



LSC TRANSPORTATION CONSULTANTS, INC.

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March 19, 2021

Mr. Connor Treanor
Treanor HL
1755 Blake Street, Suite 400
Denver, CO 80202

Re: The View at Castle Rock
Supplemental Memorandum
Castle Rock, CO
LSC #200310

Dear Mr. Treanor:

In response to your request, LSC Transportation Consultants, Inc. has prepared this supplemental memorandum for the proposed The View at Castle Rock development to address comments received by Town staff.

INTRODUCTION

Per a request of Town staff we have prepared this supplemental memorandum to answer several questions regarding the February 17, 2021 *The View at Castle Rock Traffic Impact Analysis* (TIA) by LSC Transportation Consultants, Inc.

MEMORANDUM CONTENTS

This supplemental memorandum provides feedback on questions received by Town staff related to background traffic growth rates, pedestrian impacts at intersections, minor issues in the level of service traffic volumes in the report appendix compared to the traffic volumes in the report figures, expected operations at the intersection of Sixth Street and the existing alley on the southeast corner of the site, and potential impacts the public parking portion of the proposed parking garage will have on the intersections in the study area.

BACKGROUND TRAFFIC GROWTH RATES

The 2040 background traffic volumes in Figure 5 of the TIA were provided by Town staff with the source information included in the appendix of the TIA. The 2023 background traffic volumes in Figure 4 of the TIA were compared with the 2040 background traffic volumes in Figure 5 of the TIA to determine the overall growth rates at the intersections of Wilcox Street/Jerry Street and Jerry Street/Sixth Street. The difference between the total intersection volumes at Wilcox Road/Jerry Street in Figures 4 and 5 relates to an annual growth rate of about

2.3 percent. The difference between the total intersection volumes at Jerry Street/Sixth Street in Figures 4 and 5 relates to an annual growth rate of about 1.5 percent.

PEDESTRIAN ACCOMMODATION

A review of the level of service analysis included in the TIA showed little or no pedestrian volumes were included in the level of service analysis. The capacity analysis has been updated to include pedestrian volumes. The results of the updated analysis are included below in the UPDATED LEVEL OF SERVICE ANALYSIS section.

MINOR DISCREPANCIES BETWEEN THE TRAFFIC VOLUMES SHOWN IN THE TIA LEVEL OF SERVICE APPENDIX REPORTS AND THE TIA FIGURES

A thorough review determined there were three individual numbers shown in the various level of service reports that did not match the report figures. One was off by one vehicle and another by two vehicles so are considered to be negligible. The third was the westbound through movement at the intersection of Wilcox Street/Fifth Street during the 2023 total traffic morning peak-hour which was off by a considerable amount - this was most likely due to a data entry error. This error has been corrected and all of the level of services analyses were updated with the results of the updated analysis included below in the UPDATED LEVEL OF SERVICE ANALYSIS section.

EXPECTED OPERATIONS AT THE EXISTING SIXTH STREET/ALLEY INTERSECTION ON THE SOUTHEAST CORNER OF THE SITE

The level of service table in the TIA and the updated one included in this supplemental memorandum show the Jerry Street/Sixth Street intersection operates with all movements at mostly LOS "A" with a few LOS "B" movements through 2040. The Sixth Street/Alley intersection on the southeast corner of the site will have similar operations. If there are concerns with the operations it is worth noting the existing utility poles near the intersection are intended to be removed and the utilities places underground. This should help open up the intersection. If additional improvements are desired an on-street parking space could be removed from the north side of Sixth Street on either side of the alley and the curb radii rebuilt to be more open and improve sight distance.

IMPACTS TO THE STUDY AREA FROM THE PUBLIC PARKING PORTION OF THE PARKING GARAGE

The public parking portion of the new parking garage will not be a destination in itself - it will be the parking used for a patron's actual destination in the downtown area. For this reason there will likely not be many new trips in or out of the downtown area due to the proposed public parking in the new parking garage. Ideally the location of centralized parking will reduce vehicle miles traveled from vehicles circulating around looking for a parking space.

UPDATED LEVEL OF SERVICE ANALYSIS

Table 1 shows the updated level of service results after incorporating higher pedestrian volumes at the intersections and correcting a few traffic volume discrepancies as noted above. The

results shown in Table 1 are very similar to the results reported in the TIA with most changes being negligible so there are no proposed changes recommended to the TIA findings. The level of service reports are included in the appendix. The reports for the signalized intersections were reformatted to provide additional details.

SUMMARY

This supplemental memorandum was prepared to address several comments received by Town staff regarding the February 17, 2021 TIA by LSC Transportation Consultants, Inc. This additional information supports the findings of the TIA so no changes are proposed to the recommendations that were included in the TIA.

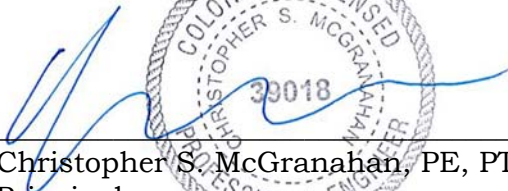
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We trust our findings will assist you in gaining approval of The View at Castle Rock. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By



Christopher S. McGranahan, PE, PTOE
Principal



CSM/wc

3-19-21

Enclosure: Table 1
Level of Service Reports

Table 1
Intersection Levels of Service Analysis - Supplemental Memorandum
The View at Castle Rock
Castle Rock, CO
LSC #200310; March, 2021

Intersection Location	Traffic Control	Existing Traffic		2023 Background		2023 Total		2040 Background		2040 Total		2040 Total Mitigated ⁽¹⁾	
		Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM
<u>Wilcox Street/Jerry Street</u>	TWSC												
NB Left		A	A	A	A	A	A	A	B	A	B	A	B
EB Approach		C	E	D	F	E	F	F	F	F	F	B	C
WB Approach		C	E	C	F	C	F	F	F	F	F	C	C
SB Left		A	A	A	A	A	A	B	B	B	B	B	B
Critical Movement Delay		19.8	49.7	25.4	91.4	36.5	223.4	>240	180.8	>240	>240	17.8	22.0
<u>Jerry Street/Sixth Street</u>	TWSC												
NB Approach		A	A	A	A	A	A	A	A	A	A		
EB Approach		A	A	A	A	A	A	A	A	A	A		
WB Approach		A	A	A	A	A	A	A	B	A	B		
SB Approach		A	A	A	A	A	A	A	A	A	A		
Critical Movement Delay		9.1	9.4	9.1	9.5	9.6	9.9	9.2	10.0	9.7	10.5		
<u>Wilcox Street/Sixth Street</u>	Signalized												
EB Left		A	D	A	D	D	D	A	D	D	D	E	E
EB Through/Right		D	C	D	C	C	C	D	C	C	B	C	B
WB Left		D	D	D	D	D	D	D	D	D	D	D	D
WB Through/Right		C	C	C	C	C	C	C	C	C	C	C	C
NB Left		A	A	A	A	A	A	A	A	A	A	A	A
NB Through/Right		A	A	A	A	A	A	A	A	A	A	A	A
SB Left		A	A	A	A	A	A	A	A	A	A	A	A
SB Through/Right		A	A	A	A	A	A	A	B	A	B	A	B
Entire Intersection Delay (sec /veh)		6.1	8.9	6.3	9.6	10.2	11.3	7.7	13.9	11.8	15.5	13.0	17.4
Entire Intersection LOS		A	A	A	A	B	B	A	B	B	B	B	B
<u>Jerry Street/Fifth Street</u>	TWSC												
NB Approach		B	C	B	C	B	C	--	--	--	--		
EB Approach		A	A	A	A	A	A	--	--	--	--		
WB Left		A	A	A	A	A	A	--	--	--	--		
SB Approach		B	C	B	C	B	C	--	--	--	--		
Critical Movement Delay		13.1	15.7	13.6	17.2	14.7	19.2	--	--	--	--		
	Roundabout												
EB Approach		--	--	--	--	--	--	A	A	A	A		
WB Approach		--	--	--	--	--	--	A	A	A	A		
NB Approach		--	--	--	--	--	--	A	A	A	A		
SB Approach		--	--	--	--	--	--	A	A	A	A		
Entire Intersection Delay (sec /veh)		--	--	--	--	--	--	6.3	7.3	6.5	7.6		
Entire Intersection LOS		--	--	--	--	--	--	A	A	A	A		
<u>Wilcox Street/Fifth Street</u>	Signalized												
EB Left		C	C	C	C	C	C	C	C	C	C		
EB Through/Right		E	E	E	E	E	E	E	F	E	F		
WB Left		D	D	D	D	D	D	D	F	D	F		
WB Through		D	D	D	D	D	D	D	D	D	D		
WB Right		A	A	A	A	A	A	A	A	A	A		
NB Left		B	B	B	B	B	B	B	B	B	B		
NB Through		B	C	C	D	C	D	C	E	C	E		
NB Right		A	A	A	A	A	A	A	C	A	C		
SB Left		B	C	B	C	B	C	C	F	C	F		
SB Through/Right		B	C	B	C	B	C	C	C	C	C		
Entire Intersection Delay (sec /veh)		23.5	30.1	23.6	32.3	23.8	33.5	28.0	67.2	29.3	68.6		
Entire Intersection LOS		C	C	C	C	C	C	C	E	C	E		

(1) Potential mitigation is to convert the Wilcox Street/Jerry Street intersection to three-quarter movement. This would be done at the discretion of the Town.

HCM 6th TWSC
1: Wilcox Street & Jerry Street

Existing
AM Peak

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	13	0	15	2	0	5	12	545	8	5	390	25
Future Vol, veh/h	13	0	15	2	0	5	12	545	8	5	390	25
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	16	2	0	5	13	592	9	5	424	27
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1093	1095	458	1099	1104	617	461	0	0	611	0	0
Stage 1	458	458	-	633	633	-	-	-	-	-	-	-
Stage 2	635	637	-	466	471	-	-	-	-	-	-	-
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	176	184	603	173	180	*633	1100	-	-	*947	-	-
Stage 1	583	567	-	586	515	-	-	-	-	-	-	-
Stage 2	584	512	-	577	560	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	169	177	592	163	174	*621	1090	-	-	*938	-	-
Mov Cap-2 Maneuver	169	177	-	163	174	-	-	-	-	-	-	-
Stage 1	571	558	-	574	504	-	-	-	-	-	-	-
Stage 2	567	500	-	553	552	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	19.8		15.7			0.2			0.1			
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1090	-	-	274	344	*938	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.111	0.022	0.006	-	-				
HCM Control Delay (s)	8.3	-	-	19.8	15.7	8.9	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 6th TWSC
2: Jerry Street & 6th Street

Existing
AM Peak

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	7	4	4	6	8	8	2	12	2
Future Vol, veh/h	1	1	1	7	4	4	6	8	8	2	12	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	1	8	4	4	7	9	9	2	13	2
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	70	70	34	67	67	34	25	0	0	28	0	0
Stage 1	28	28	-	38	38	-	-	-	-	-	-	-
Stage 2	42	42	-	29	29	-	-	-	-	-	-	-
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	922	821	1039	926	824	1039	1589	-	-	1585	-	-
Stage 1	989	872	-	977	863	-	-	-	-	-	-	-
Stage 2	972	860	-	988	871	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	893	800	1019	903	803	1019	1574	-	-	1570	-	-
Mov Cap-2 Maneuver	893	800	-	903	803	-	-	-	-	-	-	-
Stage 1	976	862	-	964	851	-	-	-	-	-	-	-
Stage 2	950	848	-	975	861	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9		9.1			2			0.9			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1574	-	-	895	900	1570	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.004	0.018	0.001	-	-				
HCM Control Delay (s)	7.3	0	-	9	9.1	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0	0.1	0	-	-				

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

Existing
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	4	5	2	97	6	465	6	48	345	8
Future Volume (vph)	0	1	4	5	2	97	6	465	6	48	345	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.93	0.92		0.97	1.00			1.00	
Frt		0.880			0.853			0.998			0.996	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1863	1527	0	1770	1456	0	1770	1857	0	1770	1852	0
Flt Permitted				0.440			0.534			0.417		
Satd. Flow (perm)	1863	1527	0	765	1456	0	961	1857	0	777	1852	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			105			1			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	0	1	4	5	2	105	7	505	7	52	375	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	5	107	0	7	512	0	52	384	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

Existing
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	10.0	23.6		9.6	23.2		9.6	73.8		13.0	77.2	
Total Split (%)	8.3%	19.7%		8.0%	19.3%		8.0%	61.5%		10.8%	64.3%	
Maximum Green (s)	5.5	19.1		5.1	18.7		5.1	69.3		8.5	72.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)		6.3		8.2	8.2		98.7	94.2		102.1	100.7	
Actuated g/C Ratio		0.05		0.07	0.07		0.82	0.78		0.85	0.84	
v/c Ratio		0.06		0.05	0.54		0.01	0.35		0.07	0.25	
Control Delay		38.6		49.6	20.3		2.5	4.9		2.0	3.3	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		38.6		49.6	20.3		2.5	4.9		2.0	3.3	
LOS		D		D	C		A	A		A	A	
Approach Delay		38.6			21.6			4.9			3.1	
Approach LOS		D			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 6.1

Intersection LOS: A

Intersection Capacity Utilization 51.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13 s	73.8 s	9.6 s	23.6 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
9.6 s	77.2 s	10 s	23.2 s

HCM 6th TWSC
4: Jerry Street & 5th Street

Existing
AM Peak

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	174	59	59	224	7	20	5	28	1	11	8
Future Vol, veh/h	10	174	59	59	224	7	20	5	28	1	11	8
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	189	64	64	243	8	22	5	30	1	12	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	261	0	0	263	0	0	649	642	241	656	670	267
Stage 1	-	-	-	-	-	-	253	253	-	385	385	-
Stage 2	-	-	-	-	-	-	396	389	-	271	285	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1332	-	-	1301	-	-	410	407	798	405	390	867
Stage 1	-	-	-	-	-	-	751	698	-	692	633	-
Stage 2	-	-	-	-	-	-	682	630	-	735	676	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1319	-	-	1289	-	-	371	375	783	360	359	851
Mov Cap-2 Maneuver	-	-	-	-	-	-	371	375	-	360	359	-
Stage 1	-	-	-	-	-	-	737	684	-	679	596	-
Stage 2	-	-	-	-	-	-	622	593	-	687	662	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.6			12.9			13.1		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	515	1319	-	-	1289	-	-	467				
HCM Lane V/C Ratio	0.112	0.008	-	-	0.05	-	-	0.047				
HCM Control Delay (s)	12.9	7.8	0	-	7.9	-	-	13.1				
HCM Lane LOS	B	A	A	-	A	-	-	B				
HCM 95th %tile O(veh)	0.4	0	-	-	0.2	-	-	0.1				

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

Existing
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	131	33	124	245	335	51	144	60	198	152	14
Future Volume (vph)	8	131	33	124	245	335	51	144	60	198	152	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.98		0.96		0.91	0.95		0.91	0.96	0.99	
Frt		0.970				0.850			0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1776	0	1770	1863	1583	1770	1863	1583	1770	1825	0
Flt Permitted	0.595			0.360			0.644			0.594		
Satd. Flow (perm)	1057	1776	0	646	1863	1448	1137	1863	1448	1061	1825	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				364			177		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	9	142	36	135	266	364	55	157	65	215	165	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	178	0	135	266	364	55	157	65	215	180	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings

5: Wilcox Street & 5th Street

Existing
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	9.5	32.0		21.0	43.5	43.5	10.5	39.0	39.0	28.0	56.5	
Total Split (%)	7.9%	26.7%		17.5%	36.3%	36.3%	8.8%	32.5%	32.5%	23.3%	47.1%	
Maximum Green (s)	5.0	27.5		16.5	39.0	39.0	6.0	34.5	34.5	23.5	52.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	21.7	16.7		33.8	31.9	31.9	67.9	60.9	60.9	77.0	67.7	
Actuated g/C Ratio	0.18	0.14		0.28	0.27	0.27	0.57	0.51	0.51	0.64	0.56	
v/c Ratio	0.04	0.70		0.45	0.54	0.56	0.08	0.17	0.08	0.29	0.17	
Control Delay	28.0	60.3		36.6	41.4	6.9	10.7	19.3	0.2	10.9	14.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.0	60.3		36.6	41.4	6.9	10.7	19.3	0.2	10.9	14.9	
LOS	C	E		D	D	A	B	B	A	B	B	
Approach Delay		58.7			24.1			13.1			12.7	
Approach LOS		E			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 23.5

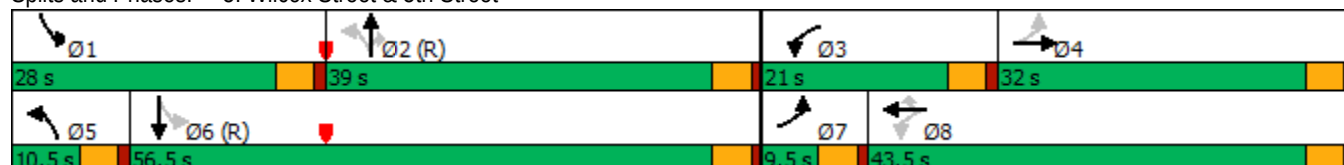
Intersection LOS: C

Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

Existing
PM Peak

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	12	0	10	10	0	10	15	605	8	5	625	20
Future Vol, veh/h	12	0	10	10	0	10	15	605	8	5	625	20
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	11	11	0	11	16	658	9	5	679	22

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1420	1419	710	1421	1426	683	711	0	0	677	0	0
Stage 1	710	710	-	705	705	-	-	-	-	-	-	-
Stage 2	710	709	-	716	721	-	-	-	-	-	-	-
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	68	81	434	68	79	*581	888	-	-	*869	-	-
Stage 1	424	437	-	538	472	-	-	-	-	-	-	-
Stage 2	531	469	-	421	432	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	64	77	426	64	76	*570	880	-	-	*861	-	-
Mov Cap-2 Maneuver	64	77	-	64	76	-	-	-	-	-	-	-
Stage 1	412	430	-	523	459	-	-	-	-	-	-	-
Stage 2	507	456	-	404	425	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	49.7		43.5		0.2		0.1	
HCM LOS	E		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR	
Capacity (veh/h)	880	-	-	104	115	* 861	-	-
HCM Lane V/C Ratio	0.019	-	-	0.23	0.189	0.006	-	-
HCM Control Delay (s)	9.2	-	-	49.7	43.5	9.2	-	-
HCM Lane LOS	A	-	-	E	E	A	-	-
HCM 95th %tile O(veh)	0.1	-	-	0.8	0.7	0	-	-

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

HCM 6th TWSC
2: Jerry Street & 6th Street

Existing
PM Peak

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	3	11	15	0	17	5	40	5	18	40	4
Future Vol, veh/h	4	3	11	15	0	17	5	40	5	18	40	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	12	16	0	18	5	43	5	20	43	4
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	170	163	65	169	163	66	57	0	0	58	0	0
Stage 1	95	95	-	66	66	-	-	-	-	-	-	-
Stage 2	75	68	-	103	97	-	-	-	-	-	-	-
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	794	729	999	795	729	998	1547	-	-	1546	-	-
Stage 1	912	816	-	945	840	-	-	-	-	-	-	-
Stage 2	934	838	-	903	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	755	703	980	758	703	979	1532	-	-	1531	-	-
Mov Cap-2 Maneuver	755	703	-	758	703	-	-	-	-	-	-	-
Stage 1	901	797	-	934	829	-	-	-	-	-	-	-
Stage 2	905	827	-	868	796	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.3		9.4		0.7		2.1					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1532	-	-	866	861	1531	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.023	0.04	0.013	-	-				
HCM Control Delay (s)	7.4	0	-	9.3	9.4	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

Existing
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	22	8	9	123	8	485	9	70	560	10
Future Volume (vph)	19	6	22	8	9	123	8	485	9	70	560	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.93		0.94	0.92		0.99	1.00			1.00	
Frt		0.884			0.860			0.997			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1538	0	1770	1475	0	1770	1854	0	1770	1854	0
Flt Permitted	0.396			0.737			0.394			0.389		
Satd. Flow (perm)	702	1538	0	1285	1475	0	723	1854	0	725	1854	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			134			1			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	21	7	24	9	10	134	9	527	10	76	609	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	31	0	9	144	0	9	537	0	76	620	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings

3: Wilcox Street & 6th Street

Existing
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.8	23.0		9.6	22.8		9.6	75.2		12.2	77.8	
Total Split (%)	8.2%	19.2%		8.0%	19.0%		8.0%	62.7%		10.2%	64.8%	
Maximum Green (s)	5.3	18.5		5.1	18.3		5.1	70.7		7.7	73.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	11.1	10.1		10.1	8.1		94.5	89.9		98.5	96.9	
Actuated g/C Ratio	0.09	0.08		0.08	0.07		0.79	0.75		0.82	0.81	
v/c Ratio	0.19	0.21		0.07	0.64		0.01	0.39		0.12	0.41	
Control Delay	49.3	25.8		43.9	24.0		3.9	5.7		3.4	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.3	25.8		43.9	24.0		3.9	5.7		3.4	6.1	
LOS	D	C		D	C		A	A		A	A	
Approach Delay		35.3			25.2			5.7			5.8	
Approach LOS		D			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 8.9

Intersection LOS: A

Intersection Capacity Utilization 61.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

														
Ø1	Ø2 (R)	Ø3	Ø4	Ø5	Ø6 (R)	Ø7	Ø8							
12.2 s	75.2 s	9.6 s	23 s	9.6 s	77.8 s	9.8 s	22.8 s							

HCM 6th TWSC
4: Jerry Street & 5th Street

Existing
PM Peak

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	236	70	17	226	32	45	13	72	34	19	28
Future Vol, veh/h	14	236	70	17	226	32	45	13	72	34	19	28
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	257	76	18	246	35	49	14	78	37	21	30
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	291	0	0	343	0	0	670	662	315	691	683	284
Stage 1	-	-	-	-	-	-	335	335	-	310	310	-
Stage 2	-	-	-	-	-	-	335	327	-	381	373	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1301	-	-	1216	-	-	401	398	725	385	385	867
Stage 1	-	-	-	-	-	-	679	643	-	788	698	-
Stage 2	-	-	-	-	-	-	759	684	-	641	618	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1289	-	-	1204	-	-	355	379	711	320	367	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	355	379	-	320	367	-
Stage 1	-	-	-	-	-	-	663	628	-	769	681	-
Stage 2	-	-	-	-	-	-	692	667	-	545	603	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.5			15.1			15.7		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	496	1289	-	-	1204	-	-	424				
HCM Lane V/C Ratio	0.285	0.012	-	-	0.015	-	-	0.208				
HCM Control Delay (s)	15.1	7.8	0	-	8	-	-	15.7				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile O(veh)	1.2	0	-	-	0	-	-	0.8				

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

Existing
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	230	62	140	164	235	66	236	132	399	262	6
Future Volume (vph)	43	230	62	140	164	235	66	236	132	399	262	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.98				0.91	0.96		0.91	0.97	1.00	
Frt		0.968				0.850			0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1771	0	1770	1863	1583	1770	1863	1583	1770	1851	0
Flt Permitted	0.645			0.186			0.581			0.441		
Satd. Flow (perm)	1139	1771	0	346	1863	1448	1034	1863	1448	799	1851	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				255			177		1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	47	250	67	152	178	255	72	257	143	434	285	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	317	0	152	178	255	72	257	143	434	292	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings

5: Wilcox Street & 5th Street

Existing
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	10.2	32.0		16.0	37.8	37.8	11.4	34.0	34.0	38.0	60.6	
Total Split (%)	8.5%	26.7%		13.3%	31.5%	31.5%	9.5%	28.3%	28.3%	31.7%	50.5%	
Maximum Green (s)	5.7	27.5		11.5	33.3	33.3	6.9	29.5	29.5	33.5	56.1	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	30.2	24.5		40.0	31.8	31.8	51.2	44.4	44.4	71.0	61.8	
Actuated g/C Ratio	0.25	0.20		0.33	0.26	0.26	0.43	0.37	0.37	0.59	0.52	
v/c Ratio	0.15	0.86		0.62	0.36	0.45	0.15	0.37	0.22	0.67	0.31	
Control Delay	27.3	66.3		39.8	38.1	6.7	14.9	32.6	3.1	25.6	22.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.3	66.3		39.8	38.1	6.7	14.9	32.6	3.1	25.6	22.9	
LOS	C	E		D	D	A	B	C	A	C	C	
Approach Delay		61.3			24.9			21.0			24.5	
Approach LOS		E			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 30.1

Intersection LOS: C

Intersection Capacity Utilization 76.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

2023 Background
AM Peak

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	1	16	2	1	5	13	585	8	5	425	26
Future Vol, veh/h	16	1	16	2	1	5	13	585	8	5	425	26
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	1	17	2	1	5	14	636	9	5	462	28
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1178	1179	496	1184	1189	661	500	0	0	655	0	0
Stage 1	496	496	-	679	679	-	-	-	-	-	-	-
Stage 2	682	683	-	505	510	-	-	-	-	-	-	-
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	*139	*149	574	*137	*145	*581	1064	-	-	*869	-	-
Stage 1	*556	*545	-	*548	*480	-	-	-	-	-	-	-
Stage 2	*548	*480	-	*549	*538	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*133	*143	563	*127	*140	*570	1054	-	-	*861	-	-
Mov Cap-2 Maneuver	*133	*143	-	*127	*140	-	-	-	-	-	-	-
Stage 1	*543	*536	-	*535	*469	-	-	-	-	-	-	-
Stage 2	*529	*469	-	*523	*529	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	25.4		19.7		0.2		0.1					
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1054	-	-	212	253	*861	-	-				
HCM Lane V/C Ratio	0.013	-	-	0.169	0.034	0.006	-	-				
HCM Control Delay (s)	8.5	-	-	25.4	19.7	9.2	-	-				
HCM Lane LOS	A	-	-	D	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.6	0.1	0	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 6th TWSC
2: Jerry Street & 6th Street

2023 Background
AM Peak

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	8	4	4	6	10	9	3	14	2
Future Vol, veh/h	1	1	1	8	4	4	6	10	9	3	14	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	1	9	4	4	7	11	10	3	15	2
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	76	77	36	73	73	36	27	0	0	31	0	0
Stage 1	32	32	-	40	40	-	-	-	-	-	-	-
Stage 2	44	45	-	33	33	-	-	-	-	-	-	-
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	914	813	1037	918	817	1037	1587	-	-	1582	-	-
Stage 1	984	868	-	975	862	-	-	-	-	-	-	-
Stage 2	970	857	-	983	868	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	885	791	1017	894	795	1017	1572	-	-	1567	-	-
Mov Cap-2 Maneuver	885	791	-	894	795	-	-	-	-	-	-	-
Stage 1	970	858	-	961	849	-	-	-	-	-	-	-
Stage 2	947	844	-	969	858	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.1		9.1			1.8			1.2			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1572	-	-	888	893	1567	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.004	0.019	0.002	-	-				
HCM Control Delay (s)	7.3	0	-	9.1	9.1	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

Lanes, Volumes, Timings

3: Wilcox Street & 6th Street

2023 Background
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	4	6	2	108	7	495	7	54	370	11
Future Volume (vph)	0	1	4	6	2	108	7	495	7	54	370	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.93	0.92		0.97	1.00			1.00	
Frt		0.880			0.853			0.998			0.996	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1863	1527	0	1770	1456	0	1770	1857	0	1770	1851	0
Flt Permitted				0.440			0.520			0.398		
Satd. Flow (perm)	1863	1527	0	765	1456	0	939	1857	0	741	1851	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			117			1			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	0	1	4	7	2	117	8	538	8	59	402	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	7	119	0	8	546	0	59	414	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings

3: Wilcox Street & 6th Street

2023 Background
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	10.0	23.6		9.6	23.2		9.6	73.8		13.0	77.2	
Total Split (%)	8.3%	19.7%		8.0%	19.3%		8.0%	61.5%		10.8%	64.3%	
Maximum Green (s)	5.5	19.1		5.1	18.7		5.1	69.3		8.5	72.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)		6.3		8.3	8.3		98.6	94.1		102.1	100.7	
Actuated g/C Ratio		0.05		0.07	0.07		0.82	0.78		0.85	0.84	
v/c Ratio		0.06		0.07	0.57		0.01	0.38		0.09	0.27	
Control Delay		38.6		50.5	20.3		2.4	5.1		2.0	3.4	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		38.6		50.5	20.3		2.4	5.1		2.0	3.4	
LOS		D		D	C		A	A		A	A	
Approach Delay		38.6			22.0			5.0			3.2	
Approach LOS		D			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 6.3

Intersection LOS: A

Intersection Capacity Utilization 53.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13 s	73.8 s	9.6 s	23.6 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
9.6 s	77.2 s	10 s	23.2 s

HCM 6th TWSC
4: Jerry Street & 5th Street

2023 Background
AM Peak

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	185	64	64	240	8	13	6	30	1	12	9
Future Vol, veh/h	11	185	64	64	240	8	13	6	30	1	12	9
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	201	70	70	261	9	14	7	33	1	13	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	280	0	0	281	0	0	697	690	256	706	721	286
Stage 1	-	-	-	-	-	-	270	270	-	416	416	-
Stage 2	-	-	-	-	-	-	427	420	-	290	305	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1315	-	-	1282	-	-	381	381	783	375	363	863
Stage 1	-	-	-	-	-	-	736	686	-	673	615	-
Stage 2	-	-	-	-	-	-	662	613	-	718	662	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1303	-	-	1270	-	-	341	349	768	330	332	847
Mov Cap-2 Maneuver	-	-	-	-	-	-	341	349	-	330	332	-
Stage 1	-	-	-	-	-	-	721	672	-	659	576	-
Stage 2	-	-	-	-	-	-	599	574	-	667	648	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.6			12.7			13.6		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	519	1303	-	-	1270	-	-	442				
HCM Lane V/C Ratio	0.103	0.009	-	-	0.055	-	-	0.054				
HCM Control Delay (s)	12.7	7.8	0	-	8	-	-	13.6				
HCM Lane LOS	B	A	A	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.3	0	-	-	0.2	-	-	0.2				

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2023 Background
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	140	36	135	260	355	55	155	67	210	165	17
Future Volume (vph)	9	140	36	135	260	355	55	155	67	210	165	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.96	0.98		0.96		0.91	0.95		0.91	0.96	0.99	
Frt		0.969				0.850			0.850		0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1774	0	1770	1863	1583	1770	1863	1583	1770	1822	0
Flt Permitted	0.586			0.347			0.634			0.578		
Satd. Flow (perm)	1042	1774	0	623	1863	1448	1121	1863	1448	1034	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				386			177		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	10	152	39	147	283	386	60	168	73	228	179	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	191	0	147	283	386	60	168	73	228	197	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2023 Background
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	9.5	32.0		21.0	43.5	43.5	10.5	39.0	39.0	28.0	56.5	
Total Split (%)	7.9%	26.7%		17.5%	36.3%	36.3%	8.8%	32.5%	32.5%	23.3%	47.1%	
Maximum Green (s)	5.0	27.5		16.5	39.0	39.0	6.0	34.5	34.5	23.5	52.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	22.6	17.6		35.2	33.3	33.3	66.1	58.9	58.9	75.7	66.2	
Actuated g/C Ratio	0.19	0.15		0.29	0.28	0.28	0.55	0.49	0.49	0.63	0.55	
v/c Ratio	0.04	0.71		0.48	0.55	0.57	0.09	0.18	0.09	0.31	0.20	
Control Delay	27.3	60.3		36.4	40.7	6.7	11.3	20.7	0.2	11.8	15.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.3	60.3		36.4	40.7	6.7	11.3	20.7	0.2	11.8	15.9	
LOS	C	E		D	D	A	B	C	A	B	B	
Approach Delay		58.7			23.8			13.9			13.7	
Approach LOS		E			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 23.6

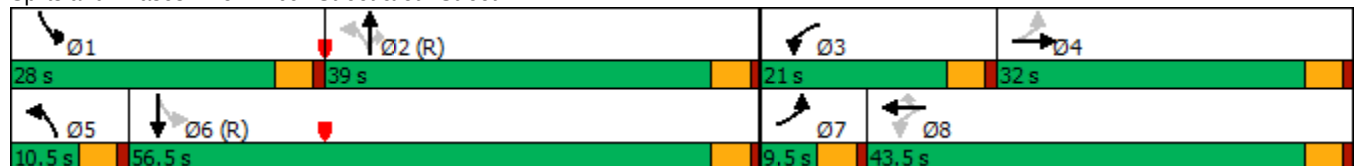
Intersection LOS: C

Intersection Capacity Utilization 61.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

2023 Background
PM Peak

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1	11	10	1	10	16	650	8	5	685	21
Future Vol, veh/h	13	1	11	10	1	10	16	650	8	5	685	21
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	1	12	11	1	11	17	707	9	5	745	23
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1539	1537	777	1539	1544	732	778	0	0	726	0	0
Stage 1	777	777	-	756	756	-	-	-	-	-	-	-
Stage 2	762	760	-	783	788	-	-	-	-	-	-	-
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	*43	*54	397	*43	*52	*529	839	-	-	*791	-	-
Stage 1	*390	*407	-	*499	*437	-	-	-	-	-	-	-
Stage 2	*499	*437	-	*387	*402	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*40	*51	389	*39	*50	*519	831	-	-	*784	-	-
Mov Cap-2 Maneuver	*40	*51	-	*39	*50	-	-	-	-	-	-	-
Stage 1	*378	*400	-	*484	*424	-	-	-	-	-	-	-
Stage 2	*472	*424	-	*368	*396	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	91.4		78.1		0.2		0.1					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	831	-	-	67	71	*784	-	-				
HCM Lane V/C Ratio	0.021	-	-	0.406	0.321	0.007	-	-				
HCM Control Delay (s)	9.4	-	-	91.4	78.1	9.6	-	-				
HCM Lane LOS	A	-	-	F	F	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	1.6	1.2	0	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 6th TWSC
2: Jerry Street & 6th Street

2023 Background
PM Peak

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	3	11	17	1	18	5	45	6	20	45	4
Future Vol, veh/h	4	3	11	17	1	18	5	45	6	20	45	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	12	18	1	20	5	49	7	22	49	4
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	188	181	71	186	180	73	63	0	0	66	0	0
Stage 1	105	105	-	73	73	-	-	-	-	-	-	-
Stage 2	83	76	-	113	107	-	-	-	-	-	-	-
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	772	713	991	775	714	989	1540	-	-	1536	-	-
Stage 1	901	808	-	937	834	-	-	-	-	-	-	-
Stage 2	925	832	-	892	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	731	687	972	738	688	970	1525	-	-	1521	-	-
Mov Cap-2 Maneuver	731	687	-	738	688	-	-	-	-	-	-	-
Stage 1	890	788	-	926	823	-	-	-	-	-	-	-
Stage 2	894	821	-	856	787	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.3		9.5		0.7		2.1					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1525	-	-	851	836	1521	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.023	0.047	0.014	-	-				
HCM Control Delay (s)	7.4	0	-	9.3	9.5	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings

3: Wilcox Street & 6th Street

2023 Background
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	7	24	9	10	135	9	520	10	75	615	14
Future Volume (vph)	20	7	24	9	10	135	9	520	10	75	615	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.93		0.94	0.92			1.00			1.00	
Frt		0.885			0.860			0.997			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1541	0	1770	1475	0	1770	1854	0	1770	1854	0
Flt Permitted	0.328			0.735			0.353			0.359		
Satd. Flow (perm)	583	1541	0	1282	1475	0	658	1854	0	669	1854	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			147			1			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	22	8	26	10	11	147	10	565	11	82	668	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	34	0	10	158	0	10	576	0	82	683	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings

3: Wilcox Street & 6th Street

2023 Background
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.8	23.0		9.6	22.8		9.6	75.2		12.2	77.8	
Total Split (%)	8.2%	19.2%		8.0%	19.0%		8.0%	62.7%		10.2%	64.8%	
Maximum Green (s)	5.3	18.5		5.1	18.3		5.1	70.7		7.7	73.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.3	12.2		11.3	8.2		92.2	87.6		96.4	94.8	
Actuated g/C Ratio	0.11	0.10		0.09	0.07		0.77	0.73		0.80	0.79	
v/c Ratio	0.19	0.19		0.07	0.66		0.02	0.43		0.14	0.47	
Control Delay	47.1	24.3		42.4	24.0		4.1	6.3		3.9	7.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.1	24.3		42.4	24.0		4.1	6.3		3.9	7.3	
LOS	D	C		D	C		A	A		A	A	
Approach Delay		33.3			25.1			6.3			7.0	
Approach LOS		C			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 9.6

Intersection LOS: A

Intersection Capacity Utilization 65.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

											
Ø1	Ø2 (R)	Ø3	Ø4	Ø5	Ø6 (R)	Ø7	Ø8				
12.2 s	75.2 s	9.6 s	23 s	9.6 s	77.8 s	9.8 s	22.8 s				

HCM 6th TWSC
4: Jerry Street & 5th Street

2023 Background
PM Peak

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	15	250	76	18	240	35	49	14	78	37	21	30
Future Vol, veh/h	15	250	76	18	240	35	49	14	78	37	21	30
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	272	83	20	261	38	53	15	85	40	23	33
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	309	0	0	365	0	0	714	705	334	736	727	300
Stage 1	-	-	-	-	-	-	356	356	-	330	330	-
Stage 2	-	-	-	-	-	-	358	349	-	406	397	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1277	-	-	1194	-	-	369	372	708	355	359	845
Stage 1	-	-	-	-	-	-	661	629	-	764	682	-
Stage 2	-	-	-	-	-	-	734	667	-	622	603	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1265	-	-	1183	-	-	322	353	695	288	340	829
Mov Cap-2 Maneuver	-	-	-	-	-	-	322	353	-	288	340	-
Stage 1	-	-	-	-	-	-	644	613	-	745	664	-
Stage 2	-	-	-	-	-	-	663	649	-	519	587	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.5			16.5			17.2		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	464	1265	-	-	1183	-	-	389				
HCM Lane V/C Ratio	0.33	0.013	-	-	0.017	-	-	0.246				
HCM Control Delay (s)	16.5	7.9	0	-	8.1	-	-	17.2				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	1.4	0	-	-	0.1	-	-	1				

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2023 Background
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	245	67	153	175	250	71	255	144	430	285	10
Future Volume (vph)	46	245	67	153	175	250	71	255	144	430	285	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.98				0.91	0.96		0.91	0.98	1.00	
Frt		0.968				0.850			0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	0	1770	1863	1583	1770	1863	1583	1770	1848	0
Flt Permitted	0.638			0.164			0.566			0.400		
Satd. Flow (perm)	1128	1770	0	305	1863	1448	1009	1863	1448	727	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				272			177		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	50	266	73	166	190	272	77	277	157	467	310	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	339	0	166	190	272	77	277	157	467	321	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2023 Background
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	10.2	32.0		16.0	37.8	37.8	11.4	34.0	34.0	38.0	60.6	
Total Split (%)	8.5%	26.7%		13.3%	31.5%	31.5%	9.5%	28.3%	28.3%	31.7%	50.5%	
Maximum Green (s)	5.7	27.5		11.5	33.3	33.3	6.9	29.5	29.5	33.5	56.1	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	31.1	25.4		41.0	32.8	32.8	48.1	41.4	41.4	70.0	60.9	
Actuated g/C Ratio	0.26	0.21		0.34	0.27	0.27	0.40	0.34	0.34	0.58	0.51	
v/c Ratio	0.16	0.89		0.69	0.37	0.46	0.17	0.43	0.26	0.74	0.34	
Control Delay	27.1	69.0		44.1	37.8	6.6	15.8	35.8	4.7	30.7	23.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.1	69.0		44.1	37.8	6.6	15.8	35.8	4.7	30.7	23.9	
LOS	C	E		D	D	A	B	D	A	C	C	
Approach Delay		63.6			26.0			23.2			27.9	
Approach LOS		E			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 32.3

Intersection LOS: C

Intersection Capacity Utilization 79.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

2023 Total
AM Peak

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	25	1	16	2	1	5	13	622	8	5	433	43
Future Vol, veh/h	25	1	16	2	1	5	13	622	8	5	433	43
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	1	17	2	1	5	14	676	9	5	471	47

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1237	1238	515	1243	1257	701	528	0	0	695	0	0
Stage 1	515	515	-	719	719	-	-	-	-	-	-	-
Stage 2	722	723	-	524	538	-	-	-	-	-	-	-
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	*116	*126	560	*114	*120	*555	1039	-	-	*830	-	-
Stage 1	*543	*535	-	*523	*458	-	-	-	-	-	-	-
Stage 2	*523	*458	-	*537	*522	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*110	*122	549	*106	*116	*544	1029	-	-	*822	-	-
Mov Cap-2 Maneuver	*110	*122	-	*106	*116	-	-	-	-	-	-	-
Stage 1	*531	*526	-	*511	*447	-	-	-	-	-	-	-
Stage 2	*505	*447	-	*511	*514	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	36.5		22.2		0.2		0.1	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1029	-	-	159	218	*822	-
HCM Lane V/C Ratio	0.014	-	-	0.287	0.04	0.007	-
HCM Control Delay (s)	8.5	-	-	36.5	22.2	9.4	-
HCM Lane LOS	A	-	-	E	C	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.1	0	-

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

HCM 6th TWSC
2: Jerry Street & 6th Street

2023 Total
AM Peak

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	15	4	10	6	22	19	32	24	2
Future Vol, veh/h	1	1	1	15	4	10	6	22	19	32	24	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	1	16	4	11	7	24	21	35	26	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	173	176	47	167	167	55	38	0	0	55	0	0
Stage 1	107	107	-	59	59	-	-	-	-	-	-	-
Stage 2	66	69	-	108	108	-	-	-	-	-	-	-
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	790	717	1022	797	726	1012	1572	-	-	1550	-	-
Stage 1	898	807	-	953	846	-	-	-	-	-	-	-
Stage 2	945	837	-	897	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	747	683	1003	764	692	993	1557	-	-	1535	-	-
Mov Cap-2 Maneuver	747	683	-	764	692	-	-	-	-	-	-	-
Stage 1	885	780	-	940	833	-	-	-	-	-	-	-
Stage 2	916	824	-	866	779	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.6		9.6		0.9		4.1					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1557	-	-	790	817	1535	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.004	0.039	0.023	-	-				
HCM Control Delay (s)	7.3	0	-	9.6	9.6	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0	0.1	0.1	-	-				

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2023 Total
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	1	15	6	2	108	11	495	7	54	370	19
Future Volume (vph)	37	1	15	6	2	108	11	495	7	54	370	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.92		0.93	0.92		0.97	1.00			1.00	
Frt		0.859			0.853			0.998			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1472	0	1770	1456	0	1770	1857	0	1770	1842	0
Flt Permitted	0.344			0.746			0.495			0.380		
Satd. Flow (perm)	608	1472	0	1299	1456	0	894	1857	0	708	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			117			1			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	40	1	16	7	2	117	12	538	8	59	402	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	17	0	7	119	0	12	546	0	59	423	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2023 Total
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	10.0	23.6		9.6	23.2		9.6	73.8		13.0	77.2	
Total Split (%)	8.3%	19.7%		8.0%	19.3%		8.0%	61.5%		10.8%	64.3%	
Maximum Green (s)	5.5	19.1		5.1	18.7		5.1	69.3		8.5	72.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	14.6	13.5		11.5	7.5		91.2	86.6		94.2	91.4	
Actuated g/C Ratio	0.12	0.11		0.10	0.06		0.76	0.72		0.78	0.76	
v/c Ratio	0.31	0.09		0.05	0.59		0.02	0.41		0.10	0.30	
Control Delay	52.1	24.9		42.8	22.4		3.9	7.3		3.8	6.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.1	24.9		42.8	22.4		3.9	7.3		3.8	6.5	
LOS	D	C		D	C		A	A		A	A	
Approach Delay		44.0			23.5			7.3			6.1	
Approach LOS		D			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 10.2

Intersection LOS: B

Intersection Capacity Utilization 53.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13 s	73.8 s	9.6 s	23.6 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
9.6 s	77.2 s	10 s	23.2 s

HCM 6th TWSC
4: Jerry Street & 5th Street

2023 Total
AM Peak

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	16	185	64	64	240	22	13	9	30	6	19	14
Future Vol, veh/h	16	185	64	64	240	22	13	9	30	6	19	14
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	201	70	70	261	24	14	10	33	7	21	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	295	0	0	281	0	0	721	715	256	725	738	293
Stage 1	-	-	-	-	-	-	280	280	-	423	423	-
Stage 2	-	-	-	-	-	-	441	435	-	302	315	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1296	-	-	1282	-	-	365	366	783	362	353	854
Stage 1	-	-	-	-	-	-	727	679	-	666	610	-
Stage 2	-	-	-	-	-	-	648	601	-	707	656	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1283	-	-	1270	-	-	316	334	768	315	322	838
Mov Cap-2 Maneuver	-	-	-	-	-	-	316	334	-	315	322	-
Stage 1	-	-	-	-	-	-	709	661	-	650	571	-
Stage 2	-	-	-	-	-	-	574	563	-	650	639	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			1.6			13.4			14.7		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	485	1283	-	-	1270	-	-	412				
HCM Lane V/C Ratio	0.117	0.014	-	-	0.055	-	-	0.103				
HCM Control Delay (s)	13.4	7.8	0	-	8	-	-	14.7				
HCM Lane LOS	B	A	A	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.4	0	-	-	0.2	-	-	0.3				

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2023 Total
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	143	38	135	268	357	61	157	67	214	172	17
Future Volume (vph)	9	143	38	135	268	357	61	157	67	214	172	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.96	0.98		0.97		0.91	0.95		0.91	0.96	0.99	
Frt		0.969				0.850			0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1773	0	1770	1863	1583	1770	1863	1583	1770	1825	0
Flt Permitted	0.580			0.339			0.629			0.574		
Satd. Flow (perm)	1032	1773	0	609	1863	1448	1113	1863	1448	1027	1825	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				388			177		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	10	155	41	147	291	388	66	171	73	233	187	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	196	0	147	291	388	66	171	73	233	205	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2023 Total
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	9.5	32.0		21.0	43.5	43.5	10.5	39.0	39.0	28.0	56.5	
Total Split (%)	7.9%	26.7%		17.5%	36.3%	36.3%	8.8%	32.5%	32.5%	23.3%	47.1%	
Maximum Green (s)	5.0	27.5		16.5	39.0	39.0	6.0	34.5	34.5	23.5	52.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	22.9	17.9		35.4	33.5	33.5	65.7	58.4	58.4	75.4	65.8	
Actuated g/C Ratio	0.19	0.15		0.30	0.28	0.28	0.55	0.49	0.49	0.63	0.55	
v/c Ratio	0.04	0.72		0.48	0.56	0.57	0.10	0.19	0.09	0.32	0.20	
Control Delay	27.1	60.5		36.2	40.8	6.6	11.4	21.1	0.2	12.1	16.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.1	60.5		36.2	40.8	6.6	11.4	21.1	0.2	12.1	16.3	
LOS	C	E		D	D	A	B	C	A	B	B	
Approach Delay		58.9			23.9			14.1			14.1	
Approach LOS		E			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.8

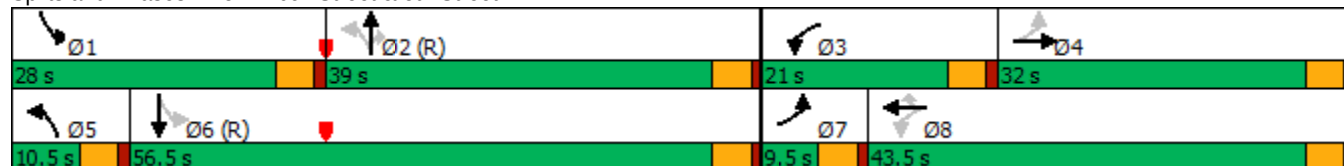
Intersection LOS: C

Intersection Capacity Utilization 61.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

2023 Total
PM Peak

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	21	1	11	10	1	10	16	675	8	5	697	56
Future Vol, veh/h	21	1	11	10	1	10	16	675	8	5	697	56
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	1	12	11	1	11	17	734	9	5	758	61

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1598	1596	809	1598	1622	759	829	0	0	753	0	0
Stage 1	809	809	-	783	783	-	-	-	-	-	-	-
Stage 2	789	787	-	815	839	-	-	-	-	-	-	-
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	*33	*42	380	*33	*39	*503	803	-	-	*752	-	-
Stage 1	*374	*394	-	*474	*415	-	-	-	-	-	-	-
Stage 2	*474	*415	-	*371	*381	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*30	*40	373	*30	*37	*493	795	-	-	*745	-	-
Mov Cap-2 Maneuver	*30	*40	-	*30	*37	-	-	-	-	-	-	-
Stage 1	*362	*387	-	*459	*402	-	-	-	-	-	-	-
Stage 2	*448	*402	-	*352	*375	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	223.4		110.7		0.2		0.1	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	795	-	-	44 55	*745	-	-
HCM Lane V/C Ratio	0.022	-	-	0.815 0.415	0.007	-	-
HCM Control Delay (s)	9.6	-	-	223.4 110.7	9.9	-	-
HCM Lane LOS	A	-	-	F F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.2 1.5	0	-	-

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

HCM 6th TWSC
2: Jerry Street & 6th Street

2023 Total
PM Peak

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	3	11	21	1	28	5	61	16	41	57	4
Future Vol, veh/h	4	3	11	21	1	28	5	61	16	41	57	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	12	23	1	30	5	66	17	45	62	4
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	274	267	84	267	261	95	76	0	0	93	0	0
Stage 1	164	164	-	95	95	-	-	-	-	-	-	-
Stage 2	110	103	-	172	166	-	-	-	-	-	-	-
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	678	639	975	686	644	962	1523	-	-	1501	-	-
Stage 1	838	762	-	912	816	-	-	-	-	-	-	-
Stage 2	895	810	-	830	761	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	626	605	957	645	610	944	1508	-	-	1487	-	-
Mov Cap-2 Maneuver	626	605	-	645	610	-	-	-	-	-	-	-
Stage 1	828	731	-	901	805	-	-	-	-	-	-	-
Stage 2	854	799	-	783	730	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.7		9.9		0.5		3					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1508	-	-	788	783	1487	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.025	0.069	0.03	-	-				
HCM Control Delay (s)	7.4	0	-	9.7	9.9	7.5	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0.1	0.2	0.1	-	-				

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2023 Total
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	7	35	9	10	135	16	520	10	75	615	26
Future Volume (vph)	45	7	35	9	10	135	16	520	10	75	615	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.93		0.94	0.92			1.00			1.00	
Frt		0.876			0.860			0.997			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1517	0	1770	1475	0	1770	1854	0	1770	1845	0
Flt Permitted	0.282			0.727			0.328			0.357		
Satd. Flow (perm)	501	1517	0	1270	1475	0	611	1854	0	665	1845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38			147			1			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	49	8	38	10	11	147	17	565	11	82	668	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	46	0	10	158	0	17	576	0	82	696	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2023 Total
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.8	23.0		9.6	22.8		9.6	75.2		12.2	77.8	
Total Split (%)	8.2%	19.2%		8.0%	19.0%		8.0%	62.7%		10.2%	64.8%	
Maximum Green (s)	5.3	18.5		5.1	18.3		5.1	70.7		7.7	73.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.2	14.2		12.3	8.2		90.3	85.6		93.8	90.7	
Actuated g/C Ratio	0.13	0.12		0.10	0.07		0.75	0.71		0.78	0.76	
v/c Ratio	0.41	0.22		0.07	0.66		0.03	0.44		0.14	0.50	
Control Delay	54.4	21.2		42.2	24.0		3.9	6.6		4.2	9.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.4	21.2		42.2	24.0		3.9	6.6		4.2	9.2	
LOS	D	C		D	C		A	A		A	A	
Approach Delay		38.3			25.1			6.5			8.7	
Approach LOS		D			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 11.3

Intersection LOS: B

Intersection Capacity Utilization 70.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

														
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8				
12.2 s	75.2 s		9.6 s	23 s		9.6 s	77.8 s		9.8 s	22.8 s				

HCM 6th TWSC
4: Jerry Street & 5th Street

2023 Total
PM Peak

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	250	76	18	240	48	49	21	78	44	26	35
Future Vol, veh/h	21	250	76	18	240	48	49	21	78	44	26	35
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	272	83	20	261	52	53	23	85	48	28	38
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	323	0	0	365	0	0	740	733	334	761	748	307
Stage 1	-	-	-	-	-	-	370	370	-	337	337	-
Stage 2	-	-	-	-	-	-	370	363	-	424	411	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1259	-	-	1194	-	-	352	355	708	338	347	836
Stage 1	-	-	-	-	-	-	650	620	-	757	677	-
Stage 2	-	-	-	-	-	-	721	656	-	608	595	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1247	-	-	1183	-	-	299	334	695	268	327	820
Mov Cap-2 Maneuver	-	-	-	-	-	-	299	334	-	268	327	-
Stage 1	-	-	-	-	-	-	629	600	-	733	659	-
Stage 2	-	-	-	-	-	-	641	638	-	497	575	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.5			18			19.2		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	437	1247	-	-	1183	-	-	367				
HCM Lane V/C Ratio	0.368	0.018	-	-	0.017	-	-	0.311				
HCM Control Delay (s)	18	7.9	0	-	8.1	-	-	19.2				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile O(veh)	1.7	0.1	-	-	0.1	-	-	1.3				

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2023 Total
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	250	69	153	182	253	77	259	144	434	292	10
Future Volume (vph)	46	250	69	153	182	253	77	259	144	434	292	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.98				0.91	0.96		0.91	0.98	1.00	
Frt		0.968				0.850			0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	0	1770	1863	1583	1770	1863	1583	1770	1848	0
Flt Permitted	0.633			0.156			0.562			0.391		
Satd. Flow (perm)	1120	1770	0	291	1863	1448	1003	1863	1448	711	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				275			177		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	50	272	75	166	198	275	84	282	157	472	317	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	347	0	166	198	275	84	282	157	472	328	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2023 Total
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	10.2	32.0		16.0	37.8	37.8	11.4	34.0	34.0	38.0	60.6	
Total Split (%)	8.5%	26.7%		13.3%	31.5%	31.5%	9.5%	28.3%	28.3%	31.7%	50.5%	
Maximum Green (s)	5.7	27.5		11.5	33.3	33.3	6.9	29.5	29.5	33.5	56.1	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	31.3	25.7		41.2	33.1	33.1	47.7	40.9	40.9	69.8	60.6	
Actuated g/C Ratio	0.26	0.21		0.34	0.28	0.28	0.40	0.34	0.34	0.58	0.50	
v/c Ratio	0.16	0.90		0.70	0.39	0.46	0.19	0.44	0.26	0.75	0.35	
Control Delay	27.1	70.4		44.7	38.0	6.6	16.0	36.3	4.8	33.0	26.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.1	70.4		44.7	38.0	6.6	16.0	36.3	4.8	33.0	26.2	
LOS	C	E		D	D	A	B	D	A	C	C	
Approach Delay		65.0			26.2			23.6			30.2	
Approach LOS		E			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 33.5

Intersection LOS: C

Intersection Capacity Utilization 80.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

2040 Background
AM Peak

Intersection												
Int Delay, s/veh	39.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	20	1	20	2	1	5	15	875	8	5	670	30
Future Vol, veh/h	20	1	20	2	1	5	15	875	8	5	670	30
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1	22	2	1	5	16	951	9	5	728	33

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1766	1767	765	1774	1779	976	771	0	0	970	0	0
Stage 1	765	765	-	998	998	-	-	-	-	-	-	-
Stage 2	1001	1002	-	776	781	-	-	-	-	-	-	-
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	*~ 8	*12	403	*8	*11	*346	844	-	-	*518	-	-
Stage 1	*396	*412	-	*327	*286	-	-	-	-	-	-	-
Stage 2	*327	*286	-	*390	*405	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*~ 7	*11	395	*7	*11	*340	836	-	-	*513	-	-
Mov Cap-2 Maneuver	*~ 7	*11	-	*7	*11	-	-	-	-	-	-	-
Stage 1	*385	*404	-	*317	*278	-	-	-	-	-	-	-
Stage 2	*311	*278	-	*360	*397	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$ 1534.2		284.5	0.2	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	836	-	-	14 20	* 513	-	-
HCM Lane V/C Ratio	0.02	-	-	3.183 0.435	0.011	-	-
HCM Control Delay (s)	9.4	-	-	\$ 1534.2 284.5	12.1	-	-
HCM Lane LOS	A	-	-	F F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.4 1.2	0	-	-

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

HCM 6th TWSC
2: Jerry Street & 6th Street

2040 Background
AM Peak

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	10	4	5	6	15	10	5	20	2
Future Vol, veh/h	1	1	1	10	4	5	6	15	10	5	20	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	1	11	4	5	7	16	11	5	22	2
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	93	94	43	90	90	42	34	0	0	37	0	0
Stage 1	43	43	-	46	46	-	-	-	-	-	-	-
Stage 2	50	51	-	44	44	-	-	-	-	-	-	-
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	891	796	1027	895	800	1029	1578	-	-	1574	-	-
Stage 1	971	859	-	968	857	-	-	-	-	-	-	-
Stage 2	963	852	-	970	858	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	861	774	1008	871	778	1009	1563	-	-	1559	-	-
Mov Cap-2 Maneuver	861	774	-	871	778	-	-	-	-	-	-	-
Stage 1	957	848	-	954	844	-	-	-	-	-	-	-
Stage 2	939	839	-	956	847	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.1		9.2			1.4			1.4			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1563	-	-	871	881	1559	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.004	0.023	0.003	-	-				
HCM Control Delay (s)	7.3	0	-	9.1	9.2	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Background
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2	6	8	3	198	9	713	9	90	569	27
Future Volume (vph)	0	2	6	8	3	198	9	713	9	90	569	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.93	0.92			1.00			1.00	
Frt		0.883			0.852			0.998			0.993	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1863	1536	0	1770	1453	0	1770	1857	0	1770	1843	0
Flt Permitted				0.450			0.394			0.269		
Satd. Flow (perm)	1863	1536	0	783	1453	0	734	1857	0	501	1843	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			215			1			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	0	2	7	9	3	215	10	775	10	98	618	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	9	218	0	10	785	0	98	647	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Background
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	10.0	23.6		9.6	23.2		9.6	73.8		13.0	77.2	
Total Split (%)	8.3%	19.7%		8.0%	19.3%		8.0%	61.5%		10.8%	64.3%	
Maximum Green (s)	5.5	19.1		5.1	18.7		5.1	69.3		8.5	72.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)		6.7		8.6	8.6		96.9	91.2		101.9	100.3	
Actuated g/C Ratio		0.06		0.07	0.07		0.81	0.76		0.85	0.84	
v/c Ratio		0.10		0.09	0.72		0.02	0.56		0.20	0.42	
Control Delay		35.5		50.4	20.7		2.2	6.5		2.7	4.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		35.5		50.4	20.7		2.2	6.5		2.7	4.5	
LOS		D		D	C		A	A		A	A	
Approach Delay		35.5			21.9			6.5			4.3	
Approach LOS		D			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 7.7

Intersection LOS: A

Intersection Capacity Utilization 69.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13 s	73.8 s	9.6 s	23.6 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
9.6 s	77.2 s	10 s	23.2 s

HCM 6th Roundabout
4: Jerry Street & 5th Street

2040 Background
AM Peak

Intersection				
Intersection Delay, s/veh	6.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	403	507	90	33
Demand Flow Rate, veh/h	411	517	92	33
Vehicles Circulating, veh/h	120	60	313	540
Vehicles Exiting, veh/h	453	345	218	37
Ped Vol Crossing Leg, #/h	20	20	20	20
Ped Cap Adj	0.997	0.997	0.997	0.997
Approach Delay, s/veh	6.2	6.7	4.5	5.0
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	411	517	92	33
Cap Entry Lane, veh/h	1221	1298	1003	796
Entry HV Adj Factor	0.981	0.981	0.976	0.989
Flow Entry, veh/h	403	507	90	33
Cap Entry, veh/h	1194	1269	976	785
V/C Ratio	0.338	0.399	0.092	0.042
Control Delay, s/veh	6.2	6.7	4.5	5.0
LOS	A	A	A	A
95th %tile Queue, veh	2	2	0	0

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2040 Background
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	201	56	216	376	513	82	288	121	321	272	39
Future Volume (vph)	12	201	56	216	376	513	82	288	121	321	272	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.98		0.98		0.91	0.96		0.91	0.98	0.99	
Frt		0.967				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1768	0	1770	1863	1583	1770	1863	1583	1770	1808	0
Flt Permitted	0.403			0.248			0.557			0.374		
Satd. Flow (perm)	728	1768	0	451	1863	1448	994	1863	1448	682	1808	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				558			177		8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	13	218	61	235	409	558	89	313	132	349	296	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	279	0	235	409	558	89	313	132	349	338	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2040 Background
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	9.5	32.0		21.0	43.5	43.5	10.5	39.0	39.0	28.0	56.5	
Total Split (%)	7.9%	26.7%		17.5%	36.3%	36.3%	8.8%	32.5%	32.5%	23.3%	47.1%	
Maximum Green (s)	5.0	27.5		16.5	39.0	39.0	6.0	34.5	34.5	23.5	52.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	27.9	22.9		42.8	39.0	39.0	52.2	45.5	45.5	68.2	57.0	
Actuated g/C Ratio	0.23	0.19		0.36	0.32	0.32	0.44	0.38	0.38	0.57	0.48	
v/c Ratio	0.06	0.81		0.71	0.68	0.66	0.19	0.44	0.20	0.63	0.39	
Control Delay	23.9	62.2		40.0	41.3	6.7	16.0	33.3	2.4	24.4	22.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.9	62.2		40.0	41.3	6.7	16.0	33.3	2.4	24.4	22.3	
LOS	C	E		D	D	A	B	C	A	C	C	
Approach Delay		60.5			25.0			22.8			23.4	
Approach LOS		E			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 28.0

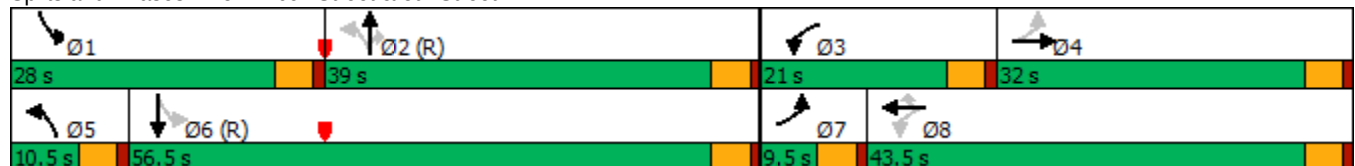
Intersection LOS: C

Intersection Capacity Utilization 74.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

2040 Background
PM Peak

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	15	1	15	10	1	10	20	950	8	5	1025	25
Future Vol, veh/h	15	1	15	10	1	10	20	950	8	5	1025	25
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	1	16	11	1	11	22	1033	9	5	1114	27

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2246	2244	1148	2248	2253	1058	1151	0	0	1052	0	0
Stage 1	1148	1148	-	1092	1092	-	-	-	-	-	-	-
Stage 2	1098	1096	-	1156	1161	-	-	-	-	-	-	-
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	30	42	242	30	41	273	607	-	-	662	-	-
Stage 1	242	273	-	260	291	-	-	-	-	-	-	-
Stage 2	258	289	-	239	270	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	27	39	237	26	38	268	601	-	-	656	-	-
Mov Cap-2 Maneuver	27	39	-	26	38	-	-	-	-	-	-	-
Stage 1	231	268	-	248	277	-	-	-	-	-	-	-
Stage 2	235	275	-	218	265	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	180.8		139.5		0.2		0	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	601	-	-	48 47	656	-	-
HCM Lane V/C Ratio	0.036	-	-	0.702 0.486	0.008	-	-
HCM Control Delay (s)	11.2	-	-	180.8 139.5	10.5	-	-
HCM Lane LOS	B	-	-	F F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.8 1.8	0	-	-

HCM 6th TWSC
2: Jerry Street & 6th Street

2040 Background
PM Peak

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	3	11	25	1	20	5	65	10	25	60	4
Future Vol, veh/h	4	3	11	25	1	20	5	65	10	25	60	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	12	27	1	22	5	71	11	27	65	4
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	239	233	87	236	230	97	79	0	0	92	0	0
Stage 1	131	131	-	97	97	-	-	-	-	-	-	-
Stage 2	108	102	-	139	133	-	-	-	-	-	-	-
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	715	667	971	718	670	959	1519	-	-	1503	-	-
Stage 1	873	788	-	910	815	-	-	-	-	-	-	-
Stage 2	897	811	-	864	786	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	673	640	953	681	643	941	1505	-	-	1489	-	-
Mov Cap-2 Maneuver	673	640	-	681	643	-	-	-	-	-	-	-
Stage 1	863	765	-	899	804	-	-	-	-	-	-	-
Stage 2	864	800	-	825	763	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.5		10		0.5		2.1					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1505	-	-	812	773	1489	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.024	0.065	0.018	-	-				
HCM Control Delay (s)	7.4	0	-	9.5	10	7.5	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0.1	0.2	0.1	-	-				

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Background
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	9	34	12	14	229	12	742	14	124	908	32
Future Volume (vph)	29	9	34	12	14	229	12	742	14	124	908	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.93		0.94	0.92			1.00			1.00	
Frt		0.882			0.859			0.997			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1533	0	1770	1471	0	1770	1854	0	1770	1848	0
Flt Permitted	0.348			0.726			0.168			0.221		
Satd. Flow (perm)	629	1533	0	1268	1471	0	313	1854	0	412	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			249			1			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	32	10	37	13	15	249	13	807	15	135	987	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	47	0	13	264	0	13	822	0	135	1022	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings

3: Wilcox Street & 6th Street

2040 Background
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.8	23.0		9.6	22.8		9.6	75.2		12.2	77.8	
Total Split (%)	8.2%	19.2%		8.0%	19.0%		8.0%	62.7%		10.2%	64.8%	
Maximum Green (s)	5.3	18.5		5.1	18.3		5.1	70.7		7.7	73.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.6	11.5		12.5	9.4		89.5	83.9		95.0	91.6	
Actuated g/C Ratio	0.11	0.10		0.10	0.08		0.75	0.70		0.79	0.76	
v/c Ratio	0.26	0.26		0.08	0.77		0.04	0.63		0.33	0.72	
Control Delay	47.1	22.7		41.1	22.7		4.2	8.4		6.1	15.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.1	22.7		41.1	22.7		4.2	8.4		6.1	15.3	
LOS	D	C		D	C		A	A		A	B	
Approach Delay		32.6			23.6			8.3			14.2	
Approach LOS		C			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 13.9

Intersection LOS: B

Intersection Capacity Utilization 89.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
12.2 s	75.2 s	9.6 s	23 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
9.6 s	77.8 s	9.8 s	22.8 s

HCM 6th Roundabout
4: Jerry Street & 5th Street

2040 Background
PM Peak

Intersection				
Intersection Delay, s/veh	7.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	533	493	218	137
Demand Flow Rate, veh/h	543	503	222	140
Vehicles Circulating, veh/h	121	124	484	527
Vehicles Exiting, veh/h	546	582	180	100
Ped Vol Crossing Leg, #/h	20	20	20	20
Ped Cap Adj	0.997	0.997	0.997	0.997
Approach Delay, s/veh	7.7	7.2	7.3	6.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	543	503	222	140
Cap Entry Lane, veh/h	1220	1216	842	806
Entry HV Adj Factor	0.982	0.980	0.980	0.981
Flow Entry, veh/h	533	493	218	137
Cap Entry, veh/h	1194	1188	823	789
V/C Ratio	0.446	0.415	0.264	0.174
Control Delay, s/veh	7.7	7.2	7.3	6.4
LOS	A	A	A	A
95th %tile Queue, veh	2	2	1	1

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2040 Background
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	352	99	250	250	360	105	412	235	640	465	37
Future Volume (vph)	66	352	99	250	250	360	105	412	235	640	465	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.98				0.91	0.97		0.91		0.99	
Frt		0.967				0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1767	0	1770	1863	1583	1770	1863	1583	1770	1831	0
Flt Permitted	0.443			0.125			0.461			0.117		
Satd. Flow (perm)	797	1767	0	233	1863	1448	832	1863	1448	218	1831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				391			136		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92
Adj. Flow (vph)	72	383	108	272	272	391	114	448	255	674	505	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	491	0	272	272	391	114	448	255	674	545	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2040 Background
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	11.0	31.0		15.0	35.0	35.0	10.0	35.0	35.0	39.0	64.0	
Total Split (%)	9.2%	25.8%		12.5%	29.2%	29.2%	8.3%	29.2%	29.2%	32.5%	53.3%	
Maximum Green (s)	6.5	26.5		10.5	30.5	30.5	5.5	30.5	30.5	34.5	59.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	36.9	28.5		43.5	34.7	34.7	40.0	32.5	32.5	71.5	61.5	
Actuated g/C Ratio	0.31	0.24		0.36	0.29	0.29	0.33	0.27	0.27	0.60	0.51	
v/c Ratio	0.23	1.15		1.11	0.51	0.56	0.34	0.89	0.52	1.12	0.58	
Control Delay	27.7	131.0		122.8	40.4	6.8	18.3	63.0	21.0	108.1	28.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.7	131.0		122.8	40.4	6.8	18.3	63.0	21.0	108.1	28.4	
LOS	C	F		F	D	A	B	E	C	F	C	
Approach Delay		117.8			50.3			43.7			72.4	
Approach LOS		F			D			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 67.2

Intersection LOS: E

Intersection Capacity Utilization 109.3%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

2040 Total
AM Peak

Intersection												
Int Delay, s/veh	120.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	1	20	2	1	5	15	912	8	5	678	47
Future Vol, veh/h	29	1	20	2	1	5	15	912	8	5	678	47
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	1	22	2	1	5	16	991	9	5	737	51
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1824	1825	783	1832	1846	1016	798	0	0	1010	0	0
Stage 1	783	783	-	1038	1038	-	-	-	-	-	-	-
Stage 2	1041	1042	-	794	808	-	-	-	-	-	-	-
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	*~ 5	*7	394	*5	*6	*320	824	-	-	*479	-	-
Stage 1	*387	*404	-	*302	*264	-	-	-	-	-	-	-
Stage 2	*302	*264	-	*381	*394	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*~ 4	*7	387	*4	*6	*314	816	-	-	*475	-	-
Mov Cap-2 Maneuver	*~ 4	*7	-	*4	*6	-	-	-	-	-	-	-
Stage 1	*376	*396	-	*293	*256	-	-	-	-	-	-	-
Stage 2	*287	*256	-	*351	*386	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, \$	4069.2		\$ 561.9		0.2		0.1					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	816	-	-	7	12	* 475	-	-				
HCM Lane V/C Ratio	0.02	-	-	7.764	0.725	0.011	-	-				
HCM Control Delay (s)	9.5	-	-	\$ 4069.2	\$ 561.9	12.7	-	-				
HCM Lane LOS	A	-	-	F	F	B	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	8.4	1.6	0	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 6th TWSC
2: Jerry Street & 6th Street

2040 Total
AM Peak

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	17	4	11	6	27	20	34	30	2
Future Vol, veh/h	1	1	1	17	4	11	6	27	20	34	30	2
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	1	18	4	12	7	29	22	37	33	2
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	190	193	54	183	183	60	45	0	0	61	0	0
Stage 1	118	118	-	64	64	-	-	-	-	-	-	-
Stage 2	72	75	-	119	119	-	-	-	-	-	-	-
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	770	702	1013	778	711	1005	1563	-	-	1542	-	-
Stage 1	887	798	-	947	842	-	-	-	-	-	-	-
Stage 2	938	833	-	885	797	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	725	668	994	744	676	986	1548	-	-	1527	-	-
Mov Cap-2 Maneuver	725	668	-	744	676	-	-	-	-	-	-	-
Stage 1	875	770	-	934	829	-	-	-	-	-	-	-
Stage 2	908	821	-	853	769	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.7		9.7			0.8			3.8			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1548	-	-	773	802	1527	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.004	0.043	0.024	-	-				
HCM Control Delay (s)	7.3	0	-	9.7	9.7	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0	0.1	0.1	-	-				

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Total
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	2	17	8	3	198	13	713	9	90	569	35
Future Volume (vph)	37	2	17	8	3	198	13	713	9	90	569	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.96	0.92		0.94	0.92			1.00			1.00	
Frt		0.865			0.852			0.998			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1488	0	1770	1453	0	1770	1857	0	1770	1837	0
Flt Permitted	0.276			0.744			0.356			0.230		
Satd. Flow (perm)	496	1488	0	1296	1453	0	663	1857	0	428	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			215			1			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	40	2	18	9	3	215	14	775	10	98	618	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	20	0	9	218	0	14	785	0	98	656	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Total
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	10.0	23.6		9.6	23.2		9.6	73.8		13.0	77.2	
Total Split (%)	8.3%	19.7%		8.0%	19.3%		8.0%	61.5%		10.8%	64.3%	
Maximum Green (s)	5.5	19.1		5.1	18.7		5.1	69.3		8.5	72.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.6	14.5		12.5	8.4		88.7	82.9		93.7	90.4	
Actuated g/C Ratio	0.13	0.12		0.10	0.07		0.74	0.69		0.78	0.75	
v/c Ratio	0.33	0.10		0.06	0.72		0.03	0.61		0.24	0.47	
Control Delay	49.5	21.6		41.2	21.3		4.0	9.8		5.2	9.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.5	21.6		41.2	21.3		4.0	9.8		5.2	9.1	
LOS	D	C		D	C		A	A		A	A	
Approach Delay		40.2			22.1			9.7			8.6	
Approach LOS		D			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 11.8

Intersection LOS: B

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13 s	73.8 s	9.6 s	23.6 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
9.6 s	77.2 s	10 s	23.2 s

HCM 6th Roundabout
4: Jerry Street & 5th Street

2040 Total
AM Peak

Intersection				
Intersection Delay, s/veh	6.5			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	409	522	93	52
Demand Flow Rate, veh/h	417	533	95	53
Vehicles Circulating, veh/h	135	69	325	540
Vehicles Exiting, veh/h	458	351	227	62
Ped Vol Crossing Leg, #/h	20	20	20	20
Ped Cap Adj	0.997	0.997	0.997	0.997
Approach Delay, s/veh	6.4	7.0	4.6	5.2
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	417	533	95	53
Cap Entry Lane, veh/h	1202	1286	991	796
Entry HV Adj Factor	0.981	0.979	0.976	0.990
Flow Entry, veh/h	409	522	93	52
Cap Entry, veh/h	1177	1256	965	785
V/C Ratio	0.348	0.416	0.096	0.067
Control Delay, s/veh	6.4	7.0	4.6	5.2
LOS	A	A	A	A
95th %tile Queue, veh	2	2	0	0

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2040 Total
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	204	58	216	384	515	88	290	121	325	279	39
Future Volume (vph)	12	204	58	216	384	515	88	290	121	325	279	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.98		0.98		0.91	0.96		0.91		0.99	
Frt		0.967				0.850			0.850		0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1767	0	1770	1863	1583	1770	1863	1583	1770	1810	0
Flt Permitted	0.390			0.241			0.554			0.369		
Satd. Flow (perm)	706	1767	0	439	1863	1448	989	1863	1448	687	1810	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				560			177		7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	13	222	63	235	417	560	96	315	132	353	303	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	285	0	235	417	560	96	315	132	353	345	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2040 Total
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	9.5	32.0		21.0	43.5	43.5	10.5	39.0	39.0	28.0	56.5	
Total Split (%)	7.9%	26.7%		17.5%	36.3%	36.3%	8.8%	32.5%	32.5%	23.3%	47.1%	
Maximum Green (s)	5.0	27.5		16.5	39.0	39.0	6.0	34.5	34.5	23.5	52.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	28.1	23.1		43.0	39.2	39.2	51.9	45.1	45.1	68.0	56.7	
Actuated g/C Ratio	0.23	0.19		0.36	0.33	0.33	0.43	0.38	0.38	0.57	0.47	
v/c Ratio	0.06	0.82		0.72	0.69	0.66	0.20	0.45	0.20	0.64	0.40	
Control Delay	23.8	63.2		40.2	41.6	6.7	16.2	33.6	2.4	28.8	26.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.8	63.2		40.2	41.6	6.7	16.2	33.6	2.4	28.8	26.7	
LOS	C	E		D	D	A	B	C	A	C	C	
Approach Delay		61.4			25.2			22.9			27.8	
Approach LOS		E			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 29.3

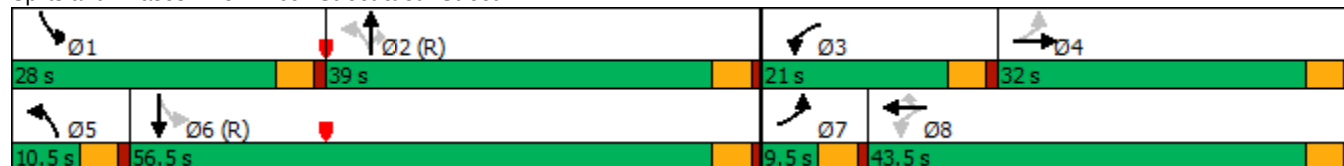
Intersection LOS: C

Intersection Capacity Utilization 75.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

2040 Total
PM Peak

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	23	1	15	10	1	10	20	975	8	5	1037	60
Future Vol, veh/h	23	1	15	10	1	10	20	975	8	5	1037	60
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	1	16	11	1	11	22	1060	9	5	1127	65

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2305	2303	1180	2307	2331	1085	1202	0	0	1079	0	0
Stage 1	1180	1180	-	1119	1119	-	-	-	-	-	-	-
Stage 2	1125	1123	-	1188	1212	-	-	-	-	-	-	-
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	27	38	232	27	37	263	581	-	-	646	-	-
Stage 1	232	264	-	251	282	-	-	-	-	-	-	-
Stage 2	249	281	-	230	255	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 24	36	228	23	35	258	575	-	-	640	-	-
Mov Cap-2 Maneuver	~ 24	36	-	23	35	-	-	-	-	-	-	-
Stage 1	221	259	-	239	268	-	-	-	-	-	-	-
Stage 2	226	268	-	209	250	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s\$	361.4	165.5	0.2	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	575	-	-	37 42	640	-	-
HCM Lane V/C Ratio	0.038	-	-	1.146 0.543	0.008	-	-
HCM Control Delay (s)	11.5	-	-	\$ 361.4 165.5	10.7	-	-
HCM Lane LOS	B	-	-	F F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.3 2	0	-	-

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

HCM 6th TWSC
2: Jerry Street & 6th Street

2040 Total
PM Peak

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	3	11	29	1	30	5	81	20	46	72	4
Future Vol, veh/h	4	3	11	29	1	30	5	81	20	46	72	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	12	32	1	33	5	88	22	50	78	4
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	326	320	100	317	311	119	92	0	0	120	0	0
Stage 1	190	190	-	119	119	-	-	-	-	-	-	-
Stage 2	136	130	-	198	192	-	-	-	-	-	-	-
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	627	597	956	636	604	933	1503	-	-	1468	-	-
Stage 1	812	743	-	885	797	-	-	-	-	-	-	-
Stage 2	867	789	-	804	742	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	574	562	938	595	568	915	1489	-	-	1454	-	-
Mov Cap-2 Maneuver	574	562	-	595	568	-	-	-	-	-	-	-
Stage 1	801	709	-	873	786	-	-	-	-	-	-	-
Stage 2	824	778	-	754	708	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.9		10.5			0.4			2.9			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1489	-	-	749	720	1454	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.026	0.091	0.034	-	-				
HCM Control Delay (s)	7.4	0	-	9.9	10.5	7.6	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0.1	0.3	0.1	-	-				

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Total
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	9	45	12	14	229	19	742	14	124	908	44
Future Volume (vph)	54	9	45	12	14	229	19	742	14	124	908	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.93		0.94	0.92			1.00			1.00	
Frt		0.875			0.859			0.997			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1514	0	1770	1471	0	1770	1854	0	1770	1842	0
Flt Permitted	0.288			0.719			0.146			0.207		
Satd. Flow (perm)	521	1514	0	1257	1471	0	272	1854	0	386	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			242			1			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	59	10	49	13	15	249	21	807	15	135	987	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	59	0	13	264	0	21	822	0	135	1035	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Synchro 10 Report

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Total
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.8	23.0		9.6	22.8		9.6	75.2		12.2	77.8	
Total Split (%)	8.2%	19.2%		8.0%	19.0%		8.0%	62.7%		10.2%	64.8%	
Maximum Green (s)	5.3	18.5		5.1	18.3		5.1	70.7		7.7	73.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	16.0	13.9		14.0	9.9		87.0	81.4		92.5	89.2	
Actuated g/C Ratio	0.13	0.12		0.12	0.08		0.72	0.68		0.77	0.74	
v/c Ratio	0.48	0.27		0.08	0.77		0.08	0.65		0.35	0.76	
Control Delay	54.3	19.3		40.0	23.9		4.3	9.0		6.9	17.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.3	19.3		40.0	23.9		4.3	9.0		6.9	17.1	
LOS	D	B		D	C		A	A		A	B	
Approach Delay		36.8			24.7			8.8			15.9	
Approach LOS		D			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 90.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

														
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8				
12.2 s	75.2 s		9.6 s	23 s		9.6 s	77.8 s		9.8 s	22.8 s				

HCM 6th Roundabout
4: Jerry Street & 5th Street

2040 Total
PM Peak

Intersection				
Intersection Delay, s/veh	7.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	539	507	225	154
Demand Flow Rate, veh/h	550	517	230	157
Vehicles Circulating, veh/h	133	139	498	527
Vehicles Exiting, veh/h	551	589	185	129
Ped Vol Crossing Leg, #/h	20	20	20	20
Ped Cap Adj	0.997	0.997	0.997	0.997
Approach Delay, s/veh	7.9	7.6	7.5	6.6
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	550	517	230	157
Cap Entry Lane, veh/h	1205	1197	830	806
Entry HV Adj Factor	0.980	0.980	0.980	0.983
Flow Entry, veh/h	539	507	225	154
Cap Entry, veh/h	1178	1171	812	790
V/C Ratio	0.458	0.433	0.278	0.195
Control Delay, s/veh	7.9	7.6	7.5	6.6
LOS	A	A	A	A
95th %tile Queue, veh	2	2	1	1

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2040 Total
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	357	101	250	257	363	111	416	235	644	472	37
Future Volume (vph)	66	357	101	250	257	363	111	416	235	644	472	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.98				0.91	0.97		0.91		0.99	
Frt		0.967				0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1767	0	1770	1863	1583	1770	1863	1583	1770	1831	0
Flt Permitted	0.431			0.125			0.457			0.117		
Satd. Flow (perm)	776	1767	0	233	1863	1448	825	1863	1448	218	1831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				395			136		5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			396			471			1132	
Travel Time (s)		30.9			9.0			10.7			25.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92
Adj. Flow (vph)	72	388	110	272	279	395	121	452	255	678	513	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	498	0	272	279	395	121	452	255	678	553	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	

Lanes, Volumes, Timings
5: Wilcox Street & 5th Street

2040 Total
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	7	4		3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	11.0	31.0		15.0	35.0	35.0	10.0	35.0	35.0	39.0	64.0	
Total Split (%)	9.2%	25.8%		12.5%	29.2%	29.2%	8.3%	29.2%	29.2%	32.5%	53.3%	
Maximum Green (s)	6.5	26.5		10.5	30.5	30.5	5.5	30.5	30.5	34.5	59.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effect Green (s)	36.9	28.5		43.5	34.7	34.7	40.0	32.5	32.5	71.5	61.5	
Actuated g/C Ratio	0.31	0.24		0.36	0.29	0.29	0.33	0.27	0.27	0.60	0.51	
v/c Ratio	0.23	1.16		1.11	0.52	0.57	0.36	0.90	0.52	1.13	0.59	
Control Delay	27.7	136.7		122.8	40.7	6.9	18.7	64.1	21.0	111.1	28.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.7	136.7		122.8	40.7	6.9	18.7	64.1	21.0	111.1	28.8	
LOS	C	F		F	D	A	B	E	C	F	C	
Approach Delay		122.9			50.2			44.2			74.1	
Approach LOS		F			D			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 68.6

Intersection LOS: E

Intersection Capacity Utilization 110.1%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 5: Wilcox Street & 5th Street



HCM 6th TWSC
1: Wilcox Street & Jerry Street

2040 Total - mitigated
AM Peak

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	20	0	0	8	15	941	9	5	678	47
Future Vol, veh/h	0	0	20	0	0	8	15	941	9	5	678	47
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	22	0	0	9	16	1023	10	5	737	51

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	783	-	-	1048	798	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	2.218	-
Pot Cap-1 Maneuver	0	0	394	0	0	*294	824	-
Stage 1	0	0	-	0	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-
Platoon blocked, %						1	-	1
Mov Cap-1 Maneuver	-	-	387	-	-	*289	816	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.9	17.8	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	816	-	-	387	289	*436	-
HCM Lane V/C Ratio	0.02	-	-	0.056	0.03	0.012	-
HCM Control Delay (s)	9.5	-	-	14.9	17.8	13.4	-
HCM Lane LOS	A	-	-	B	C	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-

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

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Total - mitigated
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	2	17	8	3	198	13	713	9	90	569	35
Future Volume (vph)	67	2	17	8	3	198	13	713	9	90	569	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.96	0.92		0.94	0.92			1.00			1.00	
Frt		0.865			0.852			0.998			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1488	0	1770	1453	0	1770	1857	0	1770	1837	0
Flt Permitted	0.276			0.744			0.356			0.230		
Satd. Flow (perm)	496	1488	0	1296	1453	0	663	1857	0	428	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			215			1			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	73	2	18	9	3	215	14	775	10	98	618	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	20	0	9	218	0	14	785	0	98	656	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Total - mitigated
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	10.0	23.6		9.6	23.2		9.6	73.8		13.0	77.2	
Total Split (%)	8.3%	19.7%		8.0%	19.3%		8.0%	61.5%		10.8%	64.3%	
Maximum Green (s)	5.5	19.1		5.1	18.7		5.1	69.3		8.5	72.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	15.6	14.5		12.5	8.4		88.7	82.9		93.7	90.4	
Actuated g/C Ratio	0.13	0.12		0.10	0.07		0.74	0.69		0.78	0.75	
v/c Ratio	0.60	0.10		0.06	0.72		0.03	0.61		0.24	0.47	
Control Delay	64.6	21.4		41.2	21.3		4.2	9.9		5.2	9.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	64.6	21.4		41.2	21.3		4.2	9.9		5.2	9.1	
LOS	E	C		D	C		A	A		A	A	
Approach Delay		55.4			22.1			9.8			8.6	
Approach LOS		E			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 13.0

Intersection LOS: B

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13 s	73.8 s	9.6 s	23.6 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
9.6 s	77.2 s	10 s	23.2 s

HCM 6th TWSC
1: Wilcox Street & Jerry Street

2040 Total - mitigated
PM Peak

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↰			↰	↰	↰		↰	↰	
Traffic Vol, veh/h	0	0	15	0	0	21	20	998	9	5	1037	60
Future Vol, veh/h	0	0	15	0	0	21	20	998	9	5	1037	60
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	16	0	0	23	22	1085	10	5	1127	65
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	1180	-	-	1110	1202	0	0	1105	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	0	232	0	0	255	581	-	-	632	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	228	-	-	250	575	-	-	626	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	22		20.8		0.2		0					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	575	-	-	228	250	626	-	-				
HCM Lane V/C Ratio	0.038	-	-	0.072	0.091	0.009	-	-				
HCM Control Delay (s)	11.5	-	-	22	20.8	10.8	-	-				
HCM Lane LOS	B	-	-	C	C	B	-	-				
HCM 95th %tile O(veh)	0.1	-	-	0.2	0.3	0	-	-				

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Total - mitigated

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	9	45	12	14	229	19	742	14	124	908	44
Future Volume (vph)	78	9	45	12	14	229	19	742	14	124	908	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.93		0.94	0.92			1.00			1.00	
Frt		0.875			0.859			0.997			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1514	0	1770	1471	0	1770	1854	0	1770	1842	0
Flt Permitted	0.247			0.719			0.130			0.194		
Satd. Flow (perm)	447	1514	0	1257	1471	0	242	1854	0	361	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			231			1			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1358			361			1132			1677	
Travel Time (s)		30.9			8.2			25.7			38.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		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
Adj. Flow (vph)	85	10	49	13	15	249	21	807	15	135	987	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	59	0	13	264	0	21	822	0	135	1035	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	

Synchro 10 Report

Lanes, Volumes, Timings
3: Wilcox Street & 6th Street

2040 Total - mitigated

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.8	23.0		9.6	22.8		9.6	75.2		12.2	77.8	
Total Split (%)	8.2%	19.2%		8.0%	19.0%		8.0%	62.7%		10.2%	64.8%	
Maximum Green (s)	5.3	18.5		5.1	18.3		5.1	70.7		7.7	73.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	18.3	16.2		15.3	10.2		84.6	79.0		90.2	86.9	
Actuated g/C Ratio	0.15	0.14		0.13	0.08		0.70	0.66		0.75	0.72	
v/c Ratio	0.67	0.24		0.07	0.79		0.09	0.67		0.38	0.78	
Control Delay	69.2	18.9		39.6	26.6		4.4	9.5		7.6	18.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	69.2	18.9		39.6	26.6		4.4	9.5		7.6	18.3	
LOS	E	B		D	C		A	A		A	B	
Approach Delay		48.6			27.2			9.4			17.1	
Approach LOS		D			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 90.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Wilcox Street & 6th Street

														
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8				
12.2 s	75.2 s		9.6 s	23 s		9.6 s	77.8 s		9.8 s	22.8 s				