

LSC TRANSPORTATION CONSULTANTS, INC.

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February 17, 2021

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

Re: The View at Castle Rock
Traffic Impact Analysis
Castle Rock, CO
LSC #200310

Dear Mr. Treanor:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated traffic impact analysis for the proposed The View at Castle Rock development to address Town comments. As shown on Figure 1, the site is located north of Sixth Street and east of Jerry Street in Castle Rock, Colorado.

REPORT CONTENTS

The report contains the following: the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, posted speed limits, etc.; the existing weekday peak-hour traffic volumes; the existing daily traffic volumes in the area; the typical weekday site-generated traffic volume projections for the site; the assignment of the projected traffic volumes to the area roadways; the projected short-term and long-term background and resulting total traffic volumes on the area roadways; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the growth in background traffic and from trips generated by the site.

LAND USE AND ACCESS

The site is proposed to include about 220 apartment dwelling units; about 14,500 square feet of office space; and about 5,000 square feet of restaurant space. Access is proposed to the local street system as shown in the conceptual site plan in Figures 2a, 2b, and 2c.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **Wilcox Street** is a north-south, three-lane major arterial roadway east of the site. The intersections with Fifth Street and Sixth Street are signalized with auxiliary turn lanes. The intersection with Jerry Street is stop-sign controlled.
- **Fifth Street** is an east-west, two-lane collector roadway south of the site. The intersection with Wilcox Street is signalized with auxiliary turn lanes. The intersection with Jerry Street is stop-sign controlled and planned to be a modern roundabout by 2040.
- **Sixth Street** is an east-west, two-lane local roadway south of the site. The intersection with Wilcox Street is signalized with auxiliary turn lanes and the intersection with Jerry Street is stop-sign controlled.
- **Jerry Street** is a north-south, local roadway west of the site. The intersection with Wilcox Street is unsignalized with auxiliary turn lanes and the intersection with Jerry Street is stop-sign controlled but planned to be a modern roundabout by 2040.

Existing Traffic Conditions

Figure 3 shows the existing traffic volumes, lane geometry, and traffic control in the site's vicinity on a typical weekday. The weekday peak-hour traffic volumes at Intersections #3, #4, and #5 are from the attached 2018 traffic data provided by Town staff and grown at an annual rate of 0.5 percent. These counts were supplemented by the attached traffic counts conducted by Counter Measures in May, 2020. The May, 2020 traffic counts were balanced with those at Intersections #3, #4, and #5 to estimate the pandemic adjusted peak-hour volumes within the study area.

2023 and 2040 Background Traffic

Figure 4 shows the estimated 2023 background traffic and Figure 5 shows the estimated 2040 background traffic. The projected traffic volumes at the intersections of Wilcox Street/Sixth Street (#3), Fifth Street/Jerry Street (#4), and Wilcox Street/Fifth Street (#5) were provided by the Town. The traffic volumes at the intersections counted by Counter Measures, Inc. were balanced with these volumes as appropriate. The 2023 background traffic was prorated between the existing traffic volumes in Figure 3 and the 2040 background traffic volumes in Figure 5.

Existing, 2023, and 2040 Background Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for signalized and unsignalized intersections.

The intersections in Figures 3 through 5 were analyzed to determine the existing, 2023, and 2040 background levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

1. **Wilcox Street/Jerry Street:** All movements at this stop-controlled intersection currently operate at LOS "C" or better during both morning and afternoon peak-hours with the ex-

ception of the eastbound and westbound approaches which operate at LOS “E” in the afternoon peak-hour. By 2023, the eastbound and westbound approaches are expected to operate at LOS “F” in the afternoon peak-hour and are expected to do so in both peak-hours by 2040.

2. **Jerry Street/Sixth Street:** All movements at this stop-controlled intersection currently operate at LOS “A” and are expected to do so through 2040.
3. **Wilcox Street/Sixth Street:** This signalized intersection currently operates at an overall LOS “A” during both morning and afternoon peak-hour and is expected to do so through 2023. In 2040, the morning peak-hour is expected to operate at LOS “A” and the afternoon peak-hour is expected to operate at LOS “B”.
4. **Jerry Street/Fifth Street:** All movements at this stop-controlled intersection currently operate at LOS “C” or better and are expected to do so through 2023. By 2040, this intersection is expected to be converted to a modern roundabout and operate at LOS “A” during both peak-hours.
5. **Wilcox Street/Fifth Street:** This signalized intersection currently operates at an overall LOS “C” during both morning and afternoon peak-hours and is expected to do so through 2023. In 2040, the morning peak-hour is expected to operate at LOS “C” and the afternoon peak-hour is expected to operate at LOS “E”.

BICYCLE AND PEDESTRIAN OPPORTUNITIES

Bicycle Opportunities

The *Town of Castle Rock Transportation Master Plan* (TMP) was updated in 2017 and includes Figure ES-10 in the Executive Summary “Existing and Proposed Bike Network”. The plan shows both Fifth Street and Wilcox Street proposed as sharrows routes for on-street bicycle accommodation. In addition, Town staff has indicated Jerry Street as a shared use facility with sharrows to accommodate bikes. Bikes can also be accommodated in the alley between Jerry Street and Wilcox Street.

Pedestrian Opportunities

The site should provide pedestrian connections to the existing sidewalk on the north side of Sixth Street between Jerry Street and Perry Street and the existing sidewalk on the east side of Jerry Street from Sixth Street to Fifth Street. This will accommodate future residents who desire to walk to other employment and retail locations in the downtown area. The future roundabout planned at Fifth Street/Jerry Street will provide an additional enhanced pedestrian crossing of Fifth Street.

TRIP GENERATION

Table 2 shows the estimated average weekday, morning peak-hour, and afternoon peak-hour trip generation for the proposed site based on the rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE).

The site is projected to generate about 1,731 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 54 vehicles would enter and about 76 vehicles would exit the site. During the afternoon peak-hour, which generally occurs for one hour between 4:00 and 6:00 p.m., about 83 vehicles would enter and about 65 vehicles would exit. Table 2 shows how these volumes will be reduced by the removal of the self storage use on the property.

The net increase in trip generation potential is expected to be about 1,669 average weekday trips, about 51 entering and 74 exiting trips in the morning peak-hour, and about 80 entering and 61 exiting trips in the afternoon peak-hour.

TRIP DISTRIBUTION

Figure 6 shows the estimated directional distribution of site-generated traffic volumes on the area roadways. The estimates were based on the location of the site with respect to the regional population, employment, activity centers, the site's proposed land use; and through coordination with the Town.

TRIP ASSIGNMENT

Figures 7a and 7b show the estimated residential and non-residential site-generated traffic volumes based on the directional distribution percentages (from Figure 6) and the trip generation estimate (from Table 2).

2023 AND 2040 TOTAL TRAFFIC

Figure 8 shows the 2023 total traffic which is the sum of the 2023 background traffic volumes (from Figure 4) and the site-generated traffic volumes (from Figures 7a and 7b). Figure 8 also shows the recommended 2023 lane geometry and traffic control.

Figure 9 shows the 2040 total traffic which is the sum of the 2040 background traffic volumes (from Figure 5) and the site-generated traffic volumes (from Figures 7a and 7b). Figure 9 also shows the recommended 2040 lane geometry and traffic control.

Figure 10 shows the reassignment of the 2040 total traffic volumes assuming the intersection of Wilcox Street/Jerry Street (#1) is converted to three-quarter movement by 2040.

PROJECTED LEVELS OF SERVICE

The intersections in Figures 8 and 9 were analyzed to determine the 2023 and 2040 total traffic levels of service. Table 1 shows the level of service analysis results.

- 1. Wilcox Street/Jerry Street:** All movements at this stop-controlled intersection are expected to operate at LOS "D" or better during both morning and afternoon peak-hours through 2040 with the exception of the eastbound and westbound approaches which are expected to operate at LOS "F" in the 2023 afternoon peak-hour and in both peak-hours by 2040 with or without the addition of site traffic. A traffic signal warrant is not likely to

be met but drivers will have the option to use the traffic signal at Sixth Street to turn north on Wilcox Street. Table 1 shows a mitigated option with this intersection converted to three-quarter movement by 2040. With this conversion, all movements are expected to operate at LOS “C” or better through 2040.

2. **Jerry Street/Sixth Street:** All movements at this stop-controlled intersection are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2040.
3. **Wilcox Street/Sixth Street:** This signalized intersection is expected to operate at an overall LOS “B” or better during both morning and afternoon peak-hour through 2040 both with and without the potential mitigation of converting Wilcox Street/Jerry Street to three-quarter movement by 2040.
4. **Jerry Street/Fifth Street:** All movements at this stop-controlled intersection are expected to operate at LOS “C” or better through 2023. By 2040, this intersection is expected to be converted to a modern roundabout and operate at LOS “A” during both peak-hours. The applicant should work with the Town to stripe an eastbound right-turn lane on Fifth Street approaching Jerry Street. This should only require the addition of pavement markings and is recommended to occur in Year 1 of the project.
5. **Wilcox Street/Fifth Street:** This signalized intersection is expected to operate at an overall LOS “C” during both morning and afternoon peak-hours through 2023. In 2040, the morning peak-hour is expected to operate at LOS “C” and the afternoon peak-hour is expected to operate at LOS “E” with or without the addition of site traffic.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

1. The site is projected to generate about 1,731 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, about 54 vehicles would enter and about 76 vehicles would exit the site. During the afternoon peak-hour, about 83 vehicles would enter and about 65 vehicles would exit. Table 2 shows how these volumes will be reduced by the removal of the self storage use on the property. The net increase in trip generation potential is expected to be about 1,669 average weekday trips, about 51 entering and 74 exiting trips in the morning peak-hour, and about 80 entering and 61 exiting trips in the afternoon peak-hour.

Projected Levels of Service

2. All movements at the unsignalized intersections analyzed are expected to operate at LOS “D” or better through 2040 with the following exception: The eastbound and westbound approaches at the Wilcox Street/Jerry Street intersection (#1) are expected to operate at LOS “F” in the future with or without the addition of site traffic. A traffic signal warrant is not likely to be met but drivers will have the option to use the traffic signal at Sixth Street (#3) to turn north on Wilcox Street. The study includes a mitigated option to restrict

this intersection to three-quarter movement by 2040. With this conversion, all movements are expected to operate at LOS “C” or better through 2040.

3. All of the signalized intersections analyzed are expected to operate at overall LOS “C” or better through 2040 with the following exception: The afternoon peak-hour at the Wilcox Street/Fifth Street intersection (#5) is expected to operate at LOS “E” in the 2040 afternoon peak-hour with or without the addition of site traffic.

Conclusions

4. The impact of The View at Castle Rock can be accommodated by the existing roadway network with implementation of the recommendations below.

Recommendations

5. The applicant should provide pedestrian connections to the existing sidewalk on the north side of Sixth Street between Jerry Street and Perry Street and the existing sidewalk on the east side of Jerry Street from Sixth Street to Fifth Street.
6. The applicant should work with Town staff to determine if shared bike sharrow markings should be provided on Jerry Street west of the site and on the alley east of the site.
7. The Town of Castle Rock should construct a modern roundabout at the intersection of Fifth Street/Jerry Street (#4) by 2040. The site-generated traffic is estimated to comprise about 3.6 percent of 2040 peak-hour intersection traffic so the site impact is minimal.
8. The Wilcox Street/Jerry Street intersection may need to be limited to three-quarter movement over time to mitigate poor levels of service. This conversion would be done at the Town’s discretion.
9. The applicant should work with the Town to strip an eastbound right-turn lane on Fifth Street approaching Jerry Street. This should only require the addition of pavement markings and is recommended to occur in Year 1 of the project.

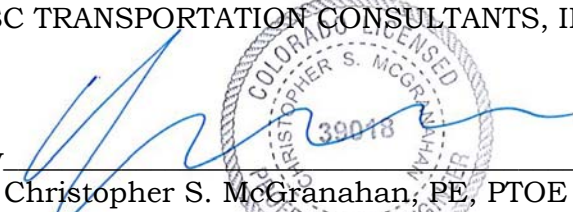
* * * * *

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

2-17-21

Enclosures: Tables 1 and 2
Figures 1 - 10
Capacity Analysis Sheets provided by Town Staff (used for Estimating Existing
and 2040 Background Traffic)
Traffic Counts
Level of Service Definitions
Level of Service Reports

Table 1
Intersection Levels of Service Analysis
The View at Castle Rock
Castle Rock, CO
LSC #200310; February, 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	C	F	D	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		18.7	45.2	23.8	82.6	33.3	185.0	>240	168.6	>240	>240	17.6	21.2
<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	A	A	B		
SB Approach		A	A	A	A	A	A	A	A	A	A		
Critical Movement Delay		8.9	9.1	8.9	9.3	9.4	9.7	9.0	9.7	9.5	10.2		
<u>Wilcox Street/Sixth Street</u>	Signalized												
EB Left		A	D	A	D	D	D	A	D	D	E	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		B	C	B	C	C	C	B	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)		6.0	8.7	6.1	9.3	10.0	11.0	7.5	13.6	11.4	14.9	12.7	16.5
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	B	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		12.6	15.0	13.1	16.4	14.2	18.1	--	--	--	--		
	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	6.4	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	C	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)		23.3	29.7	23.5	31.8	21.4	33.0	27.6	66.0	29.0	67.4		
Entire Intersection LOS		C	C	C	C	C	C	C	E	C	E		

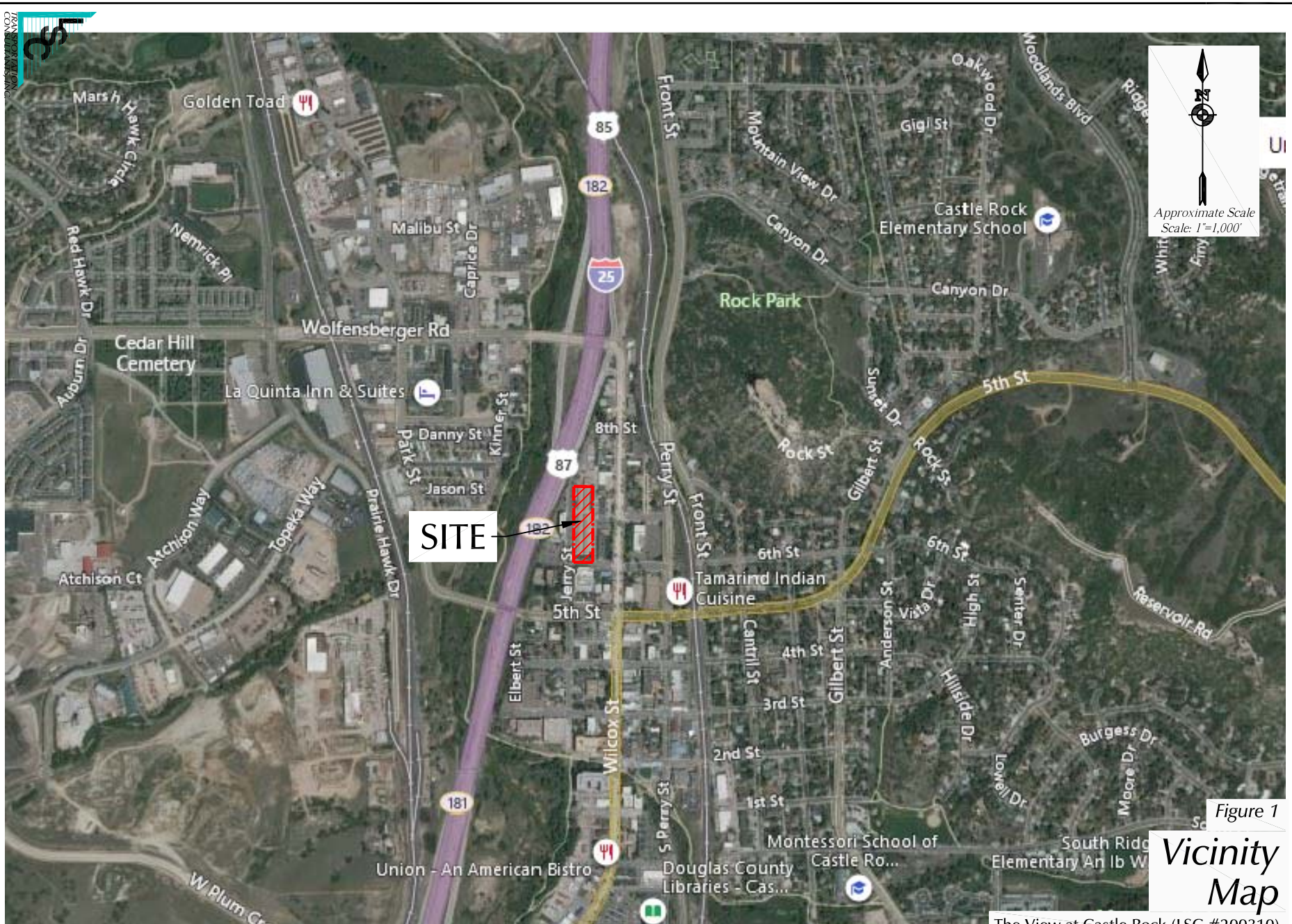
(1) Potential mitigation is to convert the Wilcox Street/Jerry Street intersection to three-quarter movement. This would be done at the discretion of the Town.

Table 2
ESTIMATED TRAFFIC GENERATION
The View at Castle Rock
Castle Rock, CO
LSC #200310; February, 2021

Trip Generating Category	Quantity	Trip Generation Rates ⁽¹⁾					Vehicle-Trips Generated				
		Average Weekday	AM Peak-Hour		PM Peak-Hour		Average Weekday	AM Peak-Hour		PM Peak-Hour	
			In	Out	In	Out		In	Out	In	Out
EXISTING LAND USE											
Self Storage ⁽²⁾	41 KSF ⁽³⁾	1.51	0.060	0.040	0.080	0.090	62	3	2	3	4
CURRENTLY PROPOSED LAND USE											
Apartments ⁽⁴⁾	220 DU ⁽⁵⁾	5.44	0.094	0.266	0.268	0.172	1,197	21	59	59	38
Office ⁽⁶⁾	14.5 KSF ⁽³⁾	9.74	0.998	0.162	0.184	0.966	141	14	2	3	14
Restaurant ⁽⁷⁾	5.0 KSF	112.18	5.467	4.473	6.057	3.713	561	27	22	30	19
Total =							1,899	62	83	92	71
Internal Trips ⁽⁸⁾ =							168	8	7	9	6
Net External Trips =							1,731	54	76	83	65
Credit for Existing Land Use Trips =							62	3	2	3	4
Net New Trips =							1,669	51	74	80	61

Notes:

- (1) Source: *Trip Generation*, Institute of Transportation Engineers, 10th Edition, 2017.
- (2) ITE Land Use No. 151 - Mini-Warehouse
- (3) KSF = 1,000 square feet
- (4) ITE Land Use No. 221 - Multifamily Housing (Mid-Rise)
- (5) DU = Dwelling Units
- (6) ITE Land Use No. 710 - General Office Building
- (7) ITE Land Use No. 932 - High Turnover (Sit-Down) Restaurant
- (8) Thirty percent of restaurant trips are expected to be either internal trips from the residential and office uses or alternative travel mode trips (walk, bike, etc.) from the surrounding area.





Approximate Scale
Scale: NTS

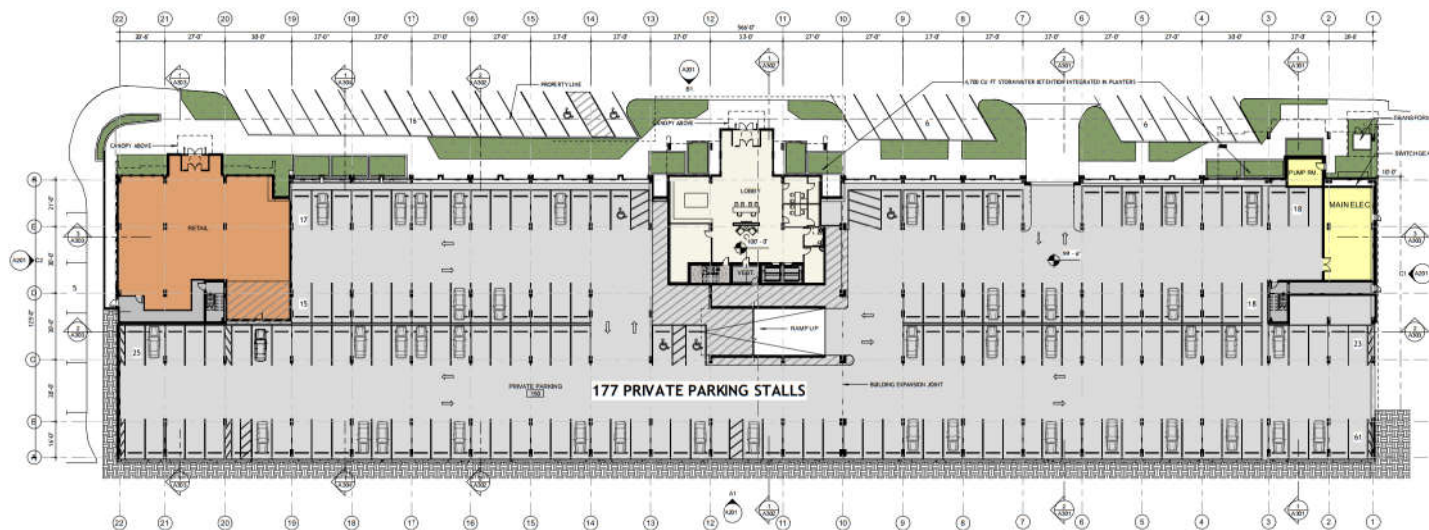


Figure 2a

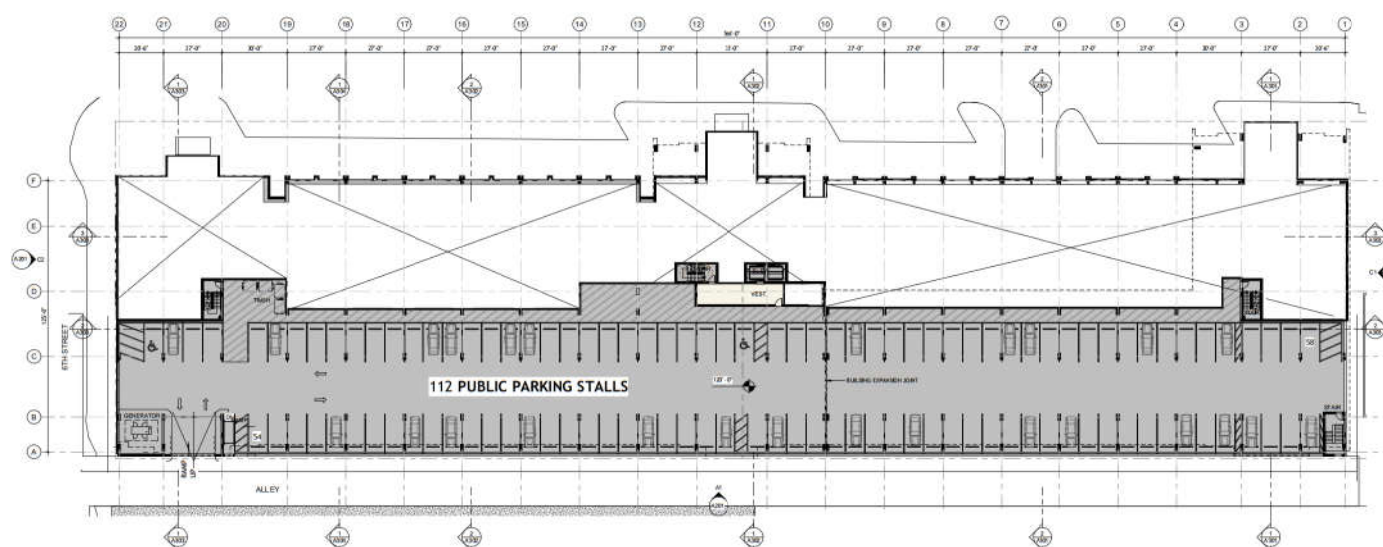
Site Plan (Level 1)

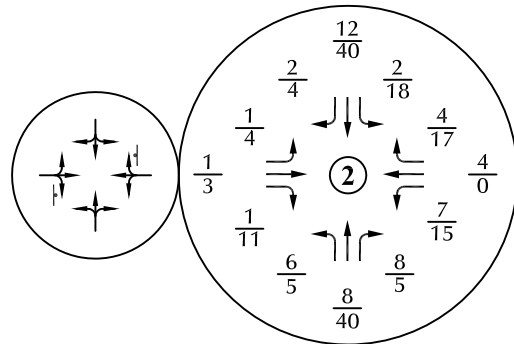
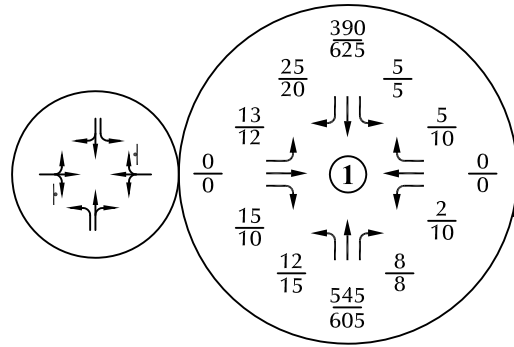
The View at Castle Rock (LSC #200310)

Figure 2b

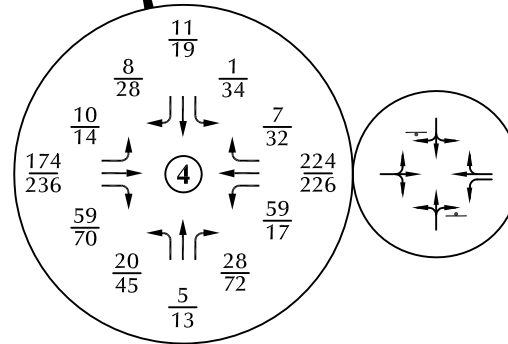
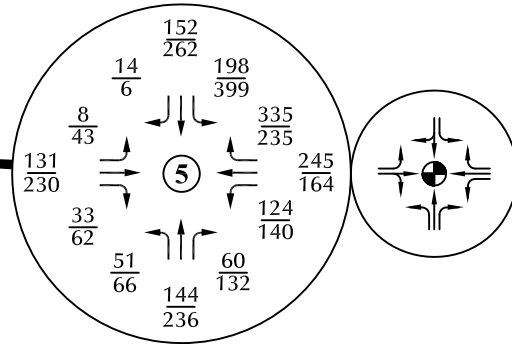
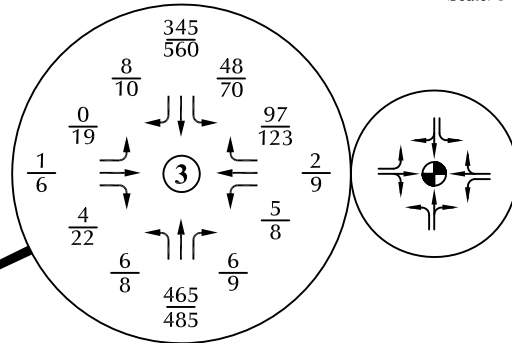
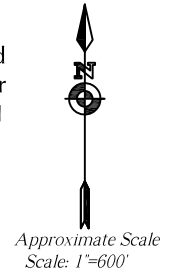
Site Plan (Level 2)

The View at Castle Rock (LSC #200310)





Note: Existing 2018 traffic volumes provided by Town staff at #3, #4, #5 and grown at an annual rate of 0.5 percent per direction from Town staff. Intersection #1 and #2 were counted and balanced with the other three intersections.



LEGEND:

⊥ = Stop Sign

⦿ = Traffic Signal

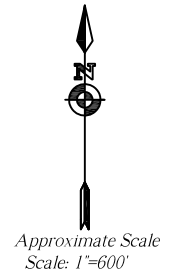
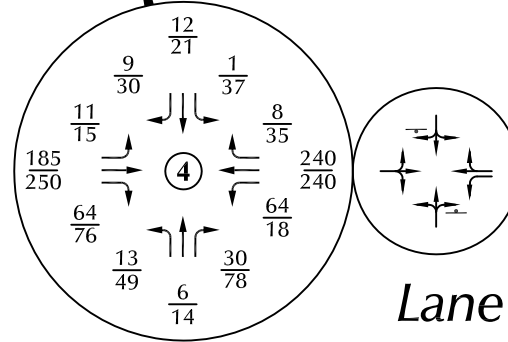
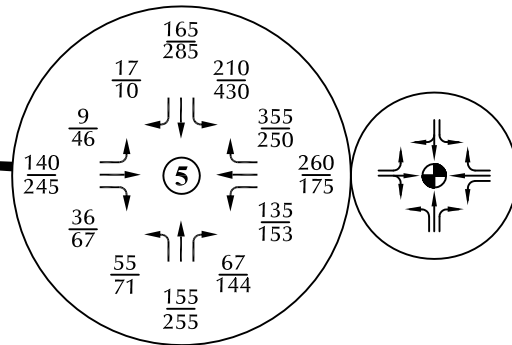
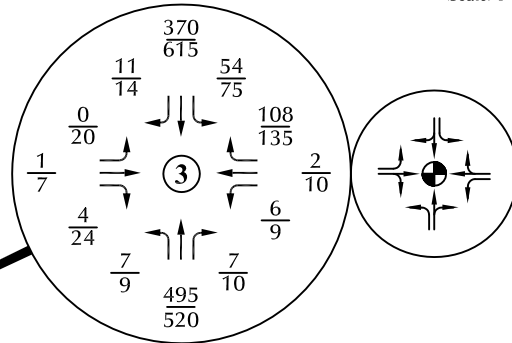
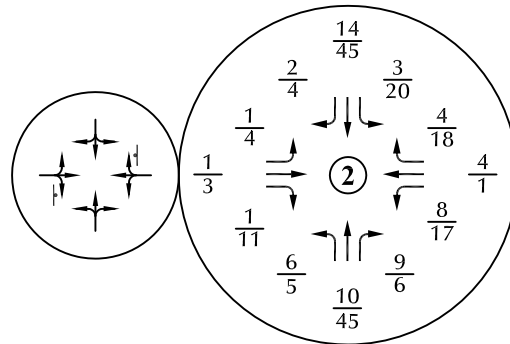
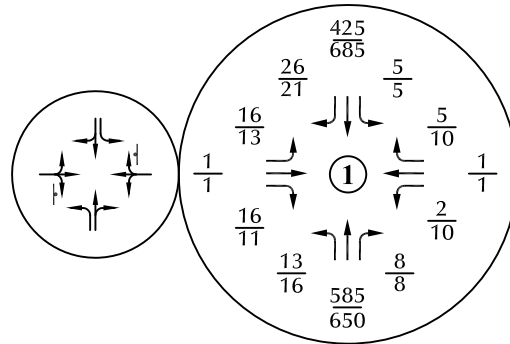
= Speed Limit

$\frac{26}{35}$ = AM Peak Hour Traffic
PM Peak Hour Traffic

Figure 3

Existing Traffic, Lane Geometry and Traffic Control

The View at Castle Rock (LSC #200310)



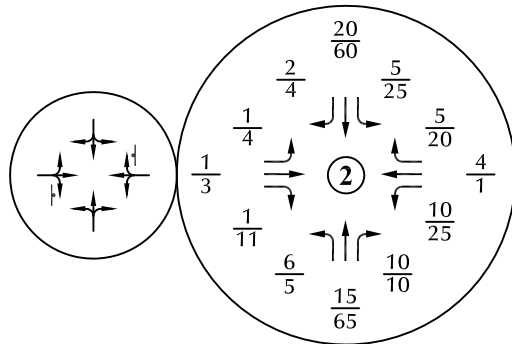
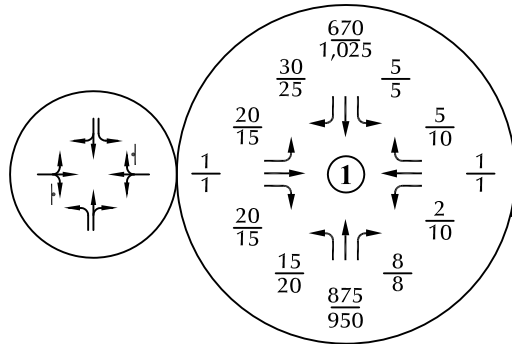
Note: The projected traffic volumes were prorated between the existing traffic volumes in Figure 3 and the 2040 background traffic volumes in Figure 5.

LEGEND:

- ⊥ = Stop Sign
- = Traffic Signal
- $\frac{26}{35}$ = AM Peak Hour Traffic / PM Peak Hour Traffic

Figure 4
**Year 2023 Background Traffic,
Lane Geometry and Traffic Control**

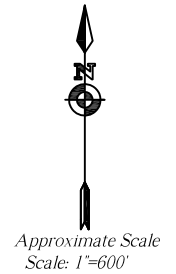
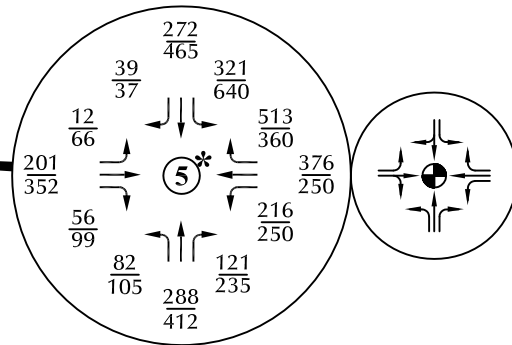
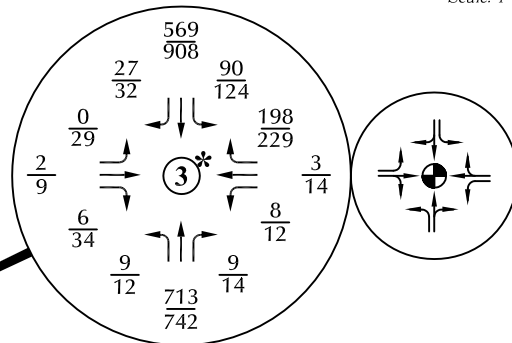
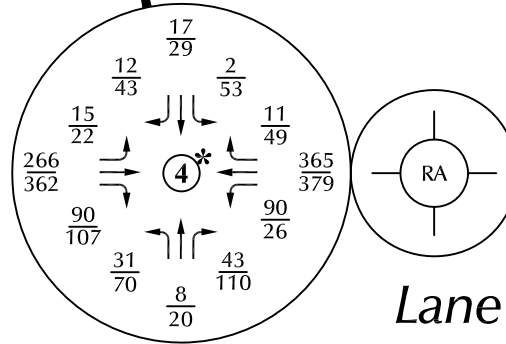
The View at Castle Rock (LSC #200310)



* The projected volumes at intersections #3, #4 and #5 were provided by the Town of Castle Rock. The other intersections were balanced with these as appropriate.

LEGEND:

- = Stop Sign
- = Traffic Signal
- = Modern Roundabout
- $\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$



Year 2040 Background Traffic, Lane Geometry and Traffic Control

The View at Castle Rock (LSC #200310)

Figure 5



Approximate Scale
Scale: 1"=1,000'

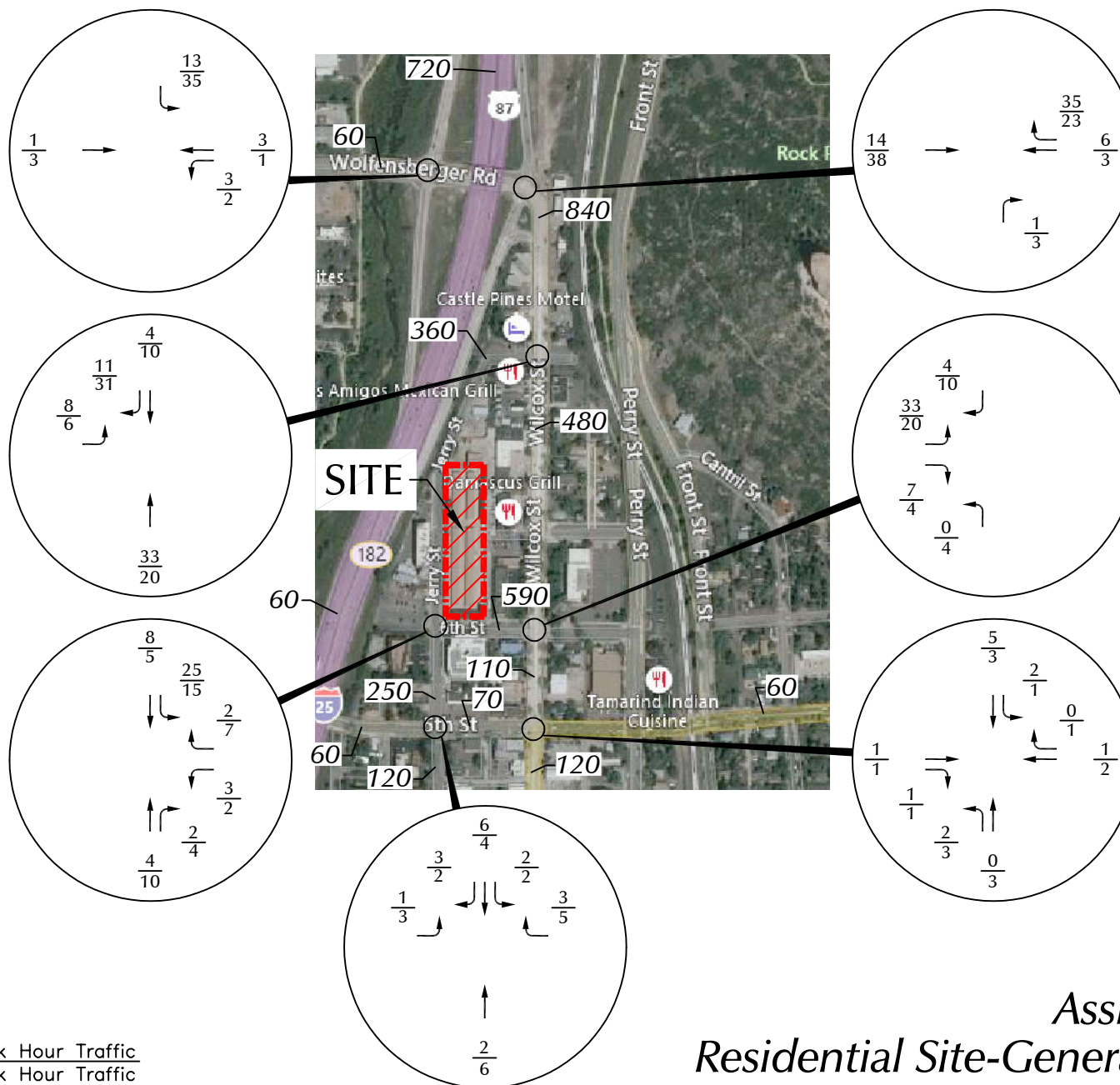
LEGEND:

$\frac{5\%}{5\%}$ = Residential Percent Directional Distribution
 Non-Residential Percent Directional Distribution

Figure 6

Directional Distribution of Site-Generated Traffic

The View at Castle Rock (LSC #200310)



Approximate Scale
Scale: 1"=600'

LEGEND:

$\frac{26}{35}$ = AM Peak Hour Traffic
PM Peak Hour Traffic
2,500 = Average Daily Traffic

Figure 7a
**Assignment of
Residential Site-Generated Traffic**

The View at Castle Rock (LSC #200310)



LEGEND:

$$\frac{26}{35} = \frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$$

2,500 = Average Daily Traffic

Figure 7b

Assignment of Non-Residential Site-Generated Traffic

The View at Castle Rock (LSC #200310)

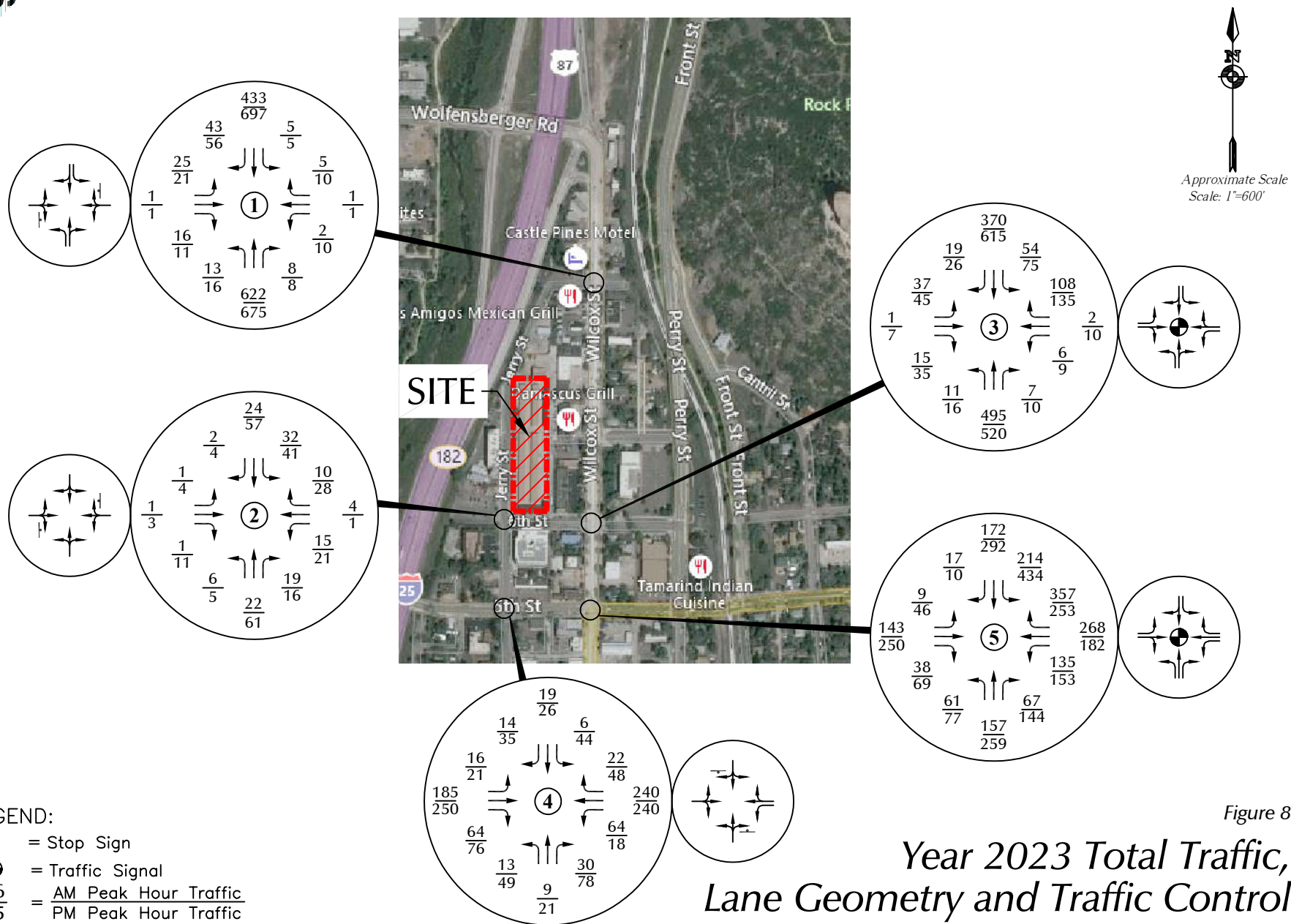
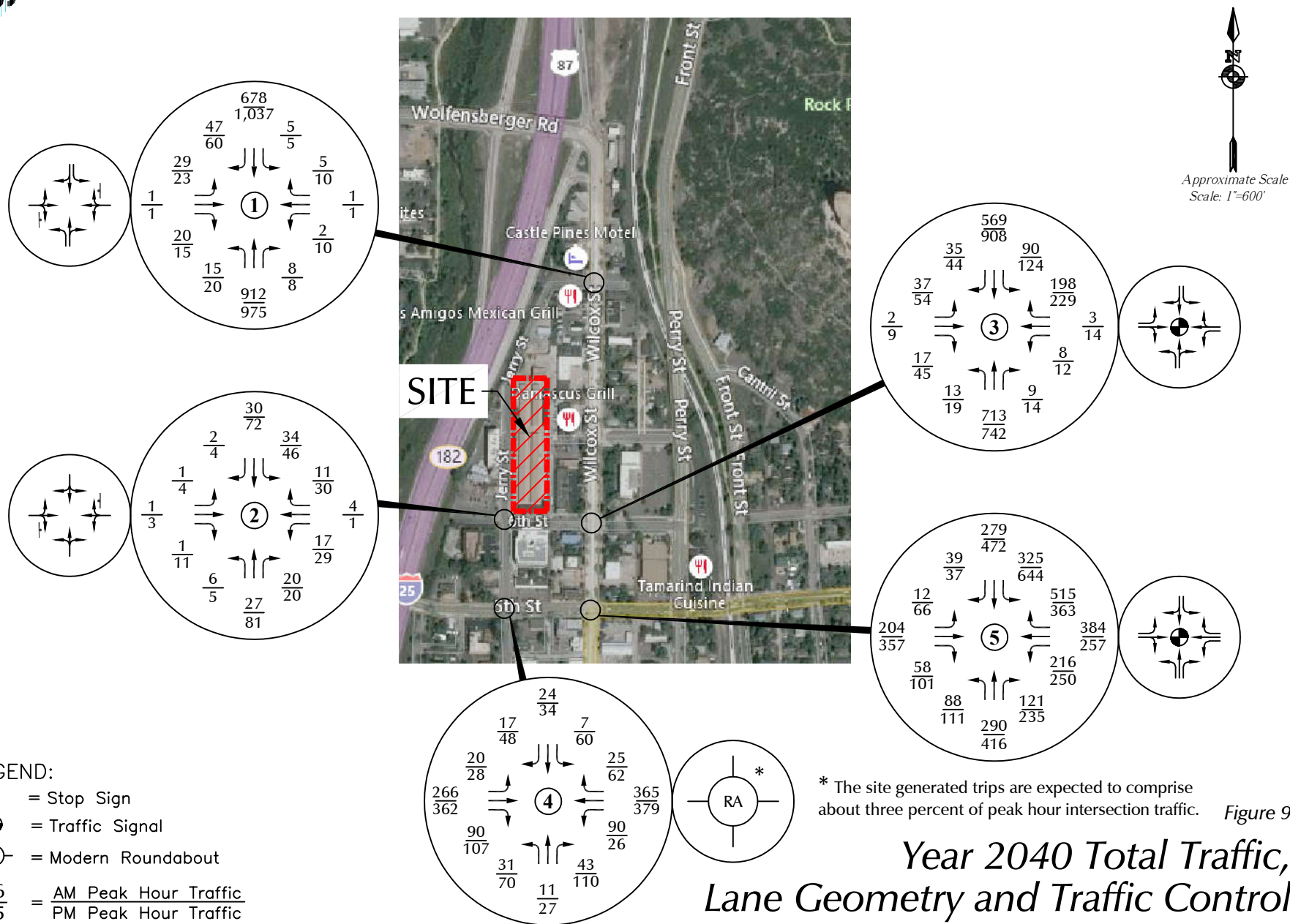


Figure 8

Year 2023 Total Traffic, Lane Geometry and Traffic Control

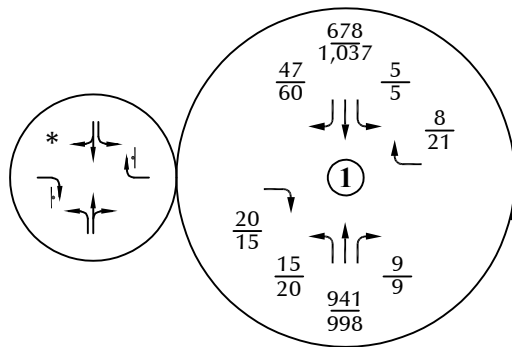
The View at Castle Rock (LSC #200310)



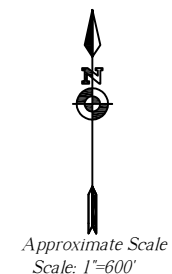
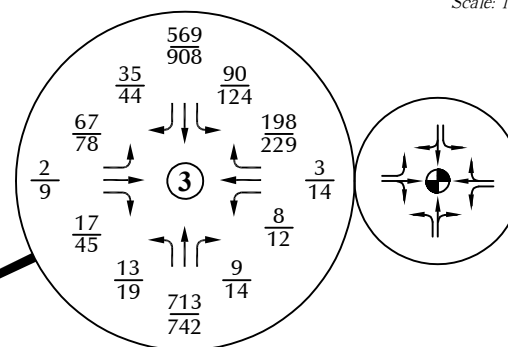
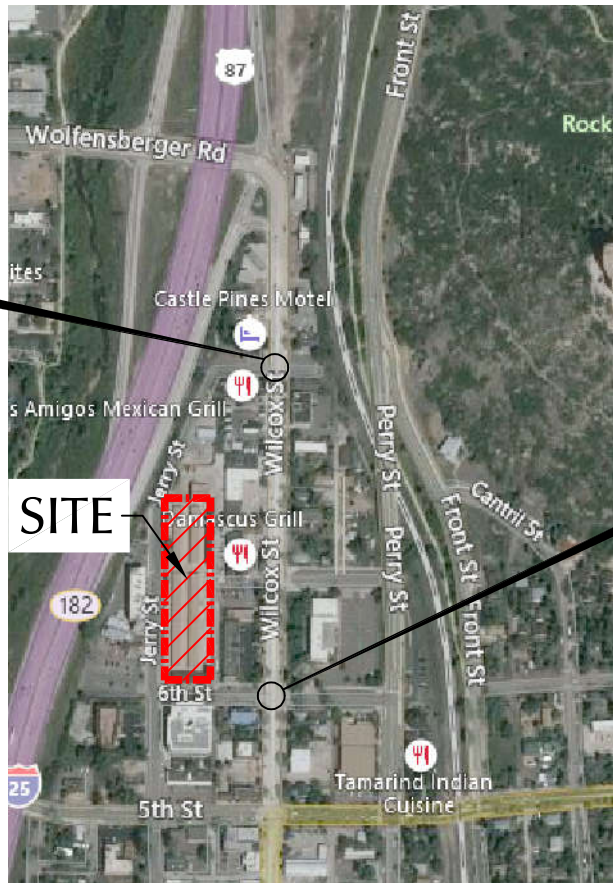
Year 2040 Total Traffic, Lane Geometry and Traffic Control

The View at Castle Rock (LSC #200310)

Figure 9



* Potential mitigation would be to convert this intersection to three-quarter movement.



LEGEND:

- = Stop Sign
- = Traffic Signal
- = Modern Roundabout
- $\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

Figure 10

Year 2040 Total Traffic, Lane Geometry and Traffic Control - Mitigated

The View at Castle Rock (LSC #200310)

HCM 6th Signalized Intersection Summary

3: Wilcox St & Sixth St

2018 Existing AM.syn
08/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	4	5	2	96	6	461	6	48	342	8
Future Volume (veh/h)	0	1	4	5	2	96	6	461	6	48	342	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	4	8	12	4	100	12	501	12	64	428	12
Peak Hour Factor	0.92	0.25	0.50	0.42	0.50	0.96	0.50	0.92	0.50	0.75	0.80	0.67
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	49	97	193	5	134	742	1478	35	744	1355	38
Arrive On Green	0.00	0.09	0.09	0.09	0.09	0.09	0.03	1.00	1.00	0.75	0.75	0.75
Sat Flow, veh/h	1290	557	1113	1402	61	1533	1781	1819	44	887	1810	51
Grp Volume(v), veh/h	0	0	12	12	0	104	12	0	513	64	0	440
Grp Sat Flow(s),veh/h/ln	1290	0	1670	1402	0	1594	1781	0	1863	887	0	1861
Q Serve(g_s), s	0.0	0.0	0.6	0.7	0.0	5.7	0.1	0.0	0.0	1.8	0.0	7.0
Cycle Q Clear(g_c), s	0.0	0.0	0.6	1.3	0.0	5.7	0.1	0.0	0.0	1.8	0.0	7.0
Prop In Lane	1.00		0.67	1.00		0.96	1.00		0.02	1.00		0.03
Lane Grp Cap(c), veh/h	80	0	146	193	0	139	742	0	1514	744	0	1393
V/C Ratio(X)	0.00	0.00	0.08	0.06	0.00	0.75	0.02	0.00	0.34	0.09	0.00	0.32
Avail Cap(c_a), veh/h	290	0	417	421	0	399	845	0	1514	744	0	1393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.90	0.00	0.90	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	37.8	38.4	0.0	40.1	2.5	0.0	0.0	3.1	0.0	3.7
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.1	0.0	7.7	0.0	0.0	0.5	0.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.3	0.3	0.0	2.5	0.0	0.0	0.2	0.3	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	38.0	38.5	0.0	47.8	2.5	0.0	0.5	3.3	0.0	4.3
LnGrp LOS	A	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	12			116				525				504
Approach Delay, s/veh	38.0			46.9				0.6				4.2
Approach LOS	D			D				A				A
Timer - Assigned Phs	2			4		5		6		8		
Phs Duration (G+Y+Rc), s	77.6			12.4		5.8		71.8		12.4		
Change Period (Y+Rc), s	4.5			4.5		4.5		4.5		4.5		
Max Green Setting (Gmax), s	58.5			22.5		6.5		47.5		22.5		
Max Q Clear Time (g_c+I1), s	2.0			2.6		2.1		9.0		7.7		
Green Ext Time (p_c), s	3.8			0.0		0.0		3.5		0.5		
Intersection Summary												
HCM 6th Ctrl Delay	7.2											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

3: Wilcox St & Sixth St

2018 Existing PM.syn

08/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	6	22	8	9	122	8	480	9	69	555	10
Future Volume (veh/h)	19	6	22	8	9	122	8	480	9	69	555	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	12	32	12	16	152	12	533	16	105	610	16
Peak Hour Factor	0.95	0.50	0.69	0.67	0.56	0.80	0.67	0.90	0.56	0.66	0.91	0.62
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	62	166	227	21	200	551	1395	42	684	1294	34
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.03	1.00	1.00	0.71	0.71	0.71
Sat Flow, veh/h	1217	451	1203	1362	153	1455	1781	1806	54	858	1814	48
Grp Volume(v), veh/h	20	0	44	12	0	168	12	0	549	105	0	626
Grp Sat Flow(s),veh/h/ln	1217	0	1654	1362	0	1608	1781	0	1861	858	0	1862
Q Serve(g_s), s	1.6	0.0	2.4	0.8	0.0	10.1	0.2	0.0	0.0	4.0	0.0	14.5
Cycle Q Clear(g_c), s	11.7	0.0	2.4	3.1	0.0	10.1	0.2	0.0	0.0	4.0	0.0	14.5
Prop In Lane	1.00		0.73	1.00		0.90	1.00		0.03	1.00		0.03
Lane Grp Cap(c), veh/h	117	0	228	227	0	221	551	0	1437	684	0	1328
V/C Ratio(X)	0.17	0.00	0.19	0.05	0.00	0.76	0.02	0.00	0.38	0.15	0.00	0.47
Avail Cap(c_a), veh/h	211	0	356	333	0	346	624	0	1437	684	0	1328
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.94	0.00	0.94	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.1	0.0	38.2	39.6	0.0	41.5	4.5	0.0	0.0	4.7	0.0	6.2
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.1	0.0	5.3	0.0	0.0	0.7	0.5	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.0	0.3	0.0	4.3	0.1	0.0	0.3	0.7	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	0.0	38.6	39.7	0.0	46.8	4.5	0.0	0.7	5.2	0.0	7.4
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	64			180			561			731		
Approach Delay, s/veh	41.5			46.3			0.8			7.1		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	81.7			18.3		5.9	75.8	18.3				
Change Period (Y+Rc), s	4.5			4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	69.5			21.5		5.5	59.5	21.5				
Max Q Clear Time (g_c+I1), s	2.0			13.7		2.2	16.5	12.1				
Green Ext Time (p_c), s	4.2			0.1		0.0	5.8	0.6				
Intersection Summary												
HCM 6th Ctrl Delay	10.8											
HCM 6th LOS	B											

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	10	172	58	58	222	7	20	5	28	1	11	8
Future Vol, veh/h	10	172	58	58	222	7	20	5	28	1	11	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	70	66	69	65	58	71	62	78	25	69	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	246	88	84	342	12	28	8	36	4	16	12
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	354	0	0	334	0	0	852	844	290	860	882	348
Stage 1	-	-	-	-	-	-	322	322	-	516	516	-
Stage 2	-	-	-	-	-	-	530	522	-	344	366	-
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	1205	-	-	1225	-	-	280	300	749	276	285	695
Stage 1	-	-	-	-	-	-	690	651	-	542	534	-
Stage 2	-	-	-	-	-	-	533	531	-	671	623	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1205	-	-	1225	-	-	246	275	749	241	261	695
Mov Cap-2 Maneuver	-	-	-	-	-	-	246	275	-	241	261	-
Stage 1	-	-	-	-	-	-	679	641	-	533	497	-
Stage 2	-	-	-	-	-	-	472	494	-	621	613	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.6			16.8			16.9		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	376	1205	-	-	1225	-	-	335				
HCM Lane V/C Ratio	0.192	0.013	-	-	0.069	-	-	0.095				
HCM Control Delay (s)	16.8	8	0	-	8.2	-	-	16.9				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.7	0	-	-	0.2	-	-	0.3				

Intersection												
Int Delay, s/veh	7.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	234	69	17	224	32	45	13	71	34	19	28
Future Vol, veh/h	14	234	69	17	224	32	45	13	71	34	19	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	86	82	61	90	73	56	46	59	71	68	58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	272	84	28	249	44	80	28	120	48	28	48
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	293	0	0	356	0	0	727	711	314	763	731	271
Stage 1	-	-	-	-	-	-	362	362	-	327	327	-
Stage 2	-	-	-	-	-	-	365	349	-	436	404	-
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	1269	-	-	1203	-	-	339	358	726	321	349	768
Stage 1	-	-	-	-	-	-	657	625	-	686	648	-
Stage 2	-	-	-	-	-	-	654	633	-	599	599	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1269	-	-	1203	-	-	287	342	726	242	333	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	287	342	-	242	333	-
Stage 1	-	-	-	-	-	-	641	610	-	670	633	-
Stage 2	-	-	-	-	-	-	572	618	-	465	585	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.7			22.3			20.2		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	433	1269	-	-	1203	-	-	360				
HCM Lane V/C Ratio	0.529	0.019	-	-	0.023	-	-	0.345				
HCM Control Delay (s)	22.3	7.9	0	-	8.1	-	-	20.2				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	3	0.1	-	-	0.1	-	-	1.5				

HCM 6th Signalized Intersection Summary
6: Fifth St & Wilcox St

2018 Existing AM.syn
08/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	130	33	123	243	332	50	143	59	196	150	14
Future Volume (veh/h)	8	130	33	123	243	332	50	143	59	196	150	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	169	43	148	293	400	60	172	71	276	211	20
Peak Hour Factor	0.77	0.77	0.77	0.83	0.83	0.83	0.83	0.83	0.83	0.71	0.71	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	299	76	347	521	441	566	797	675	694	784	74
Arrive On Green	0.01	0.21	0.21	0.14	0.46	0.46	0.09	0.85	0.85	0.03	0.15	0.15
Sat Flow, veh/h	1781	1438	366	1781	1870	1585	1781	1870	1585	1781	1682	159
Grp Volume(v), veh/h	10	0	212	148	293	400	60	172	71	276	0	231
Grp Sat Flow(s),veh/h/ln	1781	0	1804	1781	1870	1585	1781	1870	1585	1781	0	1842
Q Serve(g_s), s	0.4	0.0	9.5	5.6	10.2	21.0	1.6	1.5	0.7	7.5	0.0	10.0
Cycle Q Clear(g_c), s	0.4	0.0	9.5	5.6	10.2	21.0	1.6	1.5	0.7	7.5	0.0	10.0
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	226	0	376	347	521	441	566	797	675	694	0	859
V/C Ratio(X)	0.04	0.00	0.56	0.43	0.56	0.91	0.11	0.22	0.11	0.40	0.00	0.27
Avail Cap(c_a), veh/h	352	0	612	349	634	537	637	797	675	694	0	859
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	0.70	0.70	0.70	1.00	1.00	1.00	0.97	0.00	0.97
Uniform Delay (d), s/veh	27.6	0.0	32.0	22.6	20.1	23.0	12.7	3.9	3.9	12.9	0.0	24.5
Incr Delay (d2), s/veh	0.1	0.0	1.3	0.6	0.7	12.8	0.1	0.6	0.3	0.4	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	4.2	2.2	3.8	7.5	0.6	0.7	0.3	3.2	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	0.0	33.3	23.1	20.8	35.8	12.8	4.5	4.2	13.2	0.0	25.3
LnGrp LOS	C	A	C	C	C	D	B	A	A	B	A	C
Approach Vol, veh/h		222			841			303			507	
Approach Delay, s/veh		33.1			28.3			6.1			18.7	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	42.8	11.9	23.2	8.4	46.5	5.6	29.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	26.5	7.5	30.5	7.5	26.5	7.5	30.5				
Max Q Clear Time (g_c+I1), s	9.5	3.5	7.6	11.5	3.6	12.0	2.4	23.0				
Green Ext Time (p_c), s	0.0	1.2	0.0	1.1	0.0	1.1	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			22.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
6: Fifth St & Wilcox St

2018 Existing PM.syn
08/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	228	61	139	162	233	65	234	131	395	259	6
Future Volume (veh/h)	43	228	61	139	162	233	65	234	131	395	259	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	278	74	148	172	248	71	254	142	449	294	7
Peak Hour Factor	0.82	0.82	0.82	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	338	315	84	251	495	420	610	826	700	556	862	21
Arrive On Green	0.04	0.22	0.22	0.14	0.44	0.44	0.04	0.44	0.44	0.13	0.79	0.79
Sat Flow, veh/h	1781	1423	379	1781	1870	1585	1781	1870	1585	1781	1819	43
Grp Volume(v), veh/h	52	0	352	148	172	248	71	254	142	449	0	301
Grp Sat Flow(s),veh/h/ln	1781	0	1802	1781	1870	1585	1781	1870	1585	1781	0	1863
Q Serve(g_s), s	2.2	0.0	18.9	6.2	6.1	11.8	2.1	8.8	5.5	7.5	0.0	4.6
Cycle Q Clear(g_c), s	2.2	0.0	18.9	6.2	6.1	11.8	2.1	8.8	5.5	7.5	0.0	4.6
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	338	0	399	251	495	420	610	826	700	556	0	883
V/C Ratio(X)	0.15	0.00	0.88	0.59	0.35	0.59	0.12	0.31	0.20	0.81	0.00	0.34
Avail Cap(c_a), veh/h	385	0	514	328	645	547	916	826	700	556	0	883
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00	0.92	0.00	0.92
Uniform Delay (d), s/veh	28.2	0.0	37.7	26.0	22.2	23.8	13.8	18.0	17.1	21.9	0.0	6.0
Incr Delay (d2), s/veh	0.2	0.0	13.6	2.1	0.4	1.3	0.1	1.0	0.7	8.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	9.7	2.6	2.5	3.9	0.9	3.9	2.1	7.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	0.0	51.2	28.1	22.6	25.1	13.9	19.0	17.8	29.9	0.0	6.9
LnGrp LOS	C	A	D	C	C	C	B	B	B	C	A	A
Approach Vol, veh/h		404			568			467			750	
Approach Delay, s/veh		48.3			25.1			17.8			20.7	
Approach LOS		D			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	48.7	12.7	26.7	8.8	51.9	8.3	31.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	33.5	12.5	28.5	21.5	19.5	6.5	34.5				
Max Q Clear Time (g_c+I1), s	9.5	10.8	8.2	20.9	4.1	6.6	4.2	13.8				
Green Ext Time (p_c), s	0.0	1.9	0.1	1.3	0.1	1.4	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			26.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

3: Wilcox St & Sixth St

2040 Total AM.syn

08/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	6	8	3	198	9	713	9	90	569	27
Future Volume (veh/h)	0	2	6	8	3	198	9	713	9	90	569	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2	7	9	3	215	10	775	10	98	618	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	60	209	304	4	257	493	1356	17	544	1194	56
Arrive On Green	0.00	0.16	0.16	0.16	0.16	0.16	0.02	1.00	1.00	0.67	0.67	0.67
Sat Flow, veh/h	1163	365	1276	1406	22	1567	1781	1842	24	689	1772	83
Grp Volume(v), veh/h	0	0	9	9	0	218	10	0	785	98	0	647
Grp Sat Flow(s),veh/h/ln	1163	0	1641	1406	0	1588	1781	0	1866	689	0	1855
Q Serve(g_s), s	0.0	0.0	0.4	0.5	0.0	12.0	0.1	0.0	0.0	4.9	0.0	15.7
Cycle Q Clear(g_c), s	0.0	0.0	0.4	0.9	0.0	12.0	0.1	0.0	0.0	4.9	0.0	15.7
Prop In Lane	1.00		0.78	1.00		0.99	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	80	0	269	304	0	260	493	0	1374	544	0	1250
V/C Ratio(X)	0.00	0.00	0.03	0.03	0.00	0.84	0.02	0.00	0.57	0.18	0.00	0.52
Avail Cap(c_a), veh/h	180	0	410	425	0	397	600	0	1374	544	0	1250
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.74	0.00	0.74	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	31.6	32.0	0.0	36.5	5.5	0.0	0.0	5.6	0.0	7.4
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.0	9.3	0.0	0.0	1.3	0.7	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.2	0.2	0.0	5.2	0.0	0.0	0.5	0.7	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	31.7	32.1	0.0	45.7	5.6	0.0	1.3	6.3	0.0	8.9
LnGrp LOS	A	A	C	C	A	D	A	A	A	A	A	A
Approach Vol, veh/h	9			227			795			745		
Approach Delay, s/veh	31.7			45.2			1.3			8.5		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			5			6		
Phs Duration (G+Y+Rc), s	70.7			19.3			5.6			65.1		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	58.5			22.5			6.5			47.5		
Max Q Clear Time (g_c+I1), s	2.0			2.4			2.1			17.7		
Green Ext Time (p_c), s	7.3			0.0			0.0			6.0		
Intersection Summary												
HCM 6th Ctrl Delay	10.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

3: Wilcox St & Sixth St

2040 Total PM.syn

08/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	9	34	12	14	229	12	742	14	124	908	32
Future Volume (veh/h)	29	9	34	12	14	229	12	742	14	124	908	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	10	37	13	15	249	13	807	15	135	987	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	63	232	284	16	271	246	1336	25	518	1203	43
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.03	1.00	1.00	0.67	0.67	0.67
Sat Flow, veh/h	1115	349	1290	1359	91	1508	1781	1830	34	666	1795	64
Grp Volume(v), veh/h	32	0	47	13	0	264	13	0	822	135	0	1022
Grp Sat Flow(s),veh/h/ln	1115	0	1638	1359	0	1599	1781	0	1864	666	0	1859
Q Serve(g_s), s	1.8	0.0	2.4	0.8	0.0	16.2	0.2	0.0	0.0	8.4	0.0	40.3
Cycle Q Clear(g_c), s	18.0	0.0	2.4	3.2	0.0	16.2	0.2	0.0	0.0	8.4	0.0	40.3
Prop In Lane	1.00		0.79	1.00		0.94	1.00		0.02	1.00		0.03
Lane Grp Cap(c), veh/h	92	0	295	284	0	288	246	0	1361	518	0	1245
V/C Ratio(X)	0.35	0.00	0.16	0.05	0.00	0.92	0.05	0.00	0.60	0.26	0.00	0.82
Avail Cap(c_a), veh/h	92	0	295	284	0	288	308	0	1361	518	0	1245
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.80	0.00	0.80	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.4	0.0	34.6	36.0	0.0	40.3	13.3	0.0	0.0	6.8	0.0	12.1
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.1	0.0	32.3	0.1	0.0	1.6	1.2	0.0	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.0	0.3	0.0	8.9	0.1	0.0	0.6	1.2	0.0	16.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	0.0	34.9	36.0	0.0	72.6	13.4	0.0	1.6	8.1	0.0	18.3
LnGrp LOS	D	A	C	D	A	E	B	A	A	A	A	B
Approach Vol, veh/h	79			277			835			1157		
Approach Delay, s/veh	41.7			70.9			1.8			17.1		
Approach LOS	D			E			A			B		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	77.5			22.5		6.0	71.5	22.5				
Change Period (Y+Rc), s	4.5			4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	73.0			18.0		5.0	63.5	18.0				
Max Q Clear Time (g_c+I1), s	2.0			20.0		2.2	42.3	18.2				
Green Ext Time (p_c), s	8.0			0.0		0.0	10.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	18.8											
HCM 6th LOS	B											

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	266	90	90	365	11	31	8	43	2	17	12
Future Vol, veh/h	15	266	90	90	365	11	31	8	43	2	17	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	85	-	-	-	-	-	-	-	-
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	289	98	98	397	12	34	9	47	2	18	13
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	409	0	0	387	0	0	985	975	338	997	1018	403
Stage 1	-	-	-	-	-	-	370	370	-	599	599	-
Stage 2	-	-	-	-	-	-	615	605	-	398	419	-
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	1150	-	-	1171	-	-	227	251	704	223	237	647
Stage 1	-	-	-	-	-	-	650	620	-	488	490	-
Stage 2	-	-	-	-	-	-	479	487	-	628	590	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1150	-	-	1171	-	-	192	226	704	187	213	647
Mov Cap-2 Maneuver	-	-	-	-	-	-	192	226	-	187	213	-
Stage 1	-	-	-	-	-	-	638	609	-	479	449	-
Stage 2	-	-	-	-	-	-	412	446	-	568	579	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.6			20.7			19.4		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	318	1150	-	-	1171	-	-	284				
HCM Lane V/C Ratio	0.28	0.014	-	-	0.084	-	-	0.119				
HCM Control Delay (s)	20.7	8.2	0	-	8.4	-	-	19.4				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile O(veh)	1.1	0	-	-	0.3	-	-	0.4				

Intersection												
Int Delay, s/veh	12.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	362	107	26	379	49	70	20	110	53	29	43
Future Vol, veh/h	22	362	107	26	379	49	70	20	110	53	29	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	85	-	-	-	-	-	-	-	-
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	24	393	116	28	412	53	76	22	120	58	32	47
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	509	0	0	1033	1020	451	1065	1052	439
Stage 1	-	-	-	-	-	-	499	499	-	495	495	-
Stage 2	-	-	-	-	-	-	534	521	-	570	557	-
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	1096	-	-	1056	-	-	211	237	608	200	227	618
Stage 1	-	-	-	-	-	-	554	544	-	556	546	-
Stage 2	-	-	-	-	-	-	530	532	-	506	512	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1096	-	-	1056	-	-	166	223	608	142	214	618
Mov Cap-2 Maneuver	-	-	-	-	-	-	166	223	-	142	214	-
Stage 1	-	-	-	-	-	-	537	527	-	539	531	-
Stage 2	-	-	-	-	-	-	449	518	-	378	496	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.5			47.3			46.3		
HCM LOS							E			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	289	1096	-	-	1056	-	-	216				
HCM Lane V/C Ratio	0.752	0.022	-	-	0.027	-	-	0.629				
HCM Control Delay (s)	47.3	8.4	0	-	8.5	-	-	46.3				
HCM Lane LOS	E	A	A	-	A	-	-	E				
HCM 95th %tile O(veh)	5.6	0.1	-	-	0.1	-	-	3.7				

2040 Total AM.syn

08/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	201	56	216	376	513	82	288	121	321	272	39
Future Volume (veh/h)	12	201	56	216	376	513	82	288	121	321	272	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	218	61	235	409	558	89	313	132	349	296	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	381	107	379	634	537	420	678	574	505	635	90
Arrive On Green	0.02	0.27	0.27	0.14	0.57	0.57	0.10	0.72	0.72	0.06	0.27	0.27
Sat Flow, veh/h	1781	1406	393	1781	1870	1585	1781	1870	1585	1781	1602	227
Grp Volume(v), veh/h	13	0	279	235	409	558	89	313	132	349	0	338
Grp Sat Flow(s),veh/h/ln	1781	0	1800	1781	1870	1585	1781	1870	1585	1781	0	1829
Q Serve(g_s), s	0.5	0.0	12.0	7.5	13.5	30.5	2.8	6.2	2.5	7.5	0.0	13.9
Cycle Q Clear(g_c), s	0.5	0.0	12.0	7.5	13.5	30.5	2.8	6.2	2.5	7.5	0.0	13.9
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	218	0	488	379	634	537	420	678	574	505	0	725
V/C Ratio(X)	0.06	0.00	0.57	0.62	0.65	1.04	0.21	0.46	0.23	0.69	0.00	0.47
Avail Cap(c_a), veh/h	338	0	610	379	634	537	480	678	574	505	0	725
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	0.66	0.66	0.66	1.00	1.00	1.00	0.90	0.00	0.90
Uniform Delay (d), s/veh	23.4	0.0	28.3	22.0	15.8	19.5	16.2	8.8	8.2	20.4	0.0	25.1
Incr Delay (d2), s/veh	0.1	0.0	1.1	2.0	1.5	42.0	0.2	2.3	0.9	3.6	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	5.2	3.4	4.5	13.7	1.1	2.3	0.9	2.7	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	29.4	24.0	17.3	61.6	16.5	11.0	9.2	24.0	0.0	27.0
LnGrp LOS	C	A	C	C	B	F	B	B	A	C	A	C
Approach Vol, veh/h		292			1202			534			687	
Approach Delay, s/veh		29.1			39.2			11.5			25.5	
Approach LOS		C			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	37.1	12.0	28.9	9.0	40.2	5.9	35.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	26.5	7.5	30.5	7.5	26.5	7.5	30.5				
Max Q Clear Time (g_c+I1), s	9.5	8.2	9.5	14.0	4.8	15.9	2.5	32.5				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.5	0.0	1.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			29.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
6: Fifth St & Wilcox St

2040 Total PM.syn
08/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	352	99	250	250	360	105	412	235	640	465	37
Future Volume (veh/h)	66	352	99	250	250	360	105	412	235	640	465	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	383	26	272	272	228	114	448	0	696	505	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	338	23	241	457	388	503	870	737	596	892	0
Arrive On Green	0.05	0.19	0.19	0.03	0.08	0.08	0.11	0.93	0.00	0.11	0.80	0.00
Sat Flow, veh/h	1781	1732	118	1781	1870	1585	1781	1870	1585	1781	1870	0
Grp Volume(v), veh/h	72	0	409	272	272	228	114	448	0	696	505	0
Grp Sat Flow(s),veh/h/ln	1781	0	1849	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	3.2	0.0	19.5	9.5	14.0	13.9	3.3	3.2	0.0	6.5	10.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	19.5	9.5	14.0	13.9	3.3	3.2	0.0	6.5	10.0	0.0
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	247	0	361	241	457	388	503	870	737	596	892	0
V/C Ratio(X)	0.29	0.00	1.13	1.13	0.59	0.59	0.23	0.52	0.00	1.17	0.57	0.00
Avail Cap(c_a), veh/h	370	0	361	241	457	388	721	870	737	596	892	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	0.91	0.91	0.91	1.00	1.00	0.00	0.65	0.65	0.00
Uniform Delay (d), s/veh	30.5	0.0	40.3	33.3	41.2	41.1	12.1	2.0	0.0	25.5	6.3	0.0
Incr Delay (d2), s/veh	0.6	0.0	89.0	94.0	1.9	2.1	0.2	2.2	0.0	87.7	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	17.6	7.6	7.3	6.1	1.2	1.2	0.0	26.2	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.2	0.0	129.3	127.3	43.1	43.2	12.4	4.2	0.0	113.2	8.0	0.0
LnGrp LOS	C	A	F	F	D	D	B	A	A	F	A	A
Approach Vol, veh/h	481			772			562			1201		
Approach Delay, s/veh	114.6			72.8			5.8			69.0		
Approach LOS	F			E			A			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	51.0	14.0	24.0	9.8	52.2	9.0	29.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	46.5	9.5	19.5	17.5	35.5	11.5	17.5				
Max Q Clear Time (g_c+I1), s	8.5	5.2	11.5	21.5	5.3	12.0	5.2	16.0				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.2	3.4	0.1	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	65.5											
HCM 6th LOS	E											
Notes												

COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: JERRY
E/W STREET: 6TH
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : JERR6TH
Site Code : 00000025
Start Date : 5/19/2020
Page No : 1

Groups Printed- VEHICLES

	JERRY Southbound				Westbound				JERRY Northbound				6TH Eastbound				Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	4
06:45 AM	0	1	0	0	2	0	1	0	0	0	0	0	0	0	0	0	4
Total	0	1	0	0	2	1	1	0	1	1	0	0	0	0	1	0	8
07:00 AM	0	3	0	0	1	0	2	0	1	0	1	0	0	0	0	0	8
07:15 AM	0	3	2	0	0	1	0	0	3	2	1	0	0	0	0	0	12
07:30 AM	1	1	0	0	2	1	1	0	0	1	1	0	0	0	0	0	8
07:45 AM	0	3	0	0	0	2	1	0	1	1	2	0	0	1	0	0	11
Total	1	10	2	0	3	4	4	0	5	4	5	0	0	1	0	0	39
08:00 AM	1	3	0	0	3	0	2	0	0	2	2	0	1	0	0	0	14
08:15 AM	0	2	0	0	3	0	2	0	0	4	1	0	0	0	0	0	12
Total	1	5	0	0	6	0	4	0	0	6	3	0	1	0	0	0	26
04:00 PM	2	5	0	0	3	0	3	0	1	3	1	0	0	2	0	0	20
04:15 PM	2	6	1	0	0	0	3	0	0	6	3	0	0	0	0	0	21
04:30 PM	1	3	1	0	0	0	0	0	1	4	2	0	1	2	3	0	18
04:45 PM	5	4	2	0	2	0	2	0	0	7	1	0	1	2	0	0	26
Total	10	18	4	0	5	0	8	0	2	20	7	0	2	6	3	0	85
05:00 PM	4	13	0	0	1	0	4	0	0	5	0	0	1	1	3	0	32
05:15 PM	4	8	2	0	2	0	2	0	1	5	1	0	1	0	2	0	28
05:30 PM	5	5	0	0	1	0	9	0	2	9	1	0	1	0	1	0	34
05:45 PM	0	7	1	0	0	0	1	0	0	4	2	0	1	0	0	0	16
Total	13	33	3	0	4	0	16	0	3	23	4	0	4	1	6	0	110
06:00 PM	3	5	0	0	2	0	1	0	1	6	1	0	1	0	0	0	20
06:15 PM	0	10	0	0	0	0	2	0	1	9	1	0	0	0	2	0	25
Grand Total	28	82	9	0	22	5	36	0	13	69	21	0	8	8	12	0	313
Apprch %	23.5	68.9	7.6	0.0	34.9	7.9	57.1	0.0	12.6	67.0	20.4	0.0	28.6	28.6	42.9	0.0	
Total %	8.9	26.2	2.9	0.0	7.0	1.6	11.5	0.0	4.2	22.0	6.7	0.0	2.6	2.6	3.8	0.0	

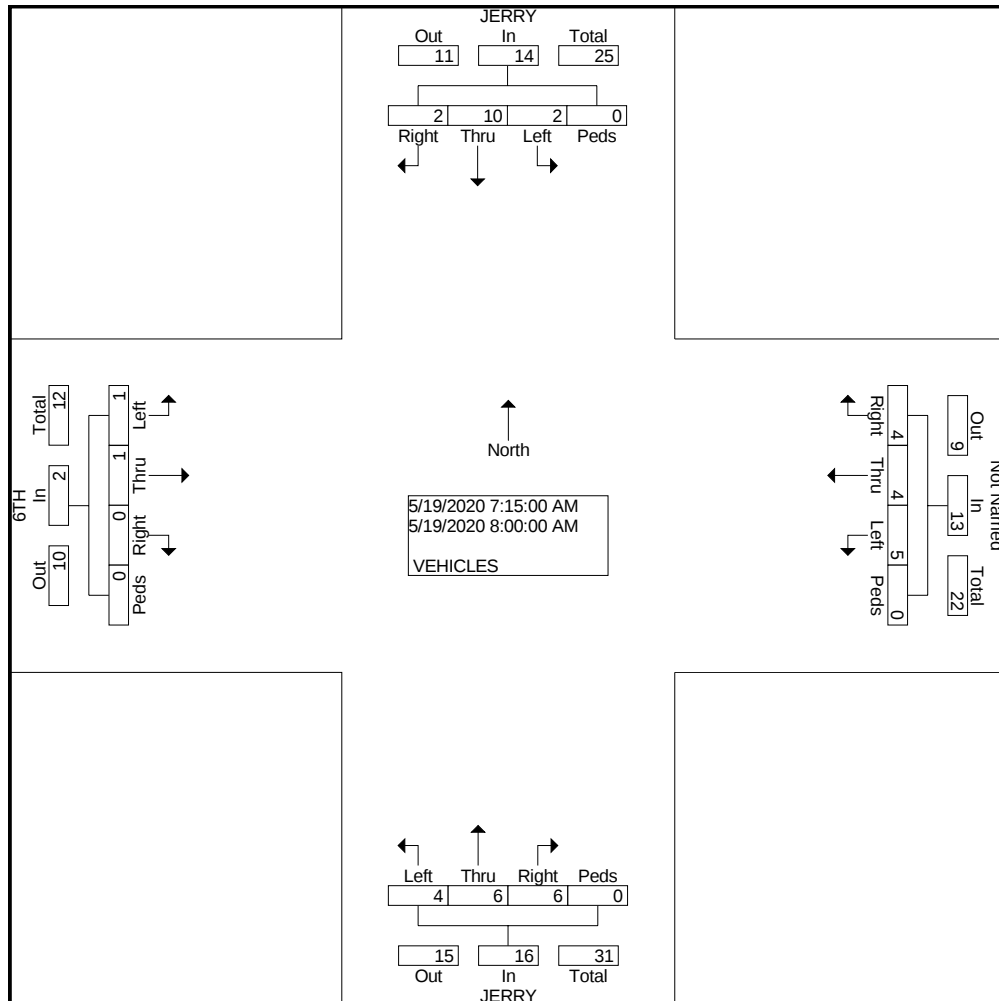
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: JERRY
E/W STREET: 6TH
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : JERR6TH
Site Code : 00000025
Start Date : 5/19/2020
Page No : 2

	JERRY Southbound					Westbound					JERRY Northbound					6TH Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1	07:15 AM																				
Intersection	07:15 AM																				
Volume	2	10	2	0	14	5	4	4	0	13	4	6	6	0	16	1	1	0	0	2	45
Percent	14.	71.	14.	0.0		38.	30.	30.	0.0		25.	37.	37.	0.0		50.	50.	0.0	0.0		
	3	4	3			5	8	8			0	5	5			0	0				
08:00	1	3	0	0	4	3	0	2	0	5	0	2	2	0	4	1	0	0	0	1	14
Volume																					
Peak																					
Factor																					0.804
High Int.	07:15 AM					08:00 AM					07:15 AM					07:45 AM					
Volume	0	3	2	0	5	3	0	2	0	5	3	2	1	0	6	0	1	0	0	1	
Peak					0.70					0.65					0.66					0.50	
Factor					0					0					7					0	



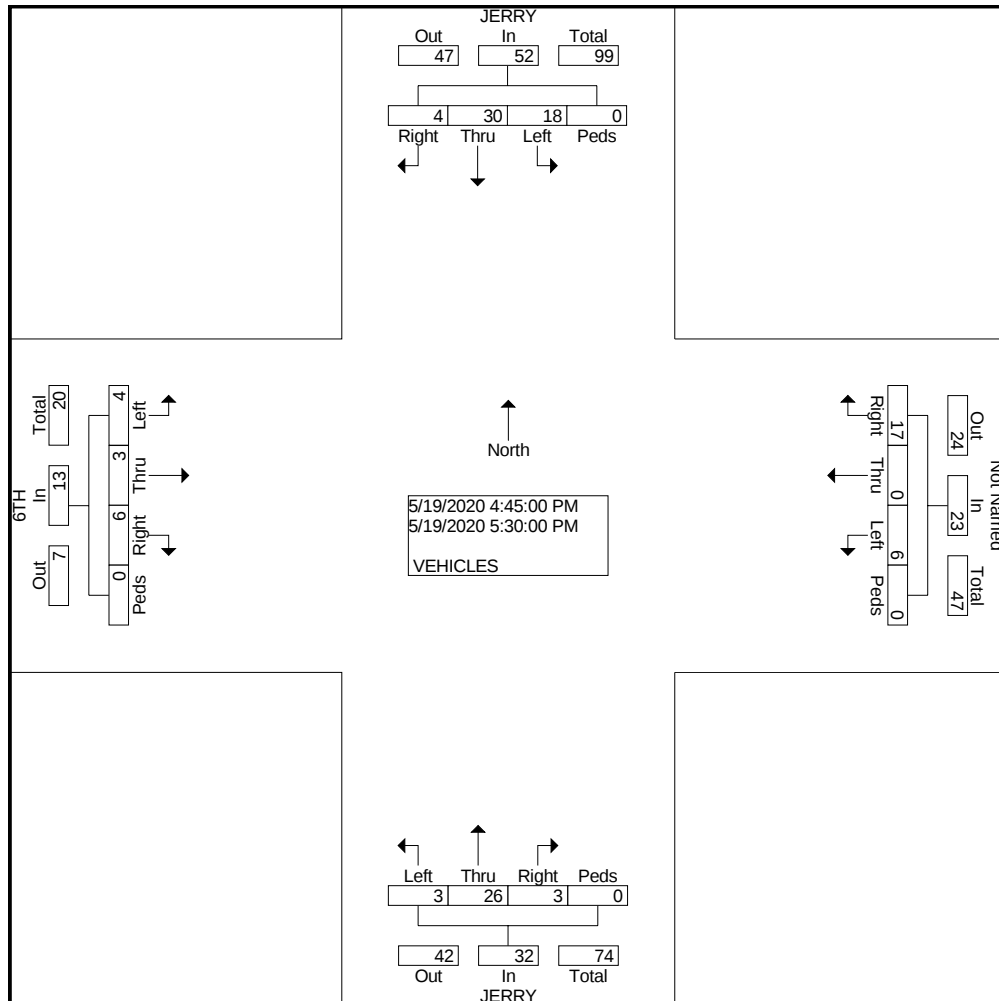
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: JERRY
E/W STREET: 6TH
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : JERR6TH
Site Code : 00000025
Start Date : 5/19/2020
Page No : 2

	JERRY Southbound					Westbound					JERRY Northbound					6TH Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 06:15 PM - Peak 1 of 1	04:45 PM																				
Intersection	04:45 PM																				
Volume	18	30	4	0	52	6	0	17	0	23	3	26	3	0	32	4	3	6	0	13	120
Percent	34.6	57.7	7.7	0.0		26.1	0.0	73.9	0.0		9.4	81.3	9.4	0.0		30.8	23.1	46.2	0.0		
05:30 Volume	5	5	0	0	10	1	0	9	0	10	2	9	1	0	12	1	0	1	0	2	34
Peak Factor																					0.882
High Int. Volume	05:00 PM					05:30 PM					05:30 PM					05:00 PM					
Peak Factor	4	13	0	0	17	1	0	9	0	10	2	9	1	0	12	1	1	3	0	5	
	0.76					0.57					0.66					0.65					0
	5					5					7					0					



COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: WILCOX
E/W STREET: JERRY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : WILCJERR
Site Code : 00000000
Start Date : 5/19/2020
Page No : 1

Groups Printed- VEHICLES

	WILCOX Southbound				Westbound				WILCOX Northbound				JERRY Eastbound				Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	1	36	1	0	1	0	3	0	2	73	2	3	1	0	0	0	123
06:45 AM	1	53	4	0	1	0	2	0	0	75	2	2	0	0	0	0	140
Total	2	89	5	0	2	0	5	0	2	148	4	5	1	0	0	0	263
07:00 AM	2	45	4	0	2	0	2	0	1	81	3	0	1	0	1	0	142
07:15 AM	2	46	5	0	0	0	5	0	2	89	3	0	3	0	0	0	155
07:30 AM	1	59	1	1	1	0	1	0	5	79	0	0	3	0	2	0	153
07:45 AM	1	90	8	0	0	0	2	0	1	107	3	0	3	0	5	0	220
Total	6	240	18	1	3	0	10	0	9	356	9	0	10	0	8	0	670
08:00 AM	0	79	8	0	0	0	0	0	3	89	0	0	1	0	2	0	182
08:15 AM	1	78	7	1	0	0	1	0	2	93	3	0	5	0	5	0	196
Total	1	157	15	1	0	0	1	0	5	182	3	0	6	0	7	0	378
04:00 PM	1	125	4	0	2	0	0	0	1	128	2	0	4	1	3	0	271
04:15 PM	0	142	6	1	4	0	1	0	0	127	2	0	3	0	0	0	286
04:30 PM	1	146	2	1	3	0	0	0	3	134	2	0	2	0	2	0	296
04:45 PM	3	148	6	2	0	0	4	0	5	121	2	6	1	0	3	0	301
Total	5	561	18	4	9	0	5	0	9	510	8	6	10	1	8	0	1154
05:00 PM	1	138	5	2	0	0	2	0	6	120	0	2	5	0	4	3	288
05:15 PM	0	145	4	0	1	0	0	0	1	119	0	0	4	0	2	0	276
05:30 PM	2	123	2	5	0	0	1	2	6	85	0	0	5	0	3	1	235
05:45 PM	0	118	2	0	0	0	3	0	0	71	5	0	4	0	5	0	208
Total	3	524	13	7	1	0	6	2	13	395	5	2	18	0	14	4	1007
06:00 PM	2	99	1	0	0	0	2	1	2	89	1	0	2	0	2	0	201
06:15 PM	0	101	1	0	0	0	2	1	2	73	1	0	9	0	1	0	191
Grand Total	19	1771	71	13	15	0	31	4	42	1753	31	13	56	1	40	4	3864
Apprch %	1.0	94.5	3.8	0.7	30.0	0.0	62.0	8.0	2.3	95.3	1.7	0.7	55.4	1.0	39.6	4.0	
Total %	0.5	45.8	1.8	0.3	0.4	0.0	0.8	0.1	1.1	45.4	0.8	0.3	1.4	0.0	1.0	0.1	

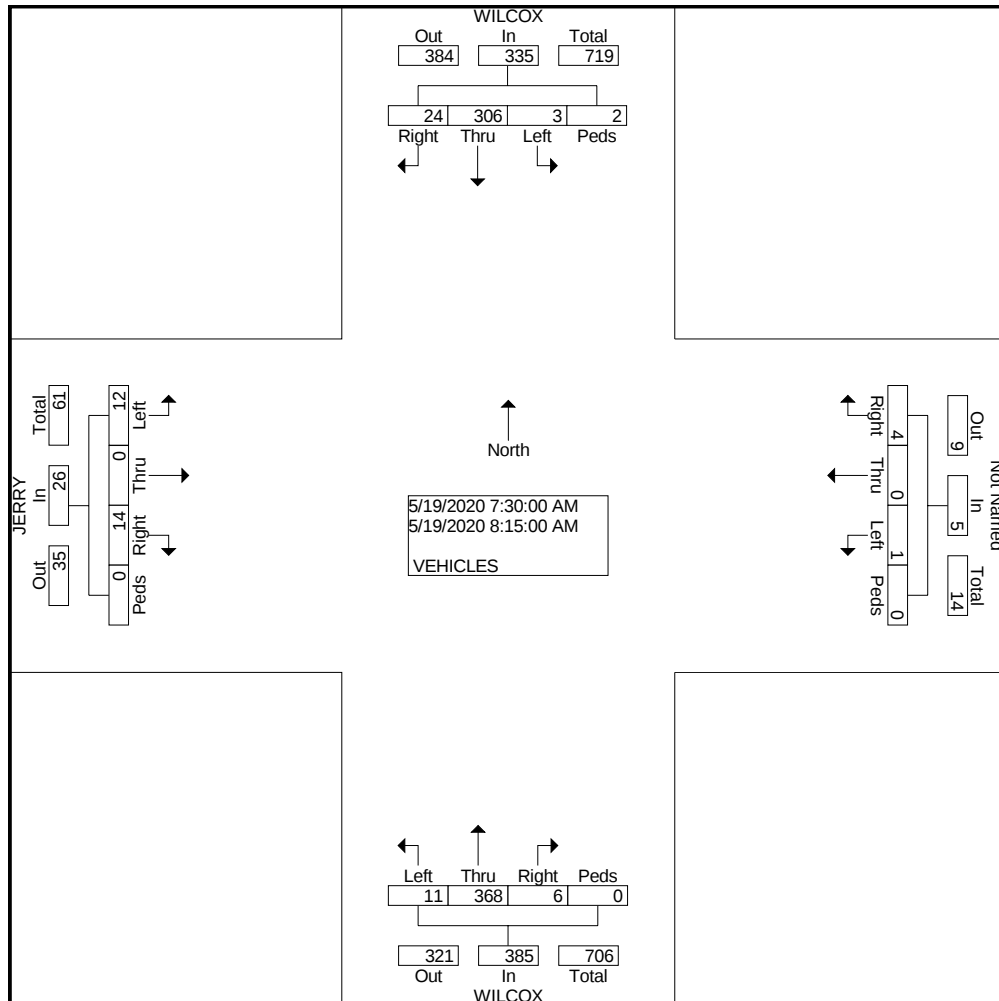
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: WILCOX
E/W STREET: JERRY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : WILCJERR
Site Code : 00000000
Start Date : 5/19/2020
Page No : 2

	WILCOX Southbound					Westbound					WILCOX Northbound					JERRY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	3	306	24	2	335	1	0	4	0	5	11	368	6	0	385	12	0	14	0	26	751
Percent	0.9	91.3	7.2	0.6		20.0	0.0	80.0	0.0		2.9	95.6	1.6	0.0		46.2	0.0	53.8	0.0		
07:45 Volume Peak Factor	1	90	8	0	99	0	0	2	0	2	1	107	3	0	111	3	0	5	0	8	220
High Int. Volume Peak Factor	07:45 AM					07:30 AM					07:45 AM					08:15 AM					0.853
	1	90	8	0	99	1	0	1	0	2	1	107	3	0	111	5	0	5	0	10	
	0.84					0.62					0.86					0.65					
	6					5					7					0					



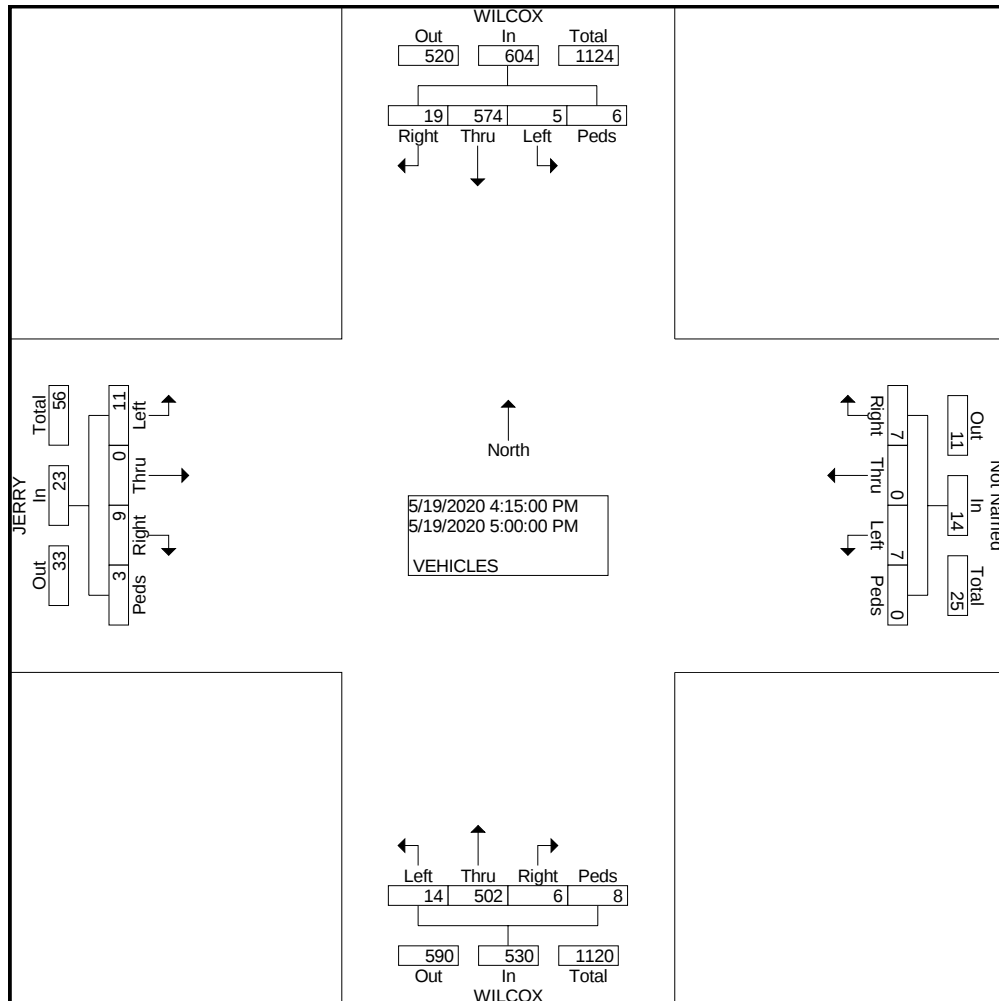
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: WILCOX
E/W STREET: JERRY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : WILCJERR
Site Code : 00000000
Start Date : 5/19/2020
Page No : 2

	WILCOX Southbound					Westbound					WILCOX Northbound					JERRY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 06:15 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	5	574	19	6	604	7	0	7	0	14	14	502	6	8	530	11	0	9	3	23	1171
Percent	0.8	95.0	3.1	1.0		50.0	0.0	50.0	0.0		2.6	94.7	1.1	1.5		47.8	0.0	39.1	13.0		
04:45 Volume	3	148	6	2	159	0	0	4	0	4	5	121	2	6	134	1	0	3	0	4	301
Peak Factor																					0.973
High Int.	04:45 PM					04:15 PM					04:30 PM					05:00 PM					
Volume	3	148	6	2	159	4	0	1	0	5	3	134	2	0	139	5	0	4	3	12	
Peak Factor	0.95					0.70					0.95					0.47					
	0					0					3					9					



LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

SIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

LOS	<u>Average Vehicle Delay</u> sec/vehicle	<u>Operational Characteristics</u>
A	<10 seconds	Describes operations with low control delay, up to 10 sec/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	10 to 20 seconds	Describes operations with control delay greater than 10 seconds and up to 20 sec/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20 to 35 seconds	Describes operations with control delay greater than 20 and up to 35 sec/veh. These higher delays may result from only fair progression, longer cycle length, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35 to 55 seconds	Describes operations with control delay greater than 35 and up to 55 sec/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55 to 80 seconds	Describes operations with control delay greater than 55 and up to 80 sec/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.
F	>80 seconds	Describes operations with control delay in excess of 80 sec/veh. This level, considered unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

UNSIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

Applicable to Two-Way Stop Control, All-Way Stop Control, and Roundabouts

LOS	Average Vehicle Control Delay	Operational Characteristics
A	<10 seconds	Normally, vehicles on the stop-controlled approach only have to wait up to 10 seconds before being able to clear the intersection. Left-turning vehicles on the uncontrolled street do not have to wait to make their turn.
B	10 to 15 seconds	Vehicles on the stop-controlled approach will experience delays before being able to clear the intersection. <u>The delay could be up to 15 seconds.</u> Left-turning vehicles on the uncontrolled street may have to wait to make their turn.
C	15 to 25 seconds	Vehicles on the stop-controlled approach can expect delays in the range of 15 to 25 seconds before clearing the intersection. Motorists may begin to take chances due to the long delays, thereby posing a safety risk to through traffic. <u>Left-turning vehicles on the uncontrolled street will now be required to wait to make their turn causing a queue to be created in the turn lane.</u>
D	25 to 35 seconds	<u>This is the point at which a traffic signal may be warranted for this intersection.</u> The delays for the stop-controlled intersection are not considered to be excessive. The length of the queue may begin to block other public and private access points.
E	35 to 50 seconds	The delays for all critical traffic movements are considered to be unacceptable. The length of the queues for the stop-controlled approaches as well as the left-turn movements are extremely long. <u>There is a high probability that this intersection will meet traffic signal warrants.</u> The ability to install a traffic signal is affected by the location of other existing traffic signals. Consideration may be given to restricting the accesses by eliminating the left-turn movements from and to the stop-controlled approach.
F	>50 seconds	The delay for the critical traffic movements are probably in excess of 100 seconds. The length of the queues are extremely long. Motorists are selecting alternative routes due to the long delays. <u>The only remedy for these long delays is installing a traffic signal or restricting the accesses.</u> The potential for accidents at this intersection are extremely high due to motorist taking more risky chances. If the median permits, motorists begin making two-stage left-turns.

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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	1073	1075	438	1079	1084	597	451	0	0	601	0	0
Stage 1	448	448	-	623	623	-	-	-	-	-	-	-
Stage 2	625	627	-	456	461	-	-	-	-	-	-	-
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	186	193	619	*183	*189	*633	1109	-	-	*947	-	-
Stage 1	590	573	-	*597	*523	-	-	-	-	-	-	-
Stage 2	596	520	-	*584	*565	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	182	189	619	*176	*185	*633	1109	-	-	*947	-	-
Mov Cap-2 Maneuver	182	189	-	*176	*185	-	-	-	-	-	-	-
Stage 1	583	570	-	*590	*517	-	-	-	-	-	-	-
Stage 2	584	514	-	*566	*562	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	18.7		15.1		0.2		0.1					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1109	-	-	293	363	*947	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.104	0.021	0.006	-	-				
HCM Control Delay (s)	8.3	-	-	18.7	15.1	8.8	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	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	3.9											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	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	50	50	14	47	47	14	15	0	0	18	0	0
Stage 1	18	18	-	28	28	-	-	-	-	-	-	-
Stage 2	32	32	-	19	19	-	-	-	-	-	-	-
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	950	841	1066	954	845	1066	1603	-	-	1599	-	-
Stage 1	1001	880	-	989	872	-	-	-	-	-	-	-
Stage 2	984	868	-	1000	880	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	939	837	1066	948	841	1066	1603	-	-	1599	-	-
Mov Cap-2 Maneuver	939	837	-	948	841	-	-	-	-	-	-	-
Stage 1	997	879	-	985	869	-	-	-	-	-	-	-
Stage 2	971	865	-	997	879	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	8.9		8.9			2			0.9			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1603	-	-	938	944	1599	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.003	0.017	0.001	-	-				
HCM Control Delay (s)	7.3	0	-	8.9	8.9	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0	0.1	0	-	-				

Timings 3: Wilcox Street & 6th Street

Existing
AM Peak

	→	↖	←	↗	↑	↘	↓	
Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø7
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	
Traffic Volume (vph)	1	5	2	6	465	48	345	
Future Volume (vph)	1	5	2	6	465	48	345	
Turn Type	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	
Protected Phases	4	3	8	5	2	1	6	7
Permitted Phases		8		2		6		
Detector Phase	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)	22.5	9.5	22.5	9.5	22.5	9.5	22.5	9.5
Total Split (s)	23.6	9.6	23.2	9.6	73.8	13.0	77.2	10.0
Total Split (%)	19.7%	8.0%	19.3%	8.0%	61.5%	10.8%	64.3%	8%
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	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	None	C-Max	None
Act Effect Green (s)	6.3	8.2	8.2	98.7	94.3	102.2	100.8	
Actuated g/C Ratio	0.05	0.07	0.07	0.82	0.79	0.85	0.84	
v/c Ratio	0.06	0.05	0.52	0.01	0.35	0.07	0.25	
Control Delay	38.8	49.8	19.1	2.5	5.0	2.0	3.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.8	49.8	19.1	2.5	5.0	2.0	3.2	
LOS	D	D	B	A	A	A	A	
Approach Delay	38.8		20.5		4.9		3.1	
Approach LOS	D		C		A		A	

Intersection Summary

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: 0.52

Intersection Signal Delay: 6.0

Intersection LOS: A

Intersection Capacity Utilization 46.4%

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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	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	251	0	0	253	0	0	629	622	221	636	650	247
Stage 1	-	-	-	-	-	-	243	243	-	375	375	-
Stage 2	-	-	-	-	-	-	386	379	-	261	275	-
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	1345	-	-	1312	-	-	425	419	819	420	402	894
Stage 1	-	-	-	-	-	-	761	705	-	702	641	-
Stage 2	-	-	-	-	-	-	691	637	-	744	683	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1345	-	-	1312	-	-	393	395	819	382	379	894
Mov Cap-2 Maneuver	-	-	-	-	-	-	393	395	-	382	379	-
Stage 1	-	-	-	-	-	-	753	698	-	695	609	-
Stage 2	-	-	-	-	-	-	638	606	-	704	676	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.6			12.4			12.6		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	542	1345	-	-	1312	-	-	493				
HCM Lane V/C Ratio	0.106	0.008	-	-	0.049	-	-	0.044				
HCM Control Delay (s)	12.4	7.7	0	-	7.9	-	-	12.6				
HCM Lane LOS	B	A	A	-	A	-	-	B				
HCM 95th %tile O(veh)	0.4	0	-	-	0.2	-	-	0.1				

Timings 5: Wilcox Street & 5th Street

Existing
AM Peak

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	131	124	245	335	51	144	60	198	152
Future Volume (vph)	8	131	124	245	335	51	144	60	198	152
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	21.5	16.5	33.6	31.7	31.7	68.0	61.1	61.1	77.2	67.9
Actuated g/C Ratio	0.18	0.14	0.28	0.26	0.26	0.57	0.51	0.51	0.64	0.57
v/c Ratio	0.04	0.69	0.45	0.54	0.53	0.08	0.17	0.07	0.28	0.17
Control Delay	28.1	60.1	36.7	41.6	6.4	10.5	19.2	0.2	10.8	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.1	60.1	36.7	41.6	6.4	10.5	19.2	0.2	10.8	14.8
LOS	C	E	D	D	A	B	B	A	B	B
Approach Delay		58.5		24.0			13.0			12.6
Approach LOS		E		C			B			B

Intersection Summary

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: 0.69

Intersection Signal Delay: 23.3

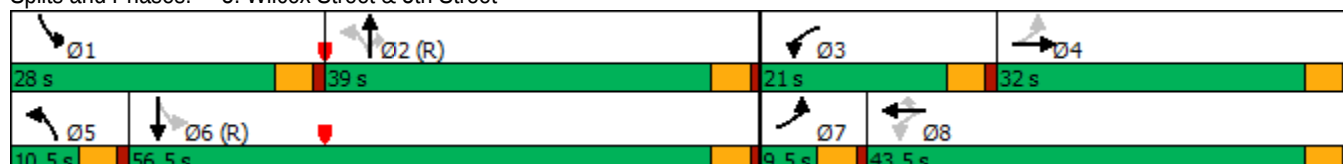
Intersection LOS: C

Intersection Capacity Utilization 50.6%

ICU Level of Service A

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	1.5											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	1400	1399	690	1401	1406	663	701	0	0	667	0	0
Stage 1	700	700	-	695	695	-	-	-	-	-	-	-
Stage 2	700	699	-	706	711	-	-	-	-	-	-	-
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	72	85	445	*72	*84	*581	896	-	-	*869	-	-
Stage 1	430	441	-	*548	*480	-	-	-	-	-	-	-
Stage 2	544	478	-	*427	*436	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	70	83	445	*69	*82	*581	896	-	-	*869	-	-
Mov Cap-2 Maneuver	70	83	-	*69	*82	-	-	-	-	-	-	-
Stage 1	422	438	-	*538	*471	-	-	-	-	-	-	-
Stage 2	524	469	-	*414	*433	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	45.2		40.4		0.2		0.1					
HCM LOS	E		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	896	-	-	113	123	*869	-	-				
HCM Lane V/C Ratio	0.018	-	-	0.212	0.177	0.006	-	-				
HCM Control Delay (s)	9.1	-	-	45.2	40.4	9.2	-	-				
HCM Lane LOS	A	-	-	E	E	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.6	0	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

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

Existing
PM 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	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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	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	150	143	45	149	143	46	47	0	0	48	0	0
Stage 1	85	85	-	56	56	-	-	-	-	-	-	-
Stage 2	65	58	-	93	87	-	-	-	-	-	-	-
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	818	748	1025	819	748	1023	1560	-	-	1559	-	-
Stage 1	923	824	-	956	848	-	-	-	-	-	-	-
Stage 2	946	847	-	914	823	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	793	736	1025	797	736	1023	1560	-	-	1559	-	-
Mov Cap-2 Maneuver	793	736	-	797	736	-	-	-	-	-	-	-
Stage 1	920	813	-	953	845	-	-	-	-	-	-	-
Stage 2	926	844	-	888	812	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.1		9.1			0.7			2.1			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1560	-	-	907	903	1559	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.022	0.039	0.013	-	-				
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 O(veh)	0	-	-	0.1	0.1	0	-	-				

Timings 3: Wilcox Street & 6th Street

Existing
PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	19	6	8	9	8	485	70	560
Future Volume (vph)	19	6	8	9	8	485	70	560
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	10.9	9.8	9.9	7.8	94.7	90.2	98.8	97.1
Actuated g/C Ratio	0.09	0.08	0.08	0.06	0.79	0.75	0.82	0.81
v/c Ratio	0.19	0.20	0.07	0.63	0.01	0.38	0.12	0.41
Control Delay	49.6	25.8	44.4	23.0	3.8	5.6	3.3	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	25.8	44.4	23.0	3.8	5.6	3.3	6.0
LOS	D	C	D	C	A	A	A	A
Approach Delay		35.4		24.3		5.6		5.7
Approach LOS		D		C		A		A

Intersection Summary

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: 0.63
 Intersection Signal Delay: 8.7
 Intersection Capacity Utilization 61.3%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

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 TWSC
4: Jerry Street & 5th Street

Existing
PM 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	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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	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	281	0	0	333	0	0	650	642	295	671	663	264
Stage 1	-	-	-	-	-	-	325	325	-	300	300	-
Stage 2	-	-	-	-	-	-	325	317	-	371	363	-
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	-	-	1226	-	-	416	411	744	400	397	893
Stage 1	-	-	-	-	-	-	687	649	-	799	708	-
Stage 2	-	-	-	-	-	-	770	693	-	649	625	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1315	-	-	1226	-	-	377	399	744	341	386	893
Mov Cap-2 Maneuver	-	-	-	-	-	-	377	399	-	341	386	-
Stage 1	-	-	-	-	-	-	677	640	-	788	697	-
Stage 2	-	-	-	-	-	-	711	682	-	560	616	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.5			14.4			15		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	523	1315	-	-	1226	-	-	449				
HCM Lane V/C Ratio	0.27	0.012	-	-	0.015	-	-	0.196				
HCM Control Delay (s)	14.4	7.8	0	-	8	-	-	15				
HCM Lane LOS	B	A	A	-	A	-	-	C				
HCM 95th %tile O(veh)	1.1	0	-	-	0	-	-	0.7				

Timings 5: Wilcox Street & 5th Street

Existing
PM Peak

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	43	230	140	164	235	66	236	132	399	262
Future Volume (vph)	43	230	140	164	235	66	236	132	399	262
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	29.9	24.3	39.7	31.6	31.6	51.5	44.7	44.7	71.3	62.0
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	0.14	0.85	0.63	0.36	0.42	0.14	0.37	0.20	0.66	0.30
Control Delay	27.4	65.6	40.3	38.3	6.3	14.7	32.4	3.0	24.7	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	65.6	40.3	38.3	6.3	14.7	32.4	3.0	24.7	22.5
LOS	C	E	D	D	A	B	C	A	C	C
Approach Delay		60.7		24.9			20.8			23.8
Approach LOS		E		C			C			C

Intersection Summary

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: 0.85

Intersection Signal Delay: 29.7

Intersection LOS: C

Intersection Capacity Utilization 73.2%

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											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	1158	1159	476	1164	1169	641	490	0	0	645	0	0
Stage 1	486	486	-	669	669	-	-	-	-	-	-	-
Stage 2	672	673	-	495	500	-	-	-	-	-	-	-
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	*147	*157	589	*145	*153	*581	1073	-	-	*869	-	-
Stage 1	*563	*551	-	*548	*480	-	-	-	-	-	-	-
Stage 2	*548	*480	-	*556	*543	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*143	*154	589	*138	*150	*581	1073	-	-	*869	-	-
Mov Cap-2 Maneuver	*143	*154	-	*138	*150	-	-	-	-	-	-	-
Stage 1	*556	*548	-	*541	*473	-	-	-	-	-	-	-
Stage 2	*534	*473	-	*535	*540	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	23.8		18.8		0.2		0.1					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1073	-	-	227	269	*869	-	-				
HCM Lane V/C Ratio	0.013	-	-	0.158	0.032	0.006	-	-				
HCM Control Delay (s)	8.4	-	-	23.8	18.8	9.2	-	-				
HCM Lane LOS	A	-	-	C	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	3.7											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	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	56	57	16	53	53	16	17	0	0	21	0	0
Stage 1	22	22	-	30	30	-	-	-	-	-	-	-
Stage 2	34	35	-	23	23	-	-	-	-	-	-	-
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	941	834	1063	946	838	1063	1600	-	-	1595	-	-
Stage 1	996	877	-	987	870	-	-	-	-	-	-	-
Stage 2	982	866	-	995	876	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	929	829	1063	939	833	1063	1600	-	-	1595	-	-
Mov Cap-2 Maneuver	929	829	-	939	833	-	-	-	-	-	-	-
Stage 1	992	875	-	983	867	-	-	-	-	-	-	-
Stage 2	969	863	-	991	874	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	8.9		8.9			1.7			1.1			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1600	-	-	931	937	1595	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.004	0.019	0.002	-	-				
HCM Control Delay (s)	7.3	0	-	8.9	8.9	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0	0.1	0	-	-				

Timings 3: Wilcox Street & 6th Street

2023 Background
AM Peak

	→	↖	←	↙	↑	↘	↓	
Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø7
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	
Traffic Volume (vph)	1	6	2	7	495	54	370	
Future Volume (vph)	1	6	2	7	495	54	370	
Turn Type	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	
Protected Phases	4	3	8	5	2	1	6	7
Permitted Phases		8		2		6		
Detector Phase	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)	22.5	9.5	22.5	9.5	22.5	9.5	22.5	9.5
Total Split (s)	23.6	9.6	23.2	9.6	73.8	13.0	77.2	10.0
Total Split (%)	19.7%	8.0%	19.3%	8.0%	61.5%	10.8%	64.3%	8%
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	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	None	C-Max	None
Act Effect Green (s)	6.3	8.2	8.2	98.6	94.1	102.2	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	0.55	0.01	0.37	0.09	0.27	
Control Delay	38.4	50.5	19.0	2.6	5.1	2.0	3.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.4	50.5	19.0	2.6	5.1	2.0	3.4	
LOS	D	D	B	A	A	A	A	
Approach Delay	38.4		20.8		5.0		3.2	
Approach LOS	D		C		A		A	

Intersection Summary

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: 0.55

Intersection Signal Delay: 6.1

Intersection LOS: A

Intersection Capacity Utilization 48.7%

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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	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	270	0	0	271	0	0	677	670	236	686	701	266
Stage 1	-	-	-	-	-	-	260	260	-	406	406	-
Stage 2	-	-	-	-	-	-	417	410	-	280	295	-
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	1329	-	-	1292	-	-	396	393	803	389	374	891
Stage 1	-	-	-	-	-	-	745	693	-	683	623	-
Stage 2	-	-	-	-	-	-	672	620	-	727	669	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1329	-	-	1292	-	-	362	368	803	350	350	891
Mov Cap-2 Maneuver	-	-	-	-	-	-	362	368	-	350	350	-
Stage 1	-	-	-	-	-	-	737	685	-	675	589	-
Stage 2	-	-	-	-	-	-	615	587	-	683	662	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.6			12.3			13.1		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	547	1329	-	-	1292	-	-	466				
HCM Lane V/C Ratio	0.097	0.009	-	-	0.054	-	-	0.051				
HCM Control Delay (s)	12.3	7.7	0	-	7.9	-	-	13.1				
HCM Lane LOS	B	A	A	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.3	0	-	-	0.2	-	-	0.2				

Timings
5: Wilcox Street & 5th Street

2023 Background
AM Peak

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	9	140	135	260	355	55	155	67	210	165
Future Volume (vph)	9	140	135	260	355	55	155	67	210	165
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	22.4	17.4	35.0	33.1	33.1	66.3	59.1	59.1	75.9	66.4
Actuated g/C Ratio	0.19	0.14	0.29	0.28	0.28	0.55	0.49	0.49	0.63	0.55
v/c Ratio	0.04	0.71	0.47	0.55	0.54	0.09	0.18	0.08	0.30	0.19
Control Delay	27.4	60.2	36.4	40.9	6.1	11.1	20.5	0.2	11.5	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	60.2	36.4	40.9	6.1	11.1	20.5	0.2	11.5	15.7
LOS	C	E	D	D	A	B	C	A	B	B
Approach Delay		58.6		23.7			13.7			13.5
Approach LOS		E		C			B			B

Intersection Summary

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: 23.5

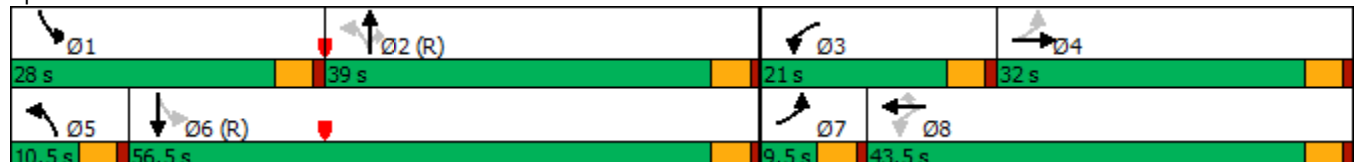
Intersection LOS: C

Intersection Capacity Utilization 52.6%

ICU Level of Service A

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	2.6											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	1519	1517	757	1519	1524	712	768	0	0	716	0	0
Stage 1	767	767	-	746	746	-	-	-	-	-	-	-
Stage 2	752	750	-	773	778	-	-	-	-	-	-	-
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	*46	*57	408	*46	*56	*529	846	-	-	*791	-	-
Stage 1	*395	*411	-	*499	*437	-	-	-	-	-	-	-
Stage 2	*499	*437	-	*392	*407	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*43	*55	408	*43	*54	*529	846	-	-	*791	-	-
Mov Cap-2 Maneuver	*43	*55	-	*43	*54	-	-	-	-	-	-	-
Stage 1	*387	*409	-	*489	*428	-	-	-	-	-	-	-
Stage 2	*477	*428	-	*377	*405	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	82.6		69.2		0.2		0.1					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	846	-	-	72 78	* 791	-	-					
HCM Lane V/C Ratio	0.021	-	-	0.377 0.293	0.007	-	-					
HCM Control Delay (s)	9.3	-	-	82.6 69.2	9.6	-	-					
HCM Lane LOS	A	-	-	F F	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	1.4 1.1	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
PM 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	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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	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	168	161	51	166	160	53	53	0	0	56	0	0
Stage 1	95	95	-	63	63	-	-	-	-	-	-	-
Stage 2	73	66	-	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	796	731	1017	798	732	1014	1553	-	-	1549	-	-
Stage 1	912	816	-	948	842	-	-	-	-	-	-	-
Stage 2	937	840	-	903	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	769	718	1017	775	719	1014	1553	-	-	1549	-	-
Mov Cap-2 Maneuver	769	718	-	775	719	-	-	-	-	-	-	-
Stage 1	909	804	-	945	839	-	-	-	-	-	-	-
Stage 2	915	837	-	875	803	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.1		9.3			0.7			2.1			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1553	-	-	891	876	1549	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.022	0.045	0.014	-	-				
HCM Control Delay (s)	7.3	0	-	9.1	9.3	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0.1	0.1	0	-	-				

2023 Background
PM Peak

Intersection Summary	
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: 0.65	
Intersection Signal Delay: 9.3	Intersection LOS: A
Intersection Capacity Utilization 65.3%	ICU Level of Service C
Analysis Period (min) 15	

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	4.5											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	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	299	0	0	355	0	0	694	685	314	716	707	280
Stage 1	-	-	-	-	-	-	346	346	-	320	320	-
Stage 2	-	-	-	-	-	-	348	339	-	396	387	-
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	1291	-	-	1204	-	-	383	384	726	368	371	872
Stage 1	-	-	-	-	-	-	670	635	-	776	690	-
Stage 2	-	-	-	-	-	-	745	675	-	629	610	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1291	-	-	1204	-	-	342	372	726	307	359	872
Mov Cap-2 Maneuver	-	-	-	-	-	-	342	372	-	307	359	-
Stage 1	-	-	-	-	-	-	659	625	-	764	679	-
Stage 2	-	-	-	-	-	-	681	664	-	533	600	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.5			15.7			16.4		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	489	1291	-	-	1204	-	-	412				
HCM Lane V/C Ratio	0.313	0.013	-	-	0.016	-	-	0.232				
HCM Control Delay (s)	15.7	7.8	0	-	8	-	-	16.4				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	1.3	0	-	-	0.1	-	-	0.9				

Timings 5: Wilcox Street & 5th Street

2023 Background
PM Peak

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	46	245	153	175	250	71	255	144	430	285
Future Volume (vph)	46	245	153	175	250	71	255	144	430	285
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	30.9	25.2	40.8	32.7	32.7	48.3	41.6	41.6	70.2	61.1
Actuated g/C Ratio	0.26	0.21	0.34	0.27	0.27	0.40	0.35	0.35	0.58	0.51
v/c Ratio	0.15	0.88	0.70	0.38	0.43	0.17	0.43	0.24	0.73	0.34
Control Delay	27.1	67.5	44.4	37.9	6.2	15.7	35.6	4.6	29.7	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	67.5	44.4	37.9	6.2	15.7	35.6	4.6	29.7	23.6
LOS	C	E	D	D	A	B	D	A	C	C
Approach Delay		62.3		25.9			23.1			27.2
Approach LOS		E		C			C			C

Intersection Summary

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: 0.88

Intersection Signal Delay: 31.8

Intersection LOS: C

Intersection Capacity Utilization 77.7%

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	1.5											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	1217	1218	495	1223	1237	681	518	0	0	685	0	0
Stage 1	505	505	-	709	709	-	-	-	-	-	-	-
Stage 2	712	713	-	514	528	-	-	-	-	-	-	-
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	*123	*133	575	*121	*127	*555	1048	-	-	*830	-	-
Stage 1	*549	*540	-	*523	*458	-	-	-	-	-	-	-
Stage 2	*523	*458	-	*543	*528	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*120	*131	575	*115	*125	*555	1048	-	-	*830	-	-
Mov Cap-2 Maneuver	*120	*131	-	*115	*125	-	-	-	-	-	-	-
Stage 1	*542	*537	-	*516	*452	-	-	-	-	-	-	-
Stage 2	*510	*452	-	*522	*525	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	33.3		21		0.2		0.1	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1048	-	-	172	233	* 830	-
HCM Lane V/C Ratio	0.013	-	-	0.265	0.037	0.007	-
HCM Control Delay (s)	8.5	-	-	33.3	21	9.4	-
HCM Lane LOS	A	-	-	D	C	A	-
HCM 95th %tile Q(veh)	0	-	-	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	4.2											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	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	153	156	27	147	147	35	28	0	0	45	0	0
Stage 1	97	97	-	49	49	-	-	-	-	-	-	-
Stage 2	56	59	-	98	98	-	-	-	-	-	-	-
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	814	736	1048	821	744	1038	1585	-	-	1563	-	-
Stage 1	910	815	-	964	854	-	-	-	-	-	-	-
Stage 2	956	846	-	908	814	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	785	715	1048	802	723	1038	1585	-	-	1563	-	-
Mov Cap-2 Maneuver	785	715	-	802	723	-	-	-	-	-	-	-
Stage 1	905	796	-	959	850	-	-	-	-	-	-	-
Stage 2	936	842	-	885	795	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.4		9.4		0.9		4.1					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1585	-	-	827	856	1563	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.004	0.037	0.022	-	-				
HCM Control Delay (s)	7.3	0	-	9.4	9.4	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-				

Timings 3: Wilcox Street & 6th Street

2023 Total
AM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	37	1	6	2	11	495	54	370
Future Volume (vph)	37	1	6	2	11	495	54	370
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	14.5	13.4	11.4	7.3	91.4	86.8	94.4	91.5
Actuated g/C Ratio	0.12	0.11	0.10	0.06	0.76	0.72	0.79	0.76
v/c Ratio	0.31	0.09	0.05	0.58	0.02	0.41	0.10	0.30
Control Delay	51.9	24.2	43.0	21.3	3.9	7.3	3.7	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	24.2	43.0	21.3	3.9	7.3	3.7	6.4
LOS	D	C	D	C	A	A	A	A
Approach Delay		43.6		22.5		7.2		6.0
Approach LOS		D		C		A		A

Intersection Summary

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: 0.58
Intersection Signal Delay: 10.0
Intersection Capacity Utilization 50.6%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service A

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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	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	285	0	0	271	0	0	701	695	236	705	718	273
Stage 1	-	-	-	-	-	-	270	270	-	413	413	-
Stage 2	-	-	-	-	-	-	431	425	-	292	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	1309	-	-	1292	-	-	379	378	803	375	365	881
Stage 1	-	-	-	-	-	-	736	686	-	676	618	-
Stage 2	-	-	-	-	-	-	658	609	-	716	662	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1309	-	-	1292	-	-	337	352	803	334	340	881
Mov Cap-2 Maneuver	-	-	-	-	-	-	337	352	-	334	340	-
Stage 1	-	-	-	-	-	-	725	676	-	666	584	-
Stage 2	-	-	-	-	-	-	590	576	-	667	652	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			1.6			12.9			14.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	512	1309	-	-	1292	-	-	435				
HCM Lane V/C Ratio	0.11	0.013	-	-	0.054	-	-	0.097				
HCM Control Delay (s)	12.9	7.8	0	-	7.9	-	-	14.2				
HCM Lane LOS	B	A	A	-	A	-	-	B				
HCM 95th %tile O(veh)	0.4	0	-	-	0.2	-	-	0.3				

Timings 5: Wilcox Street & 5th Street

2023 Total
AM Peak

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	9	143	135	128	357	61	157	67	214	172
Future Volume (vph)	9	143	135	128	357	61	157	67	214	172
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	22.7	17.7	35.2	33.3	33.3	65.9	58.6	58.6	75.6	65.9
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	0.72	0.48	0.27	0.54	0.10	0.19	0.08	0.31	0.20
Control Delay	27.2	60.3	36.3	34.2	6.1	11.3	20.9	0.2	11.6	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	60.3	36.3	34.2	6.1	11.3	20.9	0.2	11.6	15.8
LOS	C	E	D	C	A	B	C	A	B	B
Approach Delay		58.7		18.5			14.0			13.6
Approach LOS		E		B			B			B

Intersection Summary

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: 21.4

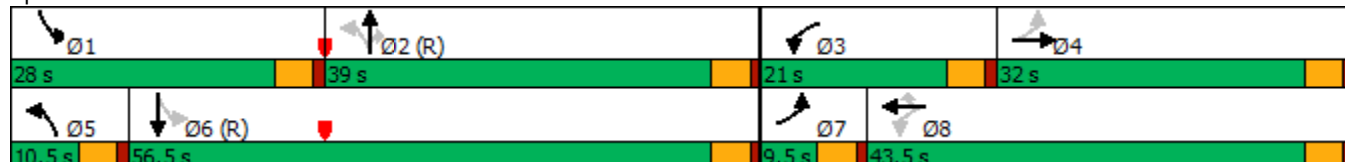
Intersection LOS: C

Intersection Capacity Utilization 52.4%

ICU Level of Service A

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	5.5											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	1578	1576	789	1578	1602	739	819	0	0	743	0	0
Stage 1	799	799	-	773	773	-	-	-	-	-	-	-
Stage 2	779	777	-	805	829	-	-	-	-	-	-	-
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	*36	*45	391	*36	*41	*503	810	-	-	*752	-	-
Stage 1	*379	*398	-	*474	*415	-	-	-	-	-	-	-
Stage 2	*474	*415	-	*376	*385	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*34	*44	391	*33	*40	*503	810	-	-	*752	-	-
Mov Cap-2 Maneuver	*34	*44	-	*33	*40	-	-	-	-	-	-	-
Stage 1	*371	*395	-	*464	*406	-	-	-	-	-	-	-
Stage 2	*453	*406	-	*361	*382	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	185		97.9		0.2		0.1	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	810	-	-	49 60	* 752	-	-
HCM Lane V/C Ratio	0.021	-	-	0.732 0.38	0.007	-	-
HCM Control Delay (s)	9.5	-	-	185 97.9	9.8	-	-
HCM Lane LOS	A	-	-	F F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.9 1.4	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	3.9											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	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	254	247	64	247	241	75	66	0	0	83	0	0
Stage 1	154	154	-	85	85	-	-	-	-	-	-	-
Stage 2	100	93	-	162	156	-	-	-	-	-	-	-
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	699	655	1000	707	660	986	1536	-	-	1514	-	-
Stage 1	848	770	-	923	824	-	-	-	-	-	-	-
Stage 2	906	818	-	840	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	659	633	1000	678	638	986	1536	-	-	1514	-	-
Mov Cap-2 Maneuver	659	633	-	678	638	-	-	-	-	-	-	-
Stage 1	845	746	-	920	822	-	-	-	-	-	-	-
Stage 2	874	816	-	801	745	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.5		9.7		0.4		3					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1536	-	-	825	821	1514	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.024	0.066	0.029	-	-				
HCM Control Delay (s)	7.4	0	-	9.5	9.7	7.5	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-				

Timings 3: Wilcox Street & 6th Street

2023 Total
PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	45	7	9	10	16	520	75	615
Future Volume (vph)	45	7	9	10	16	520	75	615
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	15.0	13.9	12.1	8.0	90.6	85.9	94.1	90.9
Actuated g/C Ratio	0.12	0.12	0.10	0.07	0.76	0.72	0.78	0.76
v/c Ratio	0.40	0.21	0.07	0.65	0.03	0.43	0.14	0.50
Control Delay	54.4	21.1	42.6	23.0	3.8	6.5	4.1	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	21.1	42.6	23.0	3.8	6.5	4.1	8.9
LOS	D	C	D	C	A	A	A	A
Approach Delay		38.3		24.1		6.4		8.4
Approach LOS		D		C		A		A

Intersection Summary

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: 0.65
Intersection Signal Delay: 11.0
Intersection Capacity Utilization 66.1%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service C

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	5.2											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	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	313	0	0	355	0	0	720	713	314	741	728	287
Stage 1	-	-	-	-	-	-	360	360	-	327	327	-
Stage 2	-	-	-	-	-	-	360	353	-	414	401	-
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	1272	-	-	1204	-	-	365	367	726	351	359	863
Stage 1	-	-	-	-	-	-	658	626	-	768	684	-
Stage 2	-	-	-	-	-	-	731	664	-	616	601	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1272	-	-	1204	-	-	317	352	726	286	344	863
Mov Cap-2 Maneuver	-	-	-	-	-	-	317	352	-	286	344	-
Stage 1	-	-	-	-	-	-	643	612	-	750	673	-
Stage 2	-	-	-	-	-	-	659	653	-	512	587	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.5			17			18.1		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	460	1272	-	-	1204	-	-	389				
HCM Lane V/C Ratio	0.35	0.018	-	-	0.016	-	-	0.293				
HCM Control Delay (s)	17	7.9	0	-	8	-	-	18.1				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.1	-	-	1.2				

Timings 5: Wilcox Street & 5th Street

2023 Total
PM Peak

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	46	250	153	182	253	77	259	144	434	292
Future Volume (vph)	46	250	153	182	253	77	259	144	434	292
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	31.1	25.5	41.0	32.9	32.9	47.9	41.2	41.2	70.0	60.8
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	0.15	0.89	0.71	0.39	0.43	0.18	0.44	0.24	0.74	0.35
Control Delay	27.0	69.1	45.4	38.1	6.2	15.9	36.1	4.6	32.0	25.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	69.1	45.4	38.1	6.2	15.9	36.1	4.6	32.0	25.8
LOS	C	E	D	D	A	B	D	A	C	C
Approach Delay		63.8		26.3			23.4			29.5
Approach LOS		E		C			C			C

Intersection Summary

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: 33.0

Intersection LOS: C

Intersection Capacity Utilization 78.5%

ICU Level of Service D

Analysis Period (min) 15

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

			
Ø1	Ø2 (R)	Ø3	Ø4
38 s	34 s	16 s	32 s
			
Ø5	Ø6 (R)	Ø7	Ø8
11.4 s	60.6 s	10.2 s	37.8 s

HCM 6th TWSC
1: Wilcox Street & Jerry Street

2040 Background
AM Peak

Intersection												
Int Delay, s/veh	33.6											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	1746	1747	745	1754	1759	956	761	0	0	960	0	0
Stage 1	755	755	-	988	988	-	-	-	-	-	-	-
Stage 2	991	992	-	766	771	-	-	-	-	-	-	-
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	*~ 9	*13	414	*9	*12	*346	851	-	-	*518	-	-
Stage 1	*401	*417	-	*327	*286	-	-	-	-	-	-	-
Stage 2	*327	*286	-	*395	*410	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*~ 8	*12	414	*7	*12	*346	851	-	-	*518	-	-
Mov Cap-2 Maneuver	*~ 8	*12	-	*7	*12	-	-	-	-	-	-	-
Stage 1	*393	*413	-	*320	*281	-	-	-	-	-	-	-
Stage 2	*314	*281	-	*370	*406	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$ 1297.6		266.7	0.2	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	851	-	-	16 21	* 518	-	-
HCM Lane V/C Ratio	0.019	-	-	2.785 0.414	0.01	-	-
HCM Control Delay (s)	9.3	-	-	\$ 1297.6 266.7	12	-	-
HCM Lane LOS	A	-	-	F F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.2 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	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	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	73	74	23	70	70	22	24	0	0	27	0	0	
Stage 1	33	33	-	36	36	-	-	-	-	-	-	-	
Stage 2	40	41	-	34	34	-	-	-	-	-	-	-	
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	918	816	1054	922	821	1055	1591	-	-	1587	-	-	
Stage 1	983	868	-	980	865	-	-	-	-	-	-	-	
Stage 2	975	861	-	982	867	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	905	810	1054	916	815	1055	1591	-	-	1587	-	-	
Mov Cap-2 Maneuver	905	810	-	916	815	-	-	-	-	-	-	-	
Stage 1	979	865	-	976	862	-	-	-	-	-	-	-	
Stage 2	961	858	-	977	864	-	-	-	-	-	-	-	
Approach	EB		WB			NB			SB				
HCM Control Delay, s	9		9			1.4			1.3				
HCM LOS	A		A										
Minor Lane/Major Mvmt	NBL		NBT	NBR	EBLn1WBLn1		SBL	SBT	SBR				
Capacity (veh/h)	1591		-	-	912	924	1587	-	-				
HCM Lane V/C Ratio	0.004		-	-	0.004	0.022	0.003	-	-				
HCM Control Delay (s)	7.3		0	-	9	9	7.3	0	-				
HCM Lane LOS	A		A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0		-	-	0	0.1	0	-	-				

Timings 3: Wilcox Street & 6th Street

2040 Background
AM Peak

	→	↖	←	↙	↑	↘	↓	
Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø7
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	
Traffic Volume (vph)	2	8	3	9	713	90	569	
Future Volume (vph)	2	8	3	9	713	90	569	
Turn Type	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	
Protected Phases	4	3	8	5	2	1	6	7
Permitted Phases		8		2		6		
Detector Phase	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)	22.5	9.5	22.5	9.5	22.5	9.5	22.5	9.5
Total Split (s)	23.6	9.6	23.2	9.6	73.8	13.0	77.2	10.0
Total Split (%)	19.7%	8.0%	19.3%	8.0%	61.5%	10.8%	64.3%	8%
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	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	None	C-Max	None
Act Effect Green (s)	6.6	8.5	8.5	97.0	91.4	102.0	100.4	
Actuated g/C Ratio	0.06	0.07	0.07	0.81	0.76	0.85	0.84	
v/c Ratio	0.09	0.09	0.70	0.02	0.55	0.20	0.42	
Control Delay	35.4	50.5	19.3	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	35.4	50.5	19.3	2.2	6.5	2.7	4.5	
LOS	D	D	B	A	A	A	A	
Approach Delay	35.4		20.6		6.5		4.2	
Approach LOS	D		C		A		A	

Intersection Summary

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: 0.70

Intersection Signal Delay: 7.5

Intersection LOS: A

Intersection Capacity Utilization 66.7%

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	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
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	1198	1273	979	787
V/C Ratio	0.337	0.398	0.092	0.041
Control Delay, s/veh	6.2	6.7	4.5	5.0
LOS	A	A	A	A
95th %tile Queue, veh	1	2	0	0

Timings 5: Wilcox Street & 5th Street

2040 Background
AM Peak

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	12	201	216	376	513	82	288	121	321	272
Future Volume (vph)	12	201	216	376	513	82	288	121	321	272
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	27.7	22.7	42.7	38.9	38.9	52.4	45.7	45.7	68.3	57.1
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	0.80	0.71	0.68	0.63	0.18	0.44	0.19	0.62	0.39
Control Delay	23.9	61.3	39.9	41.5	6.0	15.9	33.1	2.3	23.9	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	61.3	39.9	41.5	6.0	15.9	33.1	2.3	23.9	22.1
LOS	C	E	D	D	A	B	C	A	C	C
Approach Delay		59.6		24.7			22.6			23.0
Approach LOS		E		C			C			C

Intersection Summary

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: 0.80

Intersection Signal Delay: 27.6

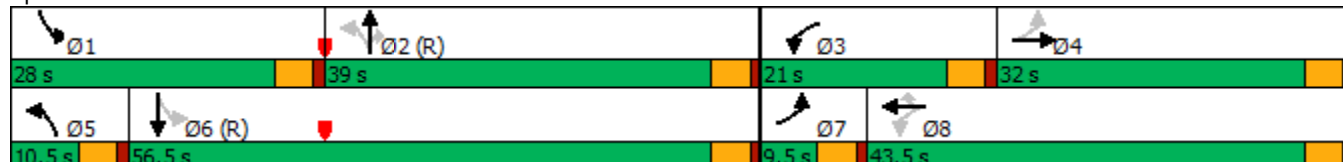
Intersection LOS: C

Intersection Capacity Utilization 73.9%

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	3.9											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	2226	2224	1128	2228	2233	1038	1141	0	0	1042	0	0
Stage 1	1138	1138	-	1082	1082	-	-	-	-	-	-	-
Stage 2	1088	1086	-	1146	1151	-	-	-	-	-	-	-
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	31	43	249	31	43	280	612	-	-	667	-	-
Stage 1	245	276	-	263	294	-	-	-	-	-	-	-
Stage 2	261	292	-	242	272	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	28	41	249	27	41	280	612	-	-	667	-	-
Mov Cap-2 Maneuver	28	41	-	27	41	-	-	-	-	-	-	-
Stage 1	236	274	-	254	283	-	-	-	-	-	-	-
Stage 2	241	281	-	224	270	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	168.6		131		0.2		0	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	612	-	-	50	49	667	-
HCM Lane V/C Ratio	0.036	-	-	0.674	0.466	0.008	-
HCM Control Delay (s)	11.1	-	-	168.6	131	10.4	-
HCM Lane LOS	B	-	-	F	F	B	-
HCM 95th %tile Q(veh)	0.1	-	-	2.7	1.7	0	-

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

2040 Background
PM Peak

Intersection												
Int Delay, s/veh	3.6											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	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	219	213	67	216	210	77	69	0	0	82	0	0
Stage 1	121	121	-	87	87	-	-	-	-	-	-	-
Stage 2	98	92	-	129	123	-	-	-	-	-	-	-
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	737	684	997	740	687	984	1532	-	-	1515	-	-
Stage 1	883	796	-	921	823	-	-	-	-	-	-	-
Stage 2	908	819	-	875	794	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	708	669	997	716	672	984	1532	-	-	1515	-	-
Mov Cap-2 Maneuver	708	669	-	716	672	-	-	-	-	-	-	-
Stage 1	880	781	-	918	821	-	-	-	-	-	-	-
Stage 2	884	817	-	845	779	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.3		9.7			0.5			2.1			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1532	-	-	850	811	1515	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.023	0.062	0.018	-	-				
HCM Control Delay (s)	7.4	0	-	9.3	9.7	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0.1	0.2	0.1	-	-				

Timings 3: Wilcox Street & 6th Street

2040 Background
PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	29	9	12	14	12	742	124	908
Future Volume (vph)	29	9	12	14	12	742	124	908
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	13.2	11.1	12.1	9.1	89.7	84.0	95.4	91.9
Actuated g/C Ratio	0.11	0.09	0.10	0.08	0.75	0.70	0.80	0.77
v/c Ratio	0.26	0.25	0.08	0.75	0.04	0.63	0.33	0.72
Control Delay	47.6	22.7	41.7	21.8	4.0	8.4	5.8	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	22.7	41.7	21.8	4.0	8.4	5.8	14.9
LOS	D	C	D	C	A	A	A	B
Approach Delay		32.8		22.7		8.3		13.9
Approach LOS		C		C		A		B

Intersection Summary

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: 0.75

Intersection Signal Delay: 13.6

Intersection LOS: B

Intersection Capacity Utilization 88.0%

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	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.6	7.2	7.2	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	1197	1191	825	791
V/C Ratio	0.445	0.414	0.264	0.174
Control Delay, s/veh	7.6	7.2	7.2	6.4
LOS	A	A	A	A
95th %tile Queue, veh	2	2	1	1

Timings
5: Wilcox Street & 5th Street

2040 Background
PM Peak

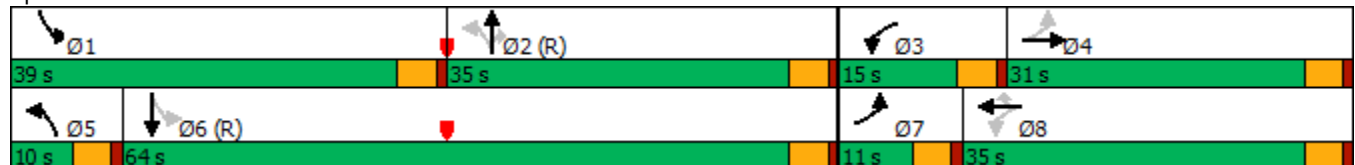
										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	66	352	250	250	360	105	412	235	640	465
Future Volume (vph)	66	352	250	250	360	105	412	235	640	465
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted 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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
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	1.13	1.11	0.51	0.53	0.33	0.89	0.48	1.12	0.58
Control Delay	27.6	123.5	122.8	40.4	6.3	18.1	63.0	20.0	108.2	28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	123.5	122.8	40.4	6.3	18.1	63.0	20.0	108.2	28.1
LOS	C	F	F	D	A	B	E	C	F	C
Approach Delay		111.2		50.1			43.4			72.4
Approach LOS		F		D			D			E

Intersection Summary

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: 1.13
 Intersection Signal Delay: 66.0
 Intersection Capacity Utilization 108.9%
 Analysis Period (min) 15

Intersection LOS: E
 ICU Level of Service G

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	104.7											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	1804	1805	763	1812	1826	996	788	0	0	1000	0	0
Stage 1	773	773	-	1028	1028	-	-	-	-	-	-	-
Stage 2	1031	1032	-	784	798	-	-	-	-	-	-	-
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	*~ 6	*8	404	*5	*7	*320	831	-	-	*479	-	-
Stage 1	*392	*409	-	*302	*264	-	-	-	-	-	-	-
Stage 2	*302	*264	-	*386	*398	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*~ 5	*8	404	*4	*7	*320	831	-	-	*479	-	-
Mov Cap-2 Maneuver	*~ 5	*8	-	*4	*7	-	-	-	-	-	-	-
Stage 1	*385	*405	-	*296	*259	-	-	-	-	-	-	-
Stage 2	*290	*259	-	*360	*394	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, \$	3512.1		\$ 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)	831	-	-	8	12	* 479	-	-				
HCM Lane V/C Ratio	0.02	-	-	6.793	0.725	0.011	-	-				
HCM Control Delay (s)	9.4	-	-	\$ 3512.1	\$ 561.9	12.6	-	-				
HCM Lane LOS	A	-	-	F	F	B	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	8.3	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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	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	170	173	34	163	163	40	35	0	0	51	0	0
Stage 1	108	108	-	54	54	-	-	-	-	-	-	-
Stage 2	62	65	-	109	109	-	-	-	-	-	-	-
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	720	1039	802	729	1031	1576	-	-	1555	-	-
Stage 1	897	806	-	958	850	-	-	-	-	-	-	-
Stage 2	949	841	-	896	805	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	764	699	1039	783	708	1031	1576	-	-	1555	-	-
Mov Cap-2 Maneuver	764	699	-	783	708	-	-	-	-	-	-	-
Stage 1	893	787	-	953	846	-	-	-	-	-	-	-
Stage 2	929	837	-	872	786	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.5		9.5			0.8			3.8			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1576	-	-	810	841	1555	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.004	0.041	0.024	-	-				
HCM Control Delay (s)	7.3	0	-	9.5	9.5	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0	0.1	0.1	-	-				

Timings 3: Wilcox Street & 6th Street

2040 Total
AM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	37	2	8	3	13	713	90	569
Future Volume (vph)	37	2	8	3	13	713	90	569
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	15.3	14.2	12.2	8.1	89.0	83.2	94.0	90.7
Actuated g/C Ratio	0.13	0.12	0.10	0.07	0.74	0.69	0.78	0.76
v/c Ratio	0.33	0.10	0.06	0.71	0.03	0.61	0.23	0.47
Control Delay	49.8	21.8	41.8	20.3	3.9	9.6	5.0	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	21.8	41.8	20.3	3.9	9.6	5.0	8.8
LOS	D	C	D	C	A	A	A	A
Approach Delay		40.4		21.1		9.5		8.3
Approach LOS		D		C		A		A

Intersection Summary

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: 0.71

Intersection Signal Delay: 11.4

Intersection LOS: B

Intersection Capacity Utilization 74.6%

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	6.4			
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	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.4	6.9	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	1180	1260	967	788
V/C Ratio	0.347	0.414	0.096	0.067
Control Delay, s/veh	6.4	6.9	4.6	5.2
LOS	A	A	A	A
95th %tile Queue, veh	2	2	0	0

Timings
5: Wilcox Street & 5th Street

2040 Total
AM Peak

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	12	204	216	384	513	88	290	121	325	279
Future Volume (vph)	12	204	216	384	513	88	290	121	325	279
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	27.9	22.9	42.9	39.1	39.1	52.1	45.3	45.3	68.1	56.8
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	0.81	0.71	0.69	0.63	0.20	0.45	0.19	0.63	0.40
Control Delay	23.9	62.1	40.1	41.8	6.0	16.0	33.5	2.3	28.5	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	62.1	40.1	41.8	6.0	16.0	33.5	2.3	28.5	26.0
LOS	C	E	D	D	A	B	C	A	C	C
Approach Delay		60.4		24.9			22.8			27.2
Approach LOS		E		C			C			C

Intersection Summary

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: 29.0

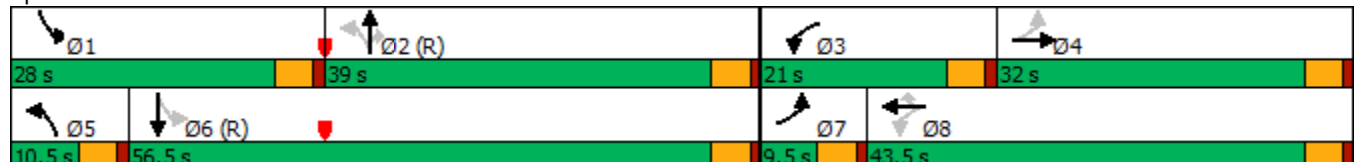
Intersection LOS: C

Intersection Capacity Utilization 74.5%

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	7.5											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	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	2285	2283	1160	2287	2311	1065	1192	0	0	1069	0	0
Stage 1	1170	1170	-	1109	1109	-	-	-	-	-	-	-
Stage 2	1115	1113	-	1178	1202	-	-	-	-	-	-	-
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	28	40	238	28	38	270	586	-	-	652	-	-
Stage 1	235	267	-	254	285	-	-	-	-	-	-	-
Stage 2	252	284	-	233	258	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	38	238	25	36	270	586	-	-	652	-	-
Mov Cap-2 Maneuver	25	38	-	25	36	-	-	-	-	-	-	-
Stage 1	226	265	-	244	274	-	-	-	-	-	-	-
Stage 2	232	273	-	214	256	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s\$ 330.3		148.9	0.2	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	586	-	-	39 45	652	-	-
HCM Lane V/C Ratio	0.037	-	-	1.087 0.507	0.008	-	-
HCM Control Delay (s)	11.4	-	-	\$ 330.3 148.9	10.6	-	-
HCM Lane LOS	B	-	-	F F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.2 1.9	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	3.8											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	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	306	300	80	297	291	99	82	0	0	110	0	0
Stage 1	180	180	-	109	109	-	-	-	-	-	-	-
Stage 2	126	120	-	188	182	-	-	-	-	-	-	-
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	646	612	980	655	619	957	1515	-	-	1480	-	-
Stage 1	822	750	-	896	805	-	-	-	-	-	-	-
Stage 2	878	796	-	814	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	605	588	980	625	595	957	1515	-	-	1480	-	-
Mov Cap-2 Maneuver	605	588	-	625	595	-	-	-	-	-	-	-
Stage 1	819	724	-	892	802	-	-	-	-	-	-	-
Stage 2	844	793	-	772	723	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.7		10.2			0.3			2.8			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1515	-	-	785	755	1480	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.025	0.086	0.034	-	-				
HCM Control Delay (s)	7.4	0	-	9.7	10.2	7.5	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0.1	0.3	0.1	-	-				

Timings 3: Wilcox Street & 6th Street

2040 Total
PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	54	9	12	14	19	742	124	908
Future Volume (vph)	54	9	12	14	19	742	124	908
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	15.2	13.1	13.1	9.1	87.8	81.9	93.4	89.8
Actuated g/C Ratio	0.13	0.11	0.11	0.08	0.73	0.68	0.78	0.75
v/c Ratio	0.47	0.27	0.08	0.75	0.08	0.65	0.34	0.75
Control Delay	55.3	19.7	41.2	21.8	4.1	8.8	6.4	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	19.7	41.2	21.8	4.1	8.8	6.4	16.4
LOS	E	B	D	C	A	A	A	B
Approach Delay		37.5		22.7		8.7		15.2
Approach LOS		D		C		A		B

Intersection Summary

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: 0.75
Intersection Signal Delay: 14.9
Intersection Capacity Utilization 88.7%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service E

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 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	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.9	7.5	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	1181	1174	814	792
V/C Ratio	0.457	0.432	0.277	0.195
Control Delay, s/veh	7.9	7.5	7.5	6.6
LOS	A	A	A	A
95th %tile Queue, veh	2	2	1	1

Timings 5: Wilcox Street & 5th Street

2040 Total
PM Peak

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	66	357	250	257	363	111	416	235	644	472
Future Volume (vph)	66	357	250	257	363	111	416	235	644	472
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
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	1.14	1.11	0.52	0.54	0.35	0.90	0.48	1.13	0.58
Control Delay	27.7	128.9	122.8	40.7	6.3	18.5	64.1	20.0	111.4	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	128.9	122.8	40.7	6.3	18.5	64.1	20.0	111.4	28.3
LOS	C	F	F	D	A	B	E	C	F	C
Approach Delay		116.1		50.0			43.9			74.1
Approach LOS		F		D			D			E

Intersection Summary

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: 1.14

Intersection Signal Delay: 67.4

Intersection LOS: E

Intersection Capacity Utilization 109.7%

ICU Level of Service H

Analysis Period (min) 15

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

			
Ø1	Ø2 (R)	Ø3	Ø4
39 s	35 s	15 s	31 s
			
Ø5	Ø6 (R)	Ø7	Ø8
10 s	64 s	11 s	35 s

HCM 6th TWSC
1: Wilcox Street & Jerry Street

2040 Total - mitigated
AM Peak

Intersection												
Int Delay, s/veh	0.3											
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	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	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	-	-	763	-	-	1028	788	0	0	1033	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	404	0	0	*294	831	-	-	*440	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %						1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	404	-	-	*294	831	-	-	*440	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.4		17.6		0.1		0.1					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	831	-	-	404	294	*440	-	-				
HCM Lane V/C Ratio	0.02	-	-	0.054	0.03	0.012	-	-				
HCM Control Delay (s)	9.4	-	-	14.4	17.6	13.3	-	-				
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												

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	8	5	1037	60
Future Vol, veh/h	0	0	15	0	0	21	20	998	8	5	1037	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	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	9	5	1127	65

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	1160	-	-	1090	1192	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	238	0	0	262	586	-
Stage 1	0	0	-	0	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	-	-	238	-	-	262	586	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.2	20	0.2	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	586	-	-	238	262	638	-
HCM Lane V/C Ratio	0.037	-	-	0.069	0.087	0.009	-
HCM Control Delay (s)	11.4	-	-	21.2	20	10.7	-
HCM Lane LOS	B	-	-	C	C	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.3	0	-

Timings
3: Wilcox Street & 6th Street

2040 Total - mitigated
AM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	67	2	8	3	13	713	90	569
Future Volume (vph)	67	2	8	3	13	713	90	569
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	15.3	14.2	12.2	8.1	89.0	83.2	94.0	90.7
Actuated g/C Ratio	0.13	0.12	0.10	0.07	0.74	0.69	0.78	0.76
v/c Ratio	0.59	0.10	0.06	0.71	0.03	0.61	0.23	0.47
Control Delay	64.6	21.6	41.8	20.3	3.9	9.6	5.0	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	21.6	41.8	20.3	3.9	9.6	5.0	8.8
LOS	E	C	D	C	A	A	A	A
Approach Delay		55.3		21.1		9.5		8.3
Approach LOS		E		C		A		A

Intersection Summary

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: 0.71

Intersection Signal Delay: 12.7

Intersection LOS: B

Intersection Capacity Utilization 74.6%

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

Timings 3: Wilcox Street & 6th Street

2040 Total - mitigated
PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	78	9	12	14	19	742	124	908
Future Volume (vph)	78	9	12	14	19	742	124	908
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
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%
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
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	17.4	15.3	14.4	9.3	85.6	79.7	91.1	87.6
Actuated g/C Ratio	0.14	0.13	0.12	0.08	0.71	0.66	0.76	0.73
v/c Ratio	0.67	0.24	0.07	0.75	0.08	0.67	0.37	0.77
Control Delay	70.1	19.2	40.8	22.1	4.2	9.3	7.0	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.1	19.2	40.8	22.1	4.2	9.3	7.0	17.4
LOS	E	B	D	C	A	A	A	B
Approach Delay		49.2		23.0		9.2		16.2
Approach LOS		D		C		A		B

Intersection Summary

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: 16.5
Intersection Capacity Utilization 88.8%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service E

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