

Memo

Date: July 10, 2025

To: Yaengsaeng Xayavong, Bayer U.S. LLC

From: Sam Tabibnia and Henry Helmuth, Fehr & Peers

Subject: Bayer Berkeley Campus Development Agreement Amendment – Transportation Impact Analysis

Previously, Fehr & Peers completed a detailed traffic operations analysis for the Bayer Berkeley Amended and Restated Development Agreement (ARDA) Project that City of Berkeley approved in 2021 (referred to as the Approved 2021 Project in this memo). This memo presents the focused analysis completed by Fehr & Peers to estimate the effects of the currently proposed modifications to the Bayer Berkeley ARDA (referred to as the Proposed 2025 Project in this memo) on local traffic operations. Specifically, the Proposed 2025 Project contemplates a modification to the boundaries of the ARDA, removing 2500 7th Street/ 2520 8th Street (APN 54-1777-1) from the boundary of the Bayer Berkeley Campus, and incorporating 811 Carleton Street (APN 54-1770-4-2) and the portion of Carleton Street fronting 811 Carleton Street into the boundary of the Bayer Berkeley Campus. Such would move planned parking facilities approximately 450 feet to the southwest. This analysis is conducted outside of the CEQA process to determine if the proposed 2025 Project would require off-site street improvements to serve the expected changes in traffic patterns.

Based on our analysis, the evaluated intersections would operate at Level of Service (LOS) D or better during both the AM and PM peak hours at buildout and accounting for the changes in traffic patterns due to the relocation of the parking supply under the Proposed 2025 Project. Thus, no off-site improvements are required.

The remainder of this memorandum describes the project and discusses the intersection traffic operations analysis.

1. Project Description

The Approved 2021 Project will facilitate development at the Bayer Berkeley Campus through 2052. It allows development of up to 1,738,000 square feet of space, which would accommodate up to 2,000 employees at buildout. The Approved 2021 Project also included a parcel on the east side of Seventh Street, which would have converted an existing surface parking lot into a 925-space garage with a driveway on Eighth Street. **Figure 1** shows the boundaries of the Bayer Berkeley Campus under the Approved 2021 Project.

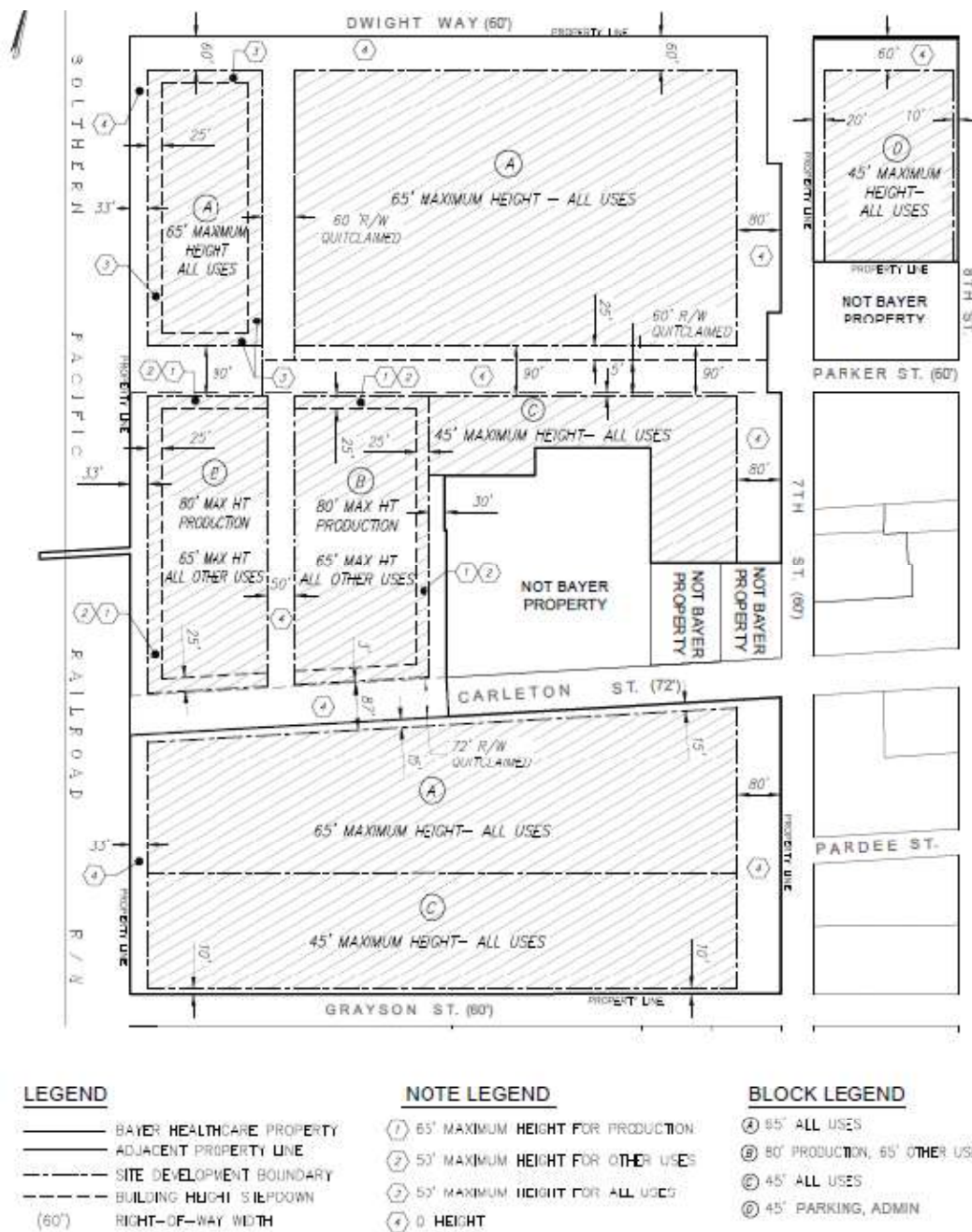


Figure 1. Bayer Berkeley Campus Property Boundary – Approved 2021 Project (Source: Bayer, 2025)

The Proposed 2025 Project would modify the boundaries of the Bayer Berkeley Campus by removing the parcel east of Seventh Street and adding a parcel on the north side of Carleton Street west of Seventh Street previously occupied by the Macaulay Foundry. **Figure 2** shows the boundaries of the Bayer Berkeley Campus under the Proposed 2025 Project. The Proposed 2025 Project would not change the total allowed development or employment at Buildout. It would result in new vehicular access to the Bayer Berkeley Campus on Carleton Street. This analysis assumes all trips to and from

the parking garage on the east side of Seventh Street assumed under the Approved 2021 Project would divert to Carleton Street under the Proposed 2025 Project.

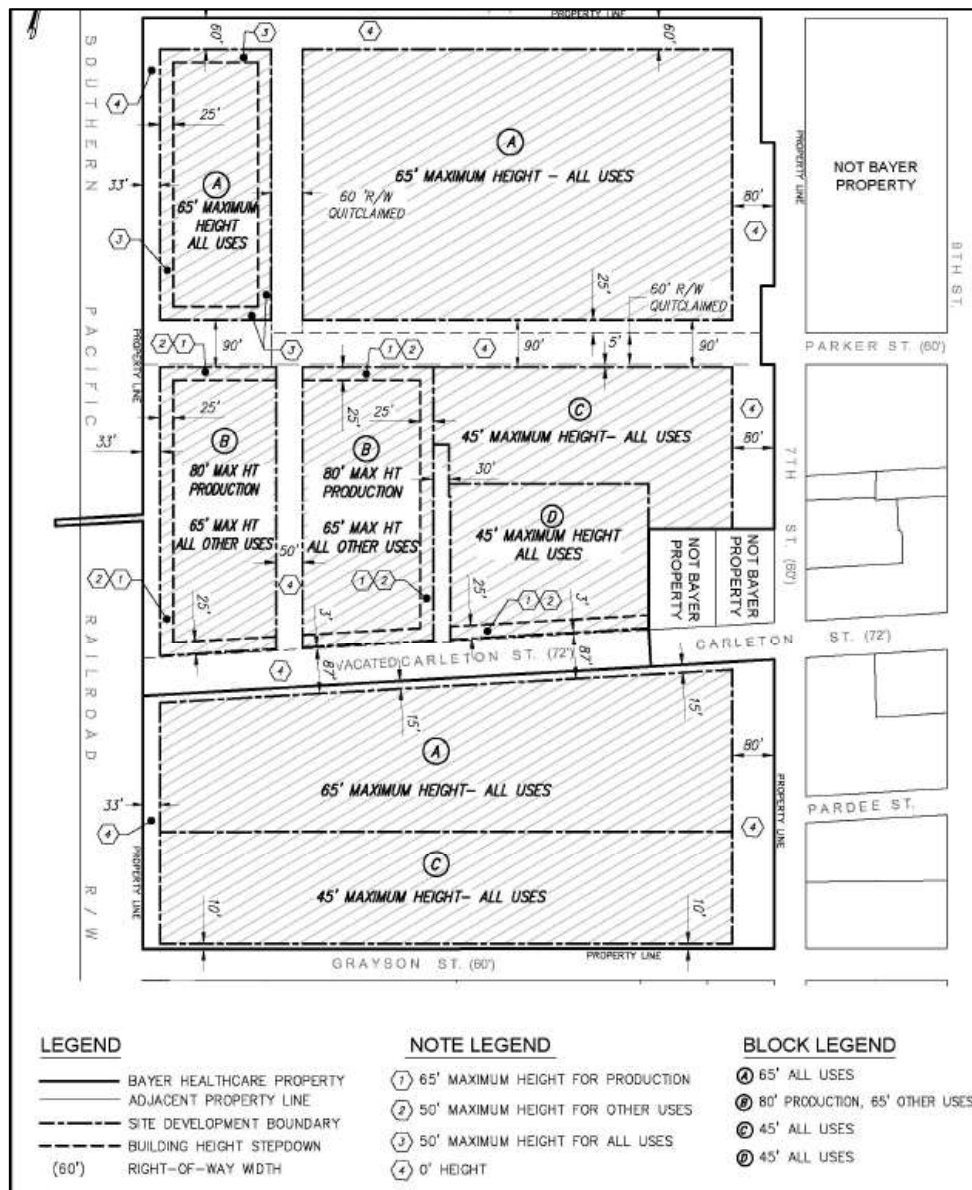


Figure 2. Bayer Berkeley Campus Property Boundary – Proposed 2025 Project (Source: Bayer, 2025)

2. Intersection Operations Analysis

Since CEQA prohibits the use of automobile delay, LOS, and other similar measures of vehicular capacity or traffic congestion to identify significant impacts, this memorandum presents the effects of the Proposed 2025 Project on local traffic operations and circulation for informational purposes. This analysis evaluates the effects of the Proposed 2025 Project at Buildout on traffic operations during the AM and PM peak hours (the hour with the highest traffic volume within the morning [AM, 7:00 AM to 9:00 AM] and evening [PM, 4:00 PM to 6:00 PM]) at the following two intersections:

1. Seventh Street/Parker Street (currently signalized intersection)
2. Seventh Street/Carleton Street (currently controlled by stop signs on the Carleton Street approaches)

These intersections were selected because they are adjacent to the Bayer Berkeley Campus and most likely to be affected by the changes in traffic patterns caused by the Proposed 2025 Project. This study evaluates traffic operations during typical weekday AM and PM peak commute hours at the two study intersections under the following scenarios:

- **Existing Conditions:** Represents existing traffic volumes based on traffic count data collected in May 2025. **Attachment A** provides the detailed count data.
- **Near-Term Conditions:** Represents existing conditions plus traffic generated by the following proposed or under construction developments in the vicinity:
 - 600 Addison Street (Berkeley Commons) – the completed but not occupied development would consist of about 471,000 square feet of office/R&D space west of the railroad tracks between Addison Street and Bancroft Way.
 - 747 Bancroft Way (the LAB) – the partially completed development would consist of about 265,000 square feet of office/R&D space through renovation and repurposing of existing buildings and construction of a new building in an area approximately bound by Bancroft Way, Fifth Street, Allston Way, and the railroad tracks.
 - 740 Grayson Street – the approved development would consist of 213,300 square feet of office/R&D/manufacturing space on Grayson Street west of Seventh Street.
- **Near-Term Plus Approved 2021 Project Conditions:** Represents Near-Term Conditions plus traffic generated by the Buildout of the Approved 2021 Project based on the Project assumptions presented in the 2021 Transportation Impact Analysis Memo. Although currently about 60 percent of the Bayer Berkeley employees work remotely on a typical weekday, this scenario assumes that all employees would work on-site, consistent with our 2021 Memo.
- **Near-Term Plus Proposed 2025 Project Conditions:** Represents Near-Term Conditions plus Buildout of the Approved 2021 Project and accounting for changes in traffic patterns caused by the Proposed 2025 Project. Like the previous scenario, this scenario also assumes that all Bayer employees would work on-site.

Figure 3 shows AM and PM peak hour intersection vehicle volumes, lane configurations, and controls at the two study intersections for the analysis scenarios.

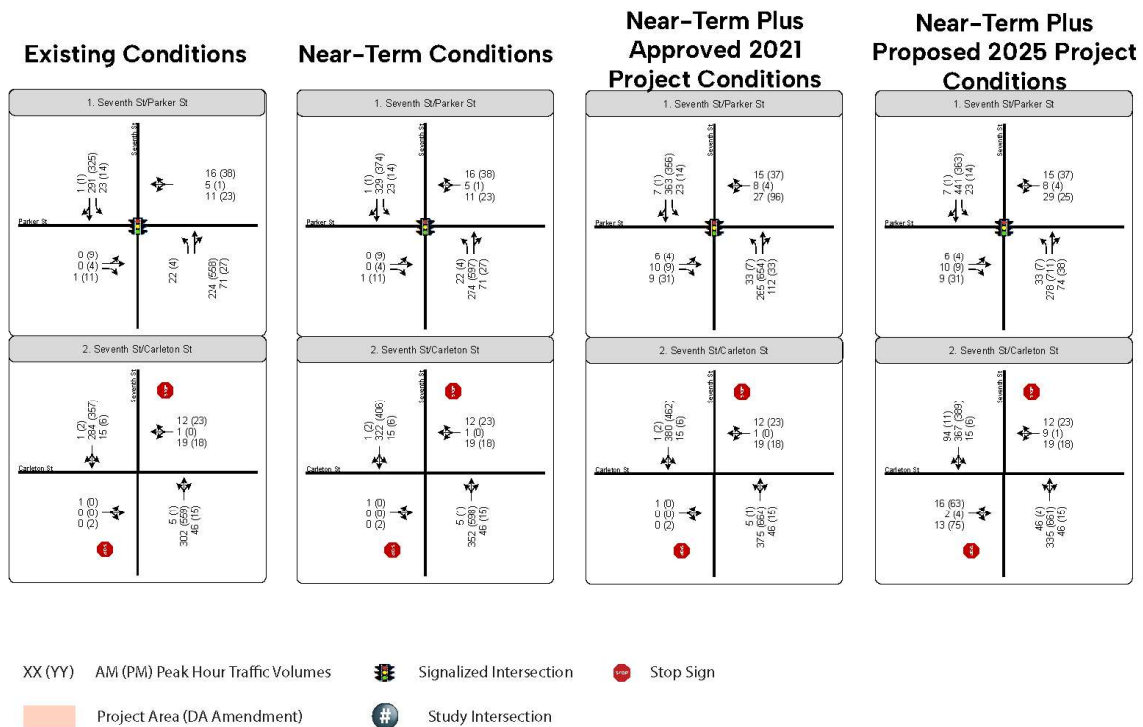
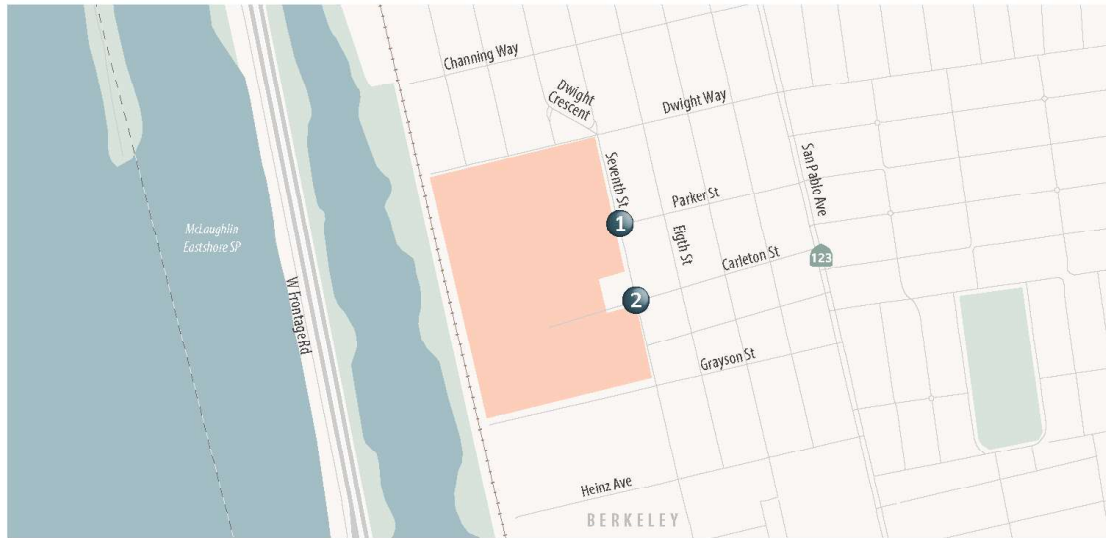


Figure 3: Peak Hour Intersection Traffic Volumes, Lane Configurations, and Traffic Controls

Intersection Operations Analysis Methodology

Intersection operations are described using the term “Level of Service” (LOS). LOS is a qualitative description of traffic operations from the vehicle driver perspective and consists of the delay experienced by the driver at the intersection. It ranges from LOS A, with no congestion and little delay, to LOS F, with excessive congestion and delays. The methods used to assess signalized and unsignalized (stop-controlled) intersections are described below.

Signalized Intersections

Signalized intersection operations are evaluated using the method provided in the Highway Capacity Manual (HCM) 6th Edition. This method uses intersection characteristics to estimate average control delay and then assigns a LOS value. Control delay is defined as the delay associated with deceleration, stopping, moving up in the queue, and acceleration experienced by drivers at a signalized intersection. **Table 1** provides descriptions of various LOS and the corresponding ranges of delays for signalized intersections.

Unsignalized Intersections

All-way stop-controlled and side-street stop-controlled intersection operations are also analyzed using the HCM 6th Edition. The method calculates delay for movements that are controlled by a stop sign or that must yield the right-of-way. This method defines operations by average control delay per vehicle (measured in seconds) for each stop-controlled movement. This incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, the movement or approach with the highest delay is reported, as well as average intersection delay. **Table 1** summarizes the LOS ranges for unsignalized intersections. They are lower than the delay ranges for signalized intersections because drivers generally tolerate more delay at signals.

Analysis Tools

The Synchro 12 software was used to estimate delay and LOS for the study intersections. Synchro uses the equations provided in the HCM 6th Edition to calculate vehicular delay. These equations use intersection characteristics, such as vehicle and pedestrian volumes, lane geometry, and signal phasings, as inputs in estimating control delay.

Traffic Operations Goal

Consistent with our 2021 analysis and City of Berkeley practices, this analysis uses LOS D as the LOS goal for the study intersections. Under this framework, an intersection could be considered deficient if it operates at LOS E or LOS F.

Table 1: Intersection Level of Service Definitions

Unsignalized Intersections			Signalized Intersections	
Description	Average Total Vehicle Delay (Seconds)	Level of Service Grade	Average Control Vehicle Delay (Seconds)	Description
No delay for stop-controlled approaches.	≤10.0	A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
Operations with minor delay.	>10.0 and ≤15.0	B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
Operations with moderate delays.	>15.0 and ≤25.0	C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
Operations with increasingly unacceptable delays.	>25.0 and ≤35.0	D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
Operations with high delays, and long queues.	>35.0 and ≤50.0	E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	>50.0	F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.
Source: Highway Capacity Manual, Transportation Research Board, 2016.				

Intersection Operations Analysis

Based on the volumes, intersection controls, and roadway configurations presented on **Figure 3**, Fehr & Peers calculated the AM and PM peak hour delay and corresponding LOS at the study intersections using the methodologies described above. **Table 2** summarizes the weekday AM and PM peak hour intersection LOS analysis results under the four analysis scenarios. **Appendix B** provides the detailed LOS calculation worksheets.

The two study intersections operate at LOS D or better during both AM and PM peak hours under all four analysis scenarios. The side-street stop-controlled Carleton Street approach at the Seventh Street/Carleton Street intersection (#2) would operate at LOS D during the PM peak hour under Near-Term Plus Proposed 2025 Project Conditions. Although the Proposed 2025 Project would increase the delay at this intersection, the intersection would not meet the *California Manual on Uniform Traffic Control Devices* (MUTCD) peak hour vehicular volume warrant (Warrant 3) for urban conditions under the Near-Term Plus Proposed 2025 Project conditions. Thus, no off-site improvements are recommended at this intersection.

Table 2: Intersection Level of Service Summary

Intersection	Traffic Control	Peak Hour	Existing Conditions		Near-Term Conditions		Near-Term Plus Approved 2021 Project Conditions		Near-Term Plus Proposed 2025 Project Conditions	
			Delay (sec) ¹	LOS	Delay (sec) ¹	LOS	Delay (sec) ¹	LOS	Delay (sec) ¹	LOS
1. Seventh St/ Parker St	Signal	AM	4	A	4	A	5	A	5	A
		PM	6	A	6	A	9	A	7	A
2. Seventh St/ Carleton St	Side-Street Stop	AM	<1 (15)	B	<1 (19)	C	<1 (21)	C	2 (23)	C
		PM	<1 (18)	C	<1 (20)	C	<1 (23)	C	5 (35)	D

Notes:

1. Average intersection delay and LOS are calculated using the HCM 6th edition. Average intersection delay is presented in seconds for all intersections. The worst approach delay is presented in parentheses for side street stop-controlled intersections.

Source: Fehr & Peers, 2025.

3. Conclusions

Based on the analysis presented in this memorandum, the additional traffic generated by the Approved 2021 Project and the changes in traffic patterns caused by the Proposed 2025 Project, which primarily consists of replacing a parking facility east of Seventh Street with a driveway on Eight Street with a similarly sized parking facility west of Seventh Street with access on Carleton Street, would not affect traffic operations at the intersections adjacent to the site during the weekday AM and PM peak hours. The two evaluated intersections would continue to operate at LOS D or better during both the AM and PM peak hours, and the side-street stop-controlled Seventh Street/Carleton

Street intersection would not meet the MUTCD peak hour signal warrant. Therefore, no improvements at these intersections are recommended.

Please contact Sam Tabibnia (stabibnia@fehrandpeers.com or 510.835.1943) with questions or comments.

Attachments:

Attachment A: Traffic Count Data

Attachment B: Intersection LOS Worksheets

Attachment A: Traffic Count Data

National Data & Surveying Services

Intersection Turning Movement Count

Location: 7th St & Carleton St
City: Berkeley
Control: 2-Way Stop(EB/WB)

Project ID: 25-080171-002
Date: 5/13/2025

Data - Total

NS/EW Streets:	7th St				7th St				Carleton St				Carleton St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	33	5	0	4	33	0	0	0	0	0	0	5	1	0	0	81
7:15 AM	0	31	5	0	2	39	0	0	0	0	0	0	3	0	2	0	82
7:30 AM	0	32	2	0	3	57	0	0	0	0	1	0	2	0	1	0	98
7:45 AM	1	50	4	0	5	45	1	0	0	1	0	0	2	0	3	0	112
8:00 AM	1	84	14	1	5	62	0	0	0	0	0	0	6	0	2	0	175
8:15 AM	0	78	7	0	2	77	0	0	0	0	0	0	2	0	3	0	169
8:30 AM	1	57	10	0	1	71	0	0	0	0	0	0	6	1	2	0	149
8:45 AM	2	83	15	0	7	74	1	0	1	0	0	0	5	0	5	0	193
TOTAL VOLUMES :	NL 5	NT 448	NR 62	NU 1	SL 29	ST 458	SR 2	SU 0	EL 1	ET 1	ER 1	EU 0	WL 31	WT 2	WR 18	WU 0	TOTAL 1059
APPROACH %'s :	0.97%	86.82%	12.02%	0.19%	5.93%	93.66%	0.41%	0.00%	33.33%	33.33%	33.33%	0.00%	60.78%	3.92%	35.29%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	4	302	46	1	15	284	1	0	1	0	0	0	19	1	12	0	686
PEAK HR FACTOR :	0.500	0.899	0.767	0.250	0.536	0.922	0.250	0.000	0.250	0.000	0.000	0.000	0.792	0.250	0.600	0.000	0.889
		0.883				0.915				0.250				0.800			

National Data & Surveying Services

Intersection Turning Movement Count

Location: 7th St & Carleton St
City: Berkeley
Control: 2-Way Stop(EB/WB)

Project ID: 25-080171-002
Date: 5/13/2025

Data - Bikes

NS/EW Streets:	7th St				7th St				Carleton St				Carleton St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	1	0	0	0	0	0	1	0	1	0	1	1	0	0	0	0	5
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6
8:00 AM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	0	4
8:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
TOTAL VOLUMES :	NL 1	NT 10	NR 0	NU 0	SL 0	ST 9	SR 1	SU 0	EL 1	ET 0	ER 1	EU 1	WL 1	WT 0	WR 0	WU 0	TOTAL 25
APPROACH %'s :	9.09%	90.91%	0.00%	0.00%	0.00%	90.00%	10.00%	0.00%	33.33%	0.00%	33.33%	33.33%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	7	0	0	0	5	0	0	0	0	0	0	1	0	0	0	13
PEAK HR FACTOR :	0,000	0,583	0,000	0,000	0,000	0,625	0,000	0,000	0,000	0,000	0,000	0,000	0,250	0,000	0,000	0,000	0,650
		0,583				0,625								0,250			

National Data & Surveying Services
Intersection Turning Movement Count

Location: 7th St & Carleton St
City: Berkeley

Project ID: 25-080171-002
Date: 5/13/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	7th St		7th St		Carleton St		Carleton St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	1	0	0	1
7:15 AM	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	2	0	1	3
8:45 AM	0	0	0	0	1	2	0	1	4
TOTAL VOLUMES :	EB 0	WB 1	EB 0	WB 0	NB 1	SB 6	NB 0	SB 2	TOTAL 10
APPROACH %'s :	0.00%	100.00%			14.29%	85.71%	0.00%	100.00%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL 7
PEAK HR VOL :	0	0	0	0	1 0.250	4 0.500	0	2 0.500	7 0.438
PEAK HR FACTOR :					0.417		0.500		

National Data & Surveying Services

Intersection Turning Movement Count

Location: 7th St & Carleton St
City: Berkeley
Control: 2-Way Stop(EB/WB)

Project ID: 25-080171-002
Date: 5/6/2025

Data - Total

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	2	119	7	0	3	106	0	0	0	0	0	0	3	1	4	0	245
4:15 PM	0	119	4	0	5	89	0	0	1	0	1	0	2	2	2	0	225
4:30 PM	0	132	3	0	3	89	0	0	0	0	0	0	1	0	2	0	230
4:45 PM	0	141	4	0	4	81	1	0	0	0	1	0	8	0	4	0	244
5:00 PM	0	143	3	0	1	101	1	0	0	0	1	0	3	0	5	0	258
5:15 PM	0	127	3	0	1	84	0	0	0	0	0	0	6	0	6	0	227
5:30 PM	0	148	5	1	0	91	0	0	0	0	0	0	1	0	8	0	254
5:45 PM	0	123	5	0	0	73	0	0	0	0	1	0	6	0	3	0	211
TOTAL VOLUMES :	NL 2	NT 1052	NR 34	NU 1	SL 17	ST 714	SR 2	SU 0	EL 1	ET 0	ER 4	EU 0	WL 30	WT 3	WR 34	WU 0	TOTAL 1894
APPROACH %s :	0.18%	96.60%	3.12%	0.09%	2.32%	97.41%	0.27%	0.00%	20.00%	0.00%	80.00%	0.00%	44.78%	4.48%	50.75%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	559	15	1	6	357	2	0	0	0	2	0	18	0	23	0	983
PEAK HR FACTOR :	0.000	0.944	0.750	0.250	0.375	0.884	0.500	0.000	0.000	0.000	0.500	0.000	0.563	0.000	0.719	0.000	0.953
		0.933				0.886					0.500			0.854			

National Data & Surveying Services

Intersection Turning Movement Count

Location: 7th St & Carleton St
City: Berkeley
Control: 2-Way Stop(EB/WB)

Project ID: 25-080171-002
Date: 5/6/2025

Data - Bikes

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU		
4:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
4:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
4:30 PM	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
4:45 PM	1	1	0	0	0	1	1	0	1	0	0	0	0	0	0	0	5	
5:00 PM	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	4	
5:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
5:30 PM	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3	
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	
TOTAL VOLUMES : APPROACH %s :	NL 1 6.67%	NT 13 86.67%	NR 0 0.00%	NU 1 6.67%	SL 2 20.00%	ST 7 70.00%	SR 1 10.00%	SU 0 0.00%	EL 2 100.00%	ET 0 0.00%	ER 0 0.00%	EU 0 0.00%	WL 0	WT 0	WR 0	WU 0	TOTAL 27	
PEAK HR :	04:45 PM - 05:45 PM																	TOTAL 14 0.700
PEAK HR VOL :	1 0.250	3 0.375	0 0.000	1 0.250	1 0.250	5 0.625	1 0.250	0 0.000	2 0.500	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000		
PEAK HR FACTOR :	0.417				0.875				0.500									

National Data & Surveying Services
Intersection Turning Movement Count

Location: 7th St & Carleton St
City: Berkeley

Project ID: 25-080171-002
Date: 5/6/2025

Data - Pedestrians (Crosswalks)

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	1	0	0	1	1	3
4:15 PM	0	0	0	2	2	0	0	0	4
4:30 PM	0	0	0	0	2	0	0	0	2
4:45 PM	0	0	0	0	0	3	0	1	4
5:00 PM	0	1	0	1	1	1	1	0	5
5:15 PM	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	2	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	1	0	4	5	6	3	3	22
	0.00%	100.00%	0.00%	100.00%	45.45%	54.55%	50.00%	50.00%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	1	0	1	1	6	2	2	13
PEAK HR FACTOR :		0.250		0.250	0.250	0.500	0.500	0.500	0.650
		0.250		0.250		0.583		1.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: 7th St & Parker St
City: Berkeley
Control: Signalized

Project ID: 25-080171-001
Date: 5/13/2025

Data - Total																		
NS/EW Streets:	7th St				7th St				Parker St				Parker St					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	1 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	0.5 EL	0.5 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU		
7:00 AM	10	21	4	0	4	37	0	0	1	1	1	0	0	1	1	0	81	
7:15 AM	6	21	3	0	3	40	1	0	0	0	0	0	2	2	0	0	78	
7:30 AM	10	21	3	0	6	58	1	0	0	0	2	0	2	0	2	0	105	
7:45 AM	0	42	7	0	10	47	0	0	1	1	0	0	2	3	2	0	115	
8:00 AM	7	63	11	0	9	68	0	0	0	0	1	0	3	2	3	0	167	
8:15 AM	9	63	14	0	4	75	1	0	0	0	0	0	1	1	5	0	173	
8:30 AM	2	41	15	0	4	71	0	0	0	0	0	0	5	0	2	0	140	
8:45 AM	4	57	31	0	6	77	0	0	0	0	0	0	2	2	6	0	185	
TOTAL VOLUMES :	NL 48	NT 329	NR 88	NU 0	SL 46	ST 473	SR 3	SU 0	EL 2	ET 2	ER 4	EU 0	WL 17	WT 11	WR 21	WU 0	TOTAL 1044	
APPROACH %'s :	10.32%	70.75%	18.92%	0.00%	8.81%	90.61%	0.57%	0.00%	25.00%	25.00%	50.00%	0.00%	34.69%	22.45%	42.86%	0.00%		
PEAK HR :	08:00 AM - 09:00 AM																	TOTAL
PEAK HR VOL :	22	224	71	0	23	291	1	0	0	0	1	0	11	5	16	0	665	
PEAK HR FACTOR :	0.611	0.889	0.573	0.000	0.639	0.945	0.250	0.000	0.000	0.000	0.250	0.000	0.550	0.625	0.667	0.000	0.899	
	0.861				0.949				0.250				0.800					

Location: 7th St & Parker St
City: Berkeley
Control: Signalized

Data - Bikes

NS/EW Streets:	7th St				7th St				Parker St				Parker St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	0,5 EL	0,5 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6
8:00 AM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	3
8:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	3
8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3
TOTAL VOLUMES : APPROACH %'s :	NL 10,00%	NT 9 90,00%	NR 0 0,00%	NU 0 0,00%	SL 0 0,00%	ST 9 100,00%	SR 0 0,00%	SU 0 0,00%	EL 0	ET 0	ER 0	EU 0	WL 2 50,00%	WT 0 0,00%	WR 2 50,00%	WU 0 0,00%	TOTAL 23
	PEAK HR : 08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	1	5	0	0	0	4	0	0	0	0	0	0	2	0	2	0	14
PEAK HR FACTOR :	0,250	0,417	0,000	0,000	0,000	0,500	0,000	0,000	0,000	0,000	0,000	0,000	0,250	0,000	0,500	0,000	0,700
	0,500				0,500								0,500				

National Data & Surveying Services
Intersection Turning Movement Count

Location: 7th St & Parker St
City: Berkeley

Project ID: 25-080171-001
Date: 5/13/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	7th St		7th St		Parker St		Parker St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	1	0	0	0	1	0	0	2
7:15 AM	0	0	0	0	0	0	0	1	1
7:30 AM	0	1	0	0	1	1	0	0	3
7:45 AM	0	0	1	0	1	0	0	0	2
8:00 AM	0	1	0	0	0	0	0	0	1
8:15 AM	0	1	1	0	1	0	0	1	4
8:30 AM	0	0	0	0	1	1	0	1	3
8:45 AM	0	0	0	1	0	0	1	1	3
TOTAL VOLUMES :	EB 0	WB 4	EB 2	WB 1	NB 4	SB 3	NB 1	SB 4	TOTAL 19
APPROACH %'s :	0.00%	100.00%	66.67%	33.33%	57.14%	42.86%	20.00%	80.00%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	2	1	1	2	1	1	3	11
PEAK HR FACTOR :	0.500		0.250 0.250		0.500 0.250		0.250 0.750		0.688
	0.500		0.500		0.375		0.500		

National Data & Surveying Services

Intersection Turning Movement Count

Location: 7th St & Parker St
City: Berkeley
Control: Signalized

Project ID: 25-080171-001
Date: 5/6/2025

Data - Total

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	1 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	0.5 EL	0.5 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU		
4:00 PM	0	120	3	0	7	89	0	0	0	0	5	0	16	0	5	0	245	
4:15 PM	1	119	3	0	5	80	1	0	0	2	3	0	7	0	6	0	227	
4:30 PM	0	122	6	0	4	77	0	0	2	1	2	0	11	0	10	0	235	
4:45 PM	0	139	11	0	2	79	0	1	1	2	4	0	4	1	5	0	249	
5:00 PM	0	144	5	0	2	90	1	0	6	2	5	0	8	0	8	0	271	
5:15 PM	3	124	5	0	7	75	0	0	0	0	1	0	6	0	14	0	235	
5:30 PM	1	151	6	0	2	81	0	0	2	0	1	0	5	0	11	0	260	
5:45 PM	1	117	7	0	6	58	0	0	1	0	5	0	10	0	7	0	212	
TOTAL VOLUMES :	NL 6	NT 1036	NR 46	NU 0	SL 35	ST 629	SR 2	SU 1	EL 12	ET 7	ER 26	EU 0	WL 67	WT 1	WR 66	WU 0	TOTAL 1934	
APPROACH %s :	0.55%	95.22%	4.23%	0.00%	5.25%	94.30%	0.30%	0.15%	26.67%	15.56%	57.78%	0.00%	50.00%	0.75%	49.25%	0.00%		
PEAK HR :	04:45 PM - 05:45 PM																	TOTAL
PEAK HR VOL :	4	558	27	0	13	325	1	1	9	4	11	0	23	1	38	0	1015	
PEAK HR FACTOR :	0.333	0.924	0.614	0.000	0.464	0.903	0.250	0.250	0.375	0.500	0.550	0.000	0.719	0.250	0.679	0.000	0.936	
	0.932				0.914				0.462				0.775					

National Data & Surveying Services

Intersection Turning Movement Count

Location: 7th St & Parker St
City: Berkeley
Control: Signalized

Project ID: 25-080171-001
Date: 5/6/2025

Data - Bikes

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	0,5 EL	0,5 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM 4:15 PM 4:30 PM 4:45 PM	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4
	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
	0	6	0	0	0	0	1	0	0	1	0	0	0	0	0	0	8
	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
5:00 PM 5:15 PM 5:30 PM 5:45 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3
TOTAL VOLUMES : APPROACH %s :	NL 0	NT 15	NR 1	NU 0	SL 2	ST 7	SR 1	SU 0	EL 0	ET 1	ER 0	EU 0	WL 1	WT 0	WR 0	WU 0	TOTAL 28
PEAK HR : PEAK HR VOL : PEAK HR FACTOR :	04:45 PM - 05:45 PM				0 0,000	5 0,625	0 0,000	0 0,000	0 0,000	0 0,000	0 0,000	0 0,000	0 0,000	0 0,000	0 0,000	0 0,000	TOTAL 11
0,000	0,625	0,250	0,000	0,917													

National Data & Surveying Services
Intersection Turning Movement Count

Location: 7th St & Parker St
City: Berkeley

Project ID: 25-080171-001
Date: 5/6/2025

Data - Pedestrians (Crosswalks)

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	1	1
4:15 PM	1	0	1	1	1	0	2	1	7
4:30 PM	0	2	2	0	2	0	0	2	8
4:45 PM	0	0	0	0	0	1	0	1	2
5:00 PM	0	0	0	0	0	0	2	0	2
5:15 PM	0	0	0	0	0	1	1	0	2
5:30 PM	2	0	0	0	0	0	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB 3	WB 2	EB 3	WB 1	NB 3	SB 2	NB 5	SB 6	TOTAL 25
APPROACH %'s :	60.00%	40.00%	75.00%	25.00%	60.00%	40.00%	45.45%	54.55%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	2	0	0	0	0	2	3	2	9
PEAK HR FACTOR :	0.250					0.500	0.375	0.500	0.750
		0.250				0.500		0.625	

Attachment B: Intersection LOS Worksheets

HCM 6th Signalized Intersection Summary

1: 7th St & Parker St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	11	5	16	22	224	71	23	291	1
Future Volume (veh/h)	0	0	1	11	5	16	22	224	71	23	291	1
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	0.98		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
Adj Flow Rate, veh/h	0	0	1	12	6	18	24	249	79	26	323	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	0	101	85	77	23	44	921	1059	336	915	1460	5
Arrive On Green	0.00	0.00	0.06	0.06	0.06	0.06	0.85	0.85	0.85	0.85	0.85	0.85
Sat Flow, veh/h	0	1730	1448	352	393	744	1029	1250	397	1026	1723	5
Grp Volume(v), veh/h	0	0	1	36	0	0	24	0	328	26	0	324
Grp Sat Flow(s),veh/h/ln	0	1730	1448	1489	0	0	1029	0	1647	1026	0	1729
Q Serve(g_s), s	0.0	0.0	0.1	0.5	0.0	0.0	0.4	0.0	3.2	0.4	0.0	3.0
Cycle Q Clear(g_c), s	0.0	0.0	0.1	1.9	0.0	0.0	3.4	0.0	3.2	3.6	0.0	3.0
Prop In Lane	0.00		1.00	0.33		0.50	1.00		0.24	1.00		0.00
Lane Grp Cap(c), veh/h	0	101	85	143	0	0	921	0	1395	915	0	1465
V/C Ratio(X)	0.00	0.00	0.01	0.25	0.00	0.00	0.03	0.00	0.24	0.03	0.00	0.22
Avail Cap(c_a), veh/h	0	509	426	487	0	0	921	0	1395	915	0	1465
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)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	37.7	38.6	0.0	0.0	1.5	0.0	1.2	1.6	0.0	1.2
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.9	0.0	0.0	0.1	0.0	0.4	0.1	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.1	0.0	0.5	0.1	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	37.8	39.5	0.0	0.0	1.6	0.0	1.6	1.6	0.0	1.6
LnGrp LOS			D	D			A		A	A		A
Approach Vol, veh/h		1			36			352			350	
Approach Delay, s/veh		37.8			39.5			1.6			1.6	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.0		76.0		9.0		76.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		25.0		52.0		25.0		52.0				
Max Q Clear Time (g_c+I1), s		2.1		5.6		3.9		5.4				
Green Ext Time (p_c), s		0.0		2.4		0.1		0.4				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			3.5									
HCM 6th LOS			A									

HCM 6th TWSC
2: 7th St & Carleton St

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	19	1	12	5	302	46	15	284	1
Future Vol, veh/h	1	0	0	19	1	12	5	302	46	15	284	1
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	1	0	0	21	1	13	6	339	52	17	319	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	740	764	322	736	738	370	322	0	0	396	0	0
Stage 1	356	356	-	382	382	-	-	-	-	-	-	-
Stage 2	384	408	-	354	356	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	329	330	712	331	342	669	1221	-	-	1146	-	-
Stage 1	655	624	-	634	607	-	-	-	-	-	-	-
Stage 2	633	592	-	657	624	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	315	320	711	324	332	666	1219	-	-	1141	-	-
Mov Cap-2 Maneuver	315	320	-	324	332	-	-	-	-	-	-	-
Stage 1	650	612	-	628	601	-	-	-	-	-	-	-
Stage 2	615	586	-	645	612	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	16.5		14.8		0.1		0.4	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1219	-	-	315 402	1141	-	-
HCM Lane V/C Ratio	0.005	-	-	0.004 0.089	0.015	-	-
HCM Control Delay (s/veh)	8	0	-	16.5 14.8	8.2	0	-
HCM Lane LOS	A	A	-	C B	A A	-	-
HCM 95th %tile Q (veh)	0	-	-	0 0.3	0	-	-

HCM 6th Signalized Intersection Summary

1: 7th St & Parker St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	4	11	23	1	38	4	558	27	14	325	1
Future Volume (veh/h)	9	4	11	23	1	38	4	558	27	14	325	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.96	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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	10	4	12	24	1	40	4	594	29	15	346	1
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	154	49	122	90	14	74	891	1378	67	667	1455	4
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	990	597	1483	389	173	899	1032	1673	82	801	1766	5
Grp Volume(v), veh/h	14	0	12	65	0	0	4	0	623	15	0	347
Grp Sat Flow(s),veh/h/ln	1587	0	1483	1460	0	0	1032	0	1755	801	0	1771
Q Serve(g_s), s	0.0	0.0	0.6	1.7	0.0	0.0	0.1	0.0	8.2	0.4	0.0	3.6
Cycle Q Clear(g_c), s	0.6	0.0	0.6	3.6	0.0	0.0	3.7	0.0	8.2	8.7	0.0	3.6
Prop In Lane	0.71		1.00	0.37		0.62	1.00		0.05	1.00		0.00
Lane Grp Cap(c), veh/h	203	0	122	178	0	0	891	0	1446	667	0	1459
V/C Ratio(X)	0.07	0.00	0.10	0.37	0.00	0.00	0.00	0.00	0.43	0.02	0.00	0.24
Avail Cap(c_a), veh/h	511	0	436	480	0	0	891	0	1446	667	0	1459
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	0.0	36.1	37.4	0.0	0.0	2.0	0.0	2.0	3.2	0.0	1.6
Incr Delay (d2), s/veh	0.1	0.0	0.3	1.3	0.0	0.0	0.0	0.0	0.9	0.1	0.0	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	0.3	0.0	0.2	1.4	0.0	0.0	0.0	0.0	1.8	0.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.2	0.0	36.5	38.7	0.0	0.0	2.1	0.0	3.0	3.3	0.0	2.0
LnGrp LOS	D		D	D			A		A	A		A
Approach Vol, veh/h	26			65			627			362		
Approach Delay, s/veh	36.3			38.7			3.0			2.1		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	11.0			74.0			11.0			74.0		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	25.0			52.0			25.0			52.0		
Max Q Clear Time (g_c+I1), s	2.6			10.7			5.6			10.2		
Green Ext Time (p_c), s	0.1			2.6			0.3			0.8		
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	5.6											
HCM 6th LOS	A											

HCM 6th TWSC
2: 7th St & Carleton St

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	18	0	23	1	559	15	6	357	2
Future Vol, veh/h	0	0	2	18	0	23	1	559	15	6	357	2
Conflicting Peds, #/hr	1	0	1	1	0	1	4	0	7	7	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	19	0	24	1	588	16	6	376	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1004	1006	382	996	999	604	382	0	0	611	0	0
Stage 1	393	393	-	605	605	-	-	-	-	-	-	-
Stage 2	611	613	-	391	394	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	220	241	665	223	243	498	1176	-	-	968	-	-
Stage 1	632	606	-	485	487	-	-	-	-	-	-	-
Stage 2	481	483	-	633	605	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	207	237	662	219	239	495	1172	-	-	962	-	-
Mov Cap-2 Maneuver	207	237	-	219	239	-	-	-	-	-	-	-
Stage 1	629	599	-	482	484	-	-	-	-	-	-	-
Stage 2	457	480	-	625	598	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	10.5		18		0		0.1					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1172	-	-	662	319	962	-					
HCM Lane V/C Ratio	0.001	-	-	0.003	0.135	0.007	-					
HCM Control Delay (s/veh)	8.1	0	-	10.5	18	8.8	0					
HCM Lane LOS	A	A	-	B	C	A	A					
HCM 95th %tile Q (veh)	0	-	-	0	0.5	0	-					

HCM 6th Signalized Intersection Summary

1: 7th St & Parker St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	11	5	16	22	274	71	23	329	1
Future Volume (veh/h)	0	0	1	11	5	16	22	274	71	23	329	1
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	0.98		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
Adj Flow Rate, veh/h	0	0	1	12	6	18	24	304	79	26	366	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	0	101	85	77	23	44	883	1115	290	867	1461	4
Arrive On Green	0.00	0.00	0.06	0.06	0.06	0.06	0.85	0.85	0.85	0.85	0.85	0.85
Sat Flow, veh/h	0	1730	1448	352	393	744	990	1316	342	975	1724	5
Grp Volume(v), veh/h	0	0	1	36	0	0	24	0	383	26	0	367
Grp Sat Flow(s),veh/h/ln	0	1730	1448	1489	0	0	990	0	1658	975	0	1729
Q Serve(g_s), s	0.0	0.0	0.1	0.5	0.0	0.0	0.4	0.0	3.9	0.5	0.0	3.5
Cycle Q Clear(g_c), s	0.0	0.0	0.1	1.9	0.0	0.0	3.9	0.0	3.9	4.4	0.0	3.5
Prop In Lane	0.00		1.00	0.33		0.50	1.00		0.21	1.00		0.00
Lane Grp Cap(c), veh/h	0	101	85	143	0	0	883	0	1405	867	0	1465
V/C Ratio(X)	0.00	0.00	0.01	0.25	0.00	0.00	0.03	0.00	0.27	0.03	0.00	0.25
Avail Cap(c_a), veh/h	0	509	426	487	0	0	883	0	1405	867	0	1465
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)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	37.7	38.6	0.0	0.0	1.6	0.0	1.3	1.7	0.0	1.3
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.9	0.0	0.0	0.1	0.0	0.5	0.1	0.0	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	0.0	0.0	0.0	0.8	0.0	0.0	0.1	0.0	0.7	0.1	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	37.8	39.5	0.0	0.0	1.7	0.0	1.8	1.8	0.0	1.7
LnGrp LOS			D	D			A		A	A		A
Approach Vol, veh/h		1			36			407			393	
Approach Delay, s/veh		37.8			39.5			1.8			1.7	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.0		76.0		9.0		76.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		25.0		52.0		25.0		52.0				
Max Q Clear Time (g_c+I1), s		2.1		6.4		3.9		5.9				
Green Ext Time (p_c), s		0.0		2.8		0.1		0.5				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			3.4									
HCM 6th LOS			A									

HCM 6th TWSC
2: 7th St & Carleton St

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	19	1	12	5	352	46	15	322	1
Future Vol, veh/h	1	0	0	19	1	12	5	352	46	15	322	1
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	1	0	0	21	1	13	6	396	52	17	362	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	840	864	365	836	838	427	365	0	0	453	0	0
Stage 1	399	399	-	439	439	-	-	-	-	-	-	-
Stage 2	441	465	-	397	399	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	281	289	673	283	299	621	1177	-	-	1092	-	-
Stage 1	621	597	-	591	573	-	-	-	-	-	-	-
Stage 2	589	558	-	623	597	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	268	279	672	276	289	618	1175	-	-	1087	-	-
Mov Cap-2 Maneuver	268	279	-	276	289	-	-	-	-	-	-	-
Stage 1	615	584	-	584	567	-	-	-	-	-	-	-
Stage 2	571	552	-	611	584	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	18.5		16.5		0.1		0.4					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1175	-	-	268	349	1087	-	-				
HCM Lane V/C Ratio	0.005	-	-	0.004	0.103	0.016	-	-				
HCM Control Delay (s/veh)	8.1	0	-	18.5	16.5	8.4	0	-				
HCM Lane LOS	A	A	-	C	C	A	A	-				
HCM 95th %tile Q (veh)	0	-	-	0	0.3	0	-	-				

HCM 6th Signalized Intersection Summary

1: 7th St & Parker St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	4	11	23	1	38	4	597	27	14	374	1
Future Volume (veh/h)	9	4	11	23	1	38	4	597	27	14	374	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.96	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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	10	4	12	24	1	40	4	635	29	15	398	1
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	154	49	122	90	14	74	845	1383	63	637	1455	4
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	990	597	1483	389	173	899	984	1679	77	771	1767	4
Grp Volume(v), veh/h	14	0	12	65	0	0	4	0	664	15	0	399
Grp Sat Flow(s),veh/h/ln	1587	0	1483	1460	0	0	984	0	1756	771	0	1771
Q Serve(g_s), s	0.0	0.0	0.6	1.7	0.0	0.0	0.1	0.0	9.1	0.5	0.0	4.4
Cycle Q Clear(g_c), s	0.6	0.0	0.6	3.6	0.0	0.0	4.4	0.0	9.1	9.6	0.0	4.4
Prop In Lane	0.71		1.00	0.37		0.62	1.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	203	0	122	178	0	0	845	0	1446	637	0	1459
V/C Ratio(X)	0.07	0.00	0.10	0.37	0.00	0.00	0.00	0.00	0.46	0.02	0.00	0.27
Avail Cap(c_a), veh/h	511	0	436	480	0	0	845	0	1446	637	0	1459
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	0.0	36.1	37.4	0.0	0.0	2.2	0.0	2.1	3.5	0.0	1.7
Incr Delay (d2), s/veh	0.1	0.0	0.3	1.3	0.0	0.0	0.0	0.0	1.1	0.1	0.0	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	0.3	0.0	0.2	1.4	0.0	0.0	0.0	0.0	2.0	0.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.2	0.0	36.5	38.7	0.0	0.0	2.2	0.0	3.2	3.5	0.0	2.2
LnGrp LOS	D		D	D			A		A	A		A
Approach Vol, veh/h	26			65			668			414		
Approach Delay, s/veh	36.3			38.7			3.2			2.2		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	11.0			74.0			11.0			74.0		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	25.0			52.0			25.0			52.0		
Max Q Clear Time (g_c+I1), s	2.6			11.6			5.6			11.1		
Green Ext Time (p_c), s	0.1			3.0			0.3			0.9		
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	5.5											
HCM 6th LOS	A											

HCM 6th TWSC
2: 7th St & Carleton St

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	18	0	23	1	598	15	6	406	2
Future Vol, veh/h	0	0	2	18	0	23	1	598	15	6	406	2
Conflicting Peds, #/hr	1	0	1	1	0	1	4	0	7	7	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	19	0	24	1	629	16	6	427	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1096	1098	433	1088	1091	645	433	0	0	652	0	0
Stage 1	444	444	-	646	646	-	-	-	-	-	-	-
Stage 2	652	654	-	442	445	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	191	213	623	193	215	472	1127	-	-	935	-	-
Stage 1	593	575	-	460	467	-	-	-	-	-	-	-
Stage 2	457	463	-	594	575	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	179	209	620	190	211	469	1123	-	-	930	-	-
Mov Cap-2 Maneuver	179	209	-	190	211	-	-	-	-	-	-	-
Stage 1	591	569	-	457	464	-	-	-	-	-	-	-
Stage 2	433	460	-	587	569	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	10.8		19.9		0		0.1					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1123	-	-	620	285	930	-					
HCM Lane V/C Ratio	0.001	-	-	0.003	0.151	0.007	-					
HCM Control Delay (s/veh)	8.2	0	-	10.8	19.9	8.9	0					
HCM Lane LOS	A	A	-	B	C	A	A					
HCM 95th %tile Q (veh)	0	-	-	0	0.5	0	-					

HCM 6th Signalized Intersection Summary

1: 7th St & Parker St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	10	9	27	8	15	33	265	112	23	363	7
Future Volume (veh/h)	6	10	9	27	8	15	33	265	112	23	363	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
Adj Flow Rate, veh/h	7	11	10	30	9	17	37	294	124	26	403	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	89	100	116	114	34	36	817	945	399	808	1394	28
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.83	0.83	0.83	0.83	0.83	0.83
Sat Flow, veh/h	381	1247	1448	605	418	446	951	1145	483	945	1689	34
Grp Volume(v), veh/h	18	0	10	56	0	0	37	0	418	26	0	411
Grp Sat Flow(s),veh/h/ln	1628	0	1448	1469	0	0	951	0	1628	945	0	1723
Q Serve(g_s), s	0.0	0.0	0.5	1.6	0.0	0.0	0.8	0.0	5.1	0.6	0.0	4.6
Cycle Q Clear(g_c), s	0.8	0.0	0.5	3.0	0.0	0.0	5.4	0.0	5.1	5.7	0.0	4.6
Prop In Lane	0.39		1.00	0.54		0.30	1.00		0.30	1.00		0.02
Lane Grp Cap(c), veh/h	190	0	116	183	0	0	817	0	1344	808	0	1422
V/C Ratio(X)	0.09	0.00	0.09	0.31	0.00	0.00	0.05	0.00	0.31	0.03	0.00	0.29
Avail Cap(c_a), veh/h	522	0	426	488	0	0	817	0	1344	808	0	1422
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	0.0	36.2	37.3	0.0	0.0	2.3	0.0	1.7	2.4	0.0	1.7
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.9	0.0	0.0	0.1	0.0	0.6	0.1	0.0	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	0.4	0.0	0.2	1.2	0.0	0.0	0.1	0.0	1.0	0.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.5	0.0	36.5	38.2	0.0	0.0	2.4	0.0	2.3	2.5	0.0	2.2
LnGrp LOS	D		D	D			A		A	A		A
Approach Vol, veh/h		28			56			455			437	
Approach Delay, s/veh		36.5			38.2			2.4			2.2	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.8		74.2		10.8		74.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		25.0		52.0		25.0		52.0				
Max Q Clear Time (g_c+I1), s		2.8		7.7		5.0		7.4				
Green Ext Time (p_c), s		0.1		3.2		0.2		0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			5.3									
HCM 6th LOS			A									

HCM 6th TWSC
2: 7th St & Carleton St

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	1	0	0	19	1	12	5	375	46	15	380	1
Future Vol, veh/h	1	0	0	19	1	12	5	375	46	15	380	1
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	1	0	0	21	1	13	6	421	52	17	427	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	930	954	430	926	928	452	430	0	0	478	0	0
Stage 1	464	464	-	464	464	-	-	-	-	-	-	-
Stage 2	466	490	-	462	464	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	245	256	619	246	265	601	1114	-	-	1069	-	-
Stage 1	573	558	-	573	558	-	-	-	-	-	-	-
Stage 2	571	544	-	574	558	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	233	247	618	240	256	598	1112	-	-	1065	-	-
Mov Cap-2 Maneuver	233	247	-	240	256	-	-	-	-	-	-	-
Stage 1	568	545	-	567	552	-	-	-	-	-	-	-
Stage 2	553	538	-	562	545	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	20.5		18.1		0.1		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1112	-	-	233 310	1065	-	-
HCM Lane V/C Ratio	0.005	-	-	0.005 0.116	0.016	-	-
HCM Control Delay (s/veh)	8.3	0	-	20.5 18.1	8.4	0	-
HCM Lane LOS	A	A	-	C C	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0 0.4	0	-	-

HCM 6th Signalized Intersection Summary

1: 7th St & Parker St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	9	31	96	4	37	7	654	33	14	356	1
Future Volume (veh/h)	4	9	31	96	4	37	7	654	33	14	356	1
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	0.99		0.97	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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	4	10	33	102	4	39	7	696	35	15	379	1
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	96	192	202	198	13	51	793	1286	65	524	1360	4
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.77	0.77	0.77	0.77	0.77	0.77
Sat Flow, veh/h	303	1417	1491	928	99	378	1002	1670	84	725	1766	5
Grp Volume(v), veh/h	14	0	33	145	0	0	7	0	731	15	0	380
Grp Sat Flow(s),veh/h/ln	1720	0	1491	1404	0	0	1002	0	1754	725	0	1771
Q Serve(g_s), s	0.0	0.0	1.7	7.8	0.0	0.0	0.2	0.0	14.0	0.7	0.0	5.3
Cycle Q Clear(g_c), s	0.6	0.0	1.7	8.4	0.0	0.0	5.5	0.0	14.0	14.7	0.0	5.3
Prop In Lane	0.29		1.00	0.70		0.27	1.00		0.05	1.00		0.00
Lane Grp Cap(c), veh/h	288	0	202	263	0	0	793	0	1351	524	0	1364
V/C Ratio(X)	0.05	0.00	0.16	0.55	0.00	0.00	0.01	0.00	0.54	0.03	0.00	0.28
Avail Cap(c_a), veh/h	546	0	438	483	0	0	793	0	1351	524	0	1364
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	32.5	35.3	0.0	0.0	3.7	0.0	3.8	6.7	0.0	2.9
Incr Delay (d2), s/veh	0.1	0.0	0.4	1.8	0.0	0.0	0.0	0.0	1.6	0.1	0.0	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	0.3	0.0	0.6	3.0	0.0	0.0	0.0	0.0	4.1	0.1	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.1	0.0	32.8	37.2	0.0	0.0	3.7	0.0	5.4	6.8	0.0	3.4
LnGrp LOS	C		C	D			A		A	A		A
Approach Vol, veh/h	47			145			738			395		
Approach Delay, s/veh	32.6			37.2			5.4			3.5		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	15.5			69.5			15.5			69.5		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	25.0			52.0			25.0			52.0		
Max Q Clear Time (g_c+I1), s	3.7			16.7			10.4			16.0		
Green Ext Time (p_c), s	0.1			2.8			0.7			1.0		
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	9.3											
HCM 6th LOS	A											

HCM 6th TWSC
2: 7th St & Carleton St

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	18	0	23	1	664	15	6	462	2
Future Vol, veh/h	0	0	2	18	0	23	1	664	15	6	462	2
Conflicting Peds, #/hr	1	0	1	1	0	1	4	0	7	7	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	19	0	24	1	699	16	6	486	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1225	1227	492	1217	1220	715	492	0	0	722	0	0
Stage 1	503	503	-	716	716	-	-	-	-	-	-	-
Stage 2	722	724	-	501	504	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	156	178	577	158	180	431	1071	-	-	880	-	-
Stage 1	551	541	-	421	434	-	-	-	-	-	-	-
Stage 2	418	430	-	552	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	145	174	575	155	176	428	1067	-	-	875	-	-
Mov Cap-2 Maneuver	145	174	-	155	176	-	-	-	-	-	-	-
Stage 1	548	535	-	418	431	-	-	-	-	-	-	-
Stage 2	393	427	-	545	535	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	11.3		23.2		0		0.1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1067	-	-	575	241	875	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.179	0.007	-
HCM Control Delay (s/veh)	8.4	0	-	11.3	23.2	9.1	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q (veh)	0	-	-	0	0.6	0	-

HCM 6th Signalized Intersection Summary

1: 7th St & Parker St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	10	9	29	8	15	33	278	74	23	441	7
Future Volume (veh/h)	6	10	9	29	8	15	33	278	74	23	441	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
Adj Flow Rate, veh/h	7	11	10	32	9	17	37	309	82	26	490	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	90	101	117	117	33	35	746	1080	287	831	1399	23
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	383	1247	1448	631	404	429	878	1309	347	968	1696	28
Grp Volume(v), veh/h	18	0	10	58	0	0	37	0	391	26	0	498
Grp Sat Flow(s),veh/h/ln	1630	0	1448	1464	0	0	878	0	1657	968	0	1724
Q Serve(g_s), s	0.0	0.0	0.5	1.8	0.0	0.0	0.9	0.0	4.6	0.5	0.0	6.0
Cycle Q Clear(g_c), s	0.8	0.0	0.5	3.1	0.0	0.0	7.0	0.0	4.6	5.1	0.0	6.0
Prop In Lane	0.39		1.00	0.55		0.29	1.00		0.21	1.00		0.02
Lane Grp Cap(c), veh/h	191	0	117	184	0	0	746	0	1367	831	0	1422
V/C Ratio(X)	0.09	0.00	0.09	0.31	0.00	0.00	0.05	0.00	0.29	0.03	0.00	0.35
Avail Cap(c_a), veh/h	522	0	426	487	0	0	746	0	1367	831	0	1422
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	0.0	36.2	37.3	0.0	0.0	2.7	0.0	1.7	2.3	0.0	1.8
Incr Delay (d2), s/veh	0.2	0.0	0.3	1.0	0.0	0.0	0.1	0.0	0.5	0.1	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.2	1.2	0.0	0.0	0.1	0.0	0.9	0.1	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.5	0.0	36.5	38.2	0.0	0.0	2.8	0.0	2.2	2.4	0.0	2.5
LnGrp LOS	D		D	D			A		A	A		A
Approach Vol, veh/h	28			58			428			524		
Approach Delay, s/veh	36.5			38.2			2.3			2.5		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	10.9			74.1			10.9			74.1		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	25.0			52.0			25.0			52.0		
Max Q Clear Time (g_c+I1), s	2.8			8.0			5.1			9.0		
Green Ext Time (p_c), s	0.1			4.1			0.2			0.6		
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	5.3											
HCM 6th LOS	A											

HCM 6th TWSC
2: 7th St & Carleton St

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	2	13	19	9	12	46	335	46	15	367	94
Future Vol, veh/h	16	2	13	19	9	12	46	335	46	15	367	94
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	18	2	15	21	10	13	52	376	52	17	412	106
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1019	1038	467	1019	1065	407	520	0	0	433	0	0
Stage 1	501	501	-	511	511	-	-	-	-	-	-	-
Stage 2	518	537	-	508	554	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	213	228	590	213	220	638	1031	-	-	1111	-	-
Stage 1	547	538	-	540	532	-	-	-	-	-	-	-
Stage 2	535	518	-	542	509	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	187	207	589	191	200	635	1029	-	-	1106	-	-
Mov Cap-2 Maneuver	187	207	-	191	200	-	-	-	-	-	-	-
Stage 1	509	525	-	502	494	-	-	-	-	-	-	-
Stage 2	479	481	-	515	497	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	20.7		23			0.9			0.3			
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1029	-	-	264	245	1106	-	-				
HCM Lane V/C Ratio	0.05	-	-	0.132	0.183	0.015	-	-				
HCM Control Delay (s/veh)	8.7	0	-	20.7	23	8.3	0	-				
HCM Lane LOS	A	A	-	C	C	A	A	-				
HCM 95th %tile Q (veh)	0.2	-	-	0.4	0.7	0	-	-				

HCM 6th Signalized Intersection Summary

1: 7th St & Parker St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	9	31	25	4	37	7	711	38	14	363	1
Future Volume (veh/h)	4	9	31	25	4	37	7	711	38	14	363	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.96	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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	4	10	33	27	4	39	7	756	40	15	386	1
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	75	126	128	94	20	70	850	1365	72	541	1448	4
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	241	1460	1484	411	236	814	995	1665	88	682	1766	5
Grp Volume(v), veh/h	14	0	33	70	0	0	7	0	796	15	0	387
Grp Sat Flow(s),veh/h/ln	1702	0	1484	1461	0	0	995	0	1753	682	0	1771
Q Serve(g_s), s	0.0	0.0	1.8	2.0	0.0	0.0	0.1	0.0	12.7	0.6	0.0	4.3
Cycle Q Clear(g_c), s	0.6	0.0	1.8	3.8	0.0	0.0	4.4	0.0	12.7	13.4	0.0	4.3
Prop In Lane	0.29		1.00	0.39		0.56	1.00		0.05	1.00		0.00
Lane Grp Cap(c), veh/h	201	0	128	185	0	0	850	0	1437	541	0	1452
V/C Ratio(X)	0.07	0.00	0.26	0.38	0.00	0.00	0.01	0.00	0.55	0.03	0.00	0.27
Avail Cap(c_a), veh/h	540	0	437	480	0	0	850	0	1437	541	0	1452
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.8	0.0	36.3	37.2	0.0	0.0	2.3	0.0	2.5	4.7	0.0	1.8
Incr Delay (d2), s/veh	0.1	0.0	1.1	1.3	0.0	0.0	0.0	0.0	1.5	0.1	0.0	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	0.3	0.0	0.7	1.5	0.0	0.0	0.0	0.0	3.0	0.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.9	0.0	37.3	38.5	0.0	0.0	2.3	0.0	4.1	4.8	0.0	2.2
LnGrp LOS	D		D	D			A		A	A		A
Approach Vol, veh/h	47			70			803			402		
Approach Delay, s/veh	36.9			38.5			4.1			2.3		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	11.3			73.7			11.3			73.7		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	25.0			52.0			25.0			52.0		
Max Q Clear Time (g_c+I1), s	3.8			15.4			5.8			14.7		
Green Ext Time (p_c), s	0.1			2.9			0.3			1.1		
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	6.5											
HCM 6th LOS	A											

HCM 6th TWSC
2: 7th St & Carleton St

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	63	4	75	18	1	23	4	661	15	6	389	11
Future Vol, veh/h	63	4	75	18	1	23	4	661	15	6	389	11
Conflicting Peds, #/hr	1	0	1	1	0	1	4	0	7	7	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	4	79	19	1	24	4	696	16	6	409	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1157	1158	420	1189	1156	712	425	0	0	719	0	0
Stage 1	431	431	-	719	719	-	-	-	-	-	-	-
Stage 2	726	727	-	470	437	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	173	196	633	165	197	432	1134	-	-	882	-	-
Stage 1	603	583	-	420	433	-	-	-	-	-	-	-
Stage 2	416	429	-	574	579	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	160	191	630	139	192	429	1130	-	-	877	-	-
Mov Cap-2 Maneuver	160	191	-	139	192	-	-	-	-	-	-	-
Stage 1	598	576	-	415	428	-	-	-	-	-	-	-
Stage 2	389	424	-	494	572	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	34.6	25.1	0	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1130	-	-	266 223	877	-	-
HCM Lane V/C Ratio	0.004	-	-	0.562 0.198	0.007	-	-
HCM Control Delay (s/veh)	8.2	0	-	34.6 25.1	9.1	0	-
HCM Lane LOS	A	A	-	D D	A A	-	-
HCM 95th %tile Q (veh)	0	-	-	3.2 0.7	0	-	-