(X)	0.34	0.00	0.00	0.11	0.00	0.00	0.10	0.46	0.46	0.03	0.62	0.62
Avail Cap(c_a), veh/h	664	0	0	526	0	0	430	1194	1123	534	1194	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	0.0	21.8	0.0	0.0	6.5	7.0	7.0	5.4	8.6	8.6
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.1	0.0	0.0	0.1	1.2	1.2	0.0	2.3	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.4	0.0	0.0	0.1	2.7	2.6	0.1	4.4	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.8	0.0	0.0	22.0	0.0	0.0	6.6	8.1	8.2	5.4	10.8	11.0
LnGrp LOS	C			C			A	A	A	A	B	B
Approach Vol, veh/h		101			33			952			1191	
Approach Delay, s/veh		23.8			22.0			8.1			10.9	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	38.3		13.4	5.5	39.5		13.4				
Change Period (Y+Rc), s	4.5	5.5		5.0	4.5	5.5		5.0				
Max Green Setting (Gmax), s	5.0	39.5		17.5	5.0	39.5		24.5				
Max Q Clear Time (g_c+I1), s	2.5	15.6		3.0	2.2	10.9		5.9				
Green Ext Time (p_c), s	0.0	17.1		0.1	0.0	15.0		0.5				

Intersection Summary		
HCM 7th Control Delay, s/veh	10.4	
HCM 7th LOS	B	

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	144	652	50	174	593	223	49	623	102	220	862
v/c Ratio	0.94	0.58	0.09	1.02	0.50	0.33	0.47	0.79	0.22	1.25	0.91
Control Delay (s/veh)	112.5	34.9	0.3	128.3	33.1	5.1	67.6	51.7	2.6	194.8	55.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	112.5	34.9	0.3	128.3	33.1	5.1	67.6	51.7	2.6	194.8	55.7
Queue Length 50th (ft)	115	225	0	~147	198	0	38	242	0	~217	343
Queue Length 95th (ft)	#248	294	0	#295	260	56	79	308	15	#381	#503
Internal Link Dist (ft)		1689			2015			1308			1312
Turn Bay Length (ft)	190		100	180		150	140		100	160	
Base Capacity (vph)	153	1127	580	170	1186	676	170	861	498	176	948
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.58	0.09	1.02	0.50	0.33	0.29	0.72	0.20	1.25	0.91

Intersection Summary

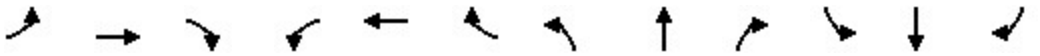
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	613	47	164	557	210	46	586	96	207	695	116
Future Volume (vph)	135	613	47	164	557	210	46	586	96	207	695	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	10	11	12	10	12	12	11	11	12
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.97	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	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
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)	1472	3219	1379	1636	3388	1519	1636	3505	1568	1694	3306	
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)	1472	3219	1379	1636	3388	1519	1636	3505	1568	1694	3306	
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)	144	652	50	174	593	223	49	623	102	220	739	123
RTOR Reduction (vph)	0	0	33	0	0	147	0	0	78	0	11	0
Lane Group Flow (vph)	144	652	17	174	593	76	49	623	24	220	851	0
Confl. Peds. (#/hr)			6			12						6
Confl. Bikes (#/hr)			7			9						2
Parking (#/hr)	0	0	0									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	12.5	40.8	40.8	12.5	40.8	40.8	6.7	28.2	28.2	12.5	34.0	
Effective Green, g (s)	12.5	40.8	40.8	12.5	40.8	40.8	6.7	28.2	28.2	12.5	34.0	
Actuated g/C Ratio	0.10	0.34	0.34	0.10	0.34	0.34	0.06	0.24	0.24	0.10	0.28	
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	1.5	4.0	4.0	1.5	4.0	4.0	1.5	4.0	4.0	1.5	4.0	
Lane Grp Cap (vph)	153	1094	468	170	1151	516	91	823	368	176	936	
v/s Ratio Prot	0.10	c0.20		c0.11	0.18		0.03	0.18		c0.13	c0.26	
v/s Ratio Perm			0.01			0.05			0.02			
v/c Ratio	0.94	0.60	0.04	1.02	0.52	0.15	0.54	0.76	0.07	1.25	0.91	
Uniform Delay, d1	53.4	32.8	26.5	53.8	31.7	27.5	55.1	42.7	35.7	53.8	41.5	
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	54.7	2.4	0.1	75.3	1.6	0.6	3.0	4.3	0.1	150.7	12.7	
Delay (s)	108.1	35.2	26.6	129.1	33.3	28.1	58.2	47.0	35.8	204.4	54.2	
Level of Service	F	D	C	F	C	C	E	D	D	F	D	
Approach Delay (s/veh)		47.1			49.0			46.2			84.7	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	58.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	85.3%	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 (veh/h)	135	613	47	164	557	210	46	586	96	207	695	116
Future Volume (veh/h)	135	613	47	164	557	210	46	586	96	207	695	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	144	652	15	174	593	70	49	623	19	220	739	111
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	170	1284	504	184	1312	569	63	744	332	184	856	129
Arrive On Green	0.10	0.36	0.36	0.10	0.37	0.37	0.04	0.21	0.21	0.10	0.28	0.28
Sat Flow, veh/h	1767	3526	1385	1767	3526	1530	1767	3526	1572	1767	3064	460
Grp Volume(v), veh/h	144	652	15	174	593	70	49	623	19	220	425	425
Grp Sat Flow(s),veh/h/ln	1767	1763	1385	1767	1763	1530	1767	1763	1572	1767	1763	1762
Q Serve(g_s), s	9.6	17.3	0.8	11.7	15.2	3.6	3.3	20.3	1.2	12.5	27.5	27.5
Cycle Q Clear(g_c), s	9.6	17.3	0.8	11.7	15.2	3.6	3.3	20.3	1.2	12.5	27.5	27.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	170	1284	504	184	1312	569	63	744	332	184	493	492
V/C Ratio(X)	0.85	0.51	0.03	0.95	0.45	0.12	0.78	0.84	0.06	1.20	0.86	0.86
Avail Cap(c_a), veh/h	184	1284	504	184	1312	569	184	867	387	184	493	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	0.96	0.96	0.96	0.80	0.80	0.80
Uniform Delay (d), s/veh	53.4	29.8	24.5	53.4	28.4	24.8	57.4	45.4	37.8	53.8	41.0	41.1
Incr Delay (d2), s/veh	23.2	1.3	0.1	50.1	1.1	0.4	7.2	6.7	0.1	122.2	12.4	12.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	7.5	0.3	7.7	6.6	1.4	1.6	9.5	0.5	11.7	13.4	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	76.6	31.0	24.6	103.5	29.6	25.2	64.6	52.1	37.9	176.0	53.4	53.5
LnGrp LOS	E	C	C	F	C	C	E	D	D	F	D	D
Approach Vol, veh/h		811			837			691			1070	
Approach Delay, s/veh		39.0			44.6			52.6			78.7	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	31.8	18.0	51.2	10.8	40.0	19.0	50.2
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	12.5	29.5	12.5	39.5	12.5	29.5	12.5	39.5
Max Q Clear Time (g_c+I1), s	14.5	22.3	11.6	17.2	5.3	29.5	13.7	19.3
Green Ext Time (p_c), s	0.0	3.0	0.0	5.9	0.0	0.0	0.0	5.9

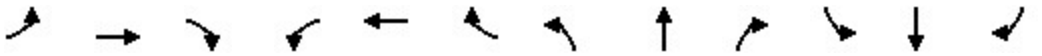
Intersection Summary	
HCM 7th Control Delay, s/veh	55.6
HCM 7th LOS	E

Notes

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

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	38	35	788	27	880
v/c Ratio	0.22	0.13	0.08	0.31	0.07	0.37
Control Delay (s/veh)	12.4	11.1	6.9	5.6	6.9	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.4	11.1	6.9	5.6	6.9	6.0
Queue Length 50th (ft)	7	4	3	42	2	48
Queue Length 95th (ft)	33	23	23	153	19	178
Internal Link Dist (ft)	1467	309		1757		1308
Turn Bay Length (ft)			100		70	
Base Capacity (vph)	612	672	451	2670	432	2526
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.06	0.08	0.30	0.06	0.35

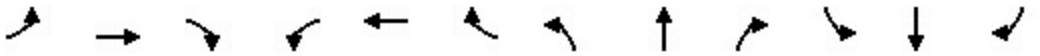
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	10	30	8	5	22	32	707	10	25	766	35
Future Volume (vph)	16	10	30	8	5	22	32	707	10	25	766	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12	11	11	12	10	11	11
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.93			0.91		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1456			1597		1692	3380		1470	3194	
Flt Permitted		0.89			0.90		0.32	1.00		0.35	1.00	
Satd. Flow (perm)		1312			1454		571	3380		547	3194	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	18	11	33	9	5	24	35	777	11	27	842	38
RTOR Reduction (vph)	0	29	0	0	21	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	33	0	0	17	0	35	787	0	27	876	0
Confl. Peds. (#/hr)	1		3	3		1	6		5	5		6
Confl. Bikes (#/hr)			1			1			3			4
Parking (#/hr)	0	0	0	0		0				0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		6.0			6.0		32.6	32.6		32.6	32.6	
Effective Green, g (s)		6.0			6.0		32.6	32.6		32.6	32.6	
Actuated g/C Ratio		0.12			0.12		0.66	0.66		0.66	0.66	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		160			177		379	2244		363	2120	
v/s Ratio Prot								0.23			c0.27	
v/s Ratio Perm		c0.03			0.01		0.06			0.05		
v/c Ratio		0.21			0.10		0.09	0.35		0.07	0.41	
Uniform Delay, d1		19.4			19.1		3.0	3.6		2.9	3.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.2		0.2	0.2		0.2	0.3	
Delay (s)		20.0			19.4		3.2	3.8		3.1	4.1	
Level of Service		C			B		A	A		A	A	
Approach Delay (s/veh)		20.0			19.4			3.8			4.1	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	4.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	49.1	Sum of lost time (s)	10.5
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

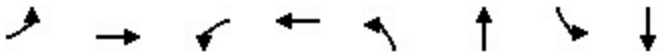


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	10	30	8	5	22	32	707	10	25	766	35
Future Volume (veh/h)	16	10	30	8	5	22	32	707	10	25	766	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	18	11	1	9	5	1	35	777	10	27	842	34
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	172	22	2	173	21	4	556	2530	33	598	2450	99
Arrive On Green	0.04	0.04	0.04	0.04	0.04	0.04	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	852	521	47	885	492	98	627	3563	46	682	3450	139
Grp Volume(v), veh/h	30	0	0	15	0	0	35	384	403	27	430	446
Grp Sat Flow(s),veh/h/ln	1420	0	0	1475	0	0	627	1763	1846	682	1763	1826
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	0.0	1.0	3.4	3.4	0.6	4.0	4.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.4	0.0	0.0	4.9	3.4	3.4	4.1	4.0	4.0
Prop In Lane	0.60		0.03	0.60		0.07	1.00		0.02	1.00		0.08
Lane Grp Cap(c), veh/h	196	0	0	198	0	0	556	1252	1311	598	1252	1297
V/C Ratio(X)	0.15	0.00	0.00	0.08	0.00	0.00	0.06	0.31	0.31	0.05	0.34	0.34
Avail Cap(c_a), veh/h	767	0	0	765	0	0	627	1452	1520	676	1452	1504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	19.7	0.0	0.0	3.3	2.3	2.3	3.0	2.4	2.4
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	0.0	0.0	0.1	0.3	0.3	0.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.3	0.3	0.0	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.2	0.0	0.0	19.8	0.0	0.0	3.4	2.6	2.6	3.1	2.7	2.7
LnGrp LOS	C			B			A	A	A	A	A	A
Approach Vol, veh/h		30			15			822			903	
Approach Delay, s/veh		20.2			19.8			2.6			2.7	
Approach LOS		C			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.7		6.8		35.7		6.8				
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0				
Max Green Setting (Gmax), s		35.0		19.5		35.0		19.5				
Max Q Clear Time (g_c+I1), s		6.9		2.8		6.1		2.4				
Green Ext Time (p_c), s		10.7		0.1		12.1		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	3.1
HCM 7th LOS	A

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



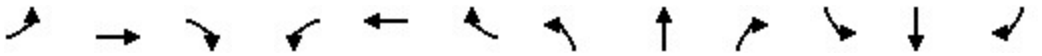
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	328	148	472	33	520	221	571
v/c Ratio	0.06	0.66	0.57	0.86	0.29	0.65	0.78	0.43
Control Delay (s/veh)	24.1	41.1	35.9	48.4	57.4	39.9	60.1	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.1	41.1	35.9	48.4	57.4	39.9	60.1	23.4
Queue Length 50th (ft)	5	188	64	252	20	153	132	138
Queue Length 95th (ft)	22	350	142	#643	62	257	263	224
Internal Link Dist (ft)		1269		825		628		1757
Turn Bay Length (ft)					100		150	
Base Capacity (vph)	218	626	259	550	284	1373	426	1686
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.52	0.57	0.86	0.12	0.38	0.52	0.34

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	285	33	144	244	213	32	490	15	214	514	40
Future Volume (vph)	13	285	33	144	244	213	32	490	15	214	514	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	11	11	12	11	11	12	10	11	11
Total Lost time (s)	6.0	6.0		5.5	6.0		5.5	6.0		5.5	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	1752		1525	1482		1694	3371		1472	3175	
Flt Permitted	0.23	1.00		0.38	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	409	1752		608	1482		1694	3371		1472	3175	
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)	13	294	34	148	252	220	33	505	15	221	530	41
RTOR Reduction (vph)	0	3	0	0	21	0	0	2	0	0	4	0
Lane Group Flow (vph)	13	325	0	148	451	0	33	518	0	221	567	0
Confl. Peds. (#/hr)			5			4			8			8
Confl. Bikes (#/hr)			1						1			5
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	0	0	0	0
Parking (#/hr)				0	0	0				0	0	
Turn Type	D.P+P	NA		D.P+P	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	6			2								
Actuated Green, G (s)	37.9	32.7		38.4	36.2		4.3	26.6		19.5	41.8	
Effective Green, g (s)	37.9	32.7		38.4	36.2		4.3	26.6		19.5	41.8	
Actuated g/C Ratio	0.35	0.30		0.36	0.34		0.04	0.25		0.18	0.39	
Clearance Time (s)	6.0	6.0		5.5	6.0		5.5	6.0		5.5	6.0	
Vehicle Extension (s)	4.0	4.0		2.0	4.5		2.0	4.5		2.0	4.5	
Lane Grp Cap (vph)	164	532		265	499		67	834		267	1234	
v/s Ratio Prot	0.00	0.19		c0.03	c0.30		0.02	c0.15		c0.15	0.18	
v/s Ratio Perm	0.03			0.17								
v/c Ratio	0.08	0.61		0.56	0.90		0.49	0.62		0.83	0.46	
Uniform Delay, d1	24.5	32.0		27.2	34.0		50.5	36.0		42.4	24.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	2.4		1.5	20.2		2.1	1.8		17.8	0.5	
Delay (s)	24.8	34.4		28.7	54.2		52.6	37.8		60.2	24.9	
Level of Service	C	C		C	D		D	D		E	C	
Approach Delay (s/veh)		34.0			48.1			38.7			34.8	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	107.5	Sum of lost time (s)	23.5
Intersection Capacity Utilization	79.3%	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 (veh/h)	13	285	33	144	244	213	32	490	15	214	514	40
Future Volume (veh/h)	13	285	33	144	244	213	32	490	15	214	514	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	13	294	28	148	252	173	33	505	0	221	530	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	175	462	44	330	295	202	56	830		261	1239	
Arrive On Green	0.02	0.28	0.28	0.07	0.32	0.32	0.03	0.24	0.00	0.15	0.35	0.00
Sat Flow, veh/h	1767	1665	159	1767	917	630	1767	3618	0	1767	3618	0
Grp Volume(v), veh/h	13	0	322	148	0	425	33	505	0	221	530	0
Grp Sat Flow(s),veh/h/ln	1767	0	1824	1767	0	1547	1767	1763	0	1767	1763	0
Q Serve(g_s), s	0.4	0.0	13.0	5.0	0.0	21.6	1.5	10.7	0.0	10.2	9.6	0.0
Cycle Q Clear(g_c), s	0.4	0.0	13.0	5.0	0.0	21.6	1.5	10.7	0.0	10.2	9.6	0.0
Prop In Lane	1.00		0.09	1.00		0.41	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	175	0	506	330	0	497	56	830		261	1239	
V/C Ratio(X)	0.07	0.00	0.64	0.45	0.00	0.85	0.58	0.61		0.85	0.43	
Avail Cap(c_a), veh/h	252	0	760	330	0	645	347	1679		599	1679	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.4	0.0	26.6	21.0	0.0	26.7	40.1	28.7	0.0	34.9	20.8	0.0
Incr Delay (d2), s/veh	0.3	0.0	1.9	0.4	0.0	10.5	3.5	1.2	0.0	2.9	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	5.7	2.0	0.0	8.9	0.7	4.5	0.0	4.4	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.7	0.0	28.5	21.3	0.0	37.1	43.6	29.9	0.0	37.8	21.2	0.0
LnGrp LOS	C		C	C		D	D	C		D	C	
Approach Vol, veh/h		335			573			538			751	
Approach Delay, s/veh		28.3			33.1			30.7			26.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	29.3	8.2	35.5	7.3	33.0	17.9	25.8
Change Period (Y+Rc), s	5.5	6.0	5.5	6.0	6.0	6.0	5.5	6.0
Max Green Setting (Gmax), s	5.5	35.0	16.5	40.0	5.0	35.0	28.5	40.0
Max Q Clear Time (g_c+I1), s	7.0	15.0	3.5	11.6	2.4	23.6	12.2	12.7
Green Ext Time (p_c), s	0.0	2.6	0.0	6.0	0.0	3.1	0.3	5.6

Intersection Summary	
HCM 7th Control Delay, s/veh	29.4
HCM 7th LOS	C

Notes

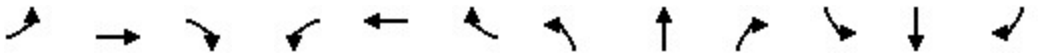
User approved pedestrian interval to be less than phase max green.

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

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	296	16	71	489	7	697
v/c Ratio	0.78	0.07	0.20	0.28	0.01	0.47
Control Delay (s/veh)	38.9	15.6	9.3	10.9	7.9	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.9	15.6	9.3	10.9	7.9	14.1
Queue Length 50th (ft)	125	3	14	58	1	106
Queue Length 95th (ft)	#219	17	34	124	7	167
Internal Link Dist (ft)	2562	754		1844		628
Turn Bay Length (ft)			75		80	
Base Capacity (vph)	479	440	350	1738	487	1485
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.04	0.20	0.28	0.01	0.47

Intersection Summary

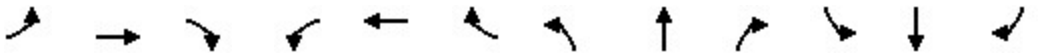
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	129	65	6	1	9	68	443	27	7	477	192
Future Volume (vph)	90	129	65	6	1	9	68	443	27	7	477	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	10	11	11	11	11	11
Total Lost time (s)		6.0			6.0		4.5	6.0		4.5	6.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.92		1.00	0.99		1.00	0.96	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1517			1432		1470	3185		1521	3051	
Flt Permitted		0.89			0.87		0.34	1.00		0.47	1.00	
Satd. Flow (perm)		1368			1274		530	3185		754	3051	
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)	94	134	68	6	1	9	71	461	28	7	497	200
RTOR Reduction (vph)	0	14	0	0	7	0	0	4	0	0	48	0
Lane Group Flow (vph)	0	282	0	0	9	0	71	485	0	7	649	0
Confl. Peds. (#/hr)	15		6	6		15	10		10	10		10
Confl. Bikes (#/hr)			3			1			2			3
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		19.9			19.9		41.4	40.5		41.4	37.6	
Effective Green, g (s)		19.9			19.9		41.4	40.5		41.4	37.6	
Actuated g/C Ratio		0.26			0.26		0.53	0.52		0.53	0.48	
Clearance Time (s)		6.0			6.0		4.5	6.0		4.5	6.0	
Vehicle Extension (s)		4.0			4.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)		349			325		327	1658		410	1474	
v/s Ratio Prot							c0.01	c0.15		0.00	c0.21	
v/s Ratio Perm		c0.21			0.01		0.10			0.01		
v/c Ratio		0.81			0.03		0.22	0.29		0.02	0.44	
Uniform Delay, d1		27.2			21.7		9.1	10.5		8.6	13.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		13.5			0.0		0.3	0.2		0.0	0.4	
Delay (s)		40.6			21.8		9.4	10.8		8.6	13.6	
Level of Service		D			C		A	B		A	B	
Approach Delay (s/veh)		40.6			21.8			10.6			13.6	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	77.8	Sum of lost time (s)	16.5
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 (veh/h)	90	129	65	6	1	9	68	443	27	7	477	192
Future Volume (veh/h)	90	129	65	6	1	9	68	443	27	7	477	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	94	134	51	6	1	3	71	461	22	7	497	144
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	165	192	65	219	43	78	464	1689	80	513	1212	349
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.05	0.52	0.52	0.01	0.48	0.48
Sat Flow, veh/h	407	794	269	576	179	324	1767	3245	154	1767	2542	731
Grp Volume(v), veh/h	279	0	0	10	0	0	71	250	233	7	344	297
Grp Sat Flow(s),veh/h/ln	1469	0	0	1079	0	0	1767	1763	1636	1767	1763	1509
Q Serve(g_s), s	9.9	0.0	0.0	0.0	0.0	0.0	1.4	5.7	5.8	0.1	9.2	9.3
Cycle Q Clear(g_c), s	12.7	0.0	0.0	0.4	0.0	0.0	1.4	5.7	5.8	0.1	9.2	9.3
Prop In Lane	0.34		0.18	0.60		0.30	1.00		0.09	1.00		0.48
Lane Grp Cap(c), veh/h	423	0	0	341	0	0	464	917	852	513	841	720
V/C Ratio(X)	0.66	0.00	0.00	0.03	0.00	0.00	0.15	0.27	0.27	0.01	0.41	0.41
Avail Cap(c_a), veh/h	572	0	0	463	0	0	493	917	852	619	841	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	0.0	20.9	0.0	0.0	9.0	9.7	9.7	8.3	12.3	12.3
Incr Delay (d2), s/veh	2.5	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.0	0.7	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.0	0.1	0.0	0.0	0.5	2.0	1.9	0.0	3.3	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.0	0.0	0.0	20.9	0.0	0.0	9.1	10.0	10.1	8.3	13.0	13.1
LnGrp LOS	C			C			A	B	B	A	B	B
Approach Vol, veh/h		279			10			554			648	
Approach Delay, s/veh		28.0			20.9			9.9			13.0	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	43.6		23.5	8.3	40.5		23.5				
Change Period (Y+Rc), s	4.5	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	5.0	34.5		25.0	5.0	34.5		25.0				
Max Q Clear Time (g_c+I1), s	2.1	7.8		14.7	3.4	11.3		2.4				
Green Ext Time (p_c), s	0.0	5.6		1.6	0.0	7.5		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	14.7	
HCM 7th LOS	B	

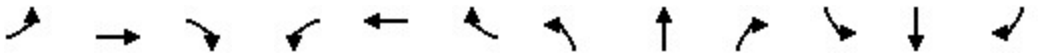
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	192	454	81	535	416	479
v/c Ratio	0.72	0.34	0.49	0.53	0.50	0.58
Control Delay (s/veh)	48.0	17.9	46.0	24.3	21.6	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	48.0	17.9	46.0	24.3	21.6	18.0
Queue Length 50th (ft)	84	73	36	101	69	61
Queue Length 95th (ft)	#197	158	96	204	131	126
Internal Link Dist (ft)		2554		2157	2447	1844
Turn Bay Length (ft)	200		250			
Base Capacity (vph)	413	1616	304	1364	1116	1077
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.28	0.27	0.39	0.37	0.44

Intersection Summary

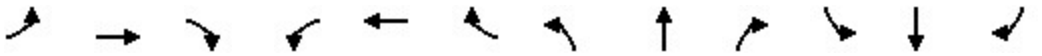
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	184	432	4	78	473	40	4	274	122	39	235	185
Future Volume (vph)	184	432	4	78	473	40	4	274	122	39	235	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	5.0	5.8		5.0	5.8			6.3			6.3	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frpb, ped/bikes	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	
Frt	1.00	1.00		1.00	0.99			0.95			0.94	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1525	3214		1525	3175			3070			2994	
Flt Permitted	0.95	1.00		0.95	1.00			0.95			0.87	
Satd. Flow (perm)	1525	3214		1525	3175			2915			2627	
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)	192	450	4	81	493	42	4	285	127	41	245	193
RTOR Reduction (vph)	0	1	0	0	7	0	0	55	0	0	131	0
Lane Group Flow (vph)	192	453	0	81	528	0	0	361	0	0	348	0
Confl. Peds. (#/hr)			4			4	1					1
Confl. Bikes (#/hr)			4			10						2
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	12.9	31.2		6.6	24.9			19.8			19.8	
Effective Green, g (s)	12.9	31.2		6.6	24.9			19.8			19.8	
Actuated g/C Ratio	0.17	0.42		0.09	0.33			0.27			0.27	
Clearance Time (s)	5.0	5.8		5.0	5.8			6.3			6.3	
Vehicle Extension (s)	1.5	6.5		1.0	6.5			6.0			6.0	
Lane Grp Cap (vph)	263	1342		134	1058			772			696	
v/s Ratio Prot	c0.13	0.14		0.05	c0.17							
v/s Ratio Perm								0.12			c0.13	
v/c Ratio	0.73	0.34		0.60	0.50			0.47			0.50	
Uniform Delay, d1	29.3	14.7		32.8	19.9			23.0			23.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	8.6	0.5		5.2	1.2			1.3			1.6	
Delay (s)	37.9	15.2		38.0	21.1			24.3			24.9	
Level of Service	D	B		D	C			C			C	
Approach Delay (s/veh)		22.0			23.3			24.3			24.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	74.7	Sum of lost time (s)	17.1
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	432	4	78	473	40	4	274	122	39	235	185
Future Volume (veh/h)	184	432	4	78	473	40	4	274	122	39	235	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	192	450	3	81	493	35	4	285	70	41	245	57
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	242	1331	9	116	1011	72	71	579	138	125	501	115
Arrive On Green	0.14	0.39	0.39	0.07	0.32	0.32	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1767	3405	23	1767	3163	224	10	2618	626	190	2266	522
Grp Volume(v), veh/h	192	233	220	81	274	254	202	0	157	188	0	155
Grp Sat Flow(s),veh/h/ln	1767	1763	1665	1767	1763	1624	1848	0	1406	1562	0	1416
Q Serve(g_s), s	5.6	4.9	4.9	2.4	6.6	6.7	0.0	0.0	5.2	0.5	0.0	5.1
Cycle Q Clear(g_c), s	5.6	4.9	4.9	2.4	6.6	6.7	5.0	0.0	5.2	5.7	0.0	5.1
Prop In Lane	1.00		0.01	1.00		0.14	0.02		0.44	0.22		0.37
Lane Grp Cap(c), veh/h	242	689	651	116	564	519	478	0	311	428	0	313
V/C Ratio(X)	0.79	0.34	0.34	0.70	0.49	0.49	0.42	0.00	0.51	0.44	0.00	0.49
Avail Cap(c_a), veh/h	633	997	942	467	997	919	918	0	650	807	0	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	11.3	11.3	24.3	14.5	14.5	18.0	0.0	18.1	18.0	0.0	18.1
Incr Delay (d2), s/veh	2.3	1.3	1.4	2.8	3.0	3.3	2.1	0.0	4.6	2.6	0.0	4.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.9	1.8	1.0	2.8	2.6	2.2	0.0	1.9	2.1	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.4	12.7	12.7	27.1	17.5	17.8	20.2	0.0	22.7	20.5	0.0	22.4
LnGrp LOS	C	B	B	C	B	B	C		C	C		C
Approach Vol, veh/h		645			609			359			343	
Approach Delay, s/veh		16.2			18.9			21.3			21.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	26.5		18.0	12.2	22.8		18.0				
Change Period (Y+Rc), s	5.0	5.8		6.3	5.0	5.8		6.3				
Max Green Setting (Gmax), s	14.0	30.0		24.5	19.0	30.0		24.5				
Max Q Clear Time (g_c+I1), s	4.4	6.9		7.7	7.6	8.7		7.2				
Green Ext Time (p_c), s	0.0	7.0		4.0	0.1	7.9		4.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	18.9	
HCM 7th LOS	B	

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