Appendix K-1

Local Transportation Analysis for the Reduced Development Footprint Alternative – Vernal Pool Minimization

MEMORANDUM

To:	Greg Waite Integral Partners Funding, LLC	Date:	May 20~~February 21~~, 2024
From:	John A. Boarman, PE & Román Lopez, PTP LLG, Engineers	LLG Ref:	3-20-3279
Subject:	Pacific Specific Plan Reduced Development Footprint Alternative – Vernal Pool Impact Minimization – Local Transportation Analysis		

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1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers, has prepared this memo to analyze the local transportation effects of the Reduced Development Footprint Alternative – Vernal Pool Impact Minimization for the Pacific Specific Plan project ("Project Alternative"). LLG prepared a Local Transportation Analysis (LTA) for the original 449-unit project dated February 16, 2023, which was included as an appendix to the project's Draft Environmental Impact Report (DEIR).

Conversely, this Alternative includes 228 residential units located entirely within the southern half of the site with access only via Linda Vista Drive and Pacific Street.

Per City of San Marcos Level of Service standards, the 449-unit project analyzed in the February 2023 LTA triggered substantial effects requiring project improvements at three (3) intersections and one (1) street segment. As shown in this memo, the Project Alternative would continue to trigger substantial effects at two (2) intersections which were triggered with the original project. This is a reduction of one (1) intersection and one (1) street segment compared to the original project. The Project does not result in substantial effects at any other study area location.

The proposed driveway location on Linda Vista Drive is approximately 650 feet from the intersection with Las Posas Road and approximately 680 feet from the intersection with Pacific Street. This provides adequate setback such that queueing at either intersection would not interfere with driveway operations.

The Project Alternative would continue to provide roadway improvements as described in *Section 7.0* to address the identified deficiencies.

2.0 PROJECT DESCRIPTION

The Alternative consists of 228 residential units, including a mix of rowhomes and villas on approximately 9.69 acres of the 33.2-acre project site. This is a reduction of 221 residential units and a reduction of 5.40 acres of developed area within the overall project site compared to the previously analyzed project.

Vehicular site access would be via one (1) full access driveway, plus one emergency vehicle access, on Linda Vista Drive and one (1) full access driveway on Pacific Street.

Figure 2–1 shows the project area. ***Figure 2–2*** shows the Alternative site plan.

3.0 ANALYSIS APPROACH AND METHODOLOGY

The following study area, scenarios, and methods were used to assess the transportation effects of the Project.

Study Area

Because the access and unit count differ from the February 2023 LTA, to be conservative, all 10 intersections and 13 street segments analyzed in the study area are included in this memo, in addition to the project driveway.

Study Scenarios

Near-Term (Interim Year) and Horizon Year conditions are evaluated consistent with City guidelines and the February 2023 LTA.

All existing, Near-Term, and Horizon Year without Project traffic volumes are unchanged from the February 2023 LTA. Revised project alternative traffic volumes are discussed in the following section.

Methodology

All methodology and Level of Service standards are consistent with the City of San Marcos *Transportation Impact Analysis Guidelines* (November 2020) as used in the February 2023 LTA.

4.0 PROJECT ALTERNATIVE TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT

Trip Generation

The project alternative trip generation is shown in ***Table 4–1***. As shown in *Table 4–1*, the Alternative is calculated to generate 1,368 daily trips (ADT), with 109 AM peak hour trips (22 in / 87 out) and 123 PM peak hour trips (86 in / 37 out).

The original project as analyzed in the February 2023 LTA was estimated to generate 2,694 ADT with 216 AM peak hour trips (43 in / 173 out) and 242 PM peak hour trips (169 in / 73 out).

Therefore, the project alternative decreases trip generation by 1,326 ADT, 107 AM peak hour trips (21 in / 86 out), and 119 PM peak hour trips (83 in / 36 out) as compared to the original project analyzed in the February 2023 LTA.

TABLE 4–1
PROJECT ALTERNATIVE TRIP GENERATION

Land Use	Size	Daily Trip Ends (ADTs) [a]		Peak Hour	% of ADT [b]	In:Out	Volume		
		Rate [b]	Volume			Split [b]	In	Out	Total
Apartment (multi-family > 20 du/acre)	228 DU	6 /DU	1,368	AM	8%	20:80	22	87	109
				PM	9%	70:30	86	37	123

Footnotes:

a. ADT = Average Daily Traffic.

b. Trip generation rate from SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002* ("SANDAG Brief Guide").

General Notes:

- DU = dwelling units

Trip Distribution & Assignment

The Project Alternative site would be accessed primarily from a driveway on Linda Vista Drive with secondary access to Pacific Street. In contrast, most of the proposed units for the original project analyzed in the February 2023 LTA are in the northern half of the site, with access to La Mirada Drive.

Therefore, the Project Alternative traffic distribution on the streets and intersections immediately adjacent to the site (La Mirada Drive, Linda Vista Drive, Pacific Street, and Las Posas Road) is different from the original project. The regional trip distribution outside of this area is consistent with the February 2023 LTA.

Figure 4–1 shows the project alternative traffic distribution. ***Figure 4–2*** shows the assigned project alternative traffic.

5.0 ANALYSIS OF NEAR-TERM (INTERIM YEAR 2025) SCENARIOS

This section provides analysis of study area intersections and street segments under Near-Term (Interim Year 2025) conditions without and with the Project Alternative.

Network Conditions and Traffic Volumes

Near-Term (Interim Year 2025) roadway conditions and pre-Project traffic volumes are consistent with the February 2023 LTA. ***Figure 5–1*** provides the Near-Term + Project Alternative traffic volumes.

Intersection Analysis

Table 5–1 summarizes the intersection operations under Near-Term + Project Alternative conditions. As shown in *Table 5–1*, the following study intersections are calculated to continue to operate at LOS E or F:

- **Intersection #3. Via Vera Cruz / Grand Avenue / SR-78 EB Ramps (LOS F during the AM/PM peak hours)**
- **Intersection #7. Pacific Street / Linda Vista Drive (LOS F during the PM peak hour)**

The project-related increase in delay at both intersections exceeds 2.0 seconds. Based on the established Level of Service standards, the Project results in a substantial effect at both above-listed intersections.

Attachment A contains the Near-Term + Project Alternative intersection LOS analysis worksheets.

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TABLE 5–1
NEAR-TERM INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Near-Term Without Project		Near-Term + Project Alternative		Δ [c]	Substantial Effect?
			Delay [a]	LOS [b]	Delay	LOS		
1. Las Posas Rd / SR-78 WB Ramps	Signal	AM	35.5	D	36.4	D	0.9	No
		PM	15.7	B	16.2	B	0.5	No
2. Las Posas Rd / Grand Ave	Signal	AM	33.0	C	33.0	C	0.0	No
		PM	45.2	D	45.9	D	0.7	No
3. Via Vera Cruz / Grand Ave / SR-78 EB Ramps	Signal	AM	181.9~~>80.0~~	F	183.0~~>80.0~~	F	1.1	Yes
		PM	79.4	E	82.7~~>80.0~~	F	3.3	Yes
4. Pacific St / La Mirada Dr	AWSC	AM	9.4	A	9.4	A	0.0	No
		PM	11.3	B	11.4	B	0.1	No
5. Las Posas Rd / La Mirada Dr	Signal	AM	18.4	B	18.8	B	0.4	No
		PM	46.0	D	46.6	D	0.6	No
6. Rancho Santa Fe Rd / Linda Vista Dr	Signal	AM	37.8	D	38.0	D	0.2	No
		PM	52.6	D	52.8	D	0.2	No
7. Pacific St / Linda Vista Dr	AWSC [d]	AM	18.3~~7.5~~	C	19.3~~8.7~~	C	1.0~~2~~	No
		PM	114.5~~>50.0~~	F	119.8~~>50.0~~	F	5.3~~4.7~~	Yes
8. Las Posas Rd / Linda Vista Dr	Signal	AM	30.5	C	36.8	D	6.3	No
		PM	45.8	D	51.9	D	6.1	No
9. Pacific St / San Marcos Blvd	Signal	AM	25.7	C	26.0	C	0.3	No
		PM	31.9	C	32.2	C	0.3	No
10. Las Posas Rd / San Marcos Blvd	Signal	AM	35.0	C	37.1	D	2.1	No
		PM	39.5	D	40.2	D	0.7	No
A. Project Driveway / Linda Vista Dr	MSSC [e]	AM	—	—	15.9	C	—	No
		PM	—	—	17.5	C	—	No
B. Project Driveway / Pacific St	MSSC	AM	—	—	10.1	B	—	No
		PM	—	—	11.3	B	—	No

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TABLE 5–1
NEAR-TERM INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Near-Term Without Project		Near-Term + Project Alternative		Δ [c]	Substantial Effect?
			Delay [a]	LOS [b]	Delay	LOS		
Continued from Previous Page								

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the increase in delay due to Project.
d. AWSC = All-Way Stop Controlled intersection. Average delay reported.
e. MSSC = Minor Street Stop Controlled intersection. Worst left turn delay reported.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

Intersection Queuing

Table 5–2 shows the 95th percentile peak hour queue lengths for study area intersections where the project adds traffic.

As shown in *Table 5–2*, all near-term peak hour queues, with the addition of Project Alternative traffic, are contained within the existing turn pockets, except for:

- Intersection #1. La Posas Road / SR-78 Westbound Ramps –
  - Westbound left-turn (AM peak hour)
- Intersection #3. Via Vera Cruz / SR-78 Eastbound Ramps –
  - Southbound right-turn (AM/PM peak hour)
  - Eastbound left-turn (AM/PM peak hour)
- Intersection #5. Las Posas Road / La Mirada Drive –
  - Eastbound left-turn (PM peak hour)
- Intersection #8. Las Posas Road / Linda Vista Drive –
  - Eastbound left-turn (PM peak hour)
- Intersection #10. Las Posas Road / San Marcos Boulevard –
  - Southbound right-turn (AM/PM peak hour)
  - Eastbound left-turn (AM/PM peak hour)

All the above-listed queueing deficiencies are a pre-Project condition. The Project Alternative does not cause any queues to exceed the available storage length. The Project Alternative driveway on Linda Vista Drive is approximately 650 feet from Las Posas Road. Therefore, the calculated queue in the eastbound left turn from Linda Vista Drive to Las Posas Road would not interfere with driveway operations.

Attachment B contains the Near-Term + Project intersection queue worksheets.

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TABLE 5–2
NEAR-TERM INTERSECTION QUEUING

Intersection	Movement	Storage (ft)	Peak Hour	Near-Term without Project	Near-Term + Project Alternative
				Queue (ft) [a]	Queue (ft) [a]
1. Las Posas Rd / SR-78 WB Ramps	WBL	340	AM	**470**	**474**
			PM	176	190
	NBL	300	AM	178	207
			PM	284	288
2. Las Posas Rd / Grand Ave	WBL	200	AM	57	59
			PM	37	46
3. Via Vera Cruz / SR-78 EB Ramps	SBR	220	AM	**1,052**	**1059**
			PM	**842**	**867**
	EBL	140	AM	**152**	**158**
			PM	**262**	**265**
5. Las Posas Rd / La Mirada Dr	NBL	250	AM	37	37
			PM	61	61
	EBL	110	AM	59	59
			PM	**211**	**227**
	EBR	110	AM	0	0
			PM	0	0
8. Las Posas Rd / Linda Vista Dr	SBL	130	AM	104	104
			PM	103	103
	NBL	240	AM	121	137
			PM	135	193
	EBL	170 [b]	AM	**176**	**235**
			PM	**419**	**444**
9. Pacific St / San Marcos Blvd	EBL	240	AM	53	55
			PM	100	112

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TABLE 5–2
NEAR-TERM INTERSECTION QUEUING

Intersection	Movement	Storage (ft)	Peak Hour	Near-Term without Project	Near-Term + Project Alternative
				Queue (ft) [a]	Queue (ft) [a]
Continued from Previous Page					
10. Las Posas Rd / San Marcos Blvd	SBR	240	AM	**422**	**413**
			PM	**584**	**592**
	SBL	240	AM	104	126
			PM	183	192
	NBL	670	AM	31	35
			PM	51	53
	EBR	240	AM	**578**	**584**
			PM	**760**	**781**
A. Linda Vista Dr / Project Driveway	EBL	345 [c]	AM	—	15
			PM	—	17

Footnotes:
a. 95th percentile queue length.
b. Two-way left turn provides additional storage area in addition to 170' shown.
c. Storage shown at this location is distance to upstream project driveway or public street.

General Notes:
- **BOLD** indicates queue is calculated to exceed available storage.
- Ft = Feet
- SBR = Direction/Turn Lane; e.g. southbound right-turn lane.

Street Segment Analysis

Table 5–3 summarizes the study area segment operations under Near-Term + Project Alternative conditions. As seen in *Table 5–3*, with the addition of Project Alternative traffic, the following study segments are calculated to continue to operate at LOS E or F.

- Segment #9. Linda Vista Drive: Rancho Santa Fe to Pacific Street (LOS E)
- Segment #12. San Marcos Boulevard: Pacific Street to Las Posas Road (LOS F)
- Segment #13. San Marcos Boulevard: Las Posas Road to Via Vera Cruz (LOS E)

The Project Alternative-related increase in V/C ratio for each of the above-listed street segments already operating at an unacceptable LOS is less than the established threshold of 0.02. The Project Alternative is not calculated to result in substantial effects to the study segments and no improvements are required.

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TABLE 5–3
NEAR-TERM STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) [a]	Near-Term Without Project			Near-Term + Project Alternative			Δ[e]	Substantial Effect?
		ADT [b]	LOS [c]	V/C [d]	ADT	LOS	V/C		
Las Posas Road									
1. Descanso Ave to SR-78 WB Ramps	60,000	39,320	C	0.655	39,457	C	0.658	0.003	No
2. SR-78 WB Ramps to Grand Ave	60,000	44,360	C	0.739	44,702	C	0.745	0.006	No
3. Grand Ave to La Mirada Dr	40,000	15,800	B	0.395	16,416	B	0.410	0.015	No
4. La Mirada Dr to Linda Vista Dr	40,000	14,860	A	0.372	15,353	B	0.384	0.012	No
5. Linda Vista Dr to San Marcos Blvd	30,000	11,840	B	0.395	12,251	B	0.408	0.013	No
Pacific Street									
6. La Mirada Dr to Linda Vista Dr	8,000	5,560	D	0.695	5,711	D	0.714	0.019	No
7. Linda Vista Dr to San Marcos Blvd	8,000	4,500	C	0.563	4,569	C	0.571	0.008	No
La Mirada Drive									
8. Pacific St to Las Posas Rd	8,000	3,600	C	0.450	3,724	C	0.466	0.016	No
Linda Vista Drive									
9. Rancho Santa Fe Rd to Pacific St	15,000	13,620	E	0.908	13,757	E	0.917	0.009	No
10. Pacific St to Las Posas Rd	30,000	9,470	A	0.316	10,510	B	0.350	0.034	No
11. Las Posas Rd to Via Vera Cruz	15,000	6,680	B	0.445	6,817	B	0.454	0.009	No
San Marcos Boulevard									
12. Pacific St to Las Posas Rd	40,000	41,600	F	1.040	41,737	F	1.043	0.003	No
13. Las Posas Rd to Via Vera Cruz	40,000	37,580	E	0.940	37,854	E	0.946	0.006	No

Footnotes:

a. Capacities based on City of San Marcos's Roadway Classification Table
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity.
e. Δ denotes a Project-induced increase in the Volume to Capacity (V/C) ratio.

6.0 ANALYSIS OF LONG-TERM SCENARIOS

This section provides analysis of study area intersections and street segments under Long-Term (Year 2050) conditions without and with the Project Alternative.

Network Conditions and Traffic Volumes

Long-Term (Year 2050) roadway conditions and pre-Project traffic volumes are consistent with the February 2023 LTA. ***Figure 6–1*** provides the Long-Term (Year 2050) + Project Alternative traffic volumes.

Intersection Analysis

Table 6–1 summarizes the study area intersection operations under Long-Term (Year 2050) + Project Alternative conditions. As shown in *Table 6–1*, the following study intersections are calculated to continue to operate at LOS E or F:

- **Intersection #3. Via Vera Cruz / Grand Avenue / SR-78 EB Ramps (LOS F during the AM/PM peak hours)**
- **Intersection #7. Pacific Street / Linda Vista Drive (LOS F during the PM peak hour)**

The project-related increase in delay at both intersections exceeds 2.0 seconds during at least one peak hour. Based on the established Level of Service standards, the Project Alternative results in a substantial effect at both above-listed intersections.

Attachment C contains the Long-Term + Project Alternative intersection LOS analysis worksheets.

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TABLE 6–1
LONG-TERM INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Long-Term Without Project		Long-Term + Project Alternative		Δ [c]	Substantial Effect?
			Delay [a]	LOS [b]	Delay	LOS		
1. Las Posas Rd / SR-78 WB Ramps	Signal	AM	41.5	D	42.7	D	1.2	No
		PM	17.9	B	18.6	B	0.7	No
2. Las Posas Rd / Grand Ave	Signal	AM	35.7	D	34.5	C	-1.2	No
		PM	59.8	E	60.4	E	0.6	No
3. Via Vera Cruz / Grand Ave / SR-78 EB Ramps	Signal	AM	**229.3~~>80.0~~**	**F**	**230.4~~>80.0~~**	**F**	**1.1**	**Yes**
		PM	**103.0~~>80.0~~**	**F**	**106.4~~>80.0~~**	**F**	**3.4**	**Yes**
4. Pacific St / La Mirada Dr	AWSC	AM	9.5	A	9.5	A	0.0	No
		PM	11.7	B	11.8	B	0.1	No
5. Las Posas Rd / La Mirada Dr	Signal	AM	19.9	B	20.2	C	0.2	No
		PM	50.0	D	50.7	D	0.7	No
6. Rancho Santa Fe Rd / Linda Vista Dr	Signal	AM	39.0	D	39.3	D	0.3	No
		PM	55.9	E	56.0	E	0.1	No
7. Pacific St / Linda Vista Dr	AWSC [d]	AM	21.2~~0.6~~	C	22.5~~1.7~~	C	1.3~~1~~	No
		PM	**151.9~~>50.0~~**	**F**	**158.3~~>50.0~~**	**F**	**6.4~~5.6~~**	**Yes**
8. Las Posas Rd / Linda Vista Dr	Signal	AM	35.8	D	43.1	D	7.3	No
		PM	49.9	D	53.8	D	3.9	No
9. Pacific St / San Marcos Blvd	Signal	AM	41.4	D	42.6	D	1.2	No
		PM	47.8	D	48.8	D	1	No
10. Las Posas Rd / San Marcos Blvd	Signal	AM	53.5	D	53.8	D	0.3	No
		PM	65.7	E	66.4	E	0.7	No
A. Project Driveway / Linda Vista Dr	MSSC [e]	AM	—	—	18.2	C	—	No
		PM	—	—	20.4	C	—	No
B. Project Driveway / Pacific St	MSSC	AM	—	—	10.2	B	—	No
		PM	—	—	11.7	B	—	No

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TABLE 6–1
LONG-TERM INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Long-Term Without Project		Long-Term + Project Alternative		Δ [c]	Substantial Effect?
			Delay [a]	LOS [b]	Delay	LOS		
Continued from Previous Page								

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the increase in delay due to Project.
d. AWSC = All-Way Stop Controlled intersection.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

Intersection Queuing

Table 6–2 shows the 95th percentile peak hour queue lengths for study area intersections where the project alternative adds traffic.

As shown in *Table 6–2*, all long-term peak hour queues, with the addition of Project Alternative traffic, are contained within the existing turn pockets, except for:

- Intersection #1. La Posas Road / SR-78 Westbound Ramps –
  - Westbound left-turn (AM peak hour)
- Intersection #3. Via Vera Cruz / SR-78 Eastbound Ramps –
  - Southbound right-turn (AM/PM peak hour)
  - Eastbound left-turn (AM/PM peak hour)
- Intersection #5. Las Posas Road / La Mirada Drive –
  - Eastbound left-turn (PM peak hour)
- Intersection #8. Las Posas Road / Linda Vista Drive –
  - Southbound left-turn (PM peak hour)
  - Northbound left-turn (PM peak hour)
  - Eastbound left-turn (PM peak hour)
- Intersection #10. Las Posas Road / San Marcos Boulevard –
  - Southbound right-turn (AM/PM peak hour)
  - Southbound left-turn (PM peak hour)
  - Eastbound left-turn (AM/PM peak hour)

All the above-listed queueing deficiencies are a pre-Project condition, and the Project Alternative does not cause any queues to exceed the available storage length. The Project driveway on Linda Vista Drive is approximately 650 feet from Las Posas Road. Therefore, the calculated queue in the eastbound left turn from Linda Vista Drive to Las Posas Road would not interfere with driveway operations.

Attachment D contains the Long-Term + Project Alternative intersection queue worksheets.

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TABLE 6–2
LONG-TERM INTERSECTION QUEUING

Intersection	Movement	Storage (ft)	Peak Hour	Long-Term without Project	Long-Term + Project Alternative
				Queue (ft) [a]	Queue (ft) [a]
1. Las Posas Rd / SR-78 WB Ramps	WBL	340	AM	**506**	**510**
			PM	196	208
	NBL	300	AM	213	246
			PM	283	286
2. Las Posas Rd / Grand Ave	WBL	200	AM	70	71
			PM	51	65
3. Via Vera Cruz / SR-78 EB Ramps	SBR	220	AM	**1,229**	**1,234**
			PM	**999**	**1,025**
	EBL	140	AM	**164**	**173**
			PM	**299**	**271**
5. Las Posas Rd / La Mirada Dr	NBL	250	AM	37	37
			PM	75	75
	EBL	110	AM	59	**69**
			PM	**251**	**261**
	EBR	110	AM	0	0
			PM	0	0
8. Las Posas Rd / Linda Vista Dr	SBL	130	AM	121	121
			PM	154	154
	NBL	240	AM	163	176
			PM	209	266
	EBL	170 [b]	AM	**214**	**270**
			PM	**492**	**515**
9. Pacific St / San Marcos Blvd	EBL	240	AM	75	77
			PM	174	181

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TABLE 6–2
LONG-TERM INTERSECTION QUEUING

Intersection	Movement	Storage (ft)	Peak Hour	Long-Term without Project	Long-Term + Project Alternative
				Queue (ft) [a]	Queue (ft) [a]
Continued from Previous Page					
10. Las Posas Road / San Marcos Blvd	SBR	240	AM	**528**	**542**
			PM	**656**	**663**
	SBL	240	AM	156	180
			PM	324	341
	NBL	670	AM	48	48
			PM	67	85
	EBR	240	AM	**691**	**695**
			PM	**760**	**781**
A. Linda Vista Dr / Project Driveway	EBL	345 [c]	AM	—	10
			PM	—	29

Footnotes:
a. 95th percentile queue length.
b. Two-way left turn provides additional storage area in addition to 170' shown.
c. Storage shown at this location is distance to upstream project driveway or public street.

General Notes:
- **BOLD** indicates queue is calculated to exceed available storage.
- Ft = Feet
- SBR = Direction/Turn Lane, e.g., southbound right-turn lane.

Street Segment Analysis

Table 6–3 summarizes the study area segment operations under Long-Term + Project Alternative conditions. As seen in *Table 6–3*, with the addition of Project Alternative traffic, the following study segments are calculated to continue to operate at LOS E or F.

- Segment #9. Linda Vista Drive: Rancho Santa Fe to Pacific Street (LOS E)
- Segment #12. San Marcos Boulevard: Pacific Street to Las Posas Road (LOS F)
- Segment #13. San Marcos Boulevard: Las Posas Road to Via Vera Cruz (LOS E)

The Project Alternative-related increase in V/C ratio for each of the above-listed street segments already operating at an unacceptable LOS is less than the established threshold of 0.02. The Project Alternative is not calculated to result in substantial effects to the study segments and no improvements are required.

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TABLE 6–3
LONG-TERM STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) [a]	Long-Term without Project			Long-Term + Project Alternative			Δ[e]	Substantial Effect?
		ADT[b]	LOS[c]	V/C[d]	ADT	LOS	V/C		
Las Posas Road									
1. Descanso Ave to SR-78 WB Ramps	60,000	43,160	C	0.719	43,297	C	0.722	0.003	No
2. SR-78 WB Ramps to Grand Ave	60,000	48,380	C	0.806	48,722	C	0.812	0.006	No
3. Grand Ave to La Mirada Dr	40,000	18,900	B	0.473	19,516	B	0.488	0.015	No
4. La Mirada Dr to Linda Vista Dr	40,000	17,490	B	0.437	17,983	B	0.450	0.013	No
5. Linda Vista Dr to San Marcos Blvd	30,000	15,580	C	0.519	15,991	C	0.533	0.014	No
Pacific Street									
6. La Mirada Dr to Linda Vista Dr	8,000	7,790	E	0.974	7,941	E	0.993	0.019	No
7. Linda Vista Dr to San Marcos Blvd	8,000	4,840	C	0.605	4,909	C	0.614	0.009	No
La Mirada Drive									
8. Pacific St to Las Posas Rd	8,000	4,030	C	0.504	4,154	C	0.519	0.015	No
Linda Vista Drive									
9. Rancho Santa Fe Rd to Pacific St	15,000	14,990	E	0.999	15,127	F	1.008	0.009	No
10. Pacific St to Las Posas Rd	30,000	10,990	B	0.366	12,030	B	0.401	0.035	No
11. Las Posas Rd to Via Vera Cruz	15,000	9,400	C	0.627	9,537	C	0.636	0.009	No
San Marcos Boulevard									
12. Pacific St to Las Posas Rd	40,000	42,330	F	1.058	42,467	F	1.062	0.004	No
13. Las Posas Rd to Via Vera Cruz	40,000	43,080	F	1.077	43,354	F	1.084	0.007	No

Footnotes:

a. Capacity based on roadway classification operating at LOS E.
b. Average Daily Traffic.
c. Level of Service.
d. Volume to Capacity.
e. Δ denotes a Project-induced increase in the Volume to Capacity (V/C) ratio.

7.0 INTERSECTION AND ROADWAY IMPROVEMENTS

This section summarizes the substantial traffic effects caused by the Reduced Development Footprint Alternative – Vernal Pool Impact Minimization project and the proposed improvements to address these substantial effects. Some proposed roadway modifications are related to active transportation improvements rather than vehicle operations (i.e., LOS, queueing) deficiencies.

Active Transportation Improvements

The following active transportation improvements are proposed:

- Provide a 12' urban trail (shared use path) along the Project's frontage on Linda Vista Drive.
- Provide transit stop amenities including bench, shelter, and trash can at the southbound stop at the intersection of Las Posas Road / La Mirada Drive located on the southwest corner of the intersection. Provide a bus turnout for this stop along the Project frontage.

Intersection and Street Segment Analysis Results

Intersections

The intersection provided in this study shows that the following intersections are calculated to operate at unacceptable LOS with a substantial effect due to traffic generated from the Project Alternative:

- Intersection #3. Via Vera Cruz / Grand Avenue / SR-78 EB Ramps *(Near-Term & Long-Term)*
- Intersection #7. Pacific Street / Linda Vista Drive *(Near-Term & Long-Term)*

Street Segments

The Project-related increase in V/C ratio at any study area segment operating at LOS E or F is below the established threshold of 0.02. Therefore, the Project Alternative is not calculated to result in any substantial effects to study area segments and no improvements are required.

Intersection and Street Segment Improvements

The following roadway improvements are proposed to increase performance to acceptable or pre-Project conditions under each scenario, or in conjunction with Project-related active transportation improvements:

1. **Intersection #3. Via Vera Cruz / Grand Avenue / SR-78 EB Ramps** – Provide a fair share contribution for a dedicated southbound right turn lane on the SR-78 eastbound off-ramp. Given that this intersection operates at LOS E or worse under existing conditions and the deficiency is not directly caused by the Project, a fair share contribution is appropriate.

   With the construction of a dedicated southbound right-turn lane, the intersection is calculated to operate at substantially better than pre-Project conditions in both Near- Term and Long-Term scenarios as shown in ***Table 7–1*** and ***Table 7–2***.

   Attachment E contains the Near-Term + Project and Long-Term + Project Improvements Intersection Analysis worksheets for all intersection improvements discussed in this section.

   The Project Alternative fair share is **3.6%** based on the Project Alternative traffic at Intersection #3, as shown in the formula below.

$$\frac{\text{Project Alternative Traffic}}{\text{(Buildout with Project Alt. Traffic – Existing Traffic)}} = \frac{17}{(2{,}387 - 1{,}914)} = 3.6\%$$

2. **Intersection #7. Pacific Street / Linda Vista Drive** – Provide a traffic signal with the following lane geometry:

   - Southbound – one left turn lane, one shared through/right turn lane
   - Westbound – one left turn lane, one shared through/right turn lane
   - Northbound – one left turn lane, one shared through ~~lane, one~~ /right turn lane
   - Eastbound – one left turn lane, one shared through ~~lane, one~~ /right turn lane

   The traffic signal should provide protected left-turn phasing for all approaches. The traffic signal would provide LOS C or better operations under Near-Term with Project and Long-Term with Project Alternative conditions as shown in *Table 7–1* and *Table 7–2*. Signal warrant analysis is provided in *Section 8* of this memo.

3. **Intersection #8. Las Posas Road / Linda Vista Drive –** This intersection operates at acceptable LOS D or better with the addition of Project traffic and does not require improvements to enhance the LOS. However, in conjunction with the Urban Trail to be provided on Linda Vista Drive and to align with the proposed cross-section of Linda Vista Drive between Pacific Street and Las Posas

Road the existing shared through/right-turn lane on the westbound approach will be converted to right turn only. The curb along the southwest corner of the intersection will also be revised to improve intersection alignment. This entails removal of the existing eastbound right-turn lane. No changes will be made to the southbound or northbound approaches. The following lane geometry is proposed:

- Southbound – one shared through/right-turn lane, one through lane, one left-turn lane
- Westbound – one right-turn lane, one through lane, one left-turn lane
- Northbound – one shared through/right-turn lane, one through lane, one left-turn lane
- Eastbound – one shared through/right-turn lane, one through lane, one left-turn lane

Tables 7–1 & 7–2 also show Near-Term and Long-Term intersection operations for Las Posas Road / Linda Vista Drive under the proposed conditions. As shown in *Tables 7–1 & 7–2*, this intersection would continue to operate at acceptable LOS D or better under the proposed conditions including Project Alternative traffic.

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TABLE 7–1
NEAR-TERM POST IMPROVEMENT INTERSECTION ANALYSIS

Intersection	Control Type	Peak Hour	Near-Term Without Project		Near-Term + Project Alternative		Near-Term + Project Alternative+ Improvements	
			Delay[a]	LOS[b]	Delay	LOS	Delay	LOS
3. Via Vera Cruz / Grand Ave / SR-78 EB Ramps	Signal	AM	181.9	F	183.0	F	68.2	E
		PM	79.4	E	82.7	F	54.2	D
7. Pacific St. / Linda Vista Dr	AWSC [c] /*Signal*	AM	18.3~~7.5~~	C	19.3~~8.7~~	C	17.7~~6~~	B
		PM	114.5~~91.3~~	F	119.8~~9 6.0~~	F	21.8 ~~19.6~~	C~~B~~
8. Las Posas Rd / Linda Vista Dr	Signal	AM	30.5	C	36.8	D	37.7	D
		PM	45.8	D	51.9	D	53.1	D

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. All-Way Stop Control. Average delay reported.

General Notes:

- *Italics* indicates intersection control type with improvements.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

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TABLE 7–2
LONG-TERM POST IMPROVEMENT INTERSECTION ANALYSIS

Intersection	Control Type	Peak Hour	Long-Term Without Project		Long-Term + Project		Long-Term + Project Alternative + Improvements	
			Delay[a]	LOS[b]	Delay	LOS	Delay	LOS
3. Via Vera Cruz / Grand Ave / SR-78 EB Ramps	Signal	AM	229.3	F	230.4	F	86.5	F
		PM	103.0	F	106.4	F	62.6	E
7. Pacific St. / Linda Vista Dr	AWSC [c] */Signal*	AM	21.2~~0.6~~	C	22.5~~1.7~~	C	19.5~~4~~	B
		PM	151.9~~25.8~~	F	158.3~~3 1.4~~	F	24~~1~~.5	C
8. Las Posas Rd / Linda Vista Dr	Signal	AM	35.8	D	43.1	D	44.4	D
		PM	49.9	D	53.8	D	54.8	D

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. All-Way Stop Control. Average delay reported.

General Notes:
- *Italics* indicates intersection control type with improvements.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

4. **Street Segment #10. Linda Vista Drive: Pacific Street to Las Posas Road –** Provision of the proposed active transportation improvements will reduce the number of westbound travel lanes from two to one. Notwithstanding this reduction in vehicular capacity, this street segment is calculated to continue to operate at acceptable LOS D or better under Near-Term conditions and Long-Term future conditions as shown in ***Table 7–4*** and ***Table 7–5***.

TABLE 7–4
NEAR-TERM POST-IMPROVEMENT STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) [a]	Near-Term Without Project			Near-Term + Project Alternative			Near-Term+ Project Alternative + Improvements	
		ADT[b]	LOS[c]	V/C[d]	ADT	LOS	V/C	LOS	V/C
Linda Vista Drive Pacific St to Las Posas Rd	30,000/ *15,000*	9,470	A	0.316	10,510	B	0.350	D	0.710

Footnotes:
a. Capacity based on roadway classification operating at LOS E.
b. Average Daily Traffic.
c. Level of Service.
d. Volume to Capacity.

General Notes:
- *Italics* indicates street segment capacity with proposed improvements.

TABLE 7–5
LONG-TERM POST-IMPROVEMENT STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) [a]	Long-Term Without Project			Long-Term + Project Alternative			Long-Term+ Project Alternative + Improvements	
		ADT[b]	LOS[c]	V/C[d]	ADT	LOS	V/C	LOS	V/C
Linda Vista Drive Pacific St to Las Posas Rd	30,000 / *15,000*	10,990	B	0.366	12,030	B	0.401	D	0.802

Footnotes:
a. Capacity based on roadway classification operating at LOS E.
b. Average Daily Traffic.
c. Level of Service.
d. Volume to Capacity.

General Notes:
- *Italics* indicates street segment capacity with proposed improvements.

8.0 TRAFFIC SIGNAL WARRANTS

Based on the analysis shown in *Table 7–1*, the Linda Vista Drive / South Pacific Street intersection is calculated to operate at LOS F in Near-Term conditions with the addition of Project Alternative traffic. Traffic signal warrant analysis has been completed to determine if a signal would be warranted at that intersection under future conditions.

Warrants were prepared for the Near-Term with Project Alternative scenarios. As outlined in Chapter 4C, "Traffic Control Signal Needs Studies," of the 2014 California Manual on Uniform Traffic Control Devices (California MUTCD), the following warrants were analyzed:

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume

The existing lane configurations at Linda Vista Drive / South Pacific Street are as follows:

- South Pacific Street (southbound): 1 shared left/thru/right-turn lane
- Linda Vista Drive (westbound): 1 left turn lane, 1 thru lane, 1 right turn lane
- South Pacific Street (northbound): 1 shared left/thru/right-turn lane
- Linda Vista Drive (eastbound): 1 left turn lane, 1 shared thru/~~ lane, 1~~ right turn lane

For the purposes of the analysis, consistent with MUTCD standards, Linda Vista Drive is considered as the "Major" street and S. Pacific Street is considered as the "Minor" street. Based on the existing conditions, Linda Vista Drive (i.e., major street) is considered a two (2) lane approach in each direction and S. Pacific Street (i.e, minor street) is considered a one (1) lane approach in each direction.

Near-Term with Project Alternative Hourly Traffic Volumes

Table 8–1 summarizes the Near-Term with Project hourly approach volumes at the intersection of Linda Vista Drive and South Pacific Street. The hourly approach volumes were estimated for this scenario based on the K and D factors from the 24-hour ADT counts that informed the analysis in this memo and the Near-Term with Project ADT calculated on each leg of this intersection (see *Table 5–3*).

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TABLE 8–1
NEAR-TERM + PROJECT ALTERNATIVE HOURLY APPROACH VOLUMES AT LINDA VISTA DRIVE / S. PACIFIC STREET INTERSECTION

Hour Begin	Linda Vista Drive		Pacific Street	
	Eastbound	Westbound	Northbound	Southbound
Mid-Night	17	11	15	2
1 AM	13	7	13	2
2 AM	14	1	12	14
3 AM	21	13	11	12
4 AM	20	35	12	17
5 AM	70	119	11	69
6 AM	156	220	45	169
7 AM	322	302	83	223
8 AM	386	343	103	231
9 AM	347	244	104	153
10 AM	355	227	125	153
11 AM	435	322	149	214
Noon	515	311	140	217
1 PM	458	266	149	186
2 PM	699	299	197	203
3 PM	786	291	204	215
4 PM	1054	295	304	151
5 PM	743	240	199	185
6 PM	396	188	109	102
7 PM	279	114	78	93
8 PM	171	103	109	58
9 PM	91	52	129	24
10 PM	72	38	75	12
11 PM	52	8	24	6
TOTAL	**7,472**	**4,049**	**2,400**	**2,711**

Signal Warrant Analysis

Warrant 1 – Eight-Hour Vehicular Volume

Per the MUTCD standards, Warrant 1 describes the following:

The need for a traffic signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. *The vehicles per hour given in both of the 100 percent columns of Condition A in MUTCD Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or*
B. *The vehicles per hour given in both of the 100 percent columns of Condition B in MUTCD Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.*

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours. If the posted or statutory speed limit or the 85th percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 70 percent columns in MUTCD Table 4C-1 may be used in place of the 100 percent columns.

The combination of Conditions A and B is intended for application at locations where Condition A is not satisfied and Condition B is not satisfied and should be applied only after an adequate trial of other alternatives that could lead to less delay and inconvenience to traffic has failed to solve the traffic problems.

The need for a traffic signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:

A. *The vehicles per hour given in both of the 80 percent columns of Condition A in MUTCD Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and*
B. *The vehicles per hour given in both 80 percent columns of Condition B in MUTCD Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.*

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

If the posted or statutory speed limit or the 85th percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated

community having a population of less than 10,000, the traffic volumes in the 56 percent columns in MUTCD Table 4C-1 may be used in place of the 80 percent columns.

Warrant 1 – Calculations

Table 8–2 shows the 100% volume thresholds for a two–lane approach on the major street and a one-lane approach on the minor street. ***Table 8–3*** shows the 80% volume thresholds for two-lane approach on the major street and a one-lane approach on the minor street.

TABLE 8–2
WARRANT 1: EIGHT – HOUR VEHICULAR VOLUME (100% THRESHOLD)

Warrant 1	Vehicles per hour on major street (Total of both approaches)	Vehicles per hour on higher-volume minor-street approach (One direction only)
Condition A	600	150
Condition B	900	75

TABLE 8–3
WARRANT 1: EIGHT – HOUR VEHICULAR VOLUME (80% THRESHOLD)

Warrant 1	Vehicles per hour on major street (Total of both approaches)	Vehicles per hour on higher-volume minor-street approach (One direction only)
Condition A	480	120
Condition B	720	60

Table 8–4 compares the Near-Term + Project Alternative traffic volumes for 24 hours in a day to the 100% volumes (*Table 8–2*) required to satisfy this warrant. As seen in *Table 8–4*, the Condition A warrant volumes are not satisfied for 9 hours of the day, Condition B warrant volumes are satisfied only 4 hours of the day, and a combination of Conditions A and B warrant volumes are satisfied at the 80% threshold for 8 hours of the day. Therefore, **Warrant 1 is satisfied**.

TABLE 8–4
WARRANT 1 ANALYSIS

Hour Begin	Major (Sum of Both Approaches)	Minor (Higher Vol. Approach)	100% Thresholds Met?		Combination of Conditions A and B 80% Thresholds Met?
			Condition A	Condition B	
Mid-Night	28	15	N	N	N
1 AM	20	13	N	N	N
2 AM	15	14	N	N	N
3 AM	34	12	N	N	N
4 AM	55	17	N	N	N
5 AM	189	69	N	N	N
6 AM	376	169	N	N	N
7 AM	624	223	Y	N	N
8 AM	729	231	Y	N	Y
9 AM	591	153	N	N	N
10 AM	582	153	N	N	N
11 AM	757	214	Y	N	Y
Noon	826	217	Y	N	Y
1 PM	724	186	Y	N	Y
2 PM	998	203	Y	Y	Y
3 PM	1077	215	Y	Y	Y
4 PM	1349	304	Y	Y	Y
5 PM	983	199	Y	Y	Y
6 PM	584	109	N	N	N
7 PM	393	93	N	N	N
8 PM	274	109	N	N	N
9 PM	143	129	N	N	N
10 PM	110	75	N	N	N
11 PM	60	24	N	N	N
TOTAL	**11,521**	**3,146**	**9**	**4**	**8**

Warrant 2 – Four-Hour Vehicular Volume

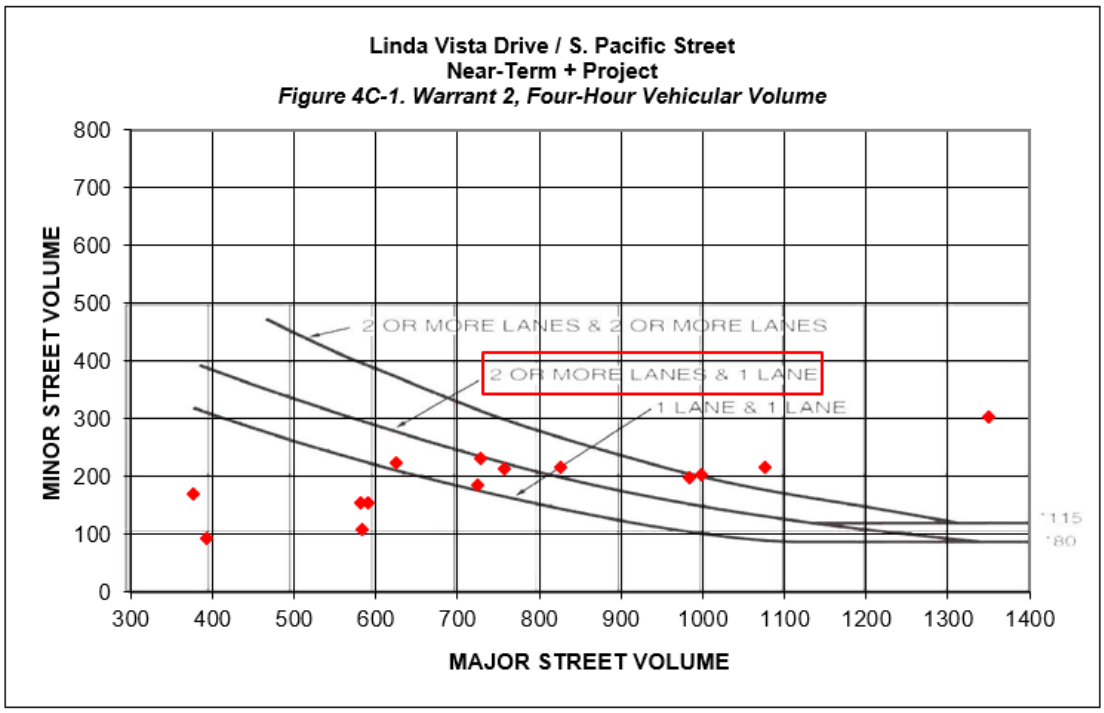
Per the MUTCD standards, Warrant 2 includes the following:

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in MUTCD Figure 4C-1 for the existing combination of approach lanes, on the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

If the posted or statutory speed limit or the 85th percentile speed on the major street exceeds 40 mph or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, MUTCD Figure 4C-2 may be used in place of MUTCD Figure 4C-1.

Warrant 2 – Calculations

Each hour for the Near-Term + Project Alternative conditions was plotted in MUTCD Figure 4C-1. As seen below**,** there are 5 hours where the volumes on major street approaches and the corresponding volumes on the higher-volume minor street approach fall above the applicable curve (boxed in red) when plotted. Therefore, **Warrant 2 is satisfied**.



Signal Warrant Summary and Conclusion

Based on the above signal warrant analysis, the installation of a traffic signal is warranted under Near-Term + Project Alternative conditions at the intersection of Linda Vista Drive and S. Pacific Street.

9.0 CONCLUSIONS

The Reduced Development Footprint Alternative – Vernal Pool Impact Minimization project is calculated to generate 1,368 daily trips (ADT), with 109 AM peak hour trips (22 in / 87 out) and 123 PM peak hour trips (86 in / 37 out).

This is a reduction of 1,326 ADT, 107 AM peak hour trips (21 in / 86 out), and 119 PM peak hour trips (83 in / 36 out) as compared to the original project analyzed in the February 2023 LTA. Therefore, this Alternative would not result in any new substantial effects on the local transportation system.

As shown in this memo, the Reduced Development Footprint Alternative – Vernal Pool Impact Minimization project would result in substantial effects at two (2) intersections. This is a reduction of one (1) intersection and one (1) street segment compared to the original project as analyzed in the February 2023 LTA. ***Table 9–1*** provides a comparison.

TABLE 9–1
SUBSTANTIAL TRAFFIC EFFECT COMPARISON

Location	Substantial Traffic Effect?	
	Pacific Specific Plan Project (449 DU) [a]	**Reduced Development Footprint Alternative – Vernal Pool Impact Minimization (228 DU)**
Intersection #3. Via Vera Cruz / Grand Avenue / SR-78 EB Ramps	**Yes**	**Yes**
Intersection #5. Las Posas Road / La Mirada Drive	**Yes**	No
Intersection #7. Pacific Street / Linda Vista Drive	**Yes**	**Yes**
Street Segment #6. La Mirada Drive to Linda Vista Drive	**Yes**	No

Footnotes:
a. See February 2023 LTA.

The proposed driveway location on Linda Vista Drive is approximately 650 feet from Las Posas Road and approximately 680 feet from Pacific Street. Queueing at either intersection would not interfere with driveway operations.

The Reduced Development Footprint Alternative – Vernal Pool Impact Minimization project would provide roadway improvements as described in *Section 7.0* to address the identified deficiencies.

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Figures:

2–1 Project Area Map
2–2 Project Site Plan
4–1 Project Traffic Distribution
4–2 Project Traffic Volumes
5–1 Near-Term + Project Traffic Volumes
6–1 Long-Term + Project Traffic Volumes

Attachments:

A Near-Term + Project Intersection LOS Analysis Worksheets
B Near-Term + Project Intersection Queuing Analysis Worksheets
C Long-Term + Project Intersection LOS Analysis Worksheets
D Long-Term + Project Intersection Queueing Analysis Worksheets
E Near-Term & Long-Term + Project Improvements Analysis Worksheets

cc: File

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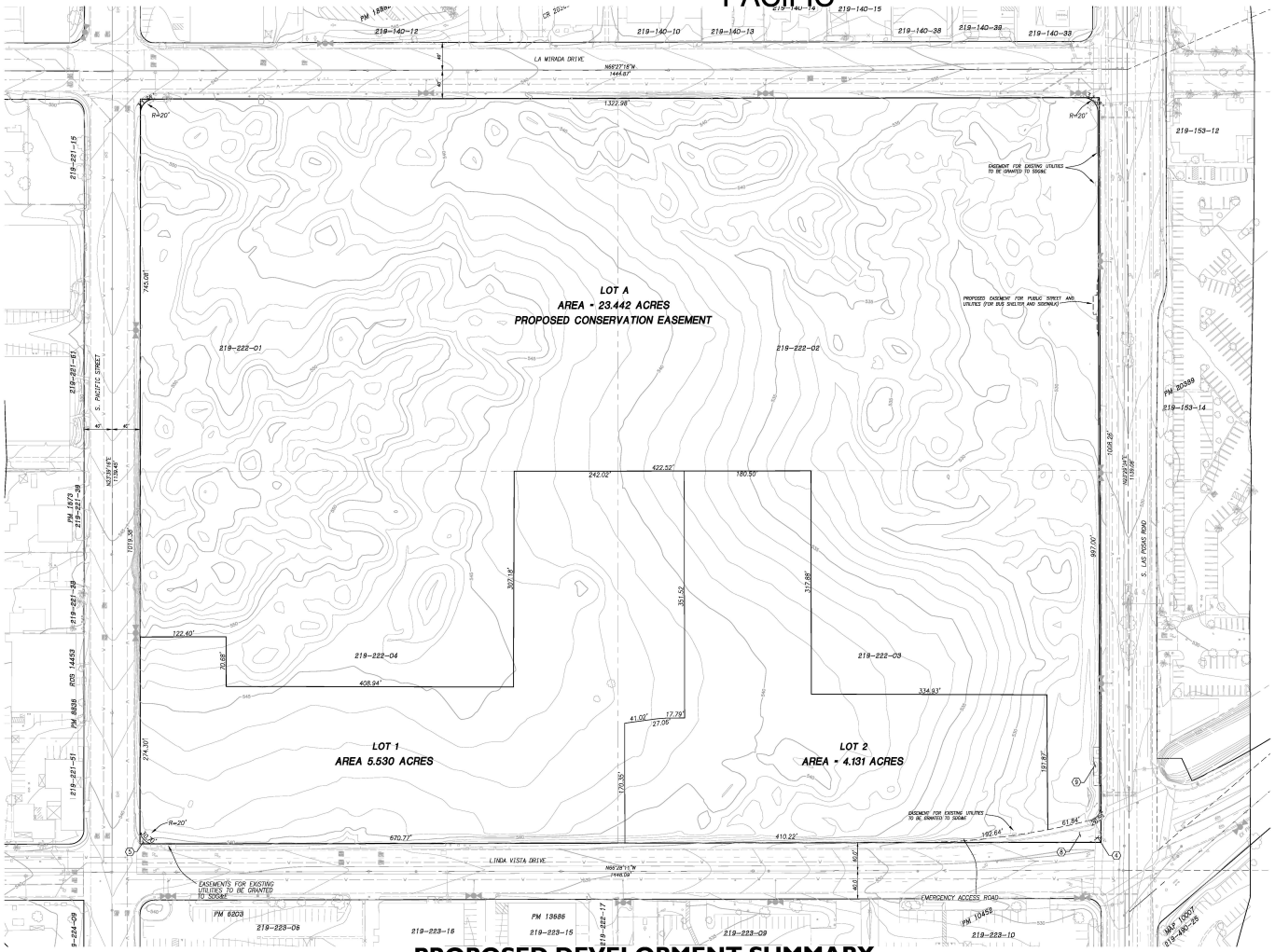
Figure 2-1
Project Area Map

Pacific: Reduced South Development Footprint Alternative

TENTATIVE MAP/MFSDP/CONCEPTUAL GRADING PLAN
PACIFIC



GENERAL NOTES

THE PROJECT IS THE DEVELOPMENT OF PACIFIC, LOCATED AT THE NORTHWEST CORNER OF LAS POSAS ROAD AND LINDA VISTA DRIVE, COMPRISED OF APN'S 219-222-01, 219-222-02, 219-222-03, AND 219-222-04. THE PROJECT PROPOSED THE DEVELOPMENT OF 228 RESIDENTIAL UNITS, INCLUDING A MIX OF THREE STORY ROWHOMES AND THREE STORY VILLAS ON APPROXIMATELY 9.7 ACRES WITHIN THE 33.2 ACRE PROJECT SITE.THE PROJECT PROPOSES A GENERAL PLAN AMENDMENT, REZONE, SPECIFIC PLAN, TENTATIVE MAP, AND MULTI-FAMILY SITE DEVELOPMENT PLAN.

1. GROSS LOT AREA: 33.229 AC
2. NET LOT AREA: 33.154 AC LESS EXISTING STREET DEDICATION
3. EXISTING NUMBER OF LOTS: 4
   PROPOSED NUMBER OF LOTS: 3
   LOT 1 = 5.530 AC
   LOT 2 = 4.132 AC
   LOT A = 23.442 AC. OPEN SPACE
4. TOTAL NUMBER OF UNITS 228
5. GROSS DENSITY: 23.60 DU/AC (228 UNITS / 9.662 AC = 23.60)
6. FLOOR AREA RATIO: 0.63
7. COVERAGE: 0.33
8. EXISTING ZONING: INDUSTRIAL (I)
9. PROPOSED ZONING: SPECIFIC PLAN AREA.
10. STANDARDS ARE ESTABLISHED BY APPROVAL OF SPECIFIC PLAN.
11. PRESENT LAND USE: VACANT
    PROPOSED LAND USE: MULTI-FAMILY RESIDENTIAL
12. WATER SYSTEMS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARDS OF THE VALLECITOS WATER DISTRICT. ALL ONSITE WATER SYSTEMS SHALL BE PRIVATE MAINTAINED.
13. SEWER SYSTEMS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARDS OF THE VALLECITOS WATER DISTRICT. ALL ONSITE SEWER SYSTEMS SHALL BE PRIVATELY MAINTAINED.
14. ALL ONSITE STORM DRAIN SYSTEMS SHALL BE PRIVATE. A RECIPROCAL DRAINAGE EASEMENT WILL BE GRANTED OVER ALL PROPOSED PRIVATE STORM DRAIN
15. DRY AND WET UTILITIES SHALL BE UNDERGROUND. EASEMENTS TO BE PROVIDED AS NECESSARY.
16. GRADING SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY STANDARDS.
17. ALL WORK WITHIN PUBLIC RIGHT OF WAY SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, THE SAN DIEGO AREA REGIONAL STANDARD DRAWINGS AND THE DESIGN AND CONSTRUCTION STANDARDS OF THE CITY OF SAN MARCOS.
18. PRELIMINARY GEOTECHNICAL FEASIBILITY REPORT PREPARED BY: GEOTEK INC., DATED OCTOBER 26, 2020.
19. GRADING SHOWN HEREON IS PRELIMINARY AND SUBJECT TO CHANGE IN FINAL DESIGN. TRASH PICKUP SHALL BE INDIVIDUAL PICKUP ONCE A WEEK.
20. SOURCE OF TOPOGRAPHY: PHOTOGEODETIC CORPORATION, DATED 8-7-20.
21. MODEL UNITS MAY BE BUILT PRIOR TO FINAL MAP RECORDATION.
22. A LIGHTED DIRECTORY IS PROPOSED AT THE PROJECT ENTRY.

EASEMENT NOTES:

(AS PER FIRST AMERICAN TITLE COMPANY TITLE REPORT, ORDER NO. NHSC-6531172, DATED NOVEMBER 3, 2021)

(4) MODIFIED EXISTING EASEMENT IN FAVOR OF THE CITY OF SAN MARCOS FOR PUBLIC STREET PURPOSES, AS PER DOCUMENT RECORDED NOVEMBER 23, 1976 AS INSTRUMENT NO. 76-0300715 OF OFFICIAL RECORDS. EASEMENT TO REMAIN.

(5) MODIFIED EXISTING EASEMENT IN FAVOR OF THE CITY OF SAN MARCOS FOR PUBLIC STREET PURPOSES, AS PER DOCUMENT RECORDED NOVEMBER 23, 1976 AS INSTRUMENT NO. 76-0300779 OF OFFICIAL RECORDS. EASEMENT TO REMAIN.

(6) MODIFIED EXISTING EASEMENT IN FAVOR OF THE CITY OF SAN MARCOS FOR PUBLIC STREET PURPOSES, AS PER DOCUMENT RECORDED NOVEMBER 6, 1990 AS INSTRUMENT NO. 90-0601278 OF OFFICIAL RECORDS. EASEMENT TO REMAIN.

(9) MODIFIED EXISTING EASEMENT IN FAVOR OF SAN DIEGO GAS AND ELECTRIC FOR PUBLIC UTILITY PURPOSES, AS PER DOCUMENT RECORDED NOVEMBER 6, 1998 AS INSTRUMENT NO. 98-0725845 OF OFFICIAL RECORDS. EASEMENT TO REMAIN

NOTES:

1. THE EMERGENCY ACCESS EASEMENT WILL BE SHOWN ON THE FINAL MAP AS REQUIRED BY THE CITY OF SAN MARCOS
2. RECIPROCAL ACCESS EASEMENTS FOR PARKING AND ACCESS LOTS 1 AND LOT 2 PROVIDED FOR IN CC&R'S TO BE GRANTED OVER THE PROJECT.
3. RECIPROCAL DRAINAGE EASEMENTS WILL BE PROVIDED FOR IN CC&R'S TO BE GRANTED OVER THE PROJECT.

PROPOSED DEVELOPMENT SUMMARY

LOT 1

ROWHOMES

22	2BD/2BA	1,200 SF
22	3BD/3BA	1,310 SF
36	3BD/3.5BA	1,736 SF
36	4BD/3.5BA	1,890 SF

116 HOMES

PARKING REQUIRED
116 2 BDR+ HOMES @ 2.0 SP/DU = 232 SPACES
GUEST SPACES @ 0.33/ DU = 39 SPACES
TOTAL = 271 SPACES
REQUIRED COVERED (1) = 116 GARAGES

PARKING PROVIDED
GARAGE SPACES = 232 SPACES
OPEN SPACES = 39
HANDICAP SPACES = 4
TOTAL = 275 SPACES
PROVIDED COVERED = 232 GARAGES
GUEST PARKING RATIO = 0.37 SPACES/DU

LOT 2

VILLAS

64	2BD/2BA	1,272 SF TH
24	3BD/2.5BA	1,486 SF TH
24	3BD/3BA	1,832 SF TH

112 HOMES

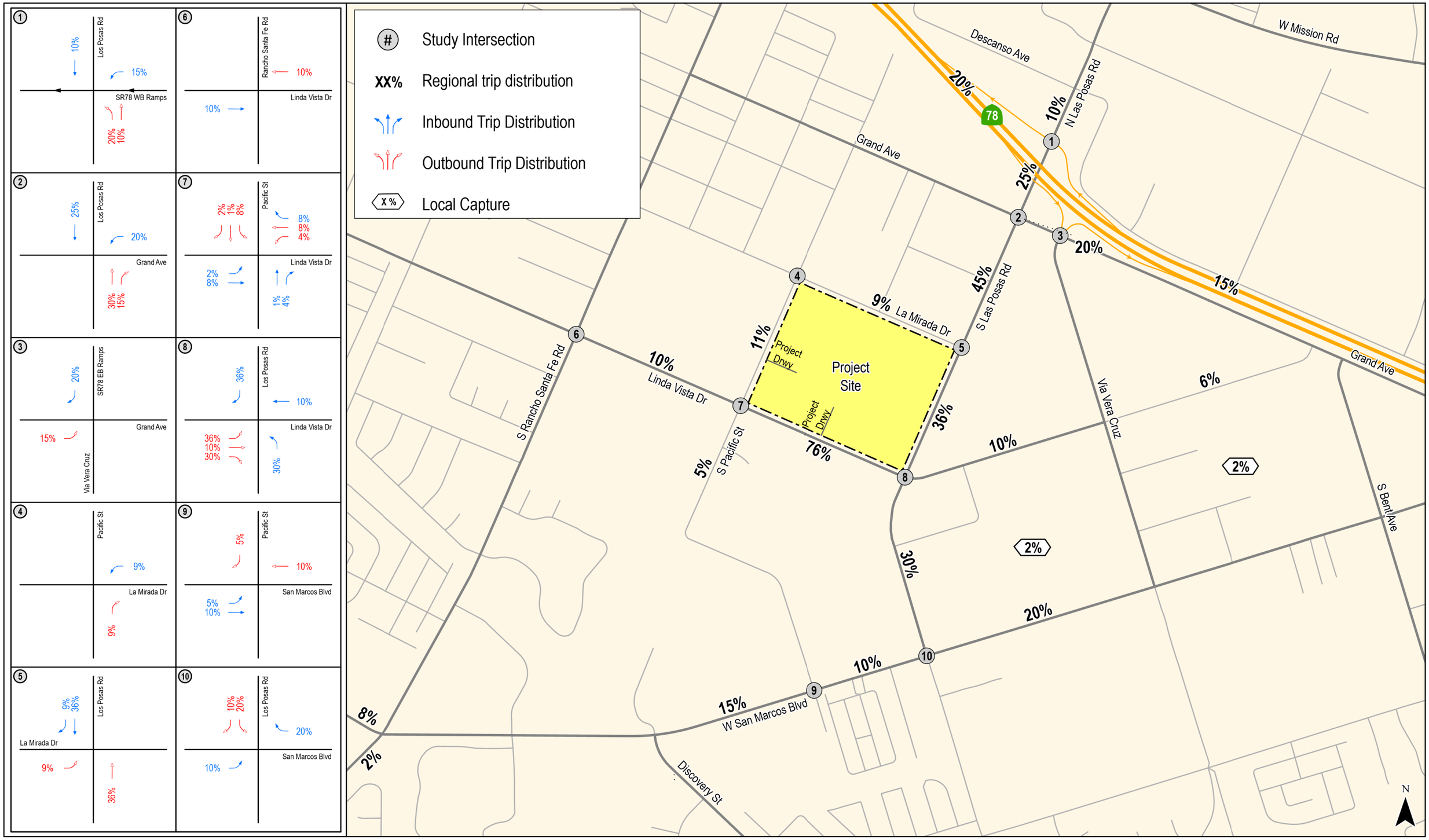
PARKING REQUIRED
112 2 BDR+ HOMES @ 2.0 SP/DU = 224 SPACES
GUEST SPACES @ 0.33/ DU = 36 SPACES
TOTAL = 270 SPACES
REQUIRED COVERED (1) = 112 GARAGES

PARKING PROVIDED
GARAGE SPACES = 224 SPACES
OPEN SPACES - STANDARD = 33
HANDICAP SPACES = 0
TOTAL = 257 SPACES
PROVIDED COVERED = 224 GARAGES
GUEST PARKING RATIO = 0.29 SPACES/DU

60 30 0 60 120 180
SCALE: 1"=60'

Lundstrom
Engineering and Surveying, Inc.
3333 Camino del Rio South, #330 • San Diego, CA 92108
Phone (619) 814-1220 • Fax (619) 641-5910

PACIFIC
TENTATIVE MAP
APN: 219-222-01, 02, 03, & 04
JOB NO.: L300-14 | DATE: 02-23-2024 | SHEET: 2 OF 11



LINSCOTT LAW & GREENSPAN engineers

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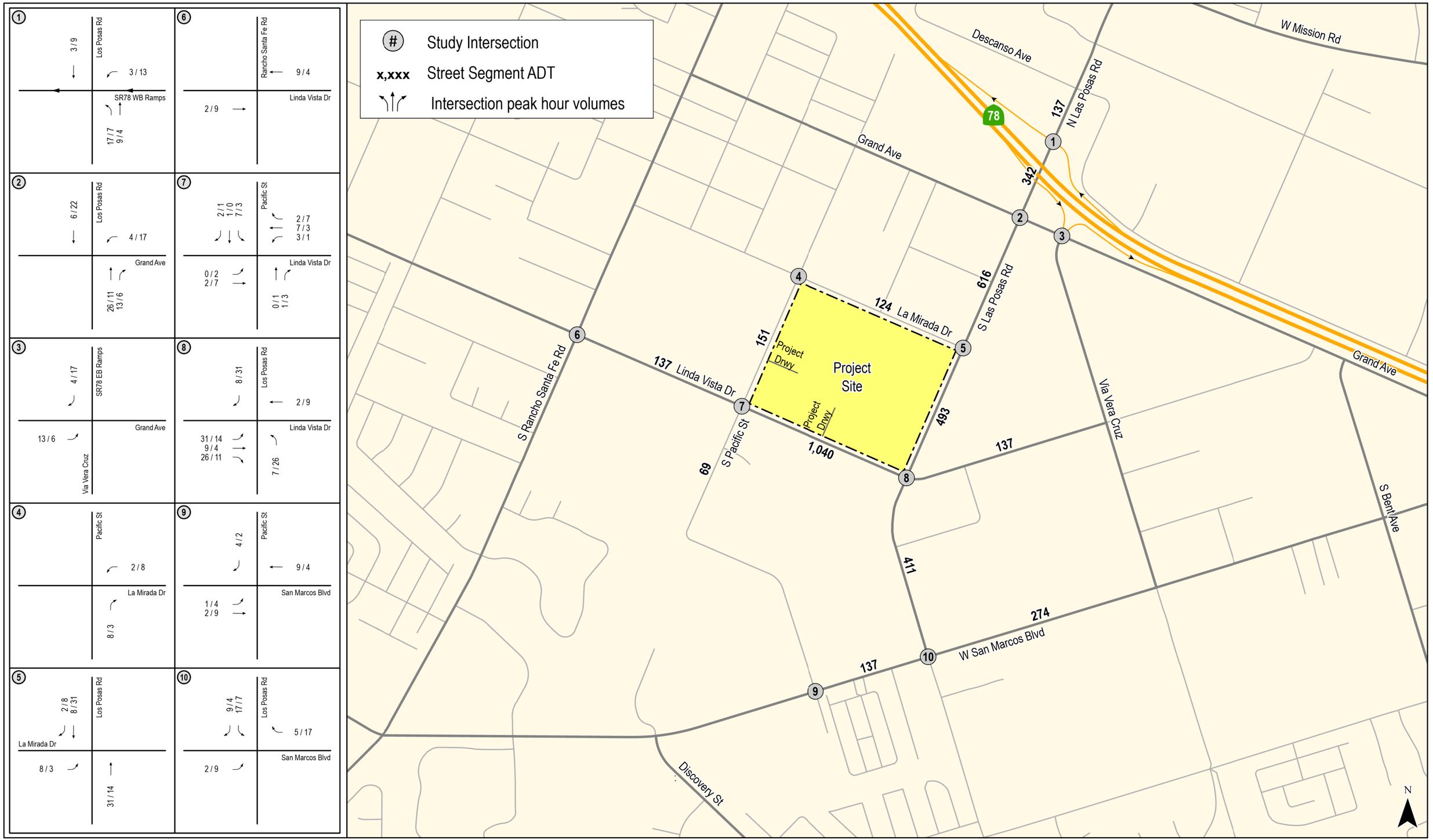
Time: 1:36 PM

Figure 4-1
Project Traffic Distribution



LINSCOTT LAW & GREENSPAN engineers

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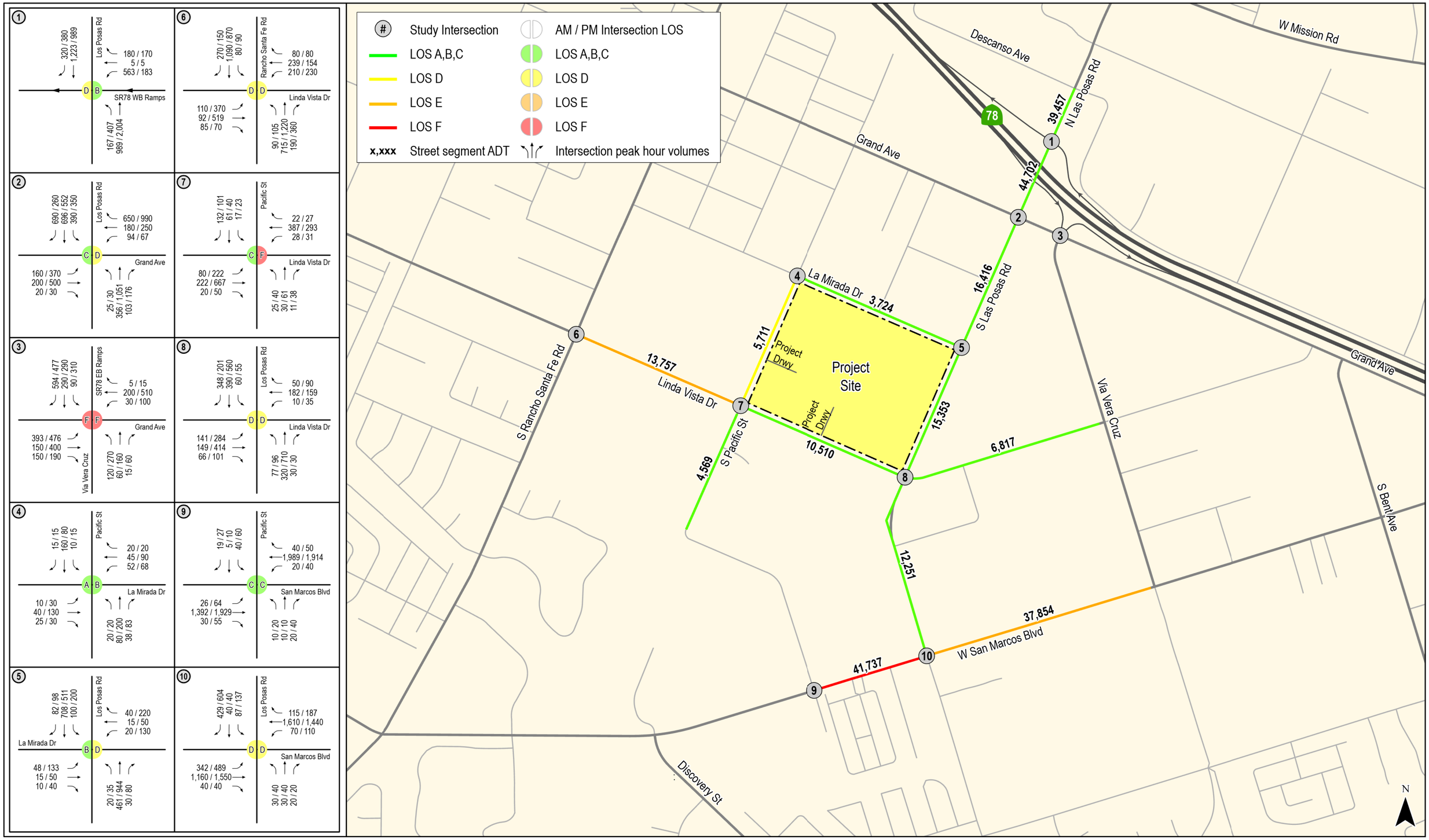
Figure 4-2
Project Traffic Volumes



LINSCOTT LAW & GREENSPAN engineers

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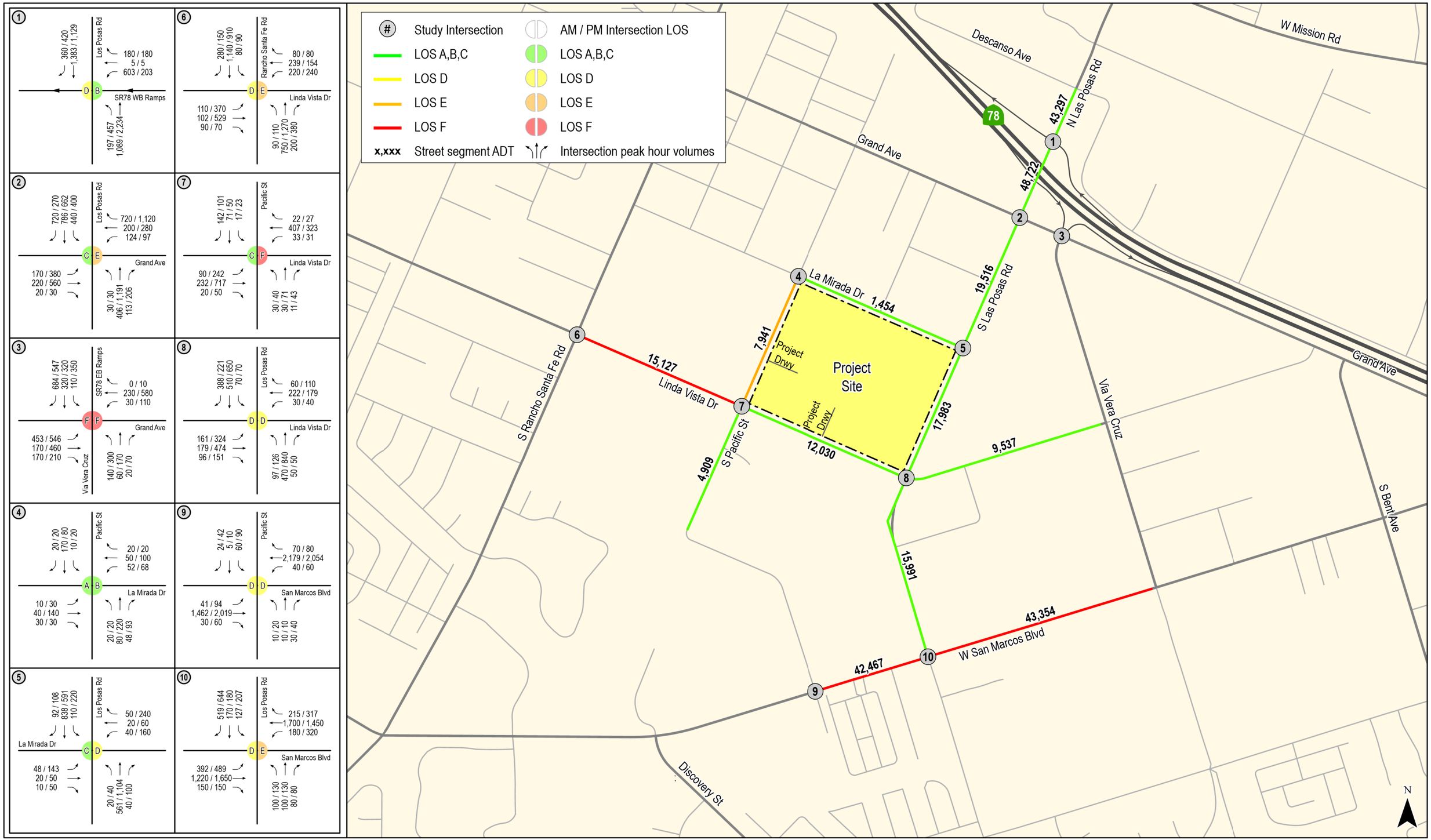
Figure 5-1
Near-Term + Project Traffic Volumes



LINSCOTT LAW & GREENSPAN engineers

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Figure 6-1
Long-Term + Project Traffic Volumes

LINSCOTT LAW & GREENSPAN
engineers

TECHNICAL APPENDICES – LTA
REDUCED DEVELOPMENT FOOTPRINT ALTERNATIVE – VERNAL POOL IMPACT MINIMIZATION

San Marcos, California
May 8, 2024

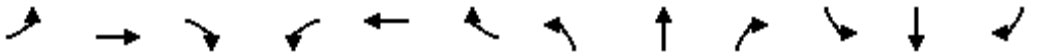
LLG Ref. 3-20-3279

Linscott, Law & Greenspan, Engineers
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
www.llgengineers.com

ATTACHMENT A

NEAR-TERM + PROJECT INTERSECTION

LOS ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	563	5	180	167	989	0	0	1223	320
Future Volume (veh/h)	0	0	0	563	5	180	167	989	0	0	1223	320
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj				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	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				386	277	186	172	1020	0	0	1261	330
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				410	240	161	200	3324	0	0	1970	515
Arrive On Green				0.23	0.23	0.23	0.22	1.00	0.00	0.00	0.49	0.49
Sat Flow, veh/h				1781	1044	701	1781	5274	0	0	4174	1047
Grp Volume(v), veh/h				386	0	463	172	1020	0	0	1072	519
Grp Sat Flow(s),veh/h/ln				1781	0	1744	1781	1702	0	0	1702	1649
Q Serve(g_s), s				21.3	0.0	23.0	9.3	0.0	0.0	0.0	23.3	23.4
Cycle Q Clear(g_c), s				21.3	0.0	23.0	9.3	0.0	0.0	0.0	23.3	23.4
Prop In Lane				1.00		0.40	1.00		0.00	0.00		0.64
Lane Grp Cap(c), veh/h				410	0	401	200	3324	0	0	1674	811
V/C Ratio(X)				0.94	0.00	1.15	0.86	0.31	0.00	0.00	0.64	0.64
Avail Cap(c_a), veh/h				410	0	401	214	3324	0	0	1674	811
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.84	0.84	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.8	0.0	38.5	38.0	0.0	0.0	0.0	18.8	18.9
Incr Delay (d2), s/veh				29.8	0.0	94.1	23.6	0.2	0.0	0.0	1.9	3.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				12.5	0.0	20.1	4.8	0.1	0.0	0.0	8.7	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				67.7	0.0	132.6	61.6	0.2	0.0	0.0	20.7	22.7
LnGrp LOS				E	A	F	E	A	A	A	C	C
Approach Vol, veh/h					849			1192			1591	
Approach Delay, s/veh					103.1			9.1			21.4	
Approach LOS					F			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	71.9		15.9	56.0		28.1						
Change Period (Y+Rc), s	6.8		* 4.7	6.8		5.1						
Max Green Setting (Gmax), s	65.1		* 12	48.4		23.0						
Max Q Clear Time (g_c+I1), s	2.0		11.3	25.4		25.0						
Green Ext Time (p_c), s	4.9		0.0	7.5		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	36.4	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	200	20	94	180	650	25	356	103	390	696	690
Future Volume (veh/h)	160	200	20	94	180	650	25	356	103	390	696	690
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	215	22	101	194	699	27	383	111	419	748	742
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	509	51	151	284	992	66	1171	326	704	1641	855
Arrive On Green	0.09	0.16	0.16	0.03	0.05	0.05	0.04	0.29	0.29	0.07	0.15	0.15
Sat Flow, veh/h	3456	3248	328	1781	1870	2790	1781	3970	1104	3456	3554	1545
Grp Volume(v), veh/h	172	116	121	101	194	699	27	326	168	419	748	742
Grp Sat Flow(s),veh/h/ln	1728	1777	1800	1781	1870	1395	1781	1702	1670	1728	1777	1545
Q Serve(g_s), s	4.8	5.9	6.1	5.6	10.2	4.7	1.5	7.5	7.9	11.8	19.2	40.4
Cycle Q Clear(g_c), s	4.8	5.9	6.1	5.6	10.2	4.7	1.5	7.5	7.9	11.8	19.2	40.4
Prop In Lane	1.00		0.18	1.00		1.00	1.00		0.66	1.00		1.00
Lane Grp Cap(c), veh/h	308	278	282	151	284	992	66	1004	493	704	1641	855
V/C Ratio(X)	0.56	0.42	0.43	0.67	0.68	0.70	0.41	0.32	0.34	0.60	0.46	0.87
Avail Cap(c_a), veh/h	328	382	387	169	402	1168	169	1004	493	704	1641	855
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	0.96	0.96	0.96	0.61	0.61	0.61
Uniform Delay (d), s/veh	43.6	38.1	38.1	47.2	45.1	11.8	47.1	27.5	27.6	42.6	30.9	30.1
Incr Delay (d2), s/veh	1.8	1.0	1.0	8.2	2.8	1.5	3.9	0.8	1.8	0.8	0.6	7.5
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	2.1	2.6	2.7	2.9	5.3	4.1	0.7	3.0	3.2	5.4	9.1	18.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	39.1	39.1	55.4	47.9	13.4	51.0	28.3	29.4	43.5	31.5	37.6
LnGrp LOS	D	D	D	E	D	B	D	C	C	D	C	D
Approach Vol, veh/h		409			994			521			1909	
Approach Delay, s/veh		41.8			24.4			29.8			36.5	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	36.0	15.0	22.2	10.2	52.7	15.4	21.7
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	13.5	29.5	9.5	21.5	9.5	33.5	9.5	21.5
Max Q Clear Time (g_c+I1), s	13.8	9.9	7.6	8.1	3.5	42.4	6.8	12.2
Green Ext Time (p_c), s	0.0	2.7	0.0	1.0	0.0	0.0	0.1	3.0

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	150	150	30	200	5	120	60	15	90	290	594
Future Volume (veh/h)	393	150	150	30	200	5	120	60	15	90	290	594
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	414	158	158	32	211	5	94	107	16	95	305	587
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	496	1100	661	115	1184	28	195	205	174	533	171	329
Arrive On Green	0.14	0.31	0.31	0.06	0.23	0.23	0.11	0.11	0.11	0.30	0.30	0.30
Sat Flow, veh/h	3456	3554	1575	1781	5132	121	1781	1870	1585	1781	572	1100
Grp Volume(v), veh/h	414	158	158	32	140	76	94	107	16	95	0	892
Grp Sat Flow(s),veh/h/ln	1728	1777	1575	1781	1702	1849	1781	1870	1585	1781	0	1672
Q Serve(g_s), s	11.7	3.2	6.5	1.7	3.3	3.3	5.0	5.4	0.9	3.9	0.0	29.9
Cycle Q Clear(g_c), s	11.7	3.2	6.5	1.7	3.3	3.3	5.0	5.4	0.9	3.9	0.0	29.9
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	496	1100	661	115	786	427	195	205	174	533	0	500
V/C Ratio(X)	0.83	0.14	0.24	0.28	0.18	0.18	0.48	0.52	0.09	0.18	0.00	1.78
Avail Cap(c_a), veh/h	636	1100	661	196	786	427	196	206	174	533	0	500
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)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	24.9	18.7	44.5	30.8	30.9	41.8	42.0	40.0	26.0	0.0	35.1
Incr Delay (d2), s/veh	5.0	0.2	0.5	0.5	0.5	0.9	0.7	1.1	0.1	0.1	0.0	360.8
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	5.3	1.4	3.0	0.8	1.4	1.6	2.2	2.5	0.4	1.7	0.0	61.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	25.1	19.3	45.0	31.3	31.8	42.5	43.1	40.1	26.0	0.0	395.8
LnGrp LOS	D	C	B	D	C	C	D	D	D	C	A	F
Approach Vol, veh/h		730			248			217			987	
Approach Delay, s/veh		36.1			33.2			42.7			360.2	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.2	37.7		35.0	19.0	29.9		16.1
Change Period (Y+Rc), s	* 4.7	6.8		5.1	* 4.7	6.8		5.1
Max Green Setting (Gmax), s	* 11	26.4		29.9	* 18	19.0		11.0
Max Q Clear Time (g_c+I1), s	13.7	8.5		31.9	13.7	5.3		7.4
Green Ext Time (p_c), s	0.0	0.8		0.0	0.7	0.7		0.2

Intersection Summary		
HCM 6th Ctrl Delay	183.0	
HCM 6th LOS	F	

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	40	25	52	45	20	20	80	38	10	160	15
Future Vol, veh/h	10	40	25	52	45	20	20	80	38	10	160	15
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	46	29	60	52	23	23	92	44	11	184	17
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.7	9.5	8.9	10
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	20%	0%	20%	0%	54%	0%	6%	0%
Vol Thru, %	80%	0%	80%	0%	46%	0%	94%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	38	50	25	97	20	170	15
LT Vol	20	0	10	0	52	0	10	0
Through Vol	80	0	40	0	45	0	160	0
RT Vol	0	38	0	25	0	20	0	15
Lane Flow Rate	115	44	57	29	111	23	195	17
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.174	0.056	0.092	0.039	0.181	0.031	0.289	0.022
Departure Headway (Hd)	5.453	4.647	5.742	4.935	5.841	4.865	5.322	4.589
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	655	766	620	720	611	731	672	776
Service Time	3.211	2.406	3.511	2.704	3.605	2.629	3.077	2.343
HCM Lane V/C Ratio	0.176	0.057	0.092	0.04	0.182	0.031	0.29	0.022
HCM Control Delay	9.4	7.7	9.1	7.9	9.9	7.8	10.2	7.4
HCM Lane LOS	A	A	A	A	A	A	B	A
HCM 95th-tile Q	0.6	0.2	0.3	0.1	0.7	0.1	1.2	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	15	10	20	15	40	20	461	30	100	708	82
Future Volume (veh/h)	48	15	10	20	15	40	20	461	30	100	708	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	16	11	21	16	42	21	485	32	105	745	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	275	233	71	53	140	54	954	423	157	1049	121
Arrive On Green	0.07	0.15	0.15	0.04	0.12	0.12	0.03	0.27	0.27	0.09	0.33	0.33
Sat Flow, veh/h	1781	1870	1582	1781	454	1192	1781	3554	1576	1781	3210	370
Grp Volume(v), veh/h	51	16	11	21	0	58	21	485	32	105	412	419
Grp Sat Flow(s),veh/h/ln	1781	1870	1582	1781	0	1646	1781	1777	1576	1781	1777	1803
Q Serve(g_s), s	1.5	0.4	0.3	0.6	0.0	1.7	0.6	6.2	0.8	3.1	10.9	10.9
Cycle Q Clear(g_c), s	1.5	0.4	0.3	0.6	0.0	1.7	0.6	6.2	0.8	3.1	10.9	10.9
Prop In Lane	1.00		1.00	1.00		0.72	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	124	275	233	71	0	194	54	954	423	157	581	589
V/C Ratio(X)	0.41	0.06	0.05	0.29	0.00	0.30	0.39	0.51	0.08	0.67	0.71	0.71
Avail Cap(c_a), veh/h	282	1114	942	282	0	981	199	1521	675	398	959	973
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	19.7	19.7	25.0	0.0	21.7	25.6	16.6	14.7	23.7	15.9	15.9
Incr Delay (d2), s/veh	2.2	0.1	0.1	2.3	0.0	0.9	4.6	0.4	0.1	4.8	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.2	0.1	0.3	0.0	0.7	0.3	2.1	0.3	1.3	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	19.8	19.8	27.3	0.0	22.5	30.2	17.1	14.7	28.5	17.5	17.5
LnGrp LOS	C	B	B	C	A	C	C	B	B	C	B	B
Approach Vol, veh/h		78			79			538			936	
Approach Delay, s/veh		23.9			23.8			17.4			18.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	20.4	8.2	13.9	8.1	23.6	9.7	12.3
Change Period (Y+Rc), s	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	23.0	8.5	32.0	6.0	29.0	8.5	32.0
Max Q Clear Time (g_c+I1), s	5.1	8.2	2.6	2.4	2.6	12.9	3.5	3.7
Green Ext Time (p_c), s	0.1	2.6	0.0	0.1	0.0	4.3	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	92	85	210	239	80	90	715	190	80	1090	270
Future Volume (veh/h)	110	92	85	210	239	80	90	715	190	80	1090	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	95	88	216	246	82	93	737	196	82	1124	278
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	248	206	239	352	115	104	1879	837	104	1493	366
Arrive On Green	0.07	0.14	0.14	0.07	0.13	0.13	0.06	0.53	0.53	0.06	0.53	0.53
Sat Flow, veh/h	1781	1830	1526	3456	2636	857	1781	3554	1582	1781	2823	692
Grp Volume(v), veh/h	113	92	91	216	164	164	93	737	196	82	704	698
Grp Sat Flow(s),veh/h/ln	1781	1777	1579	1728	1777	1716	1781	1777	1582	1781	1777	1738
Q Serve(g_s), s	7.5	5.7	6.3	7.4	10.6	11.0	6.2	14.8	8.0	5.5	37.1	37.9
Cycle Q Clear(g_c), s	7.5	5.7	6.3	7.4	10.6	11.0	6.2	14.8	8.0	5.5	37.1	37.9
Prop In Lane	1.00		0.97	1.00		0.50	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	132	240	214	239	237	229	104	1879	837	104	940	919
V/C Ratio(X)	0.86	0.38	0.43	0.90	0.69	0.72	0.90	0.39	0.23	0.79	0.75	0.76
Avail Cap(c_a), veh/h	132	492	437	239	489	472	104	1879	837	163	940	919
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	54.9	47.3	47.6	55.5	49.6	49.8	56.1	16.8	15.2	55.8	22.1	22.3
Incr Delay (d2), s/veh	39.0	1.0	1.3	33.7	3.6	4.1	56.3	0.6	0.7	12.5	5.5	5.9
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	4.8	2.6	2.6	4.4	4.9	5.0	4.4	6.1	3.0	2.8	16.4	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.9	48.3	49.0	89.2	53.2	53.9	112.4	17.4	15.9	68.2	27.5	28.1
LnGrp LOS	F	D	D	F	D	D	F	B	B	E	C	C
Approach Vol, veh/h		296			544			1026			1484	
Approach Delay, s/veh		65.9			67.7			25.7			30.0	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	69.5	14.8	22.7	13.0	69.5	15.0	22.5
Change Period (Y+Rc), s	6.0	* 6	6.5	6.5	6.0	* 6	6.1	6.5
Max Green Setting (Gmax), s	7.0	* 43	8.3	33.2	7.0	* 47	8.9	33.0
Max Q Clear Time (g_c+I1), s	7.5	16.8	9.4	8.3	8.2	39.9	9.5	13.0
Green Ext Time (p_c), s	0.0	6.3	0.0	1.0	0.0	4.6	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	38.0
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	19.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	222	20	28	387	22	25	30	11	17	61	132
Future Vol, veh/h	80	222	20	28	387	22	25	30	11	17	61	132
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	239	22	30	416	24	27	32	12	18	66	142
Number of Lanes	1	1	0	1	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	15.3	26.7	12	12.1
HCM LOS	C	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	45%	0%	100%	0%	100%	0%	0%	22%	0%
Vol Thru, %	55%	0%	0%	92%	0%	100%	0%	78%	0%
Vol Right, %	0%	100%	0%	8%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	11	80	242	28	387	22	78	132
LT Vol	25	0	80	0	28	0	0	17	0
Through Vol	30	0	0	222	0	387	0	61	0
RT Vol	0	11	0	20	0	0	22	0	132
Lane Flow Rate	59	12	86	260	30	416	24	84	142
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.135	0.024	0.179	0.5	0.06	0.776	0.039	0.178	0.269
Departure Headway (Hd)	8.229	7.281	7.485	6.918	7.224	6.717	6.006	7.635	6.813
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	435	491	479	520	499	541	600	470	527
Service Time	5.987	5.039	5.229	4.662	4.924	4.417	3.706	5.383	4.561
HCM Lane V/C Ratio	0.136	0.024	0.18	0.5	0.06	0.769	0.04	0.179	0.269
HCM Control Delay	12.3	10.2	11.9	16.4	10.4	28.9	8.9	12	12.1
HCM Lane LOS	B	B	B	C	B	D	A	B	B
HCM 95th-tile Q	0.5	0.1	0.6	2.8	0.2	7.1	0.1	0.6	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	149	66	10	182	50	77	320	30	60	390	348
Future Volume (veh/h)	141	149	66	10	182	50	77	320	30	60	390	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	160	71	11	196	54	83	344	32	65	419	374
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	567	252	42	286	77	106	1697	157	89	902	785
Arrive On Green	0.08	0.16	0.16	0.02	0.10	0.10	0.06	0.52	0.52	0.05	0.51	0.51
Sat Flow, veh/h	1781	3554	1582	1781	2770	744	1781	3284	304	1781	1777	1546
Grp Volume(v), veh/h	152	160	71	11	124	126	83	185	191	65	419	374
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1781	1777	1736	1781	1777	1811	1781	1777	1546
Q Serve(g_s), s	8.0	4.0	3.9	0.6	6.7	7.0	4.6	5.6	5.7	3.6	15.2	15.7
Cycle Q Clear(g_c), s	8.0	4.0	3.9	0.6	6.7	7.0	4.6	5.6	5.7	3.6	15.2	15.7
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	143	567	252	42	183	179	106	918	936	89	902	785
V/C Ratio(X)	1.07	0.28	0.28	0.26	0.68	0.70	0.78	0.20	0.20	0.73	0.46	0.48
Avail Cap(c_a), veh/h	143	959	427	160	498	486	107	918	936	107	902	785
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	0.94	0.94	0.94
Uniform Delay (d), s/veh	46.0	37.0	37.0	48.0	43.2	43.4	46.4	13.0	13.1	46.8	15.9	16.0
Incr Delay (d2), s/veh	94.3	0.3	0.6	3.2	4.3	5.0	30.6	0.5	0.5	17.1	1.6	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	7.2	1.7	1.6	0.3	3.2	3.2	2.9	2.2	2.2	2.0	5.9	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	140.3	37.3	37.6	51.2	47.5	48.3	77.0	13.5	13.5	64.0	17.5	17.9
LnGrp LOS	F	D	D	D	D	D	E	B	B	E	B	B
Approach Vol, veh/h		383			261			459			858	
Approach Delay, s/veh		78.2			48.1			25.0			21.2	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	58.2	8.4	22.0	12.4	57.2	14.0	16.3
Change Period (Y+Rc), s	6.5	6.5	6.0	6.0	6.5	6.5	6.0	6.0
Max Green Setting (Gmax), s	6.0	33.0	9.0	27.0	6.0	33.0	8.0	28.0
Max Q Clear Time (g_c+I1), s	5.6	7.7	2.6	6.0	6.6	17.7	10.0	9.0
Green Ext Time (p_c), s	0.0	2.0	0.0	1.1	0.0	4.2	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	1392	30	20	1989	40	10	10	20	40	5	19
Future Volume (veh/h)	26	1392	30	20	1989	40	10	10	20	40	5	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	1450	31	21	2072	42	10	10	21	42	5	20
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	2263	48	36	2219	45	42	29	306	53	3	305
Arrive On Green	0.03	0.64	0.64	0.02	0.62	0.62	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	3556	76	1781	3560	72	0	149	1585	1	18	1580
Grp Volume(v), veh/h	27	724	757	21	1030	1084	20	0	21	47	0	20
Grp Sat Flow(s),veh/h/ln	1781	1777	1855	1781	1777	1855	150	0	1585	18	0	1580
Q Serve(g_s), s	1.9	32.5	32.6	1.5	67.5	68.8	0.0	0.0	1.4	0.0	0.0	1.3
Cycle Q Clear(g_c), s	1.9	32.5	32.6	1.5	67.5	68.8	25.1	0.0	1.4	25.1	0.0	1.3
Prop In Lane	1.00		0.04	1.00		0.04	0.50		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	60	1131	1180	36	1108	1157	70	0	306	56	0	305
V/C Ratio(X)	0.45	0.64	0.64	0.58	0.93	0.94	0.28	0.00	0.07	0.84	0.00	0.07
Avail Cap(c_a), veh/h	100	1131	1180	69	1108	1157	70	0	306	56	0	305
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	0.34	0.34	0.34	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	61.6	14.5	14.5	63.1	21.9	22.2	44.8	0.0	42.9	63.2	0.0	42.9
Incr Delay (d2), s/veh	5.3	2.8	2.7	4.8	6.1	6.4	2.2	0.0	0.1	65.8	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	12.6	13.1	0.7	26.5	28.2	0.6	0.0	0.6	2.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.9	17.3	17.2	67.9	28.1	28.6	47.0	0.0	43.0	129.0	0.0	43.0
LnGrp LOS	E	B	B	E	C	C	D	A	D	F	A	D
Approach Vol, veh/h		1508			2135			41			67	
Approach Delay, s/veh		18.1			28.7			44.9			103.3	
Approach LOS		B			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	89.2		31.6	10.9	87.5		31.6				
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	5.0	80.4		25.1	7.3	78.1		25.1				
Max Q Clear Time (g_c+I1), s	3.5	34.6		27.1	3.9	70.8		27.1				
Green Ext Time (p_c), s	0.0	13.4		0.0	0.0	6.3		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	342	1160	40	70	1610	115	30	30	20	87	40	429
Future Volume (veh/h)	342	1160	40	70	1610	115	30	30	20	87	40	429
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	349	1184	41	71	1643	117	31	31	20	89	41	438
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	327	2373	82	89	1934	861	248	442	369	350	442	664
Arrive On Green	0.18	0.68	0.68	0.05	0.54	0.54	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	3504	121	1781	3554	1582	915	1870	1563	1354	1870	1581
Grp Volume(v), veh/h	349	600	625	71	1643	117	31	31	20	89	41	438
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1582	915	1870	1563	1354	1870	1581
Q Serve(g_s), s	27.5	24.7	24.7	5.9	58.8	5.5	4.1	1.9	1.5	8.2	2.6	33.4
Cycle Q Clear(g_c), s	27.5	24.7	24.7	5.9	58.8	5.5	6.7	1.9	1.5	10.1	2.6	33.4
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	327	1203	1252	89	1934	861	248	442	369	350	442	664
V/C Ratio(X)	1.07	0.50	0.50	0.79	0.85	0.14	0.12	0.07	0.05	0.25	0.09	0.66
Avail Cap(c_a), veh/h	327	1203	1252	121	1934	861	248	442	369	351	443	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)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	11.8	11.8	70.5	29.0	16.8	47.4	44.5	44.3	48.4	44.8	35.0
Incr Delay (d2), s/veh	64.6	1.2	1.2	22.1	4.9	0.3	0.2	0.1	0.1	0.4	0.1	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	18.0	9.4	9.8	3.2	24.9	2.0	0.9	0.9	0.6	2.8	1.2	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.8	13.0	13.0	92.5	33.9	17.2	47.6	44.6	44.4	48.8	44.8	37.4
LnGrp LOS	F	B	B	F	C	B	D	D	D	D	D	D
Approach Vol, veh/h		1574			1831			82			568	
Approach Delay, s/veh		38.0			35.1			45.7			39.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	108.5		41.9	34.0	88.5		41.9
Change Period (Y+Rc), s	6.5	6.5		* 6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	10.3	85.3		* 36	27.5	68.0		35.0
Max Q Clear Time (g_c+I1), s	7.9	26.7		35.4	29.5	60.8		8.7
Green Ext Time (p_c), s	0.0	9.8		0.0	0.0	5.5		0.3

Intersection Summary	
HCM 6th Ctrl Delay	37.1
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	8	130	2	2	200
Future Vol, veh/h	10	8	130	2	2	200
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	9	141	2	2	217

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	363	142	0	0	143	0
Stage 1	142	-	-	-	-	-
Stage 2	221	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	636	906	-	-	1440	-
Stage 1	885	-	-	-	-	-
Stage 2	816	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	635	906	-	-	1440	-
Mov Cap-2 Maneuver	635	-	-	-	-	-
Stage 1	885	-	-	-	-	-
Stage 2	814	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	732	1440	-
HCM Lane V/C Ratio	-	-	0.027	0.002	-
HCM Control Delay (s)	-	-	10.1	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

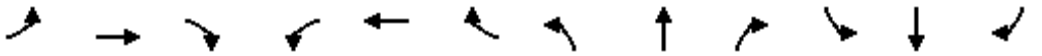
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	297	592	15	59	10
Future Vol, veh/h	3	297	592	15	59	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	323	643	16	64	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	659	0	-	0	980	651
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	329	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	929	-	-	-	277	469
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	729	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	929	-	-	-	276	469
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	517	-
Stage 2	-	-	-	-	729	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	929	-	-	-	405
HCM Lane V/C Ratio	0.004	-	-	-	0.185
HCM Control Delay (s)	8.9	-	-	-	15.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	183	5	170	407	2004	0	0	989	380
Future Volume (veh/h)	0	0	0	183	5	170	407	2004	0	0	989	380
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj				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	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				184	11	175	420	2066	0	0	1020	392
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				244	13	206	445	3854	0	0	1665	640
Arrive On Green				0.14	0.14	0.14	0.50	1.00	0.00	0.00	0.46	0.46
Sat Flow, veh/h				1781	95	1505	1781	5274	0	0	3771	1384
Grp Volume(v), veh/h				184	0	186	420	2066	0	0	964	448
Grp Sat Flow(s),veh/h/ln				1781	0	1599	1781	1702	0	0	1702	1583
Q Serve(g_s), s				10.9	0.0	12.5	24.6	0.0	0.0	0.0	23.4	23.4
Cycle Q Clear(g_c), s				10.9	0.0	12.5	24.6	0.0	0.0	0.0	23.4	23.4
Prop In Lane				1.00		0.94	1.00		0.00	0.00		0.87
Lane Grp Cap(c), veh/h				244	0	219	445	3854	0	0	1573	731
V/C Ratio(X)				0.75	0.00	0.85	0.94	0.54	0.00	0.00	0.61	0.61
Avail Cap(c_a), veh/h				338	0	304	588	3854	0	0	1573	731
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.26	0.26	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				45.7	0.0	46.3	26.8	0.0	0.0	0.0	22.2	22.2
Incr Delay (d2), s/veh				3.5	0.0	11.3	7.5	0.1	0.0	0.0	1.8	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
%ile BackOfQ(50%),veh/ln				5.1	0.0	5.6	7.4	0.1	0.0	0.0	9.0	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				49.2	0.0	57.6	34.3	0.1	0.0	0.0	24.0	26.0
LnGrp LOS				D	A	E	C	A	A	A	C	C
Approach Vol, veh/h					370			2486			1412	
Approach Delay, s/veh					53.4			5.9			24.6	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	89.8		32.2	57.6		20.2						
Change Period (Y+Rc), s	6.8		* 4.7	6.8		5.1						
Max Green Setting (Gmax), s	77.2		* 36	36.2		20.9						
Max Q Clear Time (g_c+I1), s	2.0		26.6	25.4		14.5						
Green Ext Time (p_c), s	15.7		0.9	4.7		0.6						

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	500	30	67	250	990	30	1051	176	350	552	260
Future Volume (veh/h)	370	500	30	67	250	990	30	1051	176	350	552	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	394	532	32	71	266	947	32	1118	187	372	587	277
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	688	41	129	318	1001	71	1315	220	653	1597	878
Arrive On Green	0.10	0.20	0.20	0.02	0.06	0.06	0.04	0.30	0.30	0.06	0.15	0.15
Sat Flow, veh/h	3456	3404	204	1781	1870	2790	1781	4382	732	3456	3554	1585
Grp Volume(v), veh/h	394	277	287	71	266	947	32	868	437	372	587	277
Grp Sat Flow(s),veh/h/ln	1728	1777	1831	1781	1870	1395	1781	1702	1710	1728	1777	1585
Q Serve(g_s), s	11.5	16.2	16.3	4.3	15.5	10.6	1.9	26.4	26.4	11.5	16.4	14.1
Cycle Q Clear(g_c), s	11.5	16.2	16.3	4.3	15.5	10.6	1.9	26.4	26.4	11.5	16.4	14.1
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	361	359	370	129	318	1001	71	1022	513	653	1597	878
V/C Ratio(X)	1.09	0.77	0.77	0.55	0.84	0.95	0.45	0.85	0.85	0.57	0.37	0.32
Avail Cap(c_a), veh/h	361	359	370	186	332	1021	219	1099	552	653	1597	878
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.47	0.47	0.47	0.38	0.38	0.38	0.68	0.68	0.68
Uniform Delay (d), s/veh	49.3	41.5	41.5	51.9	50.4	17.2	51.6	36.2	36.2	47.2	32.8	21.8
Incr Delay (d2), s/veh	73.9	9.9	9.9	1.7	8.4	9.4	1.7	3.6	6.9	0.8	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	8.1	8.3	2.0	8.5	8.4	0.9	10.9	11.4	5.3	7.8	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.1	51.4	51.4	53.6	58.8	26.7	53.4	39.8	43.1	48.0	33.2	22.4
LnGrp LOS	F	D	D	D	E	C	D	D	D	D	C	C
Approach Vol, veh/h		958			1284			1337			1236	
Approach Delay, s/veh		80.9			34.8			41.2			35.3	
Approach LOS		F			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.3	39.5	14.5	28.7	10.9	55.9	18.0	25.2
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	17.5	35.5	11.5	19.5	13.5	39.5	11.5	19.5
Max Q Clear Time (g_c+I1), s	13.5	28.4	6.3	18.3	3.9	18.4	13.5	17.5
Green Ext Time (p_c), s	0.5	4.3	0.1	0.4	0.0	4.5	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	476	400	190	100	510	15	270	160	60	310	290	477
Future Volume (veh/h)	476	400	190	100	510	15	270	160	60	310	290	477
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	481	404	192	101	515	15	218	240	61	313	293	449
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	856	564	170	920	27	209	219	186	622	233	356
Arrive On Green	0.16	0.24	0.24	0.10	0.18	0.18	0.12	0.12	0.12	0.35	0.35	0.35
Sat Flow, veh/h	3456	3554	1569	1781	5100	148	1781	1870	1585	1781	666	1021
Grp Volume(v), veh/h	481	404	192	101	343	187	218	240	61	313	0	742
Grp Sat Flow(s),veh/h/ln	1728	1777	1569	1781	1702	1843	1781	1870	1585	1781	0	1687
Q Serve(g_s), s	15.0	10.7	9.8	6.0	10.1	10.2	12.9	12.9	3.9	15.3	0.0	38.4
Cycle Q Clear(g_c), s	15.0	10.7	9.8	6.0	10.1	10.2	12.9	12.9	3.9	15.3	0.0	38.4
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	539	856	564	170	614	332	209	219	186	622	0	589
V/C Ratio(X)	0.89	0.47	0.34	0.59	0.56	0.56	1.04	1.09	0.33	0.50	0.00	1.26
Avail Cap(c_a), veh/h	556	856	564	180	614	332	209	219	186	622	0	589
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)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.5	35.8	25.8	47.7	41.1	41.1	48.5	48.5	44.6	28.3	0.0	35.8
Incr Delay (d2), s/veh	11.3	1.2	1.1	3.0	3.6	6.7	74.2	88.2	0.4	0.3	0.0	130.4
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	7.2	4.8	4.6	2.8	4.5	5.2	10.0	11.4	1.5	6.5	0.0	36.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	37.0	26.9	50.7	44.7	47.8	122.7	136.7	45.0	28.5	0.0	166.2
LnGrp LOS	E	D	C	D	D	D	F	F	D	C	A	F
Approach Vol, veh/h		1077			631			519			1055	
Approach Delay, s/veh		44.0			46.6			120.1			125.3	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.2	33.3		43.5	21.9	26.6		18.0
Change Period (Y+Rc), s	* 4.7	6.8		5.1	* 4.7	6.8		5.1
Max Green Setting (Gmax), s	* 11	25.9		38.4	* 18	19.3		12.9
Max Q Clear Time (g_c+I1), s	10.0	12.7		40.4	17.0	12.2		14.9
Green Ext Time (p_c), s	0.0	1.8		0.0	0.2	1.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	82.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	130	30	68	90	20	20	200	83	15	80	15
Future Vol, veh/h	30	130	30	68	90	20	20	200	83	15	80	15
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	144	33	76	100	22	22	222	92	17	89	17
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.3	11.6	11.8	10.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	9%	0%	19%	0%	43%	0%	16%	0%
Vol Thru, %	91%	0%	81%	0%	57%	0%	84%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	220	83	160	30	158	20	95	15
LT Vol	20	0	30	0	68	0	15	0
Through Vol	200	0	130	0	90	0	80	0
RT Vol	0	83	0	30	0	20	0	15
Lane Flow Rate	244	92	178	33	176	22	106	17
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.408	0.135	0.309	0.051	0.312	0.034	0.187	0.026
Departure Headway (Hd)	6.015	5.261	6.26	5.456	6.395	5.467	6.367	5.576
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	599	681	574	655	562	654	563	640
Service Time	3.756	3.001	4.004	3.2	4.14	3.212	4.116	3.325
HCM Lane V/C Ratio	0.407	0.135	0.31	0.05	0.313	0.034	0.188	0.027
HCM Control Delay	12.9	8.8	11.8	8.5	12	8.4	10.6	8.5
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	2	0.5	1.3	0.2	1.3	0.1	0.7	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	50	40	130	50	220	35	944	80	200	511	98
Future Volume (veh/h)	133	50	40	130	50	220	35	944	80	200	511	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	55	44	143	55	242	38	1037	88	220	562	108
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	413	349	161	64	282	70	1097	487	241	1204	231
Arrive On Green	0.10	0.22	0.22	0.09	0.21	0.21	0.04	0.31	0.31	0.14	0.40	0.40
Sat Flow, veh/h	1781	1870	1583	1781	302	1327	1781	3554	1577	1781	2975	570
Grp Volume(v), veh/h	146	55	44	143	0	297	38	1037	88	220	335	335
Grp Sat Flow(s),veh/h/ln	1781	1870	1583	1781	0	1629	1781	1777	1577	1781	1777	1768
Q Serve(g_s), s	8.0	2.4	2.2	7.9	0.0	17.5	2.1	28.4	4.1	12.2	13.8	13.9
Cycle Q Clear(g_c), s	8.0	2.4	2.2	7.9	0.0	17.5	2.1	28.4	4.1	12.2	13.8	13.9
Prop In Lane	1.00		1.00	1.00		0.81	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	176	413	349	161	0	346	70	1097	487	241	719	715
V/C Ratio(X)	0.83	0.13	0.13	0.89	0.00	0.86	0.55	0.95	0.18	0.91	0.47	0.47
Avail Cap(c_a), veh/h	177	599	507	161	0	507	118	1103	490	241	719	715
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	31.2	31.2	44.9	0.0	37.9	47.1	33.7	25.3	42.6	21.8	21.8
Incr Delay (d2), s/veh	26.9	0.1	0.2	41.2	0.0	9.7	6.5	15.7	0.2	35.7	0.5	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	4.8	1.1	0.9	5.3	0.0	7.7	1.0	13.8	1.5	7.5	5.4	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	31.4	31.3	86.2	0.0	47.6	53.6	49.4	25.5	78.3	22.3	22.3
LnGrp LOS	E	C	C	F	A	D	D	D	C	E	C	C
Approach Vol, veh/h		245			440			1163			890	
Approach Delay, s/veh		55.1			60.1			47.7			36.1	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	36.8	15.0	28.0	10.4	46.4	15.9	27.2
Change Period (Y+Rc), s	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.5	31.0	9.0	32.0	6.6	37.9	9.9	31.1
Max Q Clear Time (g_c+I1), s	14.2	30.4	9.9	4.4	4.1	15.9	10.0	19.5
Green Ext Time (p_c), s	0.0	0.4	0.0	0.4	0.0	3.7	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	519	70	230	154	80	105	1220	360	90	870	150
Future Volume (veh/h)	370	519	70	230	154	80	105	1220	360	90	870	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	385	541	73	240	160	83	109	1271	375	94	906	156
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	407	881	118	299	323	158	127	1346	591	99	1098	189
Arrive On Green	0.23	0.28	0.28	0.09	0.14	0.14	0.07	0.38	0.38	0.06	0.36	0.36
Sat Flow, veh/h	1781	3143	423	3456	2285	1118	1781	3554	1560	1781	3025	521
Grp Volume(v), veh/h	385	305	309	240	122	121	109	1271	375	94	532	530
Grp Sat Flow(s),veh/h/ln	1781	1777	1789	1728	1777	1626	1781	1777	1560	1781	1777	1769
Q Serve(g_s), s	26.8	18.8	18.9	8.6	8.0	8.7	7.6	43.5	24.7	6.6	34.3	34.3
Cycle Q Clear(g_c), s	26.8	18.8	18.9	8.6	8.0	8.7	7.6	43.5	24.7	6.6	34.3	34.3
Prop In Lane	1.00		0.24	1.00		0.69	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	407	498	501	299	251	230	127	1346	591	99	645	642
V/C Ratio(X)	0.94	0.61	0.62	0.80	0.49	0.53	0.86	0.94	0.63	0.95	0.83	0.83
Avail Cap(c_a), veh/h	409	655	659	415	466	426	127	1361	597	99	645	642
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	47.8	39.4	39.4	56.4	49.8	50.1	57.8	37.8	32.0	59.3	36.5	36.5
Incr Delay (d2), s/veh	30.7	1.2	1.2	7.6	1.5	1.9	40.1	13.3	2.2	73.8	8.6	8.7
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	15.3	8.4	8.5	4.1	3.7	3.7	4.9	21.1	9.6	5.0	16.3	16.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.5	40.6	40.6	64.0	51.3	52.0	97.9	51.1	34.1	133.0	45.1	45.1
LnGrp LOS	E	D	D	E	D	D	F	D	C	F	D	D
Approach Vol, veh/h		999			483			1755			1156	
Approach Delay, s/veh		55.2			57.8			50.4			52.3	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	53.7	17.4	41.8	15.0	51.7	34.9	24.3
Change Period (Y+Rc), s	6.0	* 6	6.5	6.5	6.0	* 6	6.1	6.5
Max Green Setting (Gmax), s	7.0	* 48	15.1	46.4	9.0	* 45	28.9	33.0
Max Q Clear Time (g_c+I1), s	9.6	45.5	10.6	20.9	9.6	36.3	28.8	10.7
Green Ext Time (p_c), s	0.0	2.1	0.3	4.0	0.0	4.3	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	119.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	222	667	50	31	293	27	40	61	38	23	40	101
Future Vol, veh/h	222	667	50	31	293	27	40	61	38	23	40	101
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	234	702	53	33	308	28	42	64	40	24	42	106
Number of Lanes	1	1	0	1	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	189.6	24.2	14.8	14
HCM LOS	F	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	40%	0%	100%	0%	100%	0%	0%	37%	0%
Vol Thru, %	60%	0%	0%	93%	0%	100%	0%	63%	0%
Vol Right, %	0%	100%	0%	7%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	38	222	717	31	293	27	63	101
LT Vol	40	0	222	0	31	0	0	23	0
Through Vol	61	0	0	667	0	293	0	40	0
RT Vol	0	38	0	50	0	0	27	0	101
Lane Flow Rate	106	40	234	755	33	308	28	66	106
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.261	0.088	0.492	1.473	0.075	0.666	0.056	0.161	0.233
Departure Headway (Hd)	9.689	8.762	7.583	7.024	9.023	8.51	7.791	9.595	8.684
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	373	412	472	521	399	429	462	376	416
Service Time	7.389	6.462	5.377	4.817	6.723	6.21	5.491	7.295	6.384
HCM Lane V/C Ratio	0.284	0.097	0.496	1.449	0.083	0.718	0.061	0.176	0.255
HCM Control Delay	15.8	12.3	17.6	242.9	12.5	26.6	11	14.1	14
HCM Lane LOS	C	B	C	F	B	D	B	B	B
HCM 95th-tile Q	1	0.3	2.7	37.4	0.2	4.7	0.2	0.6	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	414	101	35	159	90	96	710	30	55	560	201
Future Volume (veh/h)	284	414	101	35	159	90	96	710	30	55	560	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	305	445	109	38	171	84	103	763	32	59	602	216
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	676	301	100	258	121	97	1669	70	81	1201	430
Arrive On Green	0.14	0.19	0.19	0.06	0.11	0.11	0.05	0.48	0.48	0.05	0.47	0.47
Sat Flow, veh/h	1781	3554	1580	1781	2342	1097	1781	3473	146	1781	2546	912
Grp Volume(v), veh/h	305	445	109	38	128	127	103	390	405	59	420	398
Grp Sat Flow(s),veh/h/ln	1781	1777	1580	1781	1777	1662	1781	1777	1842	1781	1777	1681
Q Serve(g_s), s	15.0	12.7	6.6	2.3	7.6	8.1	6.0	16.1	16.1	3.6	18.0	18.0
Cycle Q Clear(g_c), s	15.0	12.7	6.6	2.3	7.6	8.1	6.0	16.1	16.1	3.6	18.0	18.0
Prop In Lane	1.00		1.00	1.00		0.66	1.00		0.08	1.00		0.54
Lane Grp Cap(c), veh/h	243	676	301	100	196	183	97	854	885	81	838	793
V/C Ratio(X)	1.26	0.66	0.36	0.38	0.65	0.69	1.06	0.46	0.46	0.73	0.50	0.50
Avail Cap(c_a), veh/h	243	1066	474	146	436	408	97	854	885	97	838	793
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	0.90	0.90	0.90
Uniform Delay (d), s/veh	47.5	41.2	38.7	50.1	46.9	47.2	52.0	19.0	19.0	51.8	20.1	20.1
Incr Delay (d2), s/veh	144.1	1.1	0.7	2.4	3.6	4.7	108.5	1.8	1.7	17.8	1.9	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	16.3	5.7	2.6	1.1	3.5	3.6	5.5	6.6	6.8	2.0	7.4	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	191.6	42.3	39.5	52.4	50.6	51.8	160.5	20.8	20.7	69.7	22.0	22.2
LnGrp LOS	F	D	D	D	D	D	F	C	C	E	C	C
Approach Vol, veh/h		859			293			898			877	
Approach Delay, s/veh		95.0			51.4			36.8			25.3	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	59.4	12.2	26.9	12.5	58.4	21.0	18.1
Change Period (Y+Rc), s	6.5	6.5	6.0	6.0	6.5	6.5	6.0	6.0
Max Green Setting (Gmax), s	6.0	37.0	9.0	33.0	6.0	37.0	15.0	27.0
Max Q Clear Time (g_c+I1), s	5.6	18.1	4.3	14.7	8.0	20.0	17.0	10.1
Green Ext Time (p_c), s	0.0	4.3	0.0	3.1	0.0	4.5	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	51.9
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	1929	55	40	1914	50	20	10	40	60	10	27
Future Volume (veh/h)	64	1929	55	40	1914	50	20	10	40	60	10	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	1948	56	40	1933	51	20	10	40	61	10	27
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	2215	63	52	2153	56	46	14	305	51	5	304
Arrive On Green	0.05	0.63	0.63	0.03	0.61	0.61	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	3526	101	1781	3535	93	0	75	1585	0	25	1580
Grp Volume(v), veh/h	65	976	1028	40	967	1017	30	0	40	71	0	27
Grp Sat Flow(s),veh/h/ln	1781	1777	1850	1781	1777	1851	75	0	1585	25	0	1580
Q Serve(g_s), s	4.7	58.9	60.4	2.9	60.6	62.1	0.0	0.0	2.7	0.0	0.0	1.8
Cycle Q Clear(g_c), s	4.7	58.9	60.4	2.9	60.6	62.1	25.0	0.0	2.7	25.0	0.0	1.8
Prop In Lane	1.00		0.05	1.00		0.05	0.67		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	87	1116	1162	52	1082	1127	61	0	305	56	0	304
V/C Ratio(X)	0.75	0.87	0.88	0.76	0.89	0.90	0.50	0.00	0.13	1.26	0.00	0.09
Avail Cap(c_a), veh/h	116	1116	1162	69	1082	1127	61	0	305	56	0	304
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	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	61.1	19.9	20.2	62.6	21.8	22.1	53.3	0.0	43.5	62.9	0.0	43.1
Incr Delay (d2), s/veh	16.6	9.6	9.9	3.4	1.2	1.3	6.1	0.0	0.2	206.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	24.4	26.0	1.3	22.8	24.3	1.1	0.0	1.1	5.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.7	29.5	30.2	66.0	23.0	23.4	59.4	0.0	43.7	269.5	0.0	43.3
LnGrp LOS	E	C	C	E	C	C	E	A	D	F	A	D
Approach Vol, veh/h		2069			2024			70			98	
Approach Delay, s/veh		31.4			24.0			50.4			207.2	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	88.2		31.5	12.8	85.7		31.5
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	5.0	80.5		25.0	8.5	77.0		25.0
Max Q Clear Time (g_c+I1), s	4.9	62.4		27.0	6.7	64.1		27.0
Green Ext Time (p_c), s	0.0	13.3		0.0	0.0	10.0		0.0

Intersection Summary		
HCM 6th Ctrl Delay		32.2
HCM 6th LOS		C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	489	1550	40	110	1440	187	40	40	20	137	40	604
Future Volume (veh/h)	489	1550	40	110	1440	187	40	40	20	137	40	604
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	509	1615	42	115	1500	195	42	42	21	143	42	629
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	477	2369	61	137	1701	755	216	443	375	341	443	794
Arrive On Green	0.27	0.67	0.67	0.08	0.48	0.48	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	3537	92	1781	3554	1578	766	1870	1585	1339	1870	1561
Grp Volume(v), veh/h	509	809	848	115	1500	195	42	42	21	143	42	629
Grp Sat Flow(s),veh/h/ln	1781	1777	1851	1781	1777	1578	766	1870	1585	1339	1870	1561
Q Serve(g_s), s	40.2	41.4	41.8	9.6	57.1	11.0	6.8	2.6	1.5	14.0	2.6	35.5
Cycle Q Clear(g_c), s	40.2	41.4	41.8	9.6	57.1	11.0	9.4	2.6	1.5	16.6	2.6	35.5
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	477	1190	1240	137	1701	755	216	443	375	341	443	794
V/C Ratio(X)	1.07	0.68	0.68	0.84	0.88	0.26	0.19	0.09	0.06	0.42	0.09	0.79
Avail Cap(c_a), veh/h	477	1190	1240	184	1701	755	216	443	375	341	443	794
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)	0.57	0.57	0.57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	15.0	15.1	68.3	35.3	23.3	48.4	44.7	44.3	51.2	44.7	30.8
Incr Delay (d2), s/veh	50.3	1.8	1.8	21.7	7.0	0.8	0.4	0.1	0.1	0.8	0.1	5.5
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	24.2	15.8	16.5	5.1	25.2	4.2	1.3	1.2	0.6	4.7	1.2	19.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.2	16.8	16.9	90.0	42.3	24.1	48.8	44.8	44.3	52.0	44.8	36.3
LnGrp LOS	F	B	B	F	D	C	D	D	D	D	D	D
Approach Vol, veh/h		2166			1810			105			814	
Approach Delay, s/veh		37.6			43.3			46.3			39.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	107.5		42.0	46.7	78.8		42.0
Change Period (Y+Rc), s	6.5	6.5		* 6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	15.5	80.0		* 36	40.2	55.3		35.0
Max Q Clear Time (g_c+I1), s	11.6	43.8		37.5	42.2	59.1		11.4
Green Ext Time (p_c), s	0.1	15.3		0.0	0.0	0.0		0.5

Intersection Summary	
HCM 6th Ctrl Delay	40.2
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	3	300	10	8	160
Future Vol, veh/h	4	3	300	10	8	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	3	326	11	9	174

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	524	332	0	0	337	0
Stage 1	332	-	-	-	-	-
Stage 2	192	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	514	710	-	-	1222	-
Stage 1	727	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	510	710	-	-	1222	-
Mov Cap-2 Maneuver	510	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	834	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	580	1222	-
HCM Lane V/C Ratio	-	-	0.013	0.007	-
HCM Control Delay (s)	-	-	11.3	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	773	397	59	26	4
Future Vol, veh/h	10	773	397	59	26	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	840	432	64	28	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	496	0	-	0	1326	464
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	862	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1068	-	-	-	172	598
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	414	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1068	-	-	-	170	598
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	414	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1068	-	-	-	321
HCM Lane V/C Ratio	0.01	-	-	-	0.102
HCM Control Delay (s)	8.4	-	-	-	17.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

ATTACHMENT B

NEAR-TERM + PROJECT INTERSECTION

QUEUING ANALYSIS WORKSHEETS

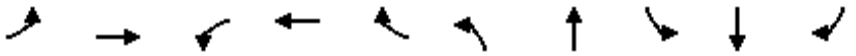
Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	394	377	172	1020	1591
v/c Ratio	1.02	0.94	0.83	0.31	0.66
Control Delay	90.7	65.8	74.1	7.7	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	90.7	65.8	74.1	7.7	19.7
Queue Length 50th (ft)	~273	222	115	88	255
Queue Length 95th (ft)	#474	#412	m#207	112	307
Internal Link Dist (ft)		267		584	420
Turn Bay Length (ft)			300		
Base Capacity (vph)	386	403	212	3310	2429
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.02	0.94	0.81	0.31	0.66

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.

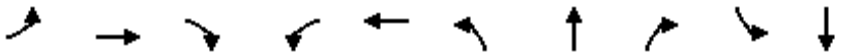
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	172	237	101	194	699	27	494	419	748	742
v/c Ratio	0.53	0.36	0.61	0.67	0.68	0.20	0.28	0.90	0.45	0.69
Control Delay	49.7	35.9	45.6	50.4	19.3	46.7	20.7	53.9	15.6	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	49.7	35.9	45.6	50.4	19.4	46.7	20.7	53.9	15.6	7.8
Queue Length 50th (ft)	54	69	56	127	112	17	68	141	123	87
Queue Length 95th (ft)	89	100	m59	m106	m88	43	105	m#192	m169	m113
Internal Link Dist (ft)		288		279			1088		584	
Turn Bay Length (ft)	200					470		310		
Base Capacity (vph)	326	784	168	400	1023	168	1784	463	1654	1074
Starvation Cap Reductn	0	0	0	0	21	0	0	0	0	9
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	0.53	0.30	0.60	0.48	0.70	0.16	0.28	0.90	0.45	0.70

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.



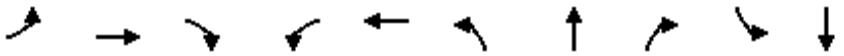
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	414	158	158	32	216	93	96	16	95	930
v/c Ratio	0.74	0.14	0.20	0.16	0.20	0.51	0.50	0.05	0.18	1.62
Control Delay	66.3	20.1	4.0	42.7	33.4	52.3	51.8	0.3	27.1	312.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	20.1	4.0	42.7	33.4	52.3	51.8	0.3	27.1	312.1
Queue Length 50th (ft)	137	24	0	19	41	60	62	0	45	~816
Queue Length 95th (ft)	m158	m33	m11	48	65	113	116	0	85	#1059
Internal Link Dist (ft)		279			1051		902			153
Turn Bay Length (ft)	100		160	140		170				
Base Capacity (vph)	631	1156	789	194	1065	184	191	352	529	574
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	0.66	0.14	0.20	0.16	0.20	0.51	0.50	0.05	0.18	1.62

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.

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



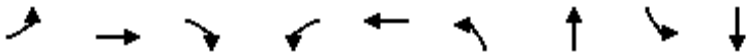
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	51	16	11	21	58	21	485	32	105	831
v/c Ratio	0.18	0.03	0.02	0.07	0.16	0.09	0.33	0.04	0.34	0.36
Control Delay	34.2	19.7	0.1	34.4	13.3	36.9	22.2	0.1	32.9	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	19.7	0.1	34.4	13.3	36.9	22.2	0.1	32.9	14.7
Queue Length 50th (ft)	18	4	0	7	6	7	86	0	36	103
Queue Length 95th (ft)	69	22	0	36	36	37	197	0	117	326
Internal Link Dist (ft)		1369			258		1033			1088
Turn Bay Length (ft)	110		110	120		250		250	480	
Base Capacity (vph)	319	1234	1092	319	1101	225	1914	911	451	2207
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	0.16	0.01	0.01	0.07	0.05	0.09	0.25	0.04	0.23	0.38

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	113	183	216	328	93	737	196	82	1402
v/c Ratio	0.86	0.32	0.91	0.60	0.56	0.41	0.22	0.55	0.86
Control Delay	103.9	22.8	95.1	45.4	66.0	21.9	4.0	66.5	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.9	22.8	95.1	45.4	66.0	21.9	4.0	66.5	34.8
Queue Length 50th (ft)	88	35	87	114	69	184	0	62	480
Queue Length 95th (ft)	#197	58	#161	136	#178	307	50	116	#754
Internal Link Dist (ft)		600		1370		523			547
Turn Bay Length (ft)	160		110		245			230	
Base Capacity (vph)	131	965	237	963	165	1789	877	167	1636
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	0.86	0.19	0.91	0.34	0.56	0.41	0.22	0.49	0.86

Intersection Summary

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

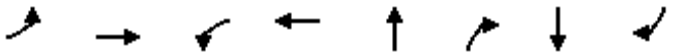


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	160	71	11	250	83	376	65	793
v/c Ratio	1.08	0.18	0.14	0.07	0.48	0.51	0.23	0.46	0.51
Control Delay	143.4	29.4	0.5	42.9	35.6	56.2	17.9	55.6	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	143.4	29.4	0.5	42.9	35.6	56.2	17.9	55.6	16.2
Queue Length 50th (ft)	~108	42	0	7	68	50	71	40	125
Queue Length 95th (ft)	#235	67	0	24	88	#137	130	#104	221
Internal Link Dist (ft)		611			1014		1036		1033
Turn Bay Length (ft)	170		60	130		240		130	
Base Capacity (vph)	141	956	549	159	984	162	1655	141	1553
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	1.08	0.17	0.13	0.07	0.25	0.51	0.23	0.46	0.51

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.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	27	1481	21	2114	20	21	47	20
v/c Ratio	0.28	0.55	0.27	0.80	0.11	0.08	0.30	0.08
Control Delay	66.2	11.1	69.3	18.7	48.1	0.6	53.9	0.6
Queue Delay	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Total Delay	66.2	11.1	69.3	19.2	48.1	0.6	53.9	0.6
Queue Length 50th (ft)	22	281	17	591	16	0	39	0
Queue Length 95th (ft)	55	483	47	#1108	38	0	70	0
Internal Link Dist (ft)		728		868	295		780	
Turn Bay Length (ft)	240		250					
Base Capacity (vph)	100	2678	78	2651	304	373	263	368
Starvation Cap Reductn	0	0	0	198	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.55	0.27	0.86	0.07	0.06	0.18	0.05

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	349	1225	71	1643	117	31	31	20	89	41	438
v/c Ratio	0.83	0.52	0.62	0.95	0.14	0.16	0.12	0.06	0.45	0.15	0.71
Control Delay	71.4	15.8	91.5	49.0	3.9	53.0	51.6	0.3	62.6	52.3	40.9
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	71.4	15.8	91.5	49.0	3.9	53.0	51.6	0.3	62.6	52.3	40.9
Queue Length 50th (ft)	312	270	68	769	0	29	28	0	85	38	325
Queue Length 95th (ft)	#584	472	#132	#1036	35	54	53	0	126	66	413
Internal Link Dist (ft)		868		1062			90			329	
Turn Bay Length (ft)	240		250		670				240		
Base Capacity (vph)	421	2335	123	1734	822	317	434	456	324	440	613
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	0.83	0.52	0.58	0.95	0.14	0.10	0.07	0.04	0.27	0.09	0.71

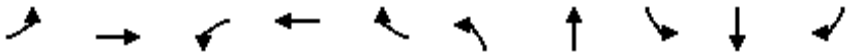
Intersection Summary

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	170	199	420	2066	1412
v/c Ratio	0.67	0.81	0.86	0.55	0.68
Control Delay	56.7	64.2	47.8	4.6	27.7
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay	56.7	64.2	47.8	4.7	27.7
Queue Length 50th (ft)	120	130	281	128	279
Queue Length 95th (ft)	190	210	m288	m205	382
Internal Link Dist (ft)		140		584	143
Turn Bay Length (ft)			300		
Base Capacity (vph)	319	305	584	3766	2089
Starvation Cap Reductn	0	0	0	438	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.65	0.72	0.62	0.68

Intersection Summary

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



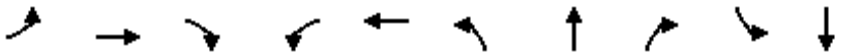
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	394	564	71	266	1053	32	1305	372	587	277
v/c Ratio	1.10	0.77	0.44	0.85	0.99	0.25	0.82	0.63	0.35	0.25
Control Delay	123.4	49.5	42.4	57.2	44.6	52.7	38.7	34.8	10.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Total Delay	123.4	49.5	42.4	57.2	45.4	52.7	38.7	34.8	10.1	0.4
Queue Length 50th (ft)	~162	201	35	184	~192	22	300	136	52	0
Queue Length 95th (ft)	#260	#306	m46	m214	m#204	53	359	171	56	0
Internal Link Dist (ft)		288		279			1088		584	
Turn Bay Length (ft)	200					470		310		
Base Capacity (vph)	358	737	185	330	1059	217	1620	593	1654	1101
Starvation Cap Reductn	0	0	0	0	4	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	1.10	0.77	0.38	0.81	1.00	0.15	0.81	0.63	0.35	0.25

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.

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	481	404	192	101	530	213	222	61	313	775
v/c Ratio	0.88	0.56	0.29	0.57	0.71	1.08	1.09	0.18	0.47	1.12
Control Delay	70.7	39.3	8.1	60.5	49.9	133.9	134.7	1.1	29.2	101.6
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Total Delay	70.7	39.3	8.1	60.5	49.9	133.9	134.7	1.1	29.2	101.7
Queue Length 50th (ft)	188	106	39	69	131	~177	~185	0	164	~593
Queue Length 95th (ft)	m#265	m153	m71	126	166	#335	#346	0	260	#867
Internal Link Dist (ft)		279			1051		902			153
Turn Bay Length (ft)	100		160	140		170				
Base Capacity (vph)	552	833	651	178	890	197	204	345	672	693
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	16	0	0	0	0	12
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.48	0.29	0.57	0.61	1.08	1.09	0.18	0.47	1.14

Intersection Summary

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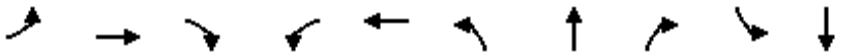
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	146	55	44	143	297	38	1037	88	220	670
v/c Ratio	0.78	0.19	0.10	0.63	0.73	0.31	0.88	0.13	0.86	0.41
Control Delay	70.4	33.6	0.5	56.7	24.2	51.7	40.8	0.4	71.3	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.4	33.6	0.5	56.7	24.2	51.7	40.8	0.4	71.3	19.7
Queue Length 50th (ft)	83	28	0	82	57	21	288	0	125	137
Queue Length 95th (ft)	#227	60	0	#232	140	61	#547	0	#317	253
Internal Link Dist (ft)		1369			258		1033			1088
Turn Bay Length (ft)	110		110	120		250		250	480	
Base Capacity (vph)	188	640	680	228	667	125	1179	659	256	1627
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	0.78	0.09	0.06	0.63	0.45	0.30	0.88	0.13	0.86	0.41

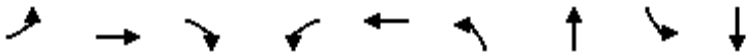
Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	385	614	240	243	109	1271	375	94	1062
v/c Ratio	0.92	0.70	0.66	0.51	0.84	0.91	0.50	0.93	0.84
Control Delay	75.3	45.3	62.8	40.0	102.9	47.0	12.8	131.9	43.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	45.3	62.8	40.0	102.9	47.0	12.8	131.9	43.6
Queue Length 50th (ft)	287	230	91	70	84	469	65	73	378
Queue Length 95th (ft)	#588	295	156	111	#225	#797	194	#215	#641
Internal Link Dist (ft)		600		234		523			547
Turn Bay Length (ft)	160		110		245			230	
Base Capacity (vph)	417	1319	422	942	129	1392	757	101	1260
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	0.92	0.47	0.57	0.26	0.84	0.91	0.50	0.93	0.84

Intersection Summary

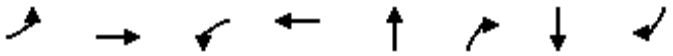
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	305	445	109	38	268	103	795	59	818
v/c Ratio	0.85	0.42	0.19	0.26	0.54	0.52	0.57	0.46	0.71
Control Delay	65.8	33.8	2.1	52.4	31.6	57.5	28.8	61.2	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	33.8	2.1	52.4	31.6	57.5	28.8	61.2	33.7
Queue Length 50th (ft)	209	148	0	26	61	68	230	40	244
Queue Length 95th (ft)	#444	180	14	60	87	#193	319	#103	318
Internal Link Dist (ft)		611			1014		1036		1033
Turn Bay Length (ft)	170		60	130		240		130	
Base Capacity (vph)	360	1179	626	144	889	199	1394	128	1178
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	0.85	0.38	0.17	0.26	0.30	0.52	0.57	0.46	0.69

Intersection Summary

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



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	65	2004	40	1984	30	40	71	27
v/c Ratio	0.52	0.77	0.40	0.78	0.20	0.16	0.49	0.11
Control Delay	73.1	17.2	71.3	18.6	53.0	1.4	64.1	0.9
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	73.1	17.2	71.3	19.0	53.0	1.4	64.1	0.9
Queue Length 50th (ft)	53	580	33	593	24	0	58	0
Queue Length 95th (ft)	#112	878	#91	#1003	50	1	99	0
Internal Link Dist (ft)		728		868	295		780	
Turn Bay Length (ft)	240		250					
Base Capacity (vph)	129	2602	99	2556	270	372	263	367
Starvation Cap Reductn	0	0	0	171	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	0.50	0.77	0.40	0.83	0.11	0.11	0.27	0.07

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	509	1657	115	1500	195	42	42	21	143	42	629
v/c Ratio	0.86	0.76	0.72	1.13	0.28	0.19	0.14	0.06	0.64	0.14	0.80
Control Delay	62.7	25.8	90.4	110.2	5.0	52.4	50.8	0.3	70.2	50.4	36.8
Queue Delay	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	26.6	90.4	110.2	5.0	52.4	50.8	0.3	70.2	50.4	36.8
Queue Length 50th (ft)	444	560	110	~904	0	37	37	0	136	37	432
Queue Length 95th (ft)	#781	847	180	#1044	53	69	67	0	192	67	592
Internal Link Dist (ft)		868		1062			90			329	
Turn Bay Length (ft)	240		250		670				240		
Base Capacity (vph)	590	2181	182	1330	703	317	434	461	321	440	790
Starvation Cap Reductn	0	248	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	0.86	0.86	0.63	1.13	0.28	0.13	0.10	0.05	0.45	0.10	0.80

Intersection Summary

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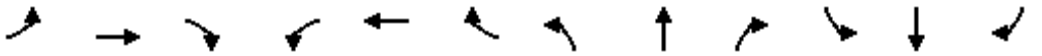
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

ATTACHMENT C

LONG-TERM + PROJECT INTERSECTION

LOS ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	603	5	180	197	1089	0	0	1383	360
Future Volume (veh/h)	0	0	0	603	5	180	197	1089	0	0	1383	360
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj				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	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				406	307	186	203	1123	0	0	1426	371
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				410	251	152	214	3324	0	0	1943	503
Arrive On Green				0.23	0.23	0.23	0.24	1.00	0.00	0.00	0.48	0.48
Sat Flow, veh/h				1781	1091	661	1781	5274	0	0	4184	1039
Grp Volume(v), veh/h				406	0	493	203	1123	0	0	1208	589
Grp Sat Flow(s),veh/h/ln				1781	0	1751	1781	1702	0	0	1702	1650
Q Serve(g_s), s				22.7	0.0	23.0	11.2	0.0	0.0	0.0	28.4	28.7
Cycle Q Clear(g_c), s				22.7	0.0	23.0	11.2	0.0	0.0	0.0	28.4	28.7
Prop In Lane				1.00		0.38	1.00		0.00	0.00		0.63
Lane Grp Cap(c), veh/h				410	0	403	214	3324	0	0	1648	799
V/C Ratio(X)				0.99	0.00	1.22	0.95	0.34	0.00	0.00	0.73	0.74
Avail Cap(c_a), veh/h				410	0	403	214	3324	0	0	1648	799
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.81	0.81	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.4	0.0	38.5	37.7	0.0	0.0	0.0	20.6	20.7
Incr Delay (d2), s/veh				41.9	0.0	121.1	41.7	0.2	0.0	0.0	2.9	6.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				14.5	0.0	23.2	6.5	0.1	0.0	0.0	10.8	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				80.3	0.0	159.6	79.4	0.2	0.0	0.0	23.6	26.7
LnGrp LOS				F	A	F	E	A	A	A	C	C
Approach Vol, veh/h					899			1326			1797	
Approach Delay, s/veh					123.8			12.3			24.6	
Approach LOS					F			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	71.9		16.7	55.2		28.1						
Change Period (Y+Rc), s	6.8		* 4.7	6.8		5.1						
Max Green Setting (Gmax), s	65.1		* 12	48.4		23.0						
Max Q Clear Time (g_c+I1), s	2.0		13.2	30.7		25.0						
Green Ext Time (p_c), s	5.5		0.0	7.9		0.0						

Intersection Summary	
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	220	20	124	200	720	30	406	113	440	786	720
Future Volume (veh/h)	170	220	20	124	200	720	30	406	113	440	786	720
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	177	229	21	129	208	750	31	423	118	458	819	750
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	309	525	48	159	299	992	72	1181	318	676	1600	837
Arrive On Green	0.09	0.16	0.16	0.03	0.05	0.05	0.04	0.29	0.29	0.06	0.15	0.15
Sat Flow, veh/h	3456	3285	298	1781	1870	2790	1781	4002	1077	3456	3554	1544
Grp Volume(v), veh/h	177	123	127	129	208	750	31	357	184	458	819	750
Grp Sat Flow(s),veh/h/ln	1728	1777	1807	1781	1870	1395	1781	1702	1675	1728	1777	1544
Q Serve(g_s), s	4.9	6.2	6.4	7.2	10.9	5.1	1.7	8.3	8.7	13.0	21.2	41.2
Cycle Q Clear(g_c), s	4.9	6.2	6.4	7.2	10.9	5.1	1.7	8.3	8.7	13.0	21.2	41.2
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	309	284	289	159	299	992	72	1004	494	676	1600	837
V/C Ratio(X)	0.57	0.43	0.44	0.81	0.69	0.76	0.43	0.36	0.37	0.68	0.51	0.90
Avail Cap(c_a), veh/h	328	382	388	169	402	1145	169	1004	494	676	1600	837
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	0.93	0.93	0.93	0.49	0.49	0.49
Uniform Delay (d), s/veh	43.7	37.9	38.0	47.7	45.0	12.3	46.9	27.8	27.9	43.7	32.5	31.1
Incr Delay (d2), s/veh	2.1	1.0	1.1	22.6	3.1	2.4	3.7	0.9	2.0	1.3	0.6	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	2.8	2.9	4.3	5.7	4.6	0.8	3.3	3.6	6.0	10.1	18.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	38.9	39.0	70.2	48.0	14.7	50.6	28.7	29.9	45.0	33.0	38.9
LnGrp LOS	D	D	D	E	D	B	D	C	C	D	C	D
Approach Vol, veh/h		427			1087			572			2027	
Approach Delay, s/veh		41.8			27.7			30.3			37.9	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.1	36.0	15.5	22.5	10.5	51.5	15.4	22.5
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	13.5	29.5	9.5	21.5	9.5	33.5	9.5	21.5
Max Q Clear Time (g_c+I1), s	15.0	10.7	9.2	8.4	3.7	43.2	6.9	12.9
Green Ext Time (p_c), s	0.0	3.0	0.0	1.1	0.0	0.0	0.1	3.1

Intersection Summary	
HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	453	170	170	30	230	0	140	60	20	110	320	684
Future Volume (veh/h)	453	170	170	30	230	0	140	60	20	110	320	684
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	477	179	179	32	242	0	105	122	21	116	337	682
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	554	1099	661	115	1092	0	196	206	174	533	165	334
Arrive On Green	0.16	0.31	0.31	0.06	0.21	0.00	0.11	0.11	0.11	0.30	0.30	0.30
Sat Flow, veh/h	3456	3554	1575	1781	5274	0	1781	1870	1585	1781	552	1117
Grp Volume(v), veh/h	477	179	179	32	242	0	105	122	21	116	0	1019
Grp Sat Flow(s),veh/h/ln	1728	1777	1575	1781	1702	0	1781	1870	1585	1781	0	1669
Q Serve(g_s), s	13.4	3.7	7.4	1.7	3.9	0.0	5.6	6.2	1.2	4.9	0.0	29.9
Cycle Q Clear(g_c), s	13.4	3.7	7.4	1.7	3.9	0.0	5.6	6.2	1.2	4.9	0.0	29.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	554	1099	661	115	1092	0	196	206	174	533	0	499
V/C Ratio(X)	0.86	0.16	0.27	0.28	0.22	0.00	0.54	0.59	0.12	0.22	0.00	2.04
Avail Cap(c_a), veh/h	636	1099	661	196	1092	0	196	206	174	533	0	499
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)	0.51	0.51	0.51	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.9	25.1	19.0	44.5	32.4	0.0	42.1	42.4	40.1	26.3	0.0	35.1
Incr Delay (d2), s/veh	5.8	0.2	0.5	0.5	0.5	0.0	1.5	3.2	0.1	0.1	0.0	475.7
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	6.1	1.6	3.4	0.8	1.7	0.0	2.5	3.0	0.5	2.1	0.0	77.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	25.3	19.5	45.0	32.9	0.0	43.6	45.5	40.3	26.4	0.0	510.8
LnGrp LOS	D	C	B	D	C	A	D	D	D	C	A	F
Approach Vol, veh/h		835			274			248			1135	
Approach Delay, s/veh		36.3			34.3			44.3			461.2	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	37.7		35.0	20.7	28.2		16.1				
Change Period (Y+Rc), s	* 4.7	6.8		5.1	* 4.7	6.8		5.1				
Max Green Setting (Gmax), s	* 11	26.4		29.9	* 18	19.0		11.0				
Max Q Clear Time (g_c+I1), s	10.7	9.4		31.9	15.4	5.9		8.2				
Green Ext Time (p_c), s	0.0	1.0		0.0	0.6	0.8		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	230.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	40	30	52	50	20	20	80	48	10	170	20
Future Vol, veh/h	10	40	30	52	50	20	20	80	48	10	170	20
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	46	34	60	57	23	23	92	55	11	195	23
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.8	9.7	8.9	10.2
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	20%	0%	20%	0%	51%	0%	6%	0%
Vol Thru, %	80%	0%	80%	0%	49%	0%	94%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	48	50	30	102	20	180	20
LT Vol	20	0	10	0	52	0	10	0
Through Vol	80	0	40	0	50	0	170	0
RT Vol	0	48	0	30	0	20	0	20
Lane Flow Rate	115	55	57	34	117	23	207	23
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.176	0.072	0.093	0.048	0.192	0.032	0.309	0.03
Departure Headway (Hd)	5.507	4.701	5.821	5.013	5.904	4.941	5.368	4.635
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	647	755	611	707	604	718	666	766
Service Time	3.277	2.471	3.603	2.795	3.68	2.716	3.132	2.399
HCM Lane V/C Ratio	0.178	0.073	0.093	0.048	0.194	0.032	0.311	0.03
HCM Control Delay	9.5	7.8	9.2	8.1	10.1	7.9	10.5	7.5
HCM Lane LOS	A	A	A	A	B	A	B	A
HCM 95th-tile Q	0.6	0.2	0.3	0.2	0.7	0.1	1.3	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	20	10	40	20	50	20	561	40	110	838	92
Future Volume (veh/h)	48	20	10	40	20	50	20	561	40	110	838	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	21	11	42	21	53	21	591	42	116	882	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	231	195	121	58	146	53	1073	476	155	1160	128
Arrive On Green	0.07	0.12	0.12	0.07	0.12	0.12	0.03	0.30	0.30	0.09	0.36	0.36
Sat Flow, veh/h	1781	1870	1581	1781	468	1180	1781	3554	1577	1781	3228	355
Grp Volume(v), veh/h	51	21	11	42	0	74	21	591	42	116	486	493
Grp Sat Flow(s),veh/h/ln	1781	1870	1581	1781	0	1648	1781	1777	1577	1781	1777	1806
Q Serve(g_s), s	1.6	0.6	0.4	1.3	0.0	2.4	0.7	8.1	1.1	3.7	14.1	14.1
Cycle Q Clear(g_c), s	1.6	0.6	0.4	1.3	0.0	2.4	0.7	8.1	1.1	3.7	14.1	14.1
Prop In Lane	1.00		1.00	1.00		0.72	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	120	231	195	121	0	204	53	1073	476	155	639	649
V/C Ratio(X)	0.42	0.09	0.06	0.35	0.00	0.36	0.40	0.55	0.09	0.75	0.76	0.76
Avail Cap(c_a), veh/h	259	1025	867	259	0	903	183	1540	683	296	883	897
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	22.7	22.6	26.0	0.0	23.5	27.8	17.1	14.6	26.0	16.5	16.5
Incr Delay (d2), s/veh	2.4	0.2	0.1	1.7	0.0	1.1	4.8	0.4	0.1	7.0	2.6	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	0.7	0.2	0.1	0.6	0.0	0.9	0.3	2.8	0.4	1.7	5.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	22.8	22.7	27.7	0.0	24.5	32.6	17.5	14.7	33.0	19.1	19.0
LnGrp LOS	C	C	C	C	A	C	C	B	B	C	B	B
Approach Vol, veh/h		83			116			654			1095	
Approach Delay, s/veh		26.3			25.7			17.8			20.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	23.6	10.0	13.2	8.2	27.0	9.9	13.2
Change Period (Y+Rc), s	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.7	25.3	8.5	32.0	6.0	29.0	8.5	32.0
Max Q Clear Time (g_c+I1), s	5.7	10.1	3.3	2.6	2.7	16.1	3.6	4.4
Green Ext Time (p_c), s	0.1	3.3	0.0	0.1	0.0	4.7	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	102	90	220	239	80	90	750	200	80	1140	280
Future Volume (veh/h)	110	102	90	220	239	80	90	750	200	80	1140	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	105	93	227	246	82	93	773	206	82	1175	289
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	252	203	239	352	115	104	1879	837	104	1496	364
Arrive On Green	0.07	0.14	0.14	0.07	0.13	0.13	0.06	0.53	0.53	0.06	0.53	0.53
Sat Flow, veh/h	1781	1864	1498	3456	2636	857	1781	3554	1582	1781	2828	688
Grp Volume(v), veh/h	113	100	98	227	164	164	93	773	206	82	733	731
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1716	1781	1777	1582	1781	1777	1739
Q Serve(g_s), s	7.5	6.2	6.9	7.9	10.6	11.0	6.2	15.7	8.5	5.5	39.7	41.0
Cycle Q Clear(g_c), s	7.5	6.2	6.9	7.9	10.6	11.0	6.2	15.7	8.5	5.5	39.7	41.0
Prop In Lane	1.00		0.95	1.00		0.50	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	132	240	214	239	237	229	104	1879	837	104	940	920
V/C Ratio(X)	0.86	0.41	0.46	0.95	0.69	0.72	0.90	0.41	0.25	0.79	0.78	0.79
Avail Cap(c_a), veh/h	132	492	438	239	489	472	104	1879	837	163	940	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	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	54.9	47.5	47.8	55.6	49.6	49.8	56.1	17.0	15.3	55.8	22.7	23.0
Incr Delay (d2), s/veh	39.0	1.1	1.5	44.3	3.6	4.1	56.3	0.7	0.7	12.5	6.4	7.0
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	4.8	2.8	2.8	4.9	4.9	5.0	4.4	6.5	3.2	2.8	17.7	18.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.9	48.7	49.4	99.9	53.2	53.9	112.4	17.7	16.0	68.2	29.1	30.0
LnGrp LOS	F	D	D	F	D	D	F	B	B	E	C	C
Approach Vol, veh/h		311			555			1072			1546	
Approach Delay, s/veh		65.3			72.5			25.6			31.6	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	69.5	14.8	22.7	13.0	69.5	15.0	22.5
Change Period (Y+Rc), s	6.0	* 6	6.5	6.5	6.0	* 6	6.1	6.5
Max Green Setting (Gmax), s	7.0	* 43	8.3	33.2	7.0	* 47	8.9	33.0
Max Q Clear Time (g_c+I1), s	17.5	17.7	9.9	8.9	8.2	43.0	9.5	13.0
Green Ext Time (p_c), s	0.0	6.6	0.0	1.1	0.0	2.7	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	22.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	232	20	33	407	22	30	30	11	17	71	142
Future Vol, veh/h	90	232	20	33	407	22	30	30	11	17	71	142
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	249	22	35	438	24	32	32	12	18	76	153
Number of Lanes	1	1	0	1	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	16.6	33.2	12.5	12.8
HCM LOS	C	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	50%	0%	100%	0%	100%	0%	0%	19%	0%
Vol Thru, %	50%	0%	0%	92%	0%	100%	0%	81%	0%
Vol Right, %	0%	100%	0%	8%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	11	90	252	33	407	22	88	142
LT Vol	30	0	90	0	33	0	0	17	0
Through Vol	30	0	0	232	0	407	0	71	0
RT Vol	0	11	0	20	0	0	22	0	142
Lane Flow Rate	65	12	97	271	35	438	24	95	153
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.154	0.025	0.208	0.54	0.073	0.84	0.041	0.207	0.299
Departure Headway (Hd)	8.571	7.598	7.734	7.169	7.414	6.906	6.194	7.87	7.059
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	417	470	464	501	483	525	577	456	508
Service Time	6.338	5.364	5.487	4.921	5.161	4.652	3.941	5.626	4.814
HCM Lane V/C Ratio	0.156	0.026	0.209	0.541	0.072	0.834	0.042	0.208	0.301
HCM Control Delay	12.9	10.6	12.5	18.1	10.7	36.3	9.2	12.7	12.8
HCM Lane LOS	B	B	B	C	B	E	A	B	B
HCM 95th-tile Q	0.5	0.1	0.8	3.2	0.2	8.6	0.1	0.8	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	179	96	30	222	60	97	470	50	70	510	388
Future Volume (veh/h)	161	179	96	30	222	60	97	470	50	70	510	388
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	192	103	32	239	65	104	505	54	75	548	417
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	525	234	94	335	89	107	1602	171	96	929	707
Arrive On Green	0.08	0.15	0.15	0.05	0.12	0.12	0.06	0.50	0.50	0.05	0.49	0.49
Sat Flow, veh/h	1781	3554	1582	1781	2776	739	1781	3235	345	1781	1899	1445
Grp Volume(v), veh/h	173	192	103	32	151	153	104	277	282	75	513	452
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1781	1777	1737	1781	1777	1803	1781	1777	1567
Q Serve(g_s), s	8.0	4.9	5.9	1.7	8.2	8.5	5.8	9.3	9.4	4.2	20.7	20.7
Cycle Q Clear(g_c), s	8.0	4.9	5.9	1.7	8.2	8.5	5.8	9.3	9.4	4.2	20.7	20.7
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.19	1.00		0.92
Lane Grp Cap(c), veh/h	143	525	234	94	215	210	107	880	893	96	869	767
V/C Ratio(X)	1.21	0.37	0.44	0.34	0.70	0.73	0.97	0.31	0.32	0.78	0.59	0.59
Avail Cap(c_a), veh/h	143	959	427	160	498	486	107	880	893	107	869	767
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	0.88	0.88	0.88
Uniform Delay (d), s/veh	46.0	38.4	38.8	45.7	42.2	42.4	46.9	15.1	15.1	46.7	18.3	18.3
Incr Delay (d2), s/veh	144.2	0.4	1.3	2.1	4.2	4.8	78.2	0.9	0.9	25.0	2.6	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	9.2	2.1	0.1	0.8	3.8	3.9	4.8	3.7	3.7	2.4	8.3	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	190.2	38.8	40.1	47.8	46.4	47.2	125.1	16.0	16.0	71.7	20.9	21.3
LnGrp LOS	F	D	D	D	D	D	F	B	B	E	C	C
Approach Vol, veh/h		468			336			663			1040	
Approach Delay, s/veh		95.1			46.9			33.1			24.7	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	56.0	11.3	20.8	12.5	55.4	14.0	18.1
Change Period (Y+Rc), s	6.5	6.5	6.0	6.0	6.5	6.5	6.0	6.0
Max Green Setting (Gmax), s	6.0	33.0	9.0	27.0	6.0	33.0	8.0	28.0
Max Q Clear Time (g_c+I1), s	10.2	11.4	3.7	7.9	7.8	22.7	10.0	10.5
Green Ext Time (p_c), s	0.0	3.0	0.0	1.4	0.0	4.2	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	1462	30	40	2179	70	10	10	30	60	5	24
Future Volume (veh/h)	41	1462	30	40	2179	70	10	10	30	60	5	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	1523	31	42	2270	73	10	10	31	62	5	25
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	2231	45	54	2158	69	42	29	306	53	2	305
Arrive On Green	0.04	0.63	0.63	0.03	0.61	0.61	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	3560	72	1781	3511	112	0	149	1585	0	12	1580
Grp Volume(v), veh/h	43	759	795	42	1141	1202	20	0	31	67	0	25
Grp Sat Flow(s),veh/h/ln	1781	1777	1855	1781	1777	1847	149	0	1585	12	0	1580
Q Serve(g_s), s	3.1	36.2	36.4	3.0	79.9	79.9	0.0	0.0	2.1	0.0	0.0	1.7
Cycle Q Clear(g_c), s	3.1	36.2	36.4	3.0	79.9	79.9	25.1	0.0	2.1	25.1	0.0	1.7
Prop In Lane	1.00		0.04	1.00		0.06	0.50		1.00	0.93		1.00
Lane Grp Cap(c), veh/h	76	1113	1163	54	1092	1135	70	0	306	56	0	305
V/C Ratio(X)	0.57	0.68	0.68	0.78	1.05	1.06	0.28	0.00	0.10	1.20	0.00	0.08
Avail Cap(c_a), veh/h	100	1113	1163	69	1092	1135	70	0	306	56	0	305
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	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	61.1	15.8	15.9	62.6	25.1	25.1	44.8	0.0	43.2	64.0	0.0	43.0
Incr Delay (d2), s/veh	6.6	3.4	3.3	4.0	23.4	28.8	2.2	0.0	0.1	186.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	14.2	14.9	1.4	36.5	39.6	0.6	0.0	0.8	4.7	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.6	19.2	19.1	66.6	48.5	53.9	47.0	0.0	43.3	250.0	0.0	43.1
LnGrp LOS	E	B	B	E	F	F	D	A	D	F	A	D
Approach Vol, veh/h		1597			2385			51			92	
Approach Delay, s/veh		20.5			51.5			44.8			193.8	
Approach LOS		C			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	88.0		31.6	12.0	86.4		31.6				
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	5.0	80.4		25.1	7.3	78.1		25.1				
Max Q Clear Time (g_c+I1), s	5.0	38.4		27.1	5.1	81.9		27.1				
Green Ext Time (p_c), s	0.0	14.3		0.0	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	392	1220	150	180	1700	215	100	100	80	127	170	519
Future Volume (veh/h)	392	1220	150	180	1700	215	100	100	80	127	170	519
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	1245	153	184	1735	219	102	102	82	130	173	530
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	327	2163	265	121	2002	891	166	443	370	279	443	665
Arrive On Green	0.18	0.68	0.68	0.07	0.56	0.56	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	3187	390	1781	3554	1582	744	1870	1563	1200	1870	1581
Grp Volume(v), veh/h	400	692	706	184	1735	219	102	102	82	130	173	530
Grp Sat Flow(s),veh/h/ln	1781	1777	1800	1781	1777	1582	744	1870	1563	1200	1870	1581
Q Serve(g_s), s	27.5	30.7	31.1	10.2	62.5	10.5	20.1	6.6	6.3	14.7	11.7	35.5
Cycle Q Clear(g_c), s	27.5	30.7	31.1	10.2	62.5	10.5	31.7	6.6	6.3	21.3	11.7	35.5
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	327	1206	1221	121	2002	891	166	443	370	279	443	665
V/C Ratio(X)	1.22	0.57	0.58	1.52	0.87	0.25	0.61	0.23	0.22	0.47	0.39	0.80
Avail Cap(c_a), veh/h	327	1206	1221	121	2002	891	166	443	370	279	443	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)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	12.7	12.7	69.9	27.9	16.6	61.5	46.2	46.1	54.8	48.2	38.0
Incr Delay (d2), s/veh	120.8	1.6	1.6	271.1	5.4	0.7	6.6	0.3	0.3	1.2	0.6	6.8
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	28.1	11.6	11.9	13.7	26.3	3.9	4.0	3.1	2.5	4.5	5.5	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	182.0	14.2	14.3	341.0	33.3	17.3	68.1	46.5	46.4	56.0	48.7	44.7
LnGrp LOS	F	B	B	F	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1798			2138			286			833	
Approach Delay, s/veh		51.6			58.1			54.2			47.3	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.7	108.8		42.0	34.0	91.5		42.0				
Change Period (Y+Rc), s	6.5	6.5		* 6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	10.2	85.3		* 36	27.5	68.0		35.0				
Max Q Clear Time (g_c+I1), s	12.2	33.1		37.5	29.5	64.5		33.7				
Green Ext Time (p_c), s	0.0	12.5		0.0	0.0	3.0		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	53.8
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	8	140	2	2	220
Future Vol, veh/h	10	8	140	2	2	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	9	152	2	2	239

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	396	153	0	0	154	0
Stage 1	153	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	609	893	-	-	1426	-
Stage 1	875	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	608	893	-	-	1426	-
Mov Cap-2 Maneuver	608	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	795	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	708	1426	-
HCM Lane V/C Ratio	-	-	0.028	0.002	-
HCM Control Delay (s)	-	-	10.2	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

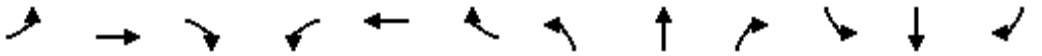
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	377	692	15	59	10
Future Vol, veh/h	3	377	692	15	59	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	410	752	16	64	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	768	0	-	0	1176	760
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	416	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	846	-	-	-	211	406
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	666	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	846	-	-	-	210	406
Mov Cap-2 Maneuver	-	-	-	-	339	-
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	846	-	-	-	347
HCM Lane V/C Ratio	0.004	-	-	-	0.216
HCM Control Delay (s)	9.3	-	-	-	18.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	203	5	180	457	2234	0	0	1129	420
Future Volume (veh/h)	0	0	0	203	5	180	457	2234	0	0	1129	420
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj				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	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				196	23	179	471	2303	0	0	1164	386
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				260	27	208	501	3809	0	0	1590	527
Arrive On Green				0.15	0.15	0.15	0.37	0.99	0.00	0.00	0.42	0.42
Sat Flow, veh/h				1781	184	1429	1781	5274	0	0	3935	1248
Grp Volume(v), veh/h				196	0	202	471	2303	0	0	1052	498
Grp Sat Flow(s),veh/h/ln				1781	0	1613	1781	1702	0	0	1702	1611
Q Serve(g_s), s				11.6	0.0	13.5	28.1	1.0	0.0	0.0	28.4	28.5
Cycle Q Clear(g_c), s				11.6	0.0	13.5	28.1	1.0	0.0	0.0	28.4	28.5
Prop In Lane				1.00		0.89	1.00		0.00	0.00		0.78
Lane Grp Cap(c), veh/h				260	0	235	501	3809	0	0	1437	680
V/C Ratio(X)				0.75	0.00	0.86	0.94	0.60	0.00	0.00	0.73	0.73
Avail Cap(c_a), veh/h				338	0	306	588	3809	0	0	1437	680
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				45.1	0.0	45.9	33.5	0.1	0.0	0.0	26.6	26.6
Incr Delay (d2), s/veh				4.6	0.0	14.2	3.1	0.1	0.0	0.0	3.3	6.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.4	0.0	6.3	10.9	0.1	0.0	0.0	11.4	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				49.7	0.0	60.1	36.7	0.2	0.0	0.0	29.9	33.4
LnGrp LOS				D	A	E	D	A	A	A	C	C
Approach Vol, veh/h					398			2774			1550	
Approach Delay, s/veh					55.0			6.4			31.0	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	88.9		35.6	53.2		21.1						
Change Period (Y+Rc), s	6.8		* 4.7	6.8		5.1						
Max Green Setting (Gmax), s	77.2		* 36	36.2		20.9						
Max Q Clear Time (g_c+I1), s	3.0		30.1	30.5		15.5						
Green Ext Time (p_c), s	20.2		0.8	3.3		0.6						

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	560	30	97	280	1120	30	1191	206	400	662	270
Future Volume (veh/h)	380	560	30	97	280	1120	30	1191	206	400	662	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	404	596	32	103	298	1085	32	1267	219	426	704	287
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	697	37	139	331	955	71	1380	239	571	1572	867
Arrive On Green	0.10	0.20	0.20	0.03	0.06	0.06	0.04	0.32	0.32	0.05	0.15	0.15
Sat Flow, veh/h	3456	3428	184	1781	1870	2790	1781	4357	753	3456	3554	1585
Grp Volume(v), veh/h	404	309	319	103	298	1085	32	990	496	426	704	287
Grp Sat Flow(s),veh/h/ln	1728	1777	1835	1781	1870	1395	1781	1702	1706	1728	1777	1585
Q Serve(g_s), s	11.5	18.4	18.5	6.3	17.4	13.7	1.9	30.8	30.8	13.4	19.9	14.7
Cycle Q Clear(g_c), s	11.5	18.4	18.5	6.3	17.4	13.7	1.9	30.8	30.8	13.4	19.9	14.7
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	361	361	373	139	331	955	71	1078	540	571	1572	867
V/C Ratio(X)	1.12	0.85	0.86	0.74	0.90	1.14	0.45	0.92	0.92	0.75	0.45	0.33
Avail Cap(c_a), veh/h	361	361	373	186	332	956	219	1099	551	571	1572	867
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.36	0.36	0.36	0.34	0.34	0.34	0.48	0.48	0.48
Uniform Delay (d), s/veh	49.3	42.2	42.3	52.5	50.8	20.4	51.6	36.2	36.2	49.7	34.7	22.4
Incr Delay (d2), s/veh	83.3	17.7	17.5	3.8	11.7	66.4	1.5	5.5	10.0	2.6	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	9.1	9.8	10.1	3.1	9.8	13.6	0.9	12.9	13.6	6.4	9.5	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.6	60.0	59.8	56.3	62.5	86.8	53.2	41.7	46.2	52.3	35.1	22.9
LnGrp LOS	F	E	E	E	E	F	D	D	D	D	D	C
Approach Vol, veh/h		1032			1486			1518			1417	
Approach Delay, s/veh		88.3			79.8			43.4			37.8	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.7	41.3	15.1	28.9	10.9	55.2	18.0	26.0
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	17.5	35.5	11.5	19.5	13.5	39.5	11.5	19.5
Max Q Clear Time (g_c+I1), s	15.4	32.8	8.3	20.5	3.9	21.9	13.5	19.4
Green Ext Time (p_c), s	0.4	2.0	0.1	0.0	0.0	5.1	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	60.4
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	546	460	210	110	580	10	300	170	70	350	320	547
Future Volume (veh/h)	546	460	210	110	580	10	300	170	70	350	320	547
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	552	465	212	111	586	10	238	264	71	354	323	520
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	556	852	562	172	907	15	209	219	186	622	225	363
Arrive On Green	0.16	0.24	0.24	0.10	0.18	0.18	0.12	0.12	0.12	0.35	0.35	0.35
Sat Flow, veh/h	3456	3554	1569	1781	5170	88	1781	1870	1585	1781	645	1038
Grp Volume(v), veh/h	552	465	212	111	385	211	238	264	71	354	0	843
Grp Sat Flow(s),veh/h/ln	1728	1777	1569	1781	1702	1854	1781	1870	1585	1781	0	1683
Q Serve(g_s), s	17.5	12.6	11.1	6.6	11.6	11.6	12.9	12.9	4.6	17.8	0.0	38.4
Cycle Q Clear(g_c), s	17.5	12.6	11.1	6.6	11.6	11.6	12.9	12.9	4.6	17.8	0.0	38.4
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	556	852	562	172	597	325	209	219	186	622	0	588
V/C Ratio(X)	0.99	0.55	0.38	0.64	0.65	0.65	1.14	1.20	0.38	0.57	0.00	1.43
Avail Cap(c_a), veh/h	556	852	562	180	597	325	209	219	186	622	0	588
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)	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	36.6	26.3	47.9	42.2	42.2	48.5	48.5	44.9	29.1	0.0	35.8
Incr Delay (d2), s/veh	20.1	0.8	0.6	5.4	5.3	9.6	104.8	126.7	0.5	0.8	0.0	205.1
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	9.0	5.5	5.1	3.2	5.3	6.2	11.8	13.7	1.8	7.6	0.0	48.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	37.4	26.9	53.3	47.5	51.8	153.4	175.2	45.3	29.9	0.0	240.9
LnGrp LOS	E	D	C	D	D	D	F	F	D	C	A	F
Approach Vol, veh/h		1229			707			573			1197	
Approach Delay, s/veh		48.5			49.7			150.1			178.5	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.3	33.2		43.5	22.4	26.1		18.0
Change Period (Y+Rc), s	* 4.7	6.8		5.1	* 4.7	6.8		5.1
Max Green Setting (Gmax), s	* 11	25.9		38.4	* 18	19.3		12.9
Max Q Clear Time (g_c+I1), s	19.6	14.6		40.4	19.5	13.6		14.9
Green Ext Time (p_c), s	0.0	2.0		0.0	0.0	1.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	106.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	140	30	68	100	20	20	220	93	20	80	20
Future Vol, veh/h	30	140	30	68	100	20	20	220	93	20	80	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	152	33	74	109	22	22	239	101	22	87	22
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.7	12.1	12.3	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	8%	0%	18%	0%	40%	0%	20%	0%
Vol Thru, %	92%	0%	82%	0%	60%	0%	80%	0%
Vol Right, %	0%	100%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	240	93	170	30	168	20	100	20
LT Vol	20	0	30	0	68	0	20	0
Through Vol	220	0	140	0	100	0	80	0
RT Vol	0	93	0	30	0	20	0	20
Lane Flow Rate	261	101	185	33	183	22	109	22
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.441	0.15	0.327	0.051	0.33	0.034	0.196	0.034
Departure Headway (Hd)	6.09	5.339	6.38	5.58	6.507	5.592	6.501	5.688
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	590	670	564	640	551	638	551	627
Service Time	3.835	3.084	4.128	3.328	4.257	3.341	4.256	3.443
HCM Lane V/C Ratio	0.442	0.151	0.328	0.052	0.332	0.034	0.198	0.035
HCM Control Delay	13.6	9	12.2	8.6	12.5	8.5	10.8	8.6
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	2.2	0.5	1.4	0.2	1.4	0.1	0.7	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	50	50	160	60	240	40	1104	100	220	591	108
Future Volume (veh/h)	143	50	50	160	60	240	40	1104	100	220	591	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	53	53	170	64	229	43	1174	106	234	629	115
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	362	306	192	72	259	68	1246	553	258	1374	251
Arrive On Green	0.10	0.19	0.19	0.11	0.20	0.20	0.04	0.35	0.35	0.15	0.46	0.46
Sat Flow, veh/h	1781	1870	1583	1781	358	1280	1781	3554	1578	1781	3001	548
Grp Volume(v), veh/h	152	53	53	170	0	293	43	1174	106	234	372	372
Grp Sat Flow(s),veh/h/ln	1781	1870	1583	1781	0	1638	1781	1777	1578	1781	1777	1772
Q Serve(g_s), s	10.1	2.8	3.4	11.4	0.0	21.0	2.9	38.6	5.6	15.6	17.3	17.4
Cycle Q Clear(g_c), s	10.1	2.8	3.4	11.4	0.0	21.0	2.9	38.6	5.6	15.6	17.3	17.4
Prop In Lane	1.00		1.00	1.00		0.78	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	176	362	306	192	0	332	68	1246	553	258	813	811
V/C Ratio(X)	0.86	0.15	0.17	0.89	0.00	0.88	0.64	0.94	0.19	0.91	0.46	0.46
Avail Cap(c_a), veh/h	176	496	420	192	0	449	128	1267	563	258	813	811
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	40.4	40.6	53.1	0.0	46.7	57.2	38.0	27.3	50.7	22.4	22.4
Incr Delay (d2), s/veh	33.3	0.2	0.3	35.3	0.0	14.6	9.5	13.7	0.2	32.3	0.4	0.4
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	6.1	1.3	1.3	6.9	0.0	9.8	1.4	18.3	2.1	9.1	7.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.9	40.6	40.9	88.3	0.0	61.3	66.7	51.6	27.4	83.0	22.8	22.8
LnGrp LOS	F	D	D	F	A	E	E	D	C	F	C	C
Approach Vol, veh/h		258			463			1323			978	
Approach Delay, s/veh		67.9			71.3			50.2			37.2	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	48.3	19.0	29.3	11.1	61.2	17.9	30.4
Change Period (Y+Rc), s	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.0
Max Green Setting (Gmax), s	17.5	43.0	13.0	32.0	8.7	51.8	11.9	33.1
Max Q Clear Time (g_c+I1), s	17.6	40.6	13.4	5.4	4.9	19.4	12.1	23.0
Green Ext Time (p_c), s	0.0	1.6	0.0	0.4	0.0	4.6	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	529	70	240	154	80	110	1270	380	90	910	150
Future Volume (veh/h)	370	529	70	240	154	80	110	1270	380	90	910	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	385	551	73	250	160	83	115	1323	396	94	948	156
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	407	873	115	309	323	158	127	1353	594	99	1113	183
Arrive On Green	0.23	0.28	0.28	0.09	0.14	0.14	0.07	0.38	0.38	0.06	0.37	0.37
Sat Flow, veh/h	1781	3151	416	3456	2285	1118	1781	3554	1560	1781	3048	501
Grp Volume(v), veh/h	385	310	314	250	122	121	115	1323	396	94	552	552
Grp Sat Flow(s),veh/h/ln	1781	1777	1790	1728	1777	1626	1781	1777	1560	1781	1777	1773
Q Serve(g_s), s	26.9	19.3	19.5	9.0	8.0	8.7	8.1	46.5	26.7	6.7	36.3	36.3
Cycle Q Clear(g_c), s	26.9	19.3	19.5	9.0	8.0	8.7	8.1	46.5	26.7	6.7	36.3	36.3
Prop In Lane	1.00		0.23	1.00		0.69	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	407	492	496	309	251	229	127	1353	594	99	649	647
V/C Ratio(X)	0.95	0.63	0.63	0.81	0.49	0.53	0.91	0.98	0.67	0.95	0.85	0.85
Avail Cap(c_a), veh/h	407	651	656	412	463	424	127	1353	594	99	649	647
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	48.1	40.1	40.1	56.6	50.1	50.4	58.4	38.6	32.5	59.6	37.0	37.0
Incr Delay (d2), s/veh	31.2	1.3	1.3	8.6	1.5	1.9	52.7	19.2	2.8	75.6	10.6	10.6
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	15.4	8.6	8.8	4.3	3.7	3.7	5.5	23.5	10.5	5.1	17.5	17.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.3	41.4	41.5	65.2	51.6	52.3	111.1	57.9	35.3	135.2	47.6	47.7
LnGrp LOS	E	D	D	E	D	D	F	E	D	F	D	D
Approach Vol, veh/h		1009			493			1834			1198	
Approach Delay, s/veh		55.9			58.7			56.4			54.5	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	54.2	17.8	41.6	15.0	52.2	35.0	24.4
Change Period (Y+Rc), s	6.0	* 6	6.5	6.5	6.0	* 6	6.1	6.5
Max Green Setting (Gmax), s	7.0	* 48	15.1	46.4	9.0	* 45	28.9	33.0
Max Q Clear Time (g_c+I1), s	10.7	48.5	11.0	21.5	10.1	38.3	28.9	10.7
Green Ext Time (p_c), s	0.0	0.0	0.3	4.1	0.0	3.6	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	56.0
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	158.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	242	717	50	31	323	27	40	71	43	23	50	101
Future Vol, veh/h	242	717	50	31	323	27	40	71	43	23	50	101
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	255	755	53	33	340	28	42	75	45	24	53	106
Number of Lanes	1	1	0	1	1	1	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	252.5	31.6	16	15
HCM LOS	F	D	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	36%	0%	100%	0%	100%	0%	0%	32%	0%
Vol Thru, %	64%	0%	0%	93%	0%	100%	0%	68%	0%
Vol Right, %	0%	100%	0%	7%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	43	242	767	31	323	27	73	101
LT Vol	40	0	242	0	31	0	0	23	0
Through Vol	71	0	0	717	0	323	0	50	0
RT Vol	0	43	0	50	0	0	27	0	101
Lane Flow Rate	117	45	255	807	33	340	28	77	106
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.297	0.104	0.564	1.662	0.078	0.762	0.058	0.194	0.243
Departure Headway (Hd)	10.163	9.251	7.969	7.411	9.448	8.933	8.212	10.082	9.193
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	356	390	453	492	381	408	439	358	393
Service Time	7.863	6.951	5.703	5.145	7.148	6.633	5.912	7.782	6.893
HCM Lane V/C Ratio	0.329	0.115	0.563	1.64	0.087	0.833	0.064	0.215	0.27
HCM Control Delay	17.1	13	20.6	325.7	12.9	35.1	11.4	15.2	14.8
HCM Lane LOS	C	B	C	F	B	E	B	C	B
HCM 95th-tile Q	1.2	0.3	3.4	46.5	0.3	6.3	0.2	0.7	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	474	151	40	179	110	126	840	50	70	650	221
Future Volume (veh/h)	324	474	151	40	179	110	126	840	50	70	650	221
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	348	510	162	43	192	105	135	903	54	75	699	238
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	860	383	99	274	143	113	1537	92	90	1134	386
Arrive On Green	0.18	0.24	0.24	0.06	0.12	0.12	0.06	0.45	0.45	0.05	0.44	0.44
Sat Flow, veh/h	1781	3554	1581	1781	2250	1175	1781	3404	204	1781	2585	880
Grp Volume(v), veh/h	348	510	162	43	150	147	135	471	486	75	481	456
Grp Sat Flow(s),veh/h/ln	1781	1777	1581	1781	1777	1649	1781	1777	1830	1781	1777	1688
Q Serve(g_s), s	22.0	15.9	10.8	2.9	10.1	10.8	7.9	24.8	24.8	5.2	26.0	26.0
Cycle Q Clear(g_c), s	22.0	15.9	10.8	2.9	10.1	10.8	7.9	24.8	24.8	5.2	26.0	26.0
Prop In Lane	1.00		1.00	1.00		0.71	1.00		0.11	1.00		0.52
Lane Grp Cap(c), veh/h	314	860	383	99	217	201	113	803	827	90	780	741
V/C Ratio(X)	1.11	0.59	0.42	0.43	0.69	0.73	1.20	0.59	0.59	0.84	0.62	0.62
Avail Cap(c_a), veh/h	314	1251	557	128	441	409	113	803	827	90	780	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	0.88	0.88	0.88
Uniform Delay (d), s/veh	51.5	41.9	40.0	57.1	52.6	52.9	58.6	25.6	25.6	58.8	27.0	27.0
Incr Delay (d2), s/veh	83.8	0.7	0.7	2.9	3.9	5.1	147.9	3.1	3.0	42.3	3.2	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	17.1	7.1	4.3	1.4	4.7	4.7	8.1	10.6	10.9	3.4	11.2	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.3	42.6	40.7	60.0	56.5	58.0	206.5	28.7	28.6	101.1	30.2	30.3
LnGrp LOS	F	D	D	E	E	E	F	C	C	F	C	C
Approach Vol, veh/h		1020			340			1092			1012	
Approach Delay, s/veh		73.9			57.6			50.7			35.5	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	63.0	13.0	36.3	14.4	61.4	28.0	21.2
Change Period (Y+Rc), s	6.5	6.5	6.0	6.0	6.5	6.5	6.0	6.0
Max Green Setting (Gmax), s	6.3	40.7	9.0	44.0	7.9	39.1	22.0	31.0
Max Q Clear Time (g_c+I1), s	7.2	26.8	4.9	17.9	9.9	28.0	24.0	12.8
Green Ext Time (p_c), s	0.0	4.8	0.0	4.2	0.0	4.2	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	53.8
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	2019	60	60	2054	80	20	10	40	90	10	42
Future Volume (veh/h)	94	2019	60	60	2054	80	20	10	40	90	10	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	2039	61	61	2075	81	20	10	40	91	10	42
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	2180	65	69	2063	80	46	14	305	53	3	304
Arrive On Green	0.07	0.62	0.62	0.04	0.59	0.59	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	3521	105	1781	3484	135	0	75	1585	0	16	1580
Grp Volume(v), veh/h	95	1023	1077	61	1050	1106	30	0	40	101	0	42
Grp Sat Flow(s),veh/h/ln	1781	1777	1849	1781	1777	1842	75	0	1585	16	0	1580
Q Serve(g_s), s	6.8	67.2	69.1	4.4	76.6	77.0	0.0	0.0	2.7	0.0	0.0	2.9
Cycle Q Clear(g_c), s	6.8	67.2	69.1	4.4	76.6	77.0	25.0	0.0	2.7	25.0	0.0	2.9
Prop In Lane	1.00		0.06	1.00		0.07	0.67		1.00	0.90		1.00
Lane Grp Cap(c), veh/h	116	1100	1145	69	1052	1091	61	0	305	56	0	304
V/C Ratio(X)	0.82	0.93	0.94	0.89	1.00	1.01	0.50	0.00	0.13	1.81	0.00	0.14
Avail Cap(c_a), veh/h	116	1100	1145	69	1052	1091	61	0	305	56	0	304
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	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	60.0	22.2	22.6	62.2	26.4	26.5	53.3	0.0	43.5	63.6	0.0	43.6
Incr Delay (d2), s/veh	34.4	14.8	15.7	12.7	7.9	11.8	6.1	0.0	0.2	426.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	29.1	31.3	2.2	31.0	33.5	1.1	0.0	1.1	8.5	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.4	37.0	38.3	74.9	34.3	38.3	59.4	0.0	43.7	489.7	0.0	43.8
LnGrp LOS	F	D	D	E	C	F	E	A	D	F	A	D
Approach Vol, veh/h		2195			2217			70			143	
Approach Delay, s/veh		40.1			37.4			50.4			358.7	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	87.0		31.5	15.0	83.5		31.5
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	5.0	80.5		25.0	8.5	77.0		25.0
Max Q Clear Time (g_c+I1), s	10.4	71.1		27.0	8.8	79.0		27.0
Green Ext Time (p_c), s	0.0	8.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	489	1650	150	320	1450	317	130	130	80	207	180	644
Future Volume (veh/h)	489	1650	150	320	1450	317	130	130	80	207	180	644
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	509	1719	156	333	1510	330	135	135	83	216	188	671
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	477	2118	189	184	1701	755	145	443	375	254	443	794
Arrive On Green	0.27	0.64	0.64	0.10	0.48	0.48	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	3292	294	1781	3554	1578	643	1870	1585	1163	1870	1561
Grp Volume(v), veh/h	509	916	959	333	1510	330	135	135	83	216	188	671
Grp Sat Flow(s),veh/h/ln	1781	1777	1810	1781	1777	1578	643	1870	1585	1163	1870	1561
Q Serve(g_s), s	40.2	56.9	60.4	15.5	57.8	20.7	22.7	8.9	6.3	26.6	12.8	35.5
Cycle Q Clear(g_c), s	40.2	56.9	60.4	15.5	57.8	20.7	35.5	8.9	6.3	35.5	12.8	35.5
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	477	1143	1164	184	1701	755	145	443	375	254	443	794
V/C Ratio(X)	1.07	0.80	0.82	1.81	0.89	0.44	0.93	0.30	0.22	0.85	0.42	0.84
Avail Cap(c_a), veh/h	477	1143	1164	184	1701	755	145	443	375	254	443	794
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)	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	19.7	20.3	67.3	35.4	25.8	66.8	47.1	46.1	62.3	48.6	32.2
Incr Delay (d2), s/veh	43.5	2.0	2.3	384.8	7.3	1.8	53.8	0.4	0.3	22.9	0.6	8.3
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	28.3	22.0	23.8	26.6	25.6	8.0	7.3	4.2	2.5	9.8	6.0	21.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.4	21.7	22.6	452.0	42.8	27.6	120.6	47.5	46.4	85.2	49.2	40.6
LnGrp LOS	F	C	C	F	D	C	F	D	D	F	D	D
Approach Vol, veh/h		2384			2173			353			1075	
Approach Delay, s/veh		38.5			103.2			75.2			51.1	
Approach LOS		D			F			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	22.0	103.5		42.0	46.7	78.8		42.0
Change Period (Y+Rc), s	6.5	6.5		* 6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	15.5	80.0		* 36	40.2	55.3		35.0
Max Q Clear Time (g_c+I1), s	17.5	62.4		37.5	42.2	59.8		37.5
Green Ext Time (p_c), s	0.0	12.2		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	66.4
HCM 6th LOS	E

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	3	330	10	8	170
Future Vol, veh/h	4	3	330	10	8	170
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	3	359	11	9	185

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	568	365	0	0	370	0
Stage 1	365	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	484	680	-	-	1189	-
Stage 1	702	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	480	680	-	-	1189	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	549	1189	-
HCM Lane V/C Ratio	-	-	0.014	0.007	-
HCM Control Delay (s)	-	-	11.7	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	932	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	932	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	923	467	59	26	4
Future Vol, veh/h	10	923	467	59	26	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	1003	508	64	28	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	572	0	-	0	1565	540
Stage 1	-	-	-	-	540	-
Stage 2	-	-	-	-	1025	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1001	-	-	-	123	542
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	346	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1001	-	-	-	122	542
Mov Cap-2 Maneuver	-	-	-	-	248	-
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	346	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	20.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1001	-	-	-	267
HCM Lane V/C Ratio	0.011	-	-	-	0.122
HCM Control Delay (s)	8.6	-	-	-	20.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	932	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

ATTACHMENT D

LONG-TERM + PROJECT INTERSECTION

QUEUING ANALYSIS WORKSHEETS

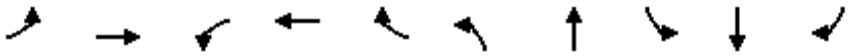
Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	417	396	203	1123	1797
v/c Ratio	1.08	0.99	0.96	0.34	0.74
Control Delay	107.1	78.5	93.4	8.2	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	107.1	78.5	93.4	8.2	22.0
Queue Length 50th (ft)	~313	242	136	104	310
Queue Length 95th (ft)	#510	#447	m#246	128	370
Internal Link Dist (ft)		267		584	420
Turn Bay Length (ft)			300		
Base Capacity (vph)	386	400	212	3310	2414
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.08	0.99	0.96	0.34	0.74

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.

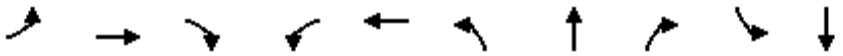
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	177	250	129	208	750	31	541	458	819	750
v/c Ratio	0.55	0.44	0.78	0.69	0.75	0.23	0.31	0.99	0.50	0.71
Control Delay	50.2	37.9	48.7	50.0	21.7	47.0	21.7	64.9	17.1	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1
Total Delay	50.2	37.9	48.7	50.0	21.9	47.0	21.7	64.9	17.1	7.6
Queue Length 50th (ft)	56	73	72	135	130	19	78	145	130	90
Queue Length 95th (ft)	91	105	m69	m106	m93	47	117	m#217	m213	m112
Internal Link Dist (ft)		288		279			1088		584	
Turn Bay Length (ft)	200					470		310		
Base Capacity (vph)	326	756	168	400	1005	168	1757	463	1628	1052
Starvation Cap Reductn	0	0	0	0	19	0	0	0	0	11
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	0.54	0.33	0.77	0.52	0.76	0.18	0.31	0.99	0.50	0.72

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.



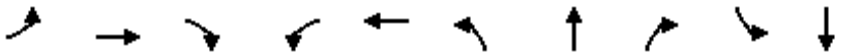
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	477	179	179	32	242	103	107	21	116	1057
v/c Ratio	0.80	0.15	0.22	0.16	0.24	0.56	0.56	0.06	0.22	1.83
Control Delay	65.7	20.7	3.8	42.7	34.7	54.7	54.5	0.3	27.7	404.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	20.7	3.8	42.7	34.7	54.7	54.5	0.3	27.7	404.4
Queue Length 50th (ft)	150	27	1	19	48	66	69	0	55	~985
Queue Length 95th (ft)	m173	m35	m12	48	72	124	128	0	100	#1234
Internal Link Dist (ft)		279			1051		902			153
Turn Bay Length (ft)	100		160	140		170				
Base Capacity (vph)	631	1156	801	194	1021	184	190	352	529	577
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	0.76	0.15	0.22	0.16	0.24	0.56	0.56	0.06	0.22	1.83

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.

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	51	21	11	42	74	21	591	42	116	979
v/c Ratio	0.22	0.06	0.03	0.16	0.22	0.11	0.40	0.06	0.43	0.48
Control Delay	35.7	26.1	0.1	35.0	13.4	37.9	23.0	0.1	37.9	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.7	26.1	0.1	35.0	13.4	37.9	23.0	0.1	37.9	16.8
Queue Length 50th (ft)	19	8	0	16	8	8	112	0	44	132
Queue Length 95th (ft)	69	26	0	59	41	37	235	0	#151	#447
Internal Link Dist (ft)		1369			258		1033			1088
Turn Bay Length (ft)	110		110	120		250		250	480	
Base Capacity (vph)	269	1069	969	269	967	190	1789	863	308	1924
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	0.19	0.02	0.01	0.16	0.08	0.11	0.33	0.05	0.38	0.51

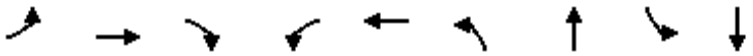
Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	113	198	227	328	93	773	206	82	1464
v/c Ratio	0.86	0.34	0.96	0.60	0.56	0.43	0.23	0.55	0.90
Control Delay	103.9	23.6	104.4	45.4	66.0	22.2	4.0	66.5	37.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.9	23.6	104.4	45.4	66.0	22.2	4.0	66.5	37.7
Queue Length 50th (ft)	88	38	92	114	69	195	0	62	517
Queue Length 95th (ft)	#197	63	#173	136	#178	325	51	116	#809
Internal Link Dist (ft)		600		1370		523			547
Turn Bay Length (ft)	160		110		245			230	
Base Capacity (vph)	131	970	237	963	165	1789	882	167	1635
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	0.86	0.20	0.96	0.34	0.56	0.43	0.23	0.49	0.90

Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	173	192	103	32	304	104	559	75	965
v/c Ratio	1.23	0.27	0.22	0.20	0.54	0.53	0.35	0.50	0.67
Control Delay	189.8	34.9	1.4	45.5	37.1	54.0	20.2	56.3	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	189.8	34.9	1.4	45.5	37.1	54.0	20.2	56.3	22.4
Queue Length 50th (ft)	~136	60	0	19	86	62	120	46	203
Queue Length 95th (ft)	#270	78	4	49	107	#176	196	#121	315
Internal Link Dist (ft)		611			1014		1036		1033
Turn Bay Length (ft)	170		60	130		240		130	
Base Capacity (vph)	141	955	549	159	983	198	1594	151	1442
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	1.23	0.20	0.19	0.20	0.31	0.53	0.35	0.50	0.67

Intersection Summary

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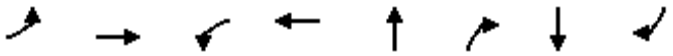
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	43	1554	42	2343	20	31	68	25
v/c Ratio	0.40	0.60	0.42	0.90	0.12	0.13	0.48	0.10
Control Delay	69.7	12.4	71.5	24.5	50.8	1.1	63.8	0.9
Queue Delay	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0
Total Delay	69.7	12.4	71.5	26.7	50.8	1.1	63.8	0.9
Queue Length 50th (ft)	35	347	34	868	16	0	56	0
Queue Length 95th (ft)	77	525	#93	#1321	38	0	95	0
Internal Link Dist (ft)		728		868	295		780	
Turn Bay Length (ft)	240		250					
Base Capacity (vph)	109	2605	101	2591	297	373	261	368
Starvation Cap Reductn	0	0	0	141	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	0.39	0.60	0.42	0.96	0.07	0.08	0.26	0.07

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	400	1398	184	1735	219	102	102	82	130	173	530
v/c Ratio	0.88	0.71	0.73	1.08	0.27	0.77	0.34	0.23	0.65	0.57	0.79
Control Delay	73.9	25.5	77.3	87.2	3.6	92.0	56.6	3.6	72.0	63.6	43.4
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.9	25.9	77.3	87.2	3.6	92.0	56.6	3.6	72.0	63.6	43.4
Queue Length 50th (ft)	367	496	170	~995	0	100	92	0	124	163	394
Queue Length 95th (ft)	#695	579	#413	#1133	47	156	137	15	180	219	542
Internal Link Dist (ft)		868		1062			90			329	
Turn Bay Length (ft)	240		250		670				240		
Base Capacity (vph)	455	1982	251	1604	824	195	434	456	291	440	670
Starvation Cap Reductn	0	197	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	0.88	0.78	0.73	1.08	0.27	0.52	0.24	0.18	0.45	0.39	0.79

Intersection Summary

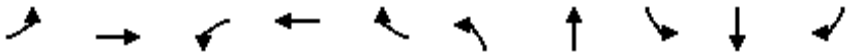
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	188	212	471	2303	1597
v/c Ratio	0.70	0.83	0.89	0.62	0.82
Control Delay	57.0	68.1	42.4	4.8	34.3
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay	57.0	68.1	42.4	5.0	34.3
Queue Length 50th (ft)	131	144	300	211	368
Queue Length 95th (ft)	208	#248	m286	m210	#496
Internal Link Dist (ft)		140		584	143
Turn Bay Length (ft)			300		
Base Capacity (vph)	319	299	584	3715	1939
Starvation Cap Reductn	0	0	0	427	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.71	0.81	0.70	0.82

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.



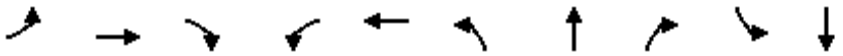
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	404	628	103	298	1191	32	1486	426	704	287
v/c Ratio	1.13	0.96	0.60	0.90	1.14	0.25	0.92	0.78	0.43	0.26
Control Delay	132.2	72.6	45.0	57.9	92.2	52.7	45.2	36.9	9.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	132.2	72.6	45.0	57.9	92.2	52.7	45.2	36.9	9.9	0.4
Queue Length 50th (ft)	~170	~236	54	209	~464	22	361	157	54	0
Queue Length 95th (ft)	#269	#361	m65	m226	m#281	53	#454	m185	m66	m1
Internal Link Dist (ft)		288		279			1088		584	
Turn Bay Length (ft)	200					470		310		
Base Capacity (vph)	358	651	185	330	1046	217	1619	546	1623	1093
Starvation Cap Reductn	0	0	0	0	1	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	1.13	0.96	0.56	0.90	1.14	0.15	0.92	0.78	0.43	0.26

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.

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	552	465	212	111	596	233	242	71	354	876
v/c Ratio	1.00	0.61	0.31	0.62	0.76	1.18	1.19	0.21	0.54	1.30
Control Delay	83.7	37.2	7.4	63.8	50.7	165.1	165.2	1.3	31.8	172.6
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2
Total Delay	83.7	37.2	7.4	63.8	50.9	165.1	165.2	1.3	31.8	172.8
Queue Length 50th (ft)	~217	129	44	76	147	~208	~216	0	198	~766
Queue Length 95th (ft)	m#271	m151	m57	#147	187	#372	#382	0	298	#1025
Internal Link Dist (ft)		279			1051		902			153
Turn Bay Length (ft)	100		160	140		170				
Base Capacity (vph)	552	833	678	178	891	197	204	345	653	676
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	33	0	0	0	0	22
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.56	0.31	0.62	0.69	1.18	1.19	0.21	0.54	1.34

Intersection Summary

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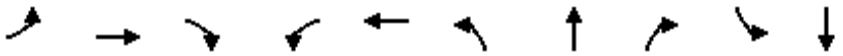
Queue shown is maximum after two cycles.

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	152	53	53	170	319	43	1174	106	234	744
v/c Ratio	0.84	0.19	0.14	0.69	0.83	0.37	0.89	0.15	0.88	0.44
Control Delay	87.6	42.9	0.7	66.4	42.4	63.3	45.0	0.5	80.4	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.6	42.9	0.7	66.4	42.4	63.3	45.0	0.5	80.4	22.6
Queue Length 50th (ft)	113	35	0	126	127	31	426	0	172	192
Queue Length 95th (ft)	#261	71	0	#286	232	75	#663	0	#360	297
Internal Link Dist (ft)		349			258		1033			1088
Turn Bay Length (ft)	110		110	120		250		250	480	
Base Capacity (vph)	182	515	566	245	570	133	1316	688	267	1672
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	0.84	0.10	0.09	0.69	0.56	0.32	0.89	0.15	0.88	0.44

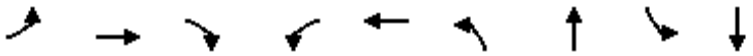
Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	385	624	250	243	115	1323	396	94	1104
v/c Ratio	0.93	0.71	0.68	0.51	0.89	0.95	0.52	0.94	0.88
Control Delay	75.8	45.8	63.7	39.8	111.7	52.2	13.9	132.5	46.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.8	45.8	63.7	39.8	111.7	52.2	13.9	132.5	46.2
Queue Length 50th (ft)	290	235	96	70	89	505	79	74	404
Queue Length 95th (ft)	#588	301	162	111	#240	#848	215	#215	#683
Internal Link Dist (ft)		600		234		523			547
Turn Bay Length (ft)	160		110		245			230	
Base Capacity (vph)	416	1317	422	940	129	1389	758	100	1258
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	0.93	0.47	0.59	0.26	0.89	0.95	0.52	0.94	0.88

Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	348	510	162	43	310	135	957	75	937
v/c Ratio	1.00	0.48	0.28	0.34	0.52	0.64	0.72	0.62	0.82
Control Delay	98.0	37.3	8.1	62.9	34.1	67.9	37.5	78.8	44.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.0	37.3	8.1	62.9	34.1	67.9	37.5	78.8	44.2
Queue Length 50th (ft)	~322	201	14	34	86	102	318	58	330
Queue Length 95th (ft)	#515	213	60	73	114	#266	460	#154	#450
Internal Link Dist (ft)		611			1014		1036		1033
Turn Bay Length (ft)	170		60	130		240		130	
Base Capacity (vph)	349	1255	644	127	898	212	1337	121	1142
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	1.00	0.41	0.25	0.34	0.35	0.64	0.72	0.62	0.82

Intersection Summary

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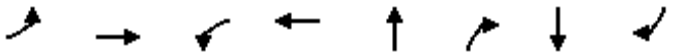
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	95	2100	61	2156	30	40	101	42
v/c Ratio	0.61	0.91	0.48	0.96	0.18	0.15	0.62	0.16
Control Delay	73.7	26.9	70.7	34.3	50.6	1.2	69.3	1.7
Queue Delay	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0
Total Delay	73.7	26.9	70.7	41.6	50.6	1.2	69.3	1.7
Queue Length 50th (ft)	77	755	49	855	23	0	83	0
Queue Length 95th (ft)	#181	#1064	#144	#1163	50	1	133	3
Internal Link Dist (ft)		728		868	295		780	
Turn Bay Length (ft)	240		250					
Base Capacity (vph)	156	2316	127	2252	272	372	259	367
Starvation Cap Reductn	0	0	0	105	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	0.61	0.91	0.48	1.00	0.11	0.11	0.39	0.11

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	509	1875	333	1510	330	135	135	83	216	188	671
v/c Ratio	0.98	1.00	1.45	1.16	0.43	0.73	0.35	0.20	0.92	0.48	0.84
Control Delay	86.3	56.5	270.5	122.4	6.3	78.3	52.5	3.2	96.9	55.6	39.1
Queue Delay	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.3	76.5	270.5	122.4	6.3	78.3	52.5	3.2	96.9	55.6	39.1
Queue Length 50th (ft)	~538	~953	~477	~915	14	122	111	0	204	159	484
Queue Length 95th (ft)	#781	#1140	#691	#1055	85	203	175	15	#341	236	663
Internal Link Dist (ft)		868		1062			90			329	
Turn Bay Length (ft)	240		250		670				240		
Base Capacity (vph)	521	1866	229	1304	763	207	434	461	266	440	801
Starvation Cap Reductn	0	101	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	0.98	1.06	1.45	1.16	0.43	0.65	0.31	0.18	0.81	0.43	0.84

Intersection Summary

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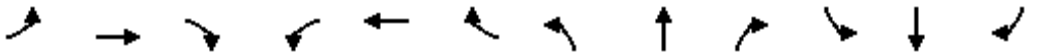
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

ATTACHMENT E

NEAR-TERM & LONG-TERM + PROJECT

IMPROVEMENTS ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	150	150	30	200	5	120	60	15	90	290	594
Future Volume (veh/h)	393	150	150	30	200	5	120	60	15	90	290	594
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	414	158	158	32	211	5	94	107	16	95	305	587
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	499	1100	661	115	1180	28	195	205	174	533	559	474
Arrive On Green	0.14	0.31	0.31	0.06	0.23	0.23	0.11	0.11	0.11	0.30	0.30	0.30
Sat Flow, veh/h	3456	3554	1575	1781	5132	121	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	414	158	158	32	140	76	94	107	16	95	305	587
Grp Sat Flow(s),veh/h/ln	1728	1777	1575	1781	1702	1849	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	11.6	3.2	6.5	1.7	3.3	3.3	5.0	5.4	0.9	3.9	13.7	29.9
Cycle Q Clear(g_c), s	11.6	3.2	6.5	1.7	3.3	3.3	5.0	5.4	0.9	3.9	13.7	29.9
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	499	1100	661	115	783	425	195	205	174	533	559	474
V/C Ratio(X)	0.83	0.14	0.24	0.28	0.18	0.18	0.48	0.52	0.09	0.18	0.55	1.24
Avail Cap(c_a), veh/h	667	1100	661	196	783	425	198	208	176	533	559	474
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)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	24.9	18.7	44.5	30.9	30.9	41.8	42.0	40.0	26.0	29.4	35.0
Incr Delay (d2), s/veh	4.3	0.2	0.5	0.5	0.5	0.9	0.7	1.0	0.1	0.1	0.6	124.4
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	5.2	1.4	3.0	0.8	1.4	1.6	2.2	2.5	0.4	1.7	6.1	27.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	25.1	19.3	45.0	31.4	31.9	42.5	43.1	40.1	26.0	30.0	159.4
LnGrp LOS	D	C	B	D	C	C	D	D	D	C	C	F
Approach Vol, veh/h		730			248			217			987	
Approach Delay, s/veh		35.7			33.3			42.6			106.6	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	37.7		35.0	19.1	29.8		16.1				
Change Period (Y+Rc), s	* 4.7	6.8		5.1	* 4.7	6.8		5.1				
Max Green Setting (Gmax), s	* 11	26.3		29.9	* 19	18.0		11.1				
Max Q Clear Time (g_c+I1), s	3.7	8.5		31.9	13.6	5.3		7.4				
Green Ext Time (p_c), s	0.0	0.8		0.0	0.8	0.6		0.2				

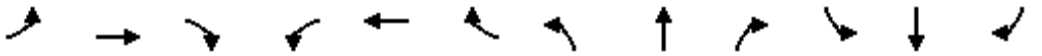
Intersection Summary		
HCM 6th Ctrl Delay		68.2
HCM 6th LOS		E

Notes

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

User approved volume balancing among the lanes for turning movement.

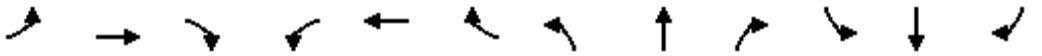
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	15	10	20	15	40	20	461	30	100	708	82
Future Volume (veh/h)	48	15	10	20	15	40	20	461	30	100	708	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	16	11	21	16	42	21	485	32	105	745	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	152	104	71	53	140	54	954	423	157	1049	121
Arrive On Green	0.07	0.15	0.15	0.04	0.12	0.12	0.03	0.27	0.27	0.09	0.33	0.33
Sat Flow, veh/h	3456	1032	709	1781	454	1192	1781	3554	1576	1781	3210	370
Grp Volume(v), veh/h	51	0	27	21	0	58	21	485	32	105	412	419
Grp Sat Flow(s),veh/h/ln	1728	0	1741	1781	0	1646	1781	1777	1576	1781	1777	1803
Q Serve(g_s), s	0.7	0.0	0.7	0.6	0.0	1.7	0.6	6.2	0.8	3.1	10.9	10.9
Cycle Q Clear(g_c), s	0.7	0.0	0.7	0.6	0.0	1.7	0.6	6.2	0.8	3.1	10.9	10.9
Prop In Lane	1.00		0.41	1.00		0.72	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	240	0	256	71	0	194	54	954	423	157	581	589
V/C Ratio(X)	0.21	0.00	0.11	0.29	0.00	0.30	0.39	0.51	0.08	0.67	0.71	0.71
Avail Cap(c_a), veh/h	547	0	1037	282	0	981	199	1521	675	398	959	973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	19.8	25.0	0.0	21.7	25.6	16.6	14.7	23.7	15.9	15.9
Incr Delay (d2), s/veh	0.4	0.0	0.2	2.3	0.0	0.9	4.6	0.4	0.1	4.8	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.3	0.0	0.7	0.3	2.1	0.3	1.3	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.0	0.0	20.0	27.3	0.0	22.5	30.2	17.1	14.7	28.5	17.5	17.5
LnGrp LOS	C	A	C	C	A	C	C	B	B	C	B	B
Approach Vol, veh/h		78			79			538			936	
Approach Delay, s/veh		22.7			23.8			17.4			18.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	20.4	8.2	13.9	8.1	23.6	9.7	12.3
Change Period (Y+Rc), s	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	23.0	8.5	32.0	6.0	29.0	8.5	32.0
Max Q Clear Time (g_c+I1), s	5.1	8.2	2.6	2.7	2.6	12.9	2.7	3.7
Green Ext Time (p_c), s	0.1	2.6	0.0	0.1	0.0	4.3	0.0	0.3

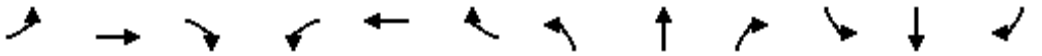
Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	222	20	28	387	22	25	30	11	17	61	132
Future Volume (veh/h)	80	222	20	28	387	22	25	30	11	17	61	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	239	22	30	416	24	27	32	12	18	66	142
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	572	53	62	525	30	57	242	91	40	93	201
Arrive On Green	0.07	0.34	0.34	0.03	0.30	0.30	0.03	0.19	0.19	0.02	0.18	0.18
Sat Flow, veh/h	1781	1687	155	1781	1751	101	1781	1297	486	1781	527	1135
Grp Volume(v), veh/h	86	0	261	30	0	440	27	0	44	18	0	208
Grp Sat Flow(s),veh/h/ln	1781	0	1842	1781	0	1852	1781	0	1783	1781	0	1662
Q Serve(g_s), s	2.0	0.0	4.7	0.7	0.0	9.4	0.6	0.0	0.9	0.4	0.0	5.1
Cycle Q Clear(g_c), s	2.0	0.0	4.7	0.7	0.0	9.4	0.6	0.0	0.9	0.4	0.0	5.1
Prop In Lane	1.00		0.08	1.00		0.05	1.00		0.27	1.00		0.68
Lane Grp Cap(c), veh/h	133	0	625	62	0	555	57	0	333	40	0	295
V/C Ratio(X)	0.65	0.00	0.42	0.48	0.00	0.79	0.47	0.00	0.13	0.45	0.00	0.71
Avail Cap(c_a), veh/h	210	0	797	219	0	772	206	0	743	206	0	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	11.0	20.5	0.0	13.9	20.5	0.0	14.6	20.8	0.0	16.7
Incr Delay (d2), s/veh	5.2	0.0	0.4	5.7	0.0	3.9	6.0	0.0	0.2	7.7	0.0	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	0.9	0.0	1.6	0.4	0.0	3.8	0.3	0.0	0.3	0.2	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	0.0	11.4	26.1	0.0	17.8	26.5	0.0	14.8	28.5	0.0	19.8
LnGrp LOS	C	A	B	C	A	B	C	A	B	C	A	B
Approach Vol, veh/h		347			470			71			226	
Approach Delay, s/veh		14.7			18.3			19.3			20.5	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	19.1	5.9	12.2	7.7	17.4	5.5	12.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.3	18.7	5.0	18.0	5.1	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.7	6.7	2.6	7.1	4.0	11.4	2.4	2.9
Green Ext Time (p_c), s	0.0	1.1	0.0	0.8	0.0	1.5	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B



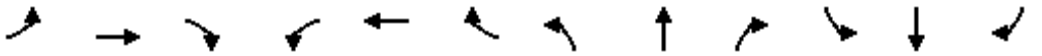
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	149	66	10	182	50	77	320	30	60	390	348
Future Volume (veh/h)	141	149	66	10	182	50	77	320	30	60	390	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	160	71	11	196	54	83	344	32	65	419	374
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	466	198	42	244	207	101	1644	152	86	875	761
Arrive On Green	0.08	0.19	0.19	0.02	0.13	0.13	0.06	0.50	0.50	0.05	0.49	0.49
Sat Flow, veh/h	1781	2428	1032	1781	1870	1585	1781	3284	303	1781	1777	1546
Grp Volume(v), veh/h	152	115	116	11	196	54	83	185	191	65	419	374
Grp Sat Flow(s),veh/h/ln	1781	1777	1683	1781	1870	1585	1781	1777	1811	1781	1777	1546
Q Serve(g_s), s	9.0	5.9	6.3	0.6	10.8	3.3	4.9	6.2	6.2	3.8	16.6	17.2
Cycle Q Clear(g_c), s	9.0	5.9	6.3	0.6	10.8	3.3	4.9	6.2	6.2	3.8	16.6	17.2
Prop In Lane	1.00		0.61	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	151	341	323	42	244	207	101	890	907	86	875	761
V/C Ratio(X)	1.01	0.34	0.36	0.26	0.80	0.26	0.82	0.21	0.21	0.76	0.48	0.49
Avail Cap(c_a), veh/h	151	553	524	151	476	404	101	890	907	101	875	761
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	0.94	0.94	0.94
Uniform Delay (d), s/veh	48.5	37.0	37.2	50.9	44.8	41.5	49.5	14.8	14.8	49.8	17.9	18.0
Incr Delay (d2), s/veh	74.5	0.6	0.7	3.3	6.1	0.7	40.0	0.5	0.5	22.4	1.8	2.1
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	7.1	2.6	2.7	0.3	5.4	1.3	3.2	2.4	2.5	2.2	6.7	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.0	37.6	37.9	54.1	50.9	42.2	89.5	15.3	15.3	72.3	19.6	20.1
LnGrp LOS	F	D	D	D	D	D	F	B	B	E	B	C
Approach Vol, veh/h		383			261			459			858	
Approach Delay, s/veh		71.6			49.2			28.7			23.8	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	59.6	8.5	26.3	12.5	58.7	15.0	19.8
Change Period (Y+Rc), s	6.5	6.5	6.0	6.0	6.5	6.5	6.0	6.0
Max Green Setting (Gmax), s	6.0	33.0	9.0	33.0	6.0	33.0	9.0	27.0
Max Q Clear Time (g_c+I1), s	5.8	8.2	2.6	8.3	6.9	19.2	11.0	12.8
Green Ext Time (p_c), s	0.0	1.9	0.0	1.3	0.0	4.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	476	400	190	100	510	15	270	160	60	310	290	477
Future Volume (veh/h)	476	400	190	100	510	15	270	160	60	310	290	477
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	481	404	192	101	515	15	218	240	61	313	293	449
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	1006	631	170	1135	33	209	219	186	547	574	487
Arrive On Green	0.16	0.28	0.28	0.10	0.22	0.22	0.12	0.12	0.12	0.31	0.31	0.31
Sat Flow, veh/h	3456	3554	1571	1781	5100	148	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	481	404	192	101	343	187	218	240	61	313	293	449
Grp Sat Flow(s),veh/h/ln	1728	1777	1571	1781	1702	1843	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	15.0	10.1	9.2	6.0	9.6	9.6	12.9	12.9	3.9	16.3	14.2	30.1
Cycle Q Clear(g_c), s	15.0	10.1	9.2	6.0	9.6	9.6	12.9	12.9	3.9	16.3	14.2	30.1
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	539	1006	631	170	757	410	209	219	186	547	574	487
V/C Ratio(X)	0.89	0.40	0.30	0.59	0.45	0.46	1.04	1.09	0.33	0.57	0.51	0.92
Avail Cap(c_a), veh/h	556	1006	631	180	757	410	209	219	186	622	653	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)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	31.9	22.5	47.7	37.0	37.0	48.5	48.5	44.6	32.1	31.3	36.9
Incr Delay (d2), s/veh	11.3	0.8	0.8	3.0	2.0	3.6	74.2	88.2	0.4	0.4	0.3	18.8
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	7.2	4.4	4.3	2.8	4.2	4.8	10.0	11.4	1.5	7.0	6.4	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	32.7	23.3	50.7	38.9	40.6	122.7	136.7	45.0	32.4	31.6	55.6
LnGrp LOS	E	C	C	D	D	D	F	F	D	C	C	E
Approach Vol, veh/h		1077			631			519			1055	
Approach Delay, s/veh		41.8			41.3			120.1			42.1	
Approach LOS		D			D			F			D	

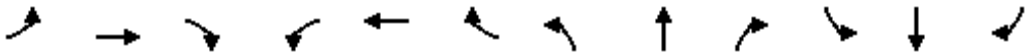
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.2	37.9		38.9	21.9	31.3		18.0				
Change Period (Y+Rc), s	* 4.7	6.8		5.1	* 4.7	6.8		5.1				
Max Green Setting (Gmax), s	* 11	25.9		38.4	* 18	19.3		12.9				
Max Q Clear Time (g_c+I1), s	8.0	12.1		32.1	17.0	11.6		14.9				
Green Ext Time (p_c), s	0.0	1.9		1.6	0.2	1.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		54.2	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

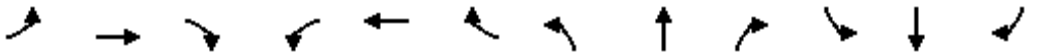
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	50	40	130	50	220	35	944	80	200	511	98
Future Volume (veh/h)	133	50	40	130	50	220	35	944	80	200	511	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	55	44	143	55	242	38	1037	88	220	562	108
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	185	148	168	65	285	71	1125	499	251	1243	238
Arrive On Green	0.07	0.19	0.19	0.09	0.21	0.21	0.04	0.32	0.32	0.14	0.42	0.42
Sat Flow, veh/h	3456	961	769	1781	302	1328	1781	3554	1578	1781	2975	570
Grp Volume(v), veh/h	146	0	99	143	0	297	38	1037	88	220	335	335
Grp Sat Flow(s),veh/h/ln	1728	0	1731	1781	0	1629	1781	1777	1578	1781	1777	1768
Q Serve(g_s), s	3.9	0.0	4.7	7.6	0.0	16.7	2.0	26.9	3.9	11.6	12.9	13.0
Cycle Q Clear(g_c), s	3.9	0.0	4.7	7.6	0.0	16.7	2.0	26.9	3.9	11.6	12.9	13.0
Prop In Lane	1.00		0.44	1.00		0.81	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	248	0	332	168	0	349	71	1125	499	251	742	738
V/C Ratio(X)	0.59	0.00	0.30	0.85	0.00	0.85	0.53	0.92	0.18	0.87	0.45	0.45
Avail Cap(c_a), veh/h	322	0	579	168	0	547	123	1152	511	251	742	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	0.0	33.1	42.7	0.0	36.1	45.0	31.5	23.7	40.2	20.0	20.0
Incr Delay (d2), s/veh	2.2	0.0	0.5	32.2	0.0	7.5	6.1	11.9	0.2	27.1	0.4	0.4
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	1.7	0.0	2.0	4.8	0.0	7.2	1.0	12.5	1.4	6.7	5.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	0.0	33.6	74.9	0.0	43.5	51.2	43.5	23.8	67.4	20.4	20.4
LnGrp LOS	D	A	C	E	A	D	D	D	C	E	C	C
Approach Vol, veh/h		245			440			1163			890	
Approach Delay, s/veh		40.5			53.7			42.2			32.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	36.3	15.0	24.4	10.3	45.9	12.9	26.5
Change Period (Y+Rc), s	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.5	31.0	9.0	32.0	6.6	37.9	8.9	32.1
Max Q Clear Time (g_c+I1), s	13.6	28.9	9.6	6.7	4.0	15.0	5.9	18.7
Green Ext Time (p_c), s	0.0	1.3	0.0	0.5	0.0	3.8	0.1	1.5

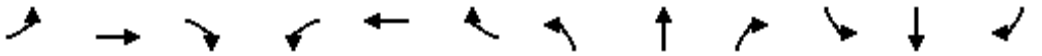
Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	667	50	31	293	27	40	61	38	23	40	101
Future Volume (veh/h)	222	667	50	31	293	27	40	61	38	23	40	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	234	702	53	33	308	28	42	64	40	24	42	106
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	810	61	64	584	53	76	157	98	49	61	154
Arrive On Green	0.16	0.47	0.47	0.04	0.35	0.35	0.04	0.15	0.15	0.03	0.13	0.13
Sat Flow, veh/h	1781	1713	129	1781	1689	154	1781	1063	665	1781	461	1163
Grp Volume(v), veh/h	234	0	755	33	0	336	42	0	104	24	0	148
Grp Sat Flow(s),veh/h/ln	1781	0	1843	1781	0	1842	1781	0	1728	1781	0	1624
Q Serve(g_s), s	7.2	0.0	20.8	1.0	0.0	8.3	1.3	0.0	3.1	0.8	0.0	5.0
Cycle Q Clear(g_c), s	7.2	0.0	20.8	1.0	0.0	8.3	1.3	0.0	3.1	0.8	0.0	5.0
Prop In Lane	1.00		0.07	1.00		0.08	1.00		0.38	1.00		0.72
Lane Grp Cap(c), veh/h	290	0	872	64	0	637	76	0	255	49	0	216
V/C Ratio(X)	0.81	0.00	0.87	0.52	0.00	0.53	0.55	0.00	0.41	0.49	0.00	0.69
Avail Cap(c_a), veh/h	453	0	1099	156	0	792	156	0	546	156	0	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	13.4	27.0	0.0	14.9	26.7	0.0	22.0	27.3	0.0	23.6
Incr Delay (d2), s/veh	5.8	0.0	6.2	6.4	0.0	0.7	6.2	0.0	1.0	7.2	0.0	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	3.3	0.0	8.5	0.5	0.0	3.2	0.6	0.0	1.2	0.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	19.6	33.4	0.0	15.6	32.9	0.0	23.1	34.5	0.0	27.4
LnGrp LOS	C	A	B	C	A	B	C	A	C	C	A	C
Approach Vol, veh/h		989			369			146			172	
Approach Delay, s/veh		21.8			17.2			25.9			28.4	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	31.5	6.9	12.1	13.8	24.2	6.1	12.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	34.0	5.0	18.0	14.5	24.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.0	22.8	3.3	7.0	9.2	10.3	2.8	5.1
Green Ext Time (p_c), s	0.0	4.1	0.0	0.5	0.3	1.7	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C



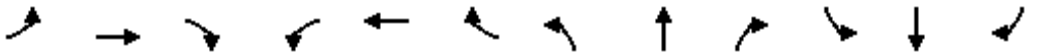
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	414	101	35	159	90	96	710	30	55	560	201
Future Volume (veh/h)	284	414	101	35	159	90	96	710	30	55	560	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	305	445	109	38	171	84	103	763	32	59	602	216
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	570	139	100	227	191	97	1631	68	81	1173	420
Arrive On Green	0.14	0.20	0.20	0.06	0.12	0.12	0.05	0.47	0.47	0.05	0.46	0.46
Sat Flow, veh/h	1781	2833	688	1781	1870	1573	1781	3473	146	1781	2546	912
Grp Volume(v), veh/h	305	278	276	38	171	84	103	390	405	59	420	398
Grp Sat Flow(s),veh/h/ln	1781	1777	1744	1781	1870	1573	1781	1777	1842	1781	1777	1681
Q Serve(g_s), s	15.0	16.3	16.5	2.3	9.7	5.5	6.0	16.4	16.4	3.6	18.4	18.4
Cycle Q Clear(g_c), s	15.0	16.3	16.5	2.3	9.7	5.5	6.0	16.4	16.4	3.6	18.4	18.4
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.08	1.00		0.54
Lane Grp Cap(c), veh/h	243	358	351	100	227	191	97	835	865	81	819	775
V/C Ratio(X)	1.26	0.78	0.79	0.38	0.75	0.44	1.06	0.47	0.47	0.73	0.51	0.51
Avail Cap(c_a), veh/h	243	533	523	146	442	372	97	835	865	97	819	775
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	0.89	0.89	0.89
Uniform Delay (d), s/veh	47.5	41.6	41.7	50.1	46.8	44.9	52.0	19.8	19.8	51.8	20.9	21.0
Incr Delay (d2), s/veh	144.1	4.2	4.7	2.4	5.0	1.6	108.5	1.9	1.8	17.7	2.0	2.2
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	16.3	7.5	7.5	1.1	4.8	2.2	5.5	6.8	7.0	2.0	7.6	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	191.6	45.8	46.4	52.4	51.8	46.5	160.5	21.7	21.6	69.5	23.0	23.1
LnGrp LOS	F	D	D	D	D	D	F	C	C	E	C	C
Approach Vol, veh/h		859			293			898			877	
Approach Delay, s/veh		97.7			50.4			37.6			26.2	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	58.2	12.2	28.1	12.5	57.2	21.0	19.3
Change Period (Y+Rc), s	6.5	6.5	6.0	6.0	6.5	6.5	6.0	6.0
Max Green Setting (Gmax), s	6.0	37.0	9.0	33.0	6.0	37.0	15.0	26.0
Max Q Clear Time (g_c+I1), s	5.6	18.4	4.3	18.5	8.0	20.4	17.0	11.7
Green Ext Time (p_c), s	0.0	4.3	0.0	3.0	0.0	4.4	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	53.1
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	453	170	170	30	230	0	140	60	20	110	320	684
Future Volume (veh/h)	453	170	170	30	230	0	140	60	20	110	320	684
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	477	179	179	32	242	0	105	122	21	116	337	682
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	566	1064	645	115	1023	0	196	206	174	550	578	490
Arrive On Green	0.16	0.30	0.30	0.06	0.20	0.00	0.11	0.11	0.11	0.31	0.31	0.31
Sat Flow, veh/h	3456	3554	1574	1781	5274	0	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	477	179	179	32	242	0	105	122	21	116	337	682
Grp Sat Flow(s),veh/h/ln	1728	1777	1574	1781	1702	0	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	13.4	3.7	7.6	1.7	4.0	0.0	5.6	6.2	1.2	4.8	15.2	30.9
Cycle Q Clear(g_c), s	13.4	3.7	7.6	1.7	4.0	0.0	5.6	6.2	1.2	4.8	15.2	30.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	566	1064	645	115	1023	0	196	206	174	550	578	490
V/C Ratio(X)	0.84	0.17	0.28	0.28	0.24	0.00	0.54	0.59	0.12	0.21	0.58	1.39
Avail Cap(c_a), veh/h	743	1064	645	196	1023	0	196	206	174	550	578	490
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)	0.51	0.51	0.51	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	25.8	19.7	44.5	33.6	0.0	42.1	42.4	40.1	25.5	29.1	34.5
Incr Delay (d2), s/veh	3.6	0.2	0.5	0.5	0.5	0.0	1.5	3.2	0.1	0.1	1.0	188.8
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	5.9	1.6	3.4	0.8	1.7	0.0	2.5	3.0	0.5	2.0	6.9	37.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.2	26.0	20.2	45.0	34.1	0.0	43.6	45.5	40.3	25.6	30.1	223.4
LnGrp LOS	D	C	C	D	C	A	D	D	D	C	C	F
Approach Vol, veh/h		835			274			248			1135	
Approach Delay, s/veh		35.2			35.4			44.3			145.8	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	36.7		36.0	21.1	26.8		16.1				
Change Period (Y+Rc), s	* 4.7	6.8		5.1	* 4.7	6.8		5.1				
Max Green Setting (Gmax), s	* 11	25.4		30.9	* 22	14.9		11.0				
Max Q Clear Time (g_c+I1), s	3.7	9.6		32.9	15.4	6.0		8.2				
Green Ext Time (p_c), s	0.0	0.9		0.0	1.0	0.7		0.2				

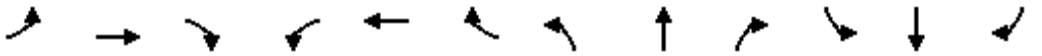
Intersection Summary		
HCM 6th Ctrl Delay		86.5
HCM 6th LOS		F

Notes

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

User approved volume balancing among the lanes for turning movement.

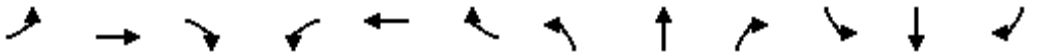
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	20	10	40	20	50	20	561	40	110	838	92
Future Volume (veh/h)	48	20	10	40	20	50	20	561	40	110	838	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	21	11	42	21	53	21	591	42	116	882	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	143	75	121	58	146	53	1073	476	155	1160	128
Arrive On Green	0.07	0.12	0.12	0.07	0.12	0.12	0.03	0.30	0.30	0.09	0.36	0.36
Sat Flow, veh/h	3456	1155	605	1781	468	1180	1781	3554	1577	1781	3228	355
Grp Volume(v), veh/h	51	0	32	42	0	74	21	591	42	116	486	493
Grp Sat Flow(s),veh/h/ln	1728	0	1760	1781	0	1648	1781	1777	1577	1781	1777	1806
Q Serve(g_s), s	0.8	0.0	0.9	1.3	0.0	2.4	0.7	8.1	1.1	3.7	14.1	14.1
Cycle Q Clear(g_c), s	0.8	0.0	0.9	1.3	0.0	2.4	0.7	8.1	1.1	3.7	14.1	14.1
Prop In Lane	1.00		0.34	1.00		0.72	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	233	0	218	121	0	204	53	1073	476	155	639	649
V/C Ratio(X)	0.22	0.00	0.15	0.35	0.00	0.36	0.40	0.55	0.09	0.75	0.76	0.76
Avail Cap(c_a), veh/h	503	0	964	259	0	903	183	1540	683	296	883	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	0.0	22.8	26.0	0.0	23.5	27.8	17.1	14.6	26.0	16.5	16.5
Incr Delay (d2), s/veh	0.5	0.0	0.3	1.7	0.0	1.1	4.8	0.4	0.1	7.0	2.6	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	0.3	0.0	0.4	0.6	0.0	0.9	0.3	2.8	0.4	1.7	5.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	0.0	23.1	27.7	0.0	24.5	32.6	17.5	14.7	33.0	19.1	19.0
LnGrp LOS	C	A	C	C	A	C	C	B	B	C	B	B
Approach Vol, veh/h		83			116			654			1095	
Approach Delay, s/veh		25.0			25.7			17.8			20.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	23.6	10.0	13.2	8.2	27.0	9.9	13.2
Change Period (Y+Rc), s	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.7	25.3	8.5	32.0	6.0	29.0	8.5	32.0
Max Q Clear Time (g_c+I1), s	5.7	10.1	3.3	2.9	2.7	16.1	2.8	4.4
Green Ext Time (p_c), s	0.1	3.3	0.0	0.1	0.0	4.7	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	232	20	33	407	22	30	30	11	17	71	142
Future Volume (veh/h)	90	232	20	33	407	22	30	30	11	17	71	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	249	22	35	438	24	32	32	12	18	76	153
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	581	51	70	535	29	65	263	99	40	104	210
Arrive On Green	0.08	0.34	0.34	0.04	0.30	0.30	0.04	0.20	0.20	0.02	0.19	0.19
Sat Flow, veh/h	1781	1694	150	1781	1757	96	1781	1297	486	1781	553	1113
Grp Volume(v), veh/h	97	0	271	35	0	462	32	0	44	18	0	229
Grp Sat Flow(s),veh/h/ln	1781	0	1843	1781	0	1853	1781	0	1783	1781	0	1666
Q Serve(g_s), s	2.4	0.0	5.2	0.9	0.0	10.6	0.8	0.0	0.9	0.5	0.0	5.9
Cycle Q Clear(g_c), s	2.4	0.0	5.2	0.9	0.0	10.6	0.8	0.0	0.9	0.5	0.0	5.9
Prop In Lane	1.00		0.08	1.00		0.05	1.00		0.27	1.00		0.67
Lane Grp Cap(c), veh/h	138	0	632	70	0	565	65	0	362	40	0	315
V/C Ratio(X)	0.70	0.00	0.43	0.50	0.00	0.82	0.49	0.00	0.12	0.45	0.00	0.73
Avail Cap(c_a), veh/h	194	0	764	194	0	728	194	0	700	194	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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	11.6	21.6	0.0	14.8	21.7	0.0	14.9	22.1	0.0	17.5
Incr Delay (d2), s/veh	6.4	0.0	0.5	5.5	0.0	5.7	5.7	0.0	0.1	7.8	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	1.2	0.0	1.8	0.4	0.0	4.6	0.4	0.0	0.3	0.3	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	12.1	27.0	0.0	20.5	27.3	0.0	15.1	30.0	0.0	20.7
LnGrp LOS	C	A	B	C	A	C	C	A	B	C	A	C
Approach Vol, veh/h		368			497			76			247	
Approach Delay, s/veh		16.0			20.9			20.2			21.4	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	20.2	6.2	13.2	8.0	18.5	5.5	13.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.9	7.2	2.8	7.9	4.4	12.6	2.5	2.9
Green Ext Time (p_c), s	0.0	1.2	0.0	0.9	0.0	1.4	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

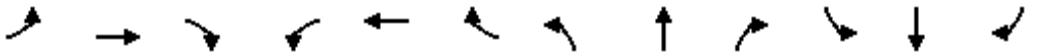
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	179	96	30	222	60	97	470	50	70	510	388
Future Volume (veh/h)	161	179	96	30	222	60	97	470	50	70	510	388
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	192	103	32	239	65	104	505	54	75	548	417
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	416	214	94	293	248	107	1487	158	96	861	655
Arrive On Green	0.08	0.18	0.18	0.05	0.16	0.16	0.06	0.46	0.46	0.05	0.45	0.45
Sat Flow, veh/h	1781	2270	1165	1781	1870	1585	1781	3235	345	1781	1899	1445
Grp Volume(v), veh/h	173	148	147	32	239	65	104	277	282	75	513	452
Grp Sat Flow(s),veh/h/ln	1781	1777	1658	1781	1870	1585	1781	1777	1802	1781	1777	1567
Q Serve(g_s), s	8.0	7.4	7.9	1.7	12.4	3.6	5.8	10.0	10.0	4.2	22.2	22.2
Cycle Q Clear(g_c), s	8.0	7.4	7.9	1.7	12.4	3.6	5.8	10.0	10.0	4.2	22.2	22.2
Prop In Lane	1.00		0.70	1.00		1.00	1.00		0.19	1.00		0.92
Lane Grp Cap(c), veh/h	143	326	304	94	293	248	107	817	829	96	806	711
V/C Ratio(X)	1.21	0.46	0.48	0.34	0.82	0.26	0.97	0.34	0.34	0.78	0.64	0.64
Avail Cap(c_a), veh/h	143	480	448	160	524	444	107	817	829	107	806	711
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	0.88	0.88	0.88
Uniform Delay (d), s/veh	46.0	36.4	36.6	45.7	40.8	37.1	46.9	17.3	17.3	46.7	21.0	21.0
Incr Delay (d2), s/veh	144.2	1.0	1.2	2.1	5.6	0.6	78.2	1.1	1.1	25.0	3.4	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	9.2	3.3	3.3	0.8	6.1	1.4	4.8	4.0	4.1	2.4	9.1	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	190.2	37.4	37.8	47.8	46.4	37.7	125.1	18.4	18.4	71.7	24.4	24.8
LnGrp LOS	F	D	D	D	D	D	F	B	B	E	C	C
Approach Vol, veh/h		468			336			663			1040	
Approach Delay, s/veh		94.0			44.8			35.2			28.0	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	52.5	11.3	24.3	12.5	51.9	14.0	21.6
Change Period (Y+Rc), s	6.5	6.5	6.0	6.0	6.5	6.5	6.0	6.0
Max Green Setting (Gmax), s	6.0	33.0	9.0	27.0	6.0	33.0	8.0	28.0
Max Q Clear Time (g_c+I1), s	6.2	12.0	3.7	9.9	7.8	24.2	10.0	14.4
Green Ext Time (p_c), s	0.0	3.0	0.0	1.6	0.0	3.9	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	44.4
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	546	460	210	110	580	10	300	170	70	350	320	547
Future Volume (veh/h)	546	460	210	110	580	10	300	170	70	350	320	547
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	552	465	212	111	586	10	238	264	71	354	323	520
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	556	873	571	172	937	16	209	219	186	611	642	544
Arrive On Green	0.16	0.25	0.25	0.10	0.18	0.18	0.12	0.12	0.12	0.34	0.34	0.34
Sat Flow, veh/h	3456	3554	1569	1781	5170	88	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	552	465	212	111	385	211	238	264	71	354	323	520
Grp Sat Flow(s),veh/h/ln	1728	1777	1569	1781	1702	1854	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	17.5	12.5	11.0	6.6	11.5	11.5	12.9	12.9	4.6	17.9	15.1	35.3
Cycle Q Clear(g_c), s	17.5	12.5	11.0	6.6	11.5	11.5	12.9	12.9	4.6	17.9	15.1	35.3
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	556	873	571	172	617	336	209	219	186	611	642	544
V/C Ratio(X)	0.99	0.53	0.37	0.64	0.62	0.63	1.14	1.20	0.38	0.58	0.50	0.96
Avail Cap(c_a), veh/h	556	873	571	180	617	336	209	219	186	622	653	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)	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	36.0	25.8	47.9	41.6	41.6	48.5	48.5	44.9	29.6	28.7	35.3
Incr Delay (d2), s/veh	20.1	0.8	0.6	5.4	4.7	8.5	104.8	126.7	0.5	0.8	0.2	27.0
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	9.0	5.5	5.0	3.2	5.2	6.1	11.8	13.7	1.8	7.7	6.8	17.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	36.8	26.4	53.3	46.3	50.1	153.4	175.2	45.3	30.4	28.9	62.3
LnGrp LOS	E	D	C	D	D	D	F	F	D	C	C	E
Approach Vol, veh/h		1229			707			573			1197	
Approach Delay, s/veh		48.2			48.5			150.1			43.8	
Approach LOS		D			D			F			D	

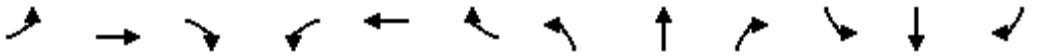
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.3	33.8		42.9	22.4	26.7		18.0				
Change Period (Y+Rc), s	* 4.7	6.8		5.1	* 4.7	6.8		5.1				
Max Green Setting (Gmax), s	* 11	25.9		38.4	* 18	19.3		12.9				
Max Q Clear Time (g_c+I1), s	8.6	14.5		37.3	19.5	13.5		14.9				
Green Ext Time (p_c), s	0.0	2.0		0.5	0.0	1.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		62.6	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

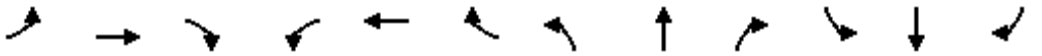
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	50	50	160	60	240	40	1104	100	220	591	108
Future Volume (veh/h)	143	50	50	160	60	240	40	1104	100	220	591	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	53	53	170	64	229	43	1174	106	234	629	115
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	135	135	198	74	264	71	1296	576	263	1418	259
Arrive On Green	0.06	0.16	0.16	0.11	0.21	0.21	0.04	0.36	0.36	0.15	0.47	0.47
Sat Flow, veh/h	3456	857	857	1781	358	1280	1781	3554	1579	1781	3001	548
Grp Volume(v), veh/h	152	0	106	170	0	293	43	1174	106	234	372	372
Grp Sat Flow(s),veh/h/ln	1728	0	1714	1781	0	1638	1781	1777	1579	1781	1777	1772
Q Serve(g_s), s	4.8	0.0	6.2	10.5	0.0	19.3	2.7	35.0	5.1	14.4	15.6	15.6
Cycle Q Clear(g_c), s	4.8	0.0	6.2	10.5	0.0	19.3	2.7	35.0	5.1	14.4	15.6	15.6
Prop In Lane	1.00		0.50	1.00		0.78	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	215	0	269	198	0	338	71	1296	576	263	840	837
V/C Ratio(X)	0.71	0.00	0.39	0.86	0.00	0.87	0.61	0.91	0.18	0.89	0.44	0.44
Avail Cap(c_a), veh/h	319	0	491	207	0	509	139	1369	608	279	840	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	42.3	48.7	0.0	42.8	52.7	33.6	24.1	46.7	19.6	19.6
Incr Delay (d2), s/veh	4.2	0.0	0.9	27.4	0.0	10.0	8.2	8.6	0.2	27.0	0.4	0.4
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	2.2	0.0	2.7	6.1	0.0	8.6	1.3	15.7	1.9	8.1	6.1	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.0	43.2	76.1	0.0	52.9	61.0	42.2	24.3	73.7	20.0	20.0
LnGrp LOS	E	A	D	E	A	D	E	D	C	E	B	C
Approach Vol, veh/h		258			463			1323			978	
Approach Delay, s/veh		50.5			61.4			41.4			32.8	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	46.7	18.4	23.5	10.9	58.7	12.9	29.0
Change Period (Y+Rc), s	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.0
Max Green Setting (Gmax), s	17.5	43.0	13.0	32.0	8.7	51.8	10.3	34.7
Max Q Clear Time (g_c+I1), s	16.4	37.0	12.5	8.2	4.7	17.6	6.8	21.3
Green Ext Time (p_c), s	0.1	3.7	0.0	0.5	0.0	4.6	0.1	1.4

Intersection Summary	
HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	717	50	31	323	27	40	71	43	23	50	101
Future Volume (veh/h)	242	717	50	31	323	27	40	71	43	23	50	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	255	755	53	33	340	28	42	75	45	24	53	106
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	843	59	63	597	49	74	164	98	49	75	150
Arrive On Green	0.17	0.49	0.49	0.04	0.35	0.35	0.04	0.15	0.15	0.03	0.14	0.14
Sat Flow, veh/h	1781	1723	121	1781	1704	140	1781	1082	649	1781	546	1093
Grp Volume(v), veh/h	255	0	808	33	0	368	42	0	120	24	0	159
Grp Sat Flow(s),veh/h/ln	1781	0	1844	1781	0	1845	1781	0	1731	1781	0	1639
Q Serve(g_s), s	8.4	0.0	24.1	1.1	0.0	9.8	1.4	0.0	3.8	0.8	0.0	5.6
Cycle Q Clear(g_c), s	8.4	0.0	24.1	1.1	0.0	9.8	1.4	0.0	3.8	0.8	0.0	5.6
Prop In Lane	1.00		0.07	1.00		0.08	1.00		0.38	1.00		0.67
Lane Grp Cap(c), veh/h	310	0	902	63	0	646	74	0	262	49	0	224
V/C Ratio(X)	0.82	0.00	0.90	0.53	0.00	0.57	0.56	0.00	0.46	0.49	0.00	0.71
Avail Cap(c_a), veh/h	461	0	1034	147	0	709	147	0	514	147	0	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	14.1	28.8	0.0	16.0	28.5	0.0	23.5	29.1	0.0	25.0
Incr Delay (d2), s/veh	7.3	0.0	9.4	6.7	0.0	0.9	6.5	0.0	1.2	7.5	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	3.9	0.0	10.6	0.6	0.0	3.9	0.7	0.0	1.5	0.4	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	0.0	23.4	35.5	0.0	16.9	35.0	0.0	24.7	36.5	0.0	29.1
LnGrp LOS	C	A	C	D	A	B	D	A	C	D	A	C
Approach Vol, veh/h		1063			401			162			183	
Approach Delay, s/veh		25.3			18.4			27.4			30.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	34.2	7.0	12.8	15.1	25.7	6.2	13.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	34.0	5.0	18.0	15.7	23.3	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.1	26.1	3.4	7.6	10.4	11.8	2.8	5.8
Green Ext Time (p_c), s	0.0	3.5	0.0	0.6	0.4	1.7	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C